­­­­

Asia Pacific College

Online Pre-Registration System

Project Documentation Submitted

To the Faculty of School of

Computer Science and Information Technology

Of

Asia Pacific College

In Partial Fulfillment of the Requirements for the subject

Applied Projects 2

By

Romulus Diego

Jairus Adrian G. Roguel

Angelica Laurene S. Ruiz

Table of Contents

[Project Title **Error! Bookmark not defined.**](#_Toc454543889)

[Abstract 3](#_Toc454543890)

[List of Figures, List of Tables, List of Notations 4](#_Toc454543891)

[I. Introduction **Error! Bookmark not defined.**](#_Toc454543892)

[1.1 Project Context **Error! Bookmark not defined.**](#_Toc454543893)

[1.2 Purpose and Description **Error! Bookmark not defined.**](#_Toc454543894)

[1.3 Objectives **Error! Bookmark not defined.**](#_Toc454543895)

[1.4 Scope and Limitations **Error! Bookmark not defined.**](#_Toc454543896)

[II. Related Literature 7](#_Toc454543897)

[III. Technical Background 9](#_Toc454543898)

[3.1 Include in-depth discussion on relevant technical aspects of this project **Error! Bookmark not defined.**](#_Toc454543899)

[IV. Design and Methodology 9](#_Toc454543900)

[4.1 Include discussions on conceptual design/system architecture/block diagrams and algorithms **Error! Bookmark not defined.**](#_Toc454543901)

[V. Results and Discussion 11](#_Toc454543902)

[VI. Conclusions and Recommendations 11](#_Toc454543903)

[VII. Appendices 11](#_Toc454543904)

# Abstract

# List of Figures, List of Tables, List of Notations

1. **Introduction**
   1. Project Context

Pre-registration inside a school or university is a process of registering in advance a subject that students need to add or remove in their load. There are also rules applied for pre-registering to avoid conflicts like clashing of schedules and inconsistencies in subjects. In Asia Pacific College, a manual pre-registration system exists wherein students can request for an addition or dropping of subject. Basically, students fill in a form and is sent to an adviser for approval. The steps in pre-registering may cause inconvenience because students must go to school just to pre-register, instead of just being one click away.

Thus, the project members proposed an online pre-registration system to provide convenience and satisfaction to the main users which are students and advisers. The proposed system aims to fulfill the satisfaction of the students because they greatly affect all aspects of the school. The system’s main feature is to add a subject wherein students can choose by using the dropdown of subject codes provided and submitted as a request. But, there is a rule provided inside the system which is the pre-requisites of subjects. For example, when a student requests for a subject that has a pre-requisite subject that he or she failed or not yet taken, the subject requested cannot be taken where the system notifies the student. Another feature is for advisers in which requests sent by students are directed to them for approval or disapproval and

Users can access APC’s Flavio website www.[apc.edu.ph/flavio](http://apc.edu.ph/flavio), where the pre-registration is located along with Flavio’s other features. Authentication (username and password) is required to log in and view other systems like Online Teachers Evaluations and bla bla. Once logged in, users can proceed to pre-registration.

Presently, the proposed system is in the form of a prototype in which not all features envisioned by the project members are introduced. Once the system is ready, it would be integrated with APC’s Flavio system, a system used by the APC community and is accessible as long as it is opened in the school’s server. The proposed system is intended to be accessible outside the school and according to APC’s Information Technology Resources Office (ITRO), Flavio would soon be accessible outside the school.

/\* next time na yung ibang rules \*/

/\* lagay ko rin ba remove \*/

/\* has only covered adding and removing – iba kasi yung dropping \*/

/\* lalapit nalang sa adviser personally pag talagang special siya, or pag magpapatulong lang what to take \*/

/\* limitations or recommendations – soon bubukas nalang to pag pre-registration period \*/

* 1. Purpose and Description

Thus, the researchers proposed an online pre-registering system project to satisfy the students, eliminate such problems (ex. conflicts in schedules, crowded offices) and maximize resources. The focus of this project are the students and their satisfaction because they greatly affect all aspects of the school. For example, if a room is too hot, students would not be able to focus properly and will be uninterested in listening to professors because they need the proper temperature in their classroom, thus, the school provides air conditioners. It is the same with the purpose of this project, which is to provide students what they need to satisfy them and to diminish inconvenience in manual pre-registration.

The project would be a new feature in APC’s FLAVIO System which students can access through the Internet in https://www.apc.edu.ph/flavio/inquiry/Login.php. Its existing features include Online Grades Viewer, Student Flowcharts, Masters List, and Registration Form. An online pre-registration feature can provide easier accessibility for students and convenience. It eliminates issues in manual pre-registering like conflicts in special cases, waiting time for the adviser in their office and the inconvenience of walking up and down the stairs.

Flavio would soon be accessible outside the school and once the online pre-registration system is integrated with Flavio, it can also be accessed outside therefore providing convenience for the APC community.

* 1. Objectives

The objectives of the project are:

* To understand the flow of the current pre-registration process
* To build a prototype of the online pre-registration system
* To collect data from students about their feedback on the pre-registration system
* To look for sample algorithms that may serve as a basis for working on the project
* To provide convenience and satisfy the students, advisers, and APC Community
  1. Scope and Limitations

The proposed system has a feature for adding or removing subjects wherein the students send it as request to their respective advisers who approves or disapproves the request. Authentication is required in which username and password are used. Also, setup tables are provided for an administrator to add, edit and delete data from the database tables. Once implemented, errors due to codes will be examined by the team while overloading of database will be examined by the ITRO.

In the future, more work can be done in the database tables because there can be added, changed or deleted tables and data. A flowchart table is provided in the current tables but as of now, it is not yet illustrated with data about grades since in the flowchart, three colors represent the types of grades which are blue for not yet taken, white for passed and red for repeat or authorized withdrawal. Also, posting added subjects to a student’s registration form is not yet tackled. The course table, which handles the different courses of students is presently constant, meaning that records of students that may have shifted into another course are not yet counted and its record history is non-existent.

# Related Literature

To help develop the system, the team gathered ideas on how to develop a pre-registration system by gathering information from other school’s systems. The team decided to search for schools who are known for their excellency in education and started gathering procedures on how their current system works.

After knowing the procedures on how these systems work, the team decided to compare the similarities of the chosen schools to the proposed system for a clear understanding so that the system will have better functionalities and user experience. With the information gathered, the team acquired more knowledge on how a proper system should run. Nowadays, schools are automating processes in their current systems and having an online system is necessary.

The adaptation of these related systems has been a big help to the team, it gave them the thought of how important and how beneficial it would be for the school. Hence, the project’s goal is to provide convenience for the APC Community and help the school to have a better and hassle-free experience of pre-registering. The team believes that having these ideas gathered together will help develop a well-functioning and user-friendly online pre-registration system.

* 1. Ateneo Integrated Student Information System (AISIS)

The Ateneo Integrated Student Information System (AISIS Online) is the portal for Ateneo students, faculty, and staff. Through the AISIS Online, officially enrolled Ateneo students may view pertinent school information including their IPS, grades, class schedules and the like. Students may also eventually enlist using AISIS Online. Ateneo faculty and staff with access to AISIS, on the other hand, may submit grades and access their class schedules from outside the campus.

Our project is similar in a sense that our system would like to use the web to provide the user information concerning his/her subjects that be modified. AISIS Online provides an Online Enlistment service that would give the students the convenience of modifying their subjects online. One of our project’s objectives is to provide convenience and satisfy the students, advisers, and APC Community. With this related literature, we can adopt or implement ideas that we have reviewed in the system and implement it to our proposed system. (Retrieved on August 19, 2016 from <http://aisisonline.ateneo.edu/index.php>)

* 1. De La Salle University Animo.sys Portal

De La Salle University has an online enrollment system which is Animo.sys portal that students can access for encoding the courses they want to take for the next term. Enrollment schedules are posted for students to know when to enroll. All students must have an activated My.LaSalle account to access the enrollment system open from 8 am until 8 pm from Mondays to Fridays in http://my.dlsu.edu.ph/. They must arrange all clearances first before or during the enrollment schedule. Students may have academic advising from the Graduate Program Coordinator of each course who is discussing about the subjects that students want to add. Then, students can check the course codes of the subjects they want to take. Schedules are given for students on when to enroll online. After enrolling, they may claim the Enrollment Assessment Form (EAF) which contains all the subjects they have encoded.

The features that Animo.sys Portal has some features similar to the manual pre-registration system of Asia Pacific College. For example, both systems provide course codes for students to know what subjects they want to add. Another is that both have academic advising for students to be notified whether they can take the subject or not due to different cases like failed pre-requisites, unfinished clearances and unpaid tuition fees. By having a background of how Animo.sys Portal works, it will be a great basis for creating our proposed project which is Asia Pacific College Online Pre-Registration System. (Retrieved on August 19, 2016 from https://my.dlsu.edu.ph/faq/, <http://www.dlsu.edu.ph/offices/registrar/enrollment.asp>)

* 1. University of the Philippines Computerized Registration System (UP CRS)

The Electrical and Electronics Engineering Institute in the University of the Philippines made an explanation about how the University of the Philippines’ Computerized Registration System (UP CRS) works. Students usually go through advanced enlistment during general registration. They also have advanced enlistment in the middle of the period. During advanced enlistment, students would submit a list of their desired subjects to their respective colleges. These lists are submitted online through the UP CRS. The UP CRS then processes these lists according to the student’s enrollment status. The results are to be printed as the UP Form 5-A. During the registration period, the subjects can be added or dropped from the Form 5-A due to different reasons. Then the different colleges would allocate new slots to those subjects that have been dropped by the students. These slots can be viewed in the UP CRS.

The UP CRS has the flexibility we would like our Pre-registration to have. The UP CRS has an option to add, drop and petition subjects online. The UP CRS can also show available slots to all subjects offered just like what APC has which is the Masters List. The UP CRS would be a great basis on what functionalities our Pre-registration system would have. (Retrieved on August 19, 2016 from http://www.eee.upd.edu.ph/academic-programs/enlistment/computerized-registration-system)

# Technical Background

Flavio is a system divided into two parts which are the main system and the Online Inquiry that are used by APC students and faculty. It was created with the use of Cobalt and since the proposed project is to be integrated with Flavio, the team members decided to use Cobalt Mark V, a code-generator framework which eliminates repetitive tasks and automates the add, edit, view and delete modules.

Cobalt uses XAMPP, a cross-platform web server that includes the Apache and MySQL modules which are used for the framework to run. The programming languages used are Hyper Text Markup Language (HTML) and Cascading Style Sheets (CSS) for the design and Hypertext Preprocessor (PHP) and MySQL for the logic. The project team members use Atom, a cross-platform source code editor to have an organized and proper platform for coding.

The hardware requirements of Cobalt were followed for the proposed system. Laptops and computers with any operating system that can use any web-server for PHP can be used to access the system.

When implemented, APC students can access the system by logging in to https://www.apc.edu.ph/flavio using their existing accounts. Flavio accounts are created at the start of their stay at APC.

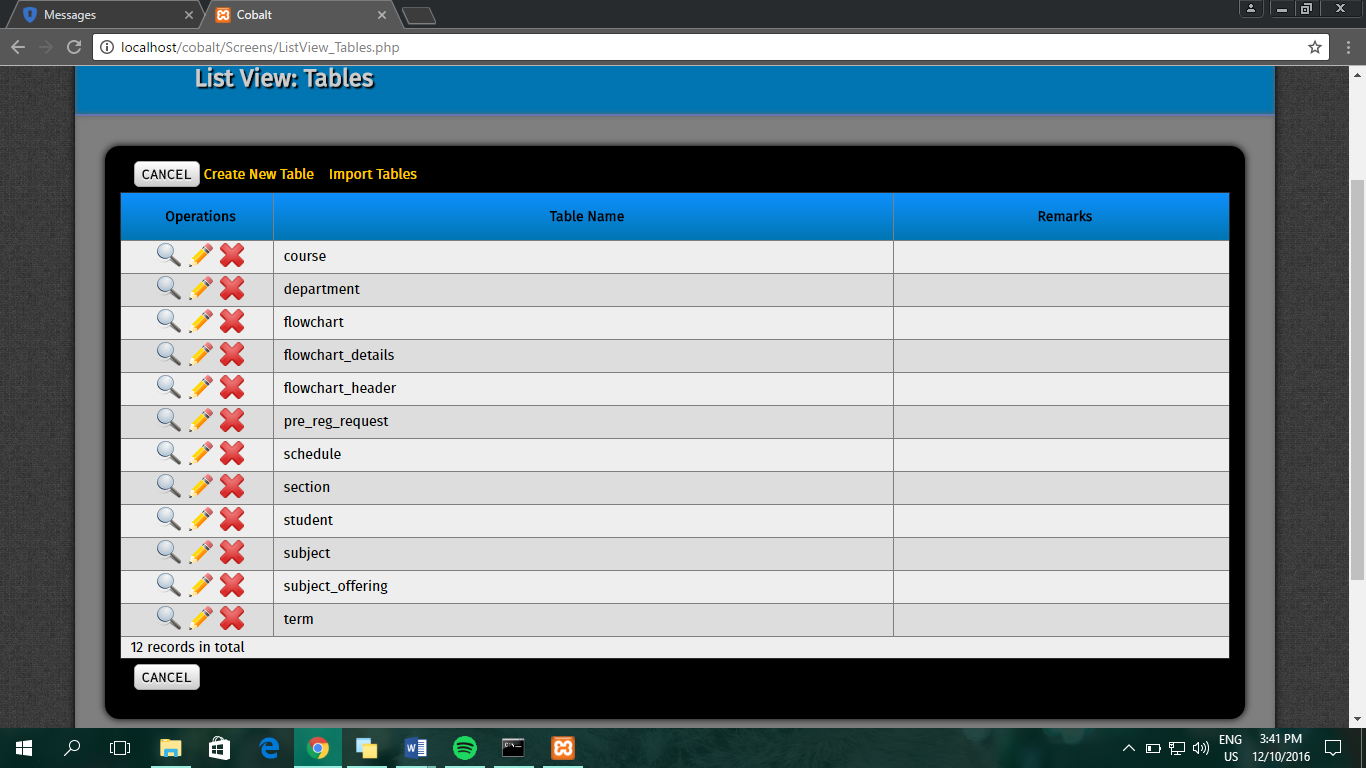
# Design and Methodology

To create the prototype of the proposed system, Cobalt was used for the front-end and the back-end. The web-server XAMPP was used all throughout the development because Cobalt requires a localhost server with the Apache and MySQL modules. The prototype was ran in the team’s preferred browser Google Chrome, but is also accessible in other browsers. The graphical user-interface was created using Cobalt’s built-in HTML designs and skins.

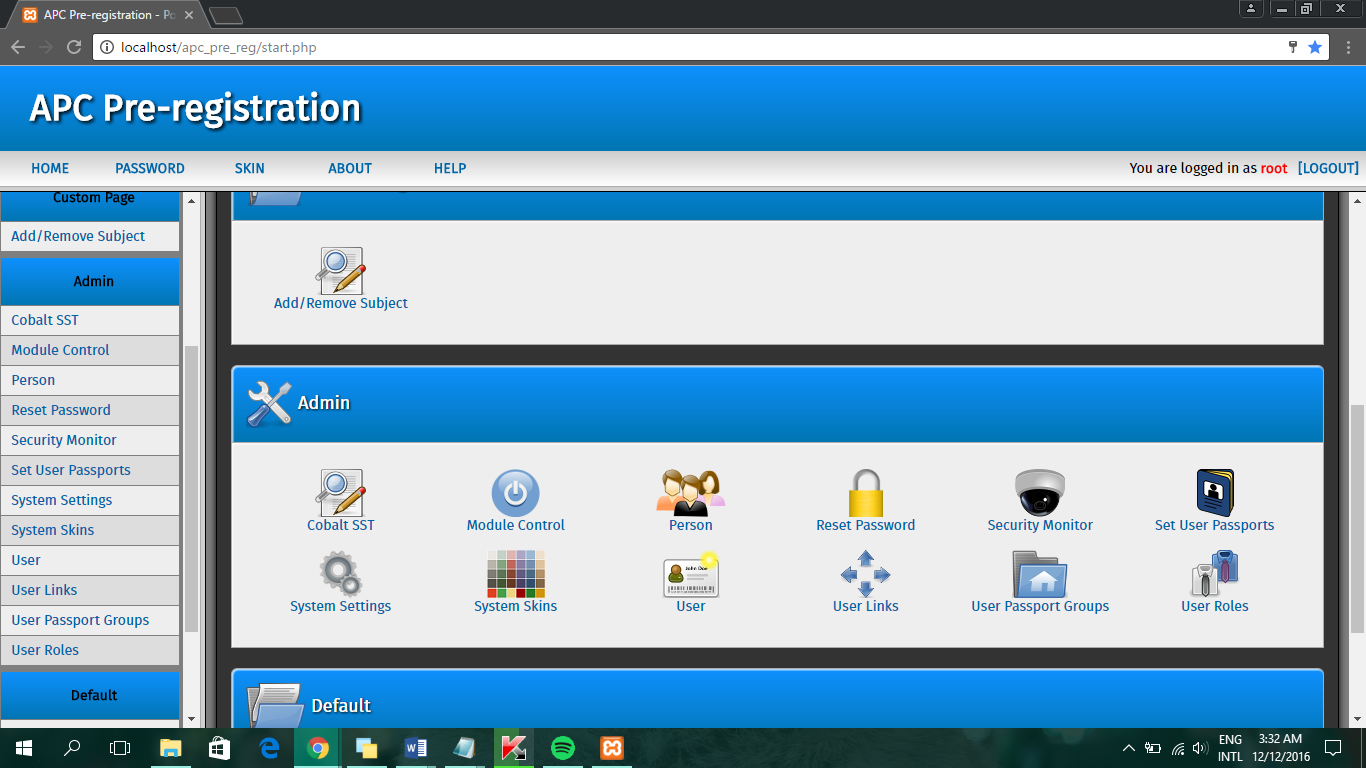
For the database, phpMyAdmin was used which is accessible by running XAMPP. All tables and data needed for the prototype was stored inside the database. Data are pre-created for presentation purposes in order to visualize the process of the system clearly. Once the proposed system is implemented, it would be integrated with Flavio, therefore the data from Flavio would also be used in the pre-registration system.

The system is well-secure because of Cobalt’s built-in security protocols. Passwords of any user are stored as a hash so that even when the database is accessed, the passwords are not seen as it is. Also, every log in a user does, a session is created and if a user logged out, the session ends so that even if there are other pages he or she opened, once the pages are reloaded, it would go back to the login page wherein the session expires.

Current Tables:



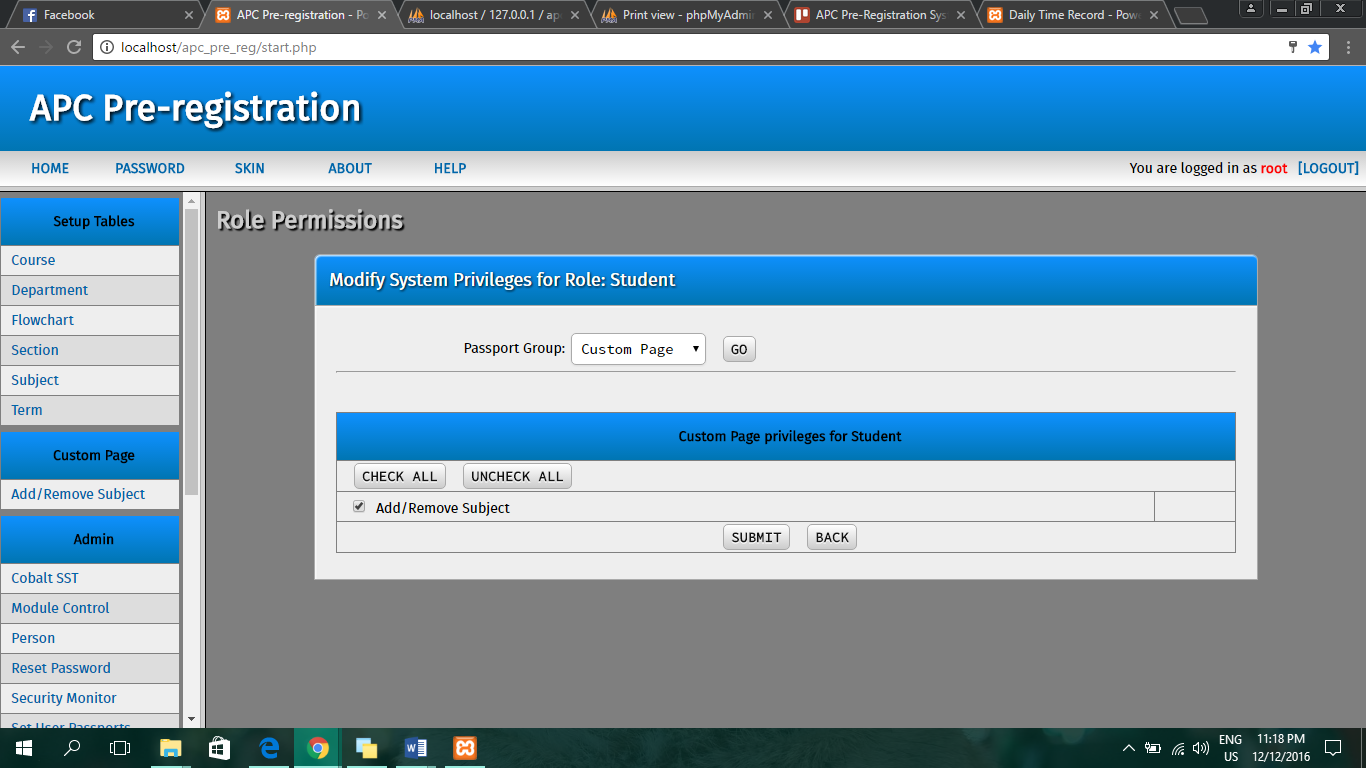
*Figure 1. Tables inside Cobalt*



*Figure 2. Built-in tables inside Cobalt*

The users of the system are the administrator, students and advisers. The administrator has full control in the system wherein he or she can add, view, edit/update and delete data from the tables in Figure 1 and in Figure 2, which are incorporated with Cobalt.

The two main users are the students and advisers. The role of a student in the system is to add or remove a subject and send it as a request which is directed to the student’s respective adviser. The role of an adviser is to receive and confirm the student’s request.

*User Role of Student*

# Conclusions and Recommendations

The research conducted along with the development of the system proved that an online pre-registration system is attainable. Based on the results, a high percentage of students have positive feedbacks towards the prototype of the system. Currently, the project’s feature is the requesting of students for subjects by choosing and adding it to their load. Those requests are sent to their respective advisers for approval. Once the request is verified, the students are notified whether their requests are approved or not. Also, students can view their flowchart to see what are their subjects.

More work can be done in order to optimize the system and by that, the project members recommend to future researchers to include a module wherein students can view their registration forms with the pre-registered subjects. In addition, a module for showing the schedule of pre-registration periods can be useful for students to be notified and lessen problems regarding schedules.