STCC Student Creates Sudoku Puzzle Solution

Christopher Walker-Ray of Sunderland, a Computer Science Transfer student at Springfield Technical Community College, has created a computer program to solve the Sudoku puzzles that are sweeping the country. The Sudoku puzzle squares appearing in books, newspapers, and now websites devoted to the game have made it a numerical version of popular crossword puzzles. No math skills are required, and the challenging 200-year old Japanese game has become an intriguing and apparently addicting pastime.

Even an expert player can need an hour to complete one of the puzzle grids, says Antonio Silvestri, Computer Science Transfer professor at STCC, who assigned a Sudoku solution as a project in his Data Structures class after seeing a news report about the game. "People around the world are occupying their time toward a solution of these puzzles," he said. "The rules for Sukodu are quite simple. Each puzzle square starts partially filled in; you complete the 9x9 grid so that every row, every column, and every 3x3 box contains the digits 1 through 9 with no repeats."

Applying techniques discussed in class, Walker-Ray wrote an "applet" to solve Sudoku puzzles. It can be accessed at http://www.chriswr.com/Sudoku/Sudoku.html. Silvestri says, "Chris's interface makes it very easy for a user to enter a puzzle and have it solved. People who are frustrated with the solution of a game will certainly appreciate Chris's work." Silvestri noted. "I've seen Sudoku solutions on websites, but Chris's Sudoku Solver is simpler and easier to use."

A second Computer Science Transfer student, Ian Ricci of Springfield, took on the assignment of rewriting a program called RDNSLOGS. Originally developed by Silvestri, the program allows website operators to identify the visitors to their site by webserver address. The Windows program reads log files generated by web servers and produces a file of DNS Reverse Lookups, says Silvestri. Essentially, it translates the numeric IP addresses in Windows log files to the corresponding host names. This way a webmaster can generate a report showing information on visitors

by country of origin, type of platform (Mac or PC etc.) and domain name. More information can be found on Silvestri's faculty website http://faculty.stcc.edu/silvestri/rdnslogs.

Silvestri said that since writing the program two years ago, "I've received many requests from around the world for a similar program that will run under other operating systems." He has regularly assigned the problem to his Java and Data Structures classes, but it was Ricci who finally created the solution.

"Ian decided that a port of RDNSLOGS written in Java would fulfill the requirement that the program run universally on every operating system, from PC to Macintosh, to Solaris to Linux. The Java computer language was designed to allow a program to be run on any computer that contains a Java Virtual Machine, which all computers now do. You may download Ian's Java system from his website at http://cs.stcc.edu/~ricci/rdnslogs."

Ricci, a graduate of Cathedral High School, is transferring to the University of Massachusetts Computer Science department starting this month. He'd like to continue on to earn a Ph.D. and eventually own "a big corporation along the lines of Microsoft." He's been an independent contractor, and already owns a small company, Remagine.net. The two-year-old company is doing pretty well, he reports – in network design, website design, graphic design, and marketing. "Going to STCC is awesome," he says. The faculty are great, and Tony Silvestri is a cool guy and a really good teacher."

Walker-Ray, a graduate of Amherst High School, has found STCC and the Computer Science Transfer program "a very positive experience. The staff are very encouraging, they'll spend time with you to be sure you understand." His goal is "to have options -- be able to work anywhere, to be invaluable." He'd like to "get into software development, or animation, web page structure, video games, and database stuff." He'll be transferring in the fall to the University of Massachusetts in Computer Science.