May 9, 2005

Dear Student,

Recently, the RIT Department of Computer Science was one of three universities nationally to obtain a grant from Microsoft to infuse gaming into our introductory programming sequence. This is not a grant to change learning outcomes, but it does allow us to develop new and innovative ways to teach programming in order to help students learn effectively. The new course materials will emphasize games (both serious simulations and entertainment software) as an application area.

In order to properly study the effectiveness of the new material and its presentation, we have chosen to run this course sequence as a one-section pilot that spans Computer Science 1-3, starting with a program in the summer quarter – before you arrive at RIT. Because of the nature of this study, students will not be invited to join this pilot in any quarter other than summer. More information on this program, officially known as Reality and Programming Together (RAPT) may be found at http://www.cs.rit.edu/~jdb/rapt and for your convenience the application form may be filled out on-line at this site.

To make this program a success, we need your help! Currently we are recruiting 45 entering Computer Science students who would like to participate. If you are interested, you must fill out the enclosed application form and send it back to us. Those students, who are interested and qualified, will be selected for participation on a first come first served basis. Please be advised that all students who wish to participate should have enough time to participate in a 10-week summer distance program. This distance program will allow you to complete all requirements from your home and will not require travel to Rochester prior to the fall quarter move in date.

What can you expect from participating in the RAPT course sequence?

1. All students in the pilot will participate in a summer distance program that is equivalent in content to Computer Science 1 (CS 1). This course will introduce students to Unix through a series of games as well as through having access to a regular CS Department Unix account. The summer program will have all of the components of a graded course, but will not carry a course fee or course credit. We expect to have a variety of activities such as on-line chats with people from the games industry in order to enhance the experiences of people who participate in the summer program.

2. Participating students must take a placement exam upon coming to RIT in the fall. Results on this exam will place students who have successfully learned the CS1 materials (via the distance course) into the pilot (RAPT) section of CS2 in the fall quarter. Students will not receive credit for CS1 and will need to determine how to use these “freed up” credits in consultation with the Undergraduate Program Coordinator upon arrival at RIT.

   Anybody who does not satisfactorily complete this exam will be placed into CS1. Students will not lose anything if they do not pass and in fact may gain substantial knowledge over the summer that could help with the regular CS1.

3. The pilot course (CS2) in the fall will be taught in a studio course model (2 sections of 20 students each). These classes are roughly half the size of typical CS sections and typical sections consist of 5 hours of class per week (split between lecture and lab). Because studio courses are more “hands on”,
they combine the lecture and lab and meet for a total of 6 hours per week. CS3 will follow in the winter and will also be taught in a studio course model.

4. The outcomes for CS2 and CS3 will remain the same, although the courses are quite different. **Data structures, algorithms, inheritance, and development processes will be emphasized with games as an application area and using the C# language instead of Java.** Given the similarities in language syntax between the two languages, we believe that students will not be held up by the change, but will benefit from the familiarity of the Windows platform and the usefulness of development tools offered in a Microsoft environment. Since we are using the studio model of course presentation, it is easier to introduce students to some of the basic Microsoft tools that can enhance their productivity.

5. A student that fails out of the pilot section in either fall or winter quarter will be able to enter the appropriate “typical” course section in the next quarter. All students at this point will have had one course taught in the Java language and thus can continue in sequence without delay.

6. CS3 will culminate in a group project consisting of several students who have designed a game within a specific set of requirements given by the instructor of the course. Currently, CS3 has no group projects.

7. All students coming out of CS3 will go into a typical CS4 course section, taught in C++. There are no proposed changes for the CS4 curriculum.

We expect that students will benefit from taking this pilot through use of the studio course model and through their introduction to modern productivity tools for software development. Students may be more motivated to achieve due to the visual nature of computer games. If you have any questions about this new opportunity, please feel free to send email (jdb who is at cs.rit.edu).

Sincerely,

Jessica Bayliss, Ph.D
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