
Software Requirements Specification

for

Enhanced Faculty Loading System

Version 1.0 approved

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November 23, 2016

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Revision History

Name	Date	Reason For Changes	Version
Rafael Ochotorena	11/26/16	Document Created	1.0
Rafael Ochotorena	11/29/16	Filled-up missing parts	1.1
Rafael Ochotorena	11/30/16	Updates for necessary changes	1.2

1. Introduction

1.1 Purpose

This document is version 1.2 of SRS, it describes how the product, Enhanced Faculty Loading System aims how to improve the teaching capability of Asia Pacific College, how the product is used, who uses it and how it was developed. This document also explains the step by step interface of the product and all other requirements the product needs. This document also presents the necessary requirements the product has to be maintained with.

1.2 Document Conventions

While reading this document, certain words or phrases might be used for specific reasons. The document conventions are the following:

Tag Faculty

When clicked, admin will be directed to the page where he/she will select the faculty who will be teaching the next term.

Upload Subject/Faculty List

When clicked, admin will be directed to the page where he/she will be able to upload all necessary data of faculty and subject.

Subject Table

View subject table necessary for loading.

Faculty Table

View faculty table necessary for loading.

Generate Tentative Load

When clicked, the system will automatically start loading the schedules of faculty depending on the tagged faculty and criteria necessary.

View Tentative Load

View tentative load of schedules by the system.

1.3 Intended Audience and Reading Suggestions

This document is intended for the Executive Director and the faculty members of the School of Computing and Information Technology in Asia Pacific College. The rest of the Software Requirements Specification document contains the overall description of the product such as its functions and user classes, the external requirements of the product which explains the walkthrough of the product and how the product came to be, and also all other requirements the product needs for its functionality.

1.4 Product Scope

This product aims to quicken the process of faculty loading for the Executive Director by giving her less paper works, for the faculty to have more time preparing their lesson plans, and for the students to receive a better quality of teaching. This product will also use an analytic-based reporting system that provides a comprehensive report on faculty loading. If this product is integrated, it will truly give efficiency for the Director's workload.

1.5 References

This document follows documents for the product in projects2.apc.edu.ph/wiki and GitHub. The following are some of the references for this document:

- Change Management Plan
- Project Vision and Scope
- Statement of Work
- Quality Plan

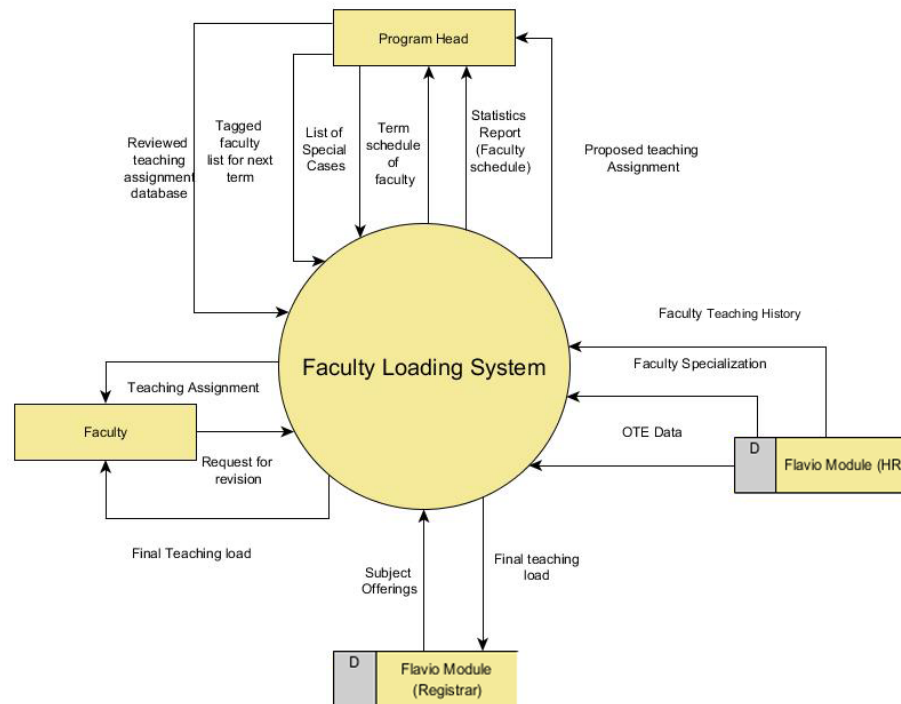
All documents listed above were documented by the project team together.

2. Overall Description

2.1 Product Perspective

This product will replace the old manual process of faculty loading with an enhanced faculty loading system that will be efficient and effective. This product is a component of the Flavio system by which all necessary data are received from Flavio.

A Context Diagram presentation which shows how data will flow from entities to the system.



2.2 Product Functions

The major functions the product are the following:

- Matching of faculty to their respective schedules
- Algorithm for careful considerations of factors used for matching
- Reporting system to provide a report on how the matching is done

2.3 User Classes and Characteristics

This product is aimed the Executive Director and the faculty members but the faculty members can only view on their schedules. The Executive Director, however, will use the system for loading the faculty members' schedule. Both the users may use the system anytime but the system will be used specifically before the start of the next term.

2.4 Operating Environment

The software would be able to operate to any operating system but Windows 7 (or later) would be the most preferred to use. Any web browser may be used for the system since it will be integrated to the Flavio system of Asia Pacific College.

2.5 Design and Implementation Constraints

As stated in the main document to which the criteria for loading is mentioned, some rules must be followed:

- No 3 consecutive classes for each faculty
- No more than 21 units for full-time faculty
- No more than 15 units for part-time faculty
- No more than 8 hours of work load each day for each faculty
- No more than 4 preparations for each faculty

If the system would be integrated, specific softwares are highly recommended, HTML and PHP and MySQL for the database management. The school will be responsible for maintenance once the system is deployed.

2.6 User Documentation

Other than this document, other documentations were also delivered for this product one of which is found in projects2.apc.edu.ph/wiki under CSPROJ2 projects. Status reports on changes happened to the product are weekly documented. Also, documents can also be found on GitHub.

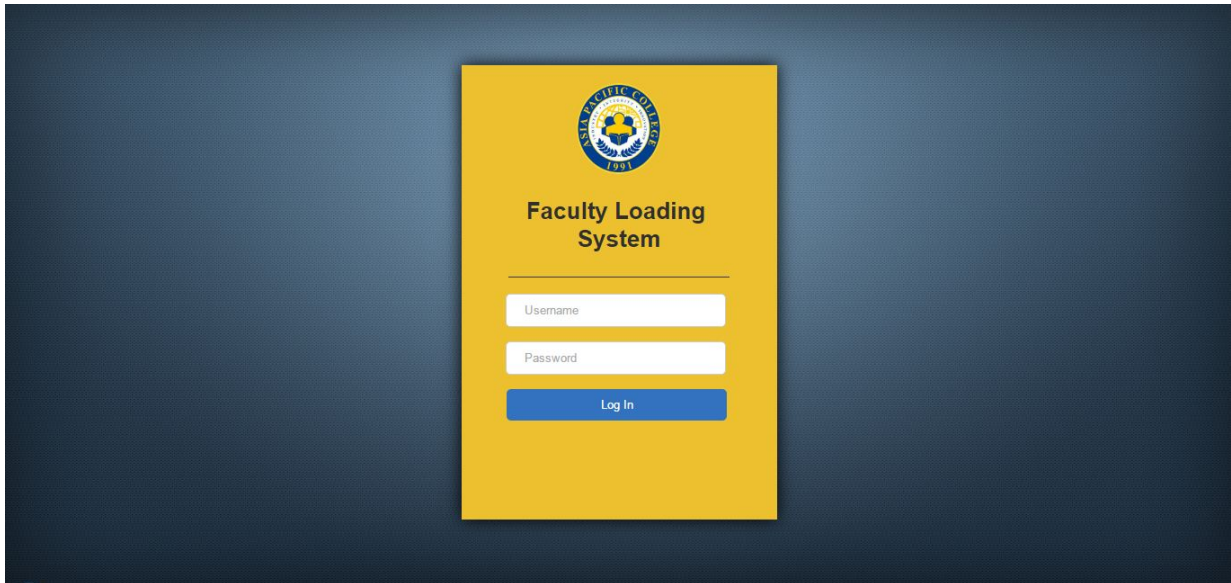
2.7 Assumptions and Dependencies

Since the product is limited to the School of Computing and Information Technology only, future alterations and updates will expand the product's clients. When integrated, continued maintenance will expand the product's scope. The product will be integrated in APC's information system, Flavio. If the information system would be updated, this product has to be maintained in order to sync with the system properly.

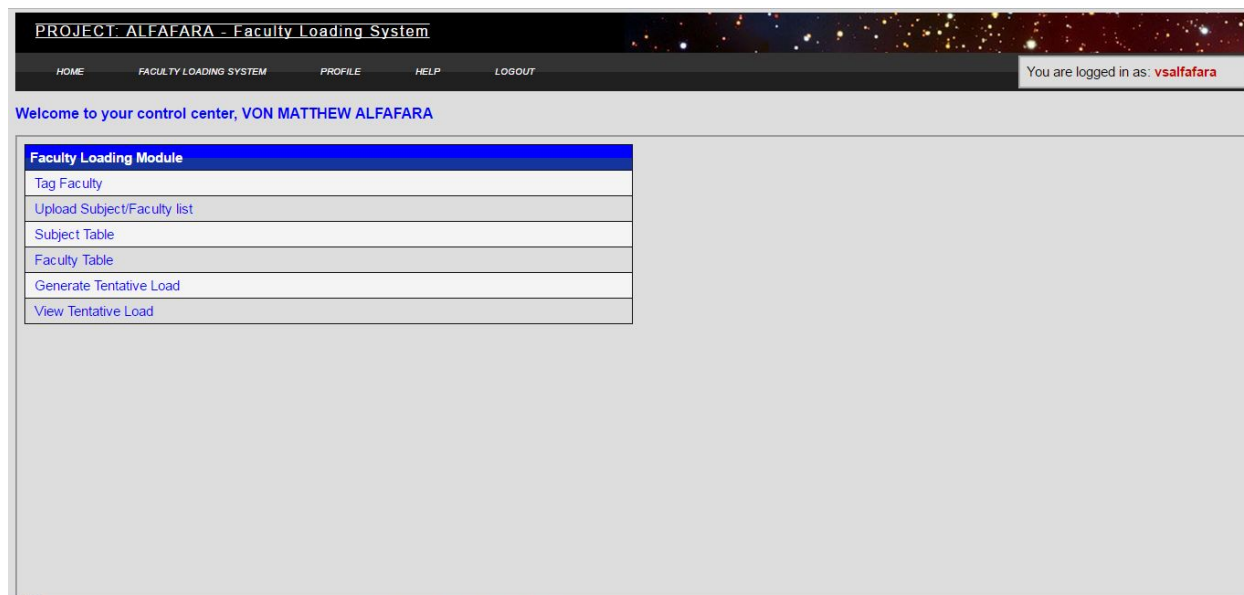
3. External Interface Requirements

3.1 User Interfaces

In order for the software to be used, the user must first login to the Flavio System.



If the user is the Executive Director, he/she would be able have access to all software control.



He/she would be able to view the data necessary for loading.

PROJECT ALFAFARA - Faculty Loading System

HOME FACULTY LOADING SYSTEM PROFILE HELP LOGOUT You are logged in as: **vsalfafara**

Welcome to your control center, VON MATTHEW ALFAFARA

Faculty Loading Module

- Tag Faculty
- Upload Subject/Faculty list
- Subject Table
- Faculty Table
- Generate Tentative Load
- View Tentative Load

PROJECT ALFAFARA - Faculty Loading System

HOME FACULTY LOADING SYSTEM PROFILE HELP LOGOUT You are logged in as: **vsalfafara**

Welcome to your control center, VON MATTHEW ALFAFARA

Employee ID Ascending Sort!
Enter value here Find!

Faculty

Employee ID	Employee First Name	Employee Middle Name	Employee Last Name	Employee Type	Specialization
6	Gabrielle		Lazaro	full-time	Computer Engineering
7	Jameiah		Jauod	full-time	Database Systems
8	Von	Sogocio	Alfafara	part-time	Software Engineering
9	Rafael		Ochotorena	part-time	Computer Networks
10	Allen		Baldovino	part-time	Systems Analyst
11	Rhea		Valbuena	full-time	Database Systems

To which he/she would be able to load the schedules of faculty members.

Faculty ID	Faculty First Name	Faculty Middle Name	Faculty Last Name	Full-time/Part-time	Specialization	OTE	Subject ID	Subject Name	Subject Description	Unit	Start Time	End Time
6	Gabrielle		Lazaro	full-time	Computer Engineering	6	1	SYSADD1	System Analysis and Design	3	09:30	11:30
6	Gabrielle		Lazaro	full-time	Computer Engineering	6	3	DATAKOM	Data Communications	3	07:30	09:30
6	Gabrielle		Lazaro	full-time	Computer Engineering	6	7	COMPORG	Computer Organization	3	01:30	03:30
6	Gabrielle		Lazaro	full-time	Computer Engineering	6	8	OPESYS1	Operating Systems 1	3	03:30	05:30
7	Jameiah		Jauod	full-time	Database Systems	7	2	INPROLA	Introduction to Programming Languages	3	09:30	11:30
7	Jameiah		Jauod	full-time	Database Systems	7	4	DATAMA1	Database Management 1	3	11:30	01:30
7	Jameiah		Jauod	full-time	Database Systems	7	10	DATAMA2	Data Management 2	3	03:30	5:30
8	Von	Sogocio	Alfafara	part-time	Software Engineering	4	5	INSTDEV	Introduction to Systems and Design	3	11:30	01:30

3.2 Hardware Interfaces

The hardware components used for the product is a dual core 2.4 GHz+ processor, an 8GB RAM.

3.3 Software Interfaces

The product was created through a cross-platform source code editor specifically notepad++ and Sublime Text, a cross-platform web server XAMPP, MySQL for the database, HTML, CSS and PHP, and all possible web browsers that a user may use.

3.4 Communications Interfaces

The product is most likely be used by the school, Office365 would be used in means of communication. Google Chrome, Mozilla Firefox, and Microsoft Edge are the most used browsers nowadays to which it might be used by the users of the product. Since the product is integrated to the Flavio System, it could only be accessed within school territory because intranet is used.

4. System Features

The product's number one feature is faculty loading where it will implement an algorithm to match the schedules of faculty. Other features include viewing of schedules and a comprehensive statistic report. Multiple interactions are encountered by the user like receiving data from the HR and Registrar and consultation given to the faculty for revisions.

4.1 Faculty Loading

4.1.1 Description and Priority

This feature is the main priority of the product by which this is what the product do. Algorithm is used to decide the matching of schedules for each faculty to the subjects they would have to teach. The product is used to ensure efficiency and effectivity for the user but errors may occur.

4.1.2 Stimulus/Response Sequences

The user must first review the necessary data needed for loading. Once finished, the user will tag which faculty will be teaching the next term then the system will use an algorithm to load the schedules of faculty.

4.1.3 Functional Requirement(s)

Criteria – these data are required in the system in order to generate faculty loading
Algorithm – this is the most important requirement of the system since it is responsible for matching the faculty schedules.

4.2 Viewing of Schedules

4.2.1 Description and Priority

Faculty may view their respective schedules in order for them to review so they may request revisions when needed. This is medium priority since the faculty has the decision whether to view their schedules or not but is still necessary because revisions may be needed and the Executive Director must receive the request for revisions to prevent conflicts.

4.2.2 Stimulus/Response Sequences

When loading of schedules are finished, the data will immediately be sent to the account of the faculty in order for them to view. The faculty may then view the schedules and review it for revisions.

4.3 Statistic Report

4.3.1 Description and Priority

One thing that makes this product unique is because of its statistical report which it will provide to the admin for analysis on the outcome it has given. This has a low priority but is in fact a big part of the product because the admin may be able to see how the criteria was weighted down for the faculty to end up on their specified schedules.

4.3.2 Stimulus/Response Sequences

After the system has loaded all the schedules of faculty, it will then generate a statistical report based on the criteria it has used such as: availability, history of teachings, specialization, online teaching evaluation data, rules and special cases. The admin may then review the report for necessary revisions.

4.3.3 Functional Requirement(s)

Power BI - is used for the system since it is known for its graphical presentations on data and statistics.

5. Other Nonfunctional Requirements

5.1 Performance Requirements

The product should be able to provide the admin an accurate output of faculty schedules. Algorithm functions correctly and the flow of matching is on track. Rules and special cases are being followed. Criteria are properly weighted down and availability of faculty is slotted precisely. A statistic report is being followed up to after the loading of schedules is finished and the data will be ready to be inserted in the teaching assignment database.

5.2 Safety Requirements

All data should be complete before loading in order to prevent repetitive loading that would waste time, it will just negate the whole product's goals and objectives. The data provided must also be precise and has no missing parts and incorrect information. This product highly gives importance to its criteria which is the reason why data has to be complete and precise.

5.3 Security Requirements

This product is highly for Asia Pacific College School of Computing and Information Technology use only, all the information are kept in the Flavio System. Only the Executive Director is able to use load the system but the Faculty may be able to view their schedules. The system will also be accessible within APC territory since the school and the Flavio System uses intranet.

5.4 Software Quality Attributes

The product has an easy process, all the admin needs are the important data that shall be request to the HR and Registrar, which they then retrieve from ITRO and all other data necessary for loading. The product is available only to SoCIT but enhancements will further push the product to the other schools. Maintenance is necessary since updates usually happens after the course of months. Updates on the teaching assignment database is important every after finalization of schedules.

5.5 Business Rules

The following are the roles for each involved including the system itself.

- The Executive Director will use the system to load the schedule of faculty.
- Faculty may view their schedules in order to request for revisions and reschedules.
- The system will generate a statistic report on loading the schedules.
- The Executive Director must update the teaching assignment database.

6. Other Requirements

Not much else is required for the product but always keep on updating the database for new faculty and subjects would be added every term. Even though the product is limited to the faculty who works for more than 1 term in APC, some new faculty would stay for more than a term in APC so checking on updates is always necessary.

Appendix A: Glossary

APC – Asia Pacific College, the client for the product

SoCIT – School of Computing and Information Technology, a department of APC

Executive Director – the main user of the product and is in charge of the SoCIT in APC

Faculty – professors working in APC whom will be used for loading

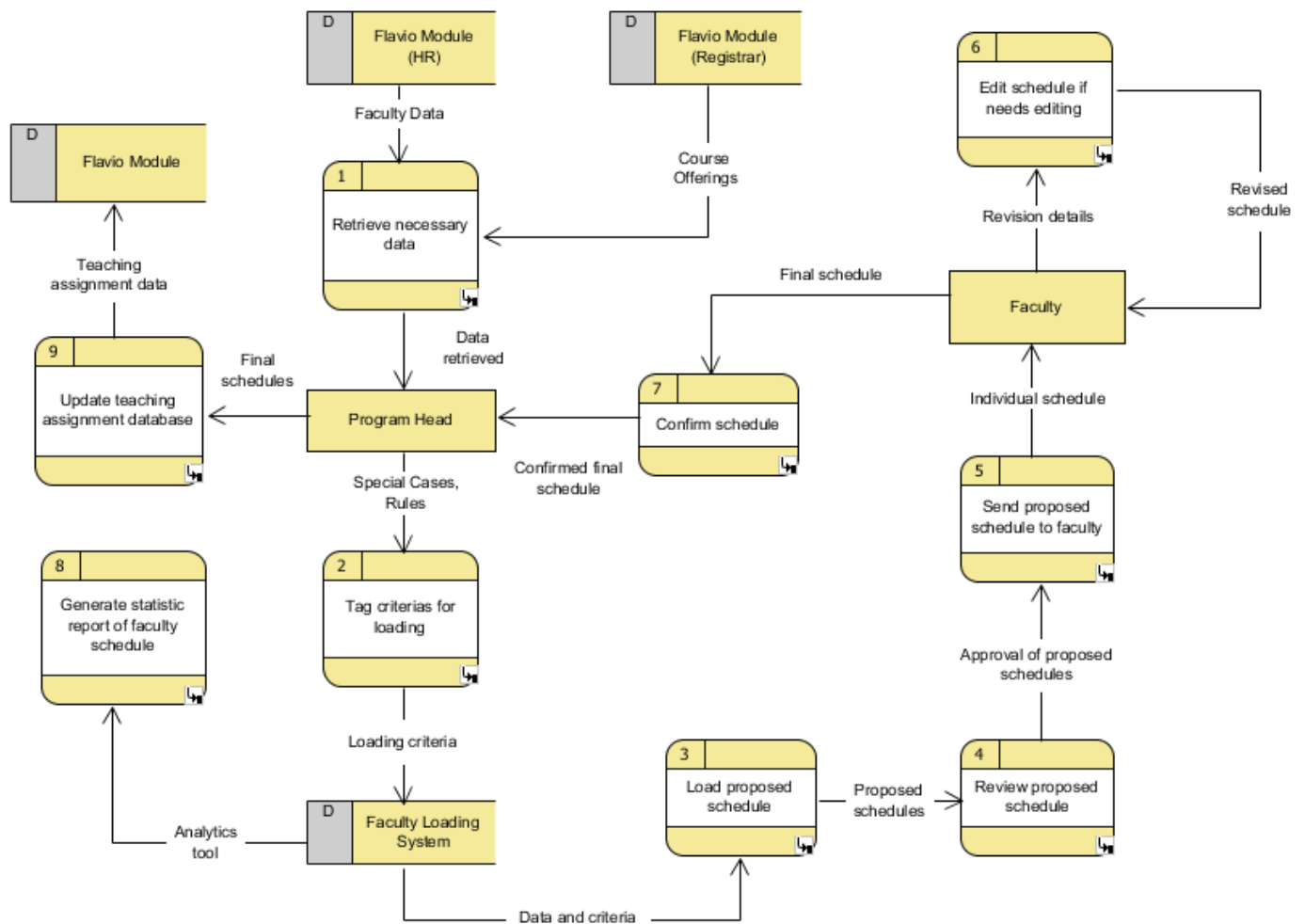
Algorithm - a process or set of rules to be followed in calculation or other problem-solving operations, especially by a computer.

Power BI - it specifically shows how the loading is done and how the criteria are weighted.

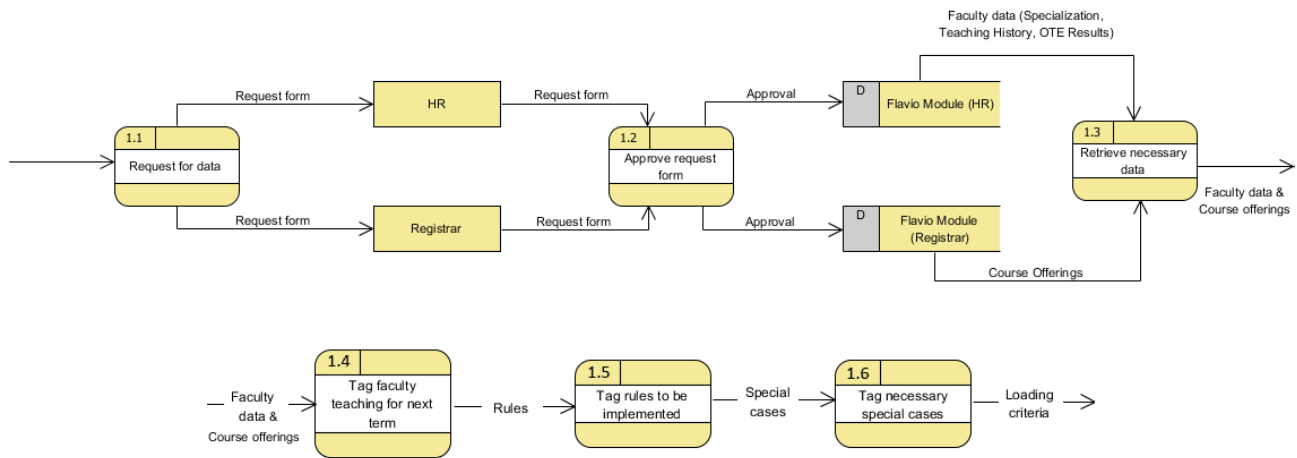
Intranet - network is based on TCP/IP protocols belonging to an organization which is Asia Pacific College and it can only be accessed by the faculty and students within the school area.

Appendix B: Analysis Models

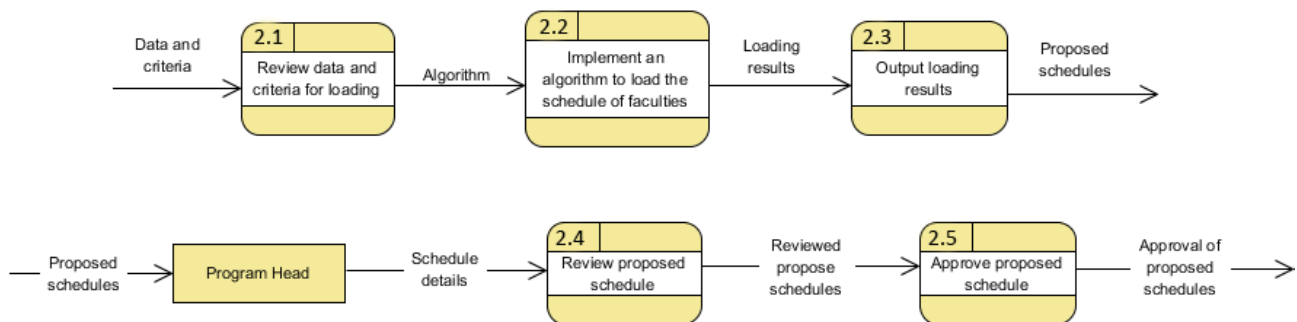
DFD Level 0



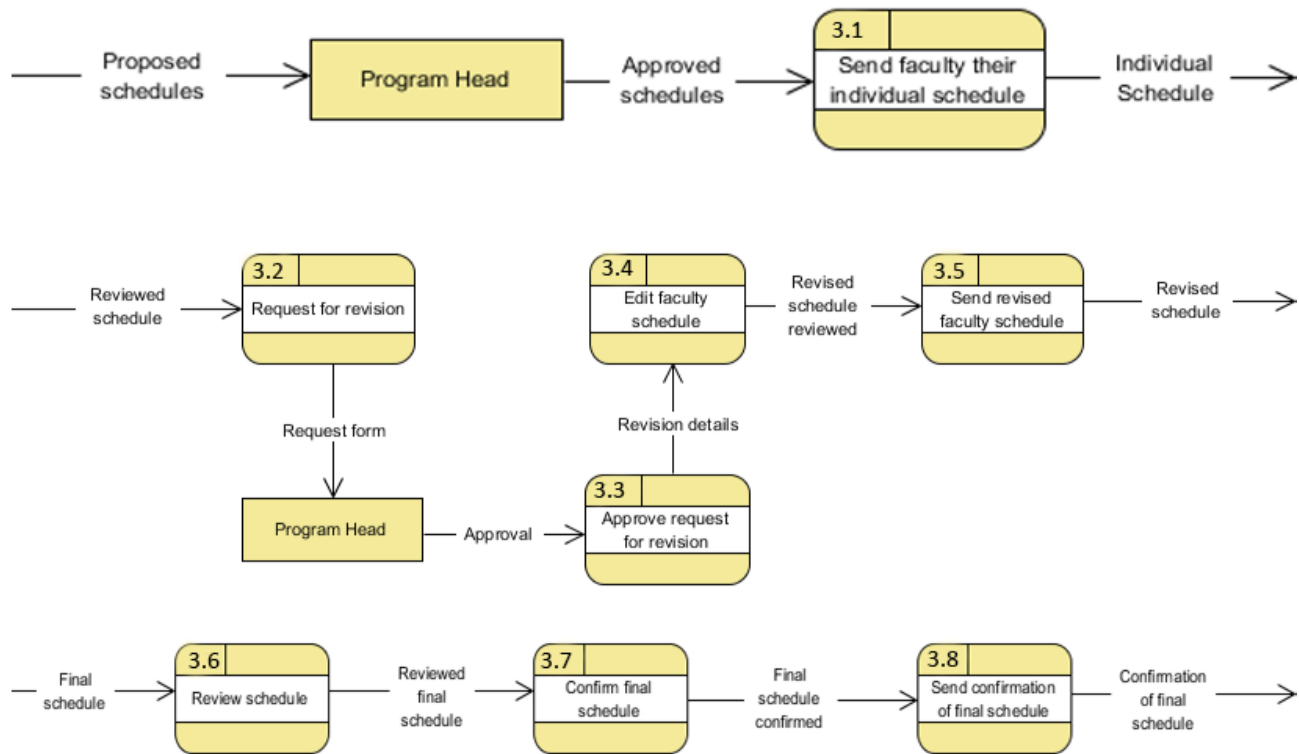
DFD Level 1



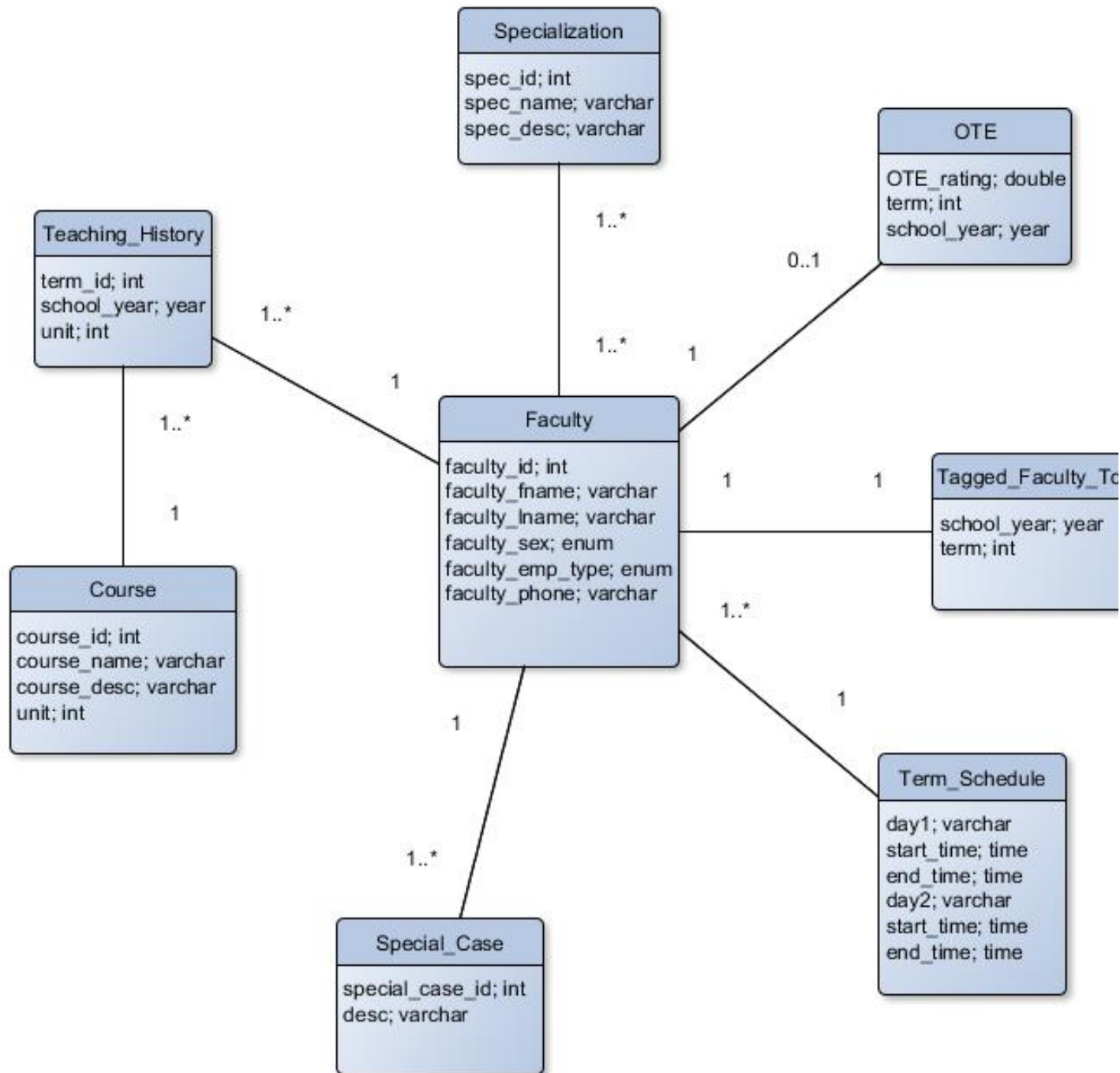
DFD Level 2



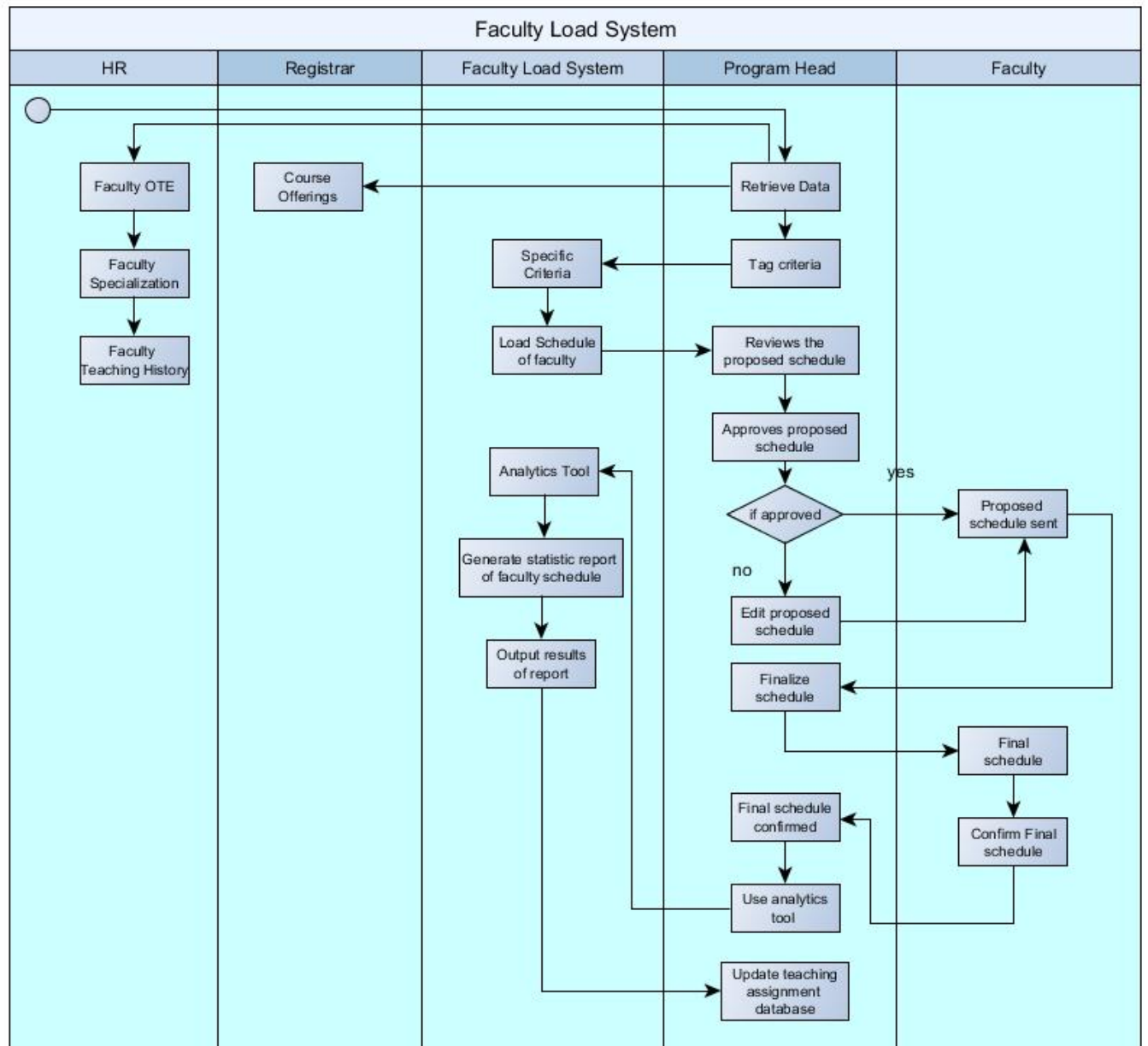
DFD Level 3



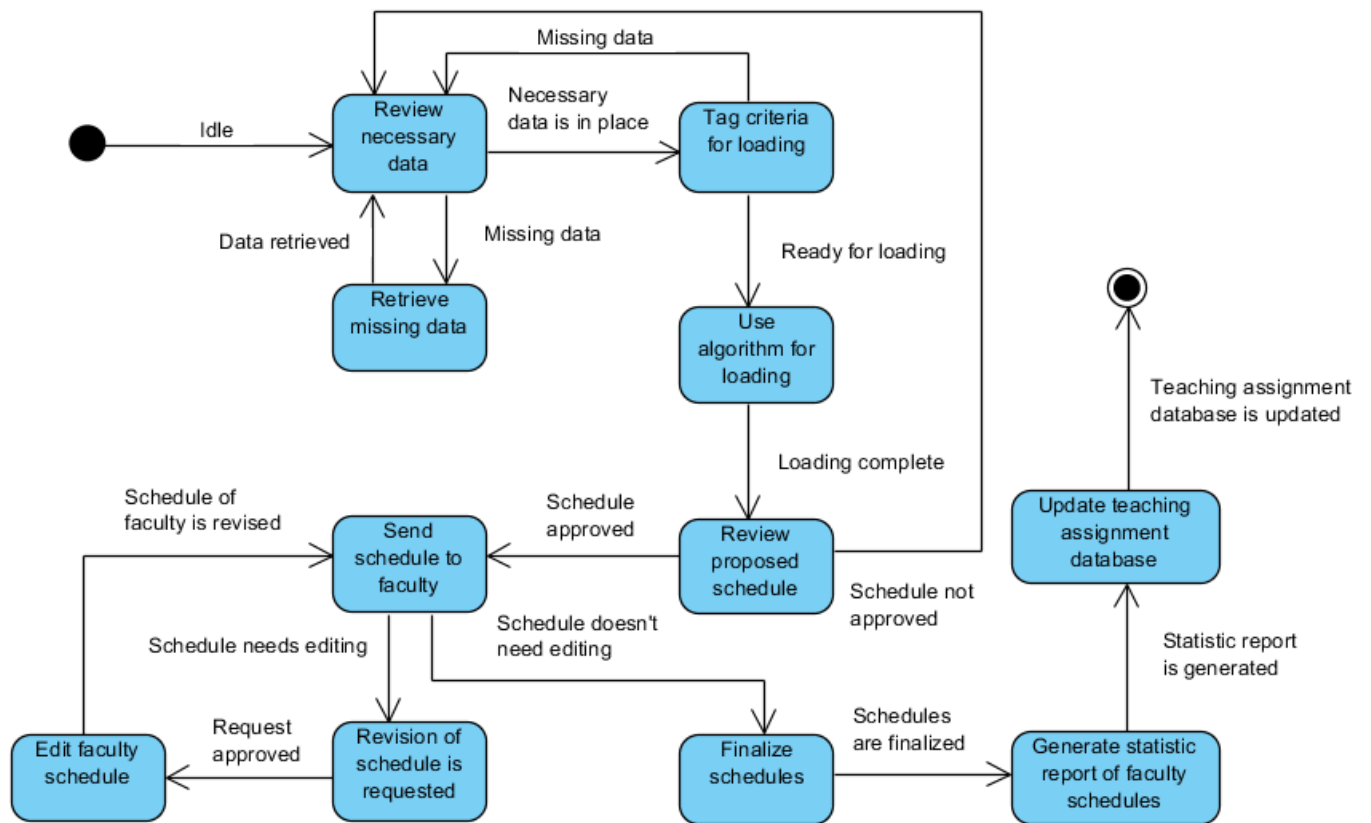
Class Diagram



Activity Diagram



State-chart Diagram



ERD

