DEVELOPMENT OF A PROTOTYPE RELATIONAL DATABASE SYSTEM FOR MANAGING FLEET BATTLE EXPERIMENT DATA

by

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DEVELOPMENT OF A PROTOTYPE RELATIONAL DATABASE
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I. INTRODUCTION

A. BACKGROUND

In a world full of uncertainty and the possibility of conflict, our country's military personnel must be prepared to deal with any number of potential threats. Preparedness is crucial, but training for certain scenarios may be economically infeasible for and/or logistically impossible to support.

In order to prepare for such scenarios and to test war fighting doctrine and philosophy, our armed forces have developed two types of training: Fleet Battle Experiments (FBE) and War Games. A War Game is an exercise that the military and other defense organizations use in order to gain experience at making decisions in diverse scenarios. War Games typically use computer simulations, also known as Synthetic Theaters of War (STOW), but may also be designed as discussion groups for system and doctrine experts. Objectives chosen are aimed at testing particular systems, practicing specific maneuvers and tactics, providing familiarization with certain environments and situations, and/or enhancing and honing decision-making skills. War Game scenarios are chosen so they are plausible and relevant to the objectives of the game. They are most effective for testing strategic and tactical levels of warfare.

FBEs are designed as genuine experiments, not demonstrations or exercises. Each experiment has a hypothesis and specific, carefully considered measures of effectiveness. Products from the FBEs include: new doctrine; new insight into technology in an operational environment; identification of new required operational capabilities; identification of new acquisition requirements; ideas for further warfare concepts; and ideas for further experimentation. FBEs are useful at testing all levels of an operation from strategic to operational. [Ref. 11]

The information and knowledge that is produced during the war game is vast and complex. The data produced is of varying types, recorded in dissimilar ways, and is related in a complex manner. Experiential knowledge from an FBE is carried away by
the participants and is rapidly dispersed by personnel assignments and tasking. This information would be of great benefit to future scenario design and to provide decision support to the participants. Unfortunately, it is too diverse to be appropriately collected and stored. Consequently, there is currently no appropriate approach or mechanism to systematically capture, retrieve, and analyze the data collected from an FBE.

Currently, several disparate systems are used to manage data for a FBE. For example, Land Attack Weapons System (LAWS) and Global Intelligence, Surveillance, and Reconnaissance System (GISR) provide weapon and sensor node data management as well as the data repositories for these objects. This collection of heterogenous systems causes problems in the integration of the data for the purpose of querying and analysis. Additionally, data stored in these systems may not be accurate due to the data input and collection methods used. For example, a large portion of LAWS data is entered manually and therefore may be inaccurate and incomplete.

B. PURPOSE

The purpose of this research is to ascertain the feasibility of developing a prototype relational database system for storing and managing FBE data. Such a database system would enable analysts to retrieve data and information from past experiments for the purposes of analysis and extracting lessons learned to benefit future experiments.

This research is part of a larger effort to develop a knowledge base system to support FBES by transferring knowledge obtained from past experiments to the appropriate context of a current experiment. To accomplish this elaborate task, a four-phased approach is being considered.

The first phase, the focus of this thesis, develops a data model and application for storing and managing the quantitative aspect of FBE data. More specifically, this first phase provides:

1. Collection of the data and functional requirements needed for the data model and application system.
2. Development of a data model that consists of the entities, attributes, and relationships of FBE data.
3. Development of an application system that defines the main queries, forms, and reports of the developed data model.
4. Development of data import facilities that populate the developed database with data from other archival systems (e.g., LAWS).
5. A prototype data management system tested with actual FBE data to evaluate its functionality, usability, and effectiveness.

The second phase develops an ethnographic model to collect and manage the qualitative aspects of FBE data. The third phase integrates the first two efforts into a loosely defined “Knowledge Management System.” The fourth phase evolves the product of the third phase into a full-fledged knowledge management engine and system using an appropriate technology (e.g., object-oriented, Web, or collaborative technologies).

C. SCOPE AND METHODOLOGY

This thesis focuses on the collection, storage, and analysis of tracking and targeting data. Development of the system involved designing a schema (data model) that consisted of entities, attributes, and relationships of the FBE environment and structure (both physical and logical). The personnel structure was studied for data model completeness, but not implemented in the prototype system.

The data model is transaction- (event-) based and concentrates on information flow in order to categorize and store the data. It represents the information exchanges and data links that are the focus for this research. This approach provides logical links between the identified entities and the capability to query the system for desired information. A prototype application was coupled with the database to complete the data management system and facilitate data entry, modification, and querying.

The following research methodology was implemented to properly develop the
system. The architectures of fleet battle experiments and war games were studied. Elements and entities of the architectures were discussed to establish their significance to the overall structure, and personnel were interviewed to determine information flow and critical points of information exchange.

A schema was developed in an attempt to capture the essence of the FBE architecture. The schema was analyzed to ensure that critical entities were accurately defined and that key information was not overlooked. Relationships were studied to guarantee proper entity interactions and dependencies.

Upon data model approval, some requirements were gathered for application implementation. Application interaction with the database was then tested and requirement completion verified.

This thesis is organized as follows. Chapter 2 discusses the overall framework of FBEs, data sources, and collection methodologies. Chapter 3 discusses the data model developed and its components. Chapter 4 addresses the application created and its capabilities. The final chapter addresses benefits, shortcomings, and lessons learned and provides some recommendations for improvements to the system.
II. OVERVIEW OF FLEET BATTLE EXPERIMENTS

A. FRAMEWORK

The Chief of Naval Operations (CNO) established the Maritime Battle Center (MBC) at the Naval War College (NWC) in Newport, Rhode Island, to serve as the single point of contact for Navy Fleet Battle Experimentation and participation in Joint Experiments. This action was the first step in streamlining and invigorating the Navy’s warfare concept development, doctrine refinement, and warfare innovation process.

The MBC is responsible for designing and planning Fleet Battle Experiments, coordinating the execution of these experiments in conjunction with the numbered fleet operational command elements (OCE), and analyzing and disseminating experiment results. The FBE results are used to accelerate the delivery of innovative warfare capabilities to the fleet, identify concept-based requirements, and evaluate new operational capabilities.

The Navy Warfare Development Command (NWDC) was officially established on 10 August 1998 in Newport, Rhode Island. [Ref. 11]

B. DESCRIPTION

Each FBE has a hypothesis and specific, carefully considered measures of effectiveness. FBEs produce, new doctrine, new insight into technology in an operational environment, identification of new required operational capabilities, identification of new acquisition requirements, ideas for further warfare concepts, and ideas for further experimentation.

Unlike a war game, a FBE involves real components and assets. Military units are employed and the exercise is executed in a real-world environment. However, some computer systems may be used to supplement the real environment by ‘injecting’ synthetic, or virtual, targets into the experiment.
C. ORGANIZATIONAL STRUCTURE

Two types of organizational structures can be examined. One is the authorities and personnel that design, plan, and execute the FBEs and the other is the organizational structure of the FBE itself. The organizational structure of the experiment is adaptable to the scenario and objectives addressed by the experiment’s concept of operations. Therefore, the objectives determine the procedures followed by the personnel taking part in the experiment and the flow of information during the exercise.

1. Design, Planning, and Execution

The structure of the authorities ruling over the FBE organization and its procedures begins with strategic level involvement.

The MBC is a CNO sponsored command chartered to conduct FBEs that examine new technologies and new operational concepts in the context of the Navy of the future. The results of FBEs are used to accelerate the delivery of innovative warfare capabilities to the fleet, identify concept-based requirements and evaluate new operational capabilities. [Ref. 10:p. 2] The MBC is responsible for designing and planning FBEs, as well as, coordinating the execution of these experiments in conjunction with the numbered fleet operational command elements (OCE), and analyzing and disseminating experiment results.

2. The Experiments

Although FBE architectures may differ due to changing objectives, the basic structures are similar. This research was based mostly on FBEs E, F, and G, with a concentration on FBE-G.

The MBC and the Commander, U.S. SIXTH Fleet (C6F) jointly conducted Fleet Battle Experiment Golf (FBE-G). C6F Staff and the Navy Warfare Development Command focused on large themes of dynamic sensor management, decentralized
operations, and sensor, actor, and decision-maker synchronization. These themes were
taken to support an investigation of the emerging Network Centric Warfare (NCW)
hypotheses in the pursuit of dynamic attack operations. [Ref. 10:p. 68]

NCW focuses on shortening the Detect-to-Engage timeline. A critical part of
shortening the timeline is being able to respond effectively against emergent high threat
targets, or Time Critical Targets (TCT).

The experiment focused on the Time Critical Targeting process using a dispersed
command, sensors and engagement architecture to allow forces to respond quickly to
fleeting targets and allow them to commit weapons and move sensors with knowledge of
the impact those decisions would have. TCTs are a subset of Time Sensitive Targets.
Time Sensitive Targets are fleeting targets that can only be effectively engaged during
limited periods of time. TCTs are targets requiring immediate response because they pose
(or soon will pose) a clear and present danger to friendly forces or are high-value fleeting
targets of opportunity. [Ref. 9:p. 55]

The primary goal was to apply the concepts of NCW to the Joint Task Force
(JTF) structure. It included Intelligence, Surveillance, and Reconnaissance (ISR) asset
management and allocation of resources, the use of ASW search methodology for land
targets, weapon apportionment and sensor-weapon-target pairing. FBE-G applied a
distributed Command and Control (C2) architecture, in contrast to the centralized C2
architectures of earlier experiments. [Ref. 9:p. 4]

Figure 1 depicts the traditional C2 structure for FBE-G with the inclusion of the
concept of Maritime Control Centers (MCC). It is intended to empower individual units
at various levels in the traditional C2 structure to act autonomously in the engagement of
TCTs. The decentralized network is used to facilitate the process. While the traditional
C2 structure remains in place for deliberate strikes, a network centric approach is
employed in the specific case of TCTs to accelerate the speed of effects. [Ref. 9:p. 15]

A Maritime Control Center is a combined sensor, engagement and command node
that has been allocated and apportioned three key assets: Battlespace; Resources, both in
sensors and weapons; and Autonomy of Action within Commander’s Guidance and Rules
of Engagement. [Ref. 9:p. 16]
Figure 1 Command and Control Organization for FBE-G with MCC Concept Included (MCC Units Designated with Asterisk). After Ref. [9]

Information was disseminated throughout the forces taking part in the exercise and each unit was granted some autonomy in deciding if they could effectively engage the targets. [Ref. 9:p. 5-7] This method of tasking was used in hopes of improving reaction times and effectiveness in engagements.

Figure 2 is a representation of the sensor network for FBE-G. The sensor grid was composed of decentralized, distributed sensor nodes. Sensor nodes were controlled/focused using distributed collaborative planning and a shared workspace. Sensor nodes directly controlled sensors or had access to the controllers for near real time flexing of assets. Sensor reassignment and geolocation requests were shared through a common workspace; sensor management chat-rooms. [Ref. 9:p. 9]
D. DATA OF A FBE

The amount of data produced during a fleet battle experiment can be overwhelming. Although extremely diverse in its types, formats, and sources, the data extracted from a FBE can be classified under two main categories: quantitative and qualitative data.

Quantitative data makes up the greater part of the data and is the focus of this project. Quantitative data is typically raw, unprocessed data such as times, quantities, and locations. This type of information can be classified, stored, and queried more easily than qualitative data. It is factual, precise, and indisputable. Few things can be done with quantitative data except using it for decision support and assessment substantiation. It includes information on track, target and platform locations, munitions used, times of events, and other detailed information.

Qualitative data includes opinions and assessments developed by personnel after
examination of massive amounts of information (quantitative data). Qualitative data is
the result of analysis and is derived by experts based on their examination of the
quantitative data. It may be a determination of the relevance or condition of an event or
action. This kind of data is not always obtained from a specific source and may not be
exact, factual, or precise in nature. It is debatable and irregular in its configuration,
making it very hard to store for future referencing. It is filtered and assessed by
knowledge experts and data collection personnel.

1. Sources and Collection

Fleet battle experiment data is produced at numerous locations by several sources.
Sources of qualitative data include both civilian and military personnel taking part in the
experiment as well as data collection and analysis personnel. Assessments, decisions,
and other factors can be used to determine effectiveness and correctness of actions in
addition to ascertaining if a problem was encountered in a system or process.

Quantitative data is provided by, or can be extracted from, systems such as Land
Attack Weapons System (LAWS) and Global Intelligence, Surveillance, and
Reconnaissance System (GISRS). LAWS and GISRS provide the capability to manage
weapon and sensor nodes real time, respectively. Tables 1 and 2 list the engagement and
sensor nodes (platforms) and assets (weapons, sensors) contained by each.

<table>
<thead>
<tr>
<th>Platform</th>
<th>Weapon</th>
</tr>
</thead>
<tbody>
<tr>
<td>USS Anzio</td>
<td>TLAM/TTLAM/ERGM/LASM</td>
</tr>
<tr>
<td>USS Cape St. George</td>
<td>TLAM/TTLAM/ERGM/LASM</td>
</tr>
<tr>
<td>USS Hartford</td>
<td>TLAM/TTLAM</td>
</tr>
<tr>
<td>NUWC (sim SSN)</td>
<td>TLAM/TTLAM</td>
</tr>
<tr>
<td>P-3</td>
<td>SLAM-ER</td>
</tr>
<tr>
<td>TACAIR from USS Eisenhower</td>
<td>JDAM/JSOW/PGM/SLAM-ER</td>
</tr>
<tr>
<td>TACAIR from JFACC</td>
<td>JDAM/JSOW/ PGM</td>
</tr>
<tr>
<td>SOF</td>
<td>Direct Action.</td>
</tr>
</tbody>
</table>

Table 1 Engagement Nodes and Assets for FBE-G.

Systems such as LAWS and GISRS, though they seemingly categorize and sort
data, are still reliant upon personnel for data entry. This introduces the possibility of data input irregularity and inaccuracy. Much information is left blank due to the rapid pace of activity during the experiment. This introduces the problem of data absence, which must be handled by the data collection personnel at a later time. They correct these problems by either inferring actions and results or attempting to gather the information from other sources, then back logging the information into the systems.

<table>
<thead>
<tr>
<th>Location</th>
<th>Sensors</th>
</tr>
</thead>
<tbody>
<tr>
<td>CJTF (C6F onboard LaSalle)</td>
<td>NTM, U-2</td>
</tr>
<tr>
<td>JFACC (CCDG 5 on MTO)</td>
<td>JSTARS GS, Global Hawk, Rivet Joint, HIRIS</td>
</tr>
<tr>
<td>JFMCC (CCDG 8 on USS Eisenhower)</td>
<td>APY-6, TARPS, Predator, EP-3</td>
</tr>
<tr>
<td>USS Anzio</td>
<td>VTUAV,</td>
</tr>
<tr>
<td>USS Cape St. George</td>
<td>VTUAV,</td>
</tr>
<tr>
<td>CTF-69/USS Hartford</td>
<td>ELINT, SOF</td>
</tr>
<tr>
<td>CTF-67/TSC Sigonella</td>
<td>AIP P-3</td>
</tr>
<tr>
<td>JSOTF (cell on MTO)</td>
<td>SOF, UGS</td>
</tr>
<tr>
<td>JAC Molesworth UK</td>
<td>All National and Theater Sensors</td>
</tr>
</tbody>
</table>

Table 2 Sensor Nodes and Assets for FBE-G.

Other sources include records kept by personnel during the execution of the exercise and interviews or discussions held afterwards. Information gathered from personnel will tend to be more imprecise and difficult to sort, categorize, and store appropriately due to variation.

The primary concern for the latest experiments has been track acquisition and reaction time reduction for assessments. Track acquisition, assessment, and engagement events produce the majority of the information gathered about the exercise. However, information concerning weapon utilization and effectiveness, message delays, and situational awareness is also determined and gathered by personnel.

Manual recording of information by FBE personnel constitutes the bulk of the information collection effort. Data concerning tracks, targets, platforms, decisions, and many other factors is recorded on either forms that personnel are afforded or is entered into data repository systems such as LAWS.
Because of this methodology, data collection is inconsistent and the data entered may vary based on the person recording. This irregularity in data formats produces another problem at the time of data analysis.

The latest version of LAWS, demonstrated in FBE-G, was utilized with some problems and many records were incomplete and inaccurate. Time formats were not clearly defined and fields were frequently left blank. Because of this, few tests could be run to determine the effectiveness of data analysis concerning the event timeline.

Target Location Error information, provided by mensuration events, was entered into the remarks fields along with other random, unrelated information. Other information, such as platform identification and threat types, was formatted improperly making data filtering very difficult. Data transfer into event entities was also problematic and complicated because of the varying ways the data was recorded.

2. Storage

The classification of the data is an arduous task. Current methods have personnel studying this data and then categorizing it by source, subject, and type.

Data storage is of great concern because access to data from past experiments could be used in designing and performing future experiments as well as providing decision support to participants. Analysis of data from various experiments is nearly impossible because of the sheer magnitude of information. Knowledge management experts and data collection personnel work hand in hand to try to find trends in the data and to determine difficulties in the processes. Difficulties could be attributed to system overloads or to human error. By storing data more effectively, the hopes are to make data access easier and data collection and categorization faster so data comparison and analysis can be performed more effectively and efficiently.

Databases have been created to store the data from FBEs, but with limited success. These databases are designed mainly for storage of text strings. The information is categorized after the experiment is executed. Personnel collect, analyze, and categorize the data (mostly comments and assessments made by FBE participants)
based on the subject matter, the sources, and the conclusions made. This data is labeled accordingly and stored in a database that can reference it at a later date by those categories.

This provides few querying options. The data can only be extracted in the form in which it is entered. Few, if any, conclusions can be drawn from the information and searches are predetermined to fit a specific request because no real links, other than categories, can be made between the different pieces of information.

Data provided by systems, such as LAWS, is stored in those systems to be studied and disseminated by personnel. Associations between data in separate systems can only be made through human involvement. There is no existing way to manipulate and link the data across differing systems. Trends and logical relationships are difficult to determine, if at all possible.

3. Information Flow

The flow of data begins at the time of acquisition. A sensor acquires a track and information pertaining to the track, sensor, and time of acquisition are all logged. Once the target has been positively identified, it can be redesignated from a Unidentified Assumed Enemy (UAE) state to Hostile (HOS). At that point, the HIT will be redesignated as a target (TGT). This status will be updated in the Digital Track Folder (DTF) and made available to all engagement cells. [Ref. 9:p. 19]

As shown in Figure 4, the track is then submitted (nominated) as a possible target by a GISRS terminal. Targets that are being actively prosecuted by a sensor will be additionally labeled as a High Interest Track (HIT). This will indicate that target mensuration and refinement are in progress. [Ref. 9:p. 19]

Mensuration is used because some tracks may require more detail, or more precise information, pertaining to location, altitude, threat type, etc. A request for mensuration may be sent by the acquiring terminal to a Precision Targeting Workstation (PTW) or a Joint Targeting Workstation (JTW). Once a nomination is requested and mensuration information received, the track is determined to be a viable target or not. If
evaluated as a viable target, a fire command with pertinent information is sent to all platforms available. Providing all assets with as much information as possible so that, through autonomy, the most effective solution can be achieved is the net-centric ideology. Geosolution is considered complete when the target solution is good enough to engage with at least one available weapon. [Ref. 9:p. 19]

**FBE-G ENGAGEMENT PROCESS**

* TCT Cell Laws refers to any cell that control weapons.
** Includes ROE, command guidance and opportunity for command by negation.

**Figure 3** Detailed Engagement Process. After Ref. [9]

The distinction between tracks and targets hinges on the assignment of a weapon to a track. FBE-G operations outline that a track was not considered a target until it was assigned a weapon. A platform to engage a target is assigned upon issuance of a fire command. Figure 5 displays the engagement net used for FBE-G consisting of the platforms and the weapons contained within them. For FBE-G all platforms were issued a fire command upon target acknowledgment. The “Target-Weapon” pairing, as referred to by FBE personnel, is represented in the schema by including the Weapon Type.
attribute within the Target entity.

Figure 4 Engagement Network. After Ref. [9]

At this point the autonomy aspect of the experiment is apparent. Once provided with firing information and given the authorization to fire, the individual platforms may determine if they are to engage the target. Upon engagement, or firing, information is continuously exchanged between platforms, sensors, and other systems to determine impact and assessment of the target after impact.

All this information is time-stamped in order to be able to reproduce a time line of events at a later date and to determine any information bottlenecks, problems, or variation. This information is also useful in analyzing decision-making skills by the commanders and other decision-makers involved in the experiment.

The information flow is reproduced in the database schema through the use of key fields that relate each entity and/or event. Time attributes in each object provide the timeline information that is crucial to event recreation. Figure 5 provides an overview of the TCT process from track acquisition to target engagement.
Figure 5 TCT Process Overview. After Ref. [9]
III. DATA AND APPLICATION DESIGN

Databases have been utilized to store the data from FBEs, but with limited success. These databases are primarily used for storage of text, and searches on these databases are subject-based, not event-based. No practical attempts had been made in designing a schema that would effectively support storing and querying FBE data and provide customized results to meet user needs.

Relational databases store data in tables and enable applications written against this data to retrieve and update data from these tables. In order to maintain an effective and efficient database, data redundancy and inconsistency is eliminated by ensuring that fields related to the same category of data are stored in the same table. Relationships between tables allow for retrieval of related data stored in different tables. The types of relationships supported by a relational database are One-to-One, One-to-Many, and Many-to-Many. Many-to-Many relationships are implemented by creating two One-to-Many relationships and using a third table as an intersection to store the relationship between the two tables. Some common examples for each relationship are Employee-Job, Department-Employee, and Students-Classes, respectively.

Normalization is an important concept to relational databases that eliminates inconsistencies and minimizes inefficiency. A fully normalized database stores each piece of information in the database once with each entity represented in a table that is uniquely identified by its own primary key. A primary key is an attribute that uniquely identifies a record. Normalized tables allow users to reference any piece of information in other tables by linking them together through the foreign keys. A foreign key is an attribute in a table that links to the primary key in another table.

A. SCHEMA DESIGN

A schema is a mapping of the database. It diagrams all the tables, fields, and relationships in the database. The schema for the prototype database was designed to
account for all entities and relationships that represent the architecture of the FBE. (See Figure 6.) This includes personnel, command cells, and roles occupied by personnel. Although these entities are not the primary points of interest of the prototype system, they are included in order to provide a complete picture of the structure and to allow for growth of the system in future development stages.

Figure 6 Fleet Battle Experiment Database Schema with All Entities Represented.

As previously mentioned, the schema is transaction- (event-) based. The data model represents the interactions between different systems and information sources by concentrating on the logical events and the information transferred rather than the physical objects manipulating the data.
Entities represented in the data model represent both logical and physical objects. Event entities such as track acquisitions, target nominations, firing commands, and target engagements are events that occur during the experiment and are examples of logical entities in the data model. Physical entities are those such as platforms, sensors, weapons, and personnel.

In the remainder of this section we describe the main entities of a FBE and how they relate to each other. These core entities include Platform Type, Sensor Type, Threat Type, Weapon Type, weapon, sensor, and mensuration information managers, Acquisition, Mensuration, Nomination, Target, Route, Fire Command, Fire, Impact, and Reposition events, operational cell and command center nodes, and personnel.

- The Platform Type entity defines the general types of ship, aircraft, or other vessels that will participate in the FBE. Information related to a type of platform is stored in this entity. For example, the USS Dwight D. Eisenhower is a specific vessel of type CVN. A platform is involved in acquisition, mensuration, fire command, impact, and reposition events. Since a platform type can contain other platform types as assets (i.e., a cruiser owns a helicopter as an asset), a recursive relationship needed to be established for the Platform Types entity.

- A platform type entity can be related to many Platform entities which describe specific platforms.

- The Threat Type entity represents the various expected threats that will play a part in the FBE. A type of threat can be part of many instances of acquisition events and is therefore a part of the acquisition event definition.

- The Sensor Type entity defines the generic sensor types that will be used in the FBE. Any type of sensor can be used for multiple acquisition, mensuration, and impact events.

- Similar to the Sensor Type entity, the Weapon Type entity describes a generic weapon that will be used in the FBE. A weapon type can be linked to many platforms and can be used against many targets.

- A Mensuration event is the request for more precise information on a
particular track. An acquisition event may produce more than one mensuration event but a mensuration event is requested by a specific acquisition event and a GISRS or LAWS terminal. Mensuration requires the involvement of a platform and sensor, which may or may not be the same as the acquiring platform and/or sensor, and a PTW terminal. Any platform, sensor, and PTW terminal may be involved in more than one mensuration request. The inverse is not true, however.

- **Weapon**, sensor, and mensuration information managers are known as **LAWS, GISRS, and PTW Terminals**, respectively. These terminals are used during mensuration, nomination, and route events.

- **An Acquisition** event defines the acquisition of some threat or the creation of a track by a sensor. This entity is an intersection of the threat type, sensor type, and platform entities. It links a threat type with its acquiring sensor and the platform on which that sensor is located through the use of foreign keys from those entities. A platform, sensor type, and threat type can be linked to many acquisition events, but a specific acquisition event may only possesses one platform, sensor type and threat type.

- **A Nomination** event is the recommendation from some GISRS or LAWS terminal to designate an acquired track as a target. As with the mensuration event, it is initiated by an acquisition event. The nomination requires information from the mensuration event in order to arrive at a valid assessment of the track and determine if it should be considered a target. A nomination also requires a GISRS terminal for the data analysis.

- **A Target** is a track that has been assigned a weapon by a nomination event (target-weapon pairing) and designated as a target for engagement. A target therefore links the track from an acquisition event (by way of a nomination event) and a weapon type. A specific nomination event can produce numerous targets if multiple attacks on the track are desired. A weapon type can be used in many target-weapon pairings and therefore linked to many targets. If more than one weapon is assigned to a track then the different
assignments are appointed different target ids.

- **Route** events are the product of a LAWS terminal and contain flight and target information specific to the target-weapon paring of a Tactical Tomahawk Land Attack Missile to a target.

- The **Fire Command** entity is an event identifying the assignment of a target to a specific platform (not a platform type). A target could create many fire commands (be assigned to many platforms), but the data used in this research only provided examples of one firing command per target id.

- A **Fire** event is the actual firing of a weapon by a platform, or the engagement of the target. A firing command usually produces only one fire event because a firing of multiple rounds is recorded as one firing and the number of rounds is recorded as information for that event.

- An **Impact** event is the result of a firing event. The assessment of the impact is part of this event and involves the use of a platform and a sensor for gathering data.

- In order to keep information concerning weapon magazine information on platforms, an entity called **Platform-Weapon Status** was created. This links a specific platform with the weapon types used and could help track weapon usage during FBEs.

- The **Reposition** event is used for information concerning platform movement during an FBE. Its information is specific to one platform for a specific range of time and can be used to track asset management and platform availability after the conclusion of the FBE.

- **Command Centers** represent authority units in the FBE that make critical decisions and assessments. They control strategic decisions and asset management. The Common Operating Picture (COP) is in reality an assessment made by personnel who have studied information about the environment. It is the product situational awareness. The COP is defined by Command Centers.
• **Operational Cells** are similar to Command Centers but tend to control specific actions and platforms. They provide lower-level decision making power. They are linked to targets because of their influence in determining the viability of a target and the assignment of platforms to targets.

• The **Personnel** entity contains information about specific individuals such as name, rank, and service. These individuals may be assigned many jobs, or **Roles**. Many Roles have the same titles because they perform the same tasks and responsibilities but on different platforms. Therefore, personnel and their roles are linked through the use of an entity called **Role Assignment**. This entity can then be related to specific platforms and cells as necessary.

• The **FBE** entity was created to store FBE specific information such as dates and location for the experiment. The entities **Acronyms**, **Data Types**, **Initiatives**, **Objectives**, and **Questions** hold respective information pertaining to the experiment. They are entities created to store specific information and have no necessary relationships with any of the other entities.

**B. APPLICATION DESIGN**

Due to the lack of user defined requirements for application implementation, some assumptions had to be made regarding querying and reporting capabilities.

1. **Querying**

Due to the novelty of the concept for this system, FBE personnel had a difficult time formulating application requirements and provided few suggestions concerning system-querying capabilities. Several querying options were formulated and presented to the user. These suggestions were acknowledged as likely and beneficial options so they were implemented as predefined, or “canned”, queries. In general, these queries extract information on the main entities based on different arguments or parameters. A detailed
description of these queries is presented in the following chapter.

In order to provide some flexibility for users a custom SQL-based query option was also included in the design of the system.

2. Reporting

The same situation occurred with report specifications. It was determined that reports should be provided for query results. Due to lack of requirements, reports that the author felt would be most useful were defined and discussed with the user. A decision was made to make their design as simple as possible in order to allow for future modifications. Simplicity was also a benefit in reflecting the information provided on-screen by the application.

In the next chapter we discuss the implementation of the database and application designed in this chapter.
IV. DATA AND APPLICATION IMPLEMENTATION

A prototype Database Management System (DBMS) was implemented from the data and application design described in the previous chapter. A coupling of Microsoft® Visual Basic and Microsoft® Access 97 was chosen in order to combine the power of Microsoft® Access 97 database processing capabilities with the ease of user interface development of Microsoft® Visual Basic in order to meet the users’ needs. The simplicity of connecting the two applications was also an important consideration.

By keeping the database separate from the application, the database could be migrated to other SQL-based databases without the need to re-write or modify the application.

A. DATABASE IMPLEMENTATION

The database for the prototype system was implemented in Microsoft Access 97. It is a relational database management system and was chosen primarily because of its popularity, flexibility, and wide use. Data produced during the FBE is categorized and stored by the logical event that produced it.

Since the storing of data from multiple FBEs in a single database could eventually tax the speed and querying capabilities of the system, it was decided that each FBE would have its own database. In other words, a database will contain data from only one FBE. Some reasons for this decision are 1) it keeps the volume of data in a database to a manageable size so that queries are not slowed and 2) it allows for changes to be made easily for each experiment. The latter reason addresses the differences in FBE objectives and the changing information requirements to support those objectives. A third reason is somewhat related to the latter. If a specific record of an entity is altered between FBEs, then that record’s information pertaining to the previous FBE will be lost. This makes the linking of that entity’s information to prior FBEs impossible.

The design and military structure of FBEs assigns discrete names or designations
to the units involved, which provides a unique identifier, or primary key, for each entity. This simplified the task of determining entity classifications and ensuring distinctions among instances of the same entities.

Twenty-five tables, representing logical events and physical entities in the FBE architecture, were created in order to accommodate the normalized data. However, other FBE information pieces specific to the FBE design were necessary so additional tables were created. These include FBE attributes (such as dates and title), acronyms, initiatives, objectives, and questions. Two more tables were added to support data import and filtering from LAWS and other possible sources.

For the implementation of the database schema, twenty-one entities were concentrated on with fifteen of those having relationships with each other. I will now discuss the implementation of the entities as tables in an Access database. (Figure 7)

- The **Platform Type** table contains information related to a type of vessel that is used in the FBE. The primary key for this table is the asset's generic acronym used by the military. For example, CVN (aircraft carrier, nuclear), CG (guided-missile cruiser), and SSN (fast-attack submarine, nuclear).

- The **Sensor Type** table contains the generic sensor types that will be used in the FBE. The primary key for this table is the typical name or acronym used by personnel. Examples include UAV (unmanned aerial vehicle) and RECO (reconnaissance personnel).

- The **Threat Type** table contains the various expected threats that will play a part in the FBE. The primary key used is the generic designator used to address a threat such as NODONG (a type of ballistic missile), SAM1 (a surface-to-air missile), or MOBRDR (acronym used for mobile radar). Attributes for threat description and capabilities more clearly define this table.
As with the previous tables, the **Weapon Type** table defines a nonspecific entity and contains weapons that will be used in the FBE. The primary key is the military term applied to the weapon. Examples include: AGM (air-to-ground missile), AIM (air interceptor missile), and SLAM (Stand-off Land Attack Missile). Weapon Type also includes a Description attribute.

- **LAWS, GISRS, and PTW Terminal** tables represent weapon, sensor, and mensuration information managers, respectively. These terminals are used during mensuration, nomination, and route events. The LAWS, GISRS, and PTW Terminal entities all possess like attributes. They are defined by their location and functionality attributes. For future schema development efforts, these terminal types could be implemented as one table with a defining attribute determining the type of terminal as a LAWS, GISRS, or PTW/JTW.

- The **Platform** table contains occurrences of a specific platform type. The
primary key for this table is the platform’s designator. For example, the USS Dwight D. Eisenhower is a specific vessel of type whose designator is CVN-69. A foreign key from the platform type table provides information specific to the type of platform. The platforms specific mission or specialty can also be stored in this table. For data importation from LAWS, a table containing the LAWS designation for the platform is also included in the table’s definition.

- An **Acquisition** event table defines the acquisition of a track by a sensor. This table’s primary key is a concatenation of an abbreviation distinguishing it as an acquisition event and an AutoNumber counter kept by the database. The table contains three foreign keys that links a threat type with its acquiring sensor and the platform on which that sensor is located. Other significant attributes include the track id determined by the acquiring terminal and track information such as altitude, speed, and location.

- A **Mensuration** event table is the request for more precise information on a particular track. The instance of a mensuration event links a platform and sensor, which may or may not be the same as the acquiring platform and/or sensor, and a PTW terminal. Its primary key is also a concatenation of an abbreviation and an AutoNumber counter. Foreign keys from the mentioned entities help define the event. A foreign key specifying a GRSRS terminal as an information source is also an attribute of this table. Attributes to store data concerning information request and receipt times are present in this table as well.

- The **Nomination** event table uses a primary key composed in the same manner as the acquisition and mensuration primary keys. Because a nomination requires information from a mensuration event, a foreign key from the mensuration table is included. A foreign key from the acquisition table is also an attribute. An assessment field is provided for qualitative information that may have had a specific influence on the nomination event.

- The **Target** table links the track from an acquisition event (by way of a
nomination event) and a weapon type by including foreign keys from both the nomination table and the weapon type table. The primary key is specified by GISRS and LAWS terminals. Post-mensuration information including time of designation as a target, location, speed, and “No Later Than” time are stored in this table. The “No Later Than” time specifies a time at which, if the target has not been engaged, it ceases to be a time critical target.

- The **Fire Command** table primary key is created in the same manner as the other event primary keys. This table contains the platform and target table primary keys as foreign keys. It also contains attributes stating the time the command was sent and received, as well as if a weapon was actually launched at the target.

- A **Fire** event table is the actual firing of a weapon by a platform, or the engagement of the target. Its primary key is a concatenation of an abbreviation and an AutoNumber. The Fire Command that produced the Fire event is stored in this table using a foreign key. The number of rounds and time of firing is also recorded.

- An **Impact** event table is the result of a firing event. Its primary key resembles those of the other event tables. The assessment of the impact involves the use of a platform and a sensor for gathering data. Foreign keys for both are stored in this table as is the target impact time and the fire event that led to the impact event.

- The **FBE** table uses the FBE name (i.e., E, F, G) as its primary key. It contains the start and end dates and the location of the experiment. The Acronym, Data Types, Initiatives, Objectives, and Questions tables contain memo data type fields that hold respective information that can be search as strings.

Referential integrity requires that records in tables providing information for other tables must exist prior to the creation of the record in the dependent table. Information flow dictates which entities need to be created prior to others. The schema follows the
logical chain of events of the experiment therefore events must be created in the order dictated by the information flow – acquisition, mensuration, nomination, target, fire command, fire, impact.

Data types and formats for all attributes were determined by the information sources and their current formats and usage of the data. Because of the variance in data types and formats table attributes were weakly defined. Most attributes are of text data type to allow for manipulation of the data and a broader variety of formats. This is true of time information. Access and Visual Basic do not recognize time information stored in Military Date-Time format. Therefore, the times in the database are stored as text fields. This means that any analysis or comparison on this type of information must be performed by the application by using string manipulation.

B. APPLICATION IMPLEMENTATION

The application interface for the DBMS was designed and implemented using Microsoft® Visual Basic 6.0: Professional Edition.

The application involved the creation of twenty-eight graphic user interface (GUI) forms that allow the user to add, delete, modify and query the data stored in the database. The application uses both Visual Basic data objects and virtual recordsets in order to access the database. Controls such as text boxes, dropdown list boxes, command buttons, and menus are used to facilitate data entry and modification, as well as form and record navigation.

1. Forms

Upon execution of the application executable program file, a module containing the Main sub procedure is used to determine the database file to be opened by the application. An Open File dialog box, as in Figure 8, is displayed where the user can browse the computer files available for the database file they desire. When the user
selects the database file, the filename is stored as the database name and recordsets are updated by the application to contain the information from the database selected. (Should the user not choose a database file, the main form will be displayed but no search or editing options will be available because there is no database selected. The user can still choose to open a database by using the File menu option.)

The main interface form (Figure 9) is then displayed. The user can now use the application to modify and search the selected database.

![Open Dialog Box](image)

**Figure 8** Open Database Dialog Box Displayed at Run-time.
Forms designed for record addition, modification, and deletion (Figure 10) are available to the user under the Add/Delete menu option on the main form. Forms created include Acquisition, Mensuration, Nomination, Fire Command, Fire, and Impact Event Update forms, a Target Record Update form, a Platform Information Update form, Platform, Sensor, Threat, and Weapon Types forms, and Acronym, Data Types, Initiatives, Objectives, and Questions forms.

These forms make use of text boxes and dropdown list boxes to ease data entry and modification as well as displaying update, save, add and delete buttons to manipulate the records. Data objects, which also serve for record navigation, and virtual recordsets are all updated at the time of the form’s load event procedure. They provide the data links between the Visual Basic form and the database.

The Add Event button will enable all the data entry fields and clear their contents in preparation for addition of a new record. Upon data entry completion the user must then select the Save Event button to add the record. The Delete Event button will warn the user before submitting the record deletion to the database.
To Update or Edit a previously existing record, the user must select the Update button. The Update button’s caption will then automatically change to “Submit”. After completing all edits, the user will select the Submit button in order to commit the changes.

The user may choose to view all targets stored in the database by selecting the View menu option and choosing Targets. This will display the Targets window seen in Figure 11. When the target window appears the user may display the time line of events corresponding to a specific target by double-clicking the target record they desire. The double-click action will display another window (Figure 12) with the time data for every event pertaining to that target from acquisition to impact.
If the user desires to reduce the number of targets displayed by sorting the records according to some specific criteria, they can choose the filter option under the File menu in the Targets window. This will open the Filters window (Figure 13) and allow them to choose which filters to apply and what criteria to filter with. They can select which filters to activate by checking the appropriate boxes. Once the box is checked, they can then enter or select the criteria they wish to filter with.

The Apply button will activate the filters that are checked but will keep the Filters Window open. The OK button will apply the filters and return the user to the Target Records Window. The Cancel window will return the user to the Target Records Window without altering any filter settings.
Figure 12 Target Timeline Window.
2. Menus

The application was implemented as a menu driven application with the main form as the base of form connectivity. By using the main form's menu options users can reach the predefined query form, the SQL custom query form, and all entity update forms. They can also view the list of targets found in the database and even have limited control of the data importation process. They can do all these things with the use of the menus available on the main form. Menu options include opening a different database,
searching the database using "canned" (previously defined) queries or custom SQL queries, editing the database records, and/or populating the database with new information from other systems using text file importation.

Figure 14 Hierarchical Chart of Menu Options.

The previously mentioned data import capability is based on a capability offered by the latest version of LAWS. The export facility takes user-selected fields from the LAWS system database and exports them to a comma delimited text file. Upon creation of the text file, the information can be imported to a database table. The table used for data import was specifically designed for the exported LAWS data fields, therefore adjustments to the source code would have to be made in order to allow for extra fields or for the integration other systems as data sources. However, the system is operational with the LAWS export text file format. (The database table is named LAWS in the prototype database schema.) Once the table is filled, the data can be sorted and filtered for completeness and formatting using the Transfer and Sort options available under the Data menu item on the Main form. After filtering, the information can be separated and disseminated throughout the database by using the Populate Tables option under the Data menu item. This feature ensures that all the information is sent to the appropriate tables in the database and in the appropriate order as dictated by referential integrity.
3. Queries

If the user chooses the query option from the main form, then another window (Figure 15) displaying the provided queries appears. Option buttons allow the user to select the desired query. When an option button is selected, the appropriate controls will become enabled. The user selects the criteria and runs the query using a command button. The Submit Query button’s code module contains a Select Case clause with predefined SQL statements. The option buttons are actually an array of controls whose index determines the case to be selected in the source code and therefore the SQL statement to be used. The form’s controls provide the arguments used in the statements.

![Queries Form]

Figure 15 “Canned” Queries Form.

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Query results appear in the window shown in Figure 16. Fields displayed are predetermined and set in the source code (hard-coded). These queries do not provide the user with the option of selecting what information is displayed; only the criteria by which to search the database.

![Query Output Window](image)

**Figure 16** “Canned” Query Output Window.

The user selects which query they would like to use by selecting the appropriate option button. The applicable controls are then enabled and the user chooses the criteria. They then select the Submit Query button and the Query Output Window is displayed with the results of the query.

Four of the eight “canned” queries provided filter acquisition events. These queries filter the acquisitions by the acquiring platform, sensor type, both the acquiring sensor type and platform, and by the threat type of the acquired track. One query filters the target records by the weapon type assigned to, or paired with, the target. Two of queries concentrate on the nomination events – one searching for the nominations accepted as targets and the other searching for the nominations declined as targets. The last query on the “Canned” Queries form retrieves all impact events from the database.

The queries are defined in the source code of the application using cases that contain SQL statements set specifically for the individual querying cases.

For the custom query option, some considerations had to be taken. The biggest
difficulty would have been the presentation of the information, but using Visual Basics Data Bound Grid Control, the fields are updated through the use of a data object that recognizes the SQL-requested fields.

Should the user select the SQL option from the Main form, the SQL Custom Query Window will be displayed. (Figure 17) This window contains a text box in which the user will enter the SQL statement desired. Once the statement is entered, the user selects the Search button and the information is displayed in the Data Bound Grid at the bottom of the form.

Using this query method the user has more control over the fields to be displayed and can alter the criteria to suit their particular needs. However, those who do not fully understand the database schema may encounter some difficulties.

![Custom Query Window](image)

**Figure 17** SQL Custom Query Window.

<table>
<thead>
<tr>
<th>Acquisition</th>
<th>Trackid</th>
<th>AcqTime</th>
<th>ThreatType</th>
<th>AcqPlatform</th>
</tr>
</thead>
<tbody>
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<td>071421</td>
<td>SAM6</td>
<td>CG-71</td>
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<td>CVN-69</td>
</tr>
<tr>
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<td>GI2097</td>
<td></td>
<td></td>
<td>CVN-69</td>
</tr>
<tr>
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<td></td>
<td></td>
<td>CVN-69</td>
</tr>
<tr>
<td>AE00041</td>
<td>GI2111</td>
<td></td>
<td></td>
<td>CVN-69</td>
</tr>
<tr>
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<td></td>
<td></td>
<td>CVN-69</td>
</tr>
<tr>
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<td></td>
<td></td>
<td>CVN-69</td>
</tr>
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<td></td>
<td></td>
<td>JFACC</td>
</tr>
<tr>
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<td>GJ0008</td>
<td>070626</td>
<td>SAM2</td>
<td>JFACC</td>
</tr>
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<td>NODONG</td>
<td>CG-68</td>
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<td>AE00050</td>
<td>LG0029</td>
<td></td>
<td>SCUBD</td>
<td>CG-71</td>
</tr>
</tbody>
</table>
When querying the database, the primary and foreign keys of each table provide links between the tables. Because the database is relational, table joins must be created to access information from multiple tables.

In order to extract information from a table that is two relationship links away, it is necessary to include the necessary linking information from the intermediary table. For example, suppose you want to query information of an impact event and want to determine either the firing platform or the target fired upon. The links must first relate the Fire event that created the Impact event through the Fire attribute, or field, within the Impact event. Then, to retrieve the platform or target ids that reside in the Fire Command event another link must be made between the Fire event and the Fire Command event by using the Fire Command attribute, or field, within the Fire event. In Standard Query Language (SQL) the query would look like this:

```
SELECT Impact.FireEvent, Fire.Fire, Fire.FireCommand,
       FireCommand.FireCommand, FireCommand.TargetId, Fire
       Command.FirerPlatform
FROM Impact, Fire, FireCommand
WHERE Impact.Fire = 'IE00001'
AND Fire.Fire = Impact.FireEvent
AND FireCommand.FireCommand = Fire.FireCommand
```

The SELECT section chooses the fields the user wants to retrieve and/or compare. The FROM section determines the tables in which to look in for the fields named in the SELECT portion of the SQL statement. WHERE is the comparison portion of the SQL statement specifying the criteria by which records will be eliminated or selected.

The example SQL statement will query the database for the TargetId and FirerPlatform involved in the FireCommand event that produced the Fire event that led to the Impact event designated as ‘IE00001’. The statement selects the record in the Impact table with an id equal to ‘IE00001’. It then compares this instance’s FireEvent attribute with Fire instances until it finds a match. It will then use the FireCommand attribute of that instance of the Fire event to find the matching FireCommand instance and provide the FirerPlatform and TargetId.
A query between tables that lie more than one table away from each other will require that each link between intermediary entities be represented in the SQL statement.

The most important query for this system is also one of the most complicated – time queries. The format used for time data poses a significant problem for comparisons. The data is stored in Military Date-Time fashion. This is expressed as a string concatenation of the day, the time (24-hour), the time zone (Zulu (Z)), the month, and the year. In order to be able to compare these times and to perform any calculations, the string must be segmented into pieces and each portion compared with the appropriate section of another date-time string using string manipulation code.

4. Reports

It is possible to export database data to Microsoft Office applications from a Visual Basic application through the use of automation. Automation is a process that enables applications to communicate and exchange data with each other.

The Visual Basic application sets a reference to the object library of the Automation server to be used; in this case, Word 97®. An instance of the Automation server object is created. A recordset object containing the data desired is also created. A code module within the Visual Basic application instantiates the object variables and sends the data to Word. The data is then exported from the recordset object to the Automation server. Word can then be used to produce and edit a document or merely as a print engine. [Ref. 4] Once the Visual Basic application opens a document in Word 97® the manipulation of data and format of the report is controlled in the Word 97® application. An example of a report produced and formatted in Word 97® is shown in Figure 18.

Information retrieved from the database using predefined queries, SQL custom queries, or data objects (recordsets) can be exported to a report (Word document) by using the Word 97 automation server. Reporting capability is available on forms displaying entity information by means of a menu option.
5. Modules

Visual Basic is an event-driven programming language. Event-driven means that procedures (sections of code intended to perform a singular, specific action) are triggered by user interactions with the application’s user interface. User actions can vary from selecting a menu option to selecting a check box in the window. For Visual Basic, modules are groupings of multiple procedures that provide the functionality of a form. Consequently, a module exists for each form in the application. The modules that define the application are provided as Appendix B for this thesis.

<table>
<thead>
<tr>
<th>Acquisition</th>
<th>TrackID</th>
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<th>DataType</th>
<th>AcqLatitude</th>
<th>AcqLongitude</th>
<th>TrueLocation</th>
<th>TrueAltitude</th>
<th>TrueSpeed</th>
<th>TrackIdentity</th>
<th>Remarks</th>
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<td>SAMX</td>
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<td>SCUDS-021000</td>
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</table>

Figure 18 Acquisition Events Report Created in Word 97® by Using Print Option on Acquisition Event Update Form (Figure 10).
C. POST-IMPLEMENTATION

Once the forms were designed and most of the data manipulation code was implemented, the prototype was demonstrated. Feedback provided some new insight into application functionality and some requirement modifications.

Difficult at best, application testing was time-consuming and imprecise. Troubleshooting was an arduous task because of the lack of available data and the incompleteness of the little data that was available. However, the export facility available in the latest version of LAWS provided some data that could be manipulated, or massaged, into a usable form and used to test the database schema and the interaction of the application with the database.

Forms properly interact with each other and limited error trapping has been included to eliminate database error terminations.

Further discussions with FBE personnel and personal data analysis have demonstrated that the schema developed could be improved by combining some entities such as the LAWS, GISRS, and PTW terminal entities. Data such as time needs to be formatted in a different manner to allow for more effective querying. Other data fields need to be more clearly defined. A lot of fields are defined as text data types, which produces a lot of wasted memory space. This slows the system down and will be apparent once more data is entered.
V. CONCLUSION AND RECOMMENDATION

A. CONCLUSION

The database schema and application developed for this thesis are basic, yet functional. They provide a simple approach for extracting and updating FBE data using an easy to use graphical interface.

The requirements analysis portion of this project was very frustrating. Users were not certain of what capabilities they wanted and had little understanding of the functionality a system such as this could provide. They provided very little input as to desired queries, reports, and interface design preferences. As a result the author had to spend a considerable amount of time understanding the application domain in order to suggest useful query and report options.

The conceptual model should have been more clearly defined and the project’s implementation postponed, but time constraints required that the schema be implemented and tested quickly to allow time for the application’s development. This led to modifications being applied to the schema mid-way through the implementation of the application.

The Visual Basic and Access coupling is a very effective method of implementing client/server systems such as this because it allows the programmer more control over the design of the interface and its interactions with the database. It also provides for program/data independence thus supporting upward scalability of the database.

However, limitations of relational databases join processing can slow the speed of searches and other data management processes. Numerous table joins are necessary to navigate the database and, with large amounts of data in the tables, querying speed is likely to suffer. We do not however anticipate the volume of data from a single experiment to overwhelm the system since a database contains information from only one experiment.

Another potential limitation is that SQL custom queries require the user to
understand the data model well and can become complicated and slow when information
from two or more tables is required.

Perhaps the greatest shortcoming of the Visual Basic and Access linkage is the
quantity of error-trapping and data format-validation code that must be created. Data
editing and updating method errors addressed by Access 97 can cause an error that may
terminate the connection between the application data object and the database.

The database schema was initially implemented in Access 2000, but Visual Basic
6.0 does not seem to interface with Access 2000. This required that the database schema
be reconstructed in Access 97.

B. RECOMMENDATION

It is my recommendation that the data model be examined with greater detail. In
my opinion, the conceptual model should be researched independently of any
implementation plans with the intention of defining data types and sources more clearly.
Research should involve input from all data repository systems involved in FBEs, such as
LAWS and GISRS, to determine the data overlap of the systems and the distinguishing
data interests of each.

The application provides limited sorting and filtering capabilities for the tables
defined in the database. The data filtering option needs to be more robust and tested with
sufficient feedback from the user. For example, the target record viewing filters are basic
and a better format for time data would provide more effective querying capabilities and
make the system more stable.

The data “drill-down” functionality is also very basic. Better requirements
definition needs to be the main focus of any follow-on work. With a clearer idea of what
kind of data is wanted, the system functionality can be more focused and provide better
results.

The development effort for this system was implemented using an event-based
methodology. Focus was placed on the information and its flow with less attention paid
to the behavior of the system. With future alterations to war-fighting doctrine and FBE
architectures, the schema developed here may or may not accurately define the interactions among the entities involved. This schema should be meticulously tested in a FBE environment in order to reveal its limitations.

The fourth phase of the larger effort will use an object-oriented approach. It will look at these relationships as interactions among objects. These objects would contain attributes (information, data) about themselves and behaviors that would define their interactions and information flow and manipulation. By focusing on both information and behavior it is possible to develop systems that are resilient and flexible to changes in structure and processes.

I would also recommend that the system be migrated to the World Wide Web. This would increase the amount of input from interested parties and help define additional requirements. Schema limitations could also be scrutinized and additional entities and relationships added to supplement the data model.
**APPENDIX A: GLOSSARY OF TERMS**

This appendix contains the definitions of abbreviations used in this thesis.

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Definition</th>
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<tbody>
<tr>
<td>AO</td>
<td>Area of Operations</td>
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<tr>
<td>ANZ</td>
<td>USS ANZIO</td>
</tr>
<tr>
<td>ASM</td>
<td>Anti-Ship Missile</td>
</tr>
<tr>
<td>ASMD</td>
<td>Anti-Ship Missile Defense</td>
</tr>
<tr>
<td>ASW</td>
<td>Anti-Submarine Warfare</td>
</tr>
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<td>ATO</td>
<td>Air Tasking Order</td>
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<td>BDA</td>
<td>Bomb Damage Assessment</td>
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<tr>
<td></td>
<td>Battle Damage Assessment</td>
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<tr>
<td>BWC</td>
<td>Battle Watch Captain</td>
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<td>C2</td>
<td>Command and Control</td>
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<tr>
<td>C2W</td>
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<tr>
<td>C4I</td>
<td>Command, Control, Communications, Computers, and Intelligence</td>
</tr>
<tr>
<td>C4ISR</td>
<td>Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance</td>
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<tr>
<td>CG</td>
<td>Guided Cruiser</td>
</tr>
<tr>
<td></td>
<td>Commanders Guidance</td>
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<td>Combat Information Center</td>
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<tr>
<td>CINC</td>
<td>Commander-in-Chief</td>
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<tr>
<td>CJTF</td>
<td>Commander Joint Task Force</td>
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<td>COA</td>
<td>Course of Action</td>
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<td>COMSEC</td>
<td>Communications Security</td>
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<tr>
<td>CONOPS</td>
<td>Concept of Operations</td>
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<tr>
<td>COP</td>
<td>Common Operational Picture</td>
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<tr>
<td>COTS</td>
<td>Commercial Off-the-Shelf</td>
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<tr>
<td>CSG</td>
<td>USS CAPE ST GEORGE</td>
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<tr>
<td>CTF</td>
<td>Combined Task Force</td>
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</table>

49
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<td>CVBG</td>
<td>Aircraft Carrier Battle Group</td>
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<tr>
<td>CVW</td>
<td>Carrier Air Wing</td>
</tr>
<tr>
<td>DFN</td>
<td>Digital Fires Network</td>
</tr>
<tr>
<td>DTG</td>
<td>Date Time Group</td>
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<tr>
<td>ERGM</td>
<td>Extended Range Guided Munition</td>
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<tr>
<td>GBS</td>
<td>Global Broadcasting System</td>
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<td>GCCS</td>
<td>Global Command and Control System</td>
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<tr>
<td>GIS</td>
<td>Global Information System</td>
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<tr>
<td>GPS</td>
<td>Global Positioning System</td>
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<td>GSIRS-C</td>
<td>Global ISR System-Capability</td>
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<td>High Speed Anti-Radiation Missile</td>
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<td>High Interest Track</td>
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<td>HOS</td>
<td>Hostile</td>
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<td>IKE</td>
<td>USS EISENHOWER</td>
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<td>IMMM</td>
<td>In-flight Mission Modification Message</td>
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<td>Intelligence</td>
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<td>Integrated Task Order</td>
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<td>Joint Direct Attack Munition</td>
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<td>JECG</td>
<td>Joint Experiment Control Group</td>
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<td>JFMCC</td>
<td>Joint Force Maritime Commander</td>
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<td>JICO</td>
<td>Joint Interface Control Officer</td>
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<td>JIPTL</td>
<td>Joint Integrated Prioritized Target List</td>
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<td>JMCIS</td>
<td>Joint Maritime Command Information System</td>
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<td>JOA</td>
<td>Joint Operations Area</td>
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<td>JSOW</td>
<td>Joint Stand-Off Weapon</td>
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<td>JSTARS</td>
<td>Joint Surveillance, Target Attack Radar System</td>
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<tr>
<td>Abbreviation</td>
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<td>JSWS</td>
<td>JSTARS Work Station</td>
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<td>JTCB</td>
<td>Joint Targeting Coordination Board</td>
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<td>JTF</td>
<td>Joint Task Force</td>
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<tr>
<td>JTW</td>
<td>Joint Targeting Workstation</td>
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<td>JWAC</td>
<td>Joint Warfare Analysis Center</td>
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<td>LAMPS</td>
<td>Light Airborne Multipurpose System</td>
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<td>LAN</td>
<td>Local Area Network</td>
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<td>LANTIRN</td>
<td>Low Altitude Navigation and Targeting Infrared for Night</td>
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<td>LAS</td>
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<td>LASM</td>
<td>Land Attack Standard Missile</td>
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<td>LAWS</td>
<td>Land Attack Warfare System</td>
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<td>LOS</td>
<td>Line of Sight</td>
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<td>LPMP</td>
<td>Launch Point Mission Planner</td>
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<tr>
<td>MBC</td>
<td>Maritime Battle Center</td>
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<tr>
<td>MCC</td>
<td>Maritime Control Center</td>
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<tr>
<td>MDS</td>
<td>Mission Distribution System</td>
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<tr>
<td>METOC</td>
<td>Meteorological and Oceanographic</td>
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<tr>
<td>MOE</td>
<td>Measure of Effectiveness</td>
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<td>MPA</td>
<td>Maritime Patrol Aircraft</td>
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<td>MPR</td>
<td>Mission Planning Request</td>
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<td>NCA</td>
<td>National Command Authority</td>
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<tr>
<td>NLT</td>
<td>Not Later Than</td>
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<td>NPS</td>
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<td>NRO</td>
<td>National Reconnaissance Office</td>
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<td>Naval Surface Fires Support</td>
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<td>NSW</td>
<td>Navy Special Warfare</td>
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<td>NUWC</td>
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<td>OCE</td>
<td>Officer Conducting Exercise</td>
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<td>OIC</td>
<td>Officer-in-Charge</td>
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</table>
OOB  Order of Battle
OPCON  Operational Control
OPFOR  Opposing Forces
OPINTEL  Operational Intelligence
OPORD  Operations Order
OPSEC  Operational Security
OTCIXS  Officer-in-Tactical Command Information Exchange System
PAO  Public Affairs Office
PGM  Precision Guided Munition
PLI  Position Location Information
POC  Point of Contact
RFI  Request for Information
ROE  Rules of Engagement
SA  Situational Awareness
SAM  Surface-to-Air Missile
SAR  Search and Rescue
Synthetic Aperture RADAR
SATCOM  Satellite Communications
SC  Strike Controller
SITREP  Situation Report
SLAM  Stand-off Land Attack Missile
SLAM-ER  Stand-off Land Attack Missile Expanded Response
SOF  Special Operations Forces
SOP  Standard Operating Procedure
SPAWARSYSCEN  Space and Naval Warfare Systems Command
SPECWARGRU  Special Warfare Group
SSM  Surface-to-Surface Missile
SSN  Strike Submarine
STOW  Synthetic Theater of War
TA  Target Acquisition
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<tr>
<td>TACAIR</td>
<td>Tactical Aircraft</td>
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<tr>
<td>TARPS</td>
<td>Tactical Air Reconnaissance Pod System</td>
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<tr>
<td>TBD</td>
<td>To Be Determined</td>
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<tr>
<td>TCC</td>
<td>Time Critical Contact</td>
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<tr>
<td>TCT</td>
<td>Time Critical Target</td>
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<td>TEL</td>
<td>Transporter Erector Launcher</td>
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<td>TLAM</td>
<td>Tomahawk Land Attack Missile</td>
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<td>TLE</td>
<td>Target Location Error</td>
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<td>TOT</td>
<td>Time on Target</td>
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<tr>
<td>TTF</td>
<td>Time to Fire</td>
</tr>
<tr>
<td>TTP</td>
<td>Tactics, Techniques, and Procedures</td>
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<td>TST</td>
<td>Time Sensitive Target</td>
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<td>TTLAM</td>
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<tr>
<td>TTWCS</td>
<td>Tactical Tomahawk Weapons Control System</td>
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<td>UAE</td>
<td>Unidentified Assumed Enemy</td>
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<td>UAV</td>
<td>Unmanned Aerial Vehicle</td>
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<td>USN</td>
<td>United States Navy</td>
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APPENDIX B: APPLICATION CODE MODULES

This appendix contains the Visual Basic code modules that define the data management system's interface and functionality.

'******************************************************************************
'Module: Module1.bas
'Description: Displays an Open File dialog box upon execution
' and loads the main form after setting the
' database file name as a global variable.
'Programmer: Kevin Colón
'******************************************************************************

Option Explicit

Public db As Database
Public gstNewDatabase As String
Public gstFBE As String
Public bContinue As Boolean
Public bWord As Boolean
Public bText As Boolean

Sub Main()
    On Error GoTo HANDLEERROR
    gstNewDatabase = GetNewDatabase
    Set db = OpenDatabase(gstNewDatabase)
    'display Main form
    With frmMain
        .Show
        .Caption = .dlgDatabase.FileTitle & " Database"
    End With
End Sub

Sub _Exit:
    Exit Sub
End Sub

HANDLEERROR:

Select Case Err.Number
    Case 3004, 3024, 3044
        gstNewDatabase = GetNewDatabase
        If gstNewDatabase = "" Then
            MsgBox "No database was selected.", vbExclamation,
            "Database Error"
        End If
    Case Else
        'disables options only available when a database is selected
        frmMain.mnuFileQueries.Enabled = False
        frmMain.mnuFileSQL.Enabled = False
frmMain.mnuUpdate.Enabled = False
Resume Next

Else
    Set db = OpenDatabase(gstNewDatabase) ' new database location
    ' reenables options once a database is selected
    frmMain.mnuFileQueries.Enabled = True
    frmMain.mnuFileSQL.Enabled = True
    frmMain.mnuUpdate.Enabled = True
    Resume ' open the database
End If
Case Else
    MsgBox Err.Description, vbOKOnly + vbExclamation, "Unexpected Error"
End ' exit the project

End Select

End Sub

Public Function GetNewDatabase() As String
    ' allows user to browse for database
    Dim iResp As Integer
    Dim stMsg As String

    stMsg = "Do you want to locate a database file?"

    iResp = MsgBox(stMsg, vbYesNo + vbQuestion, "File or Path not found")

    ' if user does not want to browse for file
    If iResp = vbNo Then
        ' set database name to "blank"
        GetNewDatabase = ""
    Else
        ' if user opts to find database
        With frmMain.dlgDatabase
            .FileName = App.Path & "\G.mdb" ' gStNewDatabase
            .Filter = "Database files (*.mdb)|*.mdb|All files (*.*)|*.*"

            ' if error encountered, skip next command
            On Error Resume Next
            .ShowOpen
            If Err.Number = cdlCancel Then
                GetNewDatabase = ""
            Else
                ' set return filename to selected file

            End If
        End With
    End If
End Function
GetNewDatabase = .FileName
End If
End With
End If

End Function

'******************************************************************************
'Module:    frmAbout.frm
'Programmer:   Kevin Colón
'******************************************************************************

Option Explicit

' Reg Key Security Options...
Const READ_CONTROL = &H200000
Const KEY_QUERY_VALUE = &H1
Const KEY_SET_VALUE = &H2
Const KEY_CREATE_SUB_KEY = &H4
Const KEY_ENUMERATE_SUB_KEYS = &H8
Const KEY_NOTIFY = &H10
Const KEY_CREATE_LINK = &H20
Const KEY_ALL_ACCESS = KEY_QUERY_VALUE + KEY_SET_VALUE +
KEY_CREATE_SUB_KEY + KEY_ENUMERATE_SUB_KEYS + KEY_NOTIFY +
KEY_CREATE_LINK + READ_CONTROL

' Reg Key ROOT Types...
Const HKEY_LOCAL_MACHINE = &H80000002
Const ERROR_SUCCESS = 0
Const REG_SZ = 1          ' Unicode null terminated string
Const REG_DWORD = 4        ' 32-bit number

Const gREGKEYSYSINFOLOC = "SOFTWARE\Microsoft\Shared Tools Location"
Const gREGVALSYSINFOLOC = "MSINFO"
Const gREGKEYSYSINFO = "SOFTWARE\Microsoft\Shared Tools\MSINFO"
Const gREGVALSYSINFO = "PATH"

Private Declare Function RegOpenKeyEx Lib "advapi32" Alias
"RegOpenKeyExA" (ByVal hKey As Long, ByVal lpSubKey As String, ByVal
ulOptions As Long, ByVal samDesired As Long, ByRef phkResult As Long) As Long
Private Declare FunctionRegQueryValueEx Lib "advapi32" Alias
"RegQueryValueExA" (ByVal hKey As Long, ByVal lpValueName As String,
ByVal lpReserved As Long, ByRef lpType As Long, ByVal lpData As String,
ByRef pcbData As Long) As Long
Private Declare Function RegCloseKey Lib "advapi32" (ByVal hKey As Long) As Long

Private Sub cmdSysInfo_Click()
    Call StartSysinfo
End Sub

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Private Sub cmdOK_Click()
    Unload Me
End Sub

Private Sub Form_Load()
    Me.Caption = "About " & App.Title
    & App.Revision
    lblTitle.Caption = App.Title
End Sub

Public Sub StartSysInfo()
    On Error GoTo SysInfoErr

    Dim rc As Long
    Dim SysInfoPath As String

    ' Try To Get System Info Program Path\Name From Registry...
    If GetKeyValue(HKEY_LOCAL_MACHINE, gREGKEYSYSINFO, gREGVALSYSINFO,
    SysInfoPath) Then
        ' Try To Get System Info Program Path Only From Registry...
        ElseIf GetKeyValue(HKEY_LOCAL_MACHINE, gREGKEYSYSINFOLOC,
        gREGVALSYSINFOLOC, SysInfoPath) Then
            ' Validate Existance Of Known 32 Bit File Version
            If (Dir(SysInfoPath & "\MSINFO32.EXE") <> "") Then
                SysInfoPath = SysInfoPath & "\MSINFO32.EXE"

            ' Error - File Can Not Be Found...
            Else
                GoTo SysInfoErr
            End If
        ' Error - Registry Entry Can Not Be Found...
        Else
            GoTo SysInfoErr
        End If

    Call Shell(SysInfoPath, vbNormalFocus)

    Exit Sub
SysInfoErr:
    MsgBox "System Information Is Unavailable At This Time", vbOKOnly
End Sub

Public Function GetKeyValue(KeyRoot As Long, KeyName As String,
SubKeyRef As String, ByRef KeyVal As String) As Boolean
    Dim i As Long
    ' Loop
    Counter
    Dim rc As Long
    ' Return
    Code
    Dim hKey As Long
    ' Handle To
    An Open Registry Key
    Dim hDepth As Long
    Dim KeyValType As Long
    ' Data Type
    Of A Registry Key
    Dim tmpVal As String
    ' Tempory
Storage For A Registry Key Value

Dim KeyValSize As Long ' Size Of

Registry Key Variable

' Open RegKey Under KeyRoot {HKEY_LOCAL_MACHINE...}
'--------------------------------------------------------
rc = RegOpenKeyEx(KeyRoot, KeyName, 0, KEY_ALL_ACCESS, hKey) ' Open Registry Key

If (rc <> ERROR_SUCCESS) Then GoTo GetKeyError ' Handle Error...

tmpVal = String$(1024, 0) ' Allocate Variable Space
KeyValSize = 1024 ' Mark Variable Size

' Retrieve Registry Key Value...
'--------------------------------------------------------
rc = RegQueryValueEx(hKey, SubKeyRef, 0, _
        KeyValType, tmpVal, KeyValSize)

Get/Create Key Value

If (rc <> ERROR_SUCCESS) Then GoTo GetKeyError ' Handle Errors

If (Asc(Mid(tmpVal, KeyValSize, 1)) = 0) Then ' Win95 Adds Null Terminated String...
tmpVal = Left(tmpVal, KeyValSize - 1) ' Null Found, Extract From String
Else ' WinNT
Does NOT Null Terminate String...
tmpVal = Left(tmpVal, KeyValSize) ' Null Not Found, Extract String Only
End If

' Determine Key Value Type For Conversion...
Select Case KeyValType ' Search Data Types...
    Case REG_SZ ' String
        Registry Key Data Type
            KeyVal = tmpVal ' Copy
    Case REG_DWORD ' Double
        Word Registry Key Data Type
            For i = Len(tmpVal) To 1 Step -1 ' Convert Each Bit
                KeyVal = KeyVal + Hex(Asc(Mid(tmpVal, i, 1))) ' Build Value Char. By Char.
            Next
        Double Word To String
            KeyVal = Format$("&h" + KeyVal)
End Select

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GetKeyValue = True
Success  
  rc = RegCloseKey(hKey)  
Registry Key
Exit Function  
' Return
' Close
' Exit

GetKeyError:  
' Cleanup After An Error Has Occurred...
  KeyVal = ""
Return Val To Empty String  
GetKeyValue = False
Failure  
  rc = RegCloseKey(hKey)
Registry Key
End Function  
' Set
' Return
' Close

Private Sub FormUnload(Cancel As Integer)

Unload Me

End Sub

***********************
Module: frmAcqEvents.frm
Description: Allows user to access acquisition event records for addition, deletion, and modification.
Programmer: Kevin Colón
*************************

Option Explicit

Private WordApp As Word.Application
Private Doc As Word.Document
Private Sel As Word.Selection

Private Sub cboPlatforms_Click()

  If cboPlatforms.ListIndex >= 0 Then
    txtPlatformId = cboPlatforms.Text
  End If

End Sub

Private Sub cboSensTypes_Click()

  If cboSensTypes.ListIndex >= 0 Then
    txtSensorTypeId = cboSensTypes.Text
  End If

End Sub

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Private Sub cboThreatTypes_Click()
    If cboThreatTypes.ListIndex >= 0 Then
        txtThreatTypeId = cboThreatTypes.Text
    End If
End Sub

Private Sub cmdAdd_Click()
    On Error GoTo HandleAddErrors
    If cmdAdd.Caption = "&Add Event" Then
        datAcqEvents.Recordset.AddNew
cboPlatforms.Enabled = True
cboPlatforms.ListIndex = -1
cboThreatTypes.Enabled = True
cboThreatTypes.ListIndex = -1
cboSensTypes.Enabled = True
cboSensTypes.ListIndex = -1
txtTrackId = True
txtAssess.Enabled = True
txtAltitude.Enabled = True
txtLocation.Enabled = True
txtPriority.Enabled = True
txtSpeed.Enabled = True
txtTime.Enabled = True
cmdUpdate.Enabled = False
cmdSave.Enabled = True
cmdDel.Enabled = False
cmdAdd.Caption = "&Cancel"
mnuFile.Enabled = False
datAcqEvents.Enabled = False
    Else
        datAcqEvents.Recordset.CancelUpdate
datAcqEvents.Enabled = True
cboPlatforms.Enabled = False
cboThreatTypes.Enabled = False
cboSensTypes.Enabled = False
txtTrackId = False
txtAssess.Enabled = False
txtAltitude.Enabled = False
txtLocation.Enabled = False
txtPriority.Enabled = False
txtSpeed.Enabled = False
txtTime.Enabled = False
cmdUpdate.Enabled = True
cmdSave.Enabled = False
cmdDel.Enabled = True
cmdAdd.Caption = "&Add Event"
mnuFile.Enabled = True
    End If
End Sub
cmdAdd.SetFocus
End If

cmdAdd_Click_Exit:
Exit Sub

HandleAddErrors:
Dim stMess As String
stMess = "Cannot complete operation. " & vbCrLf & vbCrLf _
& Err.Description
MsgBox stMess, vbExclamation, "Database Error"
On Error GoTo 0 'turn off error trapping

End Sub

Private Sub cmdDel_Click()

'delete the current record
Dim iResp As Integer
On Error GoTo HandleDelErrors

If datAcqEvents.Recordset.RecordCount > 0 Then
    iResp = MsgBox("Delete Event " & txtAcqEventId & ", " & vbCrLf & vbCrLf _
    & "Delete Event")
    If iResp = vbYes Then
        With datAcqEvents.Recordset
            .Delete 'delete current record
            .MoveNext 'move to following record
            If .BOF Then
                .MovePrevious
                If .BOF Then
                    MsgBox "The recordset is empty.",
                    vbInformation, "No Records"
            End If
            End If
        End With
    End If
Else
    MsgBox "No records to delete.", vbExclamation _
    , "Delete Event"
End If

cmdDel_Click_Exit:
Exit Sub

HandleDelErrors:
Dim stMsg As String
stMsg = "Cannot complete operation. " & vbCrLf & vbCrLf _
& Err.Description

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MsgBox stMsg, vbExclamation, "Database Error"
On Error GoTo 0 'turn off error trapping

End Sub

Private Sub cmdSave_Click()

' save the current record

On Error GoTo HandleSaveErrors
If cboThreatTypes.ListIndex >= 0 And cboSensTypes.ListIndex >= 0 Then
    If Val(txtCounter) < 10 Then
        txtAcqEventId.Text = "AE0000" & txtCounter.Text
    Else
        If Val(txtCounter) < 100 Then
            txtAcqEventId.Text = "AE000" & txtCounter.Text
        Else
            If Val(txtCounter) < 1000 Then
                txtAcqEventId.Text = "AE00" & txtCounter.Text
            Else
                If Val(txtCounter) < 10000 Then
                    txtAcqEventId.Text = "AE0" & txtCounter.Text
                Else
                    txtAcqEventId.Text = "AE" & txtCounter.Text
                End If
            End If
        End If
    End If
End If

    datAcqEvents.Recordset.Update
Else
    MsgBox "You must select a threat and sensor before saving." _
        , vbExclamation, "Add Acquisition Event"
    datAcqEvents.Recordset.CancelUpdate
End If

cboPlatforms.Enabled = False
cboThreatTypes.Enabled = False
cboSensTypes.Enabled = False
txtTrackId = False
txtAssess.Enabled = False
txtAltitude.Enabled = False
txtLocation.Enabled = False
txtPriority.Enabled = False
txtSpeed.Enabled = False
txtTime.Enabled = False
cmdSave.Enabled = False
cmdUpdate.Enabled = True
cmdDel.Enabled = True
cmdAdd.Caption = "&Add Event"
mnuFile.Enabled = True
datAcqEvents.Enabled = True
cmdAdd.SetFocus
datAcqEvents.Enabled = True

cmdSave_Click_Exit:
Exit Sub

HandlesErrors:
Dim stMess As String
Select Case Err.Number
    Case 3022 'duplicate key field
        stMess = "Record already exists -- could not save>"
        MsgBox stMess, vbExclamation, "Database Error"
        On Error GoTo 0 'turn off error trapping
    Case 3058, 3315 'no entry in key field
        stMess = "Select a Sensor type and threat before saving."
        MsgBox stMess, vbExclamation, "Database Error"
        On Error GoTo 0 'turn off error trapping
    Case Else
        stMess = "Record could not be saved." & vbCrLf & _
        & Err.Description
        MsgBox stMess, vbExclamation, "Database Error"
        datAcqEvents.Recordset.CancelUpdate
        Resume Next
End Select
End Sub

Private Sub cmdUpdate_Click()
    If cmdUpdate.Caption = "$Update" And _
        datAcqEvents.Recordset.RecordCount > 0 Then
        cmdUpdate.Caption = "Submit"
        cboPlatforms.Enabled = True
        cboThreatTypes.Enabled = True
        cboSensTypes.Enabled = True
        txtTrackId = True
        txtAssess.Enabled = True
        txtAltitude.Enabled = True
        txtLocation.Enabled = True
        txtPriority.Enabled = True
        txtSpeed.Enabled = True
        txtTime.Enabled = True
        cmdSave.Enabled = False
        cmdDel.Enabled = False
        cmdAdd.Enabled = False
        mnuFile.Enabled = False
        datAcqEvents.Enabled = False
        datAcqEvents.Recordset.Edit
    Else
        If datAcqEvents.Recordset.RecordCount > 0 Then
            datAcqEvents.Recordset.Update
cboPlatforms.Enabled = False
cboThreatTypes.Enabled = False
cboSensTypes.Enabled = False
txtTrackId = False
txtAssess.Enabled = False
txtAltitude.Enabled = False
txtLocation.Enabled = False
txtPriority.Enabled = False
txtSpeed.Enabled = False
txtTime.Enabled = False
cmdDel.Enabled = True
cmdAdd.Enabled = True
cmdAdd.SetFocus
cmdUpdate.Caption = "&Update"
mnuFile.Enabled = True
datAcqEvents.Enabled = True

End If
End If

End Sub

Private Sub datAcqEvents_Reposition()
    SetAcqEventsRecordNumber
End Sub

Private Sub FillPlatformCombo()
    Dim iCount As Integer
    'fill the PlatType combo box
cboPlatforms.Clear
    With datPlatforms
        .Refresh 'open database
        iCount = .Recordset.RecordCount
        'fill the list
        Do Until .Recordset.EOF
            If .Recordset!Platform <> "" Then
cboPlatforms.AddItem .Recordset!Platform
End If
        .Recordset.MoveNext
        Loop
    End With
End Sub

Private Sub FillSensTypeCombo()
    Dim iCount As Integer
    'fill the PlatType combo box
cboSensTypes.Clear

With datSensTypes
    .Refresh 'open database
    Do Until .Recordset.EOF 'fill the list
        If .Recordset!SensorType <> "" Then
            cboSensTypes.AddItem .Recordset!SensorType
        End If
        .Recordset.MoveNext
    Loop
End With
End Sub

Private Sub FillThreatTypeCombo()

    Dim iCount As Integer
    'fill the ThreatType combo box
    cboThreatTypes.Clear

    With datThreatTypes
        .Refresh 'open database
        Do Until .Recordset.EOF 'fill the list
            If .Recordset!ThreatType <> "" Then
                cboThreatTypes.AddItem .Recordset!ThreatType
            End If
            .Recordset.MoveNext
        Loop
    End With
End Sub

Private Sub Form_Load()

    datPlatforms.DatabaseName = gstNewDatabase
    datSensTypes.DatabaseName = gstNewDatabase
    datThreatTypes.DatabaseName = gstNewDatabase
    datAcqEvents.DatabaseName = gstNewDatabase

    FillPlatformCombo
    FillSensTypeCombo
    FillThreatTypeCombo

    With datAcqEvents
        .Refresh
        If Not .Recordset.EOF Then
            .Recordset.MoveNext
        End If
    End With
End Sub
End If
End With
SetAcqEventsRecordNumber

End Sub

Private Sub SetAcqEventsRecordNumber()
    Dim iRecordCount As Integer
    Dim iCurrentRecord As Integer

    iRecordCount = datAcqEvents.Recordset.RecordCount
    iCurrentRecord = datAcqEvents.Recordset.AbsolutePosition + 1

    If datAcqEvents.Recordset.EOF Then
        datAcqEvents.Caption = "No more records"
    Else
        datAcqEvents.Caption = "Acquisition Event Record " &
        iCurrentRecord & _
        " of " & iRecordCount
    End If
End Sub

Private Sub mnuFileBack_Click()
    frmMain.Show
    frmMain.Enabled = True
    Unload Me
End Sub

Private Sub mnuPrint_Click()
    frmPrint.Show
    On Error GoTo mnuPrintErrors
    If bContinue = True Then
        With datAcqEvents.Recordset
            If bWord = True Then
                Set WordApp = New Word.Application
                WordApp.Documents.Add
                Set Doc = WordApp.ActiveDocument
                Set Sel = WordApp.Selection

                Doc.Tables.Add Range:=Sel.Range, NumRows:=.RecordCount,
                NumColumns:=11
            End If
        End With
    End If
End Sub
Sel.TypeText Text:"Acquisition"  
Sel.MoveRight unit:=12  
'12=next cell

Sel.TypeText Text:"TrackId"  
Sel.MoveRight unit:=12  
'12=next cell

Sel.TypeText Text:"AcqTime"  
Sel.MoveRight unit:=12  
'12=next cell

Sel.TypeText Text:"ThreatType"  
Sel.MoveRight unit:=12  
'12=next cell

Sel.TypeText Text:"AcqPlatform"  
Sel.MoveRight unit:=12  
'12=next cell

Sel.TypeText Text:"AcqSensorType"  
Sel.MoveRight unit:=12  
'12=next cell

Sel.TypeText Text:"TrackLocation"  
Sel.MoveRight unit:=12  
'12=next cell

Sel.TypeText Text:"TrackAltitude"  
Sel.MoveRight unit:=12  
'12=next cell

Sel.TypeText Text:"TrackSpeed"  
Sel.MoveRight unit:=12  
'12=next cell

Sel.TypeText Text:"TrackPriority"  
Sel.MoveRight unit:=12  
'12=next cell

Sel.TypeText Text:"Remark"  
Sel.MoveRight unit:=12  
'12=next cell

Do Until .EOF
  Sel.TypeText Text:"Acquisition"  
  Sel.MoveRight unit:=12  
  '12=next cell

  Sel.TypeText Text:"TrackId"  
  Sel.MoveRight unit:=12  
  '12=next cell

  Sel.TypeText Text:"AcqTime"  
  Sel.MoveRight unit:=12  
  '12=next cell

  Sel.TypeText Text:"ThreatType"  
  Sel.MoveRight unit:=12  
  '12=next cell

  Sel.TypeText Text:"AcqPlatform"  
  Sel.MoveRight unit:=12  
  '12=next cell

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Sel.TypeText Text: =!AcqSensorType
Sel.MoveRight unit:=12

'Sel.TypeText Text: =!TrackLocation
Sel.MoveRight unit:=12

'Sel.TypeText Text: =!TrackAltitude
Sel.MoveRight unit:=12

'Sel.TypeText Text: =!TrackSpeed
Sel.MoveRight unit:=12

'Sel.TypeText Text: =!TrackPriority
Sel.MoveRight unit:=12

'Sel.TypeText Text: =!Remark
Sel.MoveRight unit:=12

.MoveNext

Loop

WordApp.Visible = True

Set WordApp = Nothing

Else

If bText = True Then

Open App.Path & "\AcqEvents.txt" For Output As #1

Print #1, "Acquisition"; Chr(9); "TrackId"; Chr(9);
"AcqTime"; Chr(9); _
"ThreatType"; Chr(9); "AcqPlatform";
Chr(9); _
"AcqSensorType"; Chr(9);
"TrackLocation"; Chr(9); _
"TrackAltitude"; Chr(9); "TrackSpeed";
Chr(9); _
"TrackPriority"; Chr(9); "Remark";
Chr(9)

Do Until .EOF

Print #1, "Acquisition"; Chr(9); _
!TrackId; Chr(9); _
!AcqTime; Chr(9); _
!ThreatType; Chr(9); _  !AcqPlatform; Chr(9); _  !AcqSensorType; Chr(9); _  !TrackLocation; Chr(9); _  !TrackAltitude; Chr(9); _  !TrackSpeed; Chr(9); _  !TrackPriority; Chr(9); _  !Remark; Chr(9)

.MoveNext
Loop

Close #1

End If
End If

.MoveFirst

End With

End If

bContinue = False
bWord = False
bText = False

mnuPrintErrors:
  Select Case Err.Number
  Case 94
    Sel.TypeText Text:=""
    Resume Next
  End Select
End Sub

Private Sub txtPlatformId_Change()

 'selects correct combo box listing
 Dim iIndex As Integer
 Dim bFound As Boolean

 datPlatforms.Recordset.MoveFirst
If txtPlatformId <> "" Then
  Do Until iIndex = datPlatforms.Recordset.RecordCount Or bFound
    If datPlatforms.Recordset!Platform = txtPlatformId Then
      cboPlatforms.Text = datPlatforms.Recordset!Platform
      bFound = True
    Else
      datPlatforms.Recordset.MoveNext
      iIndex = iIndex + 1
    End If
  Loop
End If
Loop
Else
    cboPlatforms.ListIndex = -1
End If

End Sub

Private Sub txtSensorTypeId_Change()

    'selects correct combo box listing
    Dim iIndex As Integer
    Dim bFound As Boolean
    Dim num As Integer

    With datSensTypes
        .Recordset.MoveFirst
        If txtSensorTypeId <> "" Then
            Do Until iIndex = datSensTypes.ListCount Or bFound
                If .Recordset!SensorType = txtSensorTypeId Then
                    cboSensTypes.Text = .Recordset!SensorType
                    bFound = True
                Else
                    .Recordset.MoveNext
                    iIndex = iIndex + 1
                End If
            Loop
        Else
            cboSensTypes.ListIndex = -1
        End If
    End With

End Sub

Private Sub txtThreatTypeId_Change()

    'selects correct combo box listing
    Dim iIndex As Integer
    Dim bFound As Boolean

    datThreatTypes.Recordset.MoveFirst
    If txtThreatTypeId <> "" Then
        Do Until iIndex = datThreatTypes.ListCount Or bFound
            If datThreatTypes.Recordset!ThreatType = txtThreatTypeId
            Then
                cboThreatTypes.Text =
            datThreatTypes.Recordset!ThreatType
            bFound = True
            Else
                datThreatTypes.Recordset.MoveNext
                iIndex = iIndex + 1
            End If
        Loop
    End If

End Sub
End If
Loop
Else
cboThreatTypes.ListIndex = -1
End If
End Sub

******************************************************************************
'Module: frmAcronyms.frm
'Description: Allows user to access acronyms
', records for addition, deletion, and
', modification.
'Programmer: Kevin Colón
******************************************************************************

Option Explicit

Private Sub cmdAddAcronym_Click()
    On Error GoTo HandleAddAcronymErrors

    If cmdAddAcronym.Caption = "&Add Acronym" Then
        datAcronyms.Recordset.AddNew
txtAcronym.Enabled = True
txtAcronym.SetFocus
txtDescription.Enabled = True
cmdSaveAcronym.Caption = "&Cancel"
cmdSaveAcronym.Enabled = True
cmdDelAcronym.Enabled = False
cmdUpdate.Enabled = False
mnuFile.Enabled = False
dataAcronyms.Enabled = False

    Else
dataAcronyms.Recordset.CancelUpdate
txtAcronym.Enabled = False
txtDescription.Enabled = False
cmdSaveAcronym.Enabled = False
cmdDelAcronym.Enabled = True
cmdUpdate.Enabled = True
mnuFile.Enabled = True
cmdAddAcronym.Caption = "&Add Acronym"
cmdAddAcronym.SetFocus
dataAcronyms.Enabled = True

    End If

    cmdAddAcronym_Click_Exit:
    Exit Sub

HandleAddAcronymErrors:
    Dim stMess As String
    stMess = "Cannot complete operation. " & vbCrLf & vbCrLf_
& Err.Description
MsgBox stMess, vbExclamation, "Database Error"
On Error GoTo 0   'turn off error trapping

End Sub

Private Sub cmdDelAcronym_Click()
   'delete the current record
   Dim iResp   As Integer
   On Error GoTo HandleDelAcronymErrors
   If datAcronyms.Recordset.RecordCount > 0 Then
      iResp = MsgBox("Delete Acronym " & txtAcronym.Text & "?", vbYesNo, "Delete Acronym")
      If iResp = vbYes Then
         With datAcronyms.Recordset
            .Delete   'delete current record
            .MoveNext  'move to following record
            If .EOF Then
               .MovePrevious
            If .BOF Then
               MsgBox "The recordset is empty.", vbInformation, "No Records"
            End If
         End With
      End If
   Else
      MsgBox "No records to delete.", vbExclamation, "Delete Acronym"
   End If
   cmdDelAcronym_Click_Exit:
   Exit Sub

HandleDelAcronymErrors:
   Dim stMsg   As String
   stMsg = "Cannot complete operation." & vbCrLf & vbCrLf & Err.Description
   MsgBox stMsg, vbExclamation, "Database Error"
   On Error GoTo 0   'turn off error trapping
End Sub

Private Sub cmdSaveAcronym_Click()
   'save the current record
   Dim iResp   As Integer
   On Error GoTo HandleSaveAcronymErrors
   If txtAcronym <> "" And txtDescription <> "" Then
      txtAcronym = UCase(txtAcronym)
   End If
   cmdSaveAcronym_Click_Exit:
   Exit Sub

HandleSaveAcronymErrors:
iResp = MsgBox("Do you want to add " & txtAcronym & 
" to the database?", vbYesNo + vbQuestion, _
"Add Acronym")
If iResp = vbYes Then
    datAcronyms.Recordset.Update
End If
Else
    MsgBox "You must enter an acronym and a description before saving.", vbExclamation _
        , "Add Acronym"
    datAcronyms.Recordset.CancelUpdate
End If

txtAcronym.Enabled = False
txtDescription.Enabled = False
cmdSaveAcronym.Enabled = False
cmdDelAcronym.Enabled = True
datAcronyms.Enabled = True
mnuFile.Enabled = True
cmdAddAcronym.Caption = "&Add Acronym"
cmdAddAcronym.SetFocus
cmdUpdate.Enabled = True

Private Sub cmdSaveAcronym_Click()
    Dim stMess As String
    Select Case Err.Number
        Case 3022 'duplicate key field
            stMess = "Record already exists -- could not save."
            MsgBox stMess, vbExclamation, "Database Error"
            On Error GoTo 0 'turn off error trapping

        Case 3058, 3315 'no entry in key field
            stMess = "Enter a Acronym name before saving."
            MsgBox stMess, vbExclamation, "Database Error"
            On Error GoTo 0 'turn off error trapping

        Case Else
            stMess = "Record could not be saved." & vbCrLf _
                & Err.Description
            MsgBox stMess, vbExclamation, "Database Error"
            datAcronyms.Recordset.CancelUpdate
            Resume Next
    End Select
End Sub

Private Sub cmdUpdate_Click()
    If cmdUpdate.Caption = "&Update" And _
        datAcronyms.Recordset.RecordCount > 0 Then
cmdUpdate.Caption = "Submit"
txtAcronym.Enabled = True
txtDescription.Enabled = True
cmdDelAcronym.Enabled = False
mnuFile.Enabled = False
txtAcronym.SetFocus
cmdAddAcronym.Enabled = False
datAcronyms.Enabled = False
datAcronyms.Recordset.Edit
Else
    If datAcronyms.Recordset.RecordCount > 0 Then
datAcronyms.Recordset.Update

    txtAcronym.Enabled = False
    txtDescription.Enabled = False
    cmdDelAcronym.Enabled = True
    mnuFile.Enabled = True
    cmdAddAcronym.Enabled = True
    cmdAddAcronym.SetFocus
cmdUpdate.Caption = "&Update"
datAcronyms.Enabled = True
End If
End If
End Sub

Private Sub datAcronyms_Reposition()
    SetAcronymRecordNumber
End Sub

Private Sub Form_Load()
    datAcronyms.DatabaseName = gstNewDatabase

    With datAcronyms
        .Refresh
        If Not .Recordset.EOF Then
            .Recordset.MoveNext
            .Recordset.MoveFirst
        End If
    End With

    SetAcronymRecordNumber
End Sub

Private Sub Form_Unload(Cancel As Integer)
    frmMain.Show
    frmMain.Enabled = True
    Unload Me
End Sub

Private Sub mnuFileBack_Click()
frmMain.Enabled = True
Unload Me

End Sub

Private Sub mnuFileSearch_Click()
    datAcronyms.Recordset.FindFirst "[Acronym] = '" & _
        InputBox("Enter the Acronym", "Acronym Search") & ""
    If datAcronyms.Recordset.NoMatch Then
        MsgBox "Acronym was not found.", vbOKOnly, "Acronym Search"
        datAcronyms.Recordset.MoveFirst 'go to first record
    End If

End Sub

Private Sub SetAcronymRecordNumber()
    Dim iRecordCount As Integer
    Dim iCurrentRecord As Integer
    iRecordCount = datAcronyms.Recordset.RecordCount
    iCurrentRecord = datAcronyms.Recordset.AbsolutePosition + 1
    If datAcronyms.Recordset.EOF Then
        datAcronyms.Caption = "No more records"
    Else
        datAcronyms.Caption = "Acronym " & iCurrentRecord & _
            " of " & iRecordCount
    End If

End Sub

******************************************************************************
'Module:         frmDataTypes.frm
'Description:   Allows user to access the data types
'               records for addition, deletion, and
'               modification.
'Programmer:    Kevin Colón
******************************************************************************

Option Explicit

Private Sub cmdAdd_Click()
    On Error GoTo HandleAddErrors
    If cmdAdd.Caption = "&Add" Then
        datDataTypes.Recordset.AddNew
txtDataType.Enabled = True
txtDataType.SetFocus
txtDescription.Enabled = True
        cmdAdd.Caption = "&Cancel"
cmdSave.Enabled = True
cmdDel.Enabled = False
    HandleAddErrors:
        Exit Sub
cmdUpdate.Enabled = False
mnuFile.Enabled = False
datDataTypes.Enabled = False

Else
    datDataTypes.Recordset.CancelUpdate
txtDataType.Enabled = False
txtDescription.Enabled = False
cmdSave.Enabled = False
cmdDel.Enabled = True
cmdUpdate.Enabled = True
mnuFile.Enabled = True
cmdAdd.Caption = "&Add"
cmdAdd.SetFocus
datDataTypes.Enabled = True
End If

cmdAdd_Click_Exit:
    Exit Sub

HandleAddErrors:
    Dim stMess As String
    stMess = "Cannot complete operation. " & vbCrLf & vbCrLf _
              & Err.Description
    MsgBox stMess, vbExclamation, "Database Error"
On Error GoTo 0 'turn off error trapping

End Sub

Private Sub cmdDel_Click()
    'delete the current record
    Dim iResp As Integer

    On Error GoTo HandleDelErrors

    If datDataTypes.Recordset.RecordCount > 0 Then
        iResp = MsgBox("Delete DataType " & txtDataType.Text & ",
                          vbYesNo, "Delete DataType")
        If iResp = vbYes Then
            With datDataTypes.Recordset
                .Delete    'delete current record
                .MoveNext  'move to following record
                If .EOF Then
                    .MovePrevious
                If .BOF Then
                    MsgBox "The recordset is empty.", vbInformation, "No Records"
            End If
        End If
    End With
    End If
    Else
        MsgBox "No records to delete.", vbExclamation _
End If

cmdDel_Click_Exit:
Exit Sub

HandleDelErrors:
Dim stMsg As String

stMsg = "Cannot complete operation." & vbCrLf & vbCrLf & Err.Description
MsgBox stMsg, vbExclamation, "Database Error"
On Error GoTo 0 'turn off error trapping

End Sub

Private Sub cmdSave_Click()
'save the current record
Dim iResp As Integer

On Error GoTo HandleSaveErrors
If txtDataType <> "" And txtDescription <> "" Then
txtDataType = UCase(txtDataType)
iResp = MsgBox("Do you want to add " & txtDataType & 
" to the database?", vbYesNo + vbQuestion, _
"Add DataType")
If iResp = vbYes Then
datDataTypes.Recordset.Update
End If
Else
MsgBox "You must enter an DataType and a description before
saving.", vbExclamation

datDataTypes.Recordset.CancelUpdate
End If

txtDataType.Enabled = False
txtDescription.Enabled = False
cmdSave.Enabled = False
cmdDel.Enabled = True
datDataTypes.Enabled = True
mnuFile.Enabled = True
cmdAdd.Caption = "&Add"
cmdAdd.SetFocus
cmdUpdate.Enabled = True

End Sub

HandleSaveErrors:
Dim stMess As String
Select Case Err.Number
Case 3022  'duplicate key field
    stMess = "Record already exists -- could not save."
    MsgBox stMess, vbExclamation, "Database Error"
    On Error GoTo 0  'turn off error trapping

Case 3058, 3315  'no entry in key field
    stMess = "Enter a DataType name before saving."
    MsgBox stMess, vbExclamation, "Database Error"
    On Error GoTo 0  'turn off error trapping

Case Else
    stMess = "Record could not be saved." & vbCrLf & _
             & Err.Description
    MsgBox stMess, vbExclamation, "Database Error"
    datDataTypes.Recordset.CancelUpdate
    Resume Next
End Select

End Sub

Private Sub cmdUpdate_Click()
    If cmdUpdate.Caption = "&Update" And _
       datDataTypes.Recordset.RecordCount > 0 Then
        cmdUpdate.Caption = "Su&bmit"
        txtDataType.Enabled = True
        txtDescription.Enabled = True
        cmdDel.Enabled = False
        mnuFile.Enabled = False
        txtDataType.SetFocus
        cmdAdd.Enabled = False
        datDataTypes.Enabled = False
        datDataTypes.Recordset.Edit
    Else
        If datDataTypes.Recordset.RecordCount > 0 Then
            datDataTypes.Recordset.Update

            txtDataType.Enabled = False
            txtDescription.Enabled = False
            cmdDel.Enabled = True
            mnuFile.Enabled = True
            cmdAdd.Enabled = True
            cmdAdd.SetFocus
            cmdUpdate.Caption = "&Update"
            datDataTypes.Enabled = True
        End If
    End If
End Sub

Private Sub datDataTypes_Reposition()
    SetDataTypeRecordNumber
End Sub
Private Sub Form_Load()
  datDataTypes.DatabaseName = gstNewDatabase

  With datDataTypes
    .Refresh
    If Not .Recordset.EOF Then
      .Recordset.MoveLast
      .Recordset.MoveFirst
    End If
  End With

  SetDataTypeRecordNumber
End Sub

Private Sub Form_Unload(Cancel As Integer)
  frmMain.Show
  frmMain.Enabled = True
  Unload Me
End Sub

Private Sub mnuFileBack_Click()
  frmMain.Enabled = True
  Unload Me
End Sub

Private Sub mnuFileSearch_Click()

  datDataTypes.Recordset.FindFirst "[DataType] = '" & _
     InputBox("Enter the Data Type", "Data Type Search") & _
     "'

  If datDataTypes.Recordset.NoMatch Then
    MsgBox "Data Type was not found.", vbOKOnly, "Data Type Search"
    datDataTypes.Recordset.MoveFirst 'go to first record
  End If

End Sub

Private Sub SetDataTypeRecordNumber()
  Dim iRecordCount As Integer
  Dim iCurrentRecord As Integer

  iRecordCount = datDataTypes.Recordset.RecordCount
  iCurrentRecord = datDataTypes.Recordset.AbsolutePosition + 1
  If datDataTypes.Recordset.EOF Then
    datDataTypes.Caption = "No more records"
  Else
    datDataTypes.Caption = "Data Type " & iCurrentRecord & _
      " of " & iRecordCount
End Sub
End If

End Sub

'******************************************************************************
'Module: frmFBE.frm
'Description: Allows user to access the FBE information
'            for addition, deletion, and modification.
'Programmer: Kevin Colón
'******************************************************************************

Option Explicit

Private Sub cmdAddFBE_Click()
    On Error GoTo HandleAddFBEErrors

    If cmdAddFBE.Caption = "&Add FBE" Then
        datFBE.Recordset.AddNew
        txtFBE.Enabled = True
        txtFBE.SetFocus
        txtDescription.Enabled = True
        txtStart.Enabled = True
        txtEnd.Enabled = True
        cmdAddFBE.Caption = "&Cancel"
        cmdSaveFBE.Enabled = True
        cmdDelFBE.Enabled = False
        cmdUpdate.Enabled = False
        mnuFile.Enabled = False
        datFBE.Enabled = False
    Else
        datFBE.Recordset.CancelUpdate
        txtFBE.Enabled = False
        txtDescription.Enabled = False
        txtStart.Enabled = False
        txtEnd.Enabled = False
        cmdSaveFBE.Enabled = False
        cmdDelFBE.Enabled = True
        cmdUpdate.Enabled = True
        mnuFile.Enabled = True
        cmdAddFBE.Caption = "&Add FBE"
        cmdAddFBE.SetFocus
        datFBE.Enabled = True
    End If

    cmdAddFBE_Click_Exit:
    Exit Sub

HandleAddFBEErrors:
    Dim stMess As String
    stMess = "Cannot complete operation. " & vbCrLf & & vbCrLf _
        & Err.Description
    MsgBox stMess, vbExclamation, "Database Error"
    On Error GoTo 0 'turn off error trapping
End Sub

Private Sub cmdDelFBE_Click()
    'delete the current record
    Dim iResp As Integer

    On Error GoTo HandleDelFBEErrors

    If datFBE.Recordset.RecordCount > 0 Then
        iResp = MsgBox("Delete FBE " & txtFBE.Text & ", vbYesNo, "Delete FBE")
        If iResp = vbYes Then
            With datFBE.Recordset
                .Delete 'delete current record
                .MoveNext 'move to following record
            If .BOF Then
                .MovePrevious
                If .BOF Then
                    MsgBox "The recordset is empty.", vbInformation, "No Records"
                End If
            End If
            End With
        End If
    Else
        MsgBox "No records to delete.", vbExclamation _
            , "Delete FBE"
    End If

    cmdDelFBE_Click_Exit:
    Exit Sub

HandleDelFBEErrors:
    Dim stMsg As String

    stMsg = "Cannot complete operation." & vbCrLf & vbCrLf _
    & Err.Description
    MsgBox stMsg, vbExclamation, "Database Error"
    On Error GoTo 0 'turn off error trapping

End Sub

Private Sub cmdSaveFBE_Click()
    'save the current record
    Dim iResp As Integer

    On Error GoTo HandleSaveFBEErrors
    If txtFBE <> "" And txtDescription <> "" And txtStart <> "" And _
        txtEnd <> "" Then
        txtFBE = UCase(txtFBE)
        iResp = MsgBox("Do you want to add " & txtFBE & _
            " to the database?", vbYesNo + vbQuestion, _
"Add FBE"
If iResp = vbYes Then
datFBE.Recordset.Update
End If
Else
    MsgBox "You must enter an FBE, a description, and dates before saving.", vbExclamation _
    , "Add FBE"
    datFBE.Recordset.CancelUpdate
End If

txFBE.Enabled = False
txtDescription.Enabled = False
txtStart.Enabled = False
txtEnd.Enabled = False
cmdSaveFBE.Enabled = False
cmdDelFBE.Enabled = True
datFBE.Enabled = True
mnuFile.Enabled = True
cmdAddFBE.Caption = "&Add FBE"
cmdAddFBE.SetFocus
cmdUpdate.Enabled = True

cmdSaveFBE_Click Exit:
    Exit Sub
HandleSaveFBEErrors:
    Dim stMess As String
    Select Case Err.Number
        Case 3022       ’duplicate key field
            stMess = "Record already exists -- could not save."
            MsgBox stMess, vbExclamation, "Database Error"
            On Error GoTo 0       ‘turn off error trapping
        Case 3058, 3315   ’no entry in key field
            stMess = "Enter a FBE name before saving."
            MsgBox stMess, vbExclamation, "Database Error"
            On Error GoTo 0       ‘turn off error trapping
        Case Else
            stMess = "Record could not be saved." & vbCrLf _
                   & Err.Description
            MsgBox stMess, vbExclamation, "Database Error"
            datFBE.Recordset.CancelUpdate
            Resume Next
    End Select
End Sub

Private Sub cmdUpdate_Click()
    If cmdUpdate.Caption = "&Update" And _
        datFBE.Recordset.RecordCount > 0 Then
cmdUpdate.Caption = "Submit"
txtFBE.Enabled = True
txtDescription.Enabled = True
txtStart.Enabled = True
txtEnd.Enabled = True
cmdDelFBE.Enabled = False
mnuFile.Enabled = False
txtFBE.SetFocus
cmdAddFBE.Enabled = False
datFBE.Enabled = False
datFBE.Recordset.Edit
Else
    If datFBE.Recordset.RecordCount > 0 Then
datFBE.Recordset.Update
    txtFBE.Enabled = False
    txtDescription.Enabled = False
    txtStart.Enabled = False
    txtEnd.Enabled = False
    cmdDelFBE.Enabled = True
    mnuFile.Enabled = True
    cmdAddFBE.Enabled = True
    cmdAddFBE.SetFocus
    cmdUpdate.Caption = "&Update"
datFBE.Enabled = True
End If
End If
End Sub

Private Sub datFBE_Reposition()
    SetFBERecordNumber
End Sub

Private Sub Form_Load()
    datFBE.DatabaseName = gstNewDatabase
    With datFBE
        .Refresh
        If Not .Recordset.EOF Then
            .Recordset.MoveNextLast
            .Recordset.MoveNextFirst
        End If
    End With
    SetFBERecordNumber
End Sub

Private Sub Form_Unload(Cancel As Integer)
    frmMain.Show
    frmMain.Enabled = True
Unload Me

End Sub

Private Sub mnuFileBack_Click()
    frmMain.Show
    frmMain.Enabled = True
    Unload Me
End Sub

Private Sub SetFBERecordNumber()
    Dim iRecordCount As Integer
    Dim iCurrentRecord As Integer

    iRecordCount = datFBE.Recordset.RecordCount
    iCurrentRecord = datFBE.Recordset.AbsolutePosition + 1
    If datFBE.Recordset.EOF Then
        datFBE.Caption = "No more records"
    Else
        datFBE.Caption = "FBE " & iCurrentRecord & 
                        " of " & iRecordCount
    End If
End Sub

*******************************************************************************
'Module:        frmFilters.frm
'Description:  Allows user to select filters applied to
target recordset parameters.
'Programmer:   Kevin Colón
*******************************************************************************

Option Explicit

    Dim rsWeapons As Recordset
Dim strSQL As String
Dim strSQL1 As String
Dim stDesigTime As String
Dim stDesigDay As String
Dim stNLTTTime As String
Dim stNLTDay As String
Dim stLatDeg As String
Dim stLatDir As String
Dim stLongDeg As String
Dim stLongDir As String

Private Sub chkDescription_Click()
    If chkDescription.Value = 1 Then
        fraDescription.Enabled = True
    Else
        fraDescription.Enabled = False
    End If
End If
End Sub

Private Sub chkLocation_Click()
    If chkLocation.Value = 1 Then
        fraLocation.Enabled = True
    Else
        fraLocation.Enabled = False
    End If
End Sub

Private Sub chkTime_Click()
    If chkTime.Value = 1 Then
        fraTime.Enabled = True
    Else
        fraTime.Enabled = False
    End If
End Sub

Private Sub chkWeapon_Click()
    If chkWeapon.Value = 1 Then
        fraWeapon.Enabled = True
    Else
        fraWeapon.Enabled = False
    End If
End Sub

Private Sub cmdApply_Click()
    If chkTime = 1 And chkDescription = 1 And chkWeapon = 1 _
        And chkLocation = 1 Then
    Else
        If chkTime = 1 And chkDescription = 1 And chkWeapon = 1 _
            And chkLocation = 0 Then
        Else
            If chkTime = 1 And chkDescription = 1 And chkWeapon = 0 _
                And chkLocation = 1 Then
        Else
            If chkTime = 1 And chkDescription = 0 And chkWeapon = 1 _
                And chkLocation = 1 Then
            End If
        End If
    End If
End Sub
Else
    If chkTime = 0 And chkDescription = 1 And chkWeapon = 1 Then
        And chkLocation = 1 Then

Else
    If chkTime = 1 And chkDescription = 1 And chkWeapon = 0 Then
        And chkLocation = 0 Then

Else
    If chkTime = 1 And chkDescription = 0 And chkWeapon = 1 Then
        And chkLocation = 0 Then

Else
    If chkTime = 0 And chkDescription = 1 And chkWeapon = 1 Then
        And chkLocation = 0 Then
        stSQL = "Select * from Target " & _
            "Where Description = " & _
            "And WeaponType = " & _
            "txtDescription.Text & " & _
            "cboWeapon.Text & " & _
        With frmTargets2.datTargets
            .RecordSource = stSQL
            .Refresh
        End With

Else
    If chkTime = 1 And chkDescription = 0 And chkWeapon = 0 Then
        And chkLocation = 1 Then

Else
    If chkTime = 0 And chkDescription = 1 And chkWeapon = 0 Then
        And chkLocation = 1 Then

Else
    If chkTime = 0 And chkDescription = 0 And chkWeapon = 1 Then
        And chkLocation = 1

Else
    If chkTime = 1 And chkDescription = 0 And chkWeapon = 0 Then
        And chkLocation = 0

Else
    If chkTime = 1 And
Then

chkDescription = 1 And chkWeapon = 0 _
= 0 Then

* from Target " & _
Description = " & txtDescription.Text & ""

frmTargets2.datTargets
.RecordSource = stSQL

Else

If chkTime = 0 And

And chkLocation = 0

And chkLocation = 0

stSQL = "Select
"Where

With

.Refresh
End With

Else

If chkTime = 0

And

stSQL =

"Select * from Target " & _
"Where WeaponType = " & cboWeapon.Text & ""

frmTargets2.datTargets
.RecordSource = stSQL
.Refresh
End With

Else

 If chkTime

And

Else

If

chkTime = 0 And chkDescription = 0 And chkWeapon = 0 _
chkLocation = 1 Then

Else

If

chkTime = 0 And chkDescription = 0 And chkWeapon = 0 _
chkLocation = 0 Then

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stSQL = "Select * from Target"

With frmTargets2.datTargets
   .RecordSource = stSQL
   .Refresh
End With

If chkTime.Value = 1 Then
Else
End If
If chkDescription.Value = 1 Then
Else
End If
If chkWeapon.Value = 1 Then
   stSQL = "Select * from Target where WeaponType = ' ' & cboWeapon.Text & ' '"
   With frmTargets2.datTargets
      .RecordSource = stSQL
      .Refresh
   End With
Else
   stSQL = "Select * from Target"
End If
With frmTargets2.datTargets
    .RecordSource = stSQL
    .Refresh
End With

End If

If chkLocation.Value = 1 Then
Else
End If

End Sub

Private Sub cmdCancel_Click()
    frmTargets2.Enabled = True
    Me.Hide
End Sub

Private Sub cmdOK_Click()
    cmdApply_Click
    frmTargets2.Enabled = True
    frmTargets2.Show
    Me.Hide
End Sub

Private Sub FillcboWeapons()
    With rsWeapons
        Do Until .EOF
            cboWeapon.AddItem !WeaponType
            .MoveNext
        Loop
    End With
    cboWeapon.ListIndex = -1
End Sub

Private Sub Form_Load()
    stSQL1 = "Select WeaponType from WeaponType"
    Set rsWeapons = db.OpenRecordset(stSQL1)
FillcboWeapons

End Sub

Private Sub Form_Unload(Cancel As Integer)
    frmTargets2.Enabled = True
    Me.Hide

End Sub

*****************************************************************************
'Module: frmFireCmdEvent.frm
'Description: Allows user to access the fire command event
' records for addition, deletion, and
' modification.
'Programmer: Kevin Colón
*****************************************************************************

Option Explicit

Dim rsNomination As Recordset
Dim rsTarget As Recordset
Dim rsPlatform As Recordset
Dim strSQL1 As String
Dim strSQL2 As String
Dim strSQL3 As String
Private WordApp As Word.Application
Private Doc As Word.Document
Private Sel As Word.Selection

Private Sub cboNomination_Change()
    If cboNomination.ListIndex >= 0 Then
txtNomination = cboNomination.Text
    End If
End Sub

Private Sub cboPlatform_Change()
    If cboPlatform.ListIndex >= 0 Then
txtPlatform = cboPlatform.Text
    End If
End Sub

Private Sub cboTarget_Change()
    If cboTarget.ListIndex >= 0 Then
Private Sub cmdAdd_Click()

On Error GoTo HandleAddErrors

If cmdAdd.Caption = "&Add Event" Then

datFireCommand.Recordset.AddNew
cboTarget.Enabled = True
cboNomination.Enabled = True
cboPlatform.Enabled = True
cboTarget.ListIndex = -1
cboNomination.ListIndex = -1
cboPlatform.ListIndex = -1
txtTimeSent.Enabled = True
txtTimeRcvd.Enabled = True
txtOCCCID.Enabled = True
chkEngage.Enabled = True
cmdUpdate.Enabled = False
cmdSave.Enabled = True
cmdDel.Enabled = False
cmdAdd.Caption = "&Cancel"
mnuFile.Enabled = False
datFireCommand.Enabled = False

Else

datFireCommand.Recordset.CancelUpdate
cboTarget.Enabled = False
cboNomination.Enabled = False
cboPlatform.Enabled = False
txtTimeSent.Enabled = False
txtTimeRcvd.Enabled = False
txtOCCCID.Enabled = False
chkEngage.Enabled = False
cmdUpdate.Enabled = True
cmdSave.Enabled = False
cmdDel.Enabled = True
cmdAdd.Caption = "&Add Event"
mnuFile.Enabled = True
datFireCommand.Enabled = True

End If

cmdAdd_Click_Exit:
Exit Sub

HandleAddErrors:
Dim stMess As String
stMess = "Cannot complete operation. " & vbCrLf & vbCrLf &
Err.Description  
    MsgBox stMess, vbExclamation, "Database Error"
On Error GoTo 0  'turn off error trapping
End Sub

Private Sub cmdDel_Click()  
    Dim iResp  As Integer
    On Error GoTo HandleDelErrors  
    If datFireCommand.Recordset.RecordCount > 0 Then  
        iResp = MsgBox("Delete Event " & txtFireCommand & ", vbYesNo,  
            "Delete Event")
        If iResp = vbYes Then  
            With datFireCommand.Recordset  
                .Delete  
                .MoveNext  
                If .EOF Then  
                    .MovePrevious  
                    If .BOF Then  
                        MsgBox "The recordset is empty.", vbInformation, 
                            "No Records"
                    End If  
                End If  
            End With  
        End If  
        Else  
            MsgBox "No records to delete.", vbExclamation, "Delete Event"
        End If
    End If
    cmdDel_Click:  Exit Sub

HandleDelErrors:  
    Dim stMess  As String  
    stMess = "Cannot complete operation." & vbCrLf & vbCrLf  & 
        Err.Description  
    MsgBox stMess, vbExclamation, "Database Error"
    On Error GoTo 0
End Sub

Private Sub cmdSave_Click()  
    'save current record  
    On Error GoTo HandleSaveErrors  
    If cboTarget.ListIndex >= 0 And cboNomination.ListIndex >= 0 And  
        cboPlatform.ListIndex >= 0 Then  
        If Val(txtCounter) < 10 Then  
            txtFireCommand.Text = "FC0000" & txtCounter.Text  
        Else  
            txtFireCommand.Text = "FC00" & txtCounter.Text  
        End If
    Else  
        MsgBox "Select all information.", vbExclamation, "Select Information"
    End If
    cmdSave_Click:  Exit Sub
Else
    If Val(txtCounter) < 100 Then
        txtFireCommand.Text = "FC000" & txtCounter.Text
    Else
        If Val(txtCounter) < 1000 Then
            txtFireCommand.Text = "FC00" & txtCounter.Text
        Else
            If Val(txtCounter) < 10000 Then
                txtFireCommand.Text = "FC0" & txtCounter.Text
            Else
                txtFireCommand.Text = "FC" & txtCounter.Text
            End If
        End If
    End If
Else
    datFireCommand.Recordset.Update
    MsgBox "You must select a Nomination Event, a Target, and a Platform before saving." _
        , vbExclamation, "Add Fire Command Event"
    datFireCommand.Recordset.CancelUpdate
End If

cboTarget.Enabled = False
cboNomination.Enabled = False
cboPlatform.Enabled = False
txtTimeSent.Enabled = False
txtTimeRcvd.Enabled = False
txtOCCCId.Enabled = False
chkEngage.Enabled = False
cmdUpdate.Enabled = True
cmdSave.Enabled = False
cmdDel.Enabled = True
mnuFile.Caption = "&Add Event"
mmFile.Enabled = True
datFireCommand.Enabled = True
cmdAdd.SetFocus

datFireCommand.Enabled = True

cmdSave_Click Exit:
Exit Sub

HandleSaveErrors:
Dim stMess As String
Select Case Err.Number
    Case 3022 'duplicate key field
        stMess = "Record already exists -- could not save>"
    MsgBox stMess, vbExclamation, "Database Error"
    On Error GoTo 0 'turn off error trapping
    Case 3058, 3315 'no entry in key field
        stMess = "Select Nomination Event, Target, and Platform"
before saving.

MsgBox stMess, vbExclamation, "Database Error"
On Error GoTo 0 'turn off error trapping

Case Else
   stMess = "Record could not be saved." & vbCrLf _
   & Err.Description
MsgBox stMess, vbExclamation, "Database Error"
FiresCommand.Recordset.CancelUpdate
Resume Next

End Select

End Sub

Private Sub cmdUpdate_Click()

    If cmdUpdate.Caption = "&Update" And _
       datFireCommand.Recordset.RecordCount > 0 Then

        cmdUpdate.Caption = "Su&amp;mit"
        cboTarget.Enabled = True
        cboNomination.Enabled = True
        cboPlatform.Enabled = True
        txtTimeSent.Enabled = True
        txtTimeRcvd.Enabled = True
        txtOCCCId.Enabled = True
        chkEngage.Enabled = True
        cmdAdd.Enabled = False
        cmdSave.Enabled = False
        cmdDel.Enabled = False
        mnuFile.Enabled = False
        datFireCommand.Enabled = False
        datFireCommand.Recordset.Edit

    Else
        If datFireCommand.Recordset.RecordCount > 0 Then
            datFireCommand.Recordset.Update

            cboTarget.Enabled = False
            cboNomination.Enabled = False
            cboPlatform.Enabled = False
            txtTimeSent.Enabled = False
            txtTimeRcvd.Enabled = False
            txtOCCCId.Enabled = False
            chkEngage.Enabled = False
            cmdDel.Enabled = True
            cmdAdd.Enabled = True
            cmdAdd.SetFocus
            cmdUpdate.Caption = "&Update"
            mnuFile.Enabled = True
            datFireCommand.Enabled = True

        End If

    End If

End If
End Sub

Private Sub datFireCommand_Reposition()
    SetFireCommandRecordNumber
End Sub

Private Sub Form_Load()
    datFireCommand.DatabaseName = gstNewDatabase
    strSQL1 = "Select Nomination from Nomination"
    strSQL2 = "Select TargetId from Target"
    strSQL3 = "Select Platform from Platform"
    Set rsNomination = db.OpenRecordset(strSQL1)
    Set rsTarget = db.OpenRecordset(strSQL2)
    Set rsPlatform = db.OpenRecordset(strSQL3)
    'fill cboNomination
    Do Until rsNomination.EOF
        cboNomination.AddItem rsNomination!Nomination
        rsNomination.MoveNext
    Loop
    'fill cboTarget
    Do Until rsTarget.EOF
        cboTarget.AddItem rsTarget!TargetId
        rsTarget.MoveNext
    Loop
    'fill cboPlatform
    Do Until rsPlatform.EOF
        cboPlatform.AddItem rsPlatform!Platform
        rsPlatform.MoveNext
    Loop
    With datFireCommand
        .Refresh
        If Not .Recordset.EOF Then
            .Recordset.MoveLast
            .Recordset.MoveFirst
        End If
    End With
    SetFireCommandRecordNumber
End Sub

Private Sub Form_Unload(Cancel As Integer)
    frmMain.Enabled = True
Unload Me
End Sub

Private Sub mnuFileBack_Click()
    frmMain.Enabled = True
    Unload Me
End Sub

Private Sub SetFireCommandRecordNumber()
    Dim iRecordCount As Integer
    Dim iCurrentRecord As Integer

    iRecordCount = datFireCommand.Recordset.RecordCount
    iCurrentRecord = datFireCommand.Recordset.AbsolutePosition + 1

    If datFireCommand.Recordset.EOF Then
        datFireCommand.Caption = "No more records"
    Else
        datFireCommand.Caption = "Fire Command Event Record " & 
        iCurrentRecord & " of " & iRecordCount
    End If
End Sub

Private Sub mnuFilePrint_Click()
    frmPrint.Show
    On Error GoTo mnuPrintErrors
    If bContinue = True Then
        With datFireCommand.Recordset
            If bWord = True Then
                Set WordApp = New Word.Application
                WordApp.Documents.Add
                Set Doc = WordApp.ActiveDocument
                Set Sel = WordApp.Selection
                Doc.Tables.Add Range:=Sel.Range, NumRows:=.RecordCount,
                NumColumns:=6

                Sel.TypeText Text:="FireCommand"
                Sel.MoveRight unit:=12 '12=next cell
                Sel.TypeText Text:="Nomination"
                Sel.MoveRight unit:=12 '12=next cell
            End If
        End With
    End If
End Sub
Sel.TypeText Text:="TargetId"
Sel.MoveRight unit:=12 '12=next cell

Sel.TypeText Text:="FCTimeXmit"
Sel.MoveRight unit:=12 '12=next cell

Sel.TypeText Text:="FCTimeRcvd"
Sel.MoveRight unit:=12 '12=next cell

Sel.TypeText Text:="FirerPlatform"
Sel.MoveRight unit:=12 '12=next cell

Do Until .EOF

    Sel.TypeText Text:="!FireCommand"
    Sel.MoveRight unit:=12 '12=next cell

    Sel.TypeText Text:="!Nomination"
    Sel.MoveRight unit:=12 '12=next cell

    Sel.TypeText Text:="!TargetId"
    Sel.MoveRight unit:=12 '12=next cell

    Sel.TypeText Text:="!FCTimeXmit"
    Sel.MoveRight unit:=12 '12=next cell

    Sel.TypeText Text:="!FCTimeRcvd"
    Sel.MoveRight unit:=12 '12=next cell

    Sel.TypeText Text:="!FirerPlatform"
    Sel.MoveRight unit:=12 '12=next cell

    .MoveNext

Loop

WordApp.Visible = True

Set WordApp = Nothing

Else

    If bText = True Then
    Open App.Path & "\FireCmds.txt" For Output As #1
    Print #1, "FireCommand"; Chr(9); "Nomination";
    Chr(9); "TargetId"; Chr(9); _
Chr(9); _

"FirePlatform"; Chr(9)
Do Until .EOF

Print #1, !FireCommand; Chr(9); _
!Nomination; Chr(9); _
!TargetId; Chr(9); _
!FCTimeXmit; Chr(9); _
!FCTimeRcvd; Chr(9); _
!FirePlatform; Chr(9)

.MoveNext
Loop
Close #1

End If
End If

.MoveFirst
End With
End If

bContinue = False
bWord = False
bText = False

mmuPrintErrors:
Select Case Err.Number
Case 94
Sel.TypeText Text:=""
Resume Next
End Select
End Sub

Private Sub txtNomination_Change()

'selects correct combo box listing
Dim iIndex As Integer
Dim bFound As Boolean

rsNomination.MoveFirst
If txtNomination <> "" Then
    Do Until iIndex = rsNomination.RecordCount Or bFound
        If rsNomination!Nomination = txtNomination Then
            cboNomination.Text = rsNomination!Nomination
            bFound = True
        Else
            rsNomination.MoveNext
            iIndex = iIndex + 1
        End If
    Loop
End If
End If

Loop
End If

End Sub

Private Sub txtPlatform_Change()

'selects correct combo box listing
Dim iIndex As Integer
Dim bFound As Boolean

rsPlatform.MoveNext
If txtPlatform <> "" Then
    Do Until iIndex = rsPlatform.RecordCount Or bFound
        If rsPlatform!Platform = txtPlatform Then
            cboPlatform.Text = rsPlatform!Platform
            bFound = True
        Else
            rsPlatform.MoveNext
            iIndex = iIndex + 1
        End If
    Loop
End If

End Sub

Private Sub txtTarget_Change()

'selects correct combo box listing
Dim iIndex As Integer
Dim bFound As Boolean

rsTarget.MoveNext
If txtTarget <> "" Then
    Do Until iIndex = rsTarget.RecordCount Or bFound
        If rsTarget!TargetId = txtTarget Then
            cboTarget.Text = rsTarget!TargetId
            bFound = True
        Else
            rsTarget.MoveNext
            iIndex = iIndex + 1
        End If
    Loop
End If

End Sub

******************************************************************************
'Module: frmFireEvent.frm
'Description: Allows user to access the fire event records for addition, deletion, and modification.
'Programmer: Kevin Colón

Option Explicit

Dim rsFireCommand As Recordset
Dim stSQL As String
Private WordApp As Word.Application
Private Doc As Word.Document
Private Sel As Word.Selection

Private Sub cmdAdd_Click()
    On Error GoTo HandleAddErrors
    If cmdAdd.Caption = "&Add Event" Then
        datFire.Recordset.AddNew
cboFireCommand.Enabled = True
cboFireCommand.ListIndex = -1
txtTime.Enabled = True
txtWeaponMagStat.Enabled = True
txtLocation.Enabled = True
txtAltitude.Enabled = True
txtRounds.Enabled = True
cmdUpdate.Enabled = False
cmdSave.Enabled = True
cmdDel.Enabled = False
        cmdAdd.Caption = "&Cancel"
        mnuFile.Enabled = False
datFire.Enabled = False
    Else
        datFire.Recordset.CancelUpdate
cboFireCommand.Enabled = False
txtTime.Enabled = False
txtWeaponMagStat.Enabled = False
txtLocation.Enabled = False
txtAltitude.Enabled = False
txtRounds.Enabled = False
cmdUpdate.Enabled = True
cmdSave.Enabled = False
cmdDel.Enabled = True
cmdAdd.Caption = "&Add Event"
        mnuFile.Enabled = True
datFire.Enabled = True
cmdAdd.SetFocus
    End If
    cmdAdd_Click_Exit:

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Exit Sub

HandleAddErrors:
    Dim stMess As String
    stMess = "Cannot complete operation. " & vbCrLf & vbCrLf & Err.Description
    MsgBox stMess, vbExclamation, "Database Error"
On Error GoTo 0  'turn off error trapping
End Sub

Private Sub cmdDel_Click()
    Dim iResp As Integer

    On Error GoTo HandleDelErrors

    If datFire.Recordset.RecordCount > 0 Then
        iResp = MsgBox("Delete Event " & txtFire & ", vbYesNo, _
           "Delete Event")
        If iResp = vbYes Then
            With datFire.Recordset
                .Delete
                .MoveNext
                If .EOF Then
                    .MovePrevious
                    If .BOF Then
                        MsgBox "The recordset is empty. ",
                        vbInformation, "No Records"
                    End If
                End If
            End With
        End If
        Else
            MsgBox "No records to delete.", vbExclamation, "Delete Event"
    End If

    cmdDel_Click:
    Exit Sub

HandleDelErrors:
    Dim stMess As String

    stMess = "Cannot complete operation." & vbCrLf & vbCrLf & Err.Description
    MsgBox stMess, vbExclamation, "Database Error"
On Error GoTo 0

End Sub

Private Sub cmdSave_Click()
    'save current record
On Error GoTo HandleSaveErrors
If cboFireCommand.ListIndex >= 0 And txtRounds <> "" Then
    If Val(txtCounter) < 10 Then
        txtFire.Text = "FE0000" & txtCounter.Text
    Else
        If Val(txtCounter) < 100 Then
            txtFire.Text = "FE00" & txtCounter.Text
        Else
            If Val(txtCounter) < 1000 Then
                txtFire.Text = "FE0" & txtCounter.Text
            Else
                txtFire.Text = "FE" & txtCounter.Text
            End If
        End If
    End If
End If

datFire.Recordset.Update
Else
    MsgBox "You must select an Fire Command Event and enter number of rounds before saving." _
    , vbExclamation, "Add Fire Event"
    datFire.Recordset.CancelUpdate
End If

.cboFireCommand.Enabled = False
.txtTime.Enabled = False
.txtWeaponMagStat.Enabled = False
.txtLocation.Enabled = False
.txtAltitude.Enabled = False
.txtRounds.Enabled = False
.cmdUpdate.Enabled = True
.cmdSave.Enabled = False
.cmdDel.Enabled = True
.cmdAdd.Caption = "&Add Event"
.mnuFile.Enabled = True
.datFire.Enabled = True
.cmdAdd.setFocus

.datFire.Enabled = True

.cmdSave_Click Exit:
 Exit Sub

HandleSaveErrors:
 Dim stMess As String
 Select Case Err.Number
 Case 3022 'duplicate key field
    stMess = "Record already exists -- could not save>""
    MsgBox stMess, vbExclamation, "Database Error"
 On Error GoTo 0 'turn off error trapping
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Case 3058, 3315  'no entry in key field
  stMess = "Select Fire Command Event and enter number of
  rounds before saving."
  MsgBox stMess, vbExclamation, "Database Error"
On Error GoTo 0  'turn off error trapping

Case Else
  stMess = "Record could not be saved." & vbCrLf _
    & Err.Description
  MsgBox stMess, vbExclamation, "Database Error"
  datFire.Recordset.CancelUpdate
  Resume Next
End Select

End Sub

Private Sub cmdUpdate_Click()

  If cmdUpdate.Caption = "&Update" And _
    datFire.Recordset.RecordCount > 0 Then

    cmdUpdate.Caption = "Su&bmit"
    cboFireCommand.Enabled = True
    txtTime.Enabled = True
    txtWeaponMagStat.Enabled = True
    txtLocation.Enabled = True
    txtAltitude.Enabled = True
    txtRounds.Enabled = True
    cmdAdd.Enabled = False
    cmdSave.Enabled = False
    cmdDel.Enabled = False
    mnuFile.Enabled = False
    datFire.Enabled = False
    datFire.Recordset.Edit

  Else
    If datFire.Recordset.RecordCount > 0 Then
      datFire.Recordset.Update

        cboFireCommand.Enabled = False
        txtTime.Enabled = False
        txtWeaponMagStat.Enabled = False
        txtLocation.Enabled = False
        txtAltitude.Enabled = False
        txtRounds.Enabled = False
        cmdDel.Enabled = True
        cmdAdd.Enabled = True
        cmdAdd.SetFocus
        cmdUpdate.Caption = "&Update"
        mnuFile.Enabled = True
        datFire.Enabled = True

    End If

End If
End If

End Sub

Private Sub datFire_Reposition()
  SetFireRecordNumber
End Sub

Private Sub Form_Load()
  datFire.DatabaseName = gstNewDatabase
  strSQL = "Select FireCommand from FireCommand"
  Set rsFireCommand = db.OpenRecordset(strSQL)
  'fill cboFireCommand
  Do Until rsFireCommand.EOF
    cboFireCommand.AddItem rsFireCommand!FireCommand
    rsFireCommand.MoveNext
  Loop
  With datFire
    .Refresh
    If Not .Recordset.EOF Then
      .Recordset.MoveNext
    End If
  End With
  SetFireRecordNumber
End Sub

Private Sub Form_Unload(Cancel As Integer)
  frmMain.Enabled = True
  Unload Me
End Sub

Private Sub mnuFileBack_Click()
  frmMain.Enabled = True
  Unload Me
End Sub

Private Sub SetFireRecordNumber()
  Dim iRecordCount As Integer
  Dim iCurrentRecord As Integer
iRecordCount = datFire.Recordset.RecordCount
iCurrentRecord = datFire.Recordset.AbsolutePosition + 1

If datFire.Recordset.EOF Then
datFire.Caption = "No more records"
Else
datFire.Caption = "Fire Event Record " & iCurrentRecord & 
                 " of " & iRecordCount
End If

End Sub

Private Sub mnuFilePrint_Click()
    frmPrint.Show
    On Error GoTo mnuPrintErrors
    If bContinue = True Then
        With datFire.Recordset
            If bWord = True Then
                Set WordApp = New Word.Application
                WordApp.Documents.Add
                Set Doc = WordApp.ActiveDocument
                Set Sel = WordApp.Selection
                Doc.Tables.Add Range:=Sel.Range, NumRows:=.RecordCount,
                                NumColumns:=6

                Sel.TypeText Text:="Fire"
                Sel.MoveRight unit:=12 '12=next cell

                Sel.TypeText Text:="FireCommand"
                Sel.MoveRight unit:=12 '12=next cell

                Sel.TypeText Text:="FireTime"
                Sel.MoveRight unit:=12 '12=next cell

                Sel.TypeText Text:="FirerLocation"
                Sel.MoveRight unit:=12 '12=next cell

                Sel.TypeText Text:="FirerAltitude"
                Sel.MoveRight unit:=12 '12=next cell

                Sel.TypeText Text:="RoundsFired"
                Sel.MoveRight unit:=12 '12=next cell

            Do Until .EOF
                Sel.TypeText Text:=!Fire
Sel.MoveRight unit:=12  '12=next

Sel.TypeText Text:="FireCommand"
Sel.MoveRight unit:=12  '12=next

Sel.TypeText Text:="FireTime"
Sel.MoveRight unit:=12  '12=next

Sel.TypeText Text:="FirerLocation"
Sel.MoveRight unit:=12  '12=next

Sel.TypeText Text:="FirerAltitude"
Sel.MoveRight unit:=12  '12=next

Sel.TypeText Text:="RoundsFired"
Sel.MoveRight unit:=12  '12=next

.MoveNext

Loop

WordApp.Visible = True

Set WordApp = Nothing

Else

If bText = True Then

Open App.Path & "\FireEvents.txt" For Output As #1

Print #1, "Fire"; Chr(9); "FireCommand"; Chr(9);
"FireTime"; Chr(9); _  "FirerLocation"; Chr(9);
"FirerAltitude"; Chr(9); _  "RoundsFired"; Chr(9)

Do Until .EOF

Print #1, !Fire; Chr(9); _
!FireCommand; Chr(9); _
!FireTime; Chr(9); _
!FirerLocation; Chr(9); _
!FirerAltitude; Chr(9); _
!RoundFired; Chr(9)

.MoveNext

Loop
Close #1
End If
End If
.MoveFirst
End With
End If
bContinue = False
bWord = False
bText = False

mnuPrintErrors:
    Select Case Err.Number
    Case 94
        Sel.TypeText Text:=""
        Resume Next
    End Select
End Sub

*******************************************************************************
' Module:            frmGISRS.frm
' Description:      Allows user to access the GISRS terminal
'                   records for addition, deletion, and
'                   modification.
' Programmer:       Kevin Colón
*******************************************************************************
Option Explicit
Dim rsPlatform       As Recordset
Dim strSQL           As String

Private Sub cboPlatform_Click()
    If cboPlatform.ListIndex >= 0 Then
        txtPlatform = cboPlatform.Text
    End If
End Sub

Private Sub cmdAdd_Click() On Error GoTo HandleAddErrors
    If cmdAdd.Caption = "&Add" Then
        datGISRS.Recordset.AddNew
        txtTerminal.Enabled = True
    End If
End Sub
txtTerminal.SetFocus
txtFunction.Enabled = True
cboPlatform.Enabled = True
cmdAdd.Caption = "&Cancel"
cmdSave.Enabled = True
cmdDel.Enabled = False
cmdUpdate.Enabled = False
mnuFile.Enabled = False
datGISRS.Enabled = False

Else
datGISRS.Recordset.CancelUpdate
txtTerminal.Enabled = False
txtFunction.Enabled = False
cboPlatform.Enabled = False
cmdSave.Enabled = False
cmdDel.Enabled = True
cmdUpdate.Enabled = True
mnuFile.Enabled = True
cmdAdd.Caption = "&Add"
cmdAdd.SetFocus
datGISRS.Enabled = True

End If

cmdAdd_Click_Execute:
Exit Sub

HandleAddErrors:
    Dim stMess As String
    stMess = "Cannot complete operation. " & vbCrLf & vbCrLf_
    & Err.Description
    MsgBox stMess, vbExclamation, "Database Error"
On Error GoTo 0
    'turn off error trapping

End Sub

Private Sub cmdDel_Click()
    'delete the current record
    Dim iResp As Integer

    On Error GoTo HandleDelErrors

    If datGISRS.Recordset.RecordCount > 0 Then
        iResp = MsgBox("Delete Terminal " & txtTerminal.Text & ", ", vbYesNo, "Delete Terminal")
        If iResp = vbYes Then
            With datGISRS.Recordset
                .Delete     'delete current record
                .MoveNext    'move to following record
                If .EOF Then
                    .MovePrevious
                    If .EOF Then
                        MsgBox "The recordset is empty.", vbInformation, "No Records"

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End If
End If
End With
End If
Else
    MsgBox "No records to delete.", vbExclamation, _
        "Delete Terminal"
End If

cmdDel_Click Exit:
Exit Sub

HandleDelErrors:
    Dim stMsg As String
    stMsg = "Cannot complete operation." & vbCrLf & vbCrLf & _
            & Err.Description
    MsgBox stMsg, vbExclamation, "Database Error"
On Error GoTo 0  ' turn off error trapping
End Sub

Private Sub cmdSave_Click()
    ' save the current record
    Dim iResp As Integer
    On Error GoTo HandleSaveErrors
    If txtTerminal.Text <> "" Then
        txtTerminal.Text = UCase(txtTerminal.Text)
        iResp = MsgBox("Do you want to add " & txtTerminal.Text & _
            " to the database?", vbYesNo + vbQuestion, _
            "Add Terminal")
        If iResp = vbYes Then
            datGISRS.Recordset.Update
        End If
    Else
        MsgBox "You must enter a Terminal before saving.", _
            vbExclamation, "Add Terminal"
        datGISRS.Recordset.CancelUpdate
    End If

    txtTerminal.Enabled = False
    txtFunction.Enabled = False
    cboPlatform.Enabled = False
    cmdSave.Enabled = False
    cmdDel.Enabled = True
    datGISRS.Enabled = True
    mnuFile.Enabled = True
    cmdAdd.Caption = "&Add"
    cmdAdd.SetFocus
    cmdUpdate.Enabled = True
cmdSave_Click Exit:
Exit Sub

HandleSaveErrors:
Dim stMess As String
Select Case Err.Number
Case 3022 'duplicate key field
    stMess = "Record already exists -- could not save."
    MsgBox stMess, vbExclamation, "Database Error"
    On Error GoTo 0 'turn off error trapping
Case 3058, 3315 'no entry in key field
    stMess = "Enter a location before saving."
    MsgBox stMess, vbExclamation, "Database Error"
    On Error GoTo 0 'turn off error trapping
Case Else
    stMess = "Record could not be saved." & vbCrLf & _
            & Err.Description
    MsgBox stMess, vbExclamation, "Database Error"
datGISRS.Recordset.CancelUpdate
    Resume Next
End Select

End Sub

Private Sub cmdUpdate_Click()()
    If cmdUpdate.Caption = "&Update" And _
        datGISRS.Recordset.RecordCount > 0 Then
        cmdUpdate.Caption = "Su&bit"
        txtTerminal.Enabled = True
        txtFunction.Enabled = True
        cboPlatform.Enabled = True
        cmdDel.Enabled = False
        mnuFile.Enabled = False
        txtTerminal.SetFocus
        cmdAdd.Enabled = False
        datGISRS.Enabled = False
        datGISRS.Recordset.Edit
    Else
        If datGISRS.Recordset.RecordCount > 0 Then
            txtTerminal = UCase(txtTerminal)
            datGISRS.Recordset.Update
            txtTerminal.Enabled = False
            txtFunction.Enabled = False
            cboPlatform.Enabled = False
            cmdDel.Enabled = True
            mnuFile.Enabled = True
            cmdAdd.Enabled = True
            cmdAdd.SetFocus
            cmdUpdate.Caption = "&Update"
            datGISRS.Enabled = True
        End If

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End If
End If

End Sub

Private Sub datGISRS_Reposition()

SetTerminalRecordNumber

End Sub

Private Sub FillPlatformCombo()

Dim iCount As Integer
'fill the PlatType combo box
cboPlatform.Clear

With rsPlatform

iCount = .RecordCount

'fill the list
Do Until .EOF
    If !Platform <> "" Then
        cboPlatform.AddItem !Platform
    End If
    .MoveNext
Loop
End With

End Sub

Private Sub Form_Load()

datGISRS.DatabaseName = gstNewDatabase

stSQL = "Select Platform from Platform"

Set rsPlatform = db.OpenRecordset(stSQL)

FillPlatformCombo

With datGISRS
    .Refresh
    If Not .Recordset.EOF Then
        .Recordset.MoveLast
        .Recordset.MoveFirst
    End If
End With

SetTerminalRecordNumber

End Sub
Private Sub Form_Unload(Cancel As Integer)
    frmMain.Enabled = True
    Unload Me
End Sub

Private Sub mnuFileBack_Click()
    frmMain.Enabled = True
    Unload Me
End Sub

Private Sub mnuFileSearch_Click()
    datGISRS.Recordset.FindFirst "[GISRSTerminal] = '' & _
    InputBox("Enter the GISRS Terminal", "GISRS Terminal Search") & ''
    If datGISRS.Recordset.NoMatch Then
        MsgBox "GISRS Terminal was not found.", vbOKOnly, "GISRS Terminal Search"
    datGISRS.Recordset.MoveFirst 'go to first record
End If
End Sub

Private Sub SetTerminalRecordNumber()
    Dim iRecordCount As Integer
    Dim iCurrentRecord As Integer
    iRecordCount = datGISRS.Recordset.RecordCount
    iCurrentRecord = datGISRS.Recordset.AbsolutePosition + 1
    If datGISRS.Recordset.EOF Then
        datGISRS.Caption = "No more records"
    Else
        datGISRS.Caption = "Terminal " & iCurrentRecord & _
        " of " & iRecordCount
    End If
End Sub

Private Sub txtPlatform_Change()
    'selects correct combo box listing
    Dim iIndex As Integer
    Dim bFound As Boolean
    rsPlatform.MoveFirst
    If txtPlatform <> "" Then
        Do Until iIndex = rsPlatform.RecordCount Or bFound
            If rsPlatform!Platform = txtPlatform Then
                cboPlatform.Text = rsPlatform!Platform
                bFound = True
            End If
        Loop
    End If
End Sub
bFound = True
Else
   rsPlatform.MoveNext
   iIndex = iIndex + 1
End If
Loop
Else
   cboPlatform.ListIndex = -1
End If
End Sub

*******************************************************************************
'Module: frmImpactEvent.frm
'Description: Allows user to access the impact event records for addition, deletion, and modification.
'Programmer: Kevin Colón
*******************************************************************************

Option Explicit

Dim rsFire As Recordset
Dim rsPlatform As Recordset
Dim rsSensor As Recordset
Dim strSQL1 As String
Dim strSQL2 As String
Dim strSQL3 As String
Private WordApp As Word.Application
Private Doc As Word.Document
Private Sel As Word.Selection

Private Sub cboFire_Change()
   If cboFire.ListIndex >= 0 Then
txtFire = cboFire.Text
End If

End Sub

Private Sub cboSensor_Change()
   If cboSensor.ListIndex >= 0 Then
txtSensor = cboSensor.Text
End If

End Sub

Private Sub cboPlatform_Change()
   If cboPlatform.ListIndex >= 0 Then
txtPlatform = cboPlatform.Text
End If
End Sub

Private Sub cmdAdd_Click()

    On Error GoTo HandleAddErrors

    If cmdAdd.Caption = "&Add Event" Then

        datImpact.Recordset.AddNew
        cboFire.Enabled = True
        cboPlatform.Enabled = True
        cboSensor.Enabled = True
        cboFire.ListIndex = -1
        cboPlatform.ListIndex = -1
        cboSensor.ListIndex = -1
        txtImpactTime.Enabled = True
        txtBDATime.Enabled = True
        txtBDA.Enabled = True
        cmdUpdate.Enabled = False
        cmdSave.Enabled = True
        cmdDel.Enabled = False
        cmdAdd.Caption = "&Cancel"
        mnuFile.Enabled = False
        datImpact.Enabled = False

    Else

        datImpact.Recordset.CancelUpdate
        cboFire.Enabled = False
        cboPlatform.Enabled = False
        cboSensor.Enabled = False
        txtImpactTime.Enabled = False
        txtBDATime.Enabled = False
        txtBDA.Enabled = False
        cmdUpdate.Enabled = True
        cmdSave.Enabled = False
        cmdDel.Enabled = True
        cmdAdd.Caption = "&Add Event"
        mnuFile.Enabled = True
        datImpact.Enabled = True
        cmdAdd.SetFocus

    End If

    cmdAdd_Click_Exit:
    Exit Sub

HandleAddErrors:
    Dim stMess As String
    stMess = "Cannot complete operation. " & vbCrLf & vbCrLf &
    Err.Description
    MsgBox stMess, vbExclamation, "Database Error"
    On Error GoTo 0 ' turn off error trapping
End Sub

Private Sub cmdDel_Click()
    Dim iResp As Integer
    On Error GoTo HandleDelErrors
    If datImpact.Recordset.RecordCount > 0 Then
        iResp = MsgBox("Delete Event " & txtImpact & ", vbYesNo, _
              "Delete Event")
    If iResp = vbYes Then
        With datImpact.Recordset
            .Delete
            .MoveNext
            If .EOF Then
                .MovePrevious
                If .BOF Then
                    MsgBox "The recordset is empty.", vbInformation, ", No Records"
            End If
        End With
        Else
            MsgBox "No records to delete.", vbExclamation, "Delete Event"
    End If
    End If
    cmdDel_Click:
    Exit Sub

HandleDelErrors:
    Dim stMess As String
    stMess = "Cannot complete operation." & vbCrLf & vbCrLf & Err.Description
    MsgBox stMess, vbExclamation, "Database Error"
    On Error GoTo 0

End Sub

Private Sub cmdSave_Click()
    'save current record
    On Error GoTo HandleSaveErrors
    If cboFire.ListIndex >= 0 Then
        If Val(txtCounter) < 10 Then
            txtImpact.Text = "IE0000" & txtCounter.Text
        Else
            If Val(txtCounter) < 100 Then
                txtImpact.Text = "IE000" & txtCounter.Text
            Else
                If Val(txtCounter) < 1000 Then
                    "Error handling"
                Else
                    "Error handling"
                End If
            End If
        End If
    Else
        MsgBox "Please select a category.", vbExclamation, "Select Category"
    End If
    cmdSave_Click:
    Exit Sub

HandleSaveErrors:
    Dim stMess As String
    stMess = "Cannot complete operation." & vbCrLf & vbCrLf & Err.Description
    MsgBox stMess, vbExclamation, "Database Error"
    On Error GoTo 0

End Sub
txtImpact.Text = "IE00" & txtCounter.Text
Else
    If Val(txtCounter) < 10000 Then
        txtImpact.Text = "IE00" & txtCounter.Text
    Else
        txtImpact.Text = "IE" & txtCounter.Text
    End If
End If
End If
End If

datImpact.Recordset.Update
Else
    MsgBox "You must select a Fire Event before saving." _
        , vbExclamation, "Add Impact Event"
    datImpact.Recordset.CancelUpdate
End If

cboFire.Enabled = False
.cboPlatform.Enabled = False
.cboSensor.Enabled = False
.txtImpactTime.Enabled = False
.txtBDATime.Enabled = False
.txtBDA.Enabled = False
.cmdUpdate.Enabled = True
.cmdSave.Enabled = False
.cmdDel.Enabled = True
.cmdAdd.Caption = "&Add Event"
.mnuFile.Enabled = True
.datImpact.Enabled = True
.cmdAdd.SetFocus

datImpact.Enabled = True

cmdSave_Click Exit:
Exit Sub

HandleSaveErrors:
    Dim stMess As String
    Select Case Err.Number
        Case 3022  'duplicate key field
            stMess = "Record already exists -- could not save>"
        MsgBox stMess, vbExclamation, "Database Error"
        On Error GoTo 0  'turn off error trapping
        Case 3058, 3315  'no entry in key field
            stMess = "Select Fire Event before saving."
        MsgBox stMess, vbExclamation, "Database Error"
        On Error GoTo 0  'turn off error trapping
        Case Else
            stMess = "Record could not be saved." & vbCrLf _
                & Err.Description
        MsgBox stMess, vbExclamation, "Database Error"
datImpact.Recordset.CancelUpdate
Resume Next
End Select

End Sub

Private Sub cmdUpdate_Click()

If cmdUpdate.Caption = "&Update" And _
datImpact.Recordset.RecordCount > 0 Then

cmdUpdate.Caption = "Su&bmit"
chFire.Enabled = True
cboPlatform.Enabled = True
cboSensor.Enabled = True
txtImpactTime.Enabled = True
txtBDAEime.Enabled = True
ttxtBDA.Enabled = True
cmdAdd.Enabled = False
cmdSave.Enabled = False
cmdDel.Enabled = False
mnuFile.Enabled = False
datImpact.Enabled = False
datImpact.Recordset.Edit

Else
If datImpact.Recordset.RecordCount > 0 Then
datImpact.Recordset.Update

chFire.Enabled = False
cboPlatform.Enabled = False
cboSensor.Enabled = False
txtImpactTime.Enabled = False
txtBDAEime.Enabled = False
ttxtBDA.Enabled = False
cmdDel.Enabled = True
cmdAdd.Enabled = True
cmdAdd.SetFocus
cmdUpdate.Caption = "&Update"
mnuFile.Enabled = True
datImpact.Enabled = True

End If
End If

End Sub

Private Sub datImpact_Reposition()

SetImpactRecordNumber

End Sub

Private Sub Form_Load()

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datImpact.DatabaseName = gstNewDatabase

stSQL1 = "Select Fire from Fire"
stSQL2 = "Select Platform from Platform"
stSQL3 = "Select SensorType from SensorType"

Set rsFire = db.OpenRecordset(stSQL1)
Set rsPlatform = db.OpenRecordset(stSQL2)
Set rsSensor = db.OpenRecordset(stSQL3)

'fill cboFire
Do Until rsFire.EOF
    cboFire.AddItem rsFire.Fire
    rsFire.MoveNext
Loop

'fill cboPlatform
Do Until rsPlatform.EOF
    cboPlatform.AddItem rsPlatform.Platform
    rsPlatform.MoveNext
Loop

'fill cboSensor
Do Until rsSensor.EOF
    cboSensor.AddItem rsSensor.SensorType
    rsSensor.MoveNext
Loop

With datImpact
    .Refresh
    If Not .Recordset.EOF Then
        .Recordset.MoveLast
        .Recordset.MoveFirst
    End If
End With

SetImpactRecordNumber

End Sub

Private Sub SetImpactRecordNumber()

Dim iRecordCount As Integer
Dim iCurrentRecord As Integer

iRecordCount = datImpact.Recordset.RecordCount
iCurrentRecord = datImpact.Recordset.AbsolutePosition + 1

If datImpact.Recordset.EOF Then
    datImpact.Caption = "No more records"
Else
    datImpact.Caption = "Impact Event Record " & iCurrentRecord & _
        " of " & iRecordCount
End If

End Sub

Private Sub Form_Unload(Cancel As Integer)
    frmMain.Enabled = True
Unload Me
End Sub

Private Sub mnuFileBack_Click()
    frmMain.Enabled = True
Unload Me
End Sub

Private Sub mnuFilePrint_Click()
    frmPrint.Show
    On Error GoTo mnuPrintErrors
    If bContinue = True Then
        With datImpact.Recordset
            If bWord = True Then
                Set WordApp = New Word.Application
                WordAppDocuments.Add
                Set Doc = WordApp.ActiveDocument
                Set Sel = WordApp.Selection
                Doc.Tables.Add Range:=Sel.Range, NumRows:=.RecordCount,
                NumColumns:=7
                Sel.TypeText Text:="Impact"
                Sel.MoveRight unit:=12 '12=next cell
                Sel.TypeText Text:="FireEvent"
                Sel.MoveRight unit:=12 '12=next cell
                Sel.TypeText Text:="ImpactTime"
                Sel.MoveRight unit:=12 '12=next cell
                Sel.TypeText Text:="BDA"
                Sel.MoveRight unit:=12 '12=next cell
                Sel.TypeText Text:="BDATime"
                Sel.MoveRight unit:=12 '12=next cell
                Sel.TypeText Text:="Platform"
                Sel.MoveRight unit:=12 '12=next cell
            End If
        End With
    End If
End Sub
Sel.TypeText Text:="SensorType"
Sel.MoveRight unit:=12 '12=next cell

Do Until .EOF
    Sel.TypeText Text:="Impact"
    Sel.MoveRight unit:=12 '12=next cell
    Sel.TypeText Text:="FireEvent"
    Sel.MoveRight unit:=12 '12=next cell
    Sel.TypeText Text:="ImpactTime"
    Sel.MoveRight unit:=12 '12=next cell
    Sel.TypeText Text:="BDA"
    Sel.MoveRight unit:=12 '12=next cell
    Sel.TypeText Text:="BDATime"
    Sel.MoveRight unit:=12 '12=next cell
    Sel.TypeText Text:="Platform"
    Sel.MoveRight unit:=12 '12=next cell
    Sel.TypeText Text:="SensorType"
    Sel.MoveRight unit:=12 '12=next cell

.MoveNext
Loop
WordApp.Visible = True
Set WordApp = Nothing
Else
    If bText = True Then
        Open App.Path & "\ImpactEvents.txt" For Output As #1
        Print #1, "Impact"; Chr(9); "FireEvent"; Chr(9); "ImpactTime"; Chr(9); "BDA"; Chr(9); "BDATime"; Chr(9); "Platform"; Chr(9); "SensorType";
        Chr(9)
Do Until .EOF

Print #1, !Impact; Chr(9); _
  !FireEvent; Chr(9); _
  !ImpactTime; Chr(9); _
  !BDA; Chr(9); _
  !BDATime; Chr(9); _
  !Platform; Chr(9); _
  !SensorType; Chr(9)

.MoveNext
Loop
Close #1

End If
End If

.MoveFirst
End With
End If

bContinue = False
bWord = False
bText = False

mnuPrintErrors:
  Select Case Err.Number
  Case 94
    Sel.TypeText Text:=""
    Resume Next
  End Select
End Sub

Private Sub txtFire_Change()

  'selects correct combo box listing
  Dim iIndex As Integer
  Dim bFound As Boolean

  rsFire.MoveFirst
  If txtFire <> "" Then
    Do Until iIndex = rsFire.RecordCount Or bFound
      If rsFire!Fire = txtFire Then
        cboFire.Text = rsFire!Fire
        bFound = True
      Else
        rsFire.MoveNext
        iIndex = iIndex + 1
      End If
    End If
  End If
Loop
End If

End Sub

Private Sub txtSensor_Change()
    'selects correct combo box listing
    Dim iIndex As Integer
    Dim bFound As Boolean

    rsSensor.MoveNext
    If txtSensor <> "" Then
        Do Until iIndex = rsSensor.RecordCount Or bFound
            If rsSensor!SensorType = txtSensor Then
                cboSensor.Text = rsSensor!SensorType
                bFound = True
            Else
                rsSensor.MoveNext
                iIndex = iIndex + 1
            End If
        Loop
    End If

    End Sub

Private Sub txtPlatform_Change()
    'selects correct combo box listing
    Dim iIndex As Integer
    Dim bFound As Boolean

    rsPlatform.MoveNext
    If txtPlatform <> "" Then
        Do Until iIndex = rsPlatform.RecordCount Or bFound
            If rsPlatform!Platform = txtPlatform Then
                cboPlatform.Text = rsPlatform!Platform
                bFound = True
            Else
                rsPlatform.MoveNext
                iIndex = iIndex + 1
            End If
        Loop
    End If

    End Sub

'******************************************************************************
'Module:            frmInitiatives.frm
'Description:       Allows user to access the initiatives
'                    records for addition, deletion, and modification.

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Option Explicit

Private Sub cmdAdd_Click()
    On Error GoTo HandleAddErrors

    If cmdAdd.Caption = "&Add" Then
datInitiatives.Recordset.AddNew
txtInitiative.Enabled = True
txtInitiative.SetFocus
txtDescription.Enabled = True
    cmdAdd.Caption = "&Cancel"
    cmdSave.Enabled = True
    cmdDel.Enabled = False
    cmdUpdate.Enabled = False
    mnuFile.Enabled = False
datInitiatives.Enabled = False

    Else
datInitiatives.Recordset.CancelUpdate
txtInitiative.Enabled = False
txtDescription.Enabled = False
    cmdSave.Enabled = False
    cmdDel.Enabled = True
    cmdUpdate.Enabled = True
    mnuFile.Enabled = True
    cmdAdd.Caption = "&Add"
    cmdAdd.SetFocus
datInitiatives.Enabled = True

    End If

    cmdAdd_Click_Exit:
    Exit Sub

HandleAddErrors:
    Dim stMess As String
    stMess = "Cannot complete operation. " & vbCrLf & vbCrLf _
    & Err.Description
    MsgBox stMess, vbExclamation, "Database Error"
    On Error GoTo 0  'turn off error trapping

    End Sub

Private Sub cmdDel_Click()
    'delete the current record
    Dim iResp As Integer

    On Error GoTo HandleDelErrors

    If datInitiatives.Recordset.RecordCount > 0 Then
        iResp = MsgBox("Delete Initiative " & txtInitiative.Text & "?",
vbYesNo, "Delete Initiative")
    If iResp = vbYes Then
        With datInitiatives.Recordset
            .Delete  'delete current record
            .MoveNext 'move to following record
            If .EOF Then
                .MovePrevious
            If .BOF Then
                MsgBox "The recordset is empty.", vbInformation, "No Records"
                End If
            End If
        End With
    End If
Else
    MsgBox "No records to delete.", vbExclamation_, "Delete Initiative"
End If

cmdDel_Click_Exit:
    Exit Sub

HandleDelErrors:
    Dim stMsg As String
    stMsg = "Cannot complete operation." & vbCrLf & vbCrLf_
    & Err.Description
    MsgBox stMsg, vbExclamation, "Database Error"
    On Error GoTo 0 'turn off error trapping
End Sub

Private Sub cmdSave_Click()
    'save the current record
    Dim iResp As Integer
    On Error GoTo HandleSaveErrors
    If txtInitiative <> "" And txtDescription <> "" Then
        txtInitiative = UCase(txtInitiative)
        iResp = MsgBox("Do you want to add " & txtInitiative & _
        " to the database?", vbYesNo + vbQuestion, _
        "Add Initiative")
        If iResp = vbYes Then
            datInitiatives.Recordset.Update
        End If
    Else
        MsgBox "You must enter an Initiative and a description before saving.", vbExclamation_,
        "Add Initiative"
        datInitiatives.Recordset.CancelUpdate
    End If

    txtInitiative.Enabled = False
End Private
txtDescription.Enabled = False
cmdSave.Enabled = False
cmdDel.Enabled = True
datInitiatives.Enabled = True
mnuFile.Enabled = True
cmdAdd.Caption = "&Add"
cmdAdd.SetFocus
cmdUpdate.Enabled = True

Private Sub cmdUpdate_Click()  
If cmdUpdate.Caption = "&Update" And _
datInitiatives.Recordset.RecordCount > 0 Then

cmdUpdate.Caption = "Su&bmit"
txtInitiative.Enabled = True
txtDescription.Enabled = True
cmdDel.Enabled = False
mnuFile.Enabled = False
txtInitiative.SetFocus
cmdAdd.Enabled = False
datInitiatives.Enabled = False
datInitiatives.Recordset.Edit
Else
  If datInitiatives.Recordset.RecordCount > 0 Then
    datInitiatives.Recordset.Update
  
txtInitiative.Enabled = False
txtDescription.Enabled = False
cmdDel.Enabled = True
mnuFile.Enabled = True
cmdAdd.Enabled = True
cmdAdd.SetFocus
cmdUpdate.Caption = "&Update"
datInitiatives.Enabled = True
End If
End If
End Sub

Private Sub datInitiatives_Reposition()
    SetInitiativeRecordNumber
End Sub

Private Sub Form_Load()
    datInitiatives.DatabaseName = gstNewDatabase

    With datInitiatives
        .Refresh
        If Not .Recordset.EOF Then
            .Recordset.MoveLast
            .Recordset.MoveFirst
        End If
    End With
    SetInitiativeRecordNumber
End Sub

Private Sub Form_Unload(Cancel As Integer)
    frmMain.Show
    frmMain.Enabled = True
    Unload Me
End Sub

Private Sub mnuFileBack_Click()
    frmMain.Enabled = True
    Unload Me
End Sub

Private Sub mnuFileSearch_Click()

    datInitiatives.Recordset.FindFirst "[Description] = '" & _
    InputBox("Enter the Initiative", "Initiative Search") & _
    "'

    If datInitiatives.Recordset.NoMatch Then
        MsgBox "Initiative was not found.", vbOKOnly, "Initiative Search"
End If
End Sub
datInitiatives.Recordset.MoveFirst 'go to first record

End If

End Sub

Private Sub SetInitiativeRecordNumber()
Dim iRecordCount As Integer
Dim iCurrentRecord As Integer

iRecordCount = datInitiatives.Recordset.RecordCount
iCurrentRecord = datInitiatives.Recordset.AbsolutePosition + 1
If datInitiatives.Recordset.EOF Then
datInitiatives.Caption = "No more records"
Else

datInitiatives.Caption = "Initiative " & iCurrentRecord & 
" of " & iRecordCount

End If

End Sub

*******************************************************************************
'Module: frmLAWS.frm
'Description: Allows user to access the LAWS terminal
' records for addition, deletion, and
' modification.
'Programmer: Kevin Colón
*******************************************************************************

Option Explicit
Dim rsPlatform As Recordset
Dim stSQL As String

Private Sub cboPlatform_Click()

If cboPlatform.ListIndex >= 0 Then

txtPlatform = cboPlatform.Text

End If

End Sub

Private Sub cmdAdd_Click()
On Error GoTo HandleAddErrors

If cmdAdd.Caption = "&Add" Then
datLAWS.Recordset.AddNew
txtTerminal.Enabled = True
txtTerminal.SetFocus
txtFunction.Enabled = True
cboPlatform.Enabled = True
cmdAdd.Caption = "&Cancel"
cmdSave.Enabled = True
cmdDel.Enabled = False

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cmdUpdate.Enabled = False
mnuFile.Enabled = False
datLAWS.Enabled = False

Else
    datLAWS.Recordset.CancelUpdate
txtTerminal.Enabled = False
txtFunction.Enabled = False
cboPlatform.Enabled = False
cmdSave.Enabled = False
cmdDel.Enabled = True
cmdUpdate.Enabled = True
mnuFile.Enabled = True
cmdAdd.Caption = "&Add"
cmdAdd.SetFocus
datLAWS.Enabled = True
End If

cmdAdd_Click Exit:
Exit Sub

HandleAddErrors:
    Dim stMess As String
    stMess = "Cannot complete operation. " & vbCrLf & vbCrLf _
        & Err.Description
    MsgBox stMess, vbExclamation, "Database Error"
On Error GoTo 0    'turn off error trapping

End Sub

Private Sub cmdDel_Click()
    'delete the current record
    Dim iResp As Integer

    On Error GoTo HandleDelErrors

    If datLAWS.Recordset.RecordCount > 0 Then
        iResp = MsgBox("Delete Terminal " & txtTerminal.Text & "?", vbYesNo, "Delete Terminal")
        If iResp = vbYes Then
            With datLAWS.Recordset
                .Delete 'delete current record
                .MoveNext 'move to following record
                If .EOF Then
                    .MovePrevious
                    If .EOF Then
                        MsgBox "The recordset is empty.", vbInformation, "No Records"
                    End If
                End If
            End With
        End If
    Else
        MsgBox "No records to delete.", vbExclamation _
"Delete Terminal"

End If

cmdDel_ClickExit:
Exit Sub

HandleDelErrors:
Dim stMsg As String

stMsg = "Cannot complete operation.\n" & vbCrLf & vbCrLf &
& Err.Description
MsgBox stMsg, vbExclamation, "Database Error"
On Error GoTo 0  'turn off error trapping

End Sub

Private Sub cmdSave_Click()
'save the current record
Dim iResp As Integer

On Error GoTo HandleSaveErrors
If txtTerminal.Text <> "" Then
  txtTerminal.Text = UCase(txtTerminal.Text)
iResp = MsgBox("Do you want to add " & txtTerminal.Text & 
" to the database?", vbYesNo + vbQuestion, _
"Add Terminal")
  If iResp = vbYes Then
datLAWS.Recordset.Update
End If

Else
  MsgBox "You must enter a Terminal before saving.\n", vbExclamation & 
", "Add Terminal"
datLAWS.Recordset.CancelUpdate
End If

txtTerminal.Enabled = False
txtFunction.Enabled = False
cboPlatform.Enabled = False
cmdSave.Enabled = False
cmdDel.Enabled = True
datLAWS.Enabled = True
mmuFile.Enabled = True
cmdAdd.Caption = "&Add"
cmdAdd.SetFocus
cmdUpdate.Enabled = True

End Sub

Private Sub cmdSave_ClickExit()
Exit Sub

HandleSaveErrors:
Dim stMess As String

Select Case Err.Number
Case 3022  'duplicate key field
    stMess = "Record already exists -- could not save."
    MsgBox stMess, vbExclamation, "Database Error"
    On Error GoTo 0  'turn off error trapping

Case 3058, 3315  'no entry in key field
    stMess = "Enter a location before saving."
    MsgBox stMess, vbExclamation, "Database Error"
    On Error GoTo 0  'turn off error trapping

Case Else
    stMess = "Record could not be saved." & vbCrLf & _
        Err.Description
    MsgBox stMess, vbExclamation, "Database Error"
    datLAWS.Recordset.CancelUpdate
    Resume Next
End Select

End Sub

Private Sub cmdUpdate_Click()
    If cmdUpdate.Caption = "$&Update" And _
        datLAWS.Recordset.RecordCount > 0 Then
        cmdUpdate.Caption = "$Submit"
        txtTerminal.Enabled = True
        txtFunction.Enabled = True
        cboPlatform.Enabled = True
        cmdDel.Enabled = False
        mnuFile.Enabled = False
        txtTerminal.SetFocus
        cmdAdd.Enabled = False
        datLAWS.Enabled = False
        datLAWS.Recordset.Edit
    Else
        If datLAWS.Recordset.RecordCount > 0 Then
            txtTerminal = UCase(txtTerminal)
            datLAWS.Recordset.Update

            txtTerminal.Enabled = False
            txtFunction.Enabled = False
            cboPlatform.Enabled = False
            cmdDel.Enabled = True
            mnuFile.Enabled = True
            cmdAdd.Enabled = True
            cmdAdd.SetFocus
            cmdUpdate.Caption = "$&Update"
            datLAWS.Enabled = True
        End If
    End If
End Sub

Private Sub datLAWS_Reposition()
SetTerminalRecordNumber

End Sub

Private Sub FillPlatformCombo()

    Dim iCount As Integer
    'fill the PlatType combo box
    cboPlatform.Clear

    With rsPlatform
        iCount = .RecordCount

        'fill the list
        Do Until .EOF
            If !Platform <> "" Then
                cboPlatform.AddItem !Platform
            End If
            .MoveNext
        Loop
    End With

End Sub

Private Sub Form_Load()

    datLAW8.DatabaseName = gstNewDatabase

    strSQL = "Select Platform from Platform"
    Set rsPlatform = db.OpenRecordset(strSQL)

    FillPlatformCombo

    With datLAW8
        .Refresh
        If Not .Recordset.EOF Then
            .Recordset.MoveLast
            .Recordset.MoveFirst
        End If
    End With

    SetTerminalRecordNumber

End Sub

Private Sub Form_Unload(Cancel As Integer)

    frmMain.Enabled = True
    Unload Me

End Sub
Private Sub mnuFileBack_Click()
    frmMain.Enabled = True
    Unload Me
End Sub

Private Sub mnuFileSearch_Click()
    datLAWSTerminal.Recordset.FindFirst "[LAWSTerminal] = \\
    " & _
    InputBox("Enter the LAWS Terminal", "LAWS Terminal Search") & \\
    ""
    If datLAWSTerminal.Recordset.NoMatch Then
        MsgBox "LAWS Terminal was not found.", vbOKOnly, "LAWS Terminal Search"
        datLAWSTerminal.Recordset.MoveFirst
    End If
End Sub

Private Sub SetTerminalRecordNumber()
    Dim iRecordCount As Integer
    Dim iCurrentRecord As Integer

    iRecordCount = datLAWSTerminal.Recordset.RecordCount
    iCurrentRecord = datLAWSTerminal.Recordset.AbsolutePosition + 1
    If datLAWSTerminal.Recordset.EOF Then
        datLAWSTerminal.Caption = "No more records"
    Else
        datLAWSTerminal.Caption = "Terminal " & iCurrentRecord & _
        " of " & iRecordCount
    End If
End Sub

Private Sub txtPlatform_Change()
    'selects correct combo box listing
    Dim iIndex As Integer
    Dim bFound As Boolean

    rsPlatform.MoveFirst
    If txtPlatform <> "" Then
        Do Until iIndex = rsPlatform.RecordCount Or bFound
            If rsPlatform!Platform = txtPlatform Then
                cboPlatform.Text = rsPlatform!Platform
                bFound = True
            Else
                rsPlatform.MoveNext
                iIndex = iIndex + 1
            End If
        Loop
    End If
End Sub
Else

cboPlatform.ListIndex = -1

End If

End Sub

'******************************************************************************
'Module:            frmMain.frm
'Description:       Allows user to access the forms linked to
'                   the database by use of dropdown menus.
'Programmer:        Kevin Colón
'******************************************************************************

Option Explicit

Dim rsAcquisition As Recordset
Dim rsFire As Recordset
Dim rsFireCommand As Recordset
Dim rsImpact As Recordset
Dim rsMensuration As Recordset
Dim rsNomination As Recordset
Dim rsTarget As Recordset
Dim rsLAWSdata As Recordset
Dim rsGISRS As Recordset
Dim rsLAWS As Recordset
Dim rsPlatform As Recordset
Dim rsSensor As Recordset
Dim rsThreat As Recordset
Dim rsWeapon As Recordset
Dim strSQL1 As String
Dim strSQL2 As String
Dim strSQL3 As String
Dim strSQL4 As String
Dim strSQL5 As String
Dim strSQL6 As String
Dim strSQL7 As String
Dim strSQL8 As String
Dim strSQL9 As String
Dim strSQL10 As String
Dim strSQL11 As String
Dim strSQL12 As String
Dim strSQL13 As String
Dim strSQL14 As String
Dim stSearch As String
Dim stMessage As String
Dim bGFound As Boolean
Dim bLFound As Boolean

Private Sub AddAcquisition()
rsAcquisition.AddNew

If rsAcquisition!AcquisitionCounter < 10 Then

    rsAcquisition!Acquisition = "AE0000" &
    rsAcquisition!AcquisitionCounter

Else

    If rsAcquisition!AcquisitionCounter < 100 Then

        rsAcquisition!Acquisition = "AE000" &
        rsAcquisition!AcquisitionCounter

    Else

        If rsAcquisition!AcquisitionCounter < 1000 Then

            rsAcquisition!Acquisition = "AE00" &
            rsAcquisition!AcquisitionCounter

        Else

            If rsAcquisition!AcquisitionCounter < 10000 Then

                rsAcquisition!Acquisition = "AE0" &
                rsAcquisition!AcquisitionCounter

            Else

                rsAcquisition!Acquisition = "AE" &
                rsAcquisition!AcquisitionCounter

            End If

        End If

    End If

End If

rsAcquisition!TrackId = rsLAWSData!TrackId
rsAcquisition!ThreatType = rsLAWSData!ThreatType

'get string from LAWS data and use it for platform search to
'fill platform field in Acquisition table from LAWSdata info
If rsLAWSData!Nominator <> "" Then

    stSearch = rsLAWSData!Nominator

    rsGISRS.MoveFirst
    rsLAWS.MoveFirst
    bGFound = False
    bLFound = False

    'checks GISRS table
    Do Until rsGISRS.EOF Or bGFound = True

        If rsGISRS!GISRSTerminal = stSearch Then

            bGFound = True

        End If

    Loop

End If
rsAcquisition!AcqPlatform = rsGISRS!Location
Else
    rsGISRS.MoveNext
End If
Loop
' checks LAWS table if search not successful in GISRS table
If bGFound = False Then
    Do Until rsLAWS.EOF Or bLFound = True
        If rsLAWS!LawSTerminal = stSearch Then
            bLFound = True
            rsAcquisition!AcqPlatform = rsLAWS!Location
        Else
            rsLAWS.MoveNext
        End If
    Loop
End If
End If
End If
rsAcquisition!TrackLocation = rsLAWSdata!TargetLocation
rsAcquisition!TrackAltitude = rsLAWSdata!Altitude
rsAcquisition!Remark = rsLAWSdata!ThreatDescription

rsAcquisition!AcqSensorType = rsLAWSdata!AcqSensor
If rsLAWSdata!AcqSensor = Null Then
    rsAcquisition!AcqSensorType = "None"
Else
    rsAcquisition!AcqSensorType = rsLAWSdata!AcqSensor
End If
If rsLAWSdata!AcqTime <> Null Or rsLAWSdata!AcqTime <> "" Then
    rsAcquisition!AcqTime = rsLAWSdata!AcqTime
End If
rsAcquisition.Update
End Sub
Private Sub AddFire()
rsFireCommand.MoveLast

If rsLAWsdata!RoundsFired <> "" And rsLAWsdata!RoundsFired > 0 Then
    rsFire.AddNew
    If rsFire!FireCounter < 10 Then
        rsFire!Fire = "FE0000" & rsFire!FireCounter
    Else
        If rsFire!FireCounter < 100 Then
            rsFire!Fire = "FE00" & rsFire!FireCounter
        Else
            If rsFire!FireCounter < 1000 Then
                rsFire!Fire = "FE0" & rsFire!FireCounter
            Else
                rsFire!Fire = "FE" & rsFire!FireCounter
            End If
        End If
    End If
End If

rsFire!FireCommand = rsFireCommand!FireCommand
rsFire!RoundsFired = rsLAWsdata!RoundsFired
rsFire!FireTime = rsLAWsdata!FireEventTime
rsFire.Update
AddImpact

End If

End Sub

Private Sub AddFireCommand()
    Dim bPFound As Boolean
    rsTarget.MoveLast
    rsFireCommand.AddNew
If rsFireCommand!FireCommandCounter < 10 Then
    rsFireCommand!FireCommand = "FC0000" & rsFireCommand!FireCommandCounter
Else
    If rsFireCommand!FireCommandCounter < 100 Then
        rsFireCommand!FireCommand = "FC000" & rsFireCommand!FireCommandCounter
    Else
        If rsFireCommand!FireCommandCounter < 1000 Then
            rsFireCommand!FireCommand = "FC00" & rsFireCommand!FireCommandCounter
        Else
            If rsFireCommand!FireCommandCounter < 10000 Then
                rsFireCommand!FireCommand = "FC0" & rsFireCommand!FireCommandCounter
            Else
                rsFireCommand!FireCommand = "FC" & rsFireCommand!FireCommandCounter
            End If
        End If
    End If
End If

rsFireCommand!Nomination = rsTarget!Nomination
rsFireCommand!OCCCId = rsLAWSdata!TargetControl
rsFireCommand!TargetId = rsTarget!TargetId

stSearch = rsLAWSdata!FirerPlatform
rsPlatform.MoveFirst

Do Until rsPlatform.EOF Or bFound = True
    If rsPlatform!LAWSSFormat = stSearch Then
        bFound = True
        rsFireCommand!FirerPlatform = rsPlatform!Platform
    Else
        rsPlatform.MoveNext
    End If
Loop

If bFound = False Then
    rsFireCommand!FirerPlatform = rsLAWSdata!FirerPlatform & ";""TAC"
End If

If rsLAWsdata!RoundsFired > 0 Then
    rsFireCommand!Engage = True
End If

rsFireCommand.Update

End Sub

Private Sub AddImpact()
    rsFire.MoveLast
    rsImpact.AddNew
    If rsImpact!ImpactCounter < 10 Then
        rsImpact!Impact = "IE0000" & rsImpact!ImpactCounter
    Else
        If rsImpact!ImpactCounter < 100 Then
            rsImpact!Impact = "IE000" & rsImpact!ImpactCounter
        Else
            If rsImpact!ImpactCounter < 1000 Then
                rsImpact!Impact = "IE00" & rsImpact!ImpactCounter
            Else
                If rsImpact!ImpactCounter < 10000 Then
                    rsImpact!Impact = "IE0" & rsImpact!ImpactCounter
                Else
                    rsImpact!Impact = "IE" & rsImpact!ImpactCounter
                End If
            End If
        End If
    End If
End If

rsImpact!FireEvent = rsFire!Fire
rsImpact!ImpactTime = rsLAWsdata!ImpactTime
rsImpact.Update

End Sub
Private Sub AddMensuration()
    rsAcquisition.MoveNextLast
    rsMensuration.AddNew
    If rsMensuration!MensurationCounter < 10 Then
        rsMensuration!Mensuration = "ME0000" &
        rsMensuration!MensurationCounter
    Else
        If rsMensuration!MensurationCounter < 100 Then
            rsMensuration!Mensuration = "ME000" &
            rsMensuration!MensurationCounter
        Else
            If rsMensuration!MensurationCounter < 1000 Then
                rsMensuration!Mensuration = "ME00" &
                rsMensuration!MensurationCounter
            Else
                If rsMensuration!MensurationCounter < 10000 Then
                    rsMensuration!Mensuration = "ME0" &
                    rsMensuration!MensurationCounter
                Else
                    rsMensuration!Mensuration = "ME" &
                    rsMensuration!MensurationCounter
                End If
            End If
        End If
    End If
    rsMensuration!Acquisition = rsAcquisition!Acquisition
    rsMensuration!MenSensorType = ?
    rsMensuration!MenPlatform = ?
    stSearch = rsLAWSData!Nominator
    rsGISRS.MoveFirst
    rsLAWS.MoveFirst
    bGFound = False
    bLFound = False

    'checks GISRS table
    Do Until rsGISRS.EOF Or bGFound = True
        If rsGISRS!GISRSTerminal = stSearch Then
            bGFound = True
        End If
    Loop

rsMensuration!GISRSTerminal = rsGISRS!GISRSTerminal
Else
    rsGISRS.MoveNext
End If
Loop
'checks LAWS table if search not successful in GISRS table
If bGFound = False Then
    Do Until rsLAWS.EOF Or bLFound = True
        If rsLAWS!LAWSTerminal = stSearch Then
            bLFound = True
            rsMensuration!GISRSTerminal = rsLAWS!LAWSTerminal
        Else
            rsLAWS.MoveNext
        End If
    End Loop
End If
End Sub
Private Sub AddNomination()
    rsMensuration.MoveNextLast
    rsNomination.AddNew
    If rsNomination!NominationCounter < 10 Then
        rsNomination!Nomination = "NE0000" &
        rsNomination!NominationCounter
    Else
        If rsNomination!NominationCounter < 100 Then
            rsNomination!Nomination = "NE00" &
            rsNomination!NominationCounter
        Else
            If rsNomination!NominationCounter < 1000 Then
                rsNomination!Nomination = "NE0" &
                rsNomination!NominationCounter
            Else
                If rsNomination!NominationCounter < 10000 Then
        
        Else
            If rsNomination!NominationCounter < 10000 Then

        End Sub
End Sub

rsNomination!Nomination = "NE0" &
rsNomination!NominationCounter

Else
rsNomination!Nomination = "NE" &
rsNomination!NominationCounter

End If
End If
End If
End If

rsNomination!Acquisition = rsMensuration!Acquisition
rsNomination!Mensuration = rsMensuration!Mensuration

stSearch = rsLAWSdata!Nominator

rsGISRS.MoveFirst
rsLAWs.MoveFirst

bGFound = False
bLFound = False

'checks GISRS table
Do Until rsGISRS.EOF Or bGFound = True
If rsGISRS!GISRSTerminal = stSearch Then

    bGFound = True
    rsNomination!GISRSTerminal = rsGISRS!GISRSTerminal

Else
    rsGISRS.MoveNext

End If
Loop

'checks LAWS table if search not successful in GISRS table
If bGFound = False Then

    Do Until rsLAWs.EOF Or bLFound = True
        If rsLAWs!LAWSTerminal = stSearch Then

            bLFound = True
            rsNomination!GISRSTerminal = rsLAWs!LAWSTerminal

        Else
            rsLAWs.MoveNext

        End If
    Loop
End If

rsNomination!TargetLocationError = rsLAWsdata!TLE

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rsNomination.Update
End Sub

Private Sub AddTarget()
    On Error GoTo HandleTargetException
    rsNomination.MoveLast

    rsTarget.AddNew
    rsTarget!TargetId = rsLAWSdata!TargetId
    rsTarget!TargetNLTTime = rsLAWSdata!NLTTime
    rsTarget!WeaponType = rsLAWSdata!WeaponType
    rsTarget!TargetLocation = rsLAWSdata!TargetLocation2
    rsTarget!Description = rsLAWSdata!TargetType
    rsTarget!Remark = rsLAWSdata!Remark
    rsTarget!Nomination = rsNomination!Nomination

    rsTarget.Update

AddTarget_Exit:
    Exit Sub

HandleTargetException:
    Select Case Err.Number
    Case 3022
        stMessage = "TargetId repeated. Target " &
        rsLAWSdata!TargetId & " not saved as new record."
        MsgBox stMessage, vbOKOnly + vbInformation
        rsTarget.CancelUpdate
    End Select
    Resume

End Sub

Private Sub mnuDataSort_Click()
    Dim rsSorted As Recordset
    Dim stPrevThreat As String
    Dim stPrevTrack As String
    Dim stPrevNominator As String
    Dim stNowThreat As String
    Dim stNowTrack As String
    Dim stNowNominator As String
    Dim stNextThreat As String
    Dim stNextTrack As String
    Dim stNextNominator As String
    Dim stSQL1 As String

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Dim sSQL2 As String
sSQL1 = "Select * from LAWSSorted"
Set rsSorted = db.OpenRecordset(sSQL1)

With rsSorted
    Do Until .EOF
        stNowThreat = !ThreatDescription
        If !TrackId <> "" Or !TrackId <> Null Then
            stNowTrack = !TrackId
        Else
            stNowTrack = ""
        End If

        If !Nominator <> "" Or !Nominator <> Null Then
            stNowNominator = !Nominator
        Else
            stNowNominator = ""
        End If

        If stNowTrack = "" Or stNowNominator = "" Then
            .MovePrevious

            If Not .EOF Then
                stPrevThreat = !ThreatDescription
                stPrevTrack = !TrackId
                stPrevNominator = !Nominator

                If stPrevThreat = stNowThreat Then
                    .MoveNext
                    .Edit
                    !TrackId = stPrevTrack
                    !Nominator = stPrevNominator
                    .Update
                Else
                    .MoveNext
                    .MoveNext
                    stNextThreat = !ThreatDescription
                    stNextTrack = !TrackId
                    stNextNominator = !Nominator
                    If stNextThreat = stNowThreat Then
                        .MovePrevious
                        .Edit
                        !TrackId = stNextTrack
                        !Nominator = stNextNominator
                        .Update
                End If

End If
End If
Else
  .MoveNext
  .MoveNext
  stNextThreat = !ThreatDescription
  stNextTrack = !TrackID
  stNextNominator = !Nominator
  .MovePrevious
  If stNextThreat = stNowThreat Then
    .Edit
    !TrackId = stNextTrack
    !Nominator = stNextNominator
    .Update
  End If
End If
End If
End If

.MoveNext
Loop
End With

End Sub

Private Sub mnuDataTransfer_Click()
  Dim rsLAWSSInfo As Recordset
  Dim rsSorted As Recordset
  Dim stLAWSSInfo As String
  Dim stSorted As String
  Dim stTLE As String

  stLAWSSInfo = "Select * from LAWS"
  stSorted = "Select * from LAWSSorted"

  Set rsLAWSSInfo = db.OpenRecordset(stLAWSSInfo)
  Set rsSorted = db.OpenRecordset(stSorted)

  With rsLAWSSInfo
    Do Until .EOF
      rsSorted.AddNew
      rsSorted!TargetId = !TargetId
      rsSorted!ThreatDescription = !ThreatDescription
      rsSorted!TargetLocation = !TargetLocation
      rsSorted!NLTTime = !NLTTime
      rsSorted!Altitude = !Altitude
      rsSorted!WeaponType = !WeaponType
      rsSorted!PlatLocation = !PlatLocation
      rsSorted!ThreatType = !ThreatType
      If !Remark1 <> "" Then
        stTLE = Left(rsLAWSSInfo!Remark1, 2)
End If

If stTLE = "CE" Then
    rsSorted!TLE = !Remark1
Else
    rsSorted!Remark = !Remark1
End If

rsSorted!AcqTime = !AcqTime
rsSorted!AcqSensor = !AcqSensor
rsSorted!TargetLocation2 = !TargetLocation2
rsSorted!TargetType = !TargetType
rsSorted!RoundsFired = !RoundsFired
rsSorted! FirerPlatform = !FirerPlatform
rsSorted!TargetControl = !TargetControl
rsSorted!Priority = !Priority
rsSorted!ImpactTime = !ImpactTime
rsSorted!Nominator = !Nominator

If !Remark2 <> "" Then
    stTLE = Left(rsLAWSInfo!Remark2, 2)
End If

If stTLE = "SH" Then
    rsSorted!Remark = !Remark2
Else
    rsSorted!TrackId = !Remark2
End If

rsSorted!FireEventTime = !FireEventTime
rsSorted. Update
rsLAWSInfo.MoveNext

Loop
End With

End Sub

Private Sub mnuFileExit_Click()
    'terminates application
End

End Sub

Private Sub mnuFileOpen_Click()
    'Select a different database (FBE)
    On Error GoTo HandleError

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With frmMain.dlgDatabase
    .FileName = gstNewDatabase
    .Filter = "Database files (*.mdb)|*.mdb|All files (*.*)|*.*"

    'if error encountered, skip next command
    On Error Resume Next
    .ShowOpen
    If Err.Number = cdlCancel Then
        gstNewDatabase = ""
    Else

        'set return filename to selected file
        gstNewDatabase = .FileName
        frmMain.Caption = .FileTitle & " Database"
    End If
End With

Set db = OpenDatabase(gstNewDatabase)

    'display Main form
    frmMain.Show

Sub Exit:
    Exit Sub
End Sub

HandleError:

    Select Case Err.Number
    Case 3004, 3024, 3044
        If gstNewDatabase = "" Then
            MsgBox "No database was selected.", vbExclamation,
            "Database Error"
            'disables options only available when a database is
            Me.mnuFileQueries.Enabled = False
            Me.mnuFileSQL.Enabled = False
            Me.mnuUpdate.Enabled = False
        Else
            Set db = OpenDatabase(gstNewDatabase) 'new database
            'reenables options once a database is selected
            Me.mnuFileQueries.Enabled = True
            Me.mnuFileSQL.Enabled = True
            Me.mnuUpdate.Enabled = True
            Resume 'open the database
        End If
    Case Else

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MsgBox Err.Description, vbOKOnly + vbExclamation, "Unexpected Error"
End 'exit the project
End Select
End Sub

Private Sub mnuFileQueries_Click()
    frmQueries.Show
    Me.Enabled = False
End Sub

Private Sub mnuFileSQL_Click()
    frmSQL.Show
    Me.Enabled = False
End Sub

Private Sub mnuHelpAbout_Click()
    frmAbout.Show
End Sub

Private Sub mnuPopulate_Click()
    stSQL1 = "Select * from Acquisition"
stSQL2 = "Select * from Fire"
stSQL3 = "Select * from FireCommand"
stSQL4 = "Select * from Impact"
stSQL5 = "Select * from Mensuration"
stSQL6 = "Select * from Nomination"
stSQL7 = "Select * from Target"
stSQL8 = "Select * from LawsSorted2"
stSQL9 = "Select * from GISRSTerminal"
stSQL10 = "Select * from LAWSTerminal"
stSQL11 = "Select * from Platform"
stSQL12 = "Select * from SensorType"
stSQL13 = "Select * from ThreatType"
stSQL14 = "Select * from WeaponType"
Set rsAcquisition = db.OpenRecordset(stSQL1)
Set rsFire = db.OpenRecordset(stSQL2)
Set rsFireCommand = db.OpenRecordset(stSQL3)
Set rsImpact = db.OpenRecordset(stSQL4)
Set rsMensuration = db.OpenRecordset(stSQL5)
Set rsNomination = db.OpenRecordset(stSQL6)
Set rsTarget = db.OpenRecordset(stSQL7)
Set rsLAWSTerminal = db.OpenRecordset(stSQL8)
Set rsGISRS = db.OpenRecordset(stSQL9)
Set rsLAWSTerminal = db.OpenRecordset(stSQL10)
Set rsPlatform = db.OpenRecordset(stSQL11)
Set rsSensor = db.OpenRecordset(stSQL12)
Set rsThreat = db.OpenRecordset(stSQL13)
Set rsWeapon = db.OpenRecordset(stSQL14)

If rsLAWSdata.RecordCount > 0 Then
    Do Until rsLAWSdata.EOF 'fix to .EOF
        If rsAcquisition.RecordCount = 0 Then
            AddAcquisition
            AddMensuration
            AddNomination
            AddTarget
            AddFireCommand
            AddFire
            rsLAWSdata.MoveNext
        Else
            rsAcquisition.MoveNext
            If rsAcquisition!TrackId <> rsLAWSdata!TrackId Then
                AddAcquisition
                AddMensuration
                AddNomination
                AddTarget
                AddFireCommand
                AddFire
                rsLAWSdata.MoveNext
            Else
                AddTarget
                AddFireCommand
                AddFire
                rsLAWSdata.MoveNext
            End If
        End If
    Loop
Else
    stMessage = "No data to import from table: LawsSorted " & vbCrLf & vbCrLf & "in database: " & Me.digDatabase.FileTitle
    MsgBox stMessage, vbOKOnly + vbExclamation, "Data Population"
End If
End If

End Sub

Private Sub mnuUpdateAcquisition_Click()
    frmAcqEvents.Show
    Me.Enabled = False

End Sub

Private Sub mnuUpdateAcronyms_Click()
    frmAcronyms.Show
    Me.Enabled = False

End Sub

Private Sub mnuUpdateDataTypes_Click()
    frmDataTypes.Show
    Me.Enabled = False

End Sub

Private Sub mnuUpdateFBE_Click()
    frmFBE.Show
    Me.Enabled = False

End Sub

Private Sub mnuUpdateFire_Click()
    frmFireEvent.Show
    Me.Enabled = False

End Sub

Private Sub mnuUpdateFireCommand_Click()
    frmFireCmdEvent.Show
    Me.Enabled = False

End Sub

Private Sub mnuUpdateGISRS_Click()
    frmGISRS.Show
    Me.Enabled = False

End Sub
Private Sub mnuUpdateImpact_Click()
    frmImpactEvent.Show
    Me.Enabled = False
End Sub

Private Sub mnuUpdateInitiatives_Click()
    frmInitiatives.Show
    Me.Enabled = False
End Sub

Private Sub mnuUpdateLAWS_Click()
    frmLAWS.Show
    Me.Enabled = False
End Sub

Private Sub mnuUpdateMensuration_Click()
    frmMenEvents.Show
    Me.Enabled = False
End Sub

Private Sub mnuUpdateNomination_Click()
    frmNomEvents.Show
    Me.Enabled = False
End Sub

Private Sub mnuUpdateObjectives_Click()
    frmObjectives.Show
    Me.Enabled = False
End Sub

Private Sub mnuUpdatePlatforms_Click()
    frmPlatforms.Show
    Me.Enabled = False
End Sub

Private Sub mnuUpdatePlatTypes_Click()
    frmPlatformTypes.Show
    Me.Enabled = False
End Sub
Private Sub mnuUpdateQuestions_Click()
    frmQuestions.Show
    Me.Enabled = False
End Sub

Private Sub mnuUpdateSensTypes_Click()
    frmSensorTypes.Show
    Me.Enabled = False
End Sub

Private Sub mnuUpdateTargets_Click()
    frmTargetEvents.Show
    Me.Enabled = False
End Sub

Private Sub mnuUpdateThreatTypes_Click()
    frmThreatTypes.Show
    Me.Enabled = False
End Sub

Private Sub mnuUpdateWeaponTypes_Click()
    frmWeaponTypes.Show
    Me.Enabled = False
End Sub

Private Sub mnuViewTargets_Click()
    frmTargets2.Show
    Me.Enabled = False
End Sub

*******************************************************************************
' Module:         frmMenEvents.frm
' Description:    Allows user to access the mensuration event
'                 records for addition, deletion, and
'                 modification.
' Programmer:     Kevin Colón
*******************************************************************************

Option Explicit
Dim rsAcquisition As Recordset
Dim rsSensor As Recordset
Dim rsPlatform As Recordset
Dim rsGISRS As Recordset
Dim rsPTW As Recordset
Dim strSQL1 As String
Dim strSQL2 As String
Dim strSQL3 As String
Dim strSQL4 As String
Dim strSQL5 As String
Private WordApp As Word.Application
Private Doc As Word.Document
Private Sel As Word.Selection

Private Sub cboAcquisition_Click()
    If cboAcquisition.ListIndex >= 0 Then
        txtAcquisition = cboAcquisition.Text
    End If
End Sub

Private Sub cboGISRS_Click()
    If cboGISRS.ListIndex >= 0 Then
        txtGISRS = cboGISRS.Text
    End If
End Sub

Private Sub cboPlatform_Click()
    If cboPlatform.ListIndex >= 0 Then
        txtPlatform = cboPlatform.Text
    End If
End Sub

Private Sub cboPTW_Click()
    If cboPTW.ListIndex >= 0 Then
        txtPTW = cboPTW.Text
    End If
End Sub

Private Sub cboSensor_Click()
    If cboSensor.ListIndex >= 0 Then
        txtSensor = cboSensor.Text
    End If
End Sub
Private Sub cmdAdd_Click()

    On Error GoTo HandleAddErrors

    If cmdAdd.Caption = "&Add Event" Then

        datMenEvents.Recordset.AddNew
        cboAcquisition.Enabled = True
        cboPlatform.Enabled = True
        cboSensor.Enabled = True
        cboGISRS.Enabled = True
        cboPTW.Enabled = True
        cboAcquisition.ListIndex = -1
        cboPlatform.ListIndex = -1
        cboSensor.ListIndex = -1
        cboGISRS.ListIndex = -1
        cboPTW.ListIndex = -1
        txtTimeRgstSent.Enabled = True
        txtTimeRgstRcvd.Enabled = True
        txtTimeInfoSent.Enabled = True
        txtTimeInfoRcvd.Enabled = True
        cmdUpdate.Enabled = False
        cmdSave.Enabled = True
        cmdDel.Enabled = False
        cmdAdd.Caption = "&Cancel"
        mnuFile.Enabled = False
        datMenEvents.Enabled = False

    Else

        datMenEvents.Recordset.CancelUpdate
        cboAcquisition.Enabled = False
        cboPlatform.Enabled = False
        cboSensor.Enabled = False
        cboGISRS.Enabled = False
        cboPTW.Enabled = False
        txtTimeRgstSent.Enabled = False
        txtTimeRgstRcvd.Enabled = False
        txtTimeInfoSent.Enabled = False
        txtTimeInfoRcvd.Enabled = False
        cmdUpdate.Enabled = True
        cmdSave.Enabled = False
        cmdDel.Enabled = True
        cmdAdd.Caption = "&Add Event"
        mnuFile.Enabled = True
        datMenEvents.Enabled = True
        cmdAdd.SetFocus

    End If

    cmdAdd_Click_Exit:
    Exit Sub

HandleAddErrors:
    Dim stMess As String
stMess = "Cannot complete operation. " & vbCrLf & vbCrLf & Err.Description
MsgBox stMess, vbExclamation, "Database Error"
On Error GoTo 0  'turn off error trapping
End Sub

Private Sub cmdDel_Click()
    Dim iResp    As Integer
    On Error GoTo HandleDelErrors
    If datMenEvents.Recordset.RecordCount > 0 Then
        iResp = MsgBox("Delete Event " & txtMensuration & ",", vbYesNo,
                      "Delete Event")
        If iResp = vbYes Then
            With datMenEvents.Recordset
                .Delete
                .MoveNext
                If .EOF Then
                    .MovePrevious
                    If .BOF Then
                        MsgBox "The recordset is empty.", vbInformation, "No Records"
                End If
            End If
            End With
        End If
    Else
        MsgBox "No records to delete.", vbExclamation, "Delete Event"
    End If
    cmdDel_Click_Event:
    Exit Sub

HandleDelErrors:    As String
    Dim stMess    As String
    stMess = "Cannot complete operation." & vbCrLf & vbCrLf & Err.Description
    MsgBox stMess, vbExclamation, "Database Error"
    On Error GoTo 0
End Sub

Private Sub cmdSave_Click()
    'save current record
    On Error GoTo HandleSaveErrors
    If cboAcquisition.ListIndex >= 0 And cboGISRS.ListIndex >= 0 Then
        If Val(txtCounter) < 10 Then
            txtMensuration.Text = "ME0000" & txtCounter.Text
        Else
            MsgBox "Counter value too large.", vbCritical, "Counter Error"
        End If
    End If
    cmdSave_Click_Event:
    Exit Sub

HandleSaveErrors:    As String
    Dim stMess    As String
    stMess = "Cannot complete operation." & vbCrLf & vbCrLf & Err.Description
    MsgBox stMess, vbExclamation, "Database Error"
    On Error GoTo 0
End Sub
Else
    If Val(txtCounter) < 100 Then
        txtMensuration.Text = "ME000" & txtCounter.Text
    Else
        If Val(txtCounter) < 1000 Then
            txtMensuration.Text = "ME00" & txtCounter.Text
        Else
            If Val(txtCounter) < 10000 Then
                txtMensuration.Text = "ME0" & txtCounter.Text
            Else
                txtMensuration.Text = "ME" & txtCounter.Text
            End If
        End If
    End If
End If

datMenEvents.Recordset.Update
Else
    MsgBox "You must select an Acquisition Event and a GISRS Terminal before saving." _
        , vbExclamation, "Add Mensuration Event"
datMenEvents.Recordset.CancelUpdate
End If

cboAcquisition.Enabled = False
cboPlatform.Enabled = False
cboSensor.Enabled = False
cboGISRS.Enabled = False
cboPTW.Enabled = False
txtTimeRqstSent.Enabled = False
txtTimeRqstRcvd.Enabled = False
txtTimeInfoSent.Enabled = False
txtTimeInfoRcvd.Enabled = False
cmdUpdate.Enabled = True
cmdSave.Enabled = False
cmdDel.Enabled = True
cmdAdd.Caption = "&Add Event"
mnuFile.Enabled = True
datMenEvents.Enabled = True
cmdAdd.SetFocus

datMenEvents.Enabled = True

cmdSave_Click Exit:
Exit Sub

HandleSaveErrors:
    Dim stMess As String
    Select Case Err.Number
    Case 3022  'duplicate key field
        stMess = "Record already exists -- could not save>"
        MsgBox stMess, vbExclamation, "Database Error"
    On Error GoTo 0  'turn off error trapping
Case 3058, 3315  'no entry in key field
stMess = "Select Acquisition Event and GISRS Terminal
before saving."
MsgBox stMess, vbExclamation, "Database Error"
On Error GoTo 0  'turn off error trapping
End Select

Private Sub cmdUpdate_Click()

If cmdUpdate.Caption = "&Update" And _
datMenEvents.Recordset.RecordCount > 0 Then

    cmdUpdate.Caption = "Su&bmit"
    cboAcquisition.Enabled = True
    cboPlatform.Enabled = True
    cboSensor.Enabled = True
    cboGISRS.Enabled = True
    cboPTW.Enabled = True
    txtTimeRgstSent.Enabled = True
    txtTimeRgstRcvd.Enabled = True
    txtTimeInfoSent.Enabled = True
    txtTimeInfoRcvd.Enabled = True
    cmdAdd.Enabled = False
    cmdSave.Enabled = False
    cmdDel.Enabled = False
    mnuFile.Enabled = False
    datMenEvents.Enabled = False
    datMenEvents.Recordset.Edit

Else
    If datMenEvents.Recordset.RecordCount > 0 Then
        datMenEvents.Recordset.Update

        cboAcquisition.Enabled = False
        cboPlatform.Enabled = False
        cboSensor.Enabled = False
        cboGISRS.Enabled = False
        cboPTW.Enabled = False
        txtTimeRgstSent.Enabled = False
        txtTimeRgstRcvd.Enabled = False
        txtTimeInfoSent.Enabled = False
        txtTimeInfoRcvd.Enabled = False
        cmdDel.Enabled = True
        cmdAdd.Enabled = True

    Else
        datMenEvents.Recordset.Close
        datMenEvents.Recordset.LockServer
    End If

End Sub.
cmdAdd.SetFocus
cmdUpdate.Caption = "Update"
mnuFile.Enabled = True
datMenEvents.Enabled = True

End If
End If

End Sub

Private Sub datMenEvents_Reposition()
    SetMenEventsRecordNumber
End Sub

Private Sub Form_Load()
    datMenEvents.DatabaseName = gstNewDatabase
    strSQL1 = "Select Acquisition from Acquisition"
    strSQL2 = "Select SensorType from SensorType"
    strSQL3 = "Select Platform from Platform"
    strSQL4 = "Select GISRS Terminal from GISRS Terminal"
    strSQL5 = "Select PTW Terminal from PTW Terminal"

    Set rsAcquisition = db.OpenRecordset(strSQL1)
    Set rsSensor = db.OpenRecordset(strSQL2)
    Set rsPlatform = db.OpenRecordset(strSQL3)
    Set rsGISRS = db.OpenRecordset(strSQL4)
    Set rsPTW = db.OpenRecordset(strSQL5)

    'fill cboAcquisition
    Do Until rsAcquisition.EOF
        cboAcquisition.AddItem rsAcquisition!Acquisition
        rsAcquisition.MoveNext
    Loop

    'fill cboSensor
    Do Until rsSensor.EOF
        cboSensor.AddItem rsSensor!SensorType
        rsSensor.MoveNext
    Loop

    'fill cboPlatform
    Do Until rsPlatform.EOF
        cboPlatform.AddItem rsPlatform!Platform
        rsPlatform.MoveNext
    Loop

    'fill cboGISRS
    Do Until rsGISRS.EOF
cboGISRS.AddItem rsGISRS!GISRSTerminal
rsGISRS.MoveNext
Loop
'fill cboPTW
Do Until rsPTW.EOF
    cboPTW.AddItem rsPTW!PTWTerminal
    rsPTW.MoveNext
Loop
With datMenEvents
    .Refresh
    If Not .Recordset.EOF Then
        .Recordset.MoveLast
        .Recordset.MoveFirst
    End If
End With
SetMenEventsRecordNumber

End Sub

Private Sub SetMenEventsRecordNumber()

    Dim iRecordCount As Integer
    Dim iCurrentRecord As Integer

    iRecordCount = datMenEvents.Recordset.RecordCount
    iCurrentRecord = datMenEvents.Recordset.AbsolutePosition + 1

    If datMenEvents.Recordset.EOF Then
        datMenEvents.Caption = "No more records"
    Else
        datMenEvents.Caption = "Mensuration Event Record " & iCurrentRecord & _
        " of " & iRecordCount
    End If

End Sub

Private Sub Form_Unload(Cancel As Integer)

    frmMain.Enabled = True
    Unload Me

End Sub

Private Sub mmuFileBack_Click()

    .frmMain.Enabled = True
    Unload Me

End Sub
Private Sub mnuFilePrint_Click()
    frmPrint.Show

    On Error GoTo mnuPrintErrors

    If bContinue = True Then
        With datMenEvents.Recordset
            If bWord = True Then
                Set WordApp = New Word.Application
                WordApp.Documents.Add
                Set Doc = WordApp.ActiveDocument
                Set Sel = WordApp.Selection

                Doc.Tables.Add Range:=Sel.Range, NumRows:=.RecordCount,
                NumColumns:=10

                Sel.TypeText Text:="Mensuration"
                Sel.MoveRight unit:=12
                '12=next cell

                Sel.TypeText Text:="Request Sent"
                Sel.MoveRight unit:=12
                '12=next cell

                Sel.TypeText Text:="Request Rcvd"
                Sel.MoveRight unit:=12
                '12=next cell

                Sel.TypeText Text:="Info Sent"
                Sel.MoveRight unit:=12
                '12=next cell

                Sel.TypeText Text:="Info Received"
                Sel.MoveRight unit:=12
                '12=next cell

                Sel.TypeText Text:="Acquisition"
                Sel.MoveRight unit:=12
                '12=next cell

                Sel.TypeText Text:="Sensor Type"
                Sel.MoveRight unit:=12
                '12=next cell

                Sel.TypeText Text:="Platform"
                Sel.MoveRight unit:=12
                '12=next cell

                Sel.TypeText Text:="GISRS"
                Sel.MoveRight unit:=12
                '12=next cell

                Sel.TypeText Text:="PTW"
                Sel.MoveRight unit:=12
                '12=next cell

                Do Until .EOF
                    Sel.TypeText Text:=!Mensuration
                    Sel.MoveRight unit:=12
                    '12=next cell

        End If
    End If

    mnuPrintErrors:
    Resume
End Sub
Sel. TypeText Text := !TimeRequestSent
Sel. MoveRight unit := 12
'12 = next

Sel. TypeText Text := !TimeRequestReceived
Sel. MoveRight unit := 12
'12 = next

Sel. TypeText Text := !TimeInfoSent
Sel. MoveRight unit := 12
'12 = next

Sel. TypeText Text := !TimeInfoReceived
Sel. MoveRight unit := 12
'12 = next

Sel. TypeText Text := !Acquisition
Sel. MoveRight unit := 12
'12 = next

Sel. TypeText Text := !MenSensorType
Sel. MoveRight unit := 12
'12 = next

Sel. TypeText Text := !MenPlatform
Sel. MoveRight unit := 12
'12 = next

Sel. TypeText Text := !GISRSTerminal
Sel. MoveRight unit := 12
'12 = next

Sel. TypeText Text := !PTWTerminal
Sel. MoveRight unit := 12
'12 = next

.MoveNext

Loop

WordApp.Visible = True

Set WordApp = Nothing

Else
If bText = True Then

Open App.Path & "\MenEvents.txt" For Output As #1

Print #1, "Mensuration"; Chr(9); "Request Sent";
Chr(9); "Request Rcvd"; Chr(9); "Info Sent"; Chr(9); "Info Rcvd";

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Chr(9); _  "Acquisition"; Chr(9); "Sensor Type":
Chr(9); _  "Platform"; Chr(9); "GISRS"; Chr(9); _  "PTW"; Chr(9)

Do Until .EOF

Print #1, !Mensuration; Chr(9); _
!TimeRequestSent; Chr(9); _
!TimeRequestReceived; Chr(9); _
!TimeInfoSent; Chr(9); _
!TimeInfoReceived; Chr(9); _
!AcqSensorType; Chr(9); _
!Acquisition; Chr(9); _
!MenSensorType; Chr(9); _
!MenPlatform; Chr(9); _
!GISRSTerminal; Chr(9); _
!PTWTerminal; Chr(9)

.MoveNext
Loop

Close #1

End If
End If

.MoveFirst

End With

End If

bContinue = False
bWord = False
bText = False

mnuPrintErrors:
Select Case Err.Number
Case 94
    Sel.TypeText Text:=""
    Resume Next
End Select

End Sub

Private Sub txtAcquisition_Change()

'selects correct combo box listing
Dim iIndex As Integer
Dim bFound As Boolean

rsAcquisition.MoveNext

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If txtAcquisition <> "" Then
    Do Until iIndex = rsAcquisition.RecordCount Or bFound
        If rsAcquisition!Acquisition = txtAcquisition Then
            cboAcquisition.Text = rsAcquisition!Acquisition
            bFound = True
        Else
            rsAcquisition.MoveNext
            iIndex = iIndex + 1
        End If
    Loop
End If
End Sub

Private Sub txtGISRS_Change()
    'selects correct combo box listing
    Dim iIndex As Integer
    Dim bFound As Boolean
    rsGISRS.MoveFirst
    If txtGISRS <> "" Then
        Do Until iIndex = rsGISRS.RecordCount Or bFound
            If rsGISRS!GISRSTerminal = txtGISRS Then
                cboGISRS.Text = rsGISRS!GISRSTerminal
                bFound = True
            Else
                rsGISRS.MoveNext
                iIndex = iIndex + 1
            End If
        Loop
    End If
End Sub

Private Sub txtPlatform_Change()
    'selects correct combo box listing
    Dim iIndex As Integer
    Dim bFound As Boolean
    rsPlatform.MoveFirst
    If txtPlatform <> "" Then
        Do Until iIndex = rsPlatform.RecordCount Or bFound
            If rsPlatform!Platform = txtPlatform Then
                cboPlatform.Text = rsPlatform!Platform
                bFound = True
            Else
                rsPlatform.MoveNext
                iIndex = iIndex + 1
            End If
        Loop
    End If
End If

End Sub

Private Sub txtPTW_Change()

' selects correct combo box listing
Dim iIndex As Integer
Dim bFound As Boolean

rsPTW.MoveFirst
If txtPTW <> "" Then
    Do Until iIndex = rsPTW.RecordCount Or bFound
        If rsPTW!PTWTerminal = txtPTW Then
            cboPTW.Text = rsPTW!PTWTerminal
            bFound = True
        Else
            rsPTW.MoveNext
            iIndex = iIndex + 1
        End If
    Loop
End If

End Sub

Private Sub txtSensor_Change()

' selects correct combo box listing
Dim iIndex As Integer
Dim bFound As Boolean

rsSensor.MoveFirst
If txtSensor <> "" Then
    Do Until iIndex = rsSensor.RecordCount Or bFound
        If rsSensor!SensorType = txtSensor Then
            cboSensor.Text = rsSensor!SensorType
            bFound = True
        Else
            rsSensor.MoveNext
            iIndex = iIndex + 1
        End If
    Loop
End If

End Sub

******************************************************************************
' Module:            frmNomEvents.frm
' Description:       Allows user to access the nomination event
                    records for addition, deletion, and
                    modification.

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Option Explicit

Dim rsAcquisition As Recordset
Dim rsMensuration As Recordset
Dim rsGISRS As Recordset
Dim strSQL1 As String
Dim strSQL2 As String
Dim strSQL3 As String
Private WordApp As Word.Application
Private Doc As Word.Document
Private Sel As Word.Selection

Private Sub cboAcquisition_Change()
    If cboAcquisition.ListIndex >= 0 Then
        txtAcquisition = cboAcquisition.Text
    End If
End Sub

Private Sub cboGISRS_Change()
    If cboGISRS.ListIndex >= 0 Then
        txtGISRS = cboGISRS.Text
    End If
End Sub

Private Sub cboMensuration_Change()
    If cboMensuration.ListIndex >= 0 Then
        txtMensuration = cboMensuration.Text
    End If
End Sub

Private Sub cmdAdd_Click()
    On Error GoTo HandleAddErrors
    If cmdAdd.Caption = "&Add Event" Then
        datNomination.Recordset.AddNew
        cboAcquisition.Enabled = True
        cboMensuration.Enabled = True
        cboGISRS.Enabled = True
        cboAcquisition.ListIndex = -1
        cboMensuration.ListIndex = -1
        cboGISRS.ListIndex = -1
        txtTimeSent.Enabled = True
        txtTimeRcvd.Enabled = True
    End If
    Exit Sub

    ' Code to handle the error
    HandleAddErrors:
    Exit Sub
End Sub
txtAssess.Enabled = True
txtTLE.Enabled = True
cmdUpdate.Enabled = False
cmdSave.Enabled = True
cmdDel.Enabled = False
cmdAdd.Caption = "&Cancel"
mnuFile.Enabled = False
datNomination.Enabled = False

Else

datNomination.Recordset.CancelUpdate
cboAcquisition.Enabled = False
cboMensuration.Enabled = False
cboGISRS.Enabled = False
txtTimeSent.Enabled = False
txtTimeRcvd.Enabled = False
txtAssess.Enabled = False
txtTLE.Enabled = False
cmdUpdate.Enabled = True
cmdSave.Enabled = False
cmdDel.Enabled = True
cmdAdd.Caption = "&Add Event"
mnuFile.Enabled = True
datNomination.Enabled = True
cmdAdd.SetFocus

End If

cmdAdd_Click_Exit:
Exit Sub

HandleAddErrors:
    Dim stMess As String
    stMess = "Cannot complete operation. " & vbCrLf & vbCrLf &
Err.Description
    MsgBox stMess, vbExclamation, "Database Error"
    On Error GoTo 0    'turn off error trapping
End Sub

Private Sub cmdDel_Click()

    Dim iResp As Integer

    On Error GoTo HandleDelErrors

    If datNomination.Recordset.RecordCount > 0 Then
        iResp = MsgBox("Delete Event " & txtNomination & "?", vbYesNo,
        "Delete Event")
        If iResp = vbYes Then
            With datNomination.Recordset
                .Delete
                .MoveNext
            End With
        End If
    End If

    Exit Sub

HandleDelErrors:
    Exit Sub

    MsgBox stMess, vbExclamation, "Database Error"
    On Error GoTo 0    'turn off error trapping
End Sub
If .EOF Then
    .MovePrevious
If .EOF Then
    MsgBox "The recordset is empty.", vbInformation, "No Records"
End If
End If
End With
Else
    MsgBox "No records to delete.", vbExclamation, "Delete Event"
End If

HandleDelErrors:
    Exit Sub

Dim stMess As String

stMess = "Cannot complete operation." & vbCrLf & vbCrLf & Err.Description
MsgBox stMess, vbExclamation, "Database Error"
On Error GoTo 0

End Sub

Private Sub cmdSave_Click()

' save current record
On Error GoTo HandleSaveErrors
If cboAcquisition.ListIndex >= 0 And cboGISRS.ListIndex >= 0 Then
    If Val(txtCounter) < 10 Then
        txtNomination.Text = "NE0000" & txtCounter.Text
    Else
        If Val(txtCounter) < 100 Then
            txtNomination.Text = "NE000" & txtCounter.Text
        Else
            If Val(txtCounter) < 1000 Then
                txtNomination.Text = "NE00" & txtCounter.Text
            Else
                If Val(txtCounter) < 10000 Then
                    txtNomination.Text = "NE0" & txtCounter.Text
                Else
                    txtNomination.Text = "NE" & txtCounter.Text
                End If
            End If
        End If
    End If
End If
End If

datNomination.Recordset.Update
Else
    MsgBox "You must select an Acquisition Event and a GISRS Terminal before saving." _
vbExclamation, "Add Nomination Event"

datNomination.Recordset.CancelUpdate

End If

cboAcquisition.Enabled = False
cboMensuration.Enabled = False
cboGISRS.Enabled = False
txtTLE.Enabled = False
txtTimeSent.Enabled = False
txtTimeRcvd.Enabled = False
txtAssess.Enabled = False
cmdUpdate.Enabled = True
cmdSave.Enabled = False
cmdDel.Enabled = True
cmdAdd.Caption = "&Add Event"
mnuFile.Enabled = True
datNomination.Enabled = True
cmdAdd.SetFocus

datNomination.Enabled = True

cmdSave_Click_Exit:

Exit Sub

HandleSaveErrors:

Dim stMess As String
Select Case Err.Number
Case 3022 'duplicate key field
stMess = "Record already exists -- could not save>"
MsgBox stMess, vbExclamation, "Database Error"
On Error GoTo 0 'turn off error trapping
Case 3058, 3315 'no entry in key field
stMess = "Select Acquisition Event and GISRS Terminal before saving."
MsgBox stMess, vbExclamation, "Database Error"
On Error GoTo 0 'turn off error trapping
Case Else
stMess = "Record could not be saved." & vbCrLf
& Err.Description
MsgBox stMess, vbExclamation, "Database Error"
datNomination.Recordset.CancelUpdate
Resume Next
End Select

End Sub

Private Sub cmdUpdate_Click()

If cmdUpdate.Caption = "&Update" And _
datNomination.Recordset.RecordCount > 0 Then

cmdUpdate.Caption = "Su&bmit"

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cboAcquisition.Enabled = True
.cboMensuration.Enabled = True
.cboGISRS.Enabled = True
-txtTimeSent.Enabled = True
-txtTimeRcvd.Enabled = True
.txtTLE.Enabled = True
.txtAssess.Enabled = True
.cmdAdd.Enabled = False
.cmdSave.Enabled = False
.cmdDel.Enabled = False
.mnuFile.Enabled = False
.datNomination.Enabled = False
.datNomination.Recordset.Edit

Else
    If datNomination.Recordset.RecordCount > 0 Then
        datNomination.Recordset.Update
        cboAcquisition.Enabled = False
        cboMensuration.Enabled = False
        cboGISRS.Enabled = False
        txtTLE.Enabled = False
        txtTimeSent.Enabled = False
        txtTimeRcvd.Enabled = False
        txtAssess.Enabled = False
        cmdDel.Enabled = True
        cmdAdd.Enabled = True
        cmdAdd.SetFocus
        cmdUpdate.Caption = "&Update"
        mnuFile.Enabled = True
        datNomination.Enabled = True
    End If
End If

End Sub

Private Sub datNomination_Reposition()
    SetNominationRecordNumber
End Sub

Private Sub Form_Load()
    datNomination.DatabaseName = gstNewDatabase
    strSql1 = "Select Acquisition from Acquisition"
    strSql2 = "Select Mensuration from Mensuration"
    strSql3 = "Select GISRTerminal from GISRTerminal"

    Set rsAcquisition = db.OpenRecordset(strSql1)
    Set rsMensuration = db.OpenRecordset(strSql2)
Set rsGISRS = db.OpenRecordset(stSQL3)

'fill cboAcquisition
Do Until rsAcquisition.EOF
    cboAcquisition.AddItem rsAcquisition!Acquisition
    rsAcquisition.MoveNext
Loop

'fill cboMensuration
Do Until rsMensuration.EOF
    cboMensuration.AddItem rsMensuration!Mensuration
    rsMensuration.MoveNext
Loop

'fill cboGISRS
Do Until rsGISRS.EOF
    cboGISRS.AddItem rsGISRS!GISRSTerminal
    rsGISRS.MoveNext
Loop

With datNomination
    .Refresh
    If Not .Recordset.EOF Then
        .Recordset.MoveNext
        .Recordset.MoveFirst
    End If
End With

SetNominationRecordNumber
End Sub

Private Sub SetNominationRecordNumber()
    Dim iRecordCount As Integer
    Dim iCurrentRecord As Integer
    iRecordCount = datNomination.Recordset.RecordCount
    iCurrentRecord = datNomination.Recordset.AbsolutePosition + 1
    If datNomination.Recordset.EOF Then
datNomination.Caption = "No more records"
Else
    datNomination.Caption = "Nomination Event Record " & iCurrentRecord & 
        " of " & iRecordCount
End If
End Sub

Private Sub Form_Unload(Cancel As Integer)
    frmMain.Enabled = True
    Unload Me
End Sub

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End Sub

Private Sub mnuFileBack_Click()
    frmMain.Enabled = True
    Unload Me
End Sub

Private Sub mnuFilePrint_Click()
    frmPrint.Show
    On Error GoTo mnuPrintErrors
    If bContinue = True Then
        With datNomination.Recordset
            If bWord = True Then
                Set WordApp = New Word.Application
                WordApp.Documents.Add
                Set Doc = WordApp.ActiveDocument
                Set Sel = WordApp.Selection
                Doc.Tables.Add Range:=Sel.Range, NumRows:=.RecordCount,
                NumColumns:=8

                Sel.TypeText Text:="Nomination"
                Sel.MoveRight unit:=12 '12=next cell

                Sel.TypeText Text:="Nomination Sent"
                Sel.MoveRight unit:=12 '12=next cell

                Sel.TypeText Text:="Nomination Rcvd"
                Sel.MoveRight unit:=12 '12=next cell

                Sel.TypeText Text:="Acquisition"
                Sel.MoveRight unit:=12 '12=next cell

                Sel.TypeText Text:="Mensuration"
                Sel.MoveRight unit:=12 '12=next cell

                Sel.TypeText Text:="GISRS"
                Sel.MoveRight unit:=12 '12=next cell

                Sel.TypeText Text:="Assessment"
                Sel.MoveRight unit:=12 '12=next cell

                Sel.TypeText Text:="Target Location Error"
                Sel.MoveRight unit:=12 '12=next cell

                Do Until .EOF
Sel.TypeText Text:=!Nomination
Sel.MoveRight unit:=12 '12=next
cell
Sel.TypeText Text:=!NomTimeSent
Sel.MoveRight unit:=12 '12=next
cell
Sel.TypeText Text:=!NomTimeRcvd
Sel.MoveRight unit:=12 '12=next
cell
Sel.TypeText Text:=!Acquisition
Sel.MoveRight unit:=12 '12=next
cell
Sel.TypeText Text:=!Mensuration
Sel.MoveRight unit:=12 '12=next
cell
Sel.TypeText Text:=!GISRSTerminal
Sel.MoveRight unit:=12 '12=next
cell
Sel.TypeText Text:=!Assessment
Sel.MoveRight unit:=12 '12=next
cell
Sel.TypeText Text:=!TargetLocationError
Sel.MoveRight unit:=12 '12=next
cell
.MoveNext
Loop
WordApp.Visible = True
Set WordApp = Nothing

Else
If bText = True Then
Open App.Path & "\NomEvents.txt" For Output As #1
Print #1, "Nomination"; Chr(9); "Nomination Sent";
Chr(9); "Nomination Rcvd"; Chr(9); _
"Acquisition"; Chr(9); "Mensuration";
Chr(9); _
"GISRSTerminal"; Chr(9); "Assessment";
Chr(9); _
"TargetLocationError"; Chr(9)
Do Until .EOF
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Print #1, !Nomination; Chr(9); _
  !NomTimeSent; Chr(9); _
  !NomTimeRcvd; Chr(9); _
  !Acquisition; Chr(9); _
  !Mensuration; Chr(9); _
  !GISRSTerminal; Chr(9); _
  !Assessment; Chr(9); _
  !TargetLocationError; Chr(9)

  MoveNext
  Loop
  Close #1
  End If
  End If
  .MoveFirst
  End With
  End If
  bContinue = False
  bWord = False
  bText = False

mnuPrintErrors:
  Select Case Err.Number
  Case 94
    Sel.TypeText Text:=""
    Resume Next
  End Select
  End Sub

Private Sub txtAcquisition_Change()

  'selects correct combo box listing
  Dim iIndex As Integer
  Dim bFound As Boolean

  rsAcquisition.MoveFirst
  If txtAcquisition <> "" Then
    Do Until iIndex = rsAcquisition.RecordCount Or bFound
      If rsAcquisition!Acquisition = txtAcquisition Then
        cboAcquisition.Text = rsAcquisition!Acquisition
        bFound = True
      Else
        rsAcquisition.MoveNext
        iIndex = iIndex + 1
      End If
    End If
  End If

  173
Loop
End If

End Sub

Private Sub txtGISRS_Change()

'selects correct combo box listing
Dim iIndex As Integer
Dim bFound As Boolean

rsGISRS.MoveNext
If txtGISRS <> "" Then
    Do Until iIndex = rsGISRS.RecordCount Or bFound
        If rsGISRS!GISRSTerminal = txtGISRS Then
            cboGISRS.Text = rsGISRS!GISRSTerminal
            bFound = True
        Else
            rsGISRS.MoveNext
            iIndex = iIndex + 1
        End If
    Loop
End If

End Sub

Private Sub txtMensuration_Change()

'selects correct combo box listing
Dim iIndex As Integer
Dim bFound As Boolean

rsMensuration.MoveNext
If txtMensuration <> "" Then
    Do Until iIndex = rsMensuration.RecordCount Or bFound
        If rsMensuration!Mensuration = txtMensuration Then
            cboMensuration.Text = rsMensuration!Mensuration
            bFound = True
        Else
            rsMensuration.MoveNext
            iIndex = iIndex + 1
        End If
    Loop
End If

End Sub

*******************************************************************************
'Module:          frmObjectives.frm
'Description:     Allows user to access the objectives
'                  records for addition, deletion, and
Private Sub cmdAdd_Click()
    On Error GoTo HandleAddErrors

    If cmdAdd.Caption = "&Add" Then
        datObjectives.Recordset.AddNew
        txtObjective.Enabled = True
        txtObjective.SetFocus
        txtDescription.Enabled = True
        cmdAdd.Caption = "&Cancel"
        cmdSave.Enabled = True
        cmdDel.Enabled = False
        cmdUpdate.Enabled = False
        mnuFile.Enabled = False
        datObjectives.Enabled = False
    Else
        datObjectives.Recordset.CancelUpdate
        txtObjective.Enabled = False
        txtDescription.Enabled = False
        cmdSave.Enabled = False
        cmdDel.Enabled = True
        cmdUpdate.Enabled = True
        mnuFile.Enabled = True
        cmdAdd.Caption = "&Add"
        cmdAdd.SetFocus
        datObjectives.Enabled = True
    End If

    cmdAdd_Click_Exit:
    Exit Sub

HandleAddErrors:
    Dim stMess As String
    stMess = "Cannot complete operation. " & vbCrLf & vbCrLf & Err.Description
    MsgBox stMess, vbExclamation, "Database Error"
    On Error GoTo 0  'turn off error trapping
End Sub

Private Sub cmdDel_Click()
    'delete the current record
    Dim iResp As Integer

    On Error GoTo HandleDelErrors

    If datObjectives.Recordset.RecordCount > 0 Then
iResp = MsgBox("Delete Objective " & txtObjective.Text & "?", vbYesNo, "Delete Objective")
If iResp = vbYes Then
    With datObjectives.Recordset
        .Delete 'delete current record
        .MoveNext 'move to following record
    If .EOF Then
        .MovePrevious
        If .BOF Then
            MsgBox "The recordset is empty.", vbInformation, "No Records"
    End If
    End With
End If
Else
    MsgBox "No records to delete.", vbExclamation _
    "Delete Objective"
End If

Private Sub cmdDel_Click_Exit()
    Exit Sub
End Sub

HandleDelErrors:
    Dim stMsg As String
    stMsg = "Cannot complete operation." & vbCrLf & vbCrLf _
        & Err.Description
    MsgBox stMsg, vbExclamation, "Database Error"
    On Error GoTo 0 'turn off error trapping
End Sub

Private Sub cmdSave_Click()
    'save the current record
    Dim iResp As Integer
    On Error GoTo HandleSaveErrors
    If txtObjective <> "" And txtDescription <> "" Then
        txtObjective = UCase(txtObjective)
        iResp = MsgBox("Do you want to add " & txtObjective & _
            " to the database?", vbYesNo + vbQuestion, _
            "Add Objective")
        If iResp = vbYes Then
            datObjectives.Recordset.Update
        End If
    Else
        MsgBox "You must enter an Objective and a description before saving.", vbExclamation _
            "Add Objective"
        datObjectives.Recordset.CancelUpdate
    End If

End Private

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txtObjective.Enabled = False
txtDescription.Enabled = False
cmdSave.Enabled = False
cmdDel.Enabled = True
datObjectives.Enabled = True
mnuFile.Enabled = True
cmdAdd.Caption = "&Add"
cmdAdd.SetFocus
cmdUpdate.Enabled = True

End Sub

Private Sub cmdUpdate_Click()
    If cmdUpdate.Caption = "&Update" And _
        datObjectives.Recordset.RecordCount > 0 Then
        cmdUpdate.Caption = "Su&bmit"
        txtObjective.Enabled = True
        txtDescription.Enabled = True
        cmdDel.Enabled = False
        mnuFile.Enabled = False
        txtObjective.SetFocus
        cmdAdd.Enabled = False
        datObjectives.Enabled = False
        datObjectives.Recordset.Edit
    Else
        If datObjectives.Recordset.RecordCount > 0 Then
dataObjectives.Recordset.Update
        txtObjective.Enabled = False
    End If
txtDescription.Enabled = False
cmdDel.Enabled = True
mnuFile.Enabled = True
cmdAdd.Enabled = True
cmdAdd.SetFocus
cmdUpdate.Caption = "&Update"
dLObjectives.Enabled = True
End If
End If
End Sub

Private Sub datObjectives_Reposition()
    SetObjectiveRecordNumber
End Sub

Private Sub Form_Load()
    datObjectives.DatabaseName = gstNewDatabase
    With datObjectives
        .Refresh
        If Not .Recordset.EOF Then
            .Recordset.MoveLast
            .Recordset.MoveFirst
        End If
    End With
    SetObjectiveRecordNumber
End Sub

Private Sub Form_Unload(Cancel As Integer)
    frmMain.Show
    frmMain.Enabled = True
    Unload Me
End Sub

Private Sub mnuFileBack_Click()
    frmMain.Enabled = True
    Unload Me
End Sub

Private Sub mnuFileSearch_Click()
    datObjectives.Recordset.FindFirst "[Description] = '' & _
    InputBox("Enter the Objective", "Objective Search") & 
    ''"
    If datObjectives.Recordset.NoMatch Then
        MsgBox "Objective was not found.", vbOKOnly, "Objective Search"
datObjectives.Recordset.MoveFirst 'go to first record
End If

End Sub

Private Sub SetObjectiveRecordNumber()
Dim iRecordCount As Integer
Dim iCurrentRecord As Integer

iRecordCount = datObjectives.Recordset.RecordCount
iCurrentRecord = datObjectives.Recordset.AbsolutePosition + 1
If datObjectives.Recordset.EOF Then
    datObjectives.Caption = "No more records"
Else
    datObjectives.Caption = "Objective " & iCurrentRecord & 
        " of " & iRecordCount
End If

End Sub

******************************************************************************
'Module: frmPlatforms.frm
'Description: Allows user to access the platform
' records for addition, deletion, and modification.
'Programmer: Kevin Colón
******************************************************************************

Option Explicit

Private Sub cboPlatType_Click()
    If cboPlatType.ListIndex >= 0 Then
txtPlatTypeId = cboPlatType.Text
End If

End Sub

Private Sub cmdAddPlat_Click()

On Error GoTo HandleAddPlatErrors
If cmdAddPlat.Caption = "&Add Platform" Then

datPlatforms.Recordset.AddNew
cboPlatType.Enabled = True
cboPlatType.ListIndex = 0
txtPlatform.Enabled = True
txtPlatName.Enabled = True
txtCommander.Enabled = True
txtSpecialty.Enabled = True
txtLocation.Enabled = True

End Sub

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txtLogger.Enabled = True
txtPlatTypeEnabled = True
cmdSavePlat.Enabled = True
cmdDelPlat.Enabled = False
cmdUpdate.Enabled = False
mnuFile.Enabled = False
.cboPlatType.SetFocus
cmdAddPlat.Caption = "&Cancel"
datPlatforms.Enabled = False
Else
    datPlatforms.Recordset.CancelUpdate
    cboPlatType.Enabled = False
txtPlatName.Enabled = False
txtCommander.Enabled = False
txtSpecialty.Enabled = False
txtLocation.Enabled = False
txtLogger.Enabled = False
txtPlatType.Enabled = False
cmdSavePlat.Enabled = False
cmdDelPlat.Enabled = True
    cmdUpdate.Enabled = True
    mnuFile.Enabled = True
    cmdAddPlat.Caption = "&Add Platform"
cmdAddPlat.SetFocus
datPlatforms.Enabled = True
End If

cmdAddPlat_Click Exit:
Exit Sub

HandleAddPlatErrors:
Dim stMess As String
stMess = "Cannot complete operation. " & vbCrLf & vbCrLf _
    & Err.Description
    MsgBox stMess, vbExclamation, "Database Error"
    On Error GoTo 0 ' turn off error trapping

End Sub

Private Sub FillPlatTypeCombo()
    Dim iCount As Integer
    ' fill the PlatType combo box
    cboPlatType.Clear
    With datPlatType
    .Refresh ' open database
    iCount = .Recordset.RecordCount
    180
'fill the list
Do Until .Recordset.EOF
  If .Recordset!PlatformType <> "" Then
    cboPlatType.AddItem .Recordset!PlatformType
  End If
  .Recordset.MoveNext
Loop
End With
End Sub

Private Sub cmdDelPlat_Click()
  'delete the current record
  Dim iRes As Integer
  On Error GoTo HandleDelPlatErrors
  If datPlatforms.Recordset.RecordCount > 0 Then
    iRes = MsgBox("Delete Platform " & txtPlatform & ", " & vbYesNo,
    "Delete Platform")
    If iRes = vbYes Then
      With datPlatforms.Recordset
        .Delete 'delete current record
        .MoveNext 'move to following record
        If .EOF Then
          .MovePrevious
        If .BOF Then
          MsgBox "The recordset is empty.", vbInformation, "No Records"
        End If
      End With
    End If
  Else
    MsgBox "No records to delete.", vbExclamation_, "Delete Event"
  End If
End If

cmdDelPlat_Click_Exit:
  Exit Sub

HandleDelPlatErrors:
  Dim stMsg As String
  stMsg = "Cannot complete operation." & vbCrLf & vbCrLf & 
  & Err.Description
  MsgBox stMsg, vbExclamation, "Database Error"
  On Error GoTo 0 'turn off error trapping
End Sub

Private Sub cmdSavePlat_Click()
'save the current record

On Error GoTo HandleSavePlatformErrors
If cboPlatType.ListIndex >= 0 Then
    If txtPlatform <> "" And txtPlatName <> "" Then
datPlatforms.Recordset.Update
Else
    MsgBox "You must enter a Platform name and id before saving." _, vbExclamation, "Add Platform"
datPlatforms.Recordset.CancelUpdate
End If
Else
    MsgBox "You must select a Platform Type before saving." _, vbExclamation, "Add Platform"
datPlatforms.Recordset.CancelUpdate
End If

cboPlatType.Enabled = False
txtPlatform.Enabled = False
txtPlatName.Enabled = False
txtCommander.Enabled = False
txtSpecialty.Enabled = False
txtLocation.Enabled = False
txtLogger.Enabled = False
txtPlatTypeId.Enabled = False
cmdSavePlat.Enabled = False
cmdDelPlat.Enabled = True
cmdUpdate.Enabled = True
mnuFile.Enabled = True
cmdAddPlat.Caption = "&Add Platform"
cmdAddPlat.SetFocus

datPlatforms.Enabled = True

cmdSavePlat_Click Exit:
    Exit Sub

HandleSavePlatformErrors:
    Dim stMess As String
    Select Case Err.Number
    Case 3022    'duplicate key field
        stMess = "Record already exists -- could not save>"
        MsgBox stMess, vbExclamation, "Database Error"
        On Error GoTo 0    'turn off error trapping
    Case 3058, 3315 'no entry in key field
        stMess = "Select a platform type before saving."
        MsgBox stMess, vbExclamation, "Database Error"
        On Error GoTo 0    'turn off error trapping
    Case Else
        stMess = "Record could not be saved." & vbCrLf _
        & Err.Description
        MsgBox stMess, vbExclamation, "Database Error"
datPlatforms.Recordset.CancelUpdate
Resume Next
End Select

End Sub

Private Sub cmdUpdate_Click()
If cmdUpdate.Caption = "&Update" And _
datPlatforms.Recordset.RecordCount > 0 Then

cmdUpdate.Caption = "Submit"
cbo PlatType.Enabled = True
txtPlatform.Enabled = True
txtPlatform.SetFocus
txt PlatName.Enabled = True
txt Commander.Enabled = True
txt Specialty.Enabled = True
txt Location.Enabled = True
txt Logger.Enabled = True
txt PlatTypeId.Enabled = True
cmd DelPlat.Enabled = False
cmd AddPlat.Enabled = False
mnu File.Enabled = False
datPlatforms.Enabled = False
datPlatforms.Recordset.Edit

Else
If datPlatforms.Recordset.RecordCount > 0 Then
datPlatforms.Recordset.Update

cbo PlatType.Enabled = False
txt Platform.Enabled = False
txt PlatName.Enabled = False
txt Commander.Enabled = False
txt Specialty.Enabled = False
txt Location.Enabled = False
txt Logger.Enabled = False
txt PlatTypeId.Enabled = False
cmd DelPlat.Enabled = True
mnu File.Enabled = True
cmd AddPlat.Enabled = True
cmd AddPlat.SetFocus
cmd Update.Caption = "&Update"
datPlatforms.Enabled = True

End If
End If

End Sub

Private Sub datPlatforms_Reposition()

Set PlatformRecordNumber

End Sub
Private Sub Form_Load()
    datPlatforms.DatabaseName = gstNewDatabase
    datPlatType.DatabaseName = gstNewDatabase
    FillPlatTypeCombo
    With datPlatforms
        .Refresh
        If Not .Recordset.EOF Then
            .Recordset.MoveLast
            .Recordset.MoveFirst
        End If
    End With
    datPlatType.Refresh
    datPlatType.Recordset.MoveFirst
    SetPlatformRecordNumber
End Sub

Private Sub SetPlatformRecordNumber()
    Dim iRecordCount As Integer
    Dim iCurrentRecord As Integer
    iRecordCount = datPlatforms.Recordset.RecordCount
    iCurrentRecord = datPlatforms.Recordset.AbsolutePosition + 1
    If datPlatforms.Recordset.EOF Then
        datPlatforms.Caption = "No more records"
    Else
        datPlatforms.Caption = "Platform Record " & iCurrentRecord & _
        " of " & iRecordCount
    End If
End Sub

Private Sub mnuFileBack_Click()
    frmMain.Show
    frmMain.Enabled = True
    Unload Me
End Sub

Private Sub mnuFileSearch_Click()
    datPlatforms.Recordset.FindFirst "[PlatformId] = '" & _
    InputBox("Enter the Platform Id", "Platform Id Search")
    & "'
    If datPlatforms.Recordset.NoMatch Then
        MsgBox "Platform Id was not found.", vbOKOnly, "Platform Id Search"
        datPlatforms.Recordset.MoveFirst 'go to first record
Private Sub txtPlatTypeId_Change()
    'selects correct combo box listing
    Dim nIndex As Integer
    Dim bFound As Boolean

    datPlatType.Recordset.MoveFirst
    If txtPlatTypeId <> "" Then
        Do Until nIndex = datPlatType.Recordset.RecordCount Or bFound
            If datPlatType.Recordset!PlatformType = txtPlatTypeId Then
                cboPlatType.Text = datPlatType.Recordset!PlatformType
                bFound = True
            Else
                datPlatType.Recordset.MoveNext
                nIndex = nIndex + 1
            End If
        Loop
    Else
        cboPlatType.ListIndex = -1
    End If

End Sub

********************************************************************************
'Module:          frmPlatformsTypes.frm
'Description:     Allows user to access the platform types
'                records for addition, deletion, and
'                modification.
'Programmer:      Kevin Colón
********************************************************************************

Option Explicit

Private Sub cmdAdd_Click()
    On Error GoTo HandleAddErrors

    If cmdAdd.Caption = "&Add" Then
        datPlatTypes.Recordset.AddNew
        txtPlatformType.Enabled = True
        txtPlatformType.SetFocus
        txtDescription.Enabled = True
        cmdAdd.Caption = "&Cancel"
        cmdSave.Enabled = True
        cmdDel.Enabled = False
        cmdUpdate.Enabled = False
        mnuFile.Enabled = False
        datPlatTypes.Enabled = False
    End If

HandleAddErrors:
    Exit Sub
End Sub
Else
    datPlatTypes.Recordset.CancelUpdate
    txtPlatformType.Enabled = False
    txtDescription.Enabled = False
    cmdSave.Enabled = False
    cmdDel.Enabled = True
    cmdUpdate.Enabled = True
    mnuFile.Enabled = True
    cmdAdd.Caption = "&Add"
    cmdAdd.SetFocus
    datPlatTypes.Enabled = True
End If

cmdAdd_Click_Exit:
    Exit Sub

HandleAddErrors:
    Dim stMess As String
    stMess = "Cannot complete operation. " & vbCrLf & vbCrLf & Err.Description
    MsgBox stMess, vbExclamation, "Database Error"
    On Error GoTo 0  ' turn off error trapping
End Sub

Private Sub cmdDel_Click()
    ' delete the current record
    Dim iResp As Integer
    On Error GoTo HandleDelErrors

    If datPlatTypes.Recordset.RecordCount > 0 Then
        iResp = MsgBox("Delete Platform " & txtPlatformType.Text & "?", vbYesNo, "Delete Platform")
        If iResp = vbYes Then
            With datPlatTypes.Recordset
                .Delete  ' delete current record
                .MoveNext  ' move to following record
                If .EOF Then
                    .MovePrevious
                    If .BOF Then
                        MsgBox "The recordset is empty.",
                        vbInformation, "No Records"
                        End If
                    End If
                End With
            End If
        Else
            MsgBox "No records to delete.", vbExclamation _
                , "Delete Platform"
        End If
    End If
End Sub

End Sub

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Exit Sub

HandleDelErrors:
    Dim stMsg As String
    stMsg = "Cannot complete operation." & vbCrLf & vbCrLf & Err.Description
    MsgBox stMsg, vbExclamation, "Database Error"
On Error GoTo 0 'turn off error trapping
End Sub

Private Sub cmdSave_Click()
    'save the current record
    Dim iResp As Integer

    On Error GoTo HandleSaveErrors
    If txtPlatformType.Text <> "" Then
        txtPlatformType.Text = UCase(txtPlatformType.Text)
        iResp = MsgBox("Do you want to add " & txtPlatformType.Text & " to the database?", vbYesNo + vbQuestion, "Add Platform")
        If iResp = vbYes Then
            dat PlatTypes.Recordset.Update
        End If
    Else
        MsgBox "You must enter a Platform type before saving.",
        vbExclamation
        dat PlatTypes.Recordset.CancelUpdate
    End If

    txtPlatformType.Enabled = False
    txtDescription.Enabled = False
    cmdSave.Enabled = False
    cmdDel.Enabled = True
    dat PlatTypes.Enabled = True
    mnuFile.Enabled = True
    cmdAdd.Caption = "&Add"
    cmdAdd.SetFocus
    cmdUpdate.Enabled = True

    cmdSave_Click_Exit:
    Exit Sub

HandleSaveErrors:
    Dim stMess As String
    Select Case Err.Number
    Case 3022 'duplicate key field
        stMess = "Record already exists -- could not save>"
    MsgBox stMess, vbExclamation, "Database Error"
    On Error GoTo 0 'turn off error trapping

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Case 3058, 3315 'no entry in key field
    stMess = "Enter a Platform type before saving."
    MsgBox stMess, vbExclamation, "Database Error"
    On Error GoTo 0 'turn off error trapping

Case Else
    stMess = "Record could not be saved." & vbCrLf & Err.Description
    MsgBox stMess, vbExclamation, "Database Error"
    datPlatTypes.Recordset.CancelUpdate
    Resume Next
End Select
End Sub

Private Sub cmdUpdate_Click()
    If cmdUpdate.Caption = "&Update" And _
        datPlatTypes.Recordset.RecordCount > 0 Then
        cmdUpdate.Caption = "Submits"
        txtPlatformType.Enabled = True
        txtDescription.Enabled = True
        cmdDel.Enabled = False
        mnuFile.Enabled = False
        txtPlatformType.SetFocus
        cmdAdd.Enabled = False
        datPlatTypes.Enabled = False
        datPlatTypes.Recordset.Edit
    Else
        If datPlatTypes.Recordset.RecordCount > 0 Then
            datPlatTypes.Recordset.Update
            txtPlatformType.Enabled = False
            txtDescription.Enabled = False
            cmdDel.Enabled = True
            mnuFile.Enabled = True
            cmdAdd.Enabled = True
            cmdAdd.SetFocus
            cmdUpdate.Caption = "&Update"
            datPlatTypes.Enabled = True
        End If
    End If
End Sub

Private Sub datPlattypes_Reposition()
    SetPlatformRecordNumber
End Sub

Private Sub Form_Load()
    datPlatTypes.DatabaseName = gstNewDatabase
End Sub

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With datPlatTypes
    .Refresh
    If Not .Recordset.EOF Then
        .Recordset.MoveNext
        .Recordset.MoveFirst
    End If
End With
SetPlatformRecordNumber
End Sub

Private Sub Form_Unload(Cancel As Integer)
    frmMain.Enabled = True
    Unload Me
End Sub

Private Sub mnuFileBack_Click()
    frmMain.Enabled = True
    Unload Me
End Sub

Private Sub mnuFileSearch_Click()
    datPlatTypes.Recordset.FindFirst "[PlatformType] = '' & _
        InputBox("Enter the Platform Type", "Platform Type Search") & "'
    If datPlatTypes.Recordset.NoMatch Then
        MsgBox "Platform Type was not found.", vbOKOnly, "Platform Type Search"
    datPlatTypes.Recordset.MoveFirst 'go to first record
End If
End Sub

Private Sub SetPlatformRecordNumber()
    Dim iRecordCount As Integer
    Dim iCurrentRecord As Integer

    iRecordCount = datPlatTypes.Recordset.RecordCount
    iCurrentRecord = datPlatTypes.Recordset.AbsolutePosition + 1
    If datPlatTypes.Recordset.EOF Then
        datPlatTypes.Caption = "No more records"
    Else
        datPlatTypes.Caption = "Platform " & iCurrentRecord & _
            " of " & iRecordCount
    End If
End Sub
Option Explicit

Private Sub cmdCancel_Click()
    Unload Me
End Sub

Private Sub cmdOK_Click()
    bContinue = True
    If Option1.Value = True Then
        bWord = True
    Else
        If Option2.Value = True Then
            bText = True
        End If
    End If
    Unload Me
End Sub

Option Explicit

Dim rsPlatform As Recordset
Dim strSQL As String

Private Sub cboPlatform_Click()
    If cboPlatform.ListIndex >= 0 Then
        txtPlatform = cboPlatform.Text
    End If
End Sub
Private Sub cmdAdd_Click()
    On Error GoTo HandleAddErrors
    If cmdAdd.Caption = "&Add" Then
        datPTW.Recordset.AddNew
        txtTerminal.Enabled = True
        txtTerminal.SetFocus
        txtFunction.Enabled = True
        cboPlatform.Enabled = True
        cmdAdd.Caption = "&Cancel"
        cmdSave.Enabled = True
        cmdDel.Enabled = False
        cmdUpdate.Enabled = False
        mnuFile.Enabled = False
        datPTW.Enabled = False
    Else
        datPTW.Recordset.CancelUpdate
        txtTerminal.Enabled = False
        txtFunction.Enabled = False
        cboPlatform.Enabled = False
        cmdSave.Enabled = False
        cmdDel.Enabled = True
        cmdUpdate.Enabled = True
        mnuFile.Enabled = True
        cmdAdd.Caption = "&Add"
        cmdAdd.SetFocus
        datPTW.Enabled = True
    End If

    cmdAdd_Click_Exit:
    Exit Sub

    HandleAddErrors:
    Dim stMess As String
    stMess = "Cannot complete operation. " & vbCrLf & vbCrLf & Err.Description
    MsgBox stMess, vbExclamation, "Database Error"
    On Error GoTo 0  'turn off error trapping

End Sub

Private Sub cmdDel_Click()
    'delete the current record
    Dim iResp As Integer

    On Error GoTo HandleDelErrors

    If datPTW.Recordset.RecordCount > 0 Then
        iResp = MsgBox("Delete Terminal " & txtTerminal.Text & "?", vbYesNo, "Delete Terminal")
        If iResp = vbYes Then
            With datPTW.Recordset
.Delete 'delete current record
.MoveNext 'move to following record
If .EOF Then
    .MovePrevious
    If .BOF Then
        MsgBox "The recordset is empty.", vbInformation, "No Records"
    End If
End If
End With
End If
Else
    MsgBox "No records to delete.", vbExclamation _, "Delete Terminal"
End If

cmdDel_Click_Exit:
    Exit Sub

HandleDelErrors:
    Dim stMsg As String

    stMsg = "Cannot complete operation." & vbCrLf & vbCrLf _
            & Err.Description
    MsgBox stMsg, vbExclamation, "Database Error"
    On Error GoTo 0 'turn off error trapping

End Sub

Private Sub cmdSave_Click()
    'save the current record
    Dim iResp As Integer
    On Error GoTo HandleSaveErrors
    If txtTerminal.Text <> "" Then
        txtTerminal.Text = UCase(txtTerminal.Text)
        iResp = MsgBox("Do you want to add " & txtTerminal.Text & _
                       " to the database?", vbYesNo + vbQuestion, _
                       "Add Terminal")
        If iResp = vbYes Then
            datPTW.Recordset.Update
        End If
    Else
        MsgBox "You must enter a Terminal before saving.", vbExclamation _, "Add Terminal"
        datPTW.Recordset.CancelUpdate
    End If
    txtTerminal.Enabled = False
    txtFunction.Enabled = False
    cboPlatform.Enabled = False
    cmdSave.Enabled = False
cmdDel.Enabled = True
datPTW.Enabled = True
mnuFile.Enabled = True
cmdAdd.Caption = "&Add"
cmdAdd.SetFocus
cmdUpdate.Enabled = True

cmdSave_Click Exit:
Exit Sub

HandleSaveErrors:
Dim stMess As String
Select Case Err.Number
Case 3022 'duplicate key field
    stMess = "Record already exists -- could not save."
    MsgBox stMess, vbExclamation, "Database Error"
    On Error GoTo 0 'turn off error trapping

Case 3058, 3315 'no entry in key field
    stMess = "Enter a location before saving."
    MsgBox stMess, vbExclamation, "Database Error"
    On Error GoTo 0 'turn off error trapping

Case Else
    stMess = "Record could not be saved." & vbCrLf & vbCrLf _ & Err.Description
    MsgBox stMess, vbExclamation, "Database Error"
datPTW.Recordset.CancelUpdate
    Resume Next
End Select

End Sub

Private Sub cmdUpdate_Click()
    If cmdUpdate.Caption = "&Update" And _
        datPTW.Recordset.RecordCount > 0 Then

        cmdUpdate.Caption = "Submit"
        txtTerminal.Enabled = True
        txtFunction.Enabled = True
        cboPlatform.Enabled = True
        cmdDel.Enabled = False
        mnuFile.Enabled = False
        txtTerminal.SetFocus
        cmdAdd.Enabled = False
        datPTW.Enabled = False
        datPTW.Recordset.Edit
    Else
        If datPTW.Recordset.RecordCount > 0 Then
            txtTerminal = UCase(txtTerminal)
            datPTW.Recordset.Update

            txtTerminal.Enabled = False
            txtFunction.Enabled = False
cboPlatform.Enabled = False
cmdDel.Enabled = True
mnuFile.Enabled = True
cmdAdd.Enabled = True
cmdAdd.SetFocus
cmdUpdate.Caption = "&Update"
datPTW.Enabled = True
End If
End If
End Sub

Private Sub datPTW_Reposition()
    SetTerminalRecordNumber
End Sub

Private Sub FillPlatformCombo()
    Dim iCount As Integer
    'fill the PlatType combo box
cboPlatform.Clear

    With rsPlatform
        iCount = .RecordCount
        'fill the list
        Do Until .EOF
            If !Platform <> "" Then
                cboPlatform.AddItem !Platform
            End If
            .MoveNext
        Loop
    End With
End Sub

Private Sub Form_Load()
    datPTW.DatabaseName = gstNewDatabase
    strSQL = "Select Platform from Platform"
    Set rsPlatform = db.OpenRecordset(strSQL)
    FillPlatformCombo
    With datPTW
        .Refresh
        If Not .Recordset.EOF Then
            .Recordset.MoveNext
    End Sub
Recordset.MoveNext
End If
End With
SetTerminalRecordNumber
End Sub

Private Sub Form_Unload(Cancel As Integer)
    frmMain.Enabled = True
    Unload Me
End Sub

Private Sub mnuFileBack_Click()
    frmMain.Enabled = True
    Unload Me
End Sub

Private Sub mnuFileSearch_Click()
    datPTW.Recordset.FindFirst "[PTWTerminal] = ' ' & _
        InputBox("Enter the PTW Terminal", "PTW Terminal Search") & ' '"
    If datPTW.Recordset.NoMatch Then
        MsgBox "PTW Terminal was not found.", vbOKOnly, "PTW Terminal Search"
        datPTW.Recordset.MoveFirst "go to first record
    End If
End Sub

Private Sub SetTerminalRecordNumber()
    Dim iRecordCount As Integer
    Dim iCurrentRecord As Integer

    iRecordCount = datPTW.Recordset.RecordCount
    iCurrentRecord = datPTW.Recordset.AbsolutePosition + 1
    If datPTW.Recordset.EOF Then
        datPTW.Caption = "No more records"
    Else
        datPTW.Caption = "Terminal " & iCurrentRecord & _
            " of " & iRecordCount
    End If
End Sub

Private Sub txtPlatform_Change()
    'selects correct combo box listing
    Dim iIndex As Integer

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Dim bFound As Boolean

   rsPlatform.MoveNext
   If txtPlatform <> "" Then
      Do Until iIndex = rsPlatform.RecordCount Or bFound
         If rsPlatform!Platform = txtPlatform Then
            cboPlatform.Text = rsPlatform!Platform
            bFound = True
         Else
            rsPlatform.MoveNext
            iIndex = iIndex + 1
         End If
      Loop
   Else
      cboPlatform.ListIndex = -1
   End If

   End Sub

******************************************************************************
'Module:    frmQueries.frm
'Description: Contains predefined queries that filter
'    acquisitions and targets based on a parameter
'    selected by the user.
'Programmer: Kevin Colón
******************************************************************************

Option Explicit
Dim Index As Integer

Private Sub cmdCancel_Click()

   frmMain.Enabled = True
   Unload Me

End Sub

Private Sub cmdSubmit_Click()

   frmQueryOutput.Show
   Me.Enabled = False

End Sub

Private Sub Form_Load()

datPlatforms.DatabaseName = gstNewDatabase
datSensTypes.DatabaseName = gstNewDatabase
datWeaponTypes.DatabaseName = gstNewDatabase
datThreatTypes.DatabaseName = gstNewDatabase

'fill the Platform combo box
FillPlatforms
'fill the Sensor combo box
FillSensTypes

'fill the Threat combo box
FillThreatTypes

'fill the Weapon combo box
FillWeaponTypes

End Sub

Private Sub FillPlatforms()

cboPlatforms1.Clear
cboPlatforms2.Clear

With datPlatforms
  .Refresh 'open database
  'fill the list
  Do Until .Recordset.EOF 'until no more records in recordset
    If .Recordset!Platform <> "" Then
      cboPlatforms1.AddItem .Recordset!Platform
      cboPlatforms2.AddItem .Recordset!Platform

    End If
    .Recordset.MoveNext
  Loop
End With

End Sub

Private Sub FillSensTypes()

cboSensTypes1.Clear
cboSensTypes2.Clear

With datSensTypes
  .Refresh 'open database
  'fill the list
  Do Until .Recordset.EOF
    If .Recordset!SensorType <> "" Then
      cboSensTypes1.AddItem .Recordset!SensorType
      cboSensTypes2.AddItem .Recordset!SensorType

    End If
    .Recordset.MoveNext
  Loop
End With

End Sub

Private Sub FillThreatTypes()

cboThreatTypes.Clear
With datThreatTypes
    .Refresh 'open database 'fill the list
    Do Until .Recordset.EOF
        If .Recordset!ThreatType <> "" Then
            cboThreatTypes.AddItem .Recordset!ThreatType
        End If
        .Recordset.MoveNext
    Loop
End With

End Sub

Private Sub FillWeaponTypes()
    cboWeaponTypes.Clear

    With datWeaponTypes
        .Refresh 'open database 'fill the list
        Do Until .Recordset.EOF
            If .Recordset!WeaponType <> "" Then
                cboWeaponTypes.AddItem .Recordset!WeaponType
            End If
            .Recordset.MoveNext
        Loop
    End With

End Sub

Private Sub Form_Unload(Cancel As Integer)
    frmMain.Enabled = True
   Unload Me
End Sub

Private Sub Label1_Click()
    optQuery(0).Value = True
End Sub

Private Sub Label10_Click()
    optQuery(9).Value = True
End Sub

Private Sub Label11_Click()
    optQuery(2).Value = True
End Sub

Private Sub Label2_Click()
optQuery(1).Value = True
End Sub

Private Sub Label3_Click()
    optQuery(2).Value = True
End Sub

Private Sub Label4_Click()
    optQuery(3).Value = True
End Sub

Private Sub Label5_Click()
    optQuery(4).Value = True
End Sub

Private Sub Label6_Click()
    optQuery(5).Value = True
End Sub

Private Sub Label7_Click()
    optQuery(6).Value = True
End Sub

Private Sub Label8_Click()
    optQuery(7).Value = True
End Sub

Private Sub Label9_Click()
    optQuery(8).Value = True
End Sub

Private Sub mnuFileBack_Click()
    frmMain.Enabled = True
    Unload Me
End Sub

Private Sub optQuery_Click(Index As Integer)
Select Case Index
Case 0
  cboPlatforms1.Enabled = True
cboSensTypes1.Enabled = False
cboPlatforms2.Enabled = False
cboSensTypes2.Enabled = False
cboWeaponTypes.Enabled = False
cboThreatTypes.Enabled = False
Case 1
  cboPlatforms1.Enabled = False
cboSensTypes1.Enabled = True
cboPlatforms2.Enabled = False
cboSensTypes2.Enabled = False
cboWeaponTypes.Enabled = False
cboThreatTypes.Enabled = False
Case 2
  cboPlatforms1.Enabled = False
cboSensTypes1.Enabled = False
cboPlatforms2.Enabled = True
cboSensTypes2.Enabled = True
cboWeaponTypes.Enabled = False
cboThreatTypes.Enabled = False
Case 3
  cboPlatforms1.Enabled = False
cboSensTypes1.Enabled = False
cboPlatforms2.Enabled = False
cboSensTypes2.Enabled = False
cboWeaponTypes.Enabled = True
cboThreatTypes.Enabled = False
Case 4
  cboPlatforms1.Enabled = False
cboSensTypes1.Enabled = False
cboPlatforms2.Enabled = False
cboSensTypes2.Enabled = False
cboWeaponTypes.Enabled = False
cboThreatTypes.Enabled = True
Case 5
  cboPlatforms1.Enabled = False
cboSensTypes1.Enabled = False
cboPlatforms2.Enabled = False
cboSensTypes2.Enabled = False
cboWeaponTypes.Enabled = False
cboThreatTypes.Enabled = False
Case 6
  cboPlatforms1.Enabled = False
cboSensTypes1.Enabled = False
cboPlatforms2.Enabled = False
cboSensTypes2.Enabled = False
cboWeaponTypes.Enabled = False
cboThreatTypes.Enabled = False

Case 7
    cboPlatforms1.Enabled = False
cboSensTypes1.Enabled = False
cboPlatforms2.Enabled = False
cboSensTypes2.Enabled = False
cboWeaponTypes.Enabled = False
cboThreatTypes.Enabled = False

Case 8
    cboPlatforms1.Enabled = False
cboSensTypes1.Enabled = False
cboPlatforms2.Enabled = False
cboSensTypes2.Enabled = False
cboWeaponTypes.Enabled = False
cboThreatTypes.Enabled = False

Case 9
    cboPlatforms1.Enabled = False
cboSensTypes1.Enabled = False
cboPlatforms2.Enabled = False
cboSensTypes2.Enabled = False
cboWeaponTypes.Enabled = False
cboThreatTypes.Enabled = False

End Select

End Sub

*******************************************************************************
' Module:         frmQueryOutput.frm
' Description:   Displays the results from the query executed
                 from the Queries form (frmQueries)
' Programmer:    Kevin Colon
*******************************************************************************

Option Explicit

Private Sub Form_Load()
    Dim strSQL As String
    Dim stPrev As String
    Dim RS As Recordset
    Dim iIndex As Integer
    Dim iRecord As Integer
    Dim rsNominations As Recordset
    Dim rsTargets As Recordset
    Dim stNoms As String
    Dim stTargets As String
    Dim bFound As Boolean

    datQuery.DatabaseName = gstNewDatabase

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'Query by platform used for detection
If frmQueries.optQuery(0).Value = True Then
  stSQL = "Select * from Acquisition" & _
  "Where Acquisition.AcqPlatform = " & _
  frmQueries.cboPlatforms1.Text & ""
Set RS = db.OpenRecordset(stSQL)
FlexOutput.FormatString = "Record|Acquisition Event|Track
Id|Platform|Time of Acquisition"
Do Until RS.EOF
  iRecord = iRecord + 1
  FlexOutput.AddItem iRecord & vbTab & RS!Acquisition & vbTab
  & _
  RS!TrackId & vbTab & RS!AcqPlatform & vbTab &
  RS!AcqTime
  RS.MoveNext
Loop
End If

'Query by sensor used for detection
If frmQueries.optQuery(1).Value = True Then
  stSQL = "Select * from Acquisition, SensorType" & _
  "Where Acquisition.AcqSensorType = " & _
  frmQueries.cboSensTypes1.Text & _
  " And SensorType.SensorType = " & _
  frmQueries.cboSensTypes1.Text & ""
Set RS = db.OpenRecordset(stSQL)
FlexOutput.FormatString = "Record|Acquisition Event|Track
Id|Sensor Type|Time of Acquisition"
Do Until RS.EOF
  iRecord = iRecord + 1
  FlexOutput.AddItem iRecord & vbTab & RS!Acquisition & vbTab
  & _
  RS!TrackId & vbTab &
  & frmQueries.cboSensTypes1.Text & vbTab & RS!AcqTime
  RS.MoveNext
Loop
End If

'Query by sensor and platform detection
If frmQueries.optQuery(2).Value = True Then
  stSQL = "Select * from Acquisition, SensorType" & _
  "Where Acquisition.AcqSensorType = " & _
  frmQueries.cboSensTypes2.Text & _
  "And SensorType.SensorType = " & _
  frmQueries.cboSensTypes2.Text & ""
Set RS = db.OpenRecordset(stSQL)
FlexOutput.FormatString = "Record|Acquisition Event|Track
Id|Sensor Type|Time of Acquisition"
Do Until RS.EOF
  iRecord = iRecord + 1
  FlexOutput.AddItem iRecord & vbTab & RS!Acquisition & vbTab
  & _
  RS!TrackId & vbTab &
  & frmQueries.cboSensTypes2.Text & vbTab & RS!AcqTime
  RS.MoveNext
Loop
End If
" And Acquisition.AcqPlatform = '" & _
frmQueries.cboPlatforms2.Text & _
" And SensorType.SensorType = '" & _
frmQueries.cboSensTypes2.Text & ""

Set RS = db.OpenRecordset(stSQL)

FlexOutput.FormatString = "Record\AcqPlatform\Sensor Type\Time of Acquisition"
Do Until RS.EOF
    iRecord = iRecord + 1
    FlexOutput.AddItem iRecord & vbTab & RS!Acquisition & vbTab & _
    & RS!TrackId & vbTab & _
    & RS!AcqPlatform & vbTab & _
    & frmQueries.cboSensTypes2.Text & vbTab & RS!AcqTime
    RS.MoveNext
Loop
End If

'Query by weapon used
If frmQueries.optQuery(3).Value = True Then
    stSQL = "Select * from Target, WeaponType & _
    "Where Target.WeaponType = '" & _
    & frmQueries.cboWeaponTypes.Text & _
    "' And WeaponType.WeaponType = '" & _
    & frmQueries.cboWeaponTypes.Text & ""

Set RS = db.OpenRecordset(stSQL)
    FlexOutput.FormatString = "Record\Target Id\Time Target Designated\Sensor Type\NLT Time"
    Do Until RS.EOF
        iRecord = iRecord + 1
        FlexOutput.AddItem iRecord & vbTab & RS!TargetId & vbTab & _
        & RS!TimeofDesignation & _
        & vbTab & frmQueries.cboWeaponTypes.Text & vbTab & _
        & RS!TargetNLTTime
        RS.MoveNext
    Loop
End If

'Query by threat types detected
If frmQueries.optQuery(4).Value = True Then
    stSQL = "Select * from Acquisition, ThreatType & _
    "Where Acquisition.ThreatType = '" & _
    & frmQueries.cboThreatTypes.Text & _
    "' And ThreatType.ThreatType = '" & _
    & frmQueries.cboThreatTypes.Text & ""

Set RS = db.OpenRecordset(stSQL)

    FlexOutput.FormatString = "Record\Acquisition Event\Track Id\Threat Type\Time of Acquisition"

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Do Until RS.EOF
    iRecord = iRecord + 1
    FlexOutput.AddItem iRecord & vbTab & RS!Acquisition & vbTab & RS!TrackId & vbTab &
    & frmQueries.cboThreatTypes.Text & vbTab & RS!AcqTime
    RS.MoveNext
Loop
End If

'Average time acquisition to mensuration
If frmQueries.optQuery(5).Value = True Then
End If

'Average time fire command to fire event
If frmQueries.optQuery(6).Value = True Then
End If

'Nominations accepted as targets
If frmQueries.optQuery(7).Value = True Then
    stSQL = "SELECT Nomination.Nomination, Target.TargetId, Target.Description, " & _
    "Nomination.Acquisition, Nomination.Mensuration " & _
    "From Nomination, Target " & _
    "WHERE Nomination.Nomination = Target.Nomination"
    Set RS = db.OpenRecordset(stSQL)
    FlexOutput.FormatString = "Record|Nomination |Target Id|Description |Acquisition |Mensuration ">
    FlexOutput.Clear
    iRecord = 1
    Do Until RS.EOF
        FlexOutput.AddItem iRecord & vbTab & RS!Nomination & vbTab &
        & _
        RS!TargetId & vbTab & RS!Description & vbTab &
        RS!Acquisition & _
        & vbTab & RS!Mensuration
        stPrev = RS!Nomination
        RS.MoveNext
        If Not RS.EOF Then
            If stPrev <> RS!Nomination Then
                iRecord = iRecord + 1
            End If
        End If
    Loop
End If

' Nominations declined as targets
If frmQueries.optQuery(8).Value = True Then
    stNoms = "Select * " & _
        "From Nomination"
    stTargets = "Select * " & _
        "From Target"
    Set rsNominations = db.OpenRecordset(stNoms)
    Set rsTargets = db.OpenRecordset(stTargets)
    datQuery.DatabaseName = gstNewDatabase

    rsNominations.MoveFirst

    iRecord = 1
    .FlexOutput.FormatString = "Record|Nomination |Acquisition|Mensuration|GISRSTerminal |Assessment"

    Do Until rsNominations.EOF
        rsTargets.MoveFirst
        Do Until rsTargets.EOF Or bFound = True
            If rsTargets!Nomination = rsNominations!Nomination
                Then
                    bFound = True
            Else
                rsTargets.MoveNext
            End If
        Loop
    With rsNominations
        If bFound = False Then
            FlexOutput.AddItem iRecord & vbTab & _
                !Nomination & vbTab & _
                !Acquisition & vbTab & !Mensuration & vbTab
                & !GISRSTerminal & _
                vbTab & !Assessment
            iRecord = iRecord + 1
        End If
    End With
    bFound = False
End If

'Targets fired upon (impacts)
If frmQueries.optQuery(9).Value = True Then
    stSQL = "Select Impact.Impact, Target.TargetId, Target.Description, " & _
        " & _

"Impact.ImpactTime, Impact.BDA " & _
"From Impact, Fire, FireCommand, Target " & _
"Where Fire.Fire = Impact.FireEvent " & _
"And FireCommand.FireCommand = Fire.FireCommand " & _
"And Target.TargetId = FireCommand.TargetId"
Set RS = db.OpenRecordset(stSQL)
FlexOutput.FormatString = "Record|Impact |Target Id|Description
|" & _
"Firer Platform |Rounds|Fire Time
|" & _
"Impact Time |BDA

iRecord = 1
Do Until RS.EOF
FlexOutput.AddItem iRecord & vbTab & RS!Impact & vbTab & _
RS!TargetId & vbTab & RS!Description & vbTab &
RS!Platform & _
vbTab & RS!RoundsFired & vbTab & RS!FireTime & vbTab &
RS!ImpactTime & vbTab & RS!BDA
RS.MoveNext
iRecord = iRecord + 1
Loop
End If
End Sub

Private Sub Form_Unload(Cancel As Integer)
    frmQueries.Enabled = True
    Unload Me
End Sub

Private Sub mnuFileBack_Click()
    frmQueries.Enabled = True
    Unload Me
End Sub

'****************************************************************************
'Module:        frmQuestions.frm
'Description:   Allows user to access the questions
'               records for addition, deletion, and
'               modification.
'Programmer:    Kevin Colón
****************************************************************************
Option Explicit

Private Sub cmdAdd_Click()
    On Error GoTo HandleAddErrors

    If cmdAdd.Caption = "&Add" Then
        datQuestions.Recordset.AddNew
        txtQuestion.Enabled = True
        txtDescription.Enabled = True
        cmdAdd.Caption = "&Cancel"
        cmdSave.Enabled = True
        cmdDel.Enabled = False
        cmdUpdate.Enabled = False
        mnuFile.Enabled = False
        datQuestions.Enabled = False
    Else
        datQuestions.Recordset.CancelUpdate
        txtQuestion.Enabled = False
        txtDescription.Enabled = False
        cmdSave.Enabled = False
        cmdDel.Enabled = True
        cmdUpdate.Enabled = True
        mnuFile.Enabled = True
        cmdAdd.Caption = "&Add"
        cmdAdd.SetFocus
    End If

    cmdAdd_Click_Exit:
    Exit Sub

HandleAddErrors:
    Dim stMess As String
    stMess = "Cannot complete operation. " & vbCrLf & vbCrLf & Err.Description
    MsgBox stMess, vbExclamation, "Database Error"
    On Error GoTo 0 ' turn off error trapping

End Sub

Private Sub cmdDel_Click()
    ' delete the current record
    Dim iResp As Integer

    On Error GoTo HandleDelErrors

    If datQuestions.Recordset.RecordCount > 0 Then
        iResp = MsgBox("Delete Question " & txtQuestion.Text & "?", vbYesNo, "Delete Question")
        If iResp = vbYes Then
            With datQuestions.Recordset
                .Delete
            End With
        End If
    End If
.Delete 'delete current record
.MoveNext 'move to following record
If .EOF Then
  .MovePrevious
If .BOF Then
  MsgBox "The recordset is empty.", vbInformation, "No Records"
End If
End If
End With
End If
Else
  MsgBox "No records to delete.", vbExclamation, "Delete Question"
End If

cmdDel_Click Exit:
Exit Sub

HandleDelErrors:
  Dim stMsg As String
  stMsg = "Cannot complete operation." & vbCrLf & vbCrLf & Err.Description
  MsgBox stMsg, vbExclamation, "Database Error"
On Error GoTo 0 'turn off error trapping
End Sub

Private Sub cmdSave_Click()
  'save the current record
  Dim iResp As Integer

  On Error GoTo HandleSaveErrors
  If txtQuestion <> "" And txtDescription <> "" Then
    txtQuestion = UCase(txtQuestion)
    iResp = MsgBox("Do you want to add " & txtQuestion & vbCrLf & vbCrLf & " to the database?", vbYesNo + vbQuestion, "Add Question")
    If iResp = vbYes Then
      datQuestions.Recordset.Update
    End If
  Else
    MsgBox "You must enter an Question and a description before saving.", vbExclamation, "Add Question"
    datQuestions.Recordset.CancelUpdate
  End If

  txtQuestion.Enabled = False
  txtDescription.Enabled = False
  cmdSave.Enabled = False
  cmdDel.Enabled = True
End Sub
datQuestions.Enabled = True
mnuFile.Enabled = True
cmdAdd.Caption = "&Add"
cmdAdd.SetFocus
cmdUpdate.Enabled = True

cmdSave_Click Exit:
Exit Sub

HandleSaveErrors:
Dim stMess As String
Select Case Err.Number
  Case 3022  'duplicate key field
    stMess = "Record already exists -- could not save>"
    MsgBox stMess, vbExclamation, "Database Error"
    On Error GoTo 0  'turn off error trapping
  Case 3058, 3315  'no entry in key field
    stMess = "Enter a Question name before saving."
    MsgBox stMess, vbExclamation, "Database Error"
    On Error GoTo 0  'turn off error trapping
  Case Else
    stMess = "Record could not be saved." & vbCrLf & Err.Description
    MsgBox stMess, vbExclamation, "Database Error"
datQuestions.Recordset.CancelUpdate
    Resume Next
End Select

End Sub

Private Sub cmdUpdate_Click()
  If cmdUpdate.Caption = "&Update" And _
    datQuestions.Recordset.RecordCount > 0 Then
    cmdUpdate.Caption = "Su&bmit"
    txtQuestion.Enabled = True
    txtDescription.Enabled = True
    cmdDel.Enabled = False
    mnuFile.Enabled = False
    txtQuestion.SetFocus
    cmdAdd.Enabled = False
    datQuestions.Enabled = False
    datQuestions.Recordset.Edit
  Else
    If datQuestions.Recordset.RecordCount > 0 Then
      datQuestions.Recordset.Update
    txtQuestion.Enabled = False
    txtDescription.Enabled = False
    cmdDel.Enabled = True
    mnuFile.Enabled = True
    cmdAdd.Enabled = True
  End If
End Sub
cmdAdd.SetFocus
cmdUpdate.Caption = "/Update"
datQuestions.Enabled = True
End If
End If

End Sub.

Private Sub datQuestions_Reposition()
    SetQuestionRecordNumber
End Sub

Private Sub Form_Load()
    datQuestions.DatabaseName = gstNewDatabase

    With datQuestions
        .Refresh
        If Not .Recordset.EOF Then
            .Recordset.MoveNext
            .Recordset.MoveFirst
        End If
    End With
    SetQuestionRecordNumber

End Sub

Private Sub Form_Unload(Cancel As Integer)
    frmMain.Show
    frmMain.Enabled = True
    Unload Me
End Sub

Private Sub mnuFileBack_Click()
    frmMain.Enabled = True
    Unload Me
End Sub

Private Sub mnuFileSearch_Click()

    datQuestions.Recordset.FindFirst "[Question] = " & _
    InputBox("Enter the Question", "Question Search") & ""

    If datQuestions.Recordset.NoMatch Then
        MsgBox "Question was not found.", vbOKOnly, "Question Search"
        datQuestions.Recordset.MoveFirst ' go to first record
    End If

End Sub
Private Sub SetQuestionRecordNumber()
    Dim iRecordCount As Integer
    Dim iCurrentRecord As Integer

    iRecordCount = datQuestions.Recordset.RecordCount
    iCurrentRecord = datQuestions.Recordset.AbsolutePosition + 1
    If datQuestions.Recordset.EOF Then
        datQuestions.Caption = "No more records"
    Else
        datQuestions.Caption = "Question " & iCurrentRecord & 
                             " of " & iRecordCount
    End If
End Sub

******************************************************************************************
'Module:    frmQuestions.frm
'Description: Allows user to access the questions
'             records for addition, deletion, and
'             modification.
'Programmer: Kevin Colón
******************************************************************************************

Option Explicit

Private Sub cmdAdd_Click()
    On Error GoTo HandleAddErrors

    If cmdAdd.Caption = "&Add" Then
        datQuestions.Recordset.AddNew
        txtQuestion.Enabled = True
        txtQuestion.SetFocus
        txtDescription.Enabled = True
        cmdAdd.Caption = "&Cancel"
        cmdSave.Enabled = True
        cmdDel.Enabled = False
        cmdUpdate.Enabled = False
        mnuFile.Enabled = False
        datQuestions.Enabled = False

    Else
        datQuestions.Recordset.CancelUpdate
        txtQuestion.Enabled = False
        txtDescription.Enabled = False
        cmdSave.Enabled = False
        cmdDel.Enabled = True
        cmdUpdate.Enabled = True
        mnuFile.Enabled = True
        cmdAdd.Caption = "&Add"
        cmdAdd.SetFocus
        datQuestions.Enabled = True

    End If

HandleAddErrors:

cmdAdd_Click_Exit:
    Exit Sub

HandleAddErrors:
    Dim stMess As String
    stMess = "Cannot complete operation. " & vbCrLf & vbCrLf & Err.Description
    MsgBox stMess, vbExclamation, "Database Error"
    On Error GoTo 0  'turn off error trapping

End Sub

Private Sub cmdDel_Click()
    'delete the current record
    Dim iResp As Integer

    On Error GoTo HandleDelErrors

    If datQuestions.Recordset.RecordCount > 0 Then
        iResp = MsgBox("Delete Question " & txtQuestion.Text & "?",
                        vbYesNo, "Delete Question")
        If iResp = vbYes Then
            With datQuestions.Recordset
                .Delete  'delete current record
                .MoveNext   'move to following record
                If .EOF Then
                    .MovePrevious
                If .BOF Then
                    MsgBox "The recordset is empty. ",
                        vbInformation, "No Records"
                End If
            End With
        End If
    Else
        MsgBox "No records to delete.", vbExclamation _
               , "Delete Question"
    End If

    cmdDel_Click_Exit:
    Exit Sub

HandleDelErrors:
    Dim stMsg As String

    stMsg = "Cannot complete operation. " & vbCrLf & vbCrLf & Err.Description
    MsgBox stMsg, vbExclamation, "Database Error"
    On Error GoTo 0  'turn off error trapping

End Sub
Private Sub cmdSave_Click()
    'save the current record
    Dim iResp As Integer

    On Error GoTo HandleSaveErrors
    If txtQuestion <> "" And txtDescription <> "" Then
        txtQuestion = UCase(txtQuestion)
        iResp = MsgBox("Do you want to add " & txtQuestion & ", " & txtDescription & ", " & "to the database?", vbYesNo + vbQuestion, _
                        "Add Question")
        If iResp = vbYes Then
            datQuestions.Recordset.Update
        End If
    Else
        MsgBox "You must enter an Question and a description before saving." , vbExclamation + ", " + "Add Question"
        datQuestions.Recordset.CancelUpdate
    End If

    txtQuestion.Enabled = False
    txtDescription.Enabled = False
    cmdSave.Enabled = False
    cmdDel.Enabled = True
    datQuestions.Enabled = True
    mnuFile.Enabled = True
    cmdAdd.Caption = "&Add"
    cmdAdd.SetFocus
    cmdUpdate.Enabled = True

    cmdSave_Click_Exit:
    Exit Sub

HandleSaveErrors:
    Dim stMess As String
    Select Case Err.Number
        Case 3022 'duplicate key field
            stMess = "Record already exists -- could not save"
            MsgBox stMess, vbExclamation, "Database Error"
            On Error GoTo 0 'turn off error trapping
        Case 3058, 3315 'no entry in key field
            stMess = "Enter a Question name before saving."
            MsgBox stMess, vbExclamation, "Database Error"
            On Error GoTo 0 'turn off error trapping
        Case Else
            stMess = "Record could not be saved." & vbCrLf & _
                      & Err.Description
            MsgBox stMess, vbExclamation, "Database Error"
            datQuestions.Recordset.CancelUpdate
            Resume
    End Select
End Select
End Sub

Private Sub cmdUpdate_Click()
    If cmdUpdate.Caption = "&Update" And _
        datQuestions.Recordset.RecordCount > 0 Then
        cmdUpdate.Caption = "Su&bmit"
        txtQuestion.Enabled = True
        txtDescription.Enabled = True
        cmdDel.Enabled = False
        mnuFile.Enabled = False
        txtQuestion.SetFocus
        cmdAdd.Enabled = False
        datQuestions.Enabled = False
        datQuestions.Recordset.Edit
    Else
        If datQuestions.Recordset.RecordCount > 0 Then
            datQuestions.Recordset.Update
            txtQuestion.Enabled = False
            txtDescription.Enabled = False
            cmdDel.Enabled = True
            mnuFile.Enabled = True
            cmdAdd.Enabled = True
            cmdAdd.SetFocus
            cmdUpdate.Caption = "&Update"
            datQuestions.Enabled = True
        End If
    End If
End Sub

Private Sub datQuestions_Reposition()
    SetQuestionRecordNumber
End Sub

Private Sub Form_Load()
    datQuestions.DatabaseName = gStNewDatabase

    With datQuestions
        .Refresh
        If Not .Recordset.EOF Then
            .Recordset.MoveLast
            .Recordset.MoveFirst
        End If
    End With
    SetQuestionRecordNumber
End Sub

Private Sub Form_Unload(Cancel As Integer)
frmMain.Show
frmMain.Enabled = True
Unload Me

End Sub

Private Sub mnuFileBack_Click()
    frmMain.Enabled = True
    'Unload Me
End Sub

Private Sub mnuFileSearch_Click()
    datQuestions.Recordset.FindFirst "[Question] = '' & _
    InputBox("Enter the Question", "Question Search") & ""

    If datQuestions.Recordset.NoMatch Then
        MsgBox "Question was not found.", vbOKOnly, "Question Search"
        datQuestions.Recordset.MoveFirst ' go to first record
    End If

End Sub

Private Sub SetQuestionRecordNumber()
    Dim iRecordCount As Integer
    Dim iCurrentRecord As Integer

    iRecordCount = datQuestions.Recordset.RecordCount
    iCurrentRecord = datQuestions.Recordset.AbsolutePosition + 1
    If datQuestions.Recordset.EOF Then
        datQuestions.Caption = "No more records"
    Else
        datQuestions.Caption = "Question " & iCurrentRecord & _
        " of " & iRecordCount
    End If

End Sub

********************************************************************************
'Module:   frmSQL.frm
'Description: Allows user to enter their own SQL statement and provides the results
'             in a data bound control.
'Programmer: Kevin Colón
********************************************************************************

Option Explicit

Private Sub cmdCancel_Click()
    frmMain.Enabled = True
Unload Me

End Sub

Private Sub cmdSearch_Click()
    Dim stMsg As String

    On Error GoTo HandleQueryError
    datSQL.DatabaseName = gstNewDatabase
    datSQL.RecordSource = txtSQL
    datSQL.Refresh

    cmdSearch_Click_Exit:
    Exit Sub

    HandleQueryError:
    Select Case Err.Number
    Case 3078
        stMsg = "A table you entered is not recognized. Please verify that this table exists."
        MsgBox stMsg, vbOKOnly, "Custom Query Error"
        txtSQL.SetFocus
        Exit Sub
    End Select

    End Sub

Private Sub Form_Unload(Cancel As Integer)

    frmMain.Enabled = True
    Unload Me

End Sub

******************************************************************************
'Module:     frmTargetEvent.frm
'Description: Allows user to access the target records
'             for addition, deletion, and modification.
'Programmer:  Kevin Colón
******************************************************************************

Option Explicit

Dim rsNomination As Recordset
Dim rsWeaponType As Recordset
Dim stSQL1 As String
Dim stSQL2 As String
Private WordApp As Word.Application
Private Doc As Word.Document
Private Sub cboNomination_Change()
    If cboNomination.ListIndex >= 0 Then
        txtNomination = cboNomination.Text
    End If
End Sub

Private Sub cboWeaponType_Change()
    If cboWeaponType.ListIndex >= 0 Then
        txtWeaponType = cboWeaponType.Text
    End If
End Sub

Private Sub cmdAdd_Click()
    On Error GoTo HandleAddErrors
    If cmdAdd.Caption = "&Add" Then
        datTarget.Recordset.AddNew
        cboNomination.Enabled = True
        cboWeaponType.Enabled = True
        cboNomination.ListIndex = -1
        cboWeaponType.ListIndex = -1
        txtTimeofDesignation.Enabled = True
        txtNLTTime.Enabled = True
        txtDescription.Enabled = True
        txtLocation.Enabled = True
        txtAltitude.Enabled = True
        txtSpeed.Enabled = True
        txtRemark.Enabled = True
        txtTargetId.Enabled = True
        txtPriority.Enabled = True
        txtDesiredEffect.Enabled = True
        cmdUpdate.Enabled = False
        cmdSave.Enabled = True
        cmdDel.Enabled = False
        cmdAdd.Caption = "&Cancel"
        mnuFile.Enabled = False
        datTarget.Enabled = False
    Else
        datTarget.Recordset.CancelUpdate
        cboNomination.Enabled = False
        cboWeaponType.Enabled = False
        txtTimeofDesignation.Enabled = False
        txtNLTTime.Enabled = False
        txtDescription.Enabled = False
    End If
End Sub
txtLocation.Enabled = False
txtAltitude.Enabled = False
txtSpeed.Enabled = False
txtRemark.Enabled = False
txtTargetId.Enabled = False
txtPriority.Enabled = False
txtDesiredEffect.Enabled = False
cmdUpdate.Enabled = True
cmdSave.Enabled = False
cmdDel.Enabled = True
cmdAdd.Caption = "&Add"
mnuFile.Enabled = True
datTarget.Enabled = True
cmdAdd.SetFocus

End If

cmdAdd_Click_Click:
Exit Sub
HandleAddErrors:
    Dim stMess As String
    stMess = "Cannot complete operation. " & vbCrLf & vbCrLf & 
    Err.Description
    MsgBox stMess, vbExclamation, "Database Error"
On Error GoTo 0 ' turn off error trapping

End Sub

Private Sub cmdDel_Click()
    Dim iResp As Integer
    
    On Error GoTo HandleDelErrors
    If datTarget.Recordset.RecordCount > 0 Then
        iResp = MsgBox("Delete Target " & txtTargetId & ", ?, vbYesNo, _
                     "Delete Target")
        If iResp = vbYes Then
            With datTarget.Recordset
                .Delete
                .MoveNext
                If .EOF Then
                    .MovePrevious
                    If .BOF Then
                        MsgBox "The recordset is empty.", 
                        vbInformation, "No Records"
                    End If
                    End If
                End With
            End If
        Else
            MsgBox "No records to delete.", vbExclamation, "Delete Target"
    End If

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End If

cmdDel_Click:
Exit Sub

HandleDelErrors:
Dim stMess As String

  stMess = "Cannot complete operation." & vbCrLf & vbCrLf & Err.Description
  MsgBox stMess, vbExclamation, "Database Error"
On Error GoTo 0

End Sub

Private Sub cmdSave_Click()

' save current record
On Error GoTo HandleSaveErrors

If cboNomination.ListIndex >= 0 And cboWeaponType.ListIndex >= 0 Then
  datTarget.Recordset.Update
Else
  MsgBox "You must select a Nomination Event and a Weapon Type before saving." _
    , vbExclamation, "Add Target Event"
  datTarget.Recordset.CancelUpdate
End If

cboNomination.Enabled = False
.cboWeaponType.Enabled = False
txtTimeofDesignation.Enabled = False
txtNLTTime.Enabled = False
txtDescription.Enabled = False
txtLocation.Enabled = False
txtAltitude.Enabled = False
txtSpeed.Enabled = False
txtRemark.Enabled = False
txtTargetId.Enabled = False
txtPriority.Enabled = False
txtDesiredEffect.Enabled = False
cmdUpdate.Enabled = True
cmdSave.Enabled = False
cmdDel.Enabled = True
cmdAdd.Caption = "&Add"
mnuFile.Enabled = True
datTarget.Enabled = True
cmdAdd.SetFocus

datTarget.Enabled = True
cmdSave_Click_Exit:
   Exit Sub

HandleSaveErrors:
   Dim stMess As String
   Select Case Err.Number
   Case 3022 'duplicate key field
      stMess = "Record already exists -- could not save."
      MsgBox stMess, vbExclamation, "Database Error"
      On Error GoTo 0 'turn off error trapping
   Case 3058, 3315 'no entry in key field
      stMess = "Select Nomination Event and Weapon Type before saving."
      MsgBox stMess, vbExclamation, "Database Error"
      On Error GoTo 0 'turn off error trapping
   Case Else
      stMess = "Record could not be saved." & vbCr & vbLf & Err.Description
      MsgBox stMess, vbExclamation, "Database Error"
      datTarget.Recordset.CancelUpdate
      Resume Next
   End Select
   End Sub

Private Sub cmdUpdate_Click()
   If cmdUpdate.Caption = "&Update" And _
      datTarget.Recordset.RecordCount > 0 Then
      cmdUpdate.Caption = "&Submit"
      cboNomination.Enabled = True
      cboWeaponType.Enabled = True
      txtTimeofDesignation.Enabled = True
      txtNLTTime.Enabled = True
      txtDescription.Enabled = True
      txtLocation.Enabled = True
      txtAltitude.Enabled = True
      txtSpeed.Enabled = True
      txtRemark.Enabled = True
      txtTargetId.Enabled = True
      txtPriority.Enabled = True
      txtDesiredEffect.Enabled = True
      cmdAdd.Enabled = False
      cmdSave.Enabled = False
      cmdDel.Enabled = False
      mmuFile.Enabled = False
      datTarget.Enabled = False
      datTarget.Recordset.Edit
   Else
      If datTarget.Recordset.RecordCount > 0 Then
datTarget.Recordset.Update

cboNomination.Enabled = False
cboWeaponType.Enabled = False
txtTimeofDesignation.Enabled = False
txtNLTTime.Enabled = False
txtDescription.Enabled = False
txtLocation.Enabled = False
txtAltitude.Enabled = False
txtSpeed.Enabled = False
txtRemark.Enabled = False
txtTargetId.Enabled = False
txtPriority.Enabled = False
txtDesiredEffect.Enabled = False
cmdDel.Enabled = True
cmdAdd.Enabled = True
cmdAdd.SetFocus
cmdUpdate.Caption = "&Update"
mnuFile.Enabled = True
datTarget.Enabled = True

End If
End If

End Sub

Private Sub datTarget_Reposition()

SetTargetRecordNumber

End Sub

Private Sub Form_Load()

datTarget.DatabaseName = gstNewDatabase

stSQL1 = "Select Nomination from Nomination"
stSQL2 = "Select WeaponType from WeaponType"

Set rsNomination = db.OpenRecordset(stSQL1)
Set rsWeaponType = db.OpenRecordset(stSQL2)

'fill cboNomination
Do Until rsNomination.EOF
cboNomination.AddItem rsNomination!Nomination
rsNomination.MoveNext
Loop

'fill cboWeaponType
Do Until rsWeaponType.EOF
cboWeaponType.AddItem rsWeaponType!WeaponType
rsWeaponType.MoveNext

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Loop

With datTarget
  .Refresh
  If Not .Recordset.EOF Then
    .Recordset.MoveNext
    .Recordset.MoveFirst
  End If
End With

SetTargetRecordNumber

End Sub

Private Sub SetTargetRecordNumber()

  Dim iRecordCount As Integer
  Dim iCurrentRecord As Integer

  iRecordCount = datTarget.Recordset.RecordCount
  iCurrentRecord = datTarget.Recordset.AbsolutePosition + 1

  If datTarget.Recordset.EOF Then
    datTarget.Caption = "No more records"
  Else
    datTarget.Caption = "Target Record " & iCurrentRecord & " of " & iRecordCount
  End If

End Sub

Private Sub Form_Unload(Cancel As Integer)
  frmMain.Enabled = True
  Unload Me
End Sub

Private Sub mnuFileBack_Click()
  frmMain.Enabled = True
  Unload Me
End Sub

Private Sub mnuFilePrint_Click()
  frmPrint.Show
  On Error GoTo mnuPrintErrors
  If bContinue = True Then
    With datTarget.Recordset
      If bWord = True Then

222
Set WordApp = New Word.Application
WordApp.Documents.Add
Set Doc = WordApp.ActiveDocument
Set Sel = WordApp.Selection

Doc.Tables.Add Range:=Sel.Range, NumRows:=.RecordCount,
NumColumns:=8

Sel.TypeText Text:="TargetId" '12=next cell
Sel.MoveRight unit:=12

Sel.TypeText Text:="Designation Time" '12=next cell
Sel.MoveRight unit:=12

Sel.TypeText Text:="Nomination" '12=next cell
Sel.MoveRight unit:=12

Sel.TypeText Text:="Location" '12=next cell
Sel.MoveRight unit:=12

Sel.TypeText Text:="Altitude" '12=next cell
Sel.MoveRight unit:=12

Sel.TypeText Text:="Speed" '12=next cell
Sel.MoveRight unit:=12

Sel.TypeText Text:="NLT Time" '12=next cell
Sel.MoveRight unit:=12

Sel.TypeText Text:="Priority" '12=next cell
Sel.MoveRight unit:=12

Sel.TypeText Text:="Weapon Type" '12=next cell
Sel.MoveRight unit:=12

Sel.TypeText Text:="Remark" '12=next cell
Sel.MoveRight unit:=12

Do Until .EOF

    Sel.TypeText Text:="TargetId" '12=next cell
    Sel.MoveRight unit:=12

    Sel.TypeText Text:="TimeofDesignation" '12=next cell
    Sel.MoveRight unit:=12

    Sel.TypeText Text:="Nomination" '12=next cell
    Sel.MoveRight unit:=12

    Sel.TypeText Text:="TargetLocation" '12=next cell
    Sel.MoveRight unit:=12
cell
Sel.TypeText Text:='!TargetAltitude
Sel.MoveRight unit:=12 '12=next

cell
Sel.TypeText Text:='!TargetSpeed
Sel.MoveRight unit:=12 '12=next

cell
Sel.TypeText Text:='!TargetNLTTime
Sel.MoveRight unit:=12 '12=next

cell
Sel.TypeText Text:='!Priority
Sel.MoveRight unit:=12 '12=next

cell
Sel.TypeText Text:='!WeaponType
Sel.MoveRight unit:=12 '12=next

cell
Sel.TypeText Text:='!Remark
Sel.MoveRight unit:=12 '12=next

.MoveNext

Loop

WordApp.Visible = True

Set WordApp = Nothing

Else
If bText = True Then

Open App.Path & "\NomEvents.txt" For Output As #1

Print #1, "TargetId"; Chr(9); "Designation Time";
Chr(9); "Nomination"; Chr(9); _
"Location"; Chr(9); "Altitude"; Chr(9);
_
"Speed"; Chr(9); "NLTTime"; Chr(9); _
"Priority"; Chr(9); "WeaponType";
Chr(9); _
"Remark"; Chr(9)

Do Until .EOF

Print #1, '!TargetId; Chr(9); _
!TimeofDesignation; Chr(9); _
!Nomination; Chr(9); _
!TargetLocation; Chr(9); _

224
.MoveNext
Loop
Close #1
End If
End If
.MoveFirst
End With
End If
bContinue = False
bWord = False
bText = False

mnuPrintErrors:
    Select Case Err.Number
    Case 94
        Sel.TypeText Text:=""
        Resume Next
    End Select
End Sub

Private Sub txtNomination_Change()
    'selects correct combo box listing
    Dim iIndex As Integer
    Dim bFound As Boolean
    rsNomination.MoveFirst
    If txtNomination <> "" Then
        Do Until iIndex = rsNomination.RecordCount Or bFound
            If rsNomination!Nomination = txtNomination!Nomination Then
                cboNomination.Text = rsNomination!Nomination
                bFound = True
            Else
                rsNomination.MoveNext
                iIndex = iIndex + 1
            End If
        End If
    Loop
End If
End Sub

Private Sub txtWeaponType_Change()

    'selects correct combo box listing
    Dim nIndex As Integer
    Dim bFound As Boolean

    rsWeaponType.MoveNext
    If txtWeaponType <> "" Then
        Do Until nIndex = rsWeaponType.RecordCount Or bFound
            If rsWeaponType!WeaponType = txtWeaponType!WeaponType Then
                cboWeaponType.Text = rsWeaponType!WeaponType
                bFound = True
            Else
                rsWeaponType.MoveNext
                nIndex = nIndex + 1
            End If
        Loop
    End If
End Sub

******************************************************
'Module: frmTargets2.frm
'Description: Allows user to view all target records. Uses
'    the filters form to reduce the number of
'    records displayed.
'Programmer: Kevin Colón
******************************************************

Option Explicit

Private Sub FlexTargets_DblClick()
    frmTimeline.Show
End Sub

Private Sub dbgTargets_DblClick()
    frmTimeline.Show
End Sub

Private Sub Form_Load()
    Dim stSQL As String
    Dim iRecord As Integer

    stSQL = "Select * from Target"

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datTargets.DatabaseName = gstNewDatabase

datTargets.RecordSource = stSQL
datTargets.Refresh

End Sub

Private Sub Form_Resize()
    dbgTargets.Width = Me.Width
End Sub

Private Sub Form_Unload(Cancel As Integer)
    frmMain.Enabled = True
    Unload Me
End Sub

Private Sub mnuFileBack_Click()
    frmMain.Enabled = True
    Unload Me
End Sub

Private Sub mnuFilters_Click()
    frmFilters.Show
    Me.Enabled = False

End Sub

******************************************************************************
'Module:      frmThreatTypes.frm
'Description: Allows user to access the threat types
'             records for addition, deletion, and
'             modification.
'Programmer:  Kevin Colón
******************************************************************************

Option Explicit

Private Sub cmdAdd_Click()
    On Error GoTo HandleAddErrors

    If cmdAdd.Caption = "&Add" Then
        datThreatTypes.Recordset.AddNew
txtThreatType.Enabled = True
txtThreatType.SetFocus

    Exit Sub

HandleAddErrors:
    Exit Sub

End Sub
txtDescription.Enabled = True
txtMission.Enabled = True
cmdAdd.Caption = "&Cancel"
cmdSave.Enabled = True
cmdDel.Enabled = False
cmdUpdate.Enabled = False
mnuFile.Enabled = False
datThreatTypes.Enabled = False

Else
  datThreatTypes.Recordset.CancelUpdate
txtThreatType.Enabled = False
txtDescription.Enabled = False
txtMission.Enabled = False
cmdSave.Enabled = False
cmdDel.Enabled = True
cmdUpdate.Enabled = True
mnuFile.Enabled = True
cmdAdd.Caption = "&Add"
cmdAdd.SetFocus
datThreatTypes.Enabled = True
End If

cmdAdd_Click_Exit:
  Exit Sub

HandleAddErrors:
  Dim stMess As String
  stMess = "Cannot complete operation. " & vbCrLf & vbCrLf & Err.Description
  MsgBox stMess, vbExclamation, "Database Error"
  On Error GoTo 0 'turn off error trapping
End Sub

Private Sub cmdDel_Click()
  'delete the current record
  Dim iResp As Integer
  On Error GoTo HandleDelErrors
  If datThreatTypes.Recordset.RecordCount > 0 Then
    iResp = MsgBox("Delete Threat " & txtThreatType.Text & ", & vbYesNo, "Delete Threat"
    If iResp = vbYes Then
      With datThreatTypes.Recordset
        .Delete 'delete current record
        .MoveNext 'move to following record
        If .EOF Then
          .MovePrevious
          If .BOF Then
            MsgBox "The recordset is empty."
          End If
          vbInformation, "No Records"
        End If
      End With
    End If
  End If
End Sub
End If
End With
Else
     MsgBox "No records to delete.", vbExclamation _, "Delete Threat"
End If

cmdDel_Click_Exit:
     Exit Sub

HandleDelErrors:
     Dim stMsg  As String
     stMsg = "Cannot complete operation." & vbCrLf & vbCrLf _
              & Err.Description
     MsgBox stMsg, vbExclamation, "Database Error"
     On Error GoTo 0  'turn off error trapping
End Sub

Private Sub cmdSave_Click()
     'save the current record
     Dim iResp  As Integer
     On Error GoTo HandleSaveErrors
     If txtThreatType.Text <> "" Then
          txtThreatType.Text = UCase(txtThreatType.Text)
          iResp = MsgBox("Do you want to add " & txtThreatType.Text & _
                          " to the database?", vbYesNo + vbQuestion, _
                          "Add Threat")
          If iResp = vbYes Then
               datThreatTypes.Recordset.Update
     End If
     Else
          MsgBox "You must enter a Threat type before saving.", vbExclamation _, "Add Threat"
          datThreatTypes.Recordset.CancelUpdate
     End If

     txtThreatType.Enabled = False
     txtDescription.Enabled = False
     txtMission.Enabled = False
     cmdSave.Enabled = False
     cmdDel.Enabled = True
     datThreatTypes.Enabled = True
     mnuFile.Enabled = True
     cmdAdd.Caption = "&Add"
     cmdAdd.SetFocus
     cmdUpdate.Enabled = True

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cmdSave_Click_Exit:
    Exit Sub

HandleSaveErrors:
    Dim stMess As String
    Select Case Err.Number
    Case 3022  'duplicate key field
        stMess = "Record already exists -- could not save."
        MsgBox stMess, vbExclamation, "Database Error"
        On Error GoTo 0  'turn off error trapping
    Case 3058, 3315  'no entry in key field
        stMess = "Enter a Threat type before saving."
        MsgBox stMess, vbExclamation, "Database Error"
        On Error GoTo 0  'turn off error trapping
    Case Else
        stMess = "Record could not be saved." & vbCrLf _
                & Err.Description
        MsgBox stMess, vbExclamation, "Database Error"
        datThreatTypes.Recordset.CancelUpdate
        Resume Next
    End Select

End Sub

Private Sub cmdUpdate_Click()
    If cmdUpdate.Caption = "&Update" And _
        datThreatTypes.Recordset.RecordCount > 0 Then
        cmdUpdate.Caption = "Su&bmit"
        txtThreatType.Enabled = True
        txtDescription.Enabled = True
        txtMission.Enabled = True
        cmdDel.Enabled = False
        mnuFile.Enabled = False
        txtThreatType.SetFocus
        cmdAdd.Enabled = False
        datThreatTypes.Enabled = False
        datThreatTypes.Recordset.Edit
    Else
        If datThreatTypes.Recordset.RecordCount > 0 Then
            datThreatTypes.Recordset.Update
        End If
    End If
End If
End Sub

Private Sub datThreatTypes_Reposition()
    SetThreatRecordNumber
End Sub

Private Sub Form_Load()
    datThreatTypes.DatabaseName = gstNewDatabase
    With datThreatTypes
        .Refresh
        If Not .Recordset.EOF Then
            .Recordset.MoveLast
            .Recordset.MoveFirst
        End If
    End With
    SetThreatRecordNumber
End Sub

Private Sub FormUnload(Cancel As Integer)
    frmMain.Enabled = True
    Unload Me
End Sub

Private Sub mnuFileBack_Click()
    frmMain.Enabled = True
    Unload Me
End Sub

Private Sub mnuFileSearch_Click()
    datThreatTypes.Recordset.FindFirst "{ThreatType} = " & _
    InputBox("Enter the Threat Type", "Threat Type Search")
    If datThreatTypes.Recordset.NoMatch Then
        MsgBox "Threat Type was not found.", vbOKOnly, "Threat Type Search"
        datThreatTypes.Recordset.MoveFirst
        'go to first record
    End If
End Sub

Private Sub SetThreatRecordNumber()
Dim iRecordCount As Integer
Dim iCurrentRecord As Integer

iRecordCount = datThreatTypes.Recordset.RecordCount
iCurrentRecord = datThreatTypes.Recordset.AbsolutePosition + 1
If datThreatTypes.Recordset.EOF Then
datThreatTypes.Caption = "No more records"
Else
datThreatTypes.Caption = "Threat " & iCurrentRecord & _
" of " & iRecordCount
End If

End Sub

********************************************************************************

'Module: frmTimeline.frm
'Description: Displays the event timeline from acquisition
' to impact for a selected target
'Programmer: Kevin Colón
********************************************************************************

Option Explicit

Private Sub Form_Load()
    Dim stSQL As String
    Dim stTarget As String
    Dim iTabs As Integer
    Dim rsTimes As Recordset
    Dim stSQL1 As String
    Dim stSQL2 As String
    Dim stSQL3 As String
    Dim stSQL4 As String
    Dim stSQL5 As String
    Dim stSQL6 As String
    Dim stSQL7 As String
    Dim rsAcquisition As Recordset
    Dim rsMensuration As Recordset
    Dim rsNomination As Recordset
    Dim rsTarget As Recordset
    Dim rsFireCommand As Recordset
    Dim rsFire As Recordset
    Dim rsImpact As Recordset

    frmTargets2 dbgTargets.Col = 0
    stTarget = frmTargets2 dbgTargets Text

    stSQL4 = "Select * from Target where Target.TargetId = '' & stTarget & '''
    Set rsTarget = db.OpenRecordset(stSQL4)

    stSQL3 = "Select * from Nomination where Nomination.Nomination = ''

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& rsTarget!Nomination & ""
    Set rsNomination = db.OpenRecordset(stSQL3)

    stSQL2 = "Select * from Mensuration where Mensuration.Mensuration = " & rsNomination!Mensuration & ""
    Set rsMensuration = db.OpenRecordset(stSQL2)

    stSQL1 = "Select * from Acquisition where Acquisition.Acquisition = " & rsNomination!Acquisition & ""
    Set rsAcquisition = db.OpenRecordset(stSQL1)

    stSQL5 = "Select * from FireCommand where FireCommand.TargetId = " & stTarget & ""
    Set rsFireCommand = db.OpenRecordset(stSQL5)

    stSQL6 = "Select * from Fire where Fire.FireCommand = " & rsFireCommand!FireCommand & ""
    Set rsFire = db.OpenRecordset(stSQL6)

    If rsFire.RecordCount > 0 Then
        stSQL7 = "Select * from Impact where Impact.FireEvent = " & rsFire!Fire & ""
        Set rsImpact = db.OpenRecordset(stSQL7)
    End If

    lstTimeline.AddItem "Target Id: " & stTarget
    lstTimeline.AddItem "Target Description: " & rsTarget!Description
    lstTimeline.AddItem ""
    lstTimeline.AddItem "NLT Time: " & rsTarget!TargetNLTTime
    lstTimeline.AddItem ""
    lstTimeline.AddItem "Acquisition Time: " & rsAcquisition!AcqTime
    lstTimeline.AddItem "Mensuration Rqst: " & rsMensuration!RequestSent
    lstTimeline.AddItem "Mensuration Rcvd: " & rsMensuration!RCvd
    lstTimeline.AddItem "Mensuration Info Sent: " & rsMensuration!InfoSent
    lstTimeline.AddItem "Mensuration Info Rcvd: " & rsMensuration!InfoRcvd
    lstTimeline.AddItem "Nomination Sent: " & rsNomination!NomSent
    lstTimeline.AddItem "Nomination Rcvd: " & rsNomination!NomRcvd
    lstTimeline.AddItem "Target Designation: " & rsTarget!Desig
    lstTimeline.AddItem "Fire Command Xmit: " & rsFireCommand!XmitFire
    lstTimeline.AddItem "Fire Command Rcvd: " & rsFireCommand!RCvdFire

    If rsFire.RecordCount > 0 Then

1stTimeline.AddItem "Fire Event: " & rsFire.FireTime
If rsImpact.RecordCount > 0 Then
    1stTimeline.AddItem "Impact: " & rsImpact.ImpactTime
End If
End If
frmTargets2.Enabled = False

End Sub

Private Sub Form_Unload(Cancel As Integer)
    frmTargets2.Enabled = True
    Unload Me
End Sub

********************************************************************************
'Module:      frmWeaponTypes.frm
'Description: Allows user to access the weapon types
'             records for addition, deletion, and
'             modification.
'Programmer:  Kevin Colón
********************************************************************************

Option Explicit

Private Sub cmdAdd_Click()
    On Error GoTo HANDLEADDERRORS

    If cmdAdd.Caption = "&Add" Then
        datWeaponTypes.Recordset.AddNew
        txtWeaponType.Enabled = True
        txtDescription.Enabled = True
        cmdAdd.Caption = "&Cancel"
        cmdSave.Enabled = True
        cmdDel.Enabled = False
        cmdUpdate.Enabled = False
        mnuFile.Enabled = False
        datWeaponTypes.Enabled = False
    Else
        datWeaponTypes.Recordset.CancelUpdate
        txtWeaponType.Enabled = False
        txtDescription.Enabled = False
        cmdSave.Enabled = False
        cmdDel.Enabled = True
        cmdUpdate.Enabled = True
        mnuFile.Enabled = True
        cmdAdd.Caption = "&Add"
        cmdAdd.SetFocus
        datWeaponTypes.Enabled = True

    END Sub

    HANDLEADDERRORS:
        Exit Sub

    END Sub
End If

cmdAdd_Click_Emit:
  Exit Sub

HandleAddErrors:
  Dim stMess As String
  stMess = "Cannot complete operation. " & vbCrLf & vbCrLf _
  & Err.Description
  MsgBox stMess, vbExclamation, "Database Error"
  On Error GoTo 0 'turn off error trapping
End Sub

Private Sub cmdDel_Click()
  'delete the current record
  Dim iResp As Integer

  On Error GoTo HandleDelErrors

  If datWeaponTypes.Recordset.RecordCount > 0 Then
    iResp = MsgBox("Delete Weapon " & txtWeaponType.Text & "?", _
    vbYesNo, "Delete Weapon")
    If iResp = vbYes Then
      With datWeaponTypes.Recordset
        .Delete 'delete current record
        .MoveNext 'move to following record
        If .EOF Then
          .MovePrevious
          If .BOF Then
            MsgBox "The recordset is empty.", vbInformation, "No Records"
          End If
        End If
      End With
    End If
  Else
    MsgBox "No records to delete.", vbExclamation _
    , "Delete Weapon"
  End If

End Sub

cmdDel_Click_Emit:
  Exit Sub

HandleDelErrors:
  Dim stMsg As String

  stMsg = "Cannot complete operation. " & vbCrLf & vbCrLf _
  & Err.Description
  MsgBox stMsg, vbExclamation, "Database Error"
  On Error GoTo 0 'turn off error trapping
End Sub
Private Sub cmdSave_Click()
    'save the current record
    Dim iResp As Integer

    On Error GoTo HandleSaveErrors
    If txtWeaponType.Text <> "" Then
        txtWeaponType.Text = UCase(txtWeaponType.Text)
        iResp = MsgBox("Do you want to add " & txtWeaponType.Text & _
            " to the database?", vbYesNo + vbQuestion, _
            "Add Weapon")
        If iResp = vbYes Then
            datWeaponTypes.Recordset.Update
        End If
    Else
        MsgBox "You must enter a weapon type before saving.", vbExclamation, "Add Weapon"
        datWeaponTypes.Recordset.CancelUpdate
    End If

    txtWeaponType.Enabled = False
    txtDescription.Enabled = False
    cmdSave.Enabled = False
    cmdDel.Enabled = True
    datWeaponTypes.Enabled = True
    mnuFile.Enabled = True
    cmdAdd.Caption = "&Add"
    cmdAdd.SetFocus
    cmdUpdate.Enabled = True

    cmdSave_Click_Exit:
        Exit Sub

HandleSaveErrors:
    Dim stMess As String
    Select Case Err.Number
        Case 3022    'duplicate key field
            stMess = "Record already exists -- could not save>"
        MsgBox stMess, vbExclamation, "Database Error"
        On Error GoTo 0    'turn off error trapping

        Case 3058, 3315    'no entry in key field
            stMess = "Enter a weapon type before saving."
        MsgBox stMess, vbExclamation, "Database Error"
        On Error GoTo 0    'turn off error trapping

        Case Else
            stMess = "Record could not be saved." & vbCrLf _
                & Err.Description
        MsgBox stMess, vbExclamation, "Database Error"
        datWeaponTypes.Recordset.CancelUpdate
        Resume Next
End Select

End Sub

Private Sub cmdUpdate_Click()
    If cmdUpdate.Caption = "&Update" And _
        datWeaponTypes.Recordset.RecordCount > 0 Then
        cmdUpdate.Caption = "Su&bmit"
        txtWeaponType.Enabled = True
        txtDescription.Enabled = True
        cmdDel.Enabled = False
        mnuFile.Enabled = False
        txtWeaponType.SetFocus
        cmdAdd.Enabled = False
        datWeaponTypes.Enabled = False
        datWeaponTypes.Recordset.Edit
    Else
        If datWeaponTypes.Recordset.RecordCount > 0 Then
            datWeaponTypes.Recordset.Update
            txtWeaponType.Enabled = False
            txtDescription.Enabled = False
            cmdDel.Enabled = True
            mnuFile.Enabled = True
            cmdAdd.Enabled = True
            cmdAdd.SetFocus
            cmdUpdate.Caption = "&Update"
            datWeaponTypes.Enabled = True
        End If
    End If

End Sub

Private Sub datWeaponTypes_Reposition()

    SetWeaponRecordNumber

End Sub

Private Sub Form_Load()

    datWeaponTypes.DatabaseName = gstNewDatabase

    With datWeaponTypes
        .Refresh
        If Not .Recordset.EOF Then
            .Recordset.MoveNext
            .Recordset.MoveFirst
        End If
    End With

    SetWeaponRecordNumber

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End Sub

Private Sub Form_Unload(Cancel As Integer)
    frmMain.Enabled = True
    Unload Me
End Sub

Private Sub mnuFileBack_Click()
    frmMain.Enabled = True
    Unload Me
End Sub

Private Sub mnuFileSearch_Click()
    datWeaponTypes.Recordset.FindFirst "[WeaponType] = " & _
    InputBox("Enter the Weapon Type", "Weapon Type Search")
    & "."
    If datWeaponTypes.Recordset.NoMatch Then
        MsgBox "Weapon Type was not found.", vbOKOnly, "Weapon Type Search"
    datWeaponTypes.Recordset.MoveFirst "go to first record"
End If
End Sub

Private Sub SetWeaponRecordNumber()
    Dim iRecordCount As Integer
    Dim iCurrentRecord As Integer
    iRecordCount = datWeaponTypes.Recordset.RecordCount
    iCurrentRecord = datWeaponTypes.Recordset.AbsolutePosition + 1
    If datWeaponTypes.Recordset.EOF Then
        datWeaponTypes.Caption = "No more records"
    Else
        datWeaponTypes.Caption = "Weapon " & iCurrentRecord & _
        " of " & iRecordCount
    End If
End Sub
LIST OF REFERENCES


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