myinvestiGator: A Custom On-line Financial Reporting Tool for Principal Investigators

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Abstract

myinvestiGator is a web-based, intuitive, easy to use decision making tool for users who wish to view and make changes to sponsored project portfolios, project details and transaction details for over 7,000 active projects.

Researchers often have multiple pots of money, all with different rules and different deadlines, and they wanted a better way to keep track of their grant-funded expenditures. Biologists, historians, geneticists and philosophers are not accountants, and now that the University of Florida has launched a new online tool to track its over $700 million in annual research funding, they don't need to be. myinvestiGator was designed to streamline bookkeeping for researcher's grants.

The myinvestiGator project team interviewed more than 50 faculty members and asked them what they wanted, and they said they wanted a system for monitoring their research dollars that was as simple to use as their personal on-line banking.

Features of the tool include an intuitive web design. Faculty log in and are presented with the projects for which they are the Principal Investigator. The tool also allows them to enter future spending projections or what-if scenarios. The added functionality allows the faculty to track spending and see up-to-date available balances without having to rely on fiscal staff to maintain duplicative "shadow" accounting systems. Faculty get up-to-date information using self-service whenever and wherever they have internet access.

Introduction of the Organization

The University of Florida (UF) is a major public land-grant research university. The state's oldest and most comprehensive university, UF is among the nation's most academically diverse public institutions of higher learning. With an enrollment of nearly 50,000 students annually, the University of Florida is home to 16 colleges and more than 150 research centers and institutes.

UF has a long history of established programs in international education, research and service. It is one of only 17 public, land-grant universities that is a member of the [Association of American Universities (AAU)](#).

UF consistently ranks among the nation's top universities: No. 14 in U.S. News & World Report "Top Public Universities" (August 2013); No. three in Kiplinger's "Best Values in Public Colleges" (2013); No. three in the Fiske Guide to Colleges list of Best Buys among Publics (2014); No. 15 on the Forbes list of best public universities (2013); and No. one on Washington Monthly magazine's list of national universities that offer the best bang for the buck (2013.)

Job recruiters rank UF ninth on the list of places where corporations prefer to recruit new employees (2010) and second on SmartMoney magazine's list of universities whose graduates get the highest salary return for their tuition dollars (2012).

UF has more than 4,000 faculty members with distinguished records in teaching, research and service including 34 Eminent Scholar chairs and 42 faculty elections to the National Academy of Sciences, Engineering, the Institute of Medicine, or the American Academy of Arts and Sciences. Awards include a Fields Medal, two Pulitzer Prizes, NASA's top award for research, and the Smithsonian Institution's conservation award.

More than 96 percent of incoming freshmen score above the national average on standardized exams. Students admitted for the fall 2014 freshman class had an average 4.4 GPA and an average SAT score of 1960.

More than 1,260 International Baccalaureate students were enrolled at UF in February 2014 – more than at any other university in the United States. The freshman retention rate of 96 percent is among the highest in the country. Sixty-seven percent of UF freshmen graduate in four years, and 85 percent graduate in six years. More than 100 undergraduate majors are offered and over 1,200 freshmen and sophomore students participate in the honors program, which offers over 100 honors courses per semester. Most classes are limited to no more than 25 students.

The University Scholars Program introduces UF undergraduates to the exciting world of academic research by allowing them to work one-on-one with Florida faculty on select research projects. The Graduate School coordinates almost 200 graduate programs. Professional degree programs include dentistry, law, medicine, pharmacy and veterinary medicine.

Nearly two-thirds of UF graduates leave the university with no student loan debt. For the remaining one-third, the average indebtedness is roughly $20,700, compared with the national average of more than $29,000.

Among AAU public universities, UF ranked first in master's degrees and second in bachelor's degrees awarded to Hispanic students in 2013.

UF's research enterprise plays an important role in the emergence of the State of Florida as a technological and economic leader in the 21st century. UF attracts scholars whose curiosity about the world results in new inventions and procedures that benefit the citizens of Florida and beyond in countless ways. Research awards have risen steadily over the decades to $702 million last year, placing UF among the nation's leading institutions. More than $323 million of that

total was for health-related research, representing a significant portion of the state's intellectual and economic commitment to biotechnology. Researchers at the Institute on Aging, the McKnight Brain Institute, the UF Genetics Institute, the UF Shands Cancer Center, and the Emerging Pathogens Institute - and throughout the six colleges of the Health Science Center - study everything from adult stem cells to gene therapy.

Statement of the Problem/Initiative

Research awards have risen steadily over the decades to $702 million last year, placing UF among the nation's leading research institutions. With the increased number of funded projects comes increased scrutiny regarding the proper fiscal management of those projects. Biologists, historians, geneticists and philosophers are not accountants and have often had to rely upon fiscal staff in their labs or departments to provide financial reports showing available balances, historical expenditures, and projections of expenditures until the end of the project. At the same time as research activity was increasing, state funded support for administrative staff was declining. The limited administrative staff could not always provide researchers with the timely fiscal data needed to show whether they could fund additional research staff, or if they had funds to buy a critical piece of lab equipment or supplies to continue their scientific research. In addition, the delivered financial reports prepared by the CFO organization were not easily available to researchers and were not easily understood by non-fiscal researchers. During an audit, several researchers commented that they rarely reviewed their fiscal reports because of these issues.

Design

Four team members comprising the Department of Sponsored Research, Contracts and Grants, Enterprise Systems and the Chief Financial Officer divisions, met with 50 faculty members in their offices across campus to gather input on their requirements for a self-service,

web-delivered reporting tool patterned on the concept of on-line banking. Each interview lasted at least 90 minutes and took place over a four week period. From these interviews, the team outlined the most common requirements and built an excel tool to mimic the functionality requested. This tool was demonstrated to some of the faculty interviewees. From this process, the team developed key design principles:

1. The system should know which projects faculty are associated with and, just like on-line banking, the system should present all the active projects in the initial summary screen.

2. The system should present the fiscal information in non-accounting terminology and rather than show codes, show descriptions.

3. The system should show, at a glance, the "health" of the project – for instance, that spending is on track with the project timeline.

4. The system should help the researcher manage the people whose funding depends on soft money.

5. The system should allow the researcher to enter future spending commitments that are not reflected in the fiscal records.

6. The system should be as intuitive as on-line banking so that training is not required in order to use it.

Implementation

At the time of initial development, UF Information Technology resources were overcommitted with major Enterprise Resource Planning (ERP) system upgrades. This commitment threatened to delay delivery of the myinvestiGator project by at least a year. With support from the Vice President and Chief Information Officer and the Vice President of Research, a third party vendor was engaged to help speed up development to meet a six month

timeframe. Working with the third party vendor and UF team members, requirements were documented and agreed upon before coding began. We used the *Agile* methodology with several sprints which allowed team members to review iterative designs and make adjustments before it was too late to make changes. A great deal of effort went into the data structures required in the warehouse to provide the information requested by the faculty. *Agile* required quick turnaround on decisions, usually within 24 hours, which contributed to the project staying on schedule.

Benefits

Faculty Principal Investigators have instant access to current daily balances and transactions without having to rely on administrative support. This frees up administrative time to help the faculty and their home department research new funding opportunities and assist with proposal development.

Although the original focus of the tool was the faculty, departmental fiscal staff have overwhelmingly embraced this tool and use it daily in their work with management of sponsored projects.

Here are some examples of feedback received from our faculty:

- From Jose Fortes, UF Professor and BellSouth Eminent Scholar: "I want to congratulate you (and whoever else contributed to this tool) on myinvestiGator. This tool will save me significant amounts of time and money and it is a great example of administrative and IT services that truly serve UF by making faculty more efficient and allowing them to dedicate more time to UF's mission – education and research – and less time to "administrivia".

- Maureen Long, Associate Professor, College of Veterinary Medicine Infectious Diseases & Pathology: "what a gratifying experience this has been. I know you met

with lots of faculty and produced a great product based on our comments. This is the first time in 12 years I can say that I have ever seen this occur at UF or in 20 years in any University I have been at (three) – it's a new day".

As far as cost savings, we could estimate substantial savings because fiscal staff no longer have to manually tailor reports each month for their faculty. We have 7,000 active projects each month and produce two detailed transaction reports per project. Before myinvestiGator, it would take a fiscal person one hour per month to prepare a tailored report for their Principal Investigator. The average wage per hour with benefits for Research Assistants is $30. Multiply 7,000 projects x 2 reports x 12 Months = 168,000 reports. 168,000 reports x 1 hour x $30 hour = $5,040,000

Harder to quantify is the substantial improvement in fund management. Improving the quality of spending to match the award timelines means less money left on the table at the end of projects; fewer cost transfers which are costly in terms of personnel time and audit risk; and quicker financial decisions to allow the pace of research to escalate.

Retrospect

This project was focused strictly on sponsored project funding and the needs of the research community. After others on campus saw how easily financial data could be delivered with this web based interface, they requested a similar tool for delivery of their Non-restricted funds. Given the time and funding restraints we were not able to address that need at this time.