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CEP 815
Sustainability Project

Appendix A



It is no secret that technical classes in the computer science field at some colleges and universities are barely covering the basics and don't really prepare students to enter the workforce. Software and Hardware College classes do not exposed students to real life experiences. As a result, students lack the skills necessary to be confident about their technical capabilities. This causes them to struggle in more advance classes and in the work place. There is a solution. It involves a creative but simple, effective, and self-sustaining approach to teaching college students through real life purposed-driven projects. In essence students would use real brand new computer parts to learn everything they need to know about computer hardware and software. When the class is over students can sale the computers they built and buy new parts for the next class using with the money they made by selling the computers they assembled.

1) The learning problem:

Students are not gaining enough skills in the computer class that teaches them how computer systems work.

a. Local context.

Colleges and universities do not have the technical resources to provide students with appropriate learning experiences in the technical classes of the computer science, computer information systems, and other related fields.

b. Problem Statement.

Students are not learning the technical skills necessary to be competitive in industry.

c. Problem description.

Software and Hardware College classes do not exposed students enough to real life experiences. Therefore, students are not gaining the skills that will make them feel confident about their technical capabilities. This causes them to struggled in more advance classes and in the work place.

The college's mission is to equip students with the tools they need to get out into the industry of their choice and be a productive member of society. Unfortunately, many colleges fail to provide students with the technical skills they need. Oftentimes the lack of resources prevents the college from letting students gain experience in their field of study. Sometimes it is the curriculum itself that is not design with the student's learning in mind but instead with the college's interests in mind.

2) A technology-based solution:

a. Solution briefing.

I proposed we use computer hardware and software to enable students to learn using new equipment and real life purposed-oriented projects. When combined, computer hardware, software, and people's skills and leadership, can support an on-going learning/teaching initiative and produce a self-sustaining solution to a common problem.

b. Support

On-going support can be provided by the instructor teaching the class. As information systems professional and an educational technology leader I would be able to serve as an adviser to provide guidance and leadership in technology trends and support solutions.

c. Cost

This initiative can be scaled down or up, depending on the funds available each term. The operational piece of the initiative consists of building and maintaining computers for fellow students throughout campus as part of the curriculum in the Software and Hardware class. A project like this can be started with free, borrowed, or donated tools. Once some funds have been collected the class can invest in new hardware, software, and other tools.

3) Funding the solution:

a. Funding your solution.

I will gather initial funds by hosting a “PC Clinic” for all students on campus. We can charge a relatively small fee (\$9 suggested) for basic PC repairs. PC Clinic should be staffed by tech savvy students who have taken the hardware and software class before and supervised by the instructor.

b. Viability

What makes this viable is the fact that just about everyone on campus needs to have a computer nowadays. Also, most people do not have a brand new computer. Furthermore, most people don't know how to fix their own computer issues. These items create a perfect full circle for the our students to learn by servicing and assembling computers.

4) A path for implementation:

The fact that students are not gaining the skills needed to perform once they are out in the field is a problem. Furthermore, since schools don't have the resources to teach in depth hands on technical skills these students will have to move on knowing only the very basics. As a result, students end up going to more advance classes and sometimes graduate without having a good foundation of the core technical knowledge and hands on experience required by employers. I proposed a simple inexpensive and self-sustainable solution to such a problem.

The implementation plan will start with the promotion of a PC Clinic. The PC Clinic should be promoted as an affordable, accessible, and professional solution to PC problems for college students. I will have the Computer Science instructor(s) teaching the Hardware and Software class to lead the initiative since they and their students will be the main benefactors.

The skills necessary to conduct a PC Clinic are: Basic troubleshooting techniques, knowledge of the Windows and OS X Operating systems, and familiarity with computer hardware and software tools. Students who are currently taking the class or who have previously taken the class will be asked to donate their time to conduct the first PC Clinic. We will then use the funds collected from the first PC clinic to purchase new computer hardware and software. The hardware and software will be utilized to teach new incoming

students how to build, maintain, and support computer systems. At the end of every semester, as a final class project, each student in the class will have built a brand new computer system. Those computer systems will then be sold to anyone who is interested in buying a computer for a very reasonable price. In order for prices to be competitive we should only charge for the cost of the software and hardware installed and not the labor.

Prospect clients would include college students who 1) Don't have a computer or 2) Need a new computer. This cycle of purchasing hardware and software with the funds generated by the computer sales will be repeated every semester. Thus, turning this initiative into a self-sustainable solution. Additional funds will be generated and injected into the self-sustainable solution by hosting PC Clinics throughout the school year.

Teachers will benefit in multiple ways. For instance, they will have real and new computer hardware to work with. They will have to opportunity to work on a meaningful and practical project along with their students. Most importantly, they will be part of an ongoing business cycle which is something bigger than the class itself. I would oversee the project and advise instructors on the type of hardware to be purchased as well as the business model strategies and administration of the funds to ensure the right actions are taking by the right people at the right time.

I will know if we are being successful based on a number of benchmarks such as how well do the computers built by the students work; how satisfied do people who had their computer service during the PC Clinic are; how do current students' grades compare to past students' grades in the same class; and how many computers are sold per semester. It all goes back to student learning and student performance. I will utilize surveys, personal interviews, and financial figures to measure the level of success and determine the learning strategy for the next iteration.