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TITLE: Development of a Self Aid/Buddy Aid Simulation-Based
         Training Program

PRINCIPAL INVESTIGATOR: Paul N. Kizakevich

CONTRACTING ORGANIZATION: Training and Doctrine Command
                           Fort Eustis, Virginia 23604-5015

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Paul N. Kizakevich

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Table of Contents

Intended purpose of the SABA application

This software application, funded at $150,000 was created by RTI to be an interactive representation of the Self Aid/ Buddy Aid Course (0821) on PC-CD ROM. It was not intended to be web enabled or SCORM compliant (see Statement of Work).

The intended goal of this software project (Statement of Work) was to:

> " provide Self Aid/ Buddy Aid Enhancements for the STATCare TPS that are capable of realistic and effective simulations of combat trauma casualties. Successful achievement of the specific aims, will allow us to evaluate the usability of the developed scenarios for military medical training."

The SABA software is self-paced and intended to be used by:

- Active and Reserve Component personnel.
- Graduates of basic training
- Soldiers desiring to get correspondence course credit for (0821).
- Soldiers requiring preparation for the Combat Lifesavers Course.
- Soldiers requiring pre-deployment training for combat and NTC rotations
- Unit level trainers for first aid sustainment/ refresher training.
- Soldiers preparing for 91W training.

Background: (Program Manager-Heneghan)

Self Aid/ Buddy Aid tasks are presented during not more than one day of training in Army Basic Training. The soldiers have stations for each task. They receive instruction and are expected to learn these tasks by rote. The military doesn't throw a lot of curves at the soldiers during training – they simply go through the basics for each protocol. The measure for successful task completion is on a GO/NOGO basis. Drill Sergeants provide this training – as opposed to medically trained personnel. SABA is just a portion of the Common Task Training (CTT) that all soldiers receive. They must pass all CTT tasks in Basic Training and once they are assigned to a unit, they receive (and are tested on) CTT annually. One problem with this method of training is that since it's so limited, if a soldier is selected for the Combat Lifesaver Course (CLS), they usually have to re-learn SABA skills. CLS takes about 40 hours of training and currently, 8 hours (approximately) are spent on this re-learning these important skills. Our software is intended to reduce or eliminate the need for these 8 hours of retraining.

1. Progress by Task in Statement of Work

Task 1 - Simulator Specifications (Complete)
- Identify subject matter experts (SMEs) with Self Aid / Buddy Aid training expertise
- Meet with military SMEs to determine training requirements

- Document Self Aid / Buddy Aid (SABA) skills specifications
- Document scenario specifications

Task 2 - Learning Content Development (Complete)
- Configure database with Self Aid / Buddy Aid skills
- Develop learning modules for Self Aid / Buddy Aid skills
- Develop simulation modules for Self Aid / Buddy Aid skills

Course Information:

SELF-AID/BUDDY-AID   IS0821   EDITION 100
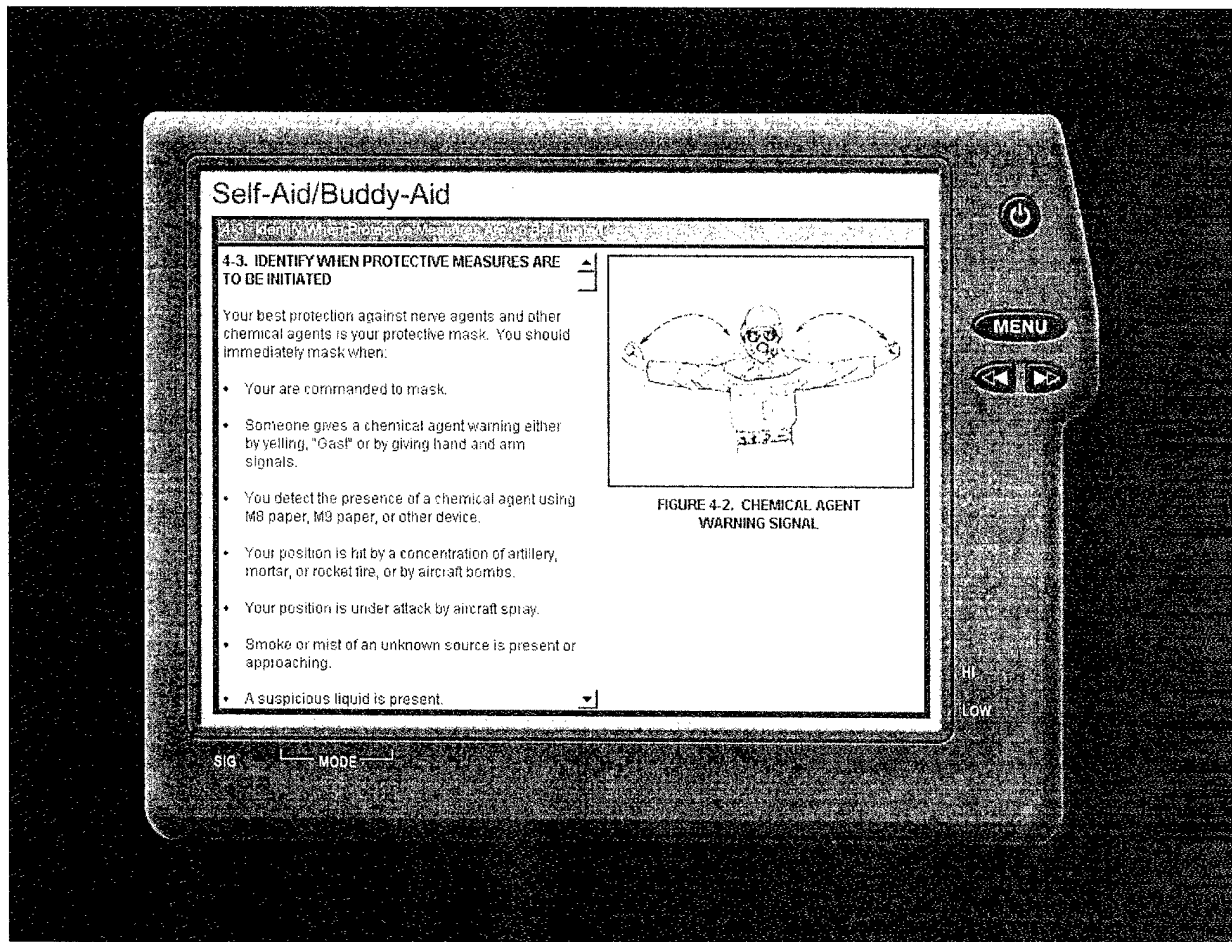15 Credit Hours
Edition Date: JULY 2000

The subcourse contains the following parts:

Lesson 1:	SUBCOURSE OVERVIEW
Lesson 2:	PRACTICE INDIVIDUAL PREVENTIVE MEDICINE COUNTERMEASURES
Lesson 3:	EVALUATE A CASUALTY
Lesson 4:	PERFORM FIRST AID FOR A NERVE AGENT INJURY
Lesson 5:	PERFORM FIRST AID TO CLEAR AN OBJECT STUCK IN THE THROAT OF A CONSCIOUS CASUALTY
Lesson 6:	PERFORM MOUTH-TO-MOUTH RESUSCITATION
Lesson 7:	PERFORM FIRST AID FOR BLEEDING OF AN EXTREMITY
Lesson 8:	PERFORM FIRST AID FOR AN OPEN CHEST WOUND
Lesson 9:	PERFORM FIRST AID FOR AN OPEN ABDOMINAL WOUND
Lesson 10:	PERFORM FIRST AID FOR AN OPEN HEAD WOUND
Lesson 11:	PERFORM FIRST AID TO PREVENT OR CONTROL SHOCK
Lesson 12:	PERFORM FIRST AID FOR A SUSPECTED FRACTURE
Lesson 13:	PERFORM FIRST AID FOR BURNS
Lesson 14:	PERFORM FIRST AID FOR HEAT INJURIES
Lesson 15:	PERFORM FIRST AID FOR COLD INJURIES
Lesson 16:	TRANSPORT A CASUALTY

EXAMINATION

The SABA software has 3 components:

1. **Learning Content-** Includes text and illustrations from each of the 16 lessons in the course manual (roughly 240pp. material) which can be navigates through the SABA. At the end of each lesson we present the user with the end of chapter questions found in the manual. If the soldier selects the wrong answer, the application instructs the soldier where to go back and read the pertinent material for that question.

   - **Student Tracking-** The RTI software tracks individual students on the PC the software is installed on. It records students by name, rank and last 4 of SSN. It records which

lessons have been attempted and completed by each student. This was included in the event the software is to be used in a company or battalion level training office.

Self-Aid/Buddy-Aid

4-3. IDENTIFY WHEN PROTECTIVE MEASURES ARE TO BE INITIATED

Your best protection against nerve agents and other chemical agents is your protective mask. You should immediately mask when:

• Your are commanded to mask.

• Someone gives a chemical agent warning either by yelling, "Gas!" or by giving hand and arm signals.

• You detect the presence of a chemical agent using M8 paper, M9 paper, or other device.

• Your position is hit by a concentration of artillery, mortar, or rocket fire, or by aircraft bombs.

• Your position is under attack by aircraft spray.

• Smoke or mist of an unknown source is present or approaching.

• A suspicious liquid is present.

FIGURE 4-2. CHEMICAL AGENT WARNING SIGNAL

2. **3D Lessons-** These take place in a 3D "battlefield environment". Lessons include a step-by-step guide on the User Interface (UI) to guide users through the proper application of the associated medical protocol. At the successful completion of each scenario, the user will signal that the patient is stable and terminate the event by clicking on an "Evacuate the Casualty" button on the User Interface. At the end of the event, the user will be able to view the protocol steps and see if they missed any or performed them in the incorrect order. This will constitute a user-"AAR".
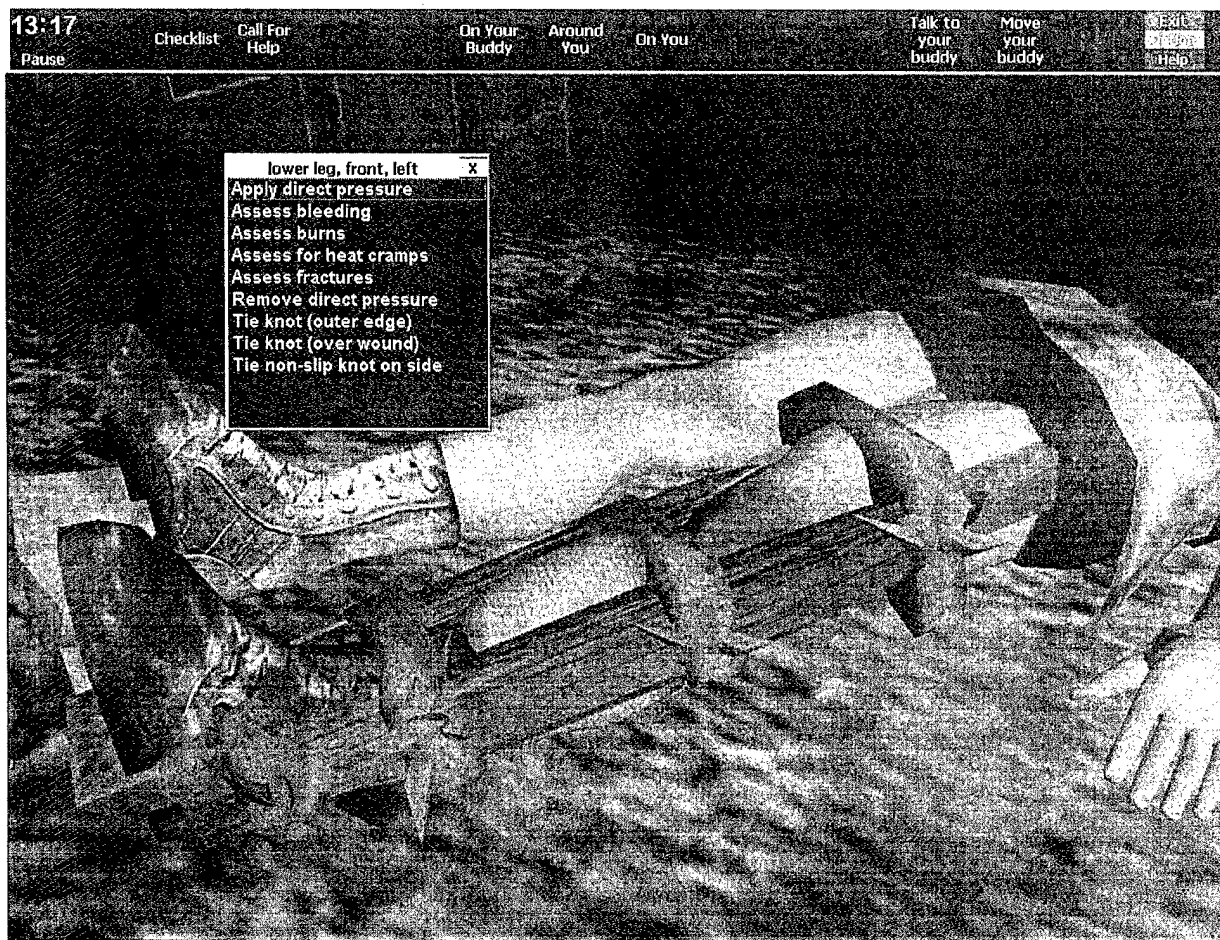
Lesson 3-   EVALUATE A CASUALTY
Lesson 7-   PERFORM FIRST AID FOR BLEEDING OF AN EXTREMITY
Lesson 8-   PERFORM FIRST AID FOR AN OPEN CHEST WOUND
Lesson 9-   PERFORM FIRST AID FOR AN OPEN ABDOMINAL WOUND
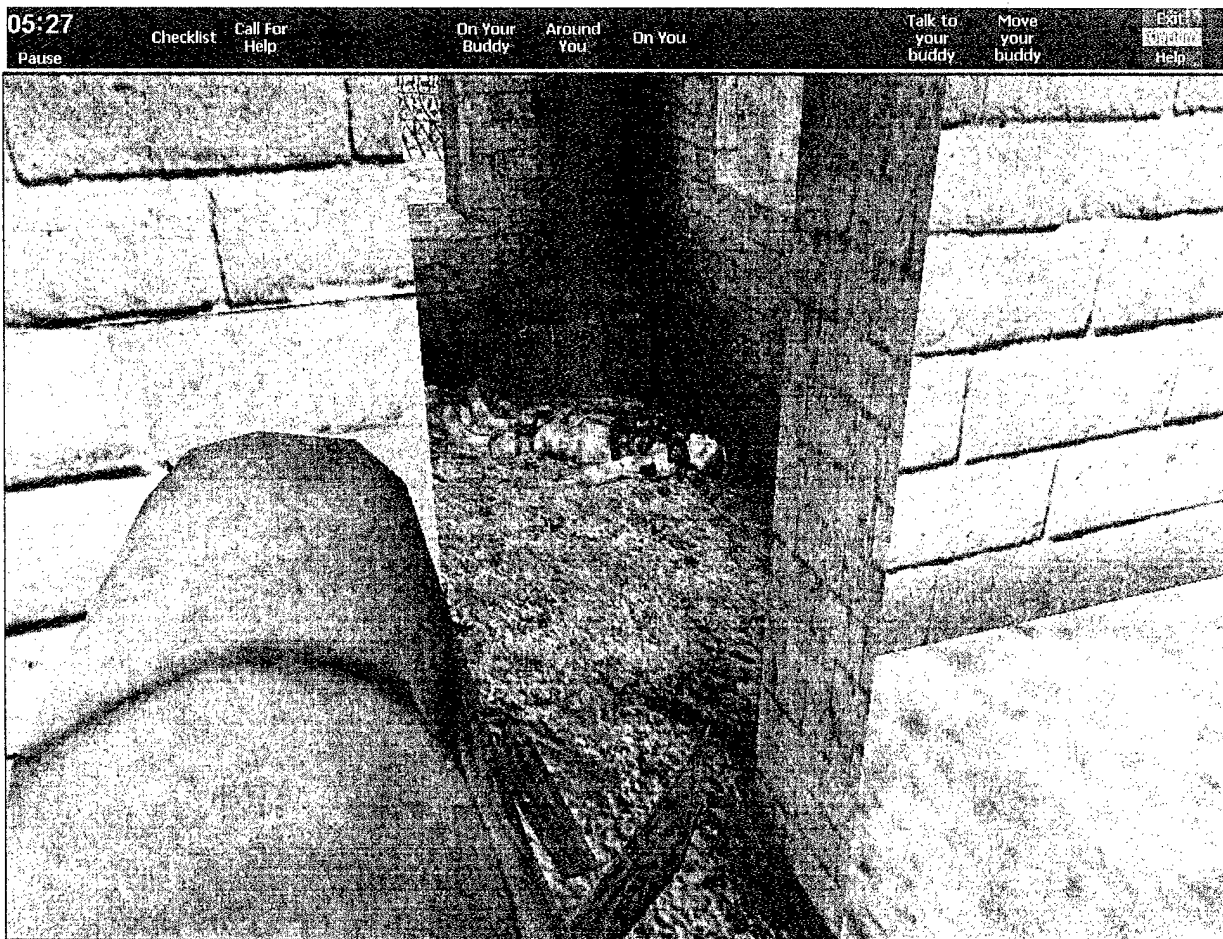Lesson 12- PERFORM FIRST AID FOR A SUSPECTED FACTURE

3. **Final Exam**- The user does not need to be proctored while taking this exam and may refer to the course material while taking it. The RTI software will allow the student to take the exam and print their answers, so that they can be submitted via mail to the (Army Institute for Professional Development AIPD)

Task 3 - Model Development (Complete)
- Develop medical devices supporting Self Aid / Buddy Aid skills
- Develop military objects for the virtual scenarios
- Develop scene objects for the virtual scenarios

Task 4 - Scenario Integration and Testing (Complete)
- Build case-based scenarios
- Deliver and test scenarios

Task 5 - Project Management (Complete)

- Comply with RTI's ISO 9001 quality assurance plan
- Participate in periodic project reviews
- Prepare Monthly and final project reports

2. Deviations from the Original SOW

None

3. Key Accomplishments

- Completed the first interactive 3D (i3D) medical training courseware for Self Aid/Buddy Aid Training in accordance with Army standards.
- Created fully immersive 3D scenarios, while also running a detailed physiology engine.
- Software shipped on September 26th 2002.
- Client feedbag, defect reporting website established at:
  http://fmxxi.rti.org/bcsite/bclogin.htm

4. Reportable Outcomes

RTI will update the Self Aid/Buddy Aid software so that it can be used in Learning Labs at Fort Sam Houston.

4.1 Manuscripts, abstracts, presentations

None

4.2 Patents and licenses applied for/issued

None

4.3 Funding applied for based on work supported by this award

None at this time. Logical follow on extensions include:

- Making the courseware more modular and deliverable via the internet
- Improving the After Action (Student Performance) feedback mechanism
- Adding many more richly detailed i3D scenarios.
- Improving the user interface from being a menu based to a "drag and drop" system.

5. Copy of Cited Manuscripts and Abstracts

None

6. FTP site for updates:

ftp site: www.sim-patient.com
PW: download@sim-patient.com
login: download