

**Knowledge Based On-Line Business Procedures**  
**Comprehensive On-Line Business Procedures Steering Team**  
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## **Abstract**

*The University of South Florida (USF) transitioned from an HTML based on-line business procedures information system to a knowledge based system. All USF procedures maintained in the HTML based system were reviewed, updated and clarified, broken down into smaller chunks of information, and imported into the knowledge based system. This has dramatically improved the quality of the information available to users and the responsiveness of subject matter experts to questions received from their customers. A usability test, comparing the time to complete a series of tasks in the HTML based system and the new knowledge based system, found that, on average, users were able to complete their tasks in half the time with the new knowledge based system. The improved search features (category, keyword, phrases) make it easier for users to find information needed to complete their work. Users can choose to be notified automatically when a procedure has changed and have the ability to communicate online with subject matter experts. Management reports are generated to monitor performance and users can rate the effectiveness of procedures in answering their questions. Both of these methods are utilized to identify improvements to process content. Web site address: <http://www.usf.edu/compass>*

The University of South Florida is a multi-campus national research university that supports the development of the metropolitan Tampa Bay Region, Florida, the United States and the world. Since opening for classes in 1960, USF has developed into one of the nation's major public research universities. USF is classified as Doctoral/Research Extensive by the Carnegie Foundation for the Advancement of Teaching, and is ranked among the top 100 public research universities in the annual report "The Top American Research Universities." The University receives more than \$200 million a year in external funding to support research and development projects. With 39,000 students from all 50 states and 116 countries, USF awards more than 4,650 bachelor's degrees and 1,700 master's degrees annually on campuses in Tampa, St. Petersburg, Sarasota/Manatee and Lakeland. The University confers more than 160 doctorates in 31 fields, and more than 90 Doctor of Medicine degrees a year. In its short history, USF has awarded more than 180,000 degrees.

USF's greatest strategic opportunities reflect the University's location: coastline, port, estuaries and beaches; fresh water supplies, clean energy, and other environmental subjects; urban infrastructure. Through research in bioengineering, life sciences, materials science, microelectronics, nanotechnology information and communication technology, advanced manufacturing, and other areas, USF is an anchor for the vast Florida High-Tech Corridor, Florida's most effective knowledge-based economic development effort.

As USF approaches the 50th anniversary of its founding, the institution is committed to serving the people of Florida and the Tampa Bay Region through enhancement of areas of strength and strategic opportunity.

## **Statement of Problem/Initiative**

The Comprehensive On-Line Business Procedures (COMPASS) Steering Team, consisting of representatives from University administrative units and the University Foundation, was charged with examining the existing HTML based system to ensure that it provided easy access to clear information about how to do business at USF and that it provided a central repository that pulled together all University business processes. From May through July 2000 the Comprehensive On-Line Business Procedures (COMPASS) Steering Team held several focus groups with the users of the University's on-line business procedures to assess the strengths and weaknesses of the HTML based system. In addition, focus groups were held with the subject matter experts responsible for maintaining process information in the HTML based system. While both the user and subject matter expert focus groups identified many strengths of the existing HTML based system, several shortcomings of the system were identified.

For the subject matter experts, the major obstacle they encountered with the existing system was the required knowledge of HTML programming necessary to enter or revise process information. As many had limited or no knowledge/skills in website development/maintenance, they did not have direct access to their specific site folders and had to rely on other employees in their area or within the University's Information Technologies office to input new/revised processes. This resulted in a timely process before current information was available to users.

The users of the HTML based system, while preferring the existing on-line system to a paper manual system, identified several areas for improvement. Suggested improvements from the user focus groups included:

- Develop a mechanism for notifying users when a process is changed,
- Streamline the information so user's don't have to go through so many screens to find the information they need,
- Break down processes into smaller bits of information, with a cross reference to more or related information,
- Reduce complexity of language, should be easy to understand, should not use "legal" terminology,
- Include forms with related processes to download and complete,
- Improve search capabilities, and
- Make all University processes accessible in one place.

The COMPASS Steering Team used the findings of the focus groups to identify a better process for subject matter experts to input processes and for the presentation of information to campus users.

### **Design**

Based on the feedback received from the focus groups, the COMPASS Steering Team considered alternatives available for meeting the needs of users of the on-line business processes while also addressing the needs identified by the subject matter experts. The alternatives considered included:

- Making improvements to the existing HTML based system and providing HTML training to subject matter experts,
- Inhouse development of a web based database system that did not require knowledge/skills in HTML,
- Purchase of a proprietary internet software product.

After a thorough examination of the costs, benefits and shortcoming of each of the alternatives, the decision was made to purchase an internet software product, RightNow Web. RightNow Web software is a cross between a knowledge base, a bulletin board, and a constantly growing FAQ, multi-channel, customer-driven eService suite. The product features self-service information to users with three ways to get the information needed: key word/phrase search of relational database; frequently asked questions (searches a solution database); and request personal assistance from the process owner.

### **Implementation**

Startup cost of the project was \$101,818. This cost included the purchase and installation of the software product (\$15,000) and salary/benefits in the amount of \$86,818 for the employees involved in the conversion from the HTML based system to the new knowledge based system. From July 2000 through January 2001 all USF processes maintained in the HTML based system were reviewed, updated and clarified, broken down into smaller bits of information, and imported into the knowledge based system. This required significant time investment by Information Technologies staff to install and test the new software and to develop and implement training (classroom and web based) for the subject matter experts who would be responsible for inputting the information. Implementation also required significant time investment on the part of the subject matter experts to review and update all procedures and to learn how to enter the procedures into the new system.

### **Benefits**

Implementation of the knowledge based system has dramatically improved the quality of the information available to users and the responsiveness of subject matter experts to

questions received from their customers. A usability test administered to a sample of novice and experienced users of the HTML based system, comparing the time to complete a series of tasks in the HTML based system and the new knowledge based system, found that, on average, users were able to complete their tasks in half the time with the new knowledge based system. Result is increased productivity and efficiency. The annual recurring cost savings (employee time savings) is projected to be \$82,362. This includes employee time savings of 20 hours a month (\$6,350 annually) associated with maintenance of the HTML based system located on a University server because the new system is housed and maintained by the vendor; one-third less time required by process owners to update processes with the new system (\$52,872 annually), and 1,472 hours a year employee time savings for users as it takes approximately half the time to complete their tasks with the new system (minimum of \$23,140, based on average salary).

Users of the business process have benefited greatly from the new on-line business process system. Implementation of the new system has prompted interest by other departments to include their business processes, making more procedures available to users. In addition, university forms are integrated into procedures and the improved search features (category, keyword, phrases) make it easier for users to find information needed to complete their work. Users can also choose to be notified automatically when a procedure has changed and have the ability to communicate online with subject matter experts. Users have the ability to provide feedback that directly impacts what and how information is presented. Processes are shorter and more succinct, making it faster and easier for users to find the information they need. Users can also rate the effectiveness of

procedures in answering their questions. If not effective, an e-mail is sent to the process owner, who assists the user and can use the information to improve process content.

The subject matter experts benefit from the new system because it does not require knowledge of HTML. Standard word processing abilities are all that is required, thereby process owners are able to update their own procedures reducing staffing requirements.

It delivers consistent accurate service on a 24x7 basis and empowers faculty and staff to find their own answers quickly; thus reducing phone and e-mail support time.

The new system provides a range of options for handling incoming e-mail inquiries including workflow rules that save time and money by providing the ability to prioritize, categorize, and route incoming e-mail to the representative best equipped to handle particular questions. Another benefit of the new system is management reporting that can be generated to monitor performance. The reports provide information to the COMPASS Steering Team about which processes are not clear. If users consistently have questions about a process, steps can be taken to clarify the process. In addition, search statistics help identify when new processes are needed.

### **Retrospect**

In retrospect, we must ask why we did not recognize that our HTML based system was not very user friendly and replace it sooner. One thing that we would change is the initial decision we made on where the software would be installed and maintained. When the University purchased the RightNow Web software the decision was made to house and maintain the software on one of the University's servers. This placed significant demand on the University's limited resources when problems occurred. Information Technologies staff had to work with the vendor in identification and correction of problems. In

addition, as with any proprietary software product, upgrades to the software required the dedication of significant resources for installation and troubleshooting. Not long after installation, the decision was made to have the vendor house and maintain the system, an option that was available under the terms of the license agreement. This has freed up Information Technologies staff to be available for other pressing technology needs and significant space on the University server.