AWARENESS, RELATABILITY KEY TO DRAWING STUDENTS TO THE MAINFRAME

Overview: Robert Morris University's Dr. J. Packy Laverty explains that a type of salesmanship helps increase awareness of the mainframe among college students. Corporate involvement at the high school and college levels, he says, is needed to introduce the mainframe to students and champion its merits as a critical computing platform and appealing career choice.

The shortage of new mainframe developers is well-known. Professionals who have worked on the platform for decades are increasingly reaching retirement age, leaving companies searching for replacements. While this is happening, years of misplaced promises of the mainframe's demise have made fewer schools concentrate on the mainframe and fewer students interested in careers. Bridging this gap is crucial to survival as the mainframe cements its role as the backbone of the digital economy.

In May 2020 I interviewed Eastern Carolina Adjunct Professor Dr. Cameron Seay about his advocacy for the mainframe and the career opportunities it offers. He explained that while the mainframe is "invisible" on campus, students exposed to COBOL and mainframe computing are willing to consider careers on the platform. Increasing student awareness and having more employers recruit on campus, he said, are key to meeting the challenge of replacing mainframe talent.

Recently, I had the opportunity to speak with Robert Morris University (RMU) professor Dr. J. Packy Laverty about COBOL and the mainframe on campus, and how more students can be enticed to

choose careers on the mainframe.

Originally an accounting, finance, and economics professor, "Packy," as he prefers to be called, was asked to begin teaching computer classes in 1979 when a dean learned that he had purchased a Radio Shack Model I personal computer. In a career spanning 44 years, he has taught at University of Pittsburgh, St. Vincent's College and other schools, and is currently a Professor of Computer Information Systems at RMU. In addition to working with IBM's Z System Academic Initiative and Master the Mainframe, he is an Education Special Interest Group (EDSIG) Distinguished Fellow.

Awareness

In Dr. Laverty's opinion, the first obstacle to recruiting mainframe talent from college is awareness. "No high school student or freshmen ever came to Robert Morris that said they want to work on a mainframe. There is zero awareness."

The responsibility for raising awareness is shared. "The first thing you need to do," he says, "is to get awareness at the high school level and awareness among the faculty." While programs like IBM's Master the Mainframe engage high school and college students in a fun learning environment, companies should also look to sponsor high school programs and speak face-to-face with college faculty at education conferences.

Internship programs and even company-sponsored scholarships will also help increase awareness of the mainframe careers that are available. Last year, according to Dr. Laverty, a Pittsburgh-based bank offered an internship for RMU students who were willing to learn COBOL. "So," he says, "the employers are doing interesting things out there."

But faculty must also help raise awareness in the student body. According to Dr. Laverty, one secret to RMU's success in developing mainframe talent was former Computer and Information Systems (CIS) Department Chair John Turchek, who would speak to every incoming freshman CIS student and their parents about the opportunity presented by the mainframe.

Dr. Laverty says, "Well, how did he convert these people over? Because the parents were with them. The parents were working with a company that had a mainframe. 'Johnny, Sally, you're going to take one course in the mainframe, just try it out.' You can't do that by having somebody search on the internet. He talked to probably 200 students each year, either active students or graduate incoming students."

This personal level of attention and what Dr. Laverty calls "salesmanship" helped draw students to a platform they may not have even known was in existence.

COBOL: Just Another Computer Language

A common criticism of COBOL is that it is an antiquated language, difficult for students who may be more accustomed to languages like Java or C. Dr. Laverty says that the key to overcoming this obstacle is to point out analogous facets of each language. "Students are not accustomed to text-based systems," he says. "You need the analogies to talk with today's students."

> *All programming languages are the same. What is a data division in COBOL? It's the exact same thing that you do in C, C# and other languages. You declare the variables in the data types, it's no different.*

"This is where AMI DevX excels....You've got to take what they are familiar with," he continues, "the holes that they are familiar with and take it out of the COBOL atmosphere.... If you can program in any single language, I can easily teach you COBOL.... Anybody can learn COBOL. Anybody who has the desire can teach COBOL to today's students. There's no question in my mind."

The Curriculum

Once students are interested and can relate to COBOL, a strong mainframe curriculum helps them prepare for a variety of careers. RMU gives students the opportunity to choose the mainframe as their five-course area of interest for the Computer Information Systems degree, or to bolster their skillset with any of the five mainframe courses or Enterprise Systems undergraduate and graduate certificates.

While many mainframe students from RMU go on to work at Pittsburgh-area banks, according to Dr. Laverty familiarity with the mainframe opens other doors. "We have somebody who went with cyber security from the government. We have an accounting major who graduated last year. He went into auditing mainframes because he had a mainframe course, but he wanted to get his CPA. He got retooled. It's crazy, you know, with the shortage and the demand, you've just got to know where to look."

The Future

RMU students learn directly on the college's mainframe, a system used by eight other colleges. Dr. Laverty is working with schools like New York's Farmingdale State College and Bethany College of West Virginia to develop mainframe curricula because he recognizes the incredible potential the platform offers for valuable and rewarding careers. The mainframe, he says, "is the best thing that has happened to my students. I'm not doing it for me. I'm doing it for my students."

And those students have excelled.

"Seven years ago, I had four students who talked at the Pittsburgh SHARE conference. Last summer, I had 12 students who presented at the Pittsburgh SHARE conference. And they were great. Every one of them, they are better than I am. And as an educator it doesn't get better than that."

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