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Office of the University Registrar Takes 'Expert' Look at Future-Today!

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Table of Contents

Office of the University Registrar Takes 'Expert' Look at Future-Today! ......................3
One of the NERDC's largest and most innovative customers, the UF Office of the University Registrar (O.U.R), is also a showcase for the power and versatility of our advanced computing platforms.

Poised between the need to maintain the records of hundreds of thousands of students, while also keeping up with advancing technologies and the expectations and needs of UF's future students, faculty, and administrators, the O.U.R. faces some of the most interesting challenges to be found in computing.

In this age of the Information Revolution, few offices feel the impact more than the O.U.R., where the primary job is to maintain, process, and distribute information. For a perspective on how this challenge will be met, we interviewed Barbara Talmadge, University Registrar; Steve Pritz, Associate University Registrar; and Earl Robbins, also an Associate University Registrar and head of O.U.R.‘s Systems and Programming Division.

Pritz: "Our use of NERDC may not be obvious to the outside world. We've been using the data center services for a lot of years. I don't know if people realize how much we rely on NERDC; this stuff they use all over campus doesn't just happen. It's not just the Office of the University Registrar; the whole campus is relying on the infrastructure we've built, based on there being a utility that provides us computing cycles in various forms. Bottom line: We couldn't be here without that."

"It's like a pyramid; we're up here on top of the pyramid and the data center is the base, supporting all the stuff that we're doing."

Much of our discussion of the O.U.R. use of NERDC services focused around "Expert," the versatile information engine which operates "under the hood" of most of O.U.R.’s newest service offerings. Expert is a CICS application, running at NERDC, which interfaces with the O.U.R. student-records database, which also resides at NERDC.

Pritz: "When Earl (Robbins) designed the on-line drop-add system, which we were asked to (make available) in the labs, he used the concept of one engine to drive everything. Back then he didn't care what the output device was. So when he built it (Expert), the lab terminals/PCs were the output devices. But he knew that in the future he could make a telephone voice-response box be the output device; he could make student PCs at home be the output devices, and we now have that (dialup through your modem to the NERDC Dialup Servers); and with the right technology, which we also now have, you can use the Web."

Expert drives the TeleGator system, which students now use for registration and drop/add. But there's much more to it.

Pritz: "The TeleGator system is not just registration. It's a system of quite a great magnitude. It's prerequisite-checking, it's a complete new hold system (administrative restriction on student records) that's so amazingly neat and so easy to use -- we just give it to all the college offices. We add no value to the hold process. We only run the system, and people out there do all the placing and removing of holds. Then there's the whole concept of getting your grades a week before you get them in the mail. You just call up. We get 20,000 calls in two days to get grades."

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Robbins: "Financial aid is using Expert. They have a different phone box than we do, but they're still using the Expert mechanism to drive the box. It just so happens that when you do that, it becomes available through all the other interfaces of Expert; we put them on the Web in literally five minutes."

Pritz: "The Student ID office is using Expert to validate students. People come in and enter their Social Security Numbers and PINs, and the staff can see whether or not they're students."

"At the University Financial Services office information desk, they also use Expert. Students can come in and use terminals in the lobby to look at their debt summaries, or whatever other (financial) information they want. Students walk up and do that. All (those capabilities) are now being added into the Web interface."

Robbins: "We have two clientele. We have an administrative staff who know their jobs, know what screen they’re supposed to go to. They go there and they operate it, and nobody else in the world can figure out how to use that darn screen. But they know how, because it was designed for them, to do their process. We did that for a good 20 years; designing screens and putting them out there, to the tune of about 3,000 now, I think. It's just difficult to know how to get to 3,000 different things. But the people who do it every day know exactly how to get to their screens."

"That’s one clientele we've been serving. All of a sudden we've got a new clientele-the students, and there's no way they could ever possibly use (those staff screens), so we had to have an intelligent system."

"It's a decision tree, more or less, that knows where it is at any given point in time; and depending upon what is input, it knows what to do next. And you go there, and it knows what to do next. It goes on forever until you log off. There are literally thousands of paths through this thing, but Expert keeps track of where it's going and what you do."

"And so, if you're on a 'green-screen' (dumb terminal) you can sign on, and Expert will traverse you through whatever you need to do, but it will limit you to the things that are available to your signon."

"There's more than one way to get to Expert. One way drives the telephone, another way drives the computer labs, and they're obviously different, because you can't do a Student Academic Support System (SASS) audit (automated academic advising) over the telephone, but you can obviously do it on a terminal. So there are different sets of things that happen in Expert. It's a very, very flexible tool, and the decision trees are interactively changeable. So if I get a new application, I can add it to the tree, and tell Expert, 'here's a new branch.' Then I go to the text screen that's associated with that tree entry and put the new text on there and now you have a new branch, and it can change interactively like that, and it's doing so on a regular basis."

"I guess the (fastest) change we ever did was when we first brought up TeleGator in the CIRCA computer labs. Steve (Pritz) would go over to the labs with a telephone. The students would be working on (TeleGator) and he would watch them and they'd get stuck; he would ask, 'What's the problem?' and they'd say, 'I don't understand what this means,' and he’d call me on the phone and I would change it; the students would try again, and there would be the new instructions."

Talmadge: "...and they're saying, 'My God! We do have an effect on this university!'"

Robbins: "We're also able to do that with the telephone. I can go on any screen and tell it to use
a different voice segment or go down a different path. After they hang up, the students can call
another number and leave a comment. They'd tell us they didn't understand something, and
we'd just change the voice segment. In fact, within the first hour of the first day, we were in
there changing the way it worked. Expert's pretty good at that.

If (you only want to put up text), you can do it on-the-fly, in production, a whole new system.
Expert allows you to call subroutines and use different files with the same subroutines, and the
subroutines can take over and run the screen until they're done. Then they go back to the brain
of the whole thing, and it takes off and goes down the next path."

"Now, we're doing the same sort of thing on the Web. One early user got to a part of the demo
which wasn't finished yet, and said 'This looks like CICS (Customer Information Control
System).' Well that's it; the whole thing is CICS."

"Information Systems is reading debt summaries on the telephone. And, using Expert, they put
up, without any help from me, the screens to drive the TeleGator phone. It took them about
two weeks to put up their debt, financial holds, and audit pages."

**Pritz:** "And that is an amazing testimony to the power of (Expert). This tool really gives us
something where we can be more responsive than we've ever been."

"The nice thing about this is, you've got the full GUI (Graphical User Interface), and you can
keep one foot on the dock and one foot on the boat, with the boat moving away, and you're still
in business. You've got screens that aren't converted yet -- they're out there, with limited point
and click; and you've got (material) you've converted and made nice with radio buttons and
such -- It's all out there, all functioning."

**Talmadge:** "The full functionality is what makes us different from what other people and what
they are showing at presentations and trade shows. We have all the applications Earl has
created over the past 20 years available on the Web now-really, really everything that we
previously were able to use only on dumb terminals."

**Pritz:** "The President and Provost have been doing a lot of presentations, and I don't think
people really have picked up on the fact that what they're showing is not a model, it's a
working version..."

**Talmadge:** "...We can't show real student data because it would violate the Buckley
Amendment (Privacy of Student Records act); We're calling it a demo because we only use
two fake student records, but every (real) student is out there."

**Pritz:** "If Regent so-and-so had his son with him, and his son had his PIN, they could look at
the son's real records. I think that's the key; everybody else is using 'vaporware.' "

**Robbins:** "Students can now apply for admission to the University on the Web. We have
received some applications (that way), and the applications are now in the system. This was
designed back in the spring, but people are just now beginning to (apply for admission ) (and)
use it. It works very nicely. It's all HTML, all GUI; then we collect the data and pass it to
CICS."

**Talmadge:** "It was very clear the President was interested in the Web a year and a half ago, and
he said, 'We've got to do this.' And we did it."

**Robbins:** "We also created the on-line Graduate Referrals system (transmitting graduate
student admissions applications to the college deans' offices) during that time frame."
Talmadge: "And, for the first time, I got no complaints from the colleges about the speed of processing graduate applications. And if it needs graduate school review it's automatically routed to the graduate school and they route it on to us when they're ready. We also developed an undergraduate referral system along the same lines."

Robbins: "We're now taking admission applications via FIRN (Florida Information Resource Network), also. FIRN is now able to take applications from students on diskette, and they're transmitting those applications through FIRN. We have merged some of those in now, and that's a production system for us, as well."

Talmadge: "NERDC's willingness and ability to bring in DB2 training has been instrumental in our ability to start moving this office toward using DB2."

Robbins: "They made a very nice offer to train our staff, and they have been very supportive of DB2, which is part of our Year-2000 plan. Now, the things which need to be converted to DB2, which also have an impact on that, can be done. Otherwise we'd have just had to retool the old system, and then redo it again in DB2."

Robbins: "All of these projects really started back in 1976, when CICS was installed at NERDC. They built a structure at the data center and encouraged the rest of us to go out and build applications. I took that to heart early on, and I learned CICS. My staff has been committed to CICS since then, and today remain committed to CICS, because it's a wonderful platform that's transaction-oriented. It's served us in all the different venues we have had to go to over the years. They've just given us great support. The week a representative from the manufacturer of the Web interface device was here, we were basically developing in production, and the NERDC systems staff was putting things in for us in minutes. It was a wonderful experience."

"If you're going to do the applications, you have to have the horsepower someplace, and centralizing it is a good solution for me."

Pritz: "Anytime we are given a charge, we always make sure a member of the team from the data center is present, because we know when we're on the firing line, we need to be able to say 'OK, we need this, can you do it?' 'No problem -- it's done.' For this last project, the NERDC team member was John Bevis; he was at every meeting, anticipating things the data center could do for us before we (thought of them ourselves). It happened that way because we were keeping him informed at every step."

Robbins: "Today, one of the main criteria people are using to decide what system to use is scalability. NERDC has always provided us with scalability-no matter what we do, they are able to handle the load."

"Between 1976 and 1985, we put up fewer than 70 screens. Since then we've done 3,000; maybe 4,000, depending on how you count them. At one time I was putting up 10 a day. And (NERDC) has always handled it. That's a tribute to Ron (Schoenau, NERDC Director) going out and getting the money, getting the machines installed, and keeping ahead of it."

"Last August (1995), there were questions about whether we would have the resources to handle a million transactions per day, which we do in drop-add now. They got their folks together and put in the new CICS that we needed to make it happen. Constantly they're staying one step ahead of us, which we just couldn't do if we had to run our own boxes."

"When you go ask for a SASS degree audit, and it comes back and gives you a nice GUI audit,
it did 13 screens in the background, just like that. Without that kind of computing power, you can't do these things. The data center has always been committed to that, and that's another place they've served us well."

"Now, we're starting to look at the possible uses of the NERSP platform. We may move our e-mail there eventually, and we may move our Web-server there."

Pritz: "We could never afford to keep boxes big enough to handle the loads we are going to generate in the Web arena. The NERSP sounds like a wonderful platform to handle, at a university level, the level of traffic we're going to generate, because we're the gateway to the university in a lot of ways."

Your Comments are Welcome

We welcome your comments and suggestions on this and all UFIT documentation. Please send your comments to:

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