

**THE POTENTIAL USE OF THE WEB
FOR ON-LINE SEARCHING**

**Bartricia Williams
Robert L. Armacost
Julia Pet-Edwards**

**UCF 21-TR-98-015
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UCF 21 Operational Excellence Initiative
Department of Industrial Engineering and Management Systems
University of Central Florida
P.O. Box 162450
Orlando, FL 32816-2450
(407) 207-4900
FAX: (407) 207-4903
ucf21@iems.engr.ucf.edu
<http://ie.engr.ucf.edu/ucf21/>

Approved:

Dr. Julia Pet-Edwards
UCF 21 Project Director

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ABSTRACT

This Technical Report evaluates the potential use of the UCF 21 Website for conducting on-line searches for student service information. A prototype structure for an On-Line Student Services Search (OSSS) was developed. Both a hierarchical structure and a keyword structure were considered. Because of the various interrelationships, it was determined that the keyword structure would be easier to implement and maintain. Appropriate keywords were developed for the 107 student services previously identified. Implementation of the prototype system was delayed because of software problems with the website host computer. Several alternative schemes for conducting the search are also discussed.

THE UCF 21 PROJECT TEAM

Dr. Julia Pet-Edwards, Director
Catherine Baltunis, Public Relations,
Christina Caruso, Technical Support
Lucas Henderson, Office Support

Dr. Robert L. Armacost, Systems Manager
Susan Lanham, Systems Analyst
Linda Trocine, Systems Analyst
Bartricia Williams, Systems Analyst

Dr. Charles H. Reilly, Process Manager
Carolyn Pace, Process Analyst
Mitra Eriksson, Process Analyst
Peder Hagglund, Process Analyst

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1.0 INTRODUCTION

The University of Central Florida currently serves a diverse student body population of 28,000 students. Primarily a commuter campus, most of UCF's students live off-campus, or even farther away at one of the branch campuses such as Brevard and Daytona Beach. To bridge all of the students of UCF together and allow easy access to information about UCF regardless of the student's location, a UCF World Wide website has been established. This website serves to provide information about student services, various colleges, student records, registration and more. The use of the World Wide Web has proven a powerful way to connect students to needed information. Another way of harnessing the vast power of the World Wide Web is devising an on-line student service search (OSSS). With the aim of the UCF 21 project to improve student services, the creation and development of an on-line student search using the UCF 21 Website will serve to facilitate information exchange by giving students easier access to the specific student service(s) for which they are looking.

The University, as part of its Strategic Planning Initiative, has provided funding to support the University's Customer Focus for the 21st Century (UCF 21) project to address this need for a systems level study of student services. The primary goals of the UCF 21 project are to: 1) develop a systems level view of student services and their interactions by documenting all critical student service processes and their interrelationships; 2) identify systems level improvement opportunities, including re-engineering; 3) recommend changes and/or in-depth studies; and 4) develop implementation plans for changes and /or in-depth studies. The development of an on-line student services search on the UCF 21 Website will serve to supplement all four of these goals.

2.0 OBJECTIVE

The UCF 21 Website serves as the virtual office of the UCF 21 project. From virtually any computer terminal throughout the world, the purpose, results and information available about the UCF 21 project is easily accessible. A website provides a virtual office that is available 24 hours a day, 7 days a week to answer questions, gather information and provide direction. The website is a non labor-intensive way for the UCF 21 project collect valuable information for use by UCF 21 systems and process analysts.

The on-line student service search is another possible facet for the UCF 21 Website. Students who are looking for a particular student service can access that section on the UCF 21 Website, and be given information about how to contact that service whether it be by website, phone or physical address. The on-line student search would serve to simplify the search procedure by providing an intuitive way for students to quickly and efficiently find the service for which they are looking.

3.0 PURPOSE

Many students are frustrated when they look for a particular student service to help them and are sent from office to office, or some are not sure which office they are looking for and some do not know where to start. The UCF 21 on-line student search will aid the student in finding the service they are looking for by incorporating usability principles into the search process. By putting this search engine on the UCF 21 Website, students matriculating at other campuses or potential students who are not located in the Orlando area can seek out and find timely and accurate student service information without incurring the cost of a long-distance call. This would save money on the part of the student and labor hours for answering the phone on the part of University staff.

4.0 PROTOTYPE INVENTORY

Technical Report UCF 21-TR-98-003 developed an inventory of 104 (later 107) student services available on the UCF campus. This report includes the name of the student service, a contact person and phone number, a physical address, and an e-mail and an URL if available. The on-line version of this report includes active hyperlinks to all of the indicated service providers. Although this report probably does not include all student services, it includes many important ones and will serve as a good foundation for constructing a prototype On-Line Student Services Search (OSSS).

4.1 Design Specifications

Unlike the usual search engines that search an entire website or a collection of websites, the OSSS for the UCF 21 Website searches only one particular webpage. The design specifications require a search mechanism capable of searching the document for any particular student service when a user reads one of the UCF 21 reports posted on-line. Using the search form attribute in Microsoft *FrontPage*, the web development tool used to construct, develop and maintain the UCF 21 Website, an OSSS can be constructed.

4.2 On-hand Prototype Inventory

The student services to be given as a search result of the OSSS are to come from the prototype inventory given in Technical Report UCF 21-TR-98-003.

4.2.1 Top-Down Development

To further narrow the user's search, a collection of categories was proposed. The prototype student services from Technical Report UCF 21-TR-98-003 were organized into five categories: People, Paper, Money, Computer/World Wide Web and Facilities. The results of this initial collection of categories is shown in Appendix A.

4.2.1.1 Paper

This category includes those student services dealing with printed or electronic documents. Such services as transcript requests, the print shop, and the writing center.

4.2.1.2 Money

This category relates to those student services requiring monetary transactions. This includes such services as third party billing, library fines, and short term loans.

4.2.1.3 Computer/World Wide Web

This category relates to those student services requiring computer support and/or use of the web. This includes such services as computer services, information kiosks, and e-mail.

4.2.1.4 Facilities

This category relates to those student services requiring the use of physical facilities on campus. This includes such services as the Arena, library facilities, and residence halls.

4.2.1.5 People

This category is for when a student is looking for a service from another human. For example, when a student seeks out Victim Services, this student service usually constitutes the use of a service physically provided by a human. Because so many of the student services fell under this category, it was decided that more defined categories would need to be devised before constructing the prototype for a top-down search.

4.2.2 Keyword Association

As with other on-line search engines used on the Web, keywords can be used to narrow down a user's search. A keyword is a word that describes something that the user is looking for. For example, if a user is searching for a student service to help her get a job, she could type in the keywords: career, jobs and the returned result of the search could be the Career Resource Center. She would then be provided with the contact information for the Career Resource Center. If this was not the particular student service the user was looking for, she can either do another search using different keywords, or add keywords to the ones she has already entered.

4.3 Beta Test

Rather than conduct a top-down search, it was decided that a keyword search would be easier to construct and maintain.

4.3.1 Initial Construction

Because all of the reports on the UCF 21 Website that can be viewed on-line are in PDF (Adobe's Portable Document Format), utilizing Microsoft Front Page's search engine within a PDF document is not possible. Through the use of Adobe's Acrobat Reader, a user can search through the PDF document using the search function within the viewing window to look for desired student services. Another added feature to Acrobat Reader is the ability for the user to click on a given link within the PDF document and the user will immediately be taken to that particular website. Activation of these links requires programming by the webmaster or other authorized agent using Adobe Acrobat. Acrobat Reader is a free software

package that reads files created with Adobe Acrobat. A link for download of this free software package is included in the UCF 21 Website. An example of this page is shown in Appendix B.

4.3.2 Options for On-Line Student Service Search

Because of the design specifications, a keyword search using a Microsoft FrontPage search form is not possible in a PDF document. However, it was thought possible to search the UCF 21 webpage containing all the reports since that page is coded in HTML. Upon execution of this search form, it was discovered that due to a problem with the configuration of the IEMS server (the server upon which the UCF 21 Website resides) a search form did not appear when the webpage came up using Netscape or Internet Explorer. A consultation with Microsoft corroborated the problem residing with the IEMS server, and action has been taken to rectify the situation.

A possible way around this complication is the development of a searchable database. As discussed in Technical Report UCF 21-TR-98-014, Microsoft *FrontPage* has a Database Wizard with which a searchable database can be constructed. It is theorized that this database, in connection with information gathered via forms software (further explained in Technical Report UCF 21-TR-98-014) will serve as a valuable repository of information that UCF students can rely upon for timely and in-depth information about the particular student service they are in need of. Users can query this database for various student services or keywords relating to those student services and have the necessary information returned to them. Using the keyword information given in Appendix C, a searchable database can be constructed in order to test this search option. Association of student services with keywords can only be done if the index server problem is resolved and/or a UCF 21 database is set up for students to query.

Another option is the submission of key words culled from the prototype student service inventory to the Infoseek search engine UCF is using on their main page. Please note that the IEMS department, which formerly had a Microsoft *FrontPage* search form on the main page, has now linked to the Infoseek search engine on the UCF main page.

5.0 OTHER POTENTIAL USES FOR THE WEB

5.1 Electronic Commerce

An area that is rapidly growing and responsible for an explosion of use of the web is that of electronic commerce. By utilizing secure web pages (indexed with a https:// instead of http://), users could purchase books for classes, concert tickets, pay parking fines and outstanding tuition, and make various other transactions that would eliminate standing in line. Electronic commerce could also provide a convenient way for those students who are matriculating at satellite campuses a way to purchase and/or pay needed supplies and fees without leaving their residences.

5.1.1 Payment of Fees

Before the payment of fees (e.g., tuition, health fee, parking fines) over the Web can be attempted, there needs to be a mechanism for tying all of these computer systems together.

5.2 Inspection of Various Processes

Another use for the Web is for the inspection of certain processes that students have to go through. An example of this is how students often call about the status of admission/readmission and financial aid. Rather than call on the phone to ask about their admission status or if their student loan has been disbursed, students could get on the Web to find out this information. Currently, UCF does have available the Polaris web page (polaris.ucf.edu) for students to check the status of their financial aid, but it does not give such information as if a check has been placed on hold, or if certain financial aid has been truly disbursed. The Student Accounts section and the Financial Aid section of the Polaris website do not immediately communicate with each other. In other words, if the Financial Aid page says that a Stafford Loan was disbursed, it may not be readily shown when one inspects the Student Accounts page.

In the area of Admissions, students can find out if their application has been received, what step in the admission process they are currently in, and find out immediately if there are any needed documents missing from their application. They could also find out if they have been admitted to the University before a formal letter is sent.

5.3 Virtual Classroom

The web can also serve as a Virtual Classroom for the University. Classes can be broadcast over the Web and students can visit the site and download video clips of pertinent portions of that lecture. This could also serve as a more reliable method of deliver than via videotape (which can break). At the moment, video footage on the web is very space-consuming, but as technology evolves, this problem should be alleviated. In addition, class notes with links to pertinent websites could also be provided.

6.0 CONCLUSION

The further development and implementation of an on-line student service search (OSSS) can greatly enhance student services on campus by providing students with an easily-accessible way to contact the services that they need. In addition, non-students can easily examine what student services UCF has to offer and how it compares to other universities. An OSSS placed on the UCF 21 Website can serve as a low-cost way to inform students regardless of time of day, time zone or distance from the University.

APPENDIX A

Top-Down Configuration of Student Services for On-Line Student Service Search (OSSS)

PEOPLE	PAPER	MONEY	COMPUTER/WWW	FACILITIES	MISC
Student Organizations	Holds	Parking Fines	FEEDS	Bike Storage	Telephones
Multilingual Multicultural Services	Transcript Requests	Collections	E-mail (computers, internet access, e-mail)	Early Childhood Center	Transportation
Greek Affairs	Print Shop	Student Employment	Computer Facilities and Services	Arena	
Graduate Admissions	Legal Services	Library Fines	Registration	Area Campuses	
Undergraduate Admissions	Academic Calendar	Student Accounts	Information Services (KIOSK's)	Student Activities Center	
Center for Professional Development	Instructional Resources	Check Cashing	SASS Audit	Commons	
LEAD Scholars Program	Writing Center	Short Term Loans		Student Union	
Leadership Development	All Campus Card	Student Financial Assistance		Student Resource Center	
Learning Institute for Elders at UCF, Inc.	Zip + 4 (Postal Service)	Credit Union		Library Facilities	
Business Services	Early Admissions	Tuition Receipts		Student Academic Resource Center	
Multicultural Student Services	Fee Appeals/Waiver/Refunds	Third Party Billing		Small Business Development Center	
Career Resource Center		Automatic Teller Stand		Residence Halls	
Ministries				Rehearsal Hall	
College Work Study				Parking Services	
Ombuds Office				Orientation Office	
Victim Services					
International Student Services					
Academic Development and Retention					
On-Campus Recruitment					
Continuing Education					
Police Department					
Dispute Resolution Services					
Quality Initiatives					
Cooperative Education					
Counseling and Testing Center					
Recreational Services					
Registrar's Office					
Student Health Services					
Articulation and Community College Relations					
Special Programs (Student Outreach)					
Student Activities					
Veteran Affairs					
Creative School for Children					
Evening Student Services					
Housing and Residence Life					
Honors Program					
Job Placement					
Academic Advising Services					
Academic Clubs					
Academic Exploration Program					
Academic Student Services for Student Athletes					
Alumni Association					
Amateur Radio Club					
Athletic Events					
Food Services					
Student Disability Services					
Bookstore					
Honor Societies					
Public Relations					
Volunteer Services/Service Learning Opportunities					
First Year Advising and Information Services					
Diversity Initiatives					
English for Speakers of Other Languages (ESOL)					
Faculty Center for Teaching and Learning					
Dual Enrollment					
Distributed Learning					
Weekend Student Services					

APPENDIX B

UCF 21 Webpage Containing PDF Files of Technical Reports

APPENDIX C

Listing of Keywords for Database Search of Student Services

STUDENT SERVICE	KEYWORDS
Academic Advisement Services	advising, course planning, course counseling, tutoring
Academic Calendar	university holidays, academic year, school calendar, spring break
Academic Clubs	clubs, academics
Academic Development and Retention	counseling
Academic Exploration Program	academic exploration program
Academic Services for Student Athletes	athletes, collegiate sports, academics, tutoring
All-Campus Card	ID, identification, driver's license, badge, library card, meal card
Alumni Association	graduates, alumna, alumnae, alumnus, alumni, foundation, alma mater
Amateur Radio Club	radio
Area Campuses	local, remote, locations, off campus, satellite, branch
Arena	events, sports, concerts, speeches, event space, event planning
Articulation and Community College Relations	branch campuses, community college transfer
Athletic Events	sports, football, schedule, baseball
Automatic Teller Stand	bank, ATM, cash, money, 24 hour banking
Bike Storage	bikes, pedalcycles
Bookstore	books, classes
Business Services	business
Career Resource Center	resume, jobs, placement, work
Center for Professional Development	professional development, career advisement
Check Cashing	check cashing, money, hard currency
Collections	student accounts, cashier, payments, debts, legal action
College Work-Study	student employment, financial aid, jobs
Commons	eateries, commons
Computer Facilities and Services	computer accounts, passwords, computers
Continuing Education	continuing education, short courses, non-matriculation, non-traditional student
Cooperative Education	high school, work experience
Counseling and Testing Center	life counseling, counseling, testing, SAT, LSAT, MCAT, GRE, GMAT
Creative School for Children	child care, child development, student

STUDENT SERVICE	KEYWORDS
Credit Union	savings, loans, ATM
Dispute Resolution Services	complaint, legal action, dispute
Distributed Learning	distributed learning, branch campus, education, distance learning
Diversity Initiatives	diversity, initiatives
Dual Enrollment	double major, dual enrollment
Early Admissions	early admission, early decision
Early Childhood Center	child care, young children
E-mail (electronic mail, computers, Internet access)	e-mail, internet, computers
English for Speakers of Other Languages (ESOL)	english help, language
Evening Student Services	evening student, non-traditional student
Faculty Center for Teaching and Learning	faculty, resources
Fee Appeals/Waiver/Refunds	fee waiver, refund, appeals
FEEDS	FEEDS, distributed learning, distance learning, engineering, videotape, library
First Year Advising and Information Services	freshman advising, information, resources
Food Services	food, catering, meal plans
Graduate Admissions	graduate office, graduate affairs, graduate studies
Greek Affairs	greek, fraternities, sororities, IFC, NPHC, greek system, rush
Holds	records, register, clearing holds
Honor Societies	organizations, greek,
Honors Program	honors, accelerated studies, intense study
Housing and Residence Life	housing, dormitories, dorms, apartments, apartment referrals, housing information, dormitory activities
Information Services (KIOSK's)	kiosk's, unofficial transcripts, financial aid, personal information, PIN
Instructional Resources	audio-visual, instructional resources, teaching resources
International Student Services	international students, foreign students, resources
Job Placement	employment, jobs, professional employment
LEAD Scholars Program	
Leadership Development	leadership, leaders
Learning Institute for Elders at UCF, Inc.	elders, learning institute, community service

STUDENT SERVICE	KEYWORDS
Legal Services	legal, parking fines, moving violations, divorce, landlord dispute, tenant's rights
Library Facilities	library, luis, resources, books, study rooms, computers
Library Fines	library, overdue books, fines
Ministries	bible, church, synagogue, mosque, temple, study, social gatherings
Multicultural Student Services	multicultural, diversity
Quality Initiatives	improvement, long-range plan
Recreational Services	sports, activities, event planning
Registrar's Office	transcripts, residency, graduation, proof of registration
Registration	courses, courseload, registration
Rehearsal Hall	
Residence Halls	student housing, on-campus housing
SASS Audit	program of study, prerequisites, degree requirements
Short Term Loans	money, financial aid, emergency loans
Small Business Development Center	small business, development, resources
Special Programs (Student Outreach)	student outreach programs, pre-college programs, community service
Student Academic Resource Center	tutoring, help, academic resources
Student Accounts	cashier, payment, late fees, fees
Student Activities	activities, students, social events
Student Activities Center	student activities, facilities, events planning
Student Disability Services	physically challenged, americans with disabilities act, handicapped facilities
Student Employment	jobs, work, part time
Student Financial Assistance	fellowships, assistantships, loans, aid, scholarships
Student Government	government, student, budget,
Student Health Services	doctor, medication, pharmacy, women's health, referral, immunization
Student Organizations	student societies, clubs
Student Resource Center	resources, student
Student Union	facilities, events planning
Telephones	telecommunications
Third Party Billing	third party billing, fellowships, scholarships, grants

STUDENT SERVICE	KEYWORDS
Transcript Requests	registrar, transcripts
Transportation	
Tuition Receipts	cashier
Undergraduate Admissions	admissions
Veteran Affairs	VA, veterans
Victim Services	police, victim's advocate
Volunteer Services/Service Learning Opportunities	community service, volunteer
Weekend Student Services	non-traditional student, weekend classes
Writing Center	writing, tutoring, English
ZIP + 4 (Postal Service)	postal service, campus mail, outbound mail