Final Document || Our Lady of Lourdes College Foundation

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I. Background Information

Our Lady of Lourdes College Foundation (OLLCF) is an ever-expanding educational institution with the goal of furthering the development of capabilities for the Filipino youth and community.

MISSION: "Our Lady of Lourdes College Foundation, as an institution of higher learning is dedicated to the pursuit of Knowledge, Truth and Wisdom through the Guidance of Divine Providence as it seeks the total development and formation of the Filipino Youth."

VISION: "Empowering its students with human, conceptual and technical skills so that they best develop themselves and be instruments in bringing about a GOOD and FRUITFUL LIFE FOR ALL."

It was founded by a passionate visionary patriot, Dr. Abundio P. Palencia, to develop the capabilities of the Filipino community in order to become competitive in the global arena. Today, the mission is carried out by a community led by the founder's equally passionate children serving as the board of trustees. The college seeks to concentrate on the development of technological capabilities in computing, communication, agriculture, and health care.

- Taken from TCinGC 2009 team

II. Consulting Tasks

The TCinGC 2010 team was asked to accomplish two major tasks for OLLCF. The first task, a computerized student information system (SIS), would increase the efficiency of several administrative processes, and create a consolidated student information database with controlled access for faculty and employees. The second task, a website dedicated to OLLCF, would serve as a reliable information hub for students, faculty,alumni,and the global audience, therefore furthering OLLCF's goal to become competitive in the international community.

To implement the SIS, we first evaluated the current information flow of OLLCF by interviewing the primary offices that interact with student information on a daily basis. This included meetings with the registrar's office, accounting office, and the dean of Computer Studies to know what current resources the offices used, all critical procedures the office is responsible for, how procedures relating to student information are currently run, any problems they have had in the past, any suggestions there are for new procedures (if any), and which faculty and employees are able to assist us.

Once we had the appropriate background knowledge, we moved onto researching different open-source student information systems that had or would be customizable to include the features and procedures needed by the various offices. We kept in mind several factors, such as the resources at our disposal, the financial status of the school, the capability of the technical staff at OLLCF, the capabilities of the members of our team, the limited time we had, and the availability of the necessary staff at OLLCF.

After we decided on the SIS, we customized the SIS to the needs of the various offices that would be using the system. We continued to meet with the registrar's office to get their feedback, since they would be interacting the most with the system. Our goal during this time was to have all critical features implemented, and then focus on less important features until the time we had to begin documenting, and training users with the system.

Once we finished as much customizations as we could, we began to work with the registrar's office and Dean Gerry to train and get feedback on last minute changes that need to be made with the system. Preferably, we would have had more time to get feedback, but due to having to spend more time than previously planned on customizing the system, we had to combine user training and user testing. During this time, we also created user guides for the administrators of the system, the registrar's department, teachers, and deans.

For the task of implementing a usable website, we first began by finding out the intended usage the website, the intended audience of the website, what information would be exhibited on the site, the technical staff who would maintain the site and update it regularly, the preferred design of the site, and the resources at our disposal. During this time, we also chose to use Joomla, a content management system, because a website built on Joomla is highly customizable by a user without in depth knowledge on coding in HTML or CSS.

Once we had an idea of the information that would be placed on the site, we began to organize the information in an intuitive way, using other well organized college websites as examples. Then, we created very basic wireframes that helped us to further organize the content of the website.

After we had the basic layout the site in mind, we began to build the site using Joomla, making sure to keep the dean of the Computer Studies department updated with any progress or changes we made to the site. We added additional useful features once we had the minimum requirements of the site completed, and tested out the site on a temporary remote server.

Once we were sure that the website satisfied all requirements, we uploaded the website files to OLLCF's account with BlueHost, a commercial hosting provider, and connected it to the domain at www.ollcf.com. We then trained Dean Gerry to maintain the website.

III. Outcomes Analysis and Recommendations

Student Information System

Task 1: Evaluate current student information system

Results - From our evaluation of the current student information filing system, we have concluded that a major need for OLLCF is to improve the efficiency of the enrollment process, make repetitive procedures computerized, and store a large amount of secure, accurate student information for the longterm. Since these are the procedures of the registrar's office, we will be meeting with the employees of the registar's office to implement the system.

Risks - Many of the registrar's office employees have not had experience with student information systems, making the learning curve for the new system higher than we previously anticipated. Future users of the system should be given at least half a semester to acquaint themselves with the system, and prior to implementing a complete shift to the computerized system, OLLCF should test the system with a small batch of students. Since the primary individuals we are working with is the College of Computer Studies, perhaps the faculty and students of the College of Computer Studies would be willing to try the system first.

Task 2: Research different open-source student information systems (SIS)

Results - We seriously considered 3 student information systems, finally deciding on OpenSIS. OpenSIS contained much of the functionality needed by OLLCF, is customizable to OLLCF, and had no initial costs. OpenSIS is built on a mySQL database, and created with the programming language PHP, both of which we were comfortable with working with. The primary faculty of the College of Computer Studies that we were working with have also had experience with mySQL and PHP, so we believed it would be easier for them to maintain the system.

Risks - We were unable to host OpenSIS on a remote server as we had previously anticipated. Therefore, we will need to implement a local server, so that the school can begin to use the

system as soon as possible. Implementing a local server is within the skills of the faculty of the College of Computer Studies, and also a step forward in expanding the capabilities of OLLCF. In the situation where the local server is not implemented in time, we will place the SIS on several desktop computers, so that the SIS can still be used before the server is set up.

Task 3: Customizing the new SIS

Results - The system we built allows different access levels, and simultaneous access of information for teachers, deans, registrar (employees), accounting, and administrators. Depending on the user's access level, the users will be able to view and edit specific information. These access levels will make the enrollment process more efficient, because students will only fill out their profile information as a new student, or if they need to update their student information (i.e. address changes, new phone numbers).

Risks - One risk to customizing the system is that we will cause more bugs as we make changes to the system. If there are undiscovered bugs in the future, the Computer Studies department will be held responsible for solving problems with the system.

The system consists of many features that are connected to each other. This means users need more time to interact with the system to understand every functionality. There is a risk that users will not have the time, or motivation to learn to use the new system, or possibly use certain features wrong.

Customizing the system might make it difficult to find online support.

Task 4: User testing

Results - The registrar's office was our main source for user feedback on the system. Since a major part of their procedures was reporting, many of their requests involved displaying specific information to include into reports. Other requests they had included being able to track students who shifted courses, or track the students who passed specialized exams. Another source of feedback was Dean Gerry, who helped us with the access levels of users.

Risks - Due to time constraints (mainly due to the time-consuming task 3), we did not have as much time to incorporate user feedback into the system as we would have liked. Therefore, we did not have time to implement some of the requests of the registrar, and other users of the system. However, our intention from the beginning of the project was to leave the responsibility of maintaining and improving the system to the Computer Studies department. We will continue to lend support, but the bulk of future work on the system will be handled by the Computer Studies department.

Task 5: Creating the user guide/Training users

Results - We went through each tab and link on the system, and documented how to use the features. We created different user guides depending on the type of the user (administrator, teacher, dean, registrar), providing screen shots of the user interface as well as simple to follow instructions and explanations. We had several user training sessions with the registrar's office, during which we explained the functions of the system, and tested their knowledge of the system by asking them to do simple tasks.

Risks - The user guide is meant to be as comprehensive as possible, however it is unlikely that the user guide will cover every single scenario that a user comes across. Ideally, our user training sessions will supplement the user guide, but it is also too optimistic to think that both will solve all troubles with the system in the future. Therefore, it is vital that the users of the system take the time to familiarize themselves with the system, without the pressure of doing everything

correctly. Data based on real students should be included into the system, but only for users to learn how to use the system.

Website

Task 1: Understand the organization

Results - The purpose of the website is to be an information hub for prospective students, current students, and alumni on all things related to OLLCF. The website will further OLLCF's goals to become a renowned global institution, and continue to serve the filipino community. The website is to be maintained by one or two website administrators, who will also be the only people adding or deleting information from the website.

Risks - Only one or two of the OLLCF staff will have intimate knowledge of the behind-the-scenes aspect of the website. This poses a risk, for if they leave OLLCF without training competent replacements, the usability of the website will be lost. Therefore, to avoid this as much as possible, we will create a user guide for both the current administrator and any future administrators that will outline the most common functions of the website. Also, we recommend for the knowledge of maintaining the site to be shared amongst other faculty of the Computer Studies Department, in the event that a faculty member needs to leave, or if many updates are needed on the website.

Task 2: Design the information hierarchy of the website

Results - We created a list of what information must be accessible on the front page of the website, and what links will appear under the links on the front page, with feedback from the dean of Computer Studies, Gerry Lopez. Each academic department has their own page to place information specific to their students, such as upcoming events, subject descriptions, or faculty biographies. We designed the information hierarchy in a way that allows all critical information to be accessed within two clicks from the homepage.

Risks - The information we have included in our plan encompass all of the information we believe is critical to an academic institution. However, our plan is not rigid; more information, features, and links can be added to the site. The risk is that if a lot of new features and information is added to the site, the information hierarchy may not be as intuitive as we have designed it to be. Therefore, to keep the site well organized, the administrator should try to keep all new information formatted consistently with the current information layout.

Task 3: Create Wire Frames

Results - The final wireframes had two navigation menus: one had the links directed towards prospective students (i.e. scholarships, academic calendar, event calendar), the other had all the main links of the website. We chose the color theme of blue and white, with dark blue links and in some cases, a pale yellow menu background. Each College has its own menu, in which the College can add as many college-specific pages, or features. However, all of these customizations will be verified and implemented by the website adminstrators. Most of the important pages can be visited within one to two clicks from the main page.

Risks - The consequence of having a separate menu for each college, is that the management of the site becomes more complicated. To equip the website adminstrator well, we will provide a user guide, and train the website administrators to maintain the system.

Changing the color theme of the site, or making minor changes to the layout of the site are difficult. The reason is we have made many changes to the files controlling the design aspect of the site, so similarly a future design change would take just as much work. However, if a major design change is to be made, Joomla provides many free templates that can be customized to the OLLCF

site. Again, we will make sure to train the website administrators to be able to make changes to the look of the website.

Task 4: Create the website on Joomla

Results - The website we created is hosted on BlueHost, a company located in the United States. The website itself can be reached at www.ollcf.org, and can be edited by the website administrator through a separate login area. The website is complete except for content, which the website administrator will add as each college submits the information they would like to put on the site.

Risks - Joomla allows website managers to add ready-made features such as calendars, photo albums, and more. However, like other software, Joomla is constantly being upgraded. Therefore, new features available for Joomla may not be compatible with the current version of the website. In the future, if OLLCF would like to add a new feature to the site, the website administrator may have to upgrade the website to the newest version of Joomla. Helpfully, there is much Joomla support online, which will help if OLLCF would like to upgrade their website. However, such an upgrade is not required, for Joomla continues to provide support for older versions of its software.

Task 5: Document the website

Results - During this time, we provided training sessions for the website administrator Gerry Lopez (Dean of Computer Studies) during which we explained the basics of how to manage the website, and more. To provide more assistance in the future on maintaining the site, we have provided Gerry Lopez with a list of links to joomla-help websites.

Risks - The Joomla-help websites we provided are sites we have used in creating the website; they are both comprehensive and useful. From working with Gerry we believe we are leaving the website in capable hands.

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Organization Overview

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It was founded by a passionate visionary patriot, Dr. Abundio P. Palencia, to develop the capabilities of the Filipino community in order to become competitive in the global arena. Today, the mission is carried out by a community led by the founder's equally passionate children serving as the board of trustees. The college seeks to concentrate on developing technological capabilities in computing, communication, agriculture, and health care.

Basic Education

Under the basic education school, there are the preschool (2 faculty members), grade school (5 faculty members) and high school (12 faculty members) departments. The high school has a particular emphasis on general sciences and computer skills.

College

OLLCF has nine colleges, each having its own structure consisting of a dean, administrative staff, and a teaching faculty. The colleges and degrees they offer are:

n College of Arts and Sciences (14 faculty members)

§ Bachelor of Science in Psychology

§ Bachelor of Arts major in Psychology and Economics

n College of Physical Therapy (4 faculty members)

§ Bachelor of Science in Physical Therapy (5 years)

n College of Computer Studies (7 faculty members)

§ Bachelor of Science in Computer Science

§ Associate in Animation

§ Certificate in Computer Secretarial

§ Certificate in Computer Technician

§ Certificate in Computer Programming

n College of Criminal Justice Education (8 faculty members)

§ Bachelor of Science in Criminology

n College of Education (6 faculty members)

§ Bachelor of Science in Secondary Education

§ Bachelor of Science in Elementary Education

n College of Business Administration (7 faculty members)

§ Bachelor of Science in Office Administration

§ Ladderized BS in Hotel & Restaurant Management

n College of Maritime Studies (5 faculty members)

§ Bachelor of Science in Marine Engineering

§ Bachelor of Science in Marine Transportation

§ Certificate in Welding Technology

n College of nursing (40 faculty members)

§ Bachelor of Science in Nursing

§ Certificate in Midwifery

§ Certificate in Health Care Services

n College of Medical Technology (2 faculty members)

§ Bachelor of Science in Medical Technology

§ Bachelor of Science in Radiologic Technology

By 2010, OLLCF plans to start the College of Engineering offering Bachelor of Science degrees for Chemical Engineering, Computer Engineering, and Electrical and Communications Engineering. In addition, a Bachelor of Science in Mass Communication degree, falling under the College of Communications, will be introduced.

The college is also undergoing accreditation to become a university, which requires three levels of standardization based on Commission of Higher Education (CHED) regulations. Currently, there are three colleges accredited at level one: College of Business Administration, College of Education, and College of Nursing. OLLCF is in the process of advancing from level one up to level three by means of increasing its current capabilities and incorporating a strong research component. The high school is also completing the requirements to reach level one. After three colleges reach level three, the institution can apply to become a university. Once a university has at least five colleges that are Centers for Excellence, it can apply to become an autonomous entity able to develop its own requirements independent of CHED. Once the university becomes autonomous, its high school can similarly gain that status after reaching level three, freeing it from the requirements of the Department of Education. In addition, there exist partnerships with the Philippine Women's University and the University of the Philippines Open University for graduate, doctoral, and additional certificate programs.

- excerpt from TCinGC's 2009 report

Related Programs

Computer Studies Program

The Computer Studies program contains six divisions. Those divisions are:

- Bachelor in Computer Science
- Ladd. Bachelor of Science in Computer Science
- Computer Programming's NCII (2 year program)
- Computer Hardware servicing NCII (2 year program)
- Robotics
- Animation

The college of Computer Studies contains a dean, teachers, technicians, and laboratory custodians. In total there are 12 faculty members within the college of Computer Studies. The animation department is within the college of Computer Studies. They use some software

packages like Maya, Blender, Google sketch up, Photoshop and Flash. Robotics on the other hand is not a degree in the school, but one class (updated by the previous year's team) is offered for 4th year computer science students as an elective. The college of Computer Studies has classes like: Software engineering, Database design, Information Systems Management, Animation, Programming, and Data Structures. They have used programming languages and software such as C, C++, Java, PHP, visual basic, and Microsoft studio environment.

Technology Management

The faculties of the Computer Science Department are currently in charge of all things related to technology at OLLCF. Some faculty members have specific responsibilities, such as hardware or computer lab maintenance. However, any major decisions made (such as setting up a local server) must be approved by the OLLCF Administration.

Gerry Lopez, currently the dean of the Computer Studies department, will be the primary person to answer our technology-related questions. He has also been working at OLLCF long enough to provide us information on administrative processes that could be improved with technology. He will be the main person to help us determine the scope of our project.

Offices affiliated with our Project

Administration at OLLCF

The Administration at OLLCF is organized into a vertical hierarchy, and therefore the plan for our project needs to be approved before we can proceed. Both Dr. Joaquin Palencia (Executive Vice President) and Janett A. Koh (Vice President) are open to meetings to discuss the project, and they have the necessary power to approve our project plans.

College of Computer Science Faculty

The dean of the College of Computer Science, Gerry Lopez has a masters degree in Computer Science. He will be the person we ask to initiate meetings with the OLLCF administration, and also provide more information and expertise on OLLCF technology related areas. He has also committed to working with us until the completion of the project, and will the primary person maintaining the results of our project once we leave the Philippines.

Richard Dilan, a professor with a masters degree in Information Technology, has also dedicated expertise and time to our project. He has experience in both server maintenance and computer hardware, which our team currently lacks.

Registrar's Office and Accounting Office

OLLCF has two offices we will potentially be involved with; the registrar's office, and the accounting office. These two offices are in charge of the enrollment processes and billing processes of the student. Depending on the scope of our project, we may need their expertise.

Administrative Procedures

Communications

Informal meetings with department faculty can be arranged by visiting their office and scheduling a meeting. Formal meetings with the OLLCF Administration are arranged through hardcopy letters

to the people involved. These letters both notify and ask for confirmation for dates and times of the meetings. Email messages are also another means of communication.

Subject (Class) Management

At OLLCF, classes are called subjects, and majors are called courses. Subjects are currently not determined by OLLCF, but pre-determined and approved by the CHED (Commission of Higher Education). OLLCF is still in the process of becoming a University, and therefore all curriculums are determined by the CHED. Each student, regardless of subject, takes several general education courses, such as English as a second language, or history. At OLLCF, a person who has a certain course is only in subjects with other students within the same course. Also, students in one subject, in most cases, have the same classmates in each of their subjects, because people within a course take all the same subjects(excluding transferee students, students that re-enroll after they have been away from the school, students that qualify for higher level or lower level classes based on their proficiency in the subject) together. This is what we call a block schedule. A block schedule means that all the students in one class take all subjects together.

Because OLLCF is a relatively small academic institution (1,300 students), some subjects have too few students. In this situation, OLLCF combines similar subjects together, so that students from different courses are in the same subject. However, depending on the course the student is in, the subject's name will be different on their transcript. This causes some confusion, since the class itself is at the same time, place, and with the same teacher, but the name of the subject on the student's transcript will vary based on their Course (Major).

Information Management

Current Information Management

OLLCF's student records and important documents are stored as hard copies, placed in vaults for safekeeping.

Accounting records student's account movements (what they have paid for, what they owe) through hardcopy log books. An accountant comes each Saturday in order to check on the papers and the recordings of the clerks responsible. The Accounting is divided into: Cashier, Assessment, Clerks. There is one clerk who has the responsibility to insert the data from the attendance cards into excel sheets into the computer.

Important Registrar Processes

Tracking demographics - Occasionally, Joaquin Palencia asks for demographics for students at the school, such as the percent of students that are male or female, the percent of students from each municipality or high school, and so on. These statistics are hand counted using the filed student records, manually typed into an excel sheet, then displayed as charts and graphs.

Submitting information to the CHED - For each semester, the registrar's office compiles a list of all the students enrolled for the semester, with a list of courses they took, the course units, and the grades that they received. This list is submitted to the CHED (Commission of Higher Education). Currently, this list is hand-typed by employees in the registrar's office every semester.

Submitting final grades - At the end of each semester, the registrar's office receives a list of grades from each section taught of a subject. The teacher of the section is responsible for compiling a list of students in his or her class, with the final percent grade that they earned in the subject. The registrar then goes through each students file and hand-writes the grades of the student down on their transcript. However, the registrar runs into problems when teachers turn

in grades late, or leave the school before turning in the grades. The registrar is left with a large amount of data entry after the end of the semester, and students don't receive their grades till after the semester has ended.

Determining fees - The accounting office uses information stored by the registrar's office to determine whether a student has a scholarship or not. There are various scholarships offered by OLLCF, and many of them require that students maintain a 90% or above average in all subjects taken for each semester. The scholarships are done by the semester, meaning a student can not qualify for one semester, and then qualify another semester. To request the scholarship, students apply for it with a letter of introduction, signatures from relevant faculty or administrative officials, and a copy of their transcript. Students that request scholarships and fulfill the application requirements are guaranteed a scholarship for the semester. However, some students do not need the scholarships, and therefore do not apply.

Enrolling a student – Every semester, any student that would like to be enrolled must go through an enrollment process. New students go through the following

- Submit required documents to registrar's office
- Fill out pre-enrollment form (includes chosen courses)
- Bring the pre-enrollment form to the dean, who will approve the class load
- Bring the pre-enrollment form to the registrar's office, who will sign it off
- Go to the accounting office to assess the fees for the subjects taken
- Pay the cashier for the classes
- Go to accounting to receive the official course registration (OCR) form
- Fill the OCR form and have it approved by the dean
- Have the OCR form approved by the registrar's office
- Go to the accounting office to have it officially stamped
- Go to the registrar's office to fill out class cards

Students transferring to or returning to OLLCF follow a similar enrollment process, but the main difference is returning students must have all their fees from previous years paid for, and transferee students must meet with the dean to make sure that they have the prerequisites completed for the subjects they will be taking.

Technology Infrastructure

Computer Labs

The school has three computer labs. There is one lab with reliable internet connection (that can occasionally fails due to weather or server provider problems). The other two labs have computers that are locally connected, but not all of the computers in the other two labs function reliably.

The internet lab is set for research purposes by the college of Computer Studies. Students, faculty, and staff are not allowed to use the computers for entertainment purposes. A laboratory assistant is there at all times to enforce this rule. The computers are secured with the anti-virus programs AVG free and Avira antivirus. Students are not allowed to download folders on the machines unless for their school work, and with the laboratory assistant's permission. The school uses the Windows Vista operating system, with office suite for document handling and PowerPoint. The Computer lab schedules the times that departments are allowed to use the internet lab. However, this schedule is not strictly followed.

When computers malfunction, the computers have to be taken to Manila, because there are more qualified computer technicians, and hardware parts there. Manila is approximately an 8 hour drive

from Daet, which means the malfunctioning computers will be out of commission for at least a few days.

The school has recently purchased new DELL processing units, that will be used to create a new computer laboratory. The school has an AVR (audio and video room) which acts like a conference hall, consisting of a projector and a computer to display presentations and media. There is another AVR located in the high school department.

Internet Access Points

There are several facilities that have dependable wireless internet at our disposal. Both the dorm and hospital where guests stay are wifi zones. Another access point is at the main building of Our Lady of Lourdes College Foundation, where there is a computer lab with 17 computers available for our use. The computer lab has both wireless and wired internet available. There are other wifi zones in some parts of the school; there is another wifi router in the president's office that provides internet for certain areas of the first floor.

Internet speed in the internet lab is 512 kb/s, but the college of Computer Studies has plans to upgrade the internet speed to 1024 kb/s. There were days when internet connection was down due to issues with the service provider. During storms, there are often short power outages, which cut off power to both computers and the wireless routers.

The high school lab also has internet access, but it is used primarily for class and lecturing purposes.

Servers

The college of Computer Studies expressed interest in building a local server to support their networking and data base classes. Several of the faculty, such as Richard Dillan and Gerry Lopez, are willing to manage a local server if one is ever created.

Computers for Office Use

There is at least one computer in each academic OLLCF. Several of the members of the higher administration, and faculty of the college of Computer Studies have personal laptops.

In the Registrar's office, there are three computers. One is specifically for the head of the Registrar's office, while the other two are for the staff to use it to insert data in excel sheets and any other work related to the registrar. There is another computer attached to a scanner where they use it to input scanned documents and for office work. One of the problems mentioned, the computer got a virus from a flash drive, and the department lost all of its information.

In the accounting office, there is one computer, which they use to insert data into excel sheets. Both accounting and registrar do not have have access for internet (it's a wifi zone, but the desktop computers are not able to access wireless internet)

Technology Planning

Every five years, each department in OLLCF drafts the plan for the next five years. Since the Computer Studies is responsible for the technology maintenance for OLLCF and OLLH (our lady of Lourdes hospital), their plan affects the technology planning for the school.

Establishing a Multimedia Room

Since 2007 (the year the 5-year plan was drafted), the College of Computer Studies has expressed interest in setting up a multimedia room. This room will hold a sound system, with computers

prepared with speakers and headphones and connected to the internet. The computers will be prepared with the software needed to edit audio and video.

There are separate plans for the college of Computer Studies to have its own projector, projector screen and increase the supplies for the Computer Studies faculty in terms of headphones, headsets and DVD players.

Expand the internet lab

The college of Computer Studies has plans to expand the internet lab. The school currently does have two labs with access to internet, one in the college and one in the high school. The plan is to provide the internet lab with more computers, arranging them back to back in order to fit in the limited space available. They have already moved forward by purchasing 40 dell computers and monitors. The college of Computer Studies wants in the next five years to establish 3 to 4 computer labs connected to the internet and ready for the school to use.

Technicians (related to the college of Computer Studies) are currently working on the high school computer lab in order to establish a network between the computers and make the campus a wifi zone.

One of the goals that the Dean talked about was to have a lab for each of the departments, which they can use for lectures, research, or work. In the coming years, the college of Computer Studies will provide each school with an instructor to teach them and guide them to use the computers in their majors.

Internet Speed

Gerry Lopez would like to increase the speed of the internet from the current speed of 512 kb/s to at least 1 mb/s, and to widen the coverage for the internet to cover more area of the school. He would also like to increase the speed of internet access at the lab in high school department.

Internal & External Communications

Internal Communications

The internal communications between the different departments of the school are mostly through face-to-face meetings, or letters delivered to the different offices. Messages that must reach a large audience are posted on bulletin boards or doors of the office or department's main office.

Because many of the offices do not have computers with access to the internet, virtual communication (such as email, or instant messenger) is not used often.

External Communications

OLLCF external communications mostly involves the OLLCF administration. The administration here submits reports to the CHED (Commission of Higher Education) as a means to further their goal to becoming a University-level institution. They have also involved OLLCF in several internatial and nation-wide events, such as the Robotex event (Robotics exhibition that Philippines colleges participate in) and the Bagasbas International Eco-Arts Festival. These have helped to further OLLCF's goal to become an internationally recognized institution.

OLLCF has a incomplete website that has stopped being developed ever since the employee developing the website left the institution. The website currently displays some academic information on each college, but links to other information do not work. The website is hosted on BlueHost, but the password and username for the site is unknown. The administration has expressed interest in updating or creating a new website to be used for prospective students to

learn about the academic institution, for current students to find information such as course descriptions or upcoming events, and for alumni to stay connected with OLLCF.

Scope of Work || Student Information System

Abstract

Our Lady of Lourdes College Foundation (OLLCF) current uses a paper and filing system to store student data. These documents hold sensitive information such as student's addresses, contact information, and medical history. However, this system has proven to be inefficient, prone to damage or loss, and difficult to manage. Therefore, OLLCF has expressed a desire to move from the current system to a computerized, student information system that would be more efficient, more secure, and easier to manage. The new system will store information the same information currently stored by students, and allow for different access levels to system administrators, faculty, employees, and potentially students. Several procedures that would benefit from the new system include the student enrollment process, the course registration process, and the submission of final grades.

Overview

How the current Student Information System works

OLLCF currently stores its student information in file cabinets, and in a few cases as excel documents on desktop computers. The student information stored include student biographical information, previous education, medical record, current academic information, and finances. Student information is accessed through the registrar's office, through the deans of each school, accounting, and faculty have access to some student information.

Procedures affected by Current System

There are several procedures affected by the current paper system.

Enrolling at OLLCF

The enrollment procedures for a student are complicated and lengthy, due to the paper system. For example, the following is the procedure a new student must follow to enroll.

1. Submit required documents to registrar's office
2. Fill out pre-enrollment form (includes chosen courses)
3. Bring the pre-enrollment form to the dean, who will approve the class load
4. Bring the pre-enrollment form to the registrar's office, who will sign it off
5. Go to the accounting office to assess the fees for the subjects taken
6. Pay the cashier for the classes
7. Go to accounting to receive the official course registration (OCR) form
8. Fill the OCR form and have it approved by the dean
9. Have the OCR form approved by the registrar's office
10. Go to the accounting office to have it officially stamped
11. Go to the registrar's office to fill out class cards

As you can see, the student has to go to the same office multiple times during the process. This is due to the fact that the offices don't have access to the same information; the student must bring the relevant information to each person.

Submitting Grades

Near the end of the semester, each teacher compiles a list of students and their grades for each class they are teaching. The list is submitted hard-copy to the registrar's office, where they search through each student's file and write the student's grades on the student's transcript.

Generating Reports

Every semester, the registrar's office must compile a list of all students enrolled for the semester, and the courses they are taking. The list is submitted to the Commission of Higher Education (CHED) and kept for their reference.

The administration at OLLCF occasionally asks for the demographics of the students. Some of the demographics include the percentage of male students versus female students, and the percentages of students from each city or province.

Problems with the Current System

However, this current system poses several problems:

Student files are prone to damage or loss. On several occasions, student records have been lost simply because there were no backup copies of the documents. Furthermore, the student files are all hard copy, and may be vulnerable to natural disasters such as floods, or fires. There have been previous attempts to move from a paper system to a computerized system, but in several occasions, an employee unknowingly installed a virus via a USB drive, and corrupted the system.

Managing and navigating the files is inefficient. The registrar's office is in charge of handling vast amounts of paper. As a result, sorting documents and searching for information is time consuming. There is also only limited space in the vault, so old student records are not able to be kept permanently. Furthermore, generating reports for CHED and the OLLCF administration must be manually calculated and typed, for there is no system in place to do those calculations.

Employees, students, and faculty are forced to do repetitive and time-consuming tasks. Employees must hand type reports and each student's transcript. Students must hand-write four copies of their class-load, so that the dean, the registrar's office, the accounting office, and the student can each have a copy. Faculty must hand sign hundreds of class cards every semester to hand to each of their students. These are only a few examples of the repetitive tasks that need to be performed.

Proposed new SIS

To solve these problems, the TCinGC team will be working on designing and implementing a computerized open-sourced student information system. The system will store student information, course information, school events, grades, attendance, The TCinGC team will be working with faculty from the College of Computer Studies, employees from the registrar's department, and the OLLCF Administration to customize the system to fit the users' needs.

The solution will be open-source, because we believe we do not have the time or expertise to create a system from scratch. However, we do have the skills to customize an existing system, so we believe an

open-source system is a good option. Furthermore, many open-source systems have fewer initial costs. For example commercial systems often come in packages including setup, maintenance, and hosting fees, which drive up the cost. We have the skills to setup a system, and OLLCF has able technicians to maintain the system, so several of the services are not necessary.

Features of the new SIS

- Teachers will be able to submit the grades for courses online
- Teachers will be able to take attendance
- Registrar will be able to generate statistical reports automatically
- Registrar will be able to search through student information
- Students will be able to view their grades and courses online
- College deans will be able to add courses
- College deans will be able to manage students' schedules

Risks of the new SIS

Maintenance will mean future costs. One possible concern is that maintaining the system, which includes fixing the system or upgrading the system, takes more resources than expected. For example, the new system may require a local server, which will require constant maintenance, and expensive hardware.

Transitioning to the new SIS may be rocky. It is possible that even after creating a user guide, and walking the users through the different functions of the system, that they will still have trouble transitioning from a paper system to a computerized system. It is highly unlikely that our team will be able to anticipate all the difficulties or bugs users will run into. Therefore, to make the transition easier, we will be training the faculty of the College of Computer Studies to know the system well, so that they will be able to handle any bugs that appear.

The system may not fulfill all the functions needed. It is possible that we will not be able to implement all the functions needed due to time constraints. Hopefully by prioritizing the functions that are most vital to the system, we will be able to fulfill the most pressing needs.

Tasks

Task 1: Evaluate current student information system

OLLCF plans to gain University-level accreditation in the coming years. Part of the plan is to expand its educational facilities to be able to enroll more students, and introduce new curriculum such as engineering and robotics. Therefore, to design a system that would assist in the growth of OLLCF, we must first understand the current information system. To do so, we will meet with the offices involved and observe what sorts of functionality and information they need to do their necessary transactions. We will also work with the faculty from the College of Computer Studies, namely Gerry Lopez and Richard Dillan, to figure out their capabilities to maintain the new student information system. Finally, we will be in continuous contact with the OLLCF Administration, to keep them updated with our project, and get the information or permission we need to move ahead in our work.

Task 2: Research different open-source student information systems (SIS)

After we understand what is needed in the computerized information system, we can begin researching available solutions, keeping in mind the things the functions needed from the system, costs, ease of use, security, and maintenance. We will continue to meet with the offices and the OLLCF Administration to understand what is needed in the new information system, and ask for their input on the various SIS that we are considering using.

Task 3: Customizing the new SIS

After we choose the SIS that will best fit OLLCF's needs, we will begin customizing it to fit the functions of the school. For this we will work primarily with the faculty of the College of Computer Studies to get the resources needed to build the system.

Task 4: User testing

After we finish customizing the system, we will test the usability of the system on willing volunteers from the registrar's office, the college deans, the teachers, and students. During this time we will continue to adjust and improve the system to suit OLLCF's needs.

Task 5: Creating the user guide/Training users

Once the system is relatively finished, we will work on writing user guides for the many functions of the system. The user guide will be given to those working in the registrar's office, the college deans, and the teachers at OLLCF. During this time, we will also train the faculty in the College of Computer Studies to maintain the new SIS.

Schedule of Work

Week 1-2 || Evaluate current student information system

Week 3 || Research different open-source student information systems

Week 4-6 || Customize the new SIS

Week 7-8 || User Testing

Week 9-10 || Creating the User guide/Training

Possible Concerns

The most pressing concern we have about the project is that we may not have time to complete the system to the degree we would like to. Preferably we would like to give them a system that will be sustainable for years to come, but we fear that 10 weeks will not be enough to provide a well-customized, well-tested system.

Another concern we have is that though our partner is very supportive, and willing to commit to the project, we are aware that most of the people involved have other responsibilities, and may not have much time to dedicate to our project. Once we leave though, it is vital that they are committed to maintaining the system.

A possible concern we have is that we will not be able to get the resources to build the system. Even if the system itself has no initial cost, if the system is hosted online, OLLCF will have to pay for internet. If the system is hosted locally, OLLCF will have to pay for hardware fees. Even if the resources are available later, it would be ideal for the resources to be here while we are here, so that we can make sure everything is working.

Abstract

OLLCF has asked us to create a website for OLLCF to target prospective students, current students, and alumni. The website will serve as a hub for people to find information on OLLCF academics, learn about OLLCF's history, and also promote OLLCF's reputation as a competitive international institution. We will be using a website content management software (CMS) called Joomla, because the CMS includes a user-friendly interface that reduces the amount of coding knowledge needed to maintain and update the website. Our project is to design the hierarchy of information and create a user guide so that those that want to put information on the website can do so without our presence.

Overview

OLLCF has employed a technician before to create a website. However, before he finished the website, he left the school, and did not complete all the necessary functionality for the website. We have also determined that his website could be better designed, so we have decided to build another website, instead of building on what has already been created.

New Website Features

Content Management System

The new website will be made using a Content Management System (CMS) called Joomla. We chose to use this CMS because from our research we believe it has a userfriendly interface, has good user support online, has built in functions that require little or no coding, and is well within budget. Several features of Joomla is that many webhosts have it readily available on their servers, which makes setup easy. Ideally, by using Joomla, anyone in OLLCF that needs to add information to the website will be able to do so without any knowledge of HTML, Javascript, Ajax, or CSS.

Academic Related Information

The previous website provided a general overview of each of the 9 colleges at OLLCF. However, our new site will allow faculty to upload specific information about their college, such as the required subjects a student must take, class descriptions, college specific events, recent news, and faculty biographies. These new features will help faculty at OLLCF to take ownership of the website, since it can be a useful means to attract new students to the school.

Organizational Impact

The OLLCF administration would like to be an internationally recognized institution with a global impact. Our website can help further that goal by introducing information about the school to an international audience. The website can also attract new students, which would help expand the school. The home page will also show recent events that have happened on campus or in the community. Each of the colleges will also have a section of the website, where they will be able to showcase the individual merits of their department. They will be able to introduce prospective students to the academic program, professors within the department, differences between majors, and etc. Events only open to students from a specific

college will also be introduced here. Staff from each college will be able to include subject descriptions for the subjects they teach, and provide individual biographies of their area of expertise, experiences, and accomplishments.

The Registrar's Office and the Accounting Office will use the website to explain the procedures for enrolling and paying for school fees. Documents that have to be filled out prior to enrollment will be available for download here. Information on different fees for each college will also be displayed here for students to reference. The Administration Office will be able to display contact information and short biographies of the people involved. They will also be able to write entries for a time line of the history of the school. The College of Computer Studies will be given additional responsibility to manage the website. They will have to assist the different colleges and administration in putting information on the website, and they also must know the workings of the website well enough to fix bugs or server issues. We will train the faculty on how we have organized the website, and if time permits, create a user guide.

Feasibility of Work

Resources

We believe that we have the resources we need to create and host the website. Currently, OLLCF has a subscription to BlueHost, which provides Joomla as one of its features. We will be able to upload our site to the BlueHost server. The slow internet connection makes it difficult to create the website quickly, but it is adequate. Joaquin Palencia is the person we are working with to find out the information that needs to go on the website. He has requested that the different colleges within the schools begin to write out what they would like to put on the website. Regardless of his many responsibilities, he has made an effort to be available for us to receive help from us, and he is dedicated to our project.

Gerry Lopez, the dean of the College of Computer Studies is the person we are working with to organize the hierarchy and placement of information on the website. He has been willing to meet with us on a weekly basis to discuss the workings of the website.

Sustainability

One of our main goals with the website is to make it sustainable for years to come. So, a large part of our role will be to train the College of Computer Studies to maintain the system, so that they will be familiar enough with the site to know where to update each informational section. Also, we will be hosting the website on an online host outside the country (BlueHost is hosted in the United States) rather than locally, because the risk of power outtages in the US are lower.

Potential Risks

Running out of Time

One potential risk to working on this project is that we will run out of time. Since our team of three is working on two unrelated projects, we will have to organize our time in a way that will ensure quality results for both projects. We do not want the work of one project to affect the completion of the other.

It is also possible that the people we need to train to use the system will not have time available for us to train them comprehensively with the system. Therefore, that places more pressure on us to complete the user documents for the website, though we may not have enough time to complete it as well as we'd like. Furthermore, we also have to complete documentation for both projects, which will take up more time.

Website will not be perceived as a useful tool

The website we are building is built upon the idea that users will take the initiative to add the information they want to the website either on their own (if they have the user permissions) or through the College of Computer Studies. However, if users are not interested in using the website, our website will not be as effective. It is important for us while we're here to make sure the website is seen as a useful tool that will benefit the school, provided the right attention and time is given to learning how to use the site. This way, the website can be relied on as an OLLCF information hub, much like wikipedia is to the average user. Preferably even faculty and staff at OLLCF will be able to use the site to find the information they need.

Website interface will not be intuitive

There is much lower risk of this happening, since the people who will update the website will only be a select few from the College of Computer Studies. Therefore, we will be doing user testing on people who have backgrounds in technology and software. There is still a risk though, that the website will not be as intuitive as our team perceives it to be, meaning we'll have to take more time to change the website layout, or train the users.

Tasks

Task 1: Understand the organization

Our first task is to understand what the organization's needs are. We know that they would like a website, but we don't know what the website is for. If the website is to attract students, our website will be geared towards displaying special events, scholarships, or merits of the school. If the website is to current students, we will have more information on subjects and courses, and future events that they can take part in. The purpose of the website will determine the informational hierarchy of the website, so it is vital that we know as soon as possible.

Task 2: Design the information hierarchy of the website

After we understand the purpose of the website, we will begin compiling a list of all the information that must be placed on the website. From this list we will begin organizing the information in an intuitive way. We will also look at similar schools' websites to see what they all have in common. From there we can determine what a professional, easy to navigate website looks like.

Task 3: Create Wire Frames

After we have all the information finalized, we will create the wire frames of the website, so that Joaquin and Gerry will be able to have some sort of visual of the information hierarchy to critique.

Task 4: Create the website on Joomla

After we have the plans for the website finalized, we will begin creating the actual website on Joomla. This will also involve documenting how to use the site, so that we can show Gerry and the other Computer Studies faculty how to maintain the website.

Task 5: Document the website

After we have finished the website, we will create a user document that would explain how to use functions of the website. This will serve to aid the faculty in the College of Computer Studies to maintain the site when we have left.

Schedule of Tasks

Week 1-2 || Understand the Organization

Week 3 || Design the Information Hierarchy of the Website

Week 4 || Create Wire Frames

Week 5-8 || Create the Website on Joomla

Week 9-10 || Document the Website

Results & Recommendations || Student Information System

Task 1: Evaluate current student information system

Steps Taken:

In order to understand how the current process worked, we had to study how the system worked, investigate further to figure out its problems, and identify opportunities for growth. We first had meetings with various stakeholders in the college, the first being Gerry Lopez, the Dean of the College of Computer Studies. Before our arrival, the college had identified important features that were important to OLLCF's functions. We then continued to work with him to gain insight on how the system worked and what their vision was for a new system. This helped us develop an initial understanding of the current system and ways it could be improved. We also had meetings with other employees we identified as stakeholders who currently managed or dealt with student information, including teachers like Richard Dilan, another Computer Studies faculty member, as well as representatives from the registrar's and accounting offices. We also interviewed students, to gain their perspective of the student information processes as well. The result was, we learned what information students had to submit to the school, how the dean has approves the documents the student submits, and how the registrar's and accounting offices store the information from the documents. Much of the information gathered went into our scope of work, helped us to define requirements that our system would need to be able to seamlessly replace or augment the current system.

From our evaluation of the current student information filing system, we concluded that a major need for OLLCF is to improve the efficiency of the enrollment process, make repetitive procedures computerized, and store a large amount of secure, accurate student information for the long term. Since these are the procedures of the registrar's office, we met with the employees of the registrar's office to implement the system.

Risks:

Many of the registrar's office employees have not had experience with student information systems, which made the learning curve for the new system higher than we previously anticipated. Future users of the system should be given at least half a semester to acquaint themselves with the system, and prior to implementing a complete shift to the computerized system, OLLCF should test the system with a small batch of students, such as the students of one college.

Task 2: Research different open-source student information systems (SIS)

Steps Taken:

Several alternatives were considered in our decision making process. We first began researching all types of information management as well as e-Learning as well as course and learning management software solutions. As we learned more from stakeholders and did further research into different software, we identified that a student information system (SIS) would be the best option for the school. Once we determined this, three different types of student information systems were identified. Commercial solutions were one option as a complete system that could be implemented. All of these also involved a fee, which typically included installation, configuration, support, and often charged fees based on the amount of students in the system. There were also open-source solutions, which were also developed and packaged as full solutions, but lacked support to install, configure, or troubleshoot. Since they were open source, there was no fee for the code itself. A third option we considered was creating a system from scratch. We considered that this might be a necessity if we could not find a suitable version out for release.

At a meeting with Dr. Joaquin Palencia, Executive Vice President of the college, Janette Kho, Vice President for Academic Affairs, and Gerry Lopez, Dean of the College of Computer Studies, we were able to articulate our findings and options. With the input from this meeting, coupled with our own research, we decided to pursue an open source solution. This would allow us to take an existing piece of software and support, configure, and customize it to the needs of the school. This fit the budget of the school better than a commercial system and was better than creating a system from scratch due to the high complexity of such a system and time constraints.

We seriously considered 3 student information systems, which were OpenSIS, Centre SIS, and SchoolTool. All offered working software that would be able to be implemented for the college. Centre SIS and OpenSIS are actually based on the same code base from a now-commercial product, Focus/SIS. They are both written in PHP, but while Centre SIS uses a PostgreSQL database, OpenSIS is built on a MySQL database. SchoolTool is actually only supported with the Ubuntu Linux operating system distribution and is written in Python using the Zope 3 framework and database. For each system, we initially used the demos provided on their websites, then installed them on our local machine. We then examined the functionality provided by each system and also inspected the code to see how easily we could make changes to customize it for OLLCF.

After research and testing, we decided on OpenSIS. OpenSIS already contained much of the functionality needed by OLLCF "out of the box" – meaning, without having to create them separately. It is also customizable, both by using the system and by altering the code, and the code was active and was released recently before we started working, near the end of May. We were also most comfortable with working with both PHP and MySQL. The primary faculty of the College of Computer Studies that we worked with also has experience with MySQL and PHP, so we believed choosing a system with them would make it easier for them to maintain.

Risks:

We were unable to host OpenSIS on a remote server, as we had initially anticipated. Therefore, a local server needed to be implemented, so that the school could begin to use the system as soon as possible. We felt that implementing a local server was within the skills of the faculty of the College of Computer Studies, and also a step forward in expanding the capabilities of OLLCF. Although we have talked with Gerry Lopez and Richard Dilan of the Computer Studies department about this and they told us that they would be ordering a server, they have yet to do so. Unfortunately, none of us has much experience with setting up a server or hosting a system,

aside from on our own machines, so we are not the best resource for help with the server. In addition, security is a big issue, especially for a system that stores students' personal information along with scheduling and grades. Although we do have access levels in place to allow for different users to have access to different parts of the system, there is also the potential for a threat from the outside. Since the Computer Studies would have to configure the security of the server, they need to be aware of the risks that come from having a computer-based system that runs on a server, and need to control for attacks and other security threats.

Task 3: Customizing the new SIS

Steps Taken:

Once we decided on the OpenSIS solution, we performed a fresh install of the source code and set up a subversion repository to host these files, so that we could track all changes and control for conflicts in the case where two people would be editing the same file. This allowed us to easily have backups of the system that is also stored online, so we would be able to continue access it in case of an unanticipated computer failure. We then continued to explore the system as it was given and made notes to what would be necessary to change, in order to meet the needs of the OLLCF. This included terminology differences, such as the discrepancy between what the system and school referred to as "courses" and "subjects," which was present not only when using the system, but also in the source code. These differences had the potential to confuse users as well as the code maintainers, so they were methodically changed to accurately reflect their meaning here at the college.

Another necessary change was done to alter the kinds of information that are stored for each element in the system. While OpenSIS provided general information fields for subjects, students, and so on, these were not sufficient for OLLCF's needs and therefore more needed to be added. The registrar also requested being able to have a list of options for certain fields, such as college and course, which they could easily edit on their own. For other fields, such as the most common high schools for incoming students, they wanted this as well, but also needed the ability to enter in other less-common schools into a text box if they are not in the list. These features were able to be completed by adding custom fields.

The process of scheduling at OLLCF also dictated some changes. Each semester, students first create their schedule, confirm this with the dean, then need to pay for that semester at the accounting office before they are actually enrolled in the course. OpenSIS provided "schedule requests" where a user could request that a student be enrolled in a certain subject. However, it did not allow that user to pick which section they wanted to enroll the student in, and most surprisingly, did not offer a working way to confirm requests to put them into a student's schedule. It also did not offer any type of validation to ensure that a student did not request two subjects that were scheduled at the same time. We were able to customize this feature to allow the user to select the desired section, which then visually notifies the user if these sections are overlapping. It also now allows the user to confirm each request, which then is placed into that student's schedule if no conflicts exist. This way, deans can make schedule requests for a student, and then when the student pays, the dean can confirm the user's requests and place them into his or her actual schedule. This way, students are not prematurely placed into subjects before they have paid.

Another complaint that was given was that two subjects are sometimes scheduled in the same room at the same time. Although OpenSIS did not provide room validation, we were able to add

this by only displaying available rooms after a section is created and a time period is defined. In addition, if the time period of a section is changed, it will not allow the switch unless the room is free in this period. One concern was that subjects are sometimes cross-listed across colleges, and would therefore have multiple sections with the same teacher, same time, and same room, but under different colleges. This special case is also allowed with the system.

The OpenSIS system also allowed for users to upload student photos, which were then displayed in the student information page. When a student first enrolls at the school, they currently have to provide a photo, as well as several other official documents and certificates. The system now allows the registrar to upload these official documents so that a copy will be stored for each student in the system. The documents first need to be scanned into a computer and could then be uploaded to the system.

We also tried to add some realistic sample data for some fields to ensure that the system can operate correctly in testing, including but not limited to the school iteslf, colleges, subjects, teachers, students, years, semesters, and grading periods. We also researched the currently-used data for setting up different parts of the system and added it to the system, such as available time periods for scheduling subjects, grade levels, and report card grades. This data will be provided with the system, though all these fields are still customizable by the admin of the system.

The system we built allows different access levels, and simultaneous access of information for teachers, deans, registrar (employees), accounting, and administrators. Depending on the user's access level, the users will be able to view and edit specific information. This functionality was provided for with OpenSIS, but we have researched what permissions make the most sense for the different users: figuring out what information is relevant to each set of users. This will also allow the users to view shared information throughout the system.

The final system created by the consultants is a student information system that easily facilitates the management of schools, subjects, staff, students, scheduling, grades, reporting, and more. It will make many processes more efficient. It has seven sections, which are: Home, School Setup, Students, Users, Scheduling, Grades, and Tools. The number of sections shown to a user is determined by his or her access level. These sections also form the basis of how the system is organized. Each section is presented as a tab and clicking on one will bring up a second menu that shows links to all of the relevant menu items for that tab.

The system changes the registration process by reducing the amount of information that needs to be collected and duplicated every semester. Currently, a student must fill out a pre-enrollment form with all of their information every semester, including name, address, course, past school information, marital status, and so on. Instead, with the new system, students will only have to provide their information as a new student, when they first enroll at the school. Then, each following semester, when they register for classes, they will only need to inform the registrar or dean if any information has changed, such as a change of address.

In addition to this student information, students also copy down a list of subjects they wish to enroll in for that semester onto the pre-enrollment form. Once this schedule is checked and approved by the dean, it is signed off for by the registrar. After that, the student gives the form to the accounting office and arranges payment for the semester. Only after a student has paid can he or she then be enrolled into the subjects. However, in order to do so, the student must get an official course registration form and copy down the schedule three more times. One copy goes to the dean, one to the registrar's office, and one to the accounting office.

In the new system, much of this information duplication has also been eliminated. A student will still choose his or her subjects, but in the first meeting with the dean, the dean will enter in these subjects as schedule requests for that student. This information will immediately be accessible by the registrar and accounting personnel. A student will then be able to go to the accounting office and pay, as in the current process. Once the student has finished, he or she will then go to the dean with confirmation of payment. Then, the dean will go to the student's requests and be able to confirm them, at which point they are entered into the student's official schedule. This information is similarly also immediately shared with the registrar and accounting personnel. This eliminates several visits to different offices that the student currently makes. It also gets rid of the need for a student to copy his or her schedule multiple times.

In addition, although the student must get their schedule approved by the dean, oftentimes subjects with conflicting times can still be approved. The new system will still allow a dean to make a schedule request that conflicts with another request. However, the title of the conflicting subjects will turn red to visually indicate that there is a problem with the student's schedule. This way, deans will catch schedule problems before a student pays for classes and is officially enrolled. In addition, when scheduling a student directly or confirming schedule requests, the system will not allow for a conflicting subject to be added, which further ensures the correctness of the student's schedule.

Another problem faced by the school happens when two deans create a section of a subject at the same time and assign both to the same room. This happens because there is no real-time information available about what rooms are taken, and instead they check a posted schedule of all subjects, organized by time and room. Therefore, a dean could misread the board or two deans could check it and assign their subjects to the same room at the same time. In the new system, a section of the subject is first created and assigned to a TBA room, or "To Be Announced." As soon as the information is entered, including what time and what days the subject will meet, the dean can then pick a room. The rooms available for the dean to choose from are only those not in use for that time period and days, meaning rooms already chosen by other teachers are not shown. In addition, if a dean tries to change the time period of a section after the room is chosen, the system automatically checks to see if a conflict would exist and does not allow the dean to make this change if it finds a conflict. The system will therefore help to remove this problem with room scheduling.

Because the system deals with registration and enrollment information, the registrar's office is also very much affected by the new system. Because all of their information is paper-based, they are prone to damage or loss, in case of natural disasters. The new system helps them in this way by storing the data in a database and making backups of the data that can be stored and recovered in case of unforeseen circumstances. They are also inefficiently managed, just due to the vast amount of records they need to store, so searching for information can be difficult and time consuming. The new system also gives them the ability to search for students, and filter students based on different criteria that is useful for them. The registrar creates many reports, some of which are for submitting to the Commission of Higher Education, or CHED, and some of which are for internal and statistical purposes. The CHED reports are often compilations of student information, schedules, and/or grades, either for each student or grouped by department, gender, and grade level. Statistical reports are similar, but show more specific groups of students, such as all students coming from a certain high school or all students in a certain service training. Currently, the registrar's office has to manually go through every student's file and collect the desired information, and then uses Microsoft Excel to create the report of the results. Going

through the student files takes a long time, and is done each time a report needs to be created. With the new system, the information that needs to be collected can either be generated easily. We added replications of several reports to the system, so all of the information required for that report is displayed for the students they select. There are over 20 reports that can all be used to show different information for a number of students. Due to a lack of time, we were unable to recreate all of the possible reports used by the registrar, but the staff will still be able to search through student information more easily and find the necessary information to create reports.

Risks:

Although we used the latest release version of OpenSIS, as available for download from their website, during our user testing we found a great deal of bugs that were inherent in the system. We tried to fix these bugs, and were able to do so for all the ones we found. Because the software is open source and still in continual development, we did anticipate that it would not be perfect and bug-free. However, there were some bugs that showed that revealed they had yet to test certain aspects of the system under certain situations. Therefore, there is potential that while using the system, more bugs will be discovered that we assumed would be working from OpenSIS. In addition, our changes to the system to customize may also unfortunately lead to bugs in other places, also in situations we were unable to test.

The code base for the OpenSIS system was also not well commented, meaning there were very few notes on the code itself explaining what that section of code did or made the system do. We did add comments in some places, and especially for anything we added, but unfortunately the majority of the code does not have sufficient commenting. This means that when the Computer Studies faculty in charge of maintaining the code need to look for something, they will have to study it more to see what the code itself does, rather than being able to find a comment that would tell them what it does.

Also, some of the current staff of the Computer Studies department are familiar with PHP and MySQL, which is one reason we chose OpenSIS. However, there is no way to know exactly how comfortable they would be with the code. We did work with Gerry Lopez and Richard Dilan at points to walk through the code, but it is a potential risk for when faculty will need to make changes and maintenance. There is also a risk because future staff members may not have the same skills as the current staff, and could potentially be unable to easily manage the system.

The system currently accepts .pdf files to be uploaded for official student documents, and only one file is accepted for each document. The registrar's office has to ensure their method of scanning would support this. It is a risk because changing how they scan may be difficult, or it may not work as well for them.

Because the system is computerized, there is also the risk of power failure incapacitating the system. With brownouts occurring several times per week, for varying amounts of time, this could affect the ability of the staff to actually use the system, and may cause information that is being worked on to not be saved.

Task 4/5: User testing/Creating the user guide/Training users

Steps Taken:

As we developed the system, we maintained weekly meetings with Gerry Lopez. During these meetings, we were able to present to him the different features of the system and walk through them with him to not only keep him updated on our progress, but also for him to identify any incorrect or missing processes and give an evaluation of the system. We also worked with the registrar's office in several meetings, showing them features of our system, while they gave feedback, asked questions and identified potential problems with the system, which we were then able to modify. However, due to time constraints while developing the system, we were not able to have as many user testing sessions as we would have liked.

Additionally, since the system covers so many different and detailed aspects of student information management, it also took a lot of time to do user testing. We had three training sessions with staff from the registrar's office on system basics that each lasted several hours and involved different types of training. Initially, we showed them features of the system and how it all worked together to store data and report on that data. The employees also had questions for how to do certain tasks, so we were also able to show them how to use the system for these more specific situations. After this, we also prepared a list of tasks that was to be carried out, in order to test their knowledge. Although they had not used the system very long, the employees at the registrar's office were perceptive and worked together to figure out how to complete the tasks. If there was a point where they were unsure of what to do, they would ask to see if anyone knew how to do it.

In addition to weekly meetings with Gerry Lopez, we were able to have an additional two training sessions to teach him the ins-and-outs of the system. Because he will be the administrator of the system, we needed to show him all of the functionality of the different user permissions, such as dean, registrar, and teacher. In addition, because he will be supporting the back-end side of the system after we have left, we have also gone through code training sessions, where we have explained where how the code is organized and stored in the file structure, as well as gone through some of the PHP and SQL code to show him how it fits together to construct a page and retrieve or collect information.

Because of a lack of time to train all of the future users of the system, we knew that is was extremely important to produce a user guide to thoroughly document its use. Once much of the core functionality was in place for the system, we began to create a user guide to document the entire system. Unfortunately, currently OpenSIS only provides a "help" file, and therefore we were given little existing documentation on the system. For this reason, we had to create one of our own to share with the employees at OLLCF.

We went through each tab and link on the system, and documented what the functionality was for, and how to use it. Because the information was already hierarchically arranged, we decided that the user guide would follow this organization. We also created different user guides depending on the type of the user (administrator, teacher, dean, registrar) because different types of accounts have access to different aspects of the system. In addition to detailed and simple to follow directions, instructions, and explanations, we also provided screen shots of the user interface. Including screen shots will not only help users understand a task more effectively, it will also help them remember how to perform the task in the future.

Risks:

Although we were able to do some user testing, which was very helpful to identify and correct some of the potential problems with the system, the registrar's office caught a few additional

problems during our training sessions. It is possible that we have unknowingly made other assumptions about the process behind the system that we were not able to encounter during these sessions. We also have not tested on a true sample set of data, using instead sample data that we created.

Even though we have made every effort to replicate the current process in terms of storing the same data, there may also be additional data that needs to be recorded. The registrar's office also expressed interest in changing some of the reports, including the data retrieved and the layout. While we are confident that the Computer Studies department will be able to maintain the system, they may not have time to further customize and improve on the system, or if someone would ask them to change something.

Our training with the staff was also limited, so another risk is that they would not remember some or much of what we went over with them. The user guide would hopefully be able to help with this, but there is also the risk that the user guide is difficult to understand. Although everyone at the college speaks good English and was at the very least somewhat familiar with computers, there is the potential that some confusing terminology was used in the user guide, and that they would be unable to follow some of it.

It would also be impossible to include every possible scenario in the user guide, so there is a risk that a user could not find guidance for a task they want to perform. This is a risk if it would frustrate the user or cause them to think the desired task is impossible with the system, even if it is not.

Recommendations

Get and Configure Computer Server. OLLCF has not yet ordered a web server to host the system. This is necessary to allow different computers to have access to the system. The server would be an investment that would be able to host the OpenSIS files and database that stores all of the information stored in the system. For this reason, the server would need fulfill OpenSIS's requirements and be able to run a PHP interpreter and a MySQL database. The system files themselves take up less than 20 megabytes and due to the size of the school, the database itself will have a manageable number of rows, meaning storage space will not be a large issue with this system. However, hard drive duplication to create data redundancy would be most beneficial to diminish the threat of data loss. The server will be encountering heavy demand, especially at the enrollment time every semester when many different users are all working with and making changes to the system. Having a machine dedicated to being a server will limit the unnecessary strain on computing resources provided by that server, which will help its speed as well as increase its life span. In addition, having a fast CPU and high-performance RAM will allow the machine to work more quickly and efficiently, so the user would not feel bogged down by the performance of the system. Because several of the Computer Studies staff has worked with servers, they are a good resource to use if help is needed deciding what server to get.

Make available Computers and Network Access to Users. In order for the system to be effective, all of its daily users would need to have access to a computer that can quickly and reliably connect to the system. This means that the deans, registrar, and accounting offices would all need to be able to access the system at any time, on a regular basis. Because teachers would be using the system less frequently, they can use the Internet lab or another connected computer. Currently, the deans do have computer with Internet access through a connection the network, while the registrar's and accounting offices have computers without Internet access. Depending

on how the server is set up, all computers will either need to be on the same network (if the system is shared across the network and not the Internet) or connected to the Internet (the opposite). Again, some of the Computer Studies staff is familiar with networking, so they are also a resource to use for help.

Have Computer Studies Department take ownership. After the system is installed onto the server but before running the initial test run of the system, faculty from the Computer Studies department should become familiar with the system. This would include doing personal exploration on the system, using the user guide and other CS faculty for help figuring out how tasks are carried out in order to better understand the ins and outs of the

system. Those staff members responsible for the maintenance of the system also should take a look at the code and database structure to try to familiarize themselves with how they are organized and structured, so they will be able to quickly and easily troubleshoot in the future. They should look at the PHP code and SQL queries, as well as the database using a database management tool such as phpMyAdmin. As they use the system and see what its capabilities are, they will also likely find more ways in which the system can be improved upon. Then, as they become familiar with the code, they can actually make changes and in this way, gain even more ownership of the system.

Test on sample of students. As we have mentioned, the system would require many process changes for the students, as well as the deans, registrars, and teachers. We also know that we have not had a chance to test every feature of the system, so when it actually gets used with real information in a real-world setting, certain bugs or problems may arise. In addition, we were unable to have adequate time to train all of the users of the system, instead focusing on training the staff in the registrar's office, as well as Gerry Lopez and Richard Dilan, the dean and a teacher in the Computer Studies department. For these reasons, it does not make sense to try and start using the system with the entire school right away. It would be smart to instead test out the system using a subset of students, and therefore also some deans and teachers. Because the faculty in the Computer Studies department is not only the most familiar with the system, but also most technically aware, we recommend that the students and staff initially testing the system would be from this college. As problems and bugs are found, the Computer Studies department can work to change the system and correct these issues.

Provide training sessions for users. After the initial test of the system and the staff has determined that there would be no problem to expand the use to more of the school, there will need to be training sessions held to inform and instruct those staff members who will be using the system. By this point, the Computer Studies department will have more experience, especially due to their use of the system in the trial phase. For this reason, it makes sense for CS faculty to be the ones holding user training sessions. Dean Gerry Lopez has also pledged that this would be done in the future under his department, due to a lack of time by the consultants to reach all the users of the system. An introduction to the system can be done for a large audience, but while actually training users how to do tasks in the system, smaller groups should be used. This way, more personal attention can be given to users and they will be more likely to ask questions and be able to test things out themselves.

Backup the database frequently. Because the information stored in the database is vital to the operation of the system, it is important to have backups of it. This means, copies of the data need to be made so that these additional copies may be used to restore the original in the case of data loss or another system failure. The OpenSIS system offers a backup feature that can be used to export the entirety of the database to a .sql file that can be imported into a MySQL database to create all of the tables and insert all of the stored records. The more frequently the data is backed up, the less information would be lost, so backups need to be made daily or even multiple times

per day, and copies of these database files should be stored in other secure locations, so they could be recovered in case of the irrecoverable failure of the server itself.

Create a backup plan for power outages. In the event of a power outage, staff will not be able to use the system. For this reason, it will be important to have a backup plan for what to do in the case of a brownout or other outage. If the outage is very short, this may involve just waiting for the computers and server to reboot, and then resuming the normal process. If the outage is for an extended period of time, the plan could involve temporarily switching back to the paper system until the power is restored. This would ensure that important tasks get done without being 100% dependent on the power.

Work with the old system and new system in parallel. If the users of the system see the benefits of the system and agree that it can save them time in performing tasks, then they may have a desire to abandon the old system immediately. It is instead a better idea to work with both systems in parallel in some fashion for the initial few years. This way, if an unforeseen problem would arise in the system and cause it to be unusable, then the data has been replicated and would be stored as it is today – on paper. Once the system is reliable and the staff are more comfortable using the system, it is a good idea to print out information from the system and store it as paper copies, as an extra precaution.

Results & Recommendations || Website

Task 1: Understand the organization

Steps Taken:

From speaking with the various administration and faculty at OLLCF, we learned that the purpose of the website is to further OLLCF's reach in the global community, and be a useful information hub for prospective students . The website will fulfill this purpose by introducing OLLCF to a worldwide audience, and impact the current students, alumni, and faculty by providing a convenient means for learning more about their college.

We also found an alternative purpose of the website, through our observations of the school. Currently, most information is found out by word of mouth, or through paper copies of letters and notices posted on doors and bulletin boards. Notices of events or specific requirements of students from a college are posted on the college's bulletin board, or communicated by individuals working in the college's office. Although these methods have so far fulfilled the needs of the school, these methods of passing along information still require the receiver to be physically present on campus. This is especially a problem for new students living far from campus, because they will potentially have to make several trips to OLLCF to learn what documents are needed to enroll, and to actually enroll at the school. The website will solve these problems by allowing students to view notices or announcements posted by OLLCF or their college, and allow new students to prepare the documents required to enroll without making an extra trip to the school.

The features of the website that were requested or recommended by us are the following:

- Display alumni locations in the world
- Display the classes required for each major by college
- Display student publications
- Display contact information for the various administration, faculty, and staff of OLLCF
- Display recent events that are happening at or around OLLCF
- Inform students and faculty of community service projects

- Display Admission requirements and scholarships

One of our observations of OLLCF is that many improvements are being made around the school to further the technological prowess of the school. Creating a website just another step to OLLCF's technological advancement, and we believe it will open up opportunities for more advances in the future, such as an online enrollment system connected to the website, so that students will not have to be physically present on campus to enroll at OLLCF every semester.

Task 2: Design the information hierarchy of the website

To begin the task of organizing the information of the website, we studied other universities' websites and took note of what we found in common on each website. What we found were the following:

- prominent, recent news is posted on the home page (either as a link, or an article)
- admissions and requirements have a link within one click of the home page
- different colleges have their own customizable area on the website (sometimes a completely separate website)
- contact information for the various faculty and staff of the school are available
- academic calendar displayed
- subject information, and course requirements are posted on the website
- various forms are available for download
- available services of the college are posted (housing, dining, scholarships, grants, etc.)
- search menu on each page of the site
- clicking the logo or name of the school leads to the home page

Before assuming all of these features would be on the site, we compiled a list of all the information that should be on the site. We then took organized this list so that it was easy to navigate by users, and every link was within two clicks of the homepage. To make sure the organization and content of the list met the needs of OLLCF, we had the list approved and edited by Dean Dean Gerry (Figure 1).

Much of the actual content for each page in the list was not yet compiled at the time we created the list. Therefore, we anticipated that the information hierarchy that we designed would most likely be modified in the future. To make modifications easier, we made the home page links broad enough to encompass various topics (i.e. **Administration** can include a message from the president in the future, or contact information of the administration).

Each college will have their own page and menu, where they can add individual links that are relevant to their specific college, such as course descriptions, subject descriptions, college events, and alumni. Dean Gerry will be in charge of editing, adding, or deleting information for each college to the website.

About Us
- History
- Mission
- Vision
- Objectives

Awards and Recognition

Administration
Board of Trustees

Executive Council
- President
- VP for Administrative Affairs
- VP for Academic Affairs
- VP for Finance

Administrative Council
- VP for Admin Affairs
- Registrar
- School Accountant

Academics

College of Computer Studies
- Ladd. BSCS
- BSCS
- 2-year Comp. Prog'g NCII
- 2-year Comp. Hardware Servicing NCII
- Robotics
- Animation

College of Nursing
- Ladd. BS Nursing
- BS Nursing
- Midwifery
- Health Aide
- Allied Medical Science
- BS Medical laboratory science
- BS Physical therapy
- BS Radiology Technology

College of Maritime Studies
- Marine Engineering
- Marine Transportation

College of Business Administration

College of Arts and Sciences
- Psychology
- AB Communication
- AB Economics

College of Criminal Justice Education

College of Education
- BS in education
- BS in secondary education
- Basic Education àhigh school
- Elem Department à elementary
- Montessorri à

Admission and Requirements
- Scholarships

Research and Development
- Research and Dev't Office
- Research Programs
- Research Journals

Community Outreach
- Community Programs and Services

Student Life
- Student Services : medical services , Dental check , Cantine
- Student Organizations
- Sports and Athletics
- Rules and Regulations : disciplinary actions as well
- Dormitories

Alumni
- Alumni Programs
- Jobs at OLLCF
- What do our Alumni do?

Contact Us

News and Events
- history time line
- ollcf publications

Figure 1 – *Rough outline of the information organization of the website.* Each item is a new page of the site. Bold words are links on the home page. Italicized words are links on the Academics page, and bulleted items are links under the bold or italicized word that it is immediately above them (i.e. Jobs at OLLCF is a link on the Alumni page)

Task 3: Create Wire Frames

Steps Taken:

The wire frames we designed have two main menus that show up on every single page. The top menu displays the main content of the website, whereas the side menu would display more detailed links for the options in the top menu. The wire frames are shown below:

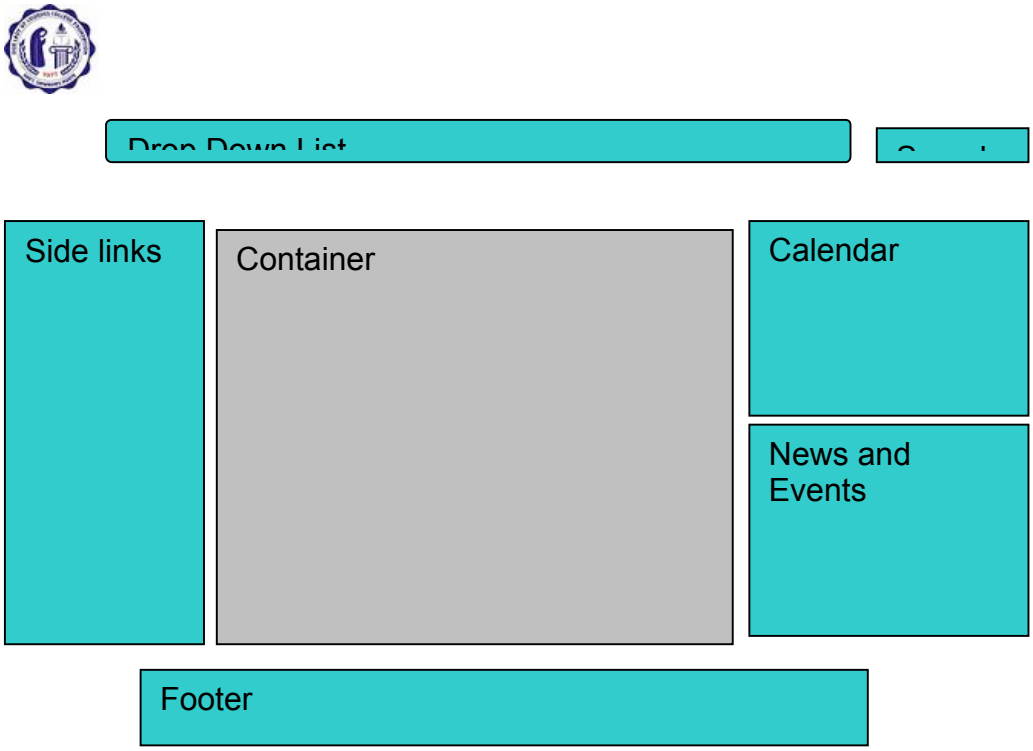


Figure 2 – *Rough draft wire frame of the website*

The initial layout of the site had two modules on the right for a calendar and a list of recent news and events. The top of the page would be a drop down menu of items, supplemented by the links on the side of the page. The container would hold the page information, and the footer below will be used for advertising events, or display links to other websites.

We chose to have a two menu system, because this would allow topics with more than one page to have an individualized menu for the topic. More specifically, the side links would supplement a link on the top, horizontal menu.

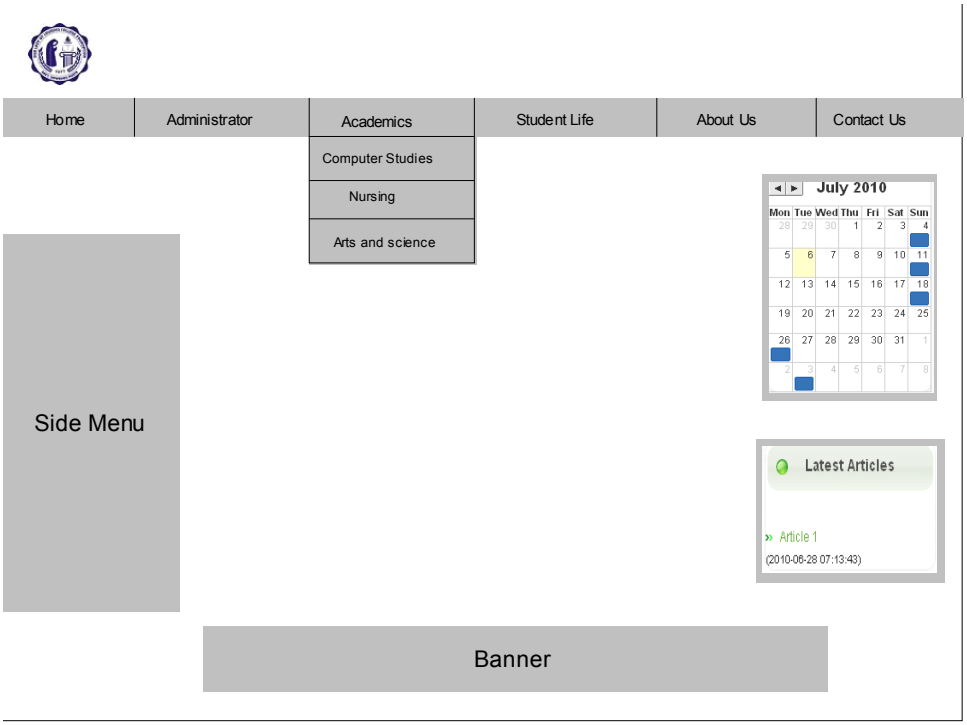


Figure 3 – *Detailed version of the initial wire frame. The final website will be a further modified version of this wire frame..*

The website layout we eventually went with is the one above. However, we decided that the drop down menu at the top of the site would be better placed in the side menu, because when a menu item is expanded, it may block too much of the content of the website. However, we did not think the top menu should change based on what links were clicked on the side menu, as we had originally planned. Instead, we decided to make the top menu have the most important links of the site, and have two side menus; one main menu that appears on every page, and an individualized menu for a specific topic. The purpose we had for this was we wanted to have all of the major topics of the site navigable to in one or two clicks.

For the CSS of the site, we decided to modify a free joomla layout, because this would save time, and also be easier to work with. We chose to make the color theme blue and white, because that was the color theme of the logo of the school. The layout would be one for professional organizations, and meant to keep the focus of the user on the content of the site. The layout would also have to be easily customizable.

Risks:

The consequence of having a separate menu for each college is that the management of the site becomes more complicated. To equip the website administrator well, we will provide a start-up user guide and list of online tutorials, and train the website administrators to maintain the system. The Joomla official website provides enormous help for Joomla developers and extensions to add more functionality and options on the website.

Changing the color theme of the site, or making minor changes to the layout of the site are difficult. The reason is that there are various locations for the files that control the design of the site, and we have made modifications in each one. However, if a major design change is to be made, Joomla provides many free templates that can be customized to the OLLCF site. Also, we have made sure to show Dean Gerry where the files controlling the layout, and pictures are located.

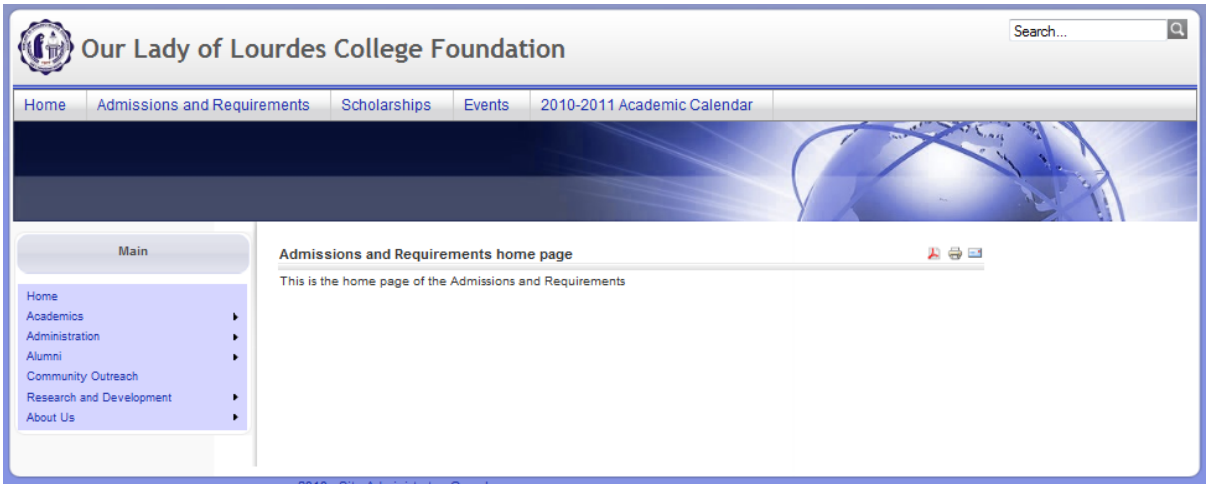
In order to add content to the website, the administrator (Dean Gerry) will need to have access to cpanel, which allows the administrator to make modifications to the files and database of the website. The problem is, because of the slow internet connection at OLLCF, this page takes a

long time to load. This problem can be solved by either upgrading the internet speed, or making modifications to the website at internet cafes, or the Our Lady of Lourdes Hospital, where the wireless internet is a bit faster.

Task 4: Create the website on Joomla

Steps Taken:

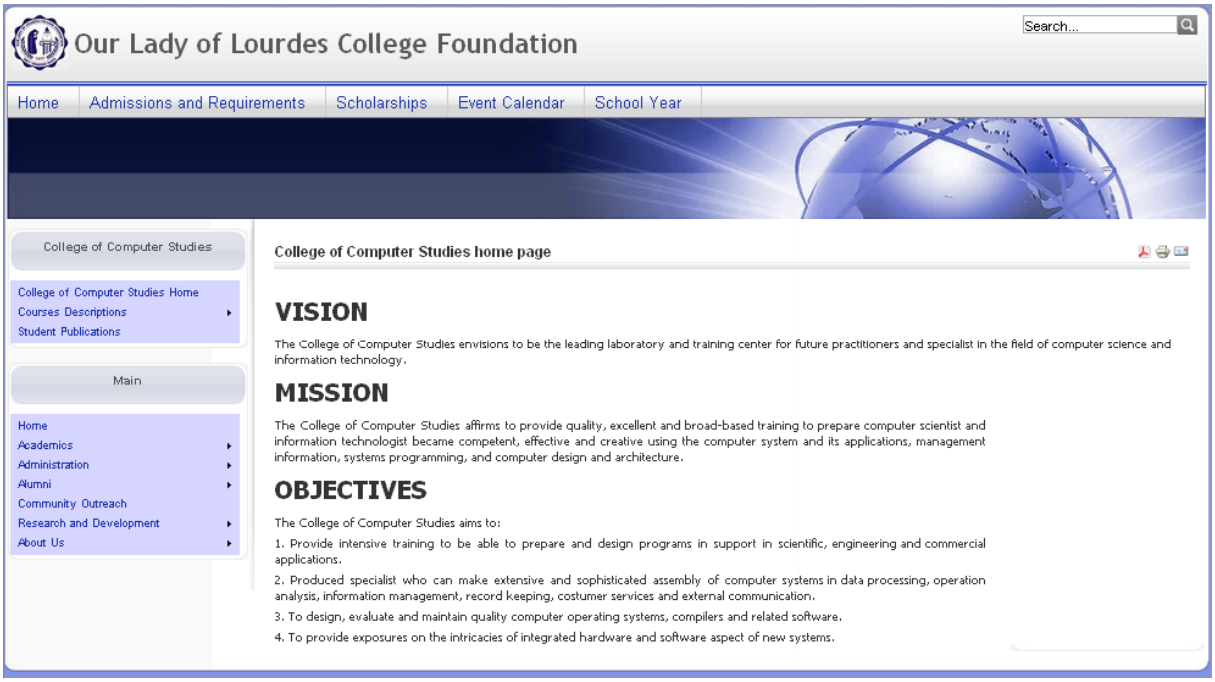
Below is a screenshot of the homepage of the final site at www.ollcf.org. It may have been modified since the time the screenshot was taken:



The horizontal menu at the top of the page holds vital information for prospective students. We chose these links because prospective students may use these links to see the scholarships available, or see the exciting events OLLCF hosts, and make a decision to enroll at OLLCF.

On the left side, the main menu holds the main pages on the website. When the user hovers the mouse over the links with arrows next to them, more links show up to the right of the menu. We did this to minimize the number of clicks that a user must do to go to any page.

We provided a web page for each article that would be added (i.e. student publications, required subjects within a course). We added additional features to the website, such as an interactive calendar, a search bar, and an option to put banners on the site. We also organized the website management view by organizing the page and article names consistently. This makes it easier for the website administrator to know where to make specific changes to an area of the site.



The above screenshot is the "About Us" page of the website. All of this information was already contained and formatted in a word document, and as you can see, putting it on the website preserves all the formatting, making it easier for the administrator to put content already in documents on the website.

To edit the CSS of the website, we used a variety of means in the end, such as the folders of the template titled "templates" (accessed via the template menu in the administrator view) or css options within the module itself. If any further CSS modifications are to be made, it would be wise to look at these files first.

To connect the website to the domain name (www.ollcf.org) we received the current username and password for ollcf's current subscription to bluehost, a remote hosting website. We uploaded the folder for joomla via cpanel, and imported the database via phpmyadmin. The name of the database is called "ollcforg_joomla", and to have the website connect to the database, we configured the data.php file (located in the joomla folder) so that the username and password to phpmyadmin was the username and password to access the database. We then changed in data.php the domain name to www.ollcf.org, and changed the database name to ollcforg_joomla. Once we made these changes, we were able to access our website via the internet.

Risks:

Joomla allows website managers to add ready-made features such as calendars, photo albums, and more. However, like other software, Joomla is constantly being upgraded. Therefore, new features available for Joomla may not be compatible with the current version of the website. In the future, if OLLCF would like to add a new feature to the site, the website administrator may have to upgrade the website to the newest version of Joomla. Helpfully, there is much Joomla support online, which will help if OLLCF would like to upgrade their website. However, such an upgrade is not required or recommended, for Joomla continues to provide support for older versions of its software.

Shifting domains will require changing the data.php file in the joomla main folder. We would recommend reading the contents of the file (such as the database name, the username and password) before making modifications. Also, it would be wise to create and upload the database

to the new domain before putting the site online, so that the data.php file can point to the new database right away.

Firebug is a great development tool that we recommended to Dean Gerry to use when editing the CSS of the site. However, firebug does not allow you to save changes. Also, Firebug shows some lines of code that are not in the CSS folders of the website. Therefore, the administrator will have to also explore the css files of the website, to determine where changes need to be made. Firebug makes it easier by mentioning the name of the file that holds the CSS code that you want to edit.

Although unlikely, bluehost may lose the data of the website. Therefore, to minimize the consequences of this event, we would suggest backing up the website whenever possible.

Task 5: Document the website

Steps Taken:

During this time, we provided training sessions for one of the website administrators, Dean Gerry Lopez (Dean of Computer Studies). Due to time constraints for Richard Dilan (a future website administrator), he was not able to attend to the training sessions. A user guide we wrote is meant to provide additional help beyond the training sessions. The user guide is brief, and does not cover all of the cases that the administrator might run to, but to solve that, we provided a list of tutorials for joomla, and help forums for joomla.

During our training sessions with Dean Dean Gerry, we walked through the Administrator portion for Joomla. Dean Gerry was able to add articles and do some tasks, like adding a menu item and publishing the content of a page. We didn't stress too much on the CSS and code development (back end) for the site, because we had all css modifications to the site finished already, and Dean Gerry has had previous experience with CSS and HTML code.

Risks:

Some of the tutorials came in a video-like form, which would he hard to use due to slow internet connection. We would recommend forums for help in these situations. However, if the solution to a problem or a tutorial for a modification is not online, it may take the administrators more time to fix the issue. Since our administrator is a dean and a teacher with other responsibilities than the website, this might put the website at risk of being under maintenance for a long period of time.

We had time constraints with training Dean Gerry to use the website, so we may not have covered all possible scenarios with maintaining the website. Dean Gerry may contact us for help, but we will not be able to respond as quickly. Therefore, he may have to work out the issue on his own time, which may take longer.

Currently, there is only one website administrator, because due to time constraints, we were not able to train Richard Dilan. Therefore, the website may not be updated as frequently as it should be. Another possibility is that if Gerry leaves OLLCF for any reason, he alone is responsible to train the new website administrator. It would be far less of a problem for him if another website administrator is created as soon as possible.

Recommendations for the website

Keep the website updated. For the website to be useful, the information on the site must be regularly updated with relevant information for that month, week, or even day. This is a vital task because the website must build up the reputation that it is a reliable information source for potential students, current students, faculty, and staff. Once the website has a good reputation,

more and more users will view the site, and want to submit information to make the website more informative.

Currently, there is only one website administrator, Dean Dean Gerry, in charge of managing the website, and updating the content on the website. However, to ensure that the website is up to date, we recommend that another staff member be share the responsibility of managing the content of the website. In fact, if a student worker in the CS department is available, perhaps he or she can edit, filter or organize the content that other offices at OLLCF submit to Gerry to have posted on the website. This way, Gerry can keep access to the joomla and database files secure, and still receive some help with updating the website. This will also provide experience to a student with managing a website.

We recommend that the site be monitored weekly, to ensure that all information on the website is up to date. Articles on the home page should not be there beyond two weeks, and past events should be displayed as such.

Do not clutter the website. Although the way we designed the information hierarchy of the website is very flexible, we recommend that the website administrator be careful of adding too much information to the site. If the site becomes too cluttered with information, it will be difficult for the user to find the information he or she is looking for. Old articles should be archived in joomla (They can be searched for, but will not appear on main pages), so that students will not browse outdated information. New information added should adhere to the current information hierarchy, to ensure that the organization of the website is consistent and easy to navigate.

Keep the website simple. One temptation to creating a website is to add cool features that will make the website stand out, or impress users. However, the main purpose of an academic website is to provide information for viewers, and flashy animations or an excess of pictures may distract the user from the information he or she is seeking. It is also possible that adding extra features will make the page load slower.

To prevent these problems, we recommend keeping animations to the minimum, and instead use pictures or videos uploaded by another site (i.e. youtube). If there is a special occasion, such as a school event, perhaps the website administrator may want to embed a video from the event.

Backup both the database and the folder of joomla via cpanel. It is unlikely that a commercial host such as bluehost would fail. However, in the case that for some reason, bluehost loses the data of the website, it would be smart to have a backup of all the files of the database. Cpanel has a folder management option that we have shown to Dean Gerry, and through that files can be downloaded. We recommend that the website be backed up whenever there is a major change to the website, so perhaps every month, to every other month. This is just a precaution in case anything happens to the site. To make things easier, there are modules (add-ons to the site) that can help backup the database automatically.