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Student puts IT expertise to work for schools

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Utah State junior uses lifelong love for computers to help expedite school selection process

By Dennis Carter, Assistant Editor

Primary Topic Channel: [Computers](#)

A process that once took hours now takes minutes for a few dozen schools, thanks to the computer talents of Utah State University junior Joseph Irvine.

Irvine was a student at Arizona's Tempe Preparatory Academy in 2004 when he watched administrators orchestrate the yearly lottery admissions process. Students and their parents sat patiently in a room, hoping their name would be drawn from the pile of numbered paper scraps. The process was excruciating, Irvine said, and took close to three hours. School officials had to restart the lottery when they couldn't tell the difference between a 69 and a 96, Irvine said.

"It was an extraordinarily inefficient process," said Irvine, 20, who majors in management information systems at Utah State. "And I knew the computer is a valuable tool that never makes mistakes."

The son of a mechanical engineer who has written computer code since age 7, Irvine applied his technological prowess to the academy's lottery process. He designed software that would replace the antiquated selection process with a digitized version, complete with automatic backups that could be distributed and archived. The program simply generates a list of random numbers representing students hoping to gain admittance.

Tempe Preparatory Academy--which serves students in grades 7-12--used Irvine's program the following school year (2005), and the arduous lottery process took a few minutes instead of a few hours.

Four years later, about 25 schools use Irvine's lottery software, which costs between \$50 and \$250, depending on enrollment. Irvine said he has not focused on marketing the software to colleges and universities yet, because he wanted to distribute the lottery solution to elementary, middle, and high school officials who could benefit from the easy-to-use program--but he'd like to expand to the college market soon.

Terrace Community Middle School is one of several Florida schools that have adopted Irvine's lottery solution. Helen Ratcliffe, the school's director of student and personnel services, who has headed the admissions process for 10 years, said administrators sought a more efficient way to conduct the annual lottery as student applications increased in recent years.

"As our student population has grown, I felt there was a need for a program such as this," she said. "After researching various programs, I felt that Joseph's was the one that would best suit the needs of our school."

Terrace Community Middle School, a public charter school that serves sixth, seventh, and eighth graders, opened with 120 students in 1998. The school now has 528 students, Ratcliffe said. In January, applicants' names are placed into a lottery.

"Over the years, as the applications increased, so did the time required to draw the names," said Ratcliffe, who added that the lottery process took about two hours last January. "Now, we are finished within 30 minutes."

Irvine is practically an IT veteran at 20 years old. When most kids' lives revolved around cartoons and video games, Irvine was poring over books about C++ --a common programming language in the software industry--and fiddling with algorithms. He was hired for computer contracting jobs in middle school and began setting up businesses' networks at 16.

"I just took off on my own," he said, "because I really wanted to understand these things."

Irvine also has written a program that could give schools and colleges a paperless enrollment process, allowing for hundreds of dollars in savings every year, he said. Digitizing enrollment forms also would save school staff dozens of hours of processing time that could be dedicated to other pressing needs on campus, said Irvine, who added that he plans to offer the paperless enrollment software to schools free of charge for a limited time.

"It pains me to see them process these paper applications when I know it can be done online," he said. "And I want to do this community service."

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