

Humanitarian Free and Open-Source Software (HFOSS) Development Project Abstract

As part of a National Science Foundation Grant funded project at Trinity College, Bergen Community College proposes to conduct a 10-week Humanitarian Free and Open-Source Software (HFOSS) development project beginning May 24, 2010 and ending July 30, 2010. BCC faculty members have been enthusiastic users of open-source products on campus for a number of years. Many open-source products that were novel experiments at one time have become essential to campus culture and are a part of the software images deployed campus-wide on hundreds of computers in free-time labs. Faculty members have been eager to find a substantial way to move forward and actively engage in open-source development. This is a compelling opportunity.

The project will extend an existing HFOSS project, the Portable Open Search and Identification Tool (POSIT) project, underway at Trinity College in Hartford, CT since May, 2008. One possible enhancement proposed by BCC will permit a smart phone to be used by community health care workers as a field tool to gather and report health data to a central location. More significantly, this project will serve as a springboard toward making open source software education at BCC an ongoing self-sustained effort and will help BCC promote HFOSS education at community colleges and high schools in the region. This project has the potential to fundamentally impact curricula in both Information Technology and Computer Science at BCC. It will strengthen any of the programming-related IT and CS offerings at the school (AAS.MED.INFO, AAS.BT.INFO, AAS.WEB.MGMT, AS.PS.INFO, the proposed Gaming Degree and AS.NSM.COMP.SCI). It can help to build links and pathways for students from high school, through community colleges and on to 4-year schools.

POSIT is a mobile application for smart phones that run on the Android operating system. It was initially conceived of as a tool for use in emergency situations where the phone could relay timely information about coordinates, along with photos and simple text messages, to a central server. Another feature in the software is designed to enable several owners of such devices to communicate directly with one another in situations where the cellular network is unavailable. As of January, 2010 POSIT is 2.5 years old which, by open-source standards, is still very young, making it a prime candidate for further development.

We envision two faculty members and three to five students who will collaborate on learning the POSIT development environment and who will work on the POSIT project. A third faculty member will also work throughout the project, but will also have a coordinator role as well. The goal of the 10-week program will be to introduce, use and develop open source software at BCC so that the approaches and methodologies used can be integrated into IT coursework over time and shared with other academic institutions in the region. During this time, faculty and students will be introduced to open source concepts, to the Android operating system, to the POSIT code base, and will begin development of a new POSIT feature at a level appropriate to the community college educational environment.