

How an active Computer Science Club can Heighten Student Proficiency
Poster Abstract

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The University of Illinois - Springfield has developed an educational philosophy that recognizes that a complete educational experience extends well beyond the four walls of the classroom. A standard sixteen week semester does not provide enough time to thoroughly allow students to master key industry practices and skills that are needed by working computer professionals.

At UIS, we have actively developed a Computer Science Club program which provides in-depth application experience beyond the core curriculum. By allocating time and resources to our club and its activities, we have been able to foster skills that cannot be easily taught in the classroom.

We have many annual events that the computer science club cosponsors and attends that have proven to increase student proficiency, including: FIRST Robotics Mentorship, Club Server Administration, and GirlTech Summer Camp. Most of these events involve weeks, if not months of planning, and, due to the nature of annual events, we build upon the experience of prior years to accomplish the desired result.

Recently, we have been tasking our students to short, undocumented tasks to encourage agile learning and even a small bit of failure. At UIS we have a faculty and staff campaign, where the goal is to increase awareness to clubs and departments. This year the theme was "Treasures Under the Sea". We tasked our club members to create an exhibit that would "Wow" the audience. The students were able to submerge a working computer in an aquarium. Patrons were able to browse the internet, play games and even tweet from our submerged computer.

A less immediate but still vital task that the club members have been given is to design, implement and maintain a Cyber-warfare arena aptly named 'The Jungle'. This is a closed network containing multiple machines using many different operating systems. This project is encouraging our club members to work with multiple operating systems, development environments, programming languages and software packages. By giving the students complete and total control of a corporate level project we have noticed a significant increase in student drive, participation and working knowledge. The students involved in this project are performing research on their own time and asking intelligent and insightful questions.

These extra-curricular Faculty/student creative projects provide the opportunity for increased interaction outside of the classroom. Expanded faculty involvement allows the student to gain valuable knowledge in growing technological fields. Monthly meetings and guest speakers are important, but it is through the hands-on interaction on large projects that the acquisition of useable skills is achieved.