Service Learning Fall 2008

Client: The Boys and Girls Club of Merced County

Technology Facelift and Educational Software Considerations

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Executive Summary

The newest team in the UC Merced’s Engineering Service Learning family “The Boys and Girls Club of Merced County” (BnGC) is a multifaceted edifying community project aimed at providing exciting opportunities of bringing technology to the members that attend the facilities. Outreach aimed at aiding youth in preparation for what tomorrow will offer. The aim of the current semester is to reestablish the computer lab infrastructure while providing a safe environment for the kids.

The Boys and Girls Club of Merced County, a member of the Boys and Girls Club of America, has operated in Merced since 1994.

In 2002, the Merced club celebrated its move to the new McCombs Youth Center. MYC wax built through a partnership with McCombs Trust, Homer Griffin TGrust, Merced Redevelopment Agency, City of Merced Community Development Block Grant and a HUD grant through Merced College.

The Boys and Girls Club is proud of the state of the art facility located at 615 W. 15th Street in Merced. It features a full sized gym, an art room and several other areas for tutorial, etc.

The summer months provide an excellent opportunity for partners to collaborate by providing on-site educational benefits to our youth. UC Merced, Merced College and UC Stanislaus have supported the youth of our community by providing programs during the summer of 2007.
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Introduction

The Boys and Girls Club of Merced is a non-profit organization dedicated to the enrichment of the children that visit their facilities. They strive to offer their visitors a chance to grow and learn in a safe and positive environment. Children left home alone, without adult supervision, to find their own way to fill their time could really benefit from knowing that there is someone out there for them and that is the Boys and Girls Club of Merced County.

With the focus of the staff being to provide the children an opportunity to have fun and learn, they have a need for relatively up-to-date technology to give their children a chance to stay up with where education is going. By offering the visitors both current educational programs and unique specialized training in technology, they give the children that come to be a part of the Boys and Girls Club family skills that can open doors and stimulate their minds to learn.

With this in mind, this team has set out to accomplish the following goals this semester:

1. Bring the current server online with a memory upgrade.
2. Card reader.
3. The procurement and implementation of Deep Freeze, a computer security product.
4. Upgrade the current computers memory to a standard: 1 Gigabyte.
5. Establish a help desk for the staff and students which would be accessible via a web cam.
6. Acquire and set up an Ethernet switch and connect all computers to the server.
7. Research new interactive educational software titles.
8. If possible, a server based game that possesses educational benefit and still creates a fun experience for the children.
Elaboration of Project

Being that this team is rather small, dedicated and new as of this semester, we are hopeful that we will be able to complete the previously mentioned short term goals. We have already made a preliminary assessment of the facilities during our recent client meeting. This provided enough information for the team to decide on our goals and make an agenda to follow.

Upon examination of the server, from Dell’s website configuration tool, it was decided that an extensive cleanup job on the operating system and verify the operation of all hardware within. Once all has passed testing procedures the server will be ramped up and settled in to continuous 24/7 operation to make available a safe internet connections for all attached computers.

Upgrading the amount of memory in the server will provide a stable scalable platform that will offer dependable operation over the lifespan of the server.

We find the need for a card reader in at least one of the computer with a free 3 ½ expansion slot. It will allow the instant viewing and editing of the pictures on the premises instead of staff having to take the card from the camera home and put on a disk to bring back. That instant use will allow the children to instantly enjoy the fun that was captured in that split second.

Security software installed on the server will prevent malicious activities from damaging or taking the server offline. This is achieved through the use of security software called “Deep Freeze”, which prevents the computer from being change either locally or from outside sources. It provides a computer lab free of hassles from unauthorized configuration changes. Also, it gives a unique single solution for routine maintenance and reduces worries of system degradation.

The upgrade of the memory in each of the computers around the lab will extend the life span of them. By bring the system memory up to 1 gigabyte in each machine the performance will be dramatically increased. It will be evident in the use of some of the newer software titles, as well as, some of the applications that will be accessed on the internet and server. This inexpensive
improvement will free up some of the resources on the network and release some of the demand that will be currently placed upon the server once the network is connected and running.

Last short term goal for this semester is the acquisition of a 24 port Ethernet switch which provide enough connections for the current amount of computers in the lab with a connection to the server. This option also adds the ability to grow the lab to almost double the amount of computers before new hardware choices need to be researched. By using a quality switch, management of all computers connected in the lab will be easy and centrally handled. Secondly, access to the server from other computers within the facilities will not require additional hardware.

Two long term goals have been decided based on the needs described by the client in our initial meeting. First, searching for educational software titles is at the forefront of the current research subjects of this team along with finding a server based game that would help teach while providing fun and excitement for the children playing. A few titles are being researched to verify they will fulfill the needs of the children while challenging them to learn. Two of the titles being looked at are “Book Adventures” and “Accelerated Reader”. Both of these are programs where students read a book, take a test and get and receive a grade for their responses. This, in our opinion, will encourage them to retain information. It will closely tie into our other long term goal which is a merit based game system to be researched. Basically, it will be profile system where each child has his or her own policy that allows them time on a game or fun computer activity based on educational program progress or scores. This system will be used to provide a reward for those who strive to excel in school subjects with time added to their profile and thereby allowing them to get instant rewards for getting good scores.

Finally for this semester we are planning on implementing a team manned web cam that the staff and kids at The Boys and Girls Club could contact us on. By deploying web cams at both locations and developing a schedule of when students on our team can monitor the web cam.
Once this gets set up, we will be able to aid them in current machine needs. Additionally this will give us instant feedback, as well as, a way to watch for new needs as they arise.

Our team looking at means to provide computer training for both staff and computer. In addition, we plan to provide the staff with the tools to manage the server so that is in their hands in knowing where it is in reference to health and status also what needs help. This teaching experience will give our team a chance to increase our skill set with respect to computers and teaching others how to use them. The overall goal of this stage is to have the children be able to teach each other, thereby adding another avenue of teaching the children technology through technology.
Team Organization

Leader: Eric Resner

Communications: Jolie McJane

Recorder: Martin Sanchez

Information Technologist: Bernardo Zepeda

All team members function as a uniform collective
Current Needs

- Two HD webcams – Already acquired
- Parts to build our own computer