



**INSTITUTE FOR INFORMATION TECHNOLOGY APPLICATIONS**

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**US AIR FORCE ACADEMY**

# **USAFA Faculty Homepage:**

## **Extending the U.S. Air Force Academy's Cadet Homepage for the Faculty & Staff**

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# Faculty Homepage:

## Extending the U.S. Air Force Academy's Cadet Homepage for the Faculty & Staff

### Introduction

The USAFA Cadet and Faculty Homepages are the result of an Institute for Information Technology Application (IITA) research effort to develop a single, consolidated access point for cadet information. This information includes individual course schedules, status of current operations, weather, and links to a full range of electronically available resources.

Original research on this capability began in October 1999 under the title Cadet Personalized Educational Gateway (CPEG). In August 2002, IITA began implementation of a prototype that would evolve into fully operational system which would be called the Cadet Homepage. The first prototype was deployed in January 2003 and a full deployment for the Class of 2007 occurred in August 2003. The entire Cadet Wing began use of the Cadet Homepage in February 2004 and, by August 2004, the Cadet Homepage had become the primary information resource for the entire Cadet Wing.

During the 2004-2005 and 2005-2006 academic years the Cadet Homepage has been continually refined and enhanced. During the 2005-2006 academic year, the Cadet Homepage was extended to support the USAFA Faculty and Staff. This extension occurred using a Faculty tab to the Cadet Homepage that is accessible via its own URL (<http://homepage/faculty>).

Also of note, is that the Cadet and Faculty Homepage projects were presented as featured sessions at the 2006 Portals conference at Gettysburg College in June 2006.

This report documents the progress made to date on the Faculty Homepage project. Specifically, we enumerate the purpose and goals of the project, discuss capability developed, identify the basic research involved, suggest some other Air Force applications of this technology, and outline future directions.

### Purpose and Goals

The purpose of the Faculty Homepage project was to extend the benefits achieved by the Cadet Homepage to the faculty and staff of the Academy. The particular goals of this extension are:

- ◆ Provide a customizable initial page similar to the Cadet Homepage but with information appropriate to the faculty and staff with faculty-specific favorites.
- ◆ Provide access to additional web-based resources of special importance to the faculty such as that from the Registrar, DF Commander's Support Staff, Faculty Operating Instructions, and DF Research information.
- ◆ Provide an enhanced interface into the Cadet Administrative Management Information System (CAMIS) based upon automatic authentication and customization.

## Capability Developed

The Faculty Homepage is built upon the Cadet Homepage which is a single consolidated and integrated web-based access point for the full range of cadet information. U.S. Air Force Academy faculty and staff access the Faculty Homepage from within the USAFANET local area network via the address: <http://homepage/faculty>. Figure 1 below illustrates the how the main Faculty Home tab of the Faculty Homepage appears.

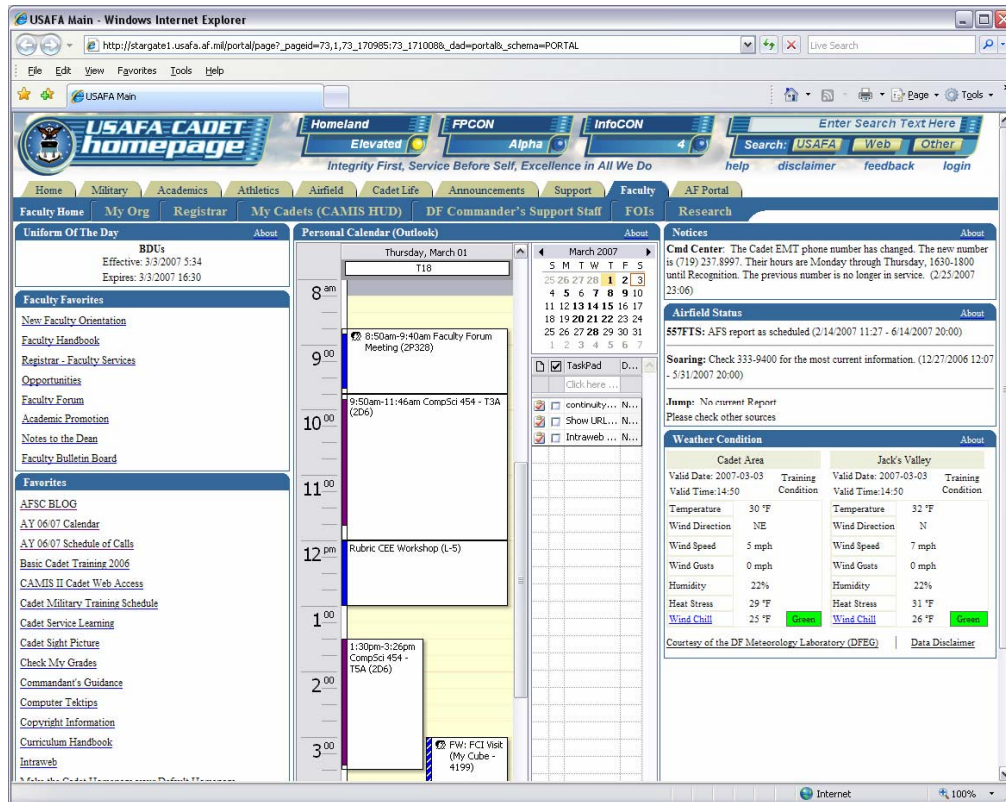


Figure 1: Screen Shot of the Faculty Homepage

The Faculty Home tab of the Faculty Homepage is a customized view of the My Home tab in the Cadet Homepage. Information not of general interest to the faculty has been removed and replaced with additional faculty-specific information such as that in the Faculty Favorites portlet shown in the middle of the left side of the page. Included in that portlet is a link to a Faculty Bulletin Board which is a new interactive BLOG feature also introduced with the Faculty Homepage.

The My Org tab is also borrowed from the Cadet Homepage and provides an embedded view of any web page that the user wishes. The user simply clicks on the Customize link and specifies the URL of the page they would like included. The intent here is that the user can customize their resources presumably based upon their own organization of assignment.

The Registrar, DF Commander's Support Staff, FOIs (Faculty Operating Instructions), and Research sub-tabs contain embedded pages with resources specific to their topics. These are

provided as HTML I-frames so they simply link to externally maintained sites. In this way, the Faculty Homepage, like the Cadet Homepage, operates with a consolidated view but decentralized maintenance philosophy.

The My Cadets (CAMIS Heads Up Display (HUD)) sub-tab provides a streamlined access mechanism to CAMIS. This access is controlled by an automatic authentication mechanism so no separate login is required and the list of available CAMIS applications is specific to the current user. In addition the My Sections, My Students, and My Advisee subordinate tabs are also customized to the current user and provide direct access to the user's course rosters, emails to sections, student photos, student schedules, academic program summaries, and more. The My Cadets sub-tab view is shown below in Figure 2.

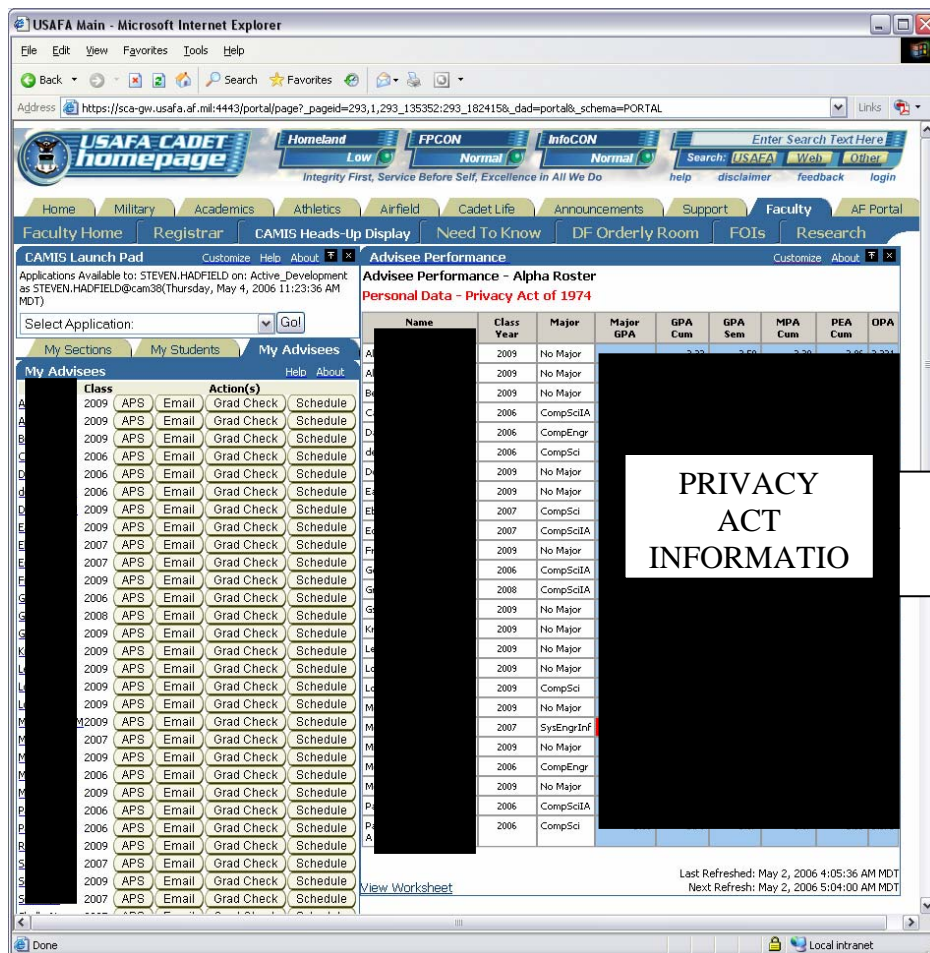


Figure 2: Screen Shot of the Faculty Homepage's My Cadets (CAMIS CHUD) tab

The development of this sub-tab was motivated by complaints and concerns with the existing CAMIS user interface. Enhanced interface mechanisms are employed by this sub-tab using the Oracle 10g Applications Server product which provides a much richer tool suite. Based upon the My Cadets (CAMIS CHUD) development, the Cadet and Faculty Homepages will become

the primary interface to CAMIS and all subsequent CAMIS development will follow the lead of this Faculty Homepage mechanism.

In addition, we have developed some additional subordinate applications to include the Attendance applications shown below in Figure 3. Because we implemented this application in the Faculty Homepage, we can integrate Scheduling Committee Action information (SCA) such as schedule trips and medical appointments automatically into this application.

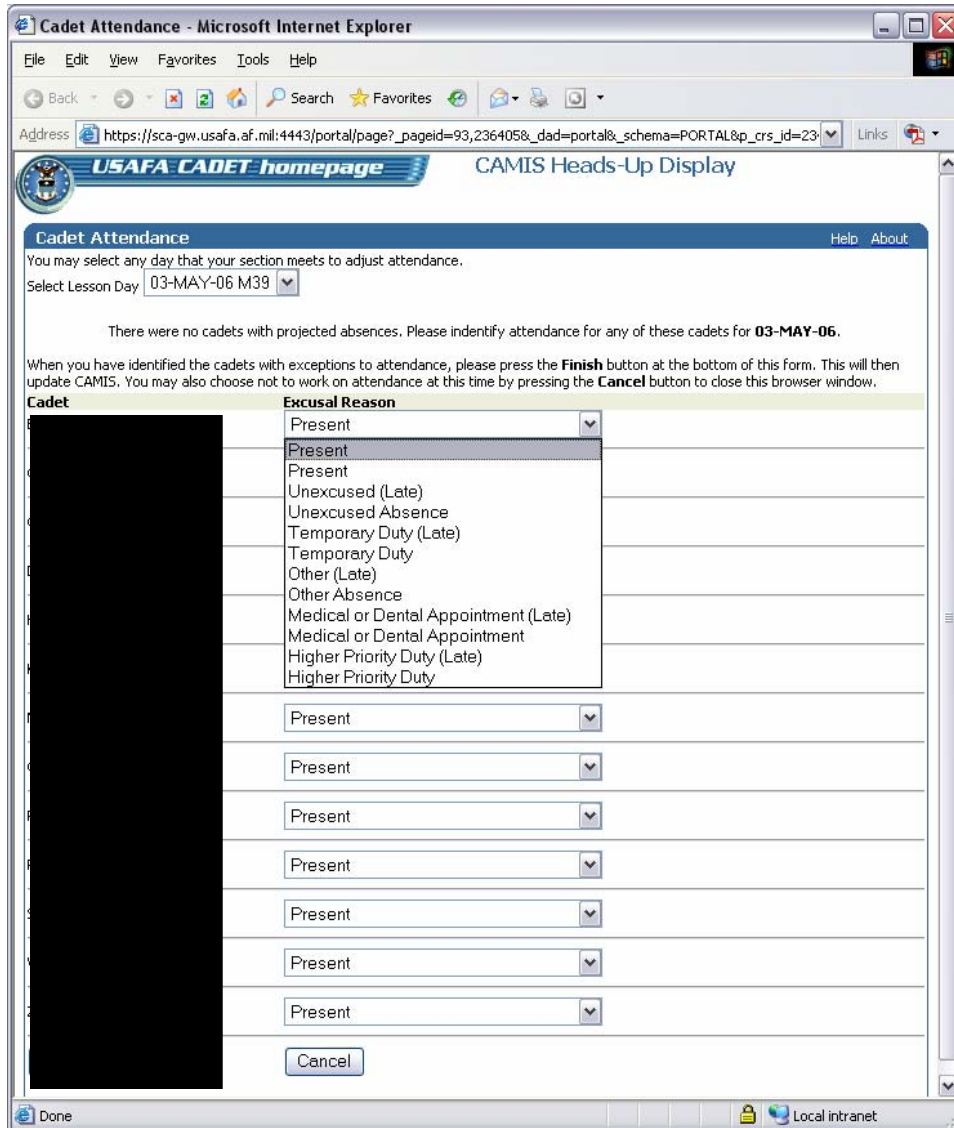


Figure 3: New Attendance Application

## Current Usage

The Cadet and Faculty Homepages have become the primary access mechanism for finding resources at USAFA. Currently we average approximately 38,000 unique sessions each day with an average of 250,000 distinct page viewings within the site.



## **Basic Research Aspects**

Several objectives of the Cadet Homepage project could not be readily achieved with the technology that existed at the time of its development. Specifically, these objectives involved the inclusion of individualized personal calendars with synchronized course appointments that hyperlink to course and lesson web sites as well as securely authenticated users without the use of a distinct login for the Cadet Homepage. Both of these objectives were critical for the project and required extensive research and the development of new software as well as the use of emerging new commercial technology. The Faculty Homepage makes extensive use of the automatic authentication feature.

In addition, the Faculty Homepage's My Cadets (CAMIS CHUD) tab was used to introduce a whole new set of user interface mechanisms based upon role and individual identification. These mechanisms marked a major step in the evolution of CAMIS and are serving as the baseline and template for all further CAMIS development.

## **Other Air Force Applications**

While the USAFA Cadet Homepage was developed specifically for the U.S. Air Force Academy, most all of its features could be applicable to other Air Force educational organizations such as Air University, Defense Language Institute, Undergraduate Pilot Training, Undergraduate Space Training, and many other such organizations.

Minimal added infrastructure would be needed for these organizations to adopt the Homepage capability. In addition to the personal computers and networks already in place at such agencies, the only other significant hardware and software would be a server running Oracle 10g AS Applications Server (which is available at no additional cost under an Air Force Enterprise license). Technical support would also be required for any customizations of the software.

## **Future Directions**

While significant progress has been achieved with both the Cadet Homepage and Faculty Homepage projects, they must continue to adapt and grow to maintain viability for a dynamic and leading edge institution such as the U.S. Air Force Academy. Both the Cadet and Faculty Homepage efforts have now been institutionalized under the CAMIS Program Office which has been realigned from the 10th Communications Squadron to report directly to the USAFA Chief Information Officer. This will vastly improve the cross mission element perspective needed for both the Homepage and CAMIS.

The Office of the Registrar will now play an even more prominent role guiding further development of both the Homepage and CAMIS in large part through the continuing evolution of the My Cadets (CAMIS CHUD) feature.

Continued research and development of the Cadet and Faculty Homepages should include the following enhancements:



- ◆ Ability for users to individually customize their views of the Cadet Homepage
- ◆ Status displays in Mitchell Hall & bus stops with airfield operations status, weather, UOD, and notices
- ◆ More seamless CAMIS-to-Outlook calendar synchronization
- ◆ Additional views of the Homepages customized for 34TRW staff, and 10ABW
- ◆ Tighter integration with CAMIS

## Conclusion

The USAFA Cadet and Faculty Homepage projects are excellent examples of how new and innovative ideas conceived and supported by the IITA research community can be initiated with IITA basic research funding and then embraced by the U.S. Air Force Academy to become a fully operational and deployed system. The initial investment of talent and funds by IITA was matched many times over by the Academy once the utility and benefit of the emerging capability became apparent. Yet, the investment by the Academy would not have happened without IITA's vision and commitment for the project.

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## About the Institute

The Institute for Information Technology Applications (IITA) was formed in 1998 to provide a means to research and investigate new applications of information technology. The institute encourages research in education and applications of the technology to Air Force problems that have policy, management, or military importance. Research grants enhance professional development of researchers by providing opportunities to work on actual problems and to develop a professional network.

Sponsorship for the Institute is provided by the Assistant Secretary of the Air Force (Acquisition), the Air Force Office of Scientific Research, and the Dean of Faculty at the U.S. Air Force Academy. IITA Coordinates a multidisciplinary approach to research that incorporates a wide variety of skills with cost-effective methods to achieve significant results. Proposals from the military and academic communities may be submitted at any time since awards are made on a rolling basis. Researchers have access to a highly flexible laboratory with broad bandwidth and diverse computing platforms.

To explore multifaceted topics, the Institute hosts single-theme conferences to encourage debate and discussion on issues facing the academic and military components of the nation. More narrowly focused workshops encourage policy discussion and potential solutions. IITA distributes conference proceedings and other publications nation-wide to those interested or affected by the subject matter.