FICT Final Year Project IDEAS Bank

By

Leong Wai Hang

A REPORT

SUBMITTED TO

Universiti Tunku Abdul Rahman

in partial fulfillment of the requirements

for the degree of

BACHELOR OF INFORMATION SYSTEM (HONS)

INFORMATION SYSTEM ENGINEERING

Faculty of Information and Communication Technology

(Perak Campus)

JANUARY 2015

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DECLARATION OF ORIGINALITY

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Signature : _____

Name : LEONG WAI HANG

Date : 3 APRIL 2015

ACKNOWLEDGEMENTS

I would like to express my deepest gratitude and thanks to my supervisors Dr. Doris Wong Hooi Ten and my previous supervisor Puan. Azwin Hazrina Ahmad for their valuable knowledge, experience and endless patience to guide me in FICT FYP IDEAS BANK project throughout the whole project lifecycle. A million thanks to my supervisors. Without my helpful supervisors, this project will never be success.

Besides, I would like to express my sincere thanks to my friends who are willing to share their knowledge and provide me suggestions when I encountered problems.

Finally, I must say thanks to my parents and my family for their love, support and continuous encouragement throughout the course.

ABSTRACT

This project is going to develop a web based system name FICT FYP IDEAS BANK that can ease the process of collecting and providing Final Year Project (FYP) title for Faculty of Information and Communication Technology (FICT) student in University Tunku Abdul Rahman(UTAR). Every semester FYP committees are required to send an email to collect FYP title from lecturer every semester. After collecting FYP title from lecturer, FYP committee might need to verify the FYP title manually and the chances of getting error during generating FYP title list is higher. Besides that, the FYP title in the FYP title list is not enough for all the students. Therefore, web based system that can minimize error occur when generating FYP title list and providing more project ideas shall be developed. Prototyping methodology is used for the development stage of FICT FYP IDEAS Bank. The target user of this system is FICT lecturer, lecturer from other faculty and FYP committee. **FYP committee will be the admin of the web based system while student and lecturer will be normal user of the web based system**. To use the web based system, users are required to register an account. The web based system shall allow end users to share project idea, search for project idea, and manage user's personal details as well as project idea details. The special features added in this system is text processing technique. Database will be implemented in this web based system to store end users and project idea information and information extracted from text processing technique. Since FICT FYP IDEAS BANK is a web based system therefore, computer of end users must be connected to the internet in order to use this web based system.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF ABBREVATIONS

UTAR	University Tunku Abdul Rahman
FICT	Faculty of Information and Communication Technology
FYP	Final Year Project
IIPSPW	Introduction to Inventive Problem Solving and Proposal Writing
FGO	Faculty General Office
PC	Personal Computer
CSS	Cascading Style Sheet
OS	Operating System
SDLC	System Development Life Cycle

Chapter 1 Introduction

1.1 Motivation and Problem Statement

Every semester FYP committee will send an email attached with a form to gather FYP titles from every FICT lecturer. Due to there are a lot of lecturer in FICT department, FYP committee might miss out some lecturer and didn't send the email to request for the FYP title. If the lecturer has any idea, lecturer need to fill in the form with required information and then send the email back to the FYP committee. After received the email from lecturer, now FYP committee will start to verify the titles proposed by lecturer manually. The problem is FYP committee might find it very difficult and inconvenient when processing and compiling the data since FYP committee are doing it manually. Besides that, processing and compiling the data manually might cause the FYP committee miss out some important data. Furthermore, manually processing and compiling data required a lot of time. FYP committee need to double check or even more than that to make sure the data are accurate and up to date before FYP committee use the data to generate a list of FYP titles.

Next, when students are taking IIPSPW subject, every students need to select their FYP title and supervisor before week 3. The problem is most of the student might find it very difficult to think of a FYP title because they might not yet identify the area of interest. For example, most of my friends are unable to propose their own FYP title and end up waiting for auto assign to a supervisor and asking for ideas from their supervisor. Although, FYP committee generated a list of FYP titles but there are a lot of student, the FYP title that are listed are always not enough for students. This problem is important because without a proper FYP title or idea student might be unable to perform well in their FYP or fail in their FYP.

To tackle the above problem I will develop a web based system that allows FICT lecturer and other faculty lecturer to share their FYP ideas on the system. By using this web based system; lecturer can share their idea anytime. Besides that, FYP committees don't need to send email to every FICT lecturer every semester, whenever the lecturers have any ideas they can directly share it by using this web based system.

Besides that, this system not only allow lecturer to share their ideas, it also allow student to share their ideas so that students can have more ideas when comes to selecting the FYP titles. After the student share the idea, all the data will be saved in the database and the idea will not be show to the user yet. It needs to wait until admin approved the ideas. The admin of the system will be the FYP committees. To approve ideas that are share by the students, FYP committees just need to click the "Approve Project IDEAS" button and the status of the idea will be updated and now the approved project ideas will be show to the users so now FYP committees don't need to processing and compiling the data manually.

1.2 Project Scope

My project scope is to develop a web based system that allow lecturer from FICT, other faculty lecturer and student to share their FYP ideas in the system and share it with students so that there are more FYP titles for student to select when they need to identify their FYP title. Besides that, there is a technique called text processing which helps to identify some keywords and these keywords might help user think of a new project ideas. The target users of this web based system are lecturer from FICT, other faculty lecturer and student. They can share their FYP ideas on the web based system which are helpful for student identify their FYP title. Furthermore, FYP committee also this web based system target user, although student can share any idea on this web based system but without the approval of FYP committee their ideas are unable to show to other users.

1.3 Project Objectives

The main objective of this project is to study the issues and problem in FYP title selection. The problems are FYP committee are required to compile data manually when generate the FYP title list and most of the student might find it very difficult to think of a FYP title because they might not yet identify the area of interest or project title on FYP list are not enough for students.

The second objective of this project is to design a web based system call FICT Final Year Project IDEAS Bank to reduce error when FYP committee generates the FYP title list. By using this web based system, FYP committee doesn't need to gather FYP titles from every FICT lecturer instead lecturer can share their ideas directly on the web based system. By using this web based system FYP committee don't need to process and compile the data manually, the web based system will help the FYP committee to process and compile the data in a more efficient and more effective way.

The third objective of this project is to develop a web based system call FICT Final Year Project IDEAS bank that provides FYP ideas for student to choose. By using this web based system not only FICT lecturer can share their FYP ideas, lecturer from other faculty or even students can share their FYP ideas on the system. When lecturers feel that there are some systems that are actually need some improvement they can share their idea on the FICT Final Year Project IDEAS Bank.

The forth objective of this project is better management of all the FYP titles. By using this web based system, all the information of the FYP titles will be stored in a database so users can search for certain FYP titles by just enter it name. Next, users are able to update their proposed FYP titles that already shared directly on this web based system. Furthermore, all the FYP titles are now categorized according to different courses in FICT department. Sorting of FYP titles are also available on this web based system to allow users to search for a FYP titles easily.

1.4 Innovation of the project

In order to make the system more valuable, there are two new innovations added in FICT Final Year Project IDEAS Bank. The new innovations are text processing and ranking of project idea.

1.4.1 Text Processing

Text processing function will allow the web based system to scan all the words in certain table of the database according to the pattern used.

The web based system will automatically trigger this function when the users share project ideas. When user click on the share project ideas button, all the project information will be saved in the database then the system will trigger the text processing function to extract all the information that meet the requirement of the pattern and then save all the extracted information in the database. The result will be show on another page called "Keyword List". The result may contain useful and important information that might inspire users to think of a new FYP title. The text processing function is useful for finding new FYP ideas.

1.4.2 Ranking of Project Idea

The ranking of project idea function will rank the project idea according to how many users already viewed the project idea or how many likes given to the project idea. Project idea with highest viewed or highest like will be placed on top of the system. Perhaps, UTAR can distribute a certificate or small gift for the users who shared a very attractive and innovative project idea. This may encourage users to propose their project ideas more frequent.

1.5 Impact, significance and contribution

By having this web based system, now FICT lecturer, other faculty lecturer and student can share their project idea instead of only FICT lecturer can share project title. Therefore, when student took IIPSPW subject they can have more project title to choose as their FYP title. Besides that, when this web based system introduced, the system can simplify the process of generate FYP title list by FYP Committee. FYP committee didn't need to gather FYP title propose by lecturer every semester and verify all project titles

manually. The chances for an error in compiling FYP title list reduced. Next, by using this web based system, every user will have their personal dashboards which allow users to modify their personal details and also project idea details. The current FYP title list is just a PDF file so it can't tell others whether the project title already been chosen by student or not. By using this web based system when the project title had been selected by students, the owner of the project idea can update the status of the project idea in user dashboard to indicate that the project title had been selected. Project title that already selected by student will be highlight in red color so student will know the project title already selected by other student. Other than that, this system will categorize the project idea proposed by users according to the course in FICT which is IA, IB, CN, CS and CT instead of combining all the project idea together.

Furthermore, this web based system can act as a forum to let lecturer to do some discussion on the proposed project idea. When user click on the project title in the system, user will navigate to a project idea detail page which contain all the information of the project ideas, besides reading on the project idea details, user can give some comment on the project idea. By reading the comment giving by other users, the owner of the project idea might able to add some new function and features to their project ideas to make the project even more valuable. Next, this system will count how many users viewed the project idea and also allow users to give a like on the project idea that is interesting or innovative. Last but not least, this system includes a text processing technique to help users to find potential project idea. These are benefits of FICT FYP IDEAS Bank, with these benefits error can be greatly reduce when FYP committee compiling all the project title, student can have more project title to choose as their FYP title, attractive interface to show the project ideas, act as a forum for users to discuss on the project ideas given and use of text processing technique to help in finding potential project ideas.

1.6 Background Information

Every student of FICT in UTAR requires complete their FYP in order to graduate from the university. According to Dr Jim Briggs (2010) 'The project is not just another

piece of coursework; it is part of the course where you show off your individual abilities and specialism.' Therefore, to finish the FYP, student needs to apply all the knowledge and abilities that have learned throughout the studies. Besides that, FYP provides students an opportunity to learn how to work on a project and complex real-life system.

FYP is divided into three parts which is the preliminary report, project 1 and project 2. Students are able to take the preliminary report when the student took IIPSPW subject on year 2 trimesters 3, project 1 year 3 semesters 1 and project 2 on year 3 semesters 2. While students are taking the IIPSPW, they must find a supervisor and choose a FYP title. Students can either proposed their own FYP title, choose the FYP title that are proposed by the lecturer which is available on the FICT portal or discuss their own idea with lecturer face-to-face, at the same time students need to find a supervisor who is willing to supervise them. After the student and supervisor are agreed on the FYP title that are selected then both of them need to sign on three set of undertaking forms. One is for the student, one is for the supervisor and one is for the FGO. After student registered their FYP title they can start their FYP. Student are encouraged to see their supervisor weekly or biweekly to let supervisor check the progress, discuss the problem encountered and gain some new ideas and knowledge from supervisor. Supervisor plays an important role on student FYP because without supervisor proper guidance, knowledge and patience students are unable to deliver their FYP on time or even can't complete their FYP, so student must choose their FYP title and supervisor carefully. By doing the FYP, students can gain a lot of new knowledge and with these knowledge students are now fully prepared to work in an industry.

1.7 Project Background

In this project, a web based system called FICT FYP IDEAS Bank will be developed. This system is developed to let FYP committee to process and compile data in a more effective and efficient way when generating the FYP title list. Besides that, this system also provides a chance to let lecturers and students to share their FYP idea.

Furthermore, FICT Final Year Project will use text processing technique find out the potential project ideas for students.

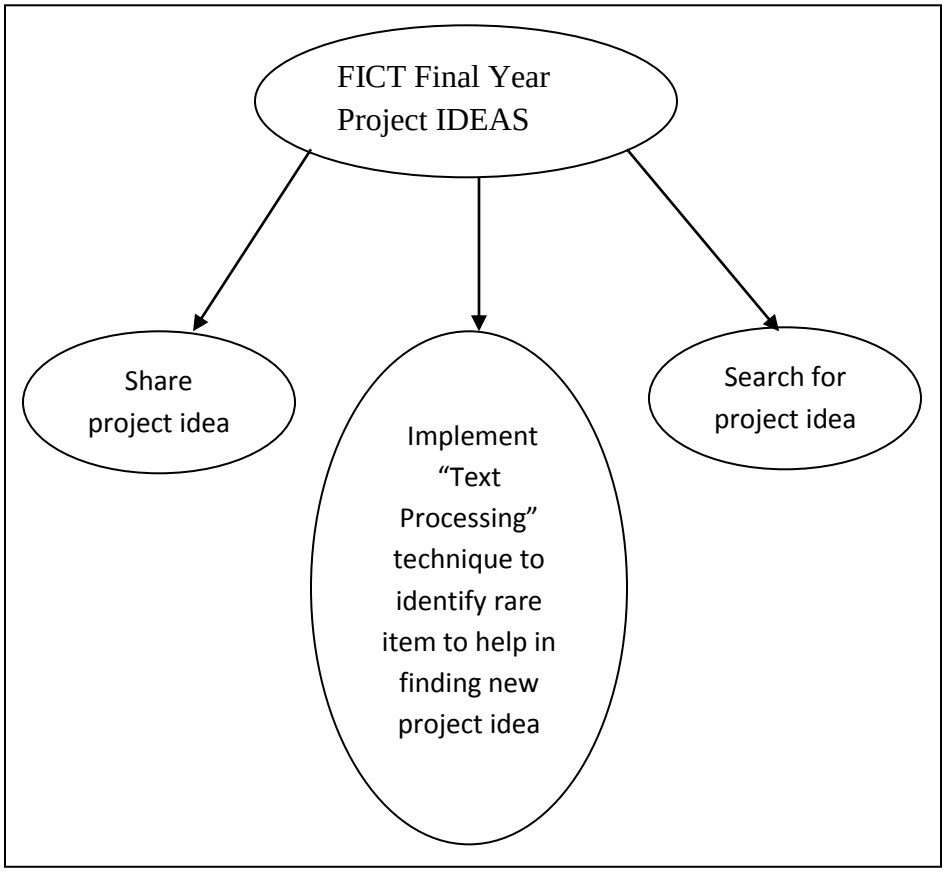

Figure 1.7.1: Function of FICT Final Year Project IDEAS Bank

Chapter 2 Literature Review

According to Chris Hart (1998) 'A literature review is an examination of the research that has been conducted in a particular field of study'. In order to develop a good system, benchmarking with other similar systems must be conduct. Identify the strengths and weaknesses of other similar systems will give us an opportunity to make improvement in the system. Therefore, literature review will be conduct before the system start develops. CAM Student & Unit Management System v5.0, FinalYear.net and Projectideas will be selected as FICT Final Year Project IDEAS Bank benchmark models.

2.1 CAM Student & Unit Management System v5.0

CAM Student & Unit Management System v5.0 is a web-based system develops by University of Portsmouth. The purpose of this system is to allow organization to propose IT or IS computer problem and then a postgraduate project student will provides the solution to solve the problem for free.

If an organization wants to submit an idea, they need to fill in the online form or download the form from the link provided in the webpage. In the online form, users are required to enter the organization details and also the project ideas details. Project ideas that are submitted required the approval of the admin before student can work on it. CAM Student & Unit Management System v5.0 provides a search function for users to search for available project ideas. Users can search for projects that are currently pending for approval, approved projects, allocated projects and unapproved projects. Since there no list for the users to see all the projects ideas, users are required to enter the project name to search for it. The design of the CAM Student & Unit Management System v5.0 is simple. The system is full of texts.

The strengths of CAM Student & Unit Management System v5.0 is it allow people from organization to propose project ideas. Normally people who works in an organization have more knowledge so the project ideas that proposed by the organization

might be more challenging and better. Besides that, the system allows users to search for all the project idea no matter it is approved or not.

The weaknesses of Student & Unit Management System v5.0 is the interfaces of the system are not attractive. All the interfaces of the system are full of texts and make it difficult to attract users to use the system. Although the design of the system is simple and user friendly but it looks messy.

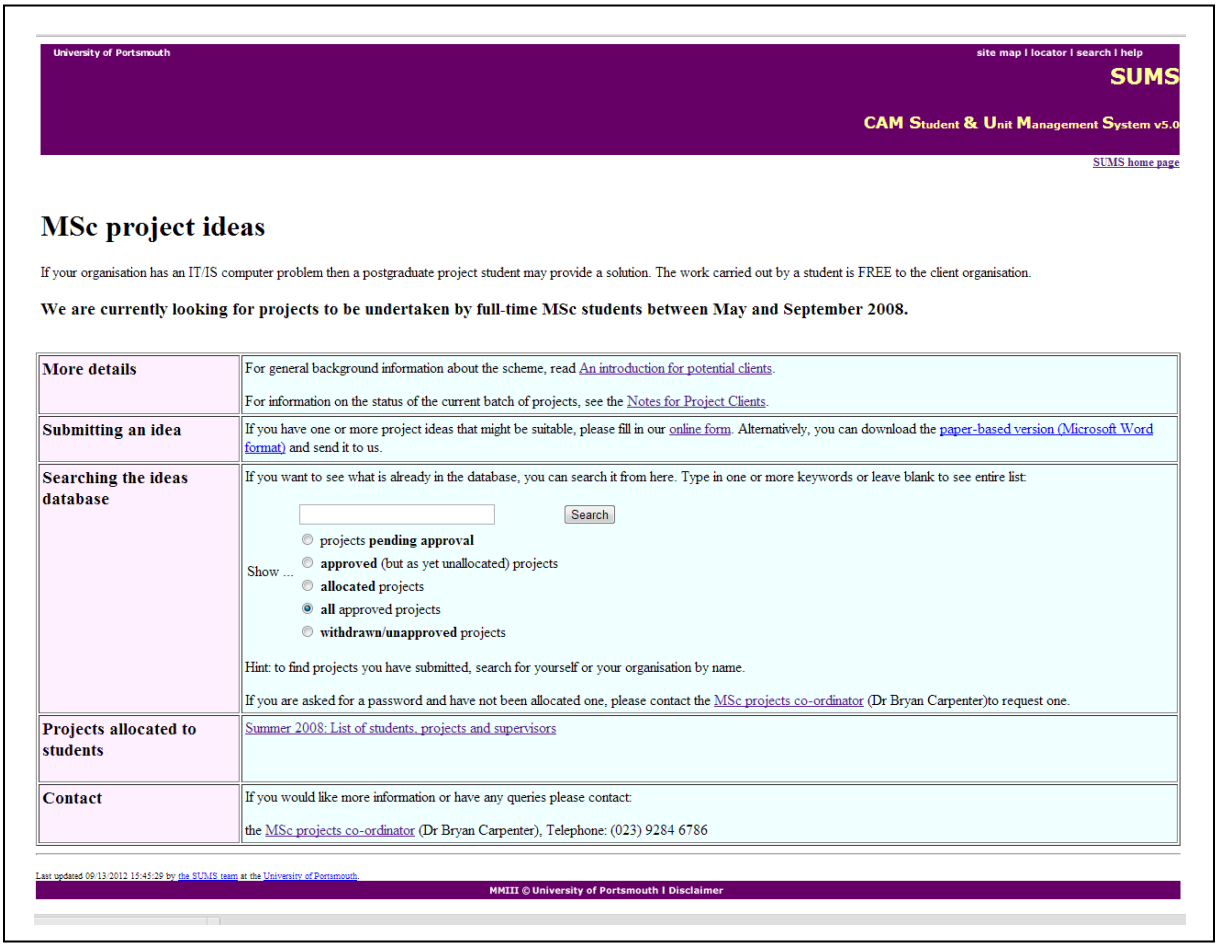

Figure 2.1.1: Screen shot of Student & Unit Management System v5.0 (SUMS, 2012)

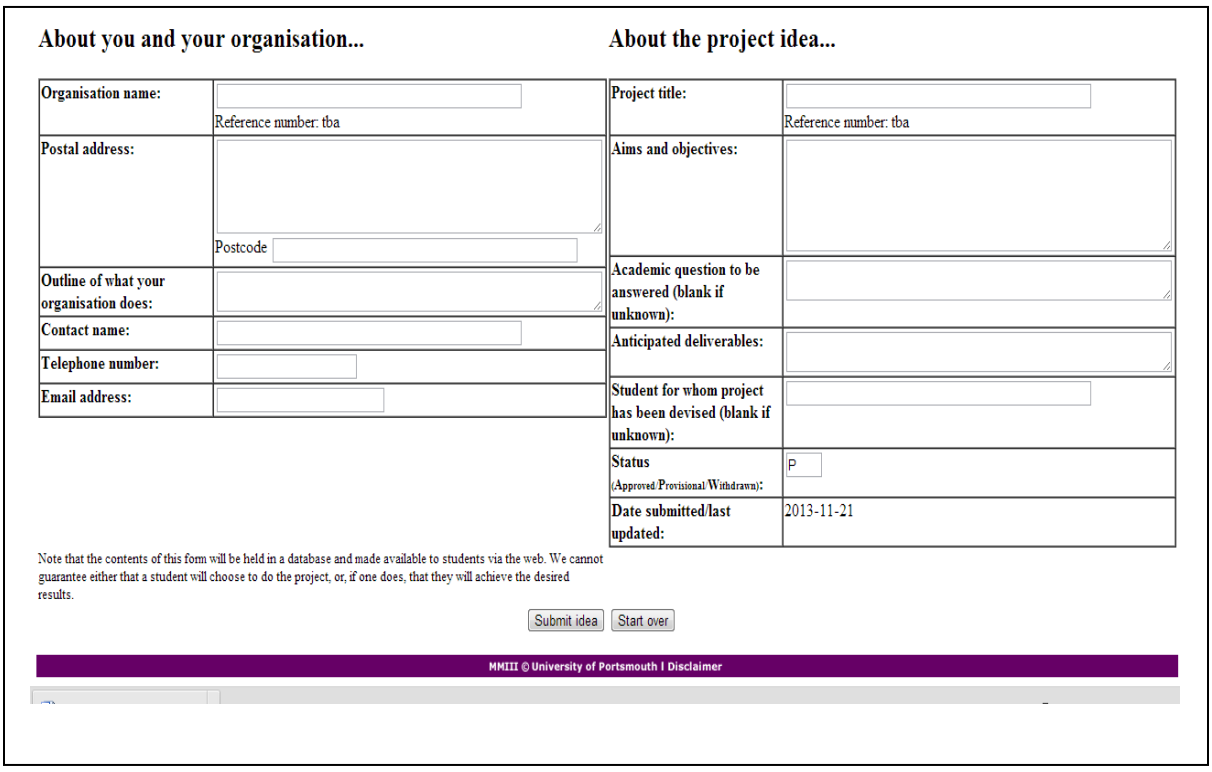

Figure 2.1.2: Online form of Student & Unit Management System v5.0 (SUMS, 2012)

2.2 FinalYear.net

Finalyear.net is a web-based system developed by Kamray Tech. Kamray Tech is a global software development company located in India. The purpose of FinalYear.net is to serves as a platform for people to sharing their final year project ideas for engineering students. For users who only looking for project ideas, they don't need to register an account. For users who want to share idea on FinalYear.net, they need to register an account. FinalYear.net allows all people to become users and share their project ideas. As long as the person has the project ideas, that person can share their idea on FinalYear.net by fill in the online form that is provided. Besides that, FinalYear.net provides a dashboard for users to keep track of their activity. For example, if a user shares a project idea on Wednesday, November 12, 2013 at 4.00pm the system will save all the data and show it in the user dashboard. Furthermore, FinalYear.net provides a special features which is the redeem points function. The points will increase when the user share a

project idea on the system. With these points user can redeem for gift. The gift is not show in the system so nobody knows what type of gift can be redeemed.

The interface of the FinalYear.net is attractive. FinalYear.net uses pictures to make the interface look better. In the home page, FinalYear.net has several categories to let users to view the final year project. These categories are Computer/IT, Electronics, Mechanical, Electrical, Civil and Telecommunication. Users can view the final year project ideas related to their field of study. To look for projects idea, users required to go to the project ideas page. All the project ideas are list in the project ideas page. Users can click the title of project ideas for more information. Next, FinalYear.net keeps track of how many users already viewed the project ideas. Furthermore, the system also keeps track of how many users like or dislike the projects.

The strengths of the FinalYear.net are the system allows any people to share project ideas so there are more project ideas can be shown in the system. Besides that, every user has their personal dashboard to show what project ideas they share, the date and time they share the project and the points they had collected so far. Next, points are awarded to users after they shared project idea. The points can exchange for gift so it might attract more users. Last but not least, FinalYear.net differentiates the final year project ideas according to different field of study. Users can find the suitable project idea easily.

The weaknesses of FinalYear.net are no matter what project idea u share, the system will put the project idea in the project ideas list without approval. Problem will occur if some users put in something that is not related to the project ideas. Next, like and dislike button may hurt some users. It is good to see somebody likes your project ideas but if there are too many people dislike your project ideas? These may hurt the users feeling and not to share project idea in the future although some project ideas are good. Besides that, the system will award point to the users who share project idea and the system will accept any project ideas from the users and show it in the project idea list so some users might just want to get the points to redeem gift and keep on share something that is not useful on the system.

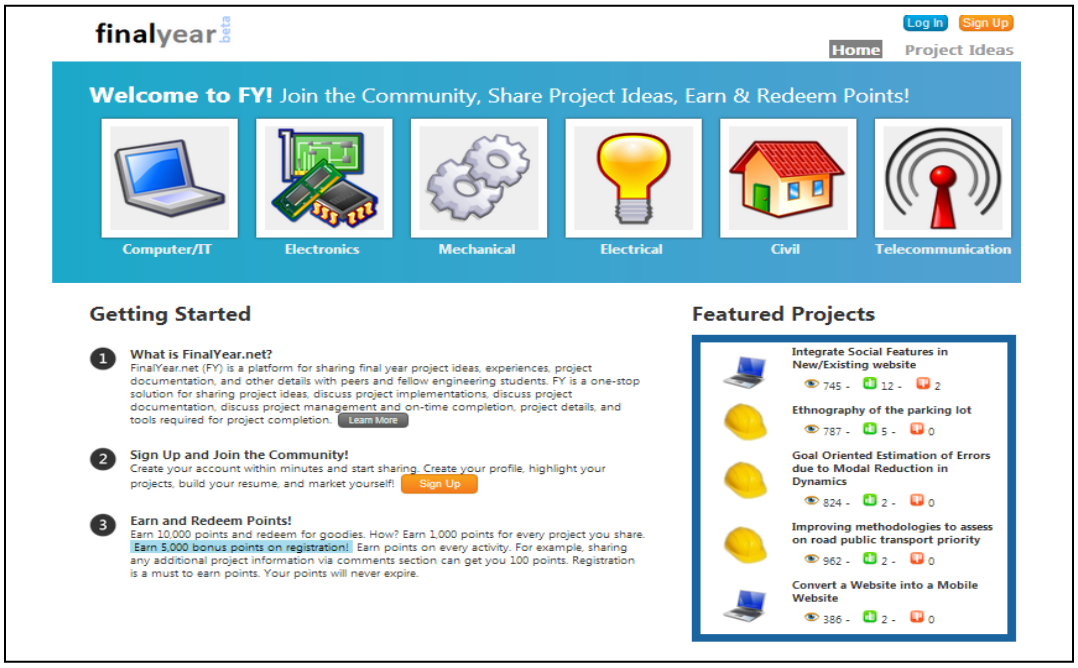

Figure 2.2.1: Screen shot of FinalYear.net (Kamrey Tech, 2013)

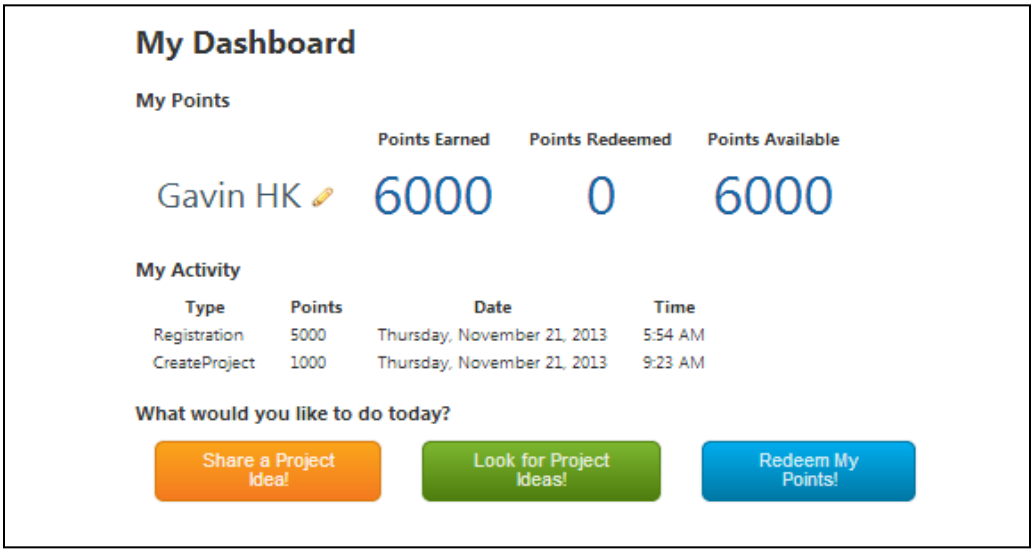

Figure 2.2.2: FinalYear.net User Dashboards (Kamrey Tech, 2013)

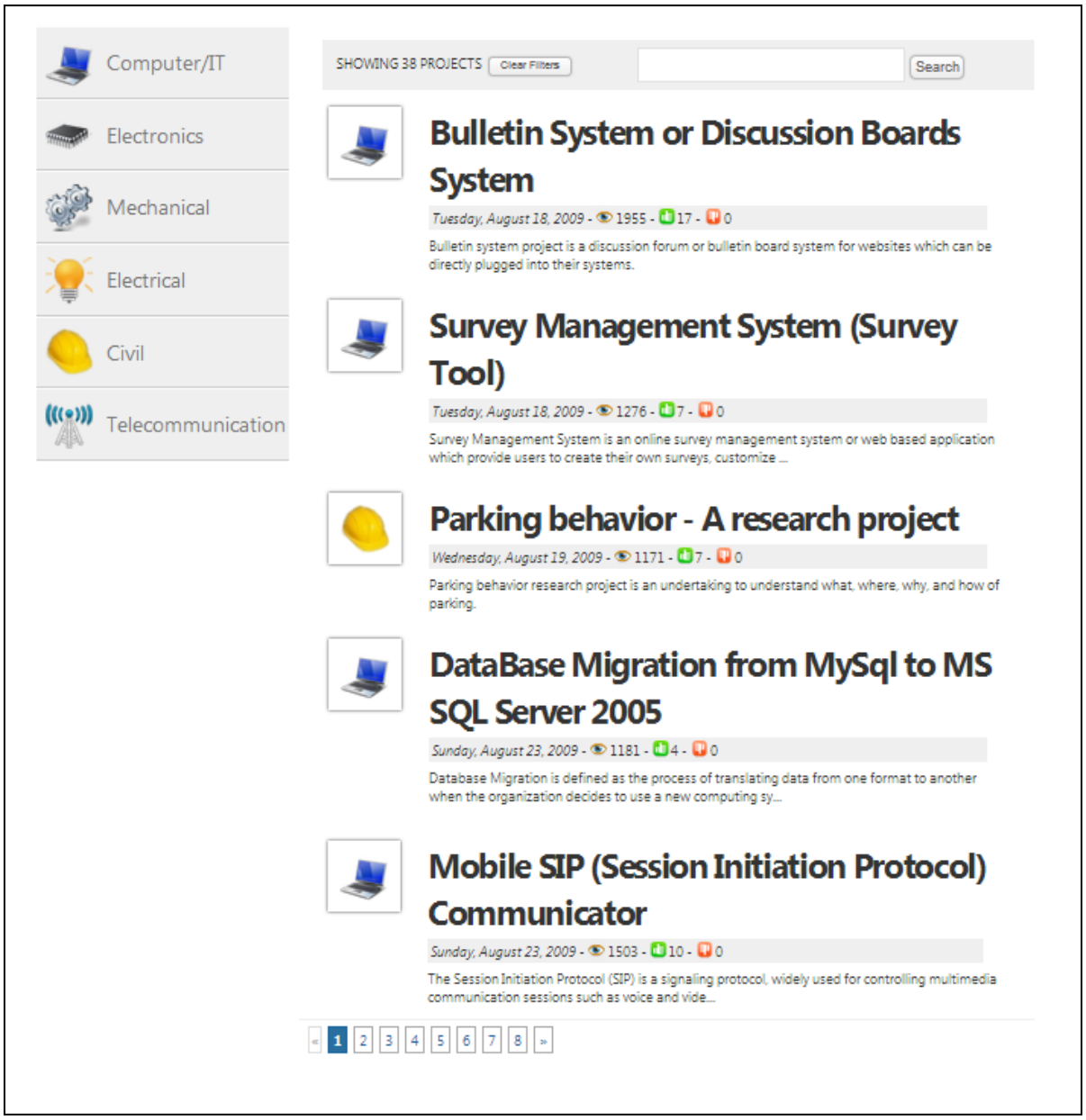

Figure 2.2.3: FinalYear.net project ideas list (Kamrey Tech, 2013)

2.3 Projectideas

Projectideas is a web-based system that allows people to find or to share project ideas. For users who looking for project ideas, no registration are required but to share project ideas, user needs to register an account. Projectsideas allow any people to share project ideas. To share projects, user needs to login and fill in the provided online form. Projectideas are able to keep track the users' activities. All activities user did on the system will be saved in the database.

In Projectideas all the project ideas are classify into few categories. The categories are Java, php, solar, python, c++, asp and etc. It is easier for user to look for project. To view project idea user need to go to project ideas page to view the project ideas. If user interested in a project idea and wants to know more about the project ideas, user can click on the project idea then it will show the information of the project ideas.

The strengths of Projectideas are the system allows anyone to share project ideas. As long as the people have an account, user can share their project ideas. Besides that, Projectideas classify the project ideas into several categories so user can find the project ideas related to his field of study easily. Next, users can view their activities did on the system in my account page.

The weaknesses of Projectideas are the system didn't check for the project idea that user shared, the system will update the project idea in the project list without approval from admin. Problem maybe occurred when user share something no related in the system. Besides that, Projectideas didn't have a review counter function to let user know how many people already viewed the project ideas. Review counter is important because from the reviewed user can know which project ideas are good.

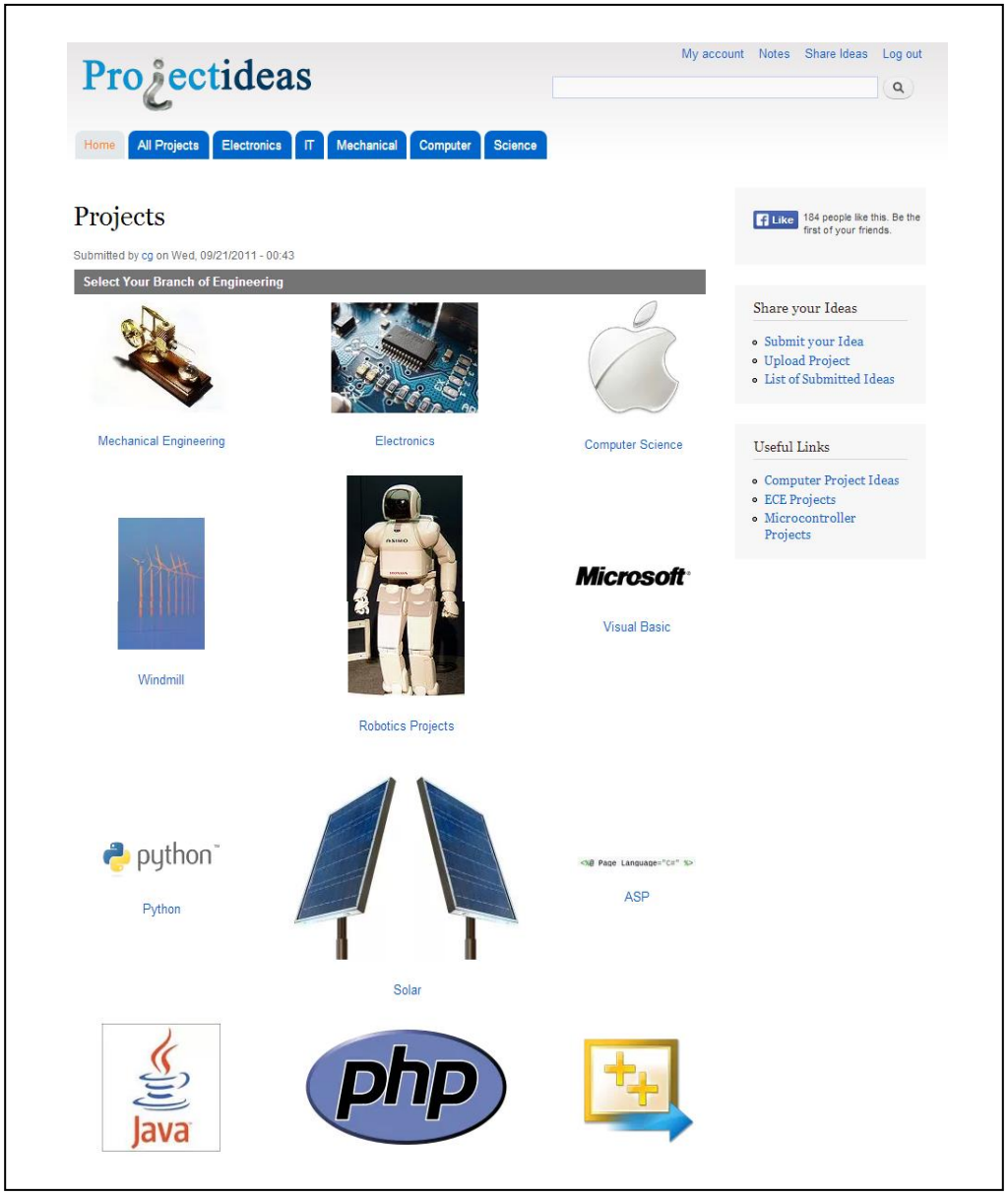

Figure 2.3.1: Projectideas home page (Projectideas)

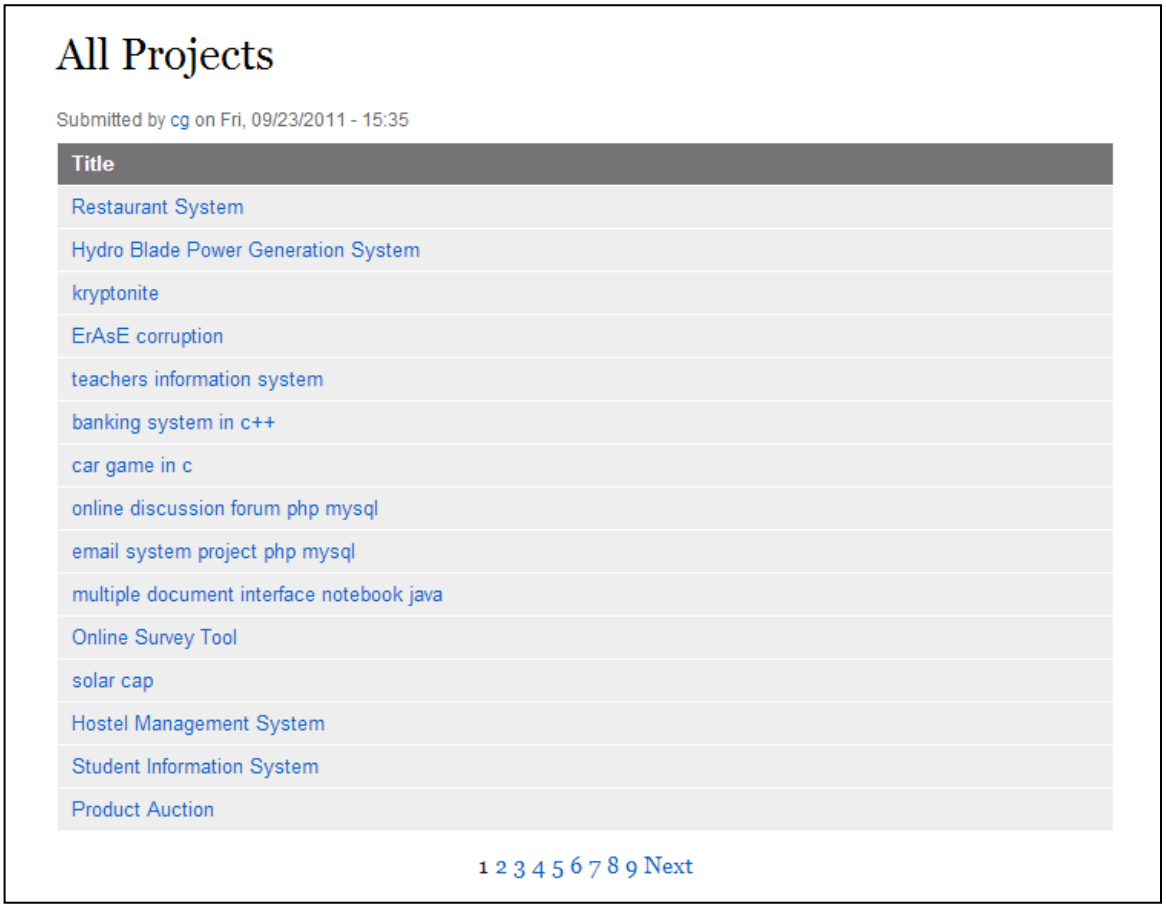

Figure 2.3.2: Projectideas project idea page (Projectideas)

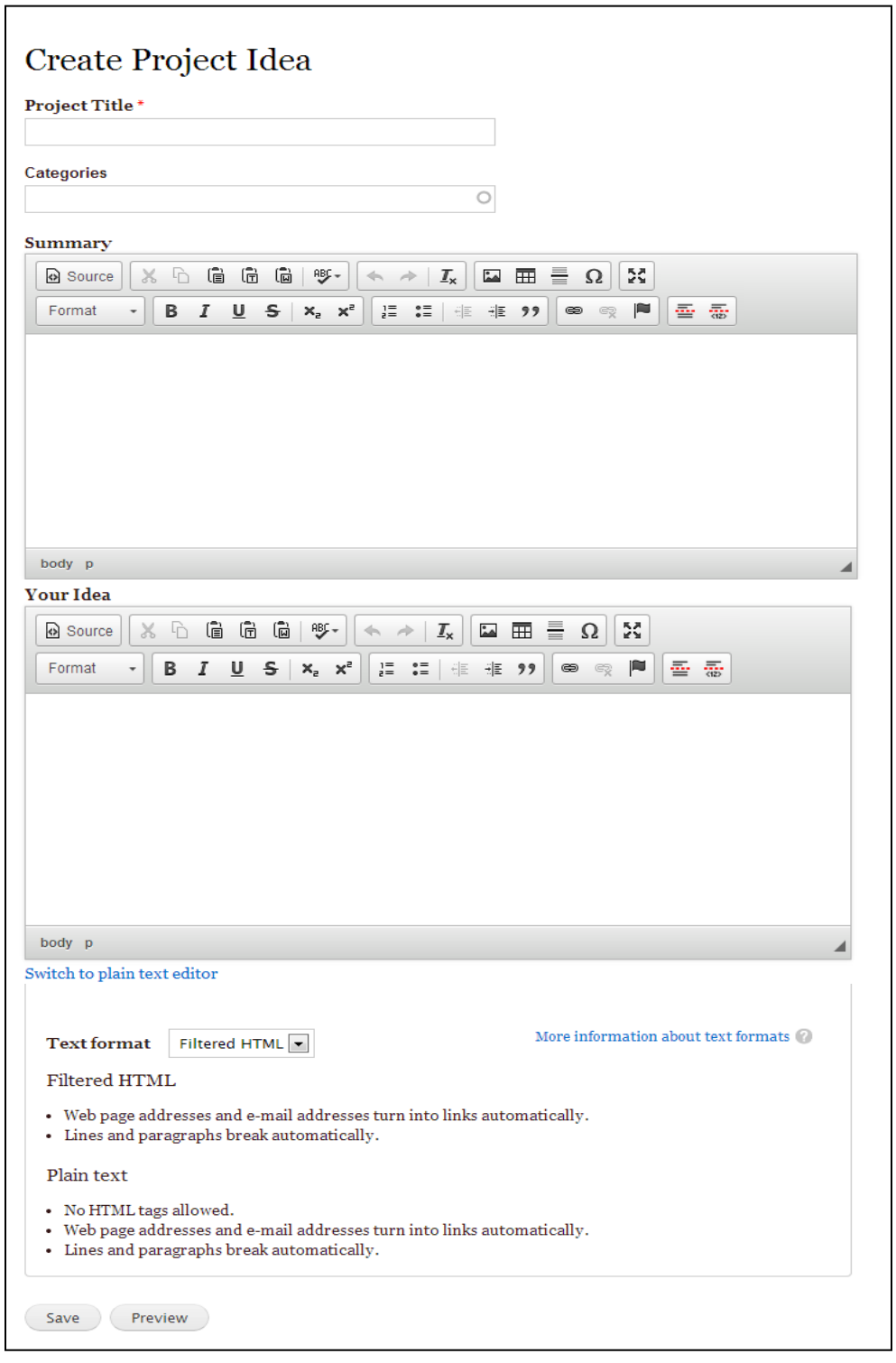

Figure 2.3.3: Online form of Projectideas (Projectideas)

2.4 Comparison

Table 2.4.1: Comparison of system features

	CAM Student and Unit Management System v5.0	**FinalYear.net**	**Projectideas**	**FICT Final Year Project IDEAS Bank**
Text Processing Technique	NO	NO	NO	YES
Review Counter	NO	YES	NO	YES
Any people can share project ideas	NO	YES	YES	NO
Project ideas approval	YES	NO	NO	YES
User Dashboard	NO	YES	YES	YES
Classify Project ideas	NO	YES	YES	YES
Redeem Point	NO	YES	NO	NO
Ranking of project ideas	NO	NO	NO	YES

After benchmark with other similar systems, most of the systems didn't use text processing technique to help in find out the potential project ideas. Text processing technique will be the special features of FICT final year project IDEAS Bank. The benchmark models allow anyone to share project ideas but FICT final year project IDEAS Bank only allow lecturers and students in UTAR to share project ideas.

2.5 FICT FYP IDEAS BANK

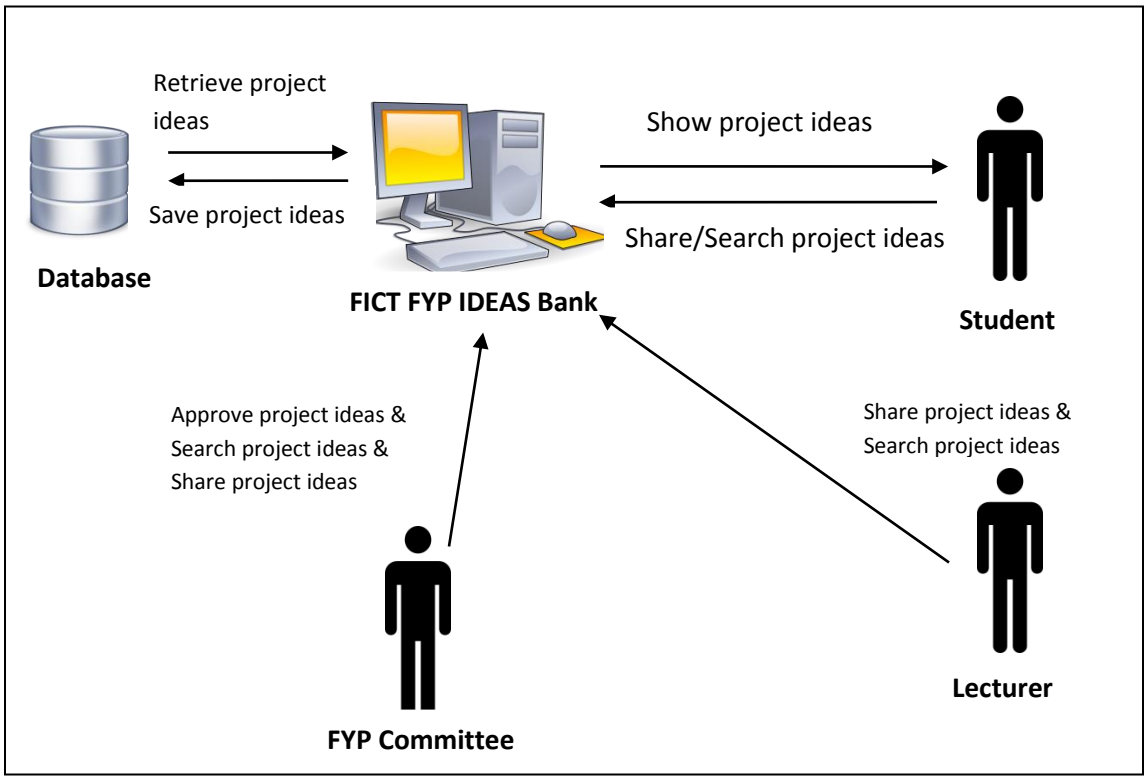

Figure 2.5.1: Architecture of FICT Final Year Project IDEAS Bank

FICT Final Year Project IDEAS Bank is a web based system that allow student, lecturer, FYP committee to search and share valuable project ideas. All project ideas share on the system will save in database. Next, project ideas that share by students will not show in the title list immediately until it is approved by FYP committee. It helps to ensure no students will share something that is not relevant to the project ideas. To share

or search project idea on the system, student and lecturer need to register an account first and then fill form to share project ideas. This system provides a dashboard for every user to maintain their project ideas, personal details and how many ideas had been shared on the web based system. FYP committee will be the admin of the system. Every project idea shared by students need to wait for approval from FYP committee. After FYP committee approved the project ideas, the project ideas will show on the project idea list. Furthermore, the system will use the text processing function to identify keywords and these keywords might be helpful in thinking of a new project ideas. The text processing function will extract all the information which meets the requirement of the pattern, all the extracted information will be saved in the database and show in this web based system. The extracted information might be able to help users to think of a good project ideas.

This web based system categorized project ideas according to the courses in FICT which is IA, IB, CN, CS and CT. It allows students to view the project idea related to their field of study instead of mixing all the project ideas in the project idea list. Besides that, this web based system will keep track how many people viewed and like the project idea. Next, this web based system has a ranking function. The ranking depends on the number of person viewed the project ideas or the likes given to the project idea. The web based system will place the project ideas that have more views and more likes on top of the web based system. In addition, FICT FYP IDEAS BANK provides an email notification function. Whenever users leave a comment on a project idea, FICT FYP IDEAS BANK will automatically generate an email and send to the owner of the project idea. Other than that, when student shared a project idea, an email will send to FYP committee to notify them new project idea have been shared. The email function helps all users to keep track of their shared project ideas.

2.6 Fact Finding

'Fact finding is an extremely important component of the communication process which presents its own special set of problems and opportunities to people working to increase the constructiveness of intractable conflicts.' (Conflict Research Consortium, 1998).

There are three major methods in fact finding which is observation, interview and questionnaire. Observation technique is to find out what actually happen in the current problem by observing the people who are facing the current problem. Interview is the most common and most often used fact finding technique. The purpose of conducting interview is to collect and clarify facts. Since interview required face to face communication so interviewers are required to have good communication skill in order to collect valuable information from the interviewee. Questionnaires required the user to spend a lot of time to prepare a set of question which is relevant to the problem in order to gathered the most relevant and valuable information. The conclusion is based on the feedback of respondents.

After study and compare on all the above fact finding technique and careful consideration on the current situation, observation is selected as the project fact finding technique. By using observation technique, result show that every time when a student need to register for a FYP title, most of them find that it is very difficult for them to think of a new project ideas and some of the students find out that the project title in the list is not sufficient. As a student, I also experience the same problem before. I feel extremely stress on that semester because FYP is not just a subject, it may impact our future as well.

Chapter 3 System Design

3.1 System Overview

In this session, how the project is designed will be describe in details by using diagrams. Diagrams included in this session are use-case diagrams, activity diagrams, sequence diagrams, use case description, interaction overview diagrams, windows navigation diagrams and low level network model. All the diagrams will help explain the functions and features and the work flow of FICT FYP IDEAS Bank.

Next, FICT FYP IDEAS Bank is a web based system which required storing all the end users information, project idea information and information extracted by using text processing technique so database is very important for FICT FYP IDEAS Bank. Therefore, database design will be conduct in this session. Database design included in this session is entity relationship diagrams, low level class diagrams, object diagram and CRC cards. All the Entity relationship diagram will show all the entity that used by FICT FYP IDEAS Bank. Low level class diagrams will show all the attributes and data type of attributes in each entity while object diagrams will show the sample data of each entity. CRC cards will describe in details the information of each entity.

Furthermore, in this session sample screen shots of FICT FYP IDEAS Bank is provided. The screen shots of FICT FYP IDEAS Bank will provide guidance to users on how to use the web based system. Last but not least, methods which will use in the system will be show in method specifications. Each method specifications will describe a method of the web based system.

3.1.1 Use Case Diagram

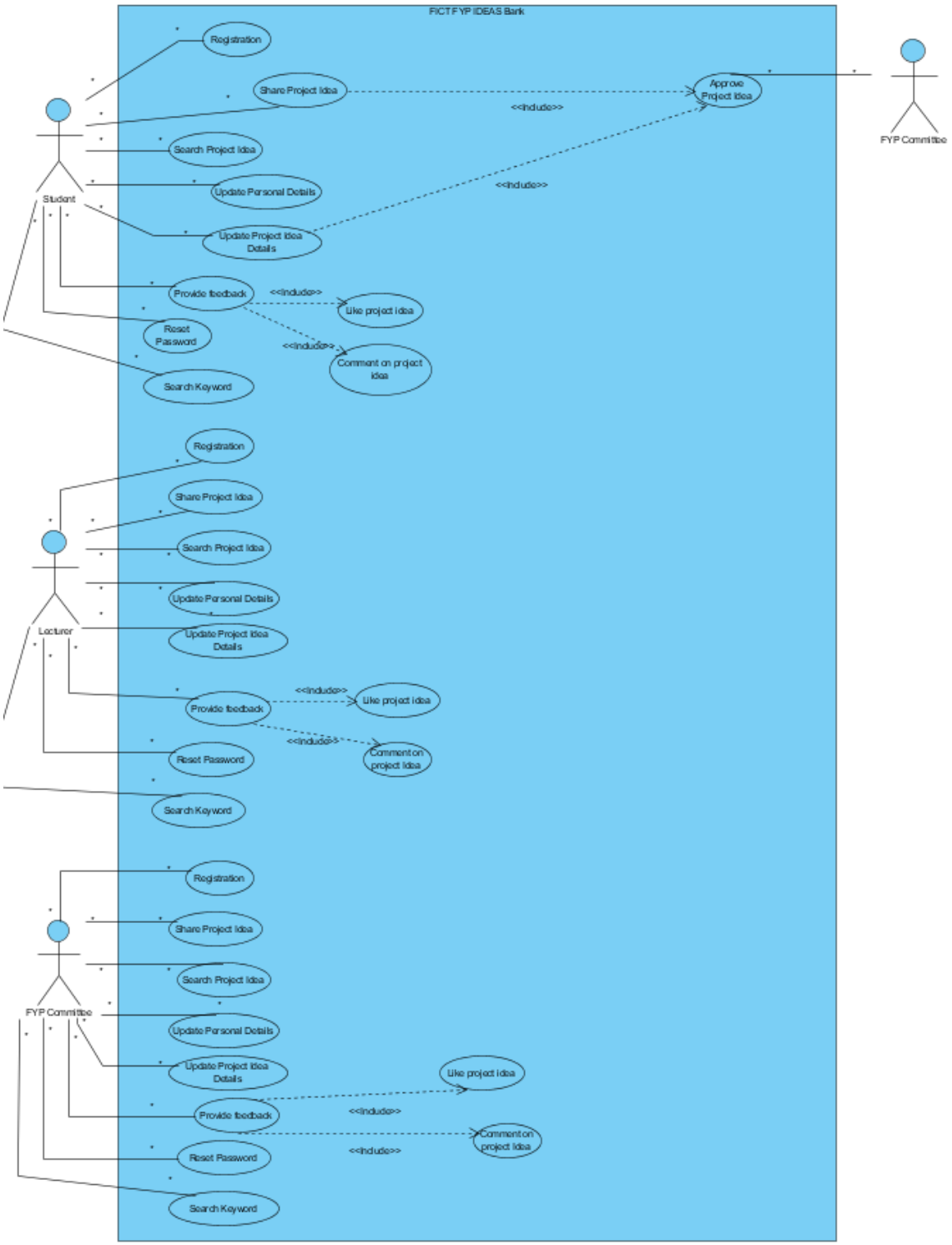

Figure 3.1.1: Use Case Diagram

3.1.2 Activity Diagram

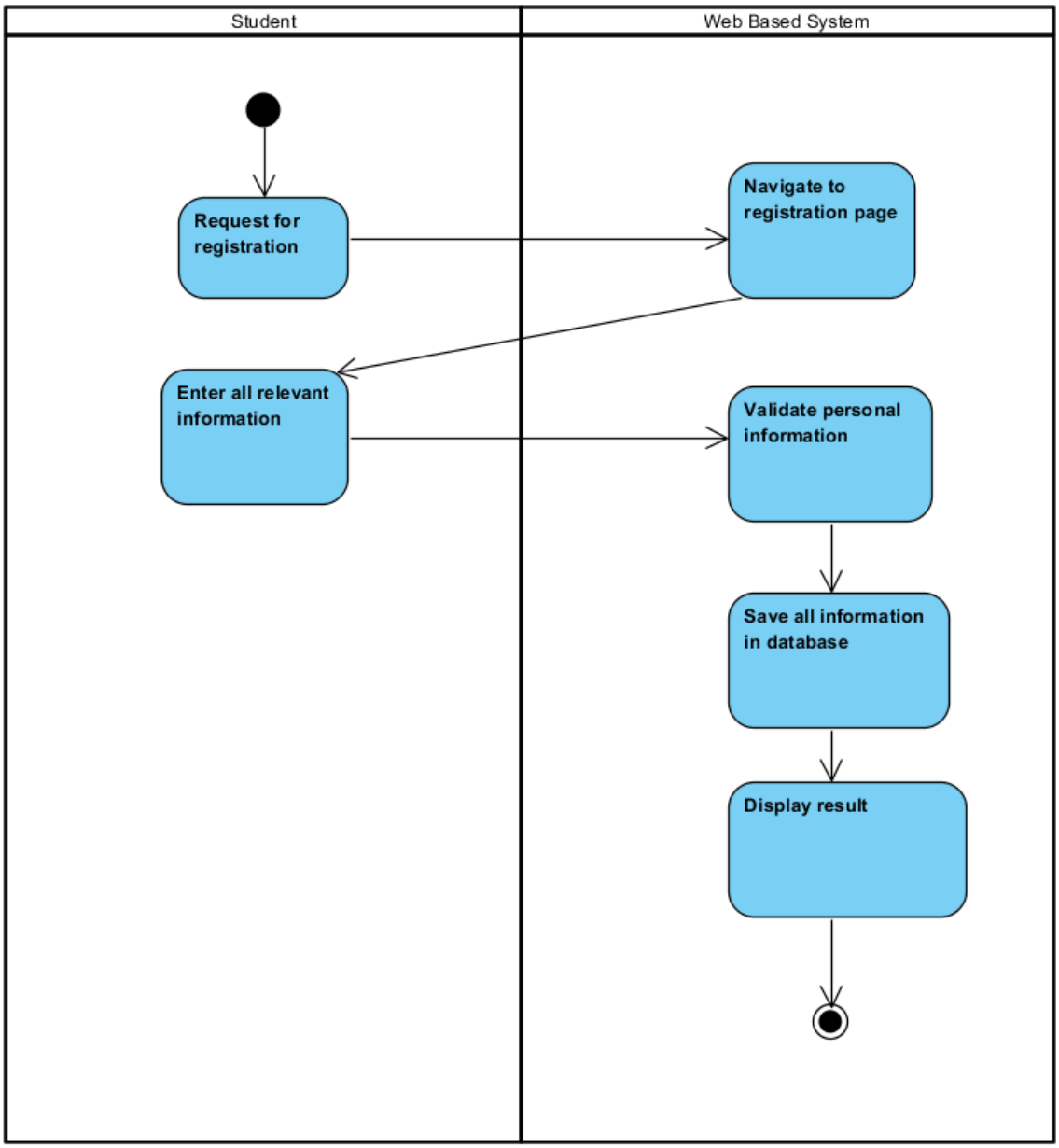

Figure 3.1.2.1: Activity diagram for Registration (Student)

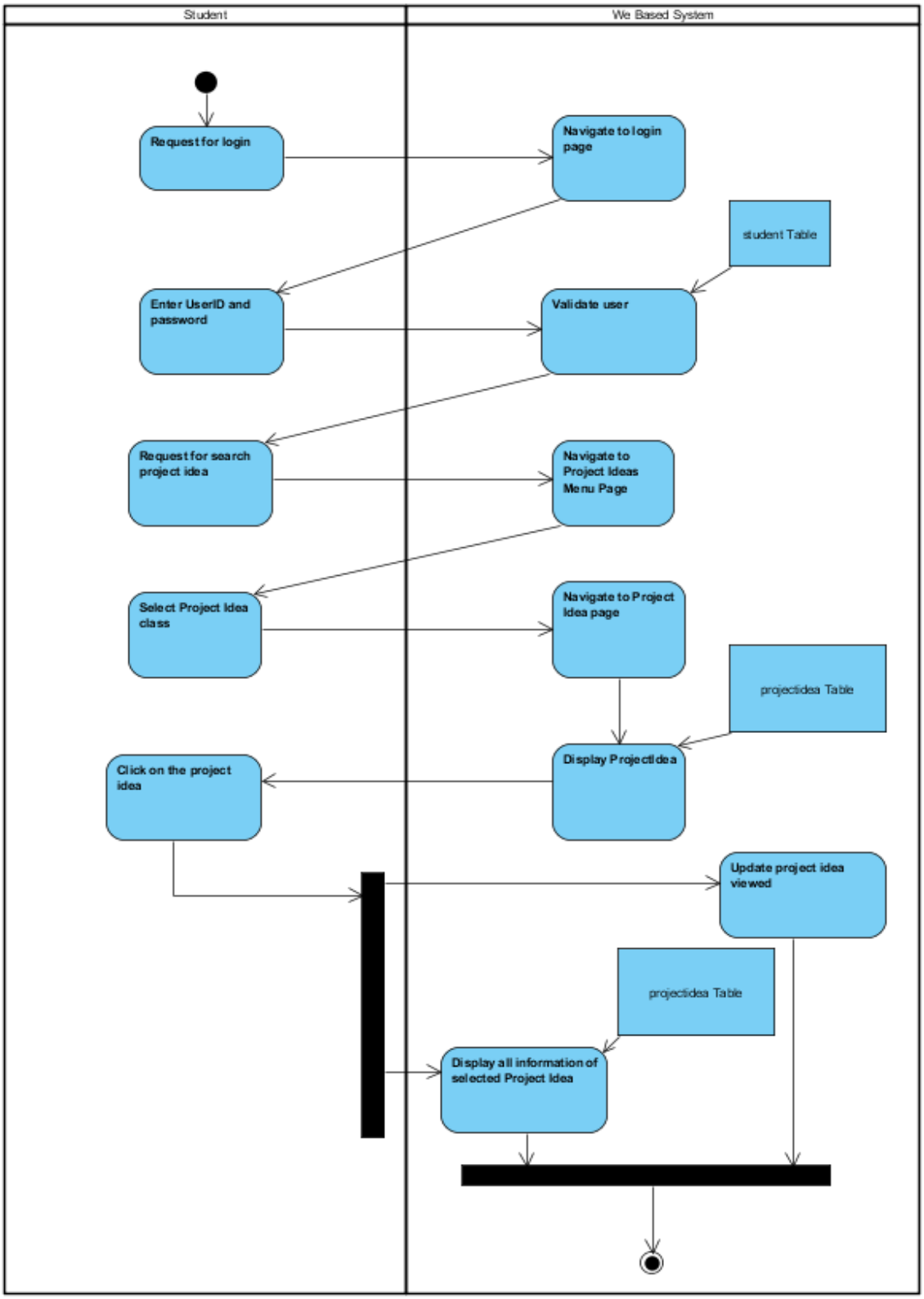

Figure 3.1.2.2: Activity diagram for Search Project Idea (Student)

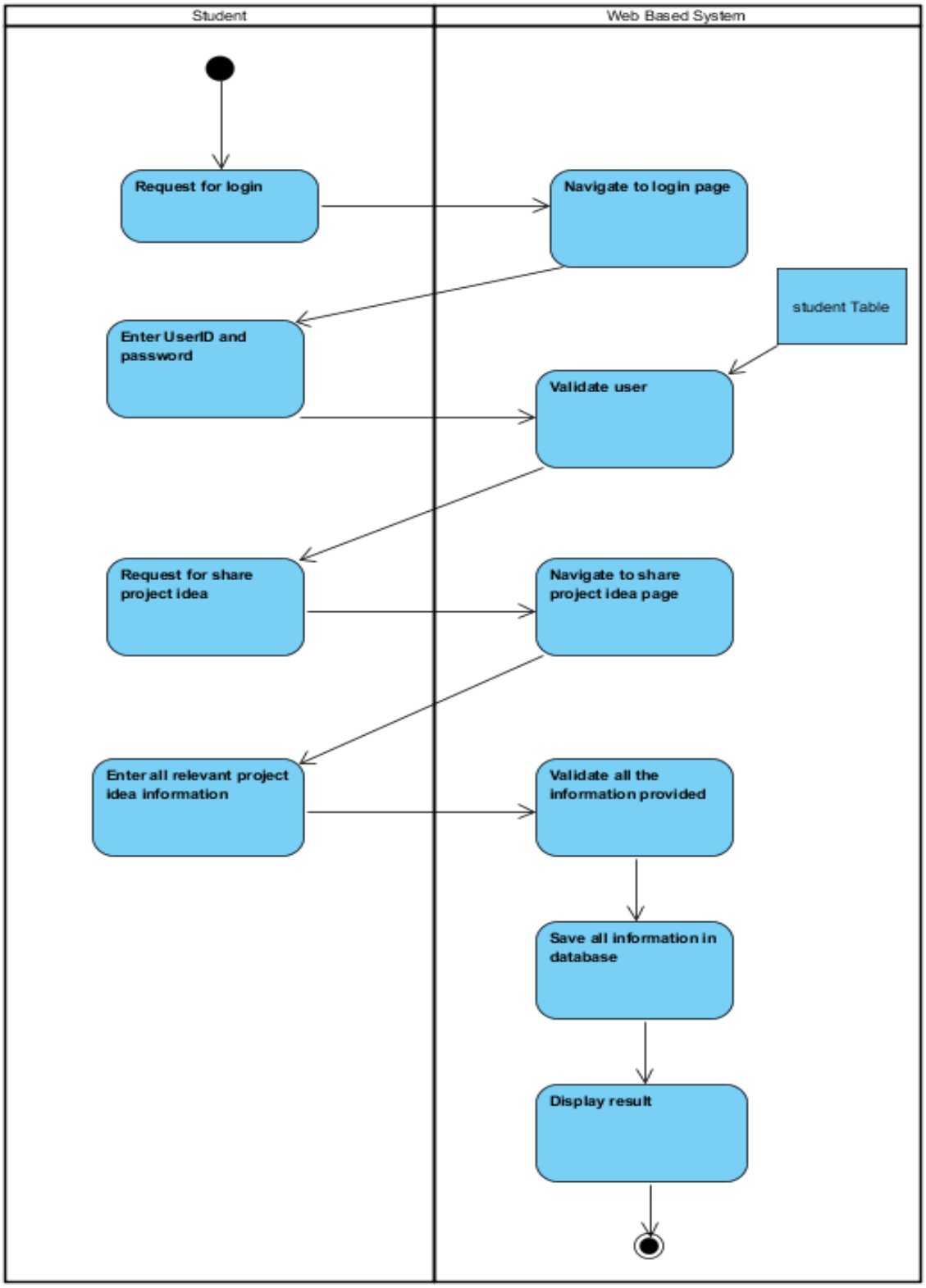

Figure 3.1.2.3: Activity diagram for Share Project Idea (Student)

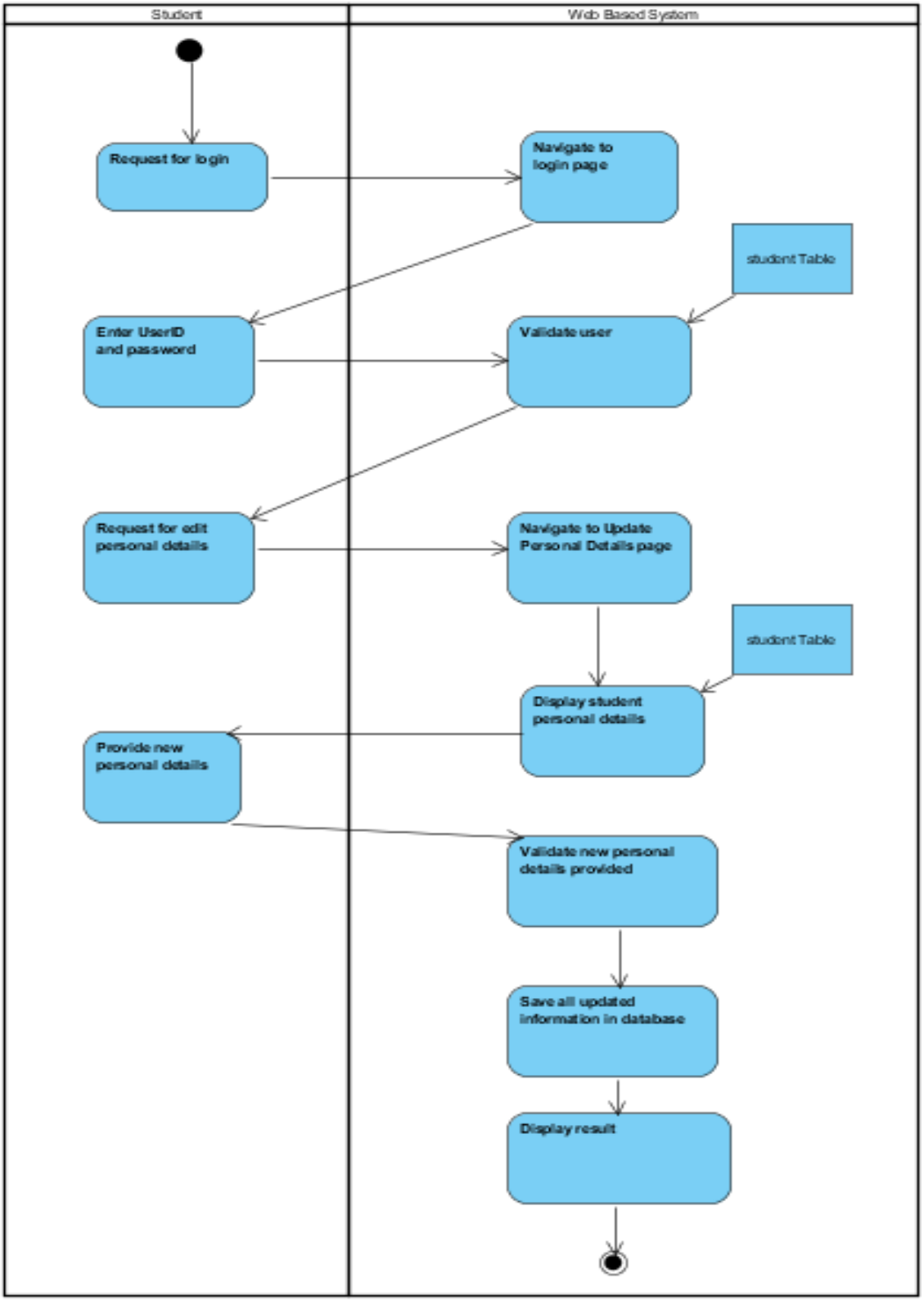

Figure 3.1.2.4: Activity diagram for Update Personal Details (Student)

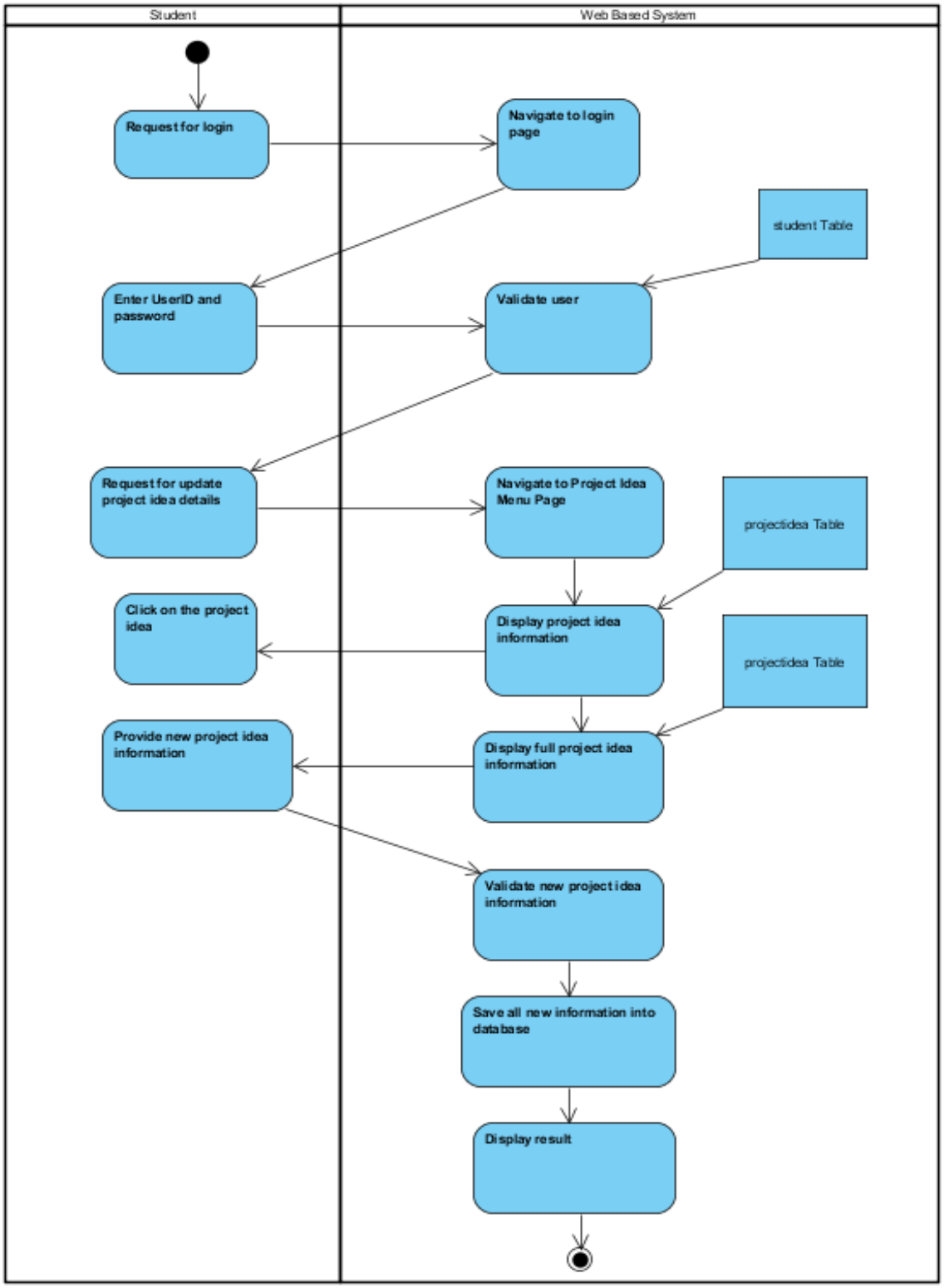

Figure 3.1.2.5: Activity diagram for Update Project Idea Details (Student)

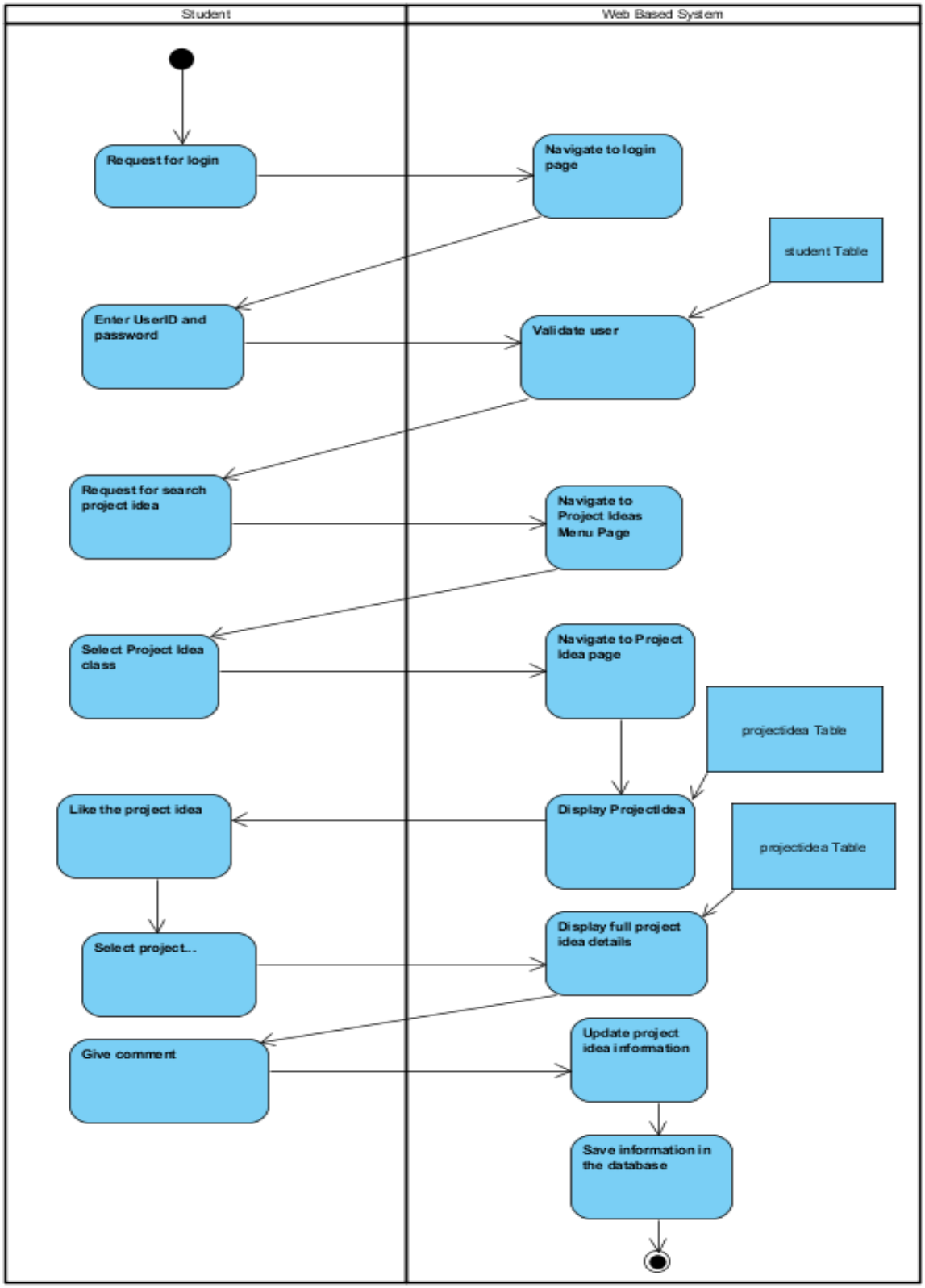

Figure 3.1.2.6: Activity diagram for Provide Feedback (Student)

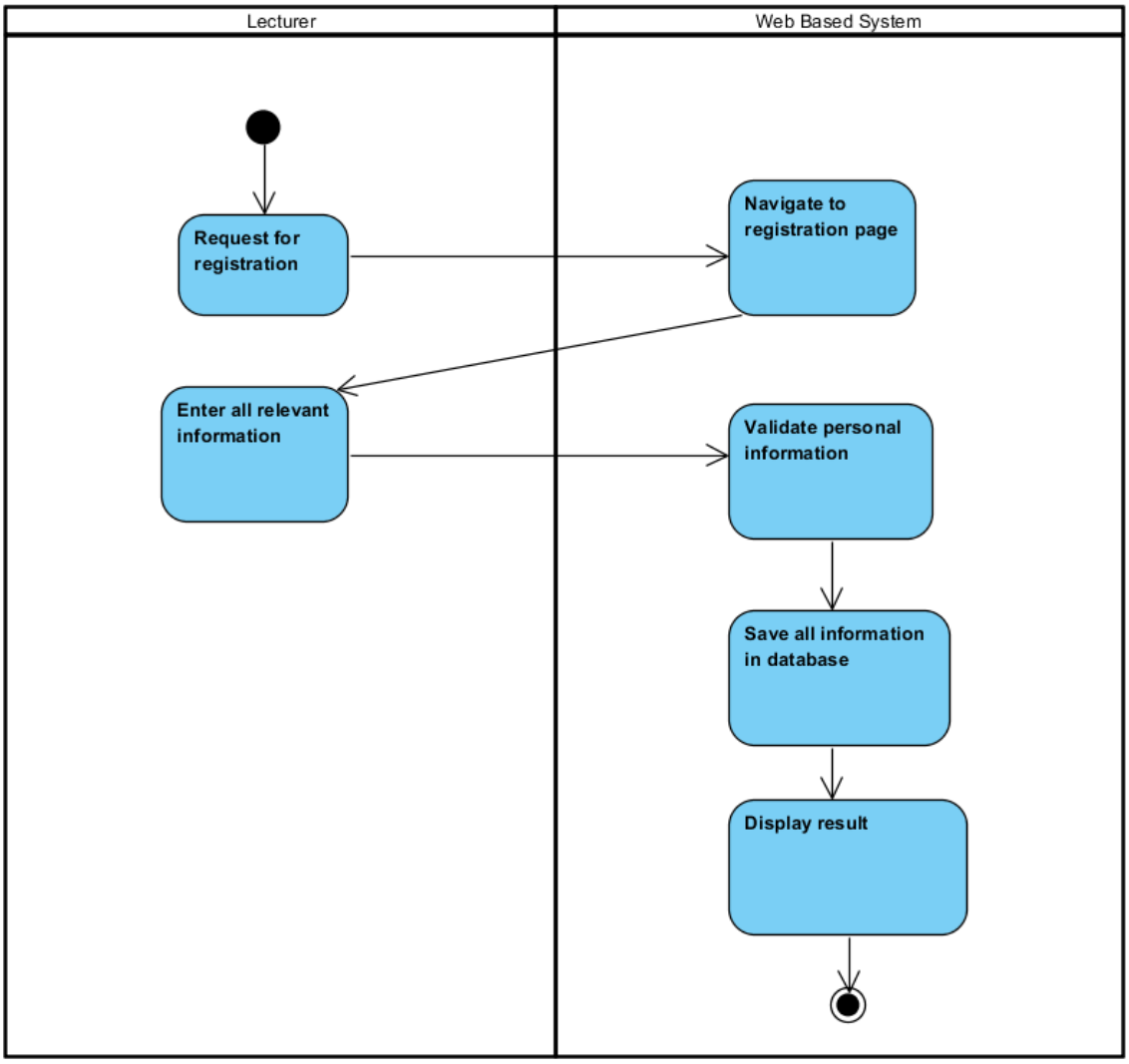

Figure 3.1.2.7: Activity diagram for Registration (Lecturer)

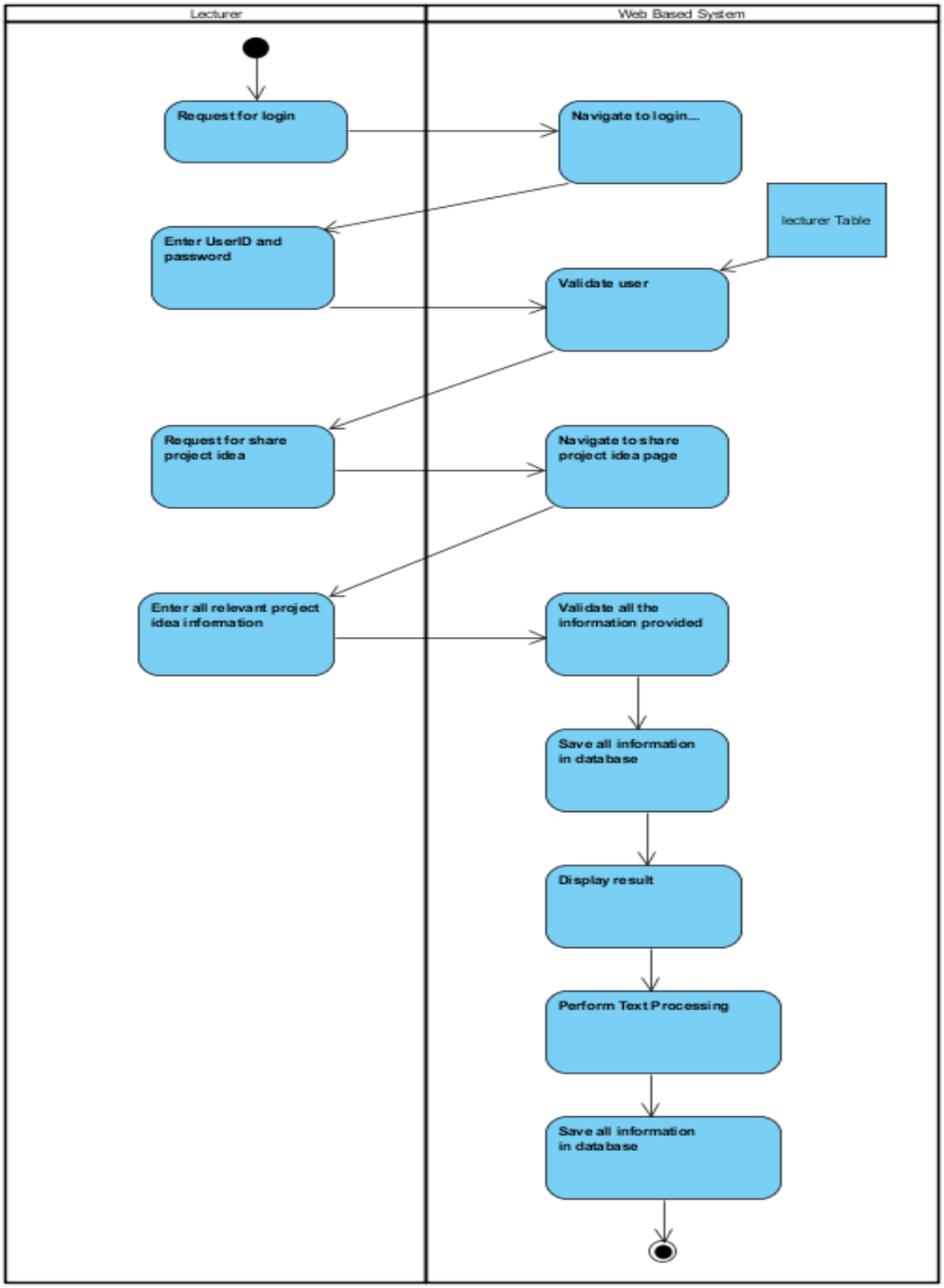

Figure 3.1.2.8: Activity diagram for Share Project Idea (Lecturer)

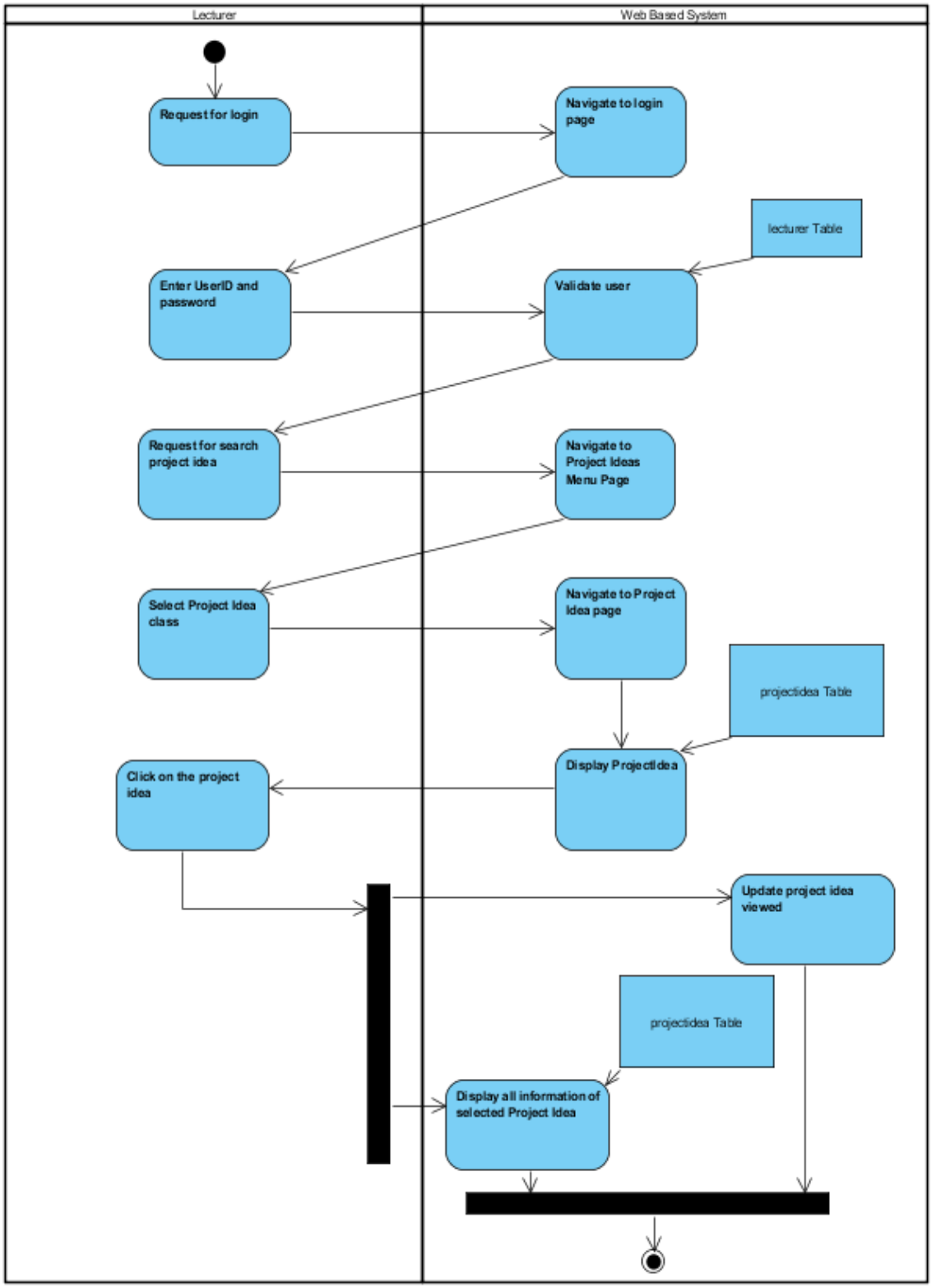

Figure 3.1.2.9: Activity diagram for Search Project Idea (Lecturer)

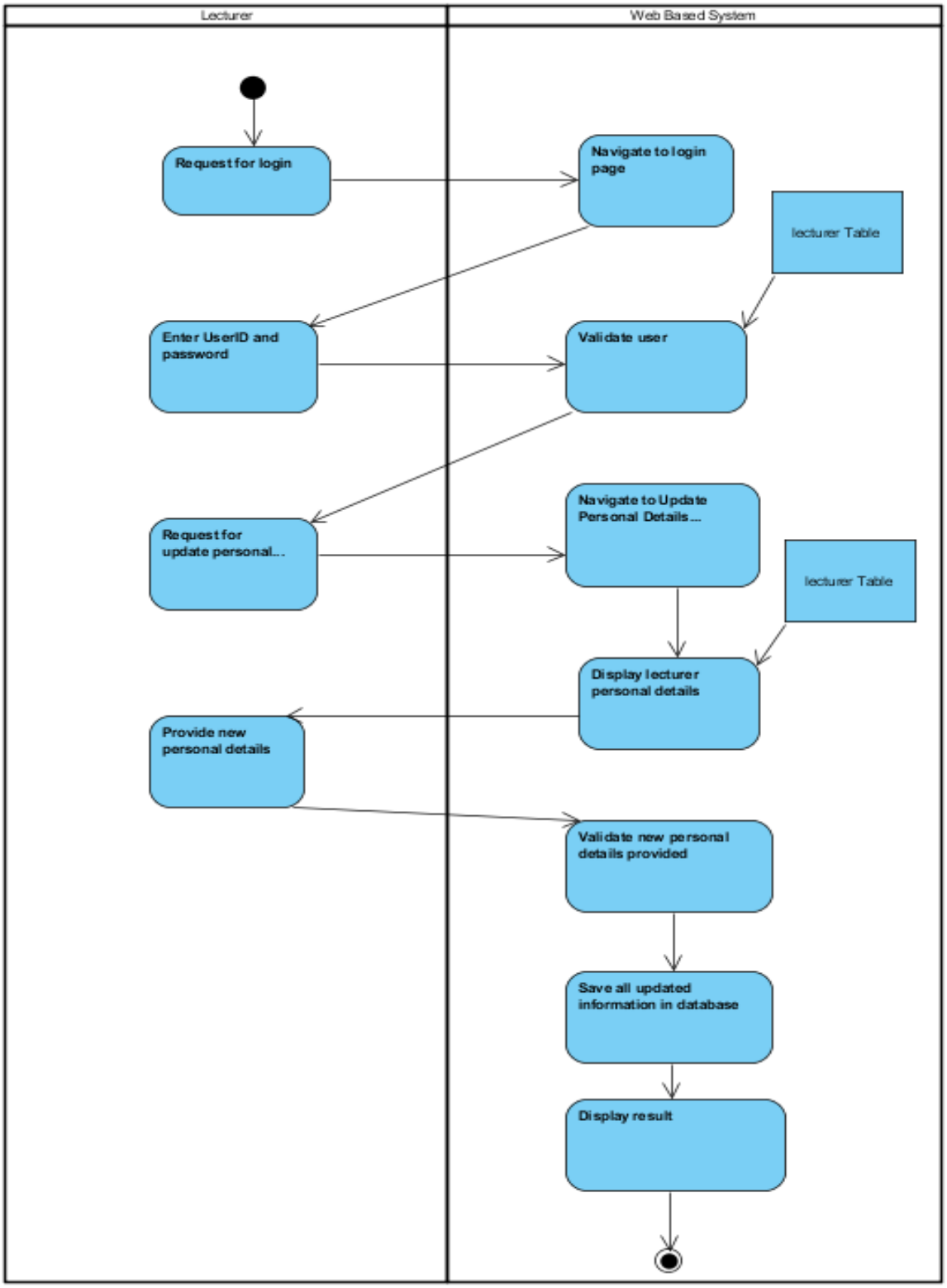

Figure 3.1.2.10: Activity diagram for Update Personal Details (Lecturer)

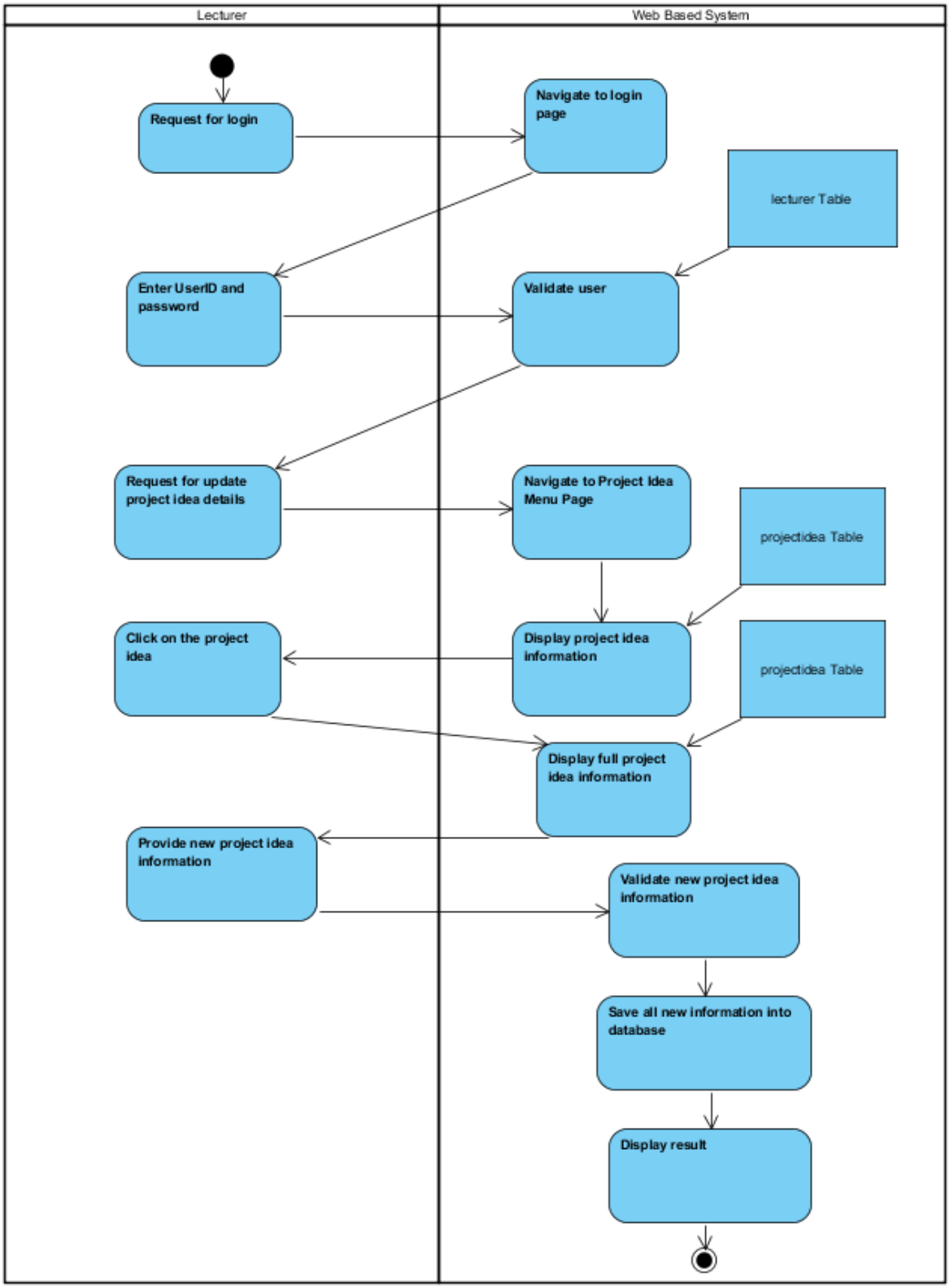

Figure 3.1.2.11: Activity diagram for Update Project Idea Details (Lecturer)

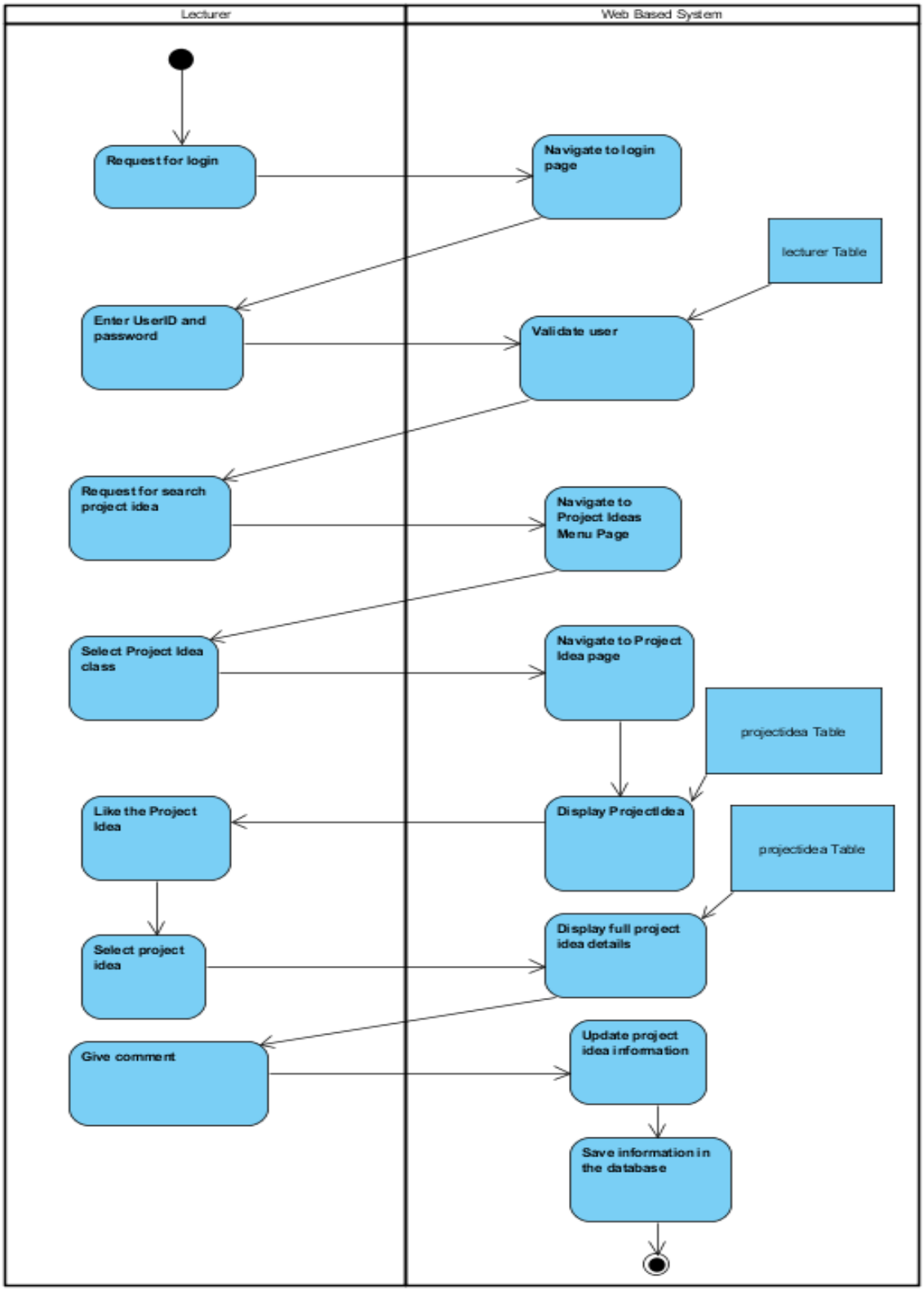

Figure 3.1.2.12: Activity diagram for Provide Feedback (Lecturer)

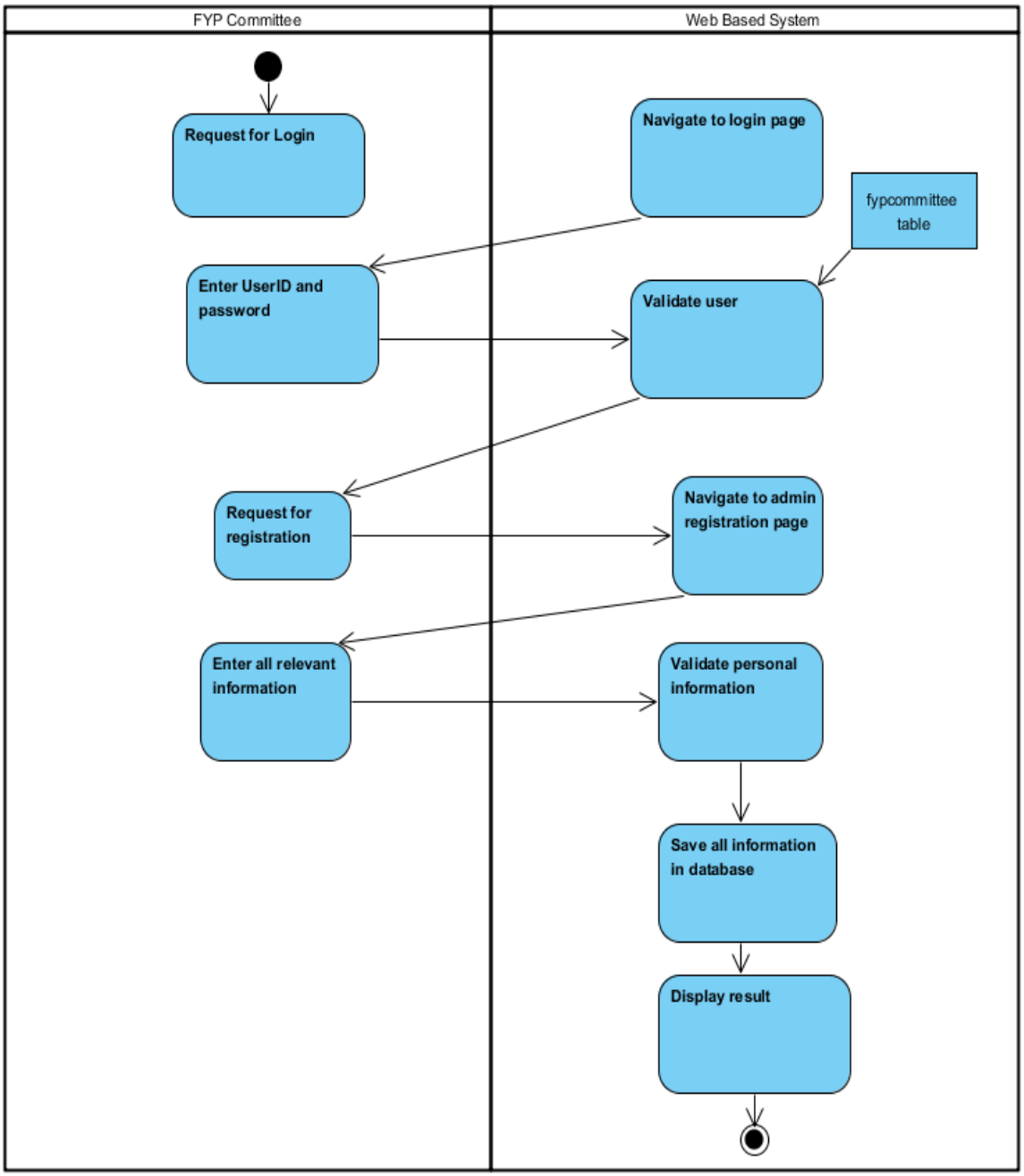

Figure 3.1.2.13: Activity diagram for Registration (FYP Committee)

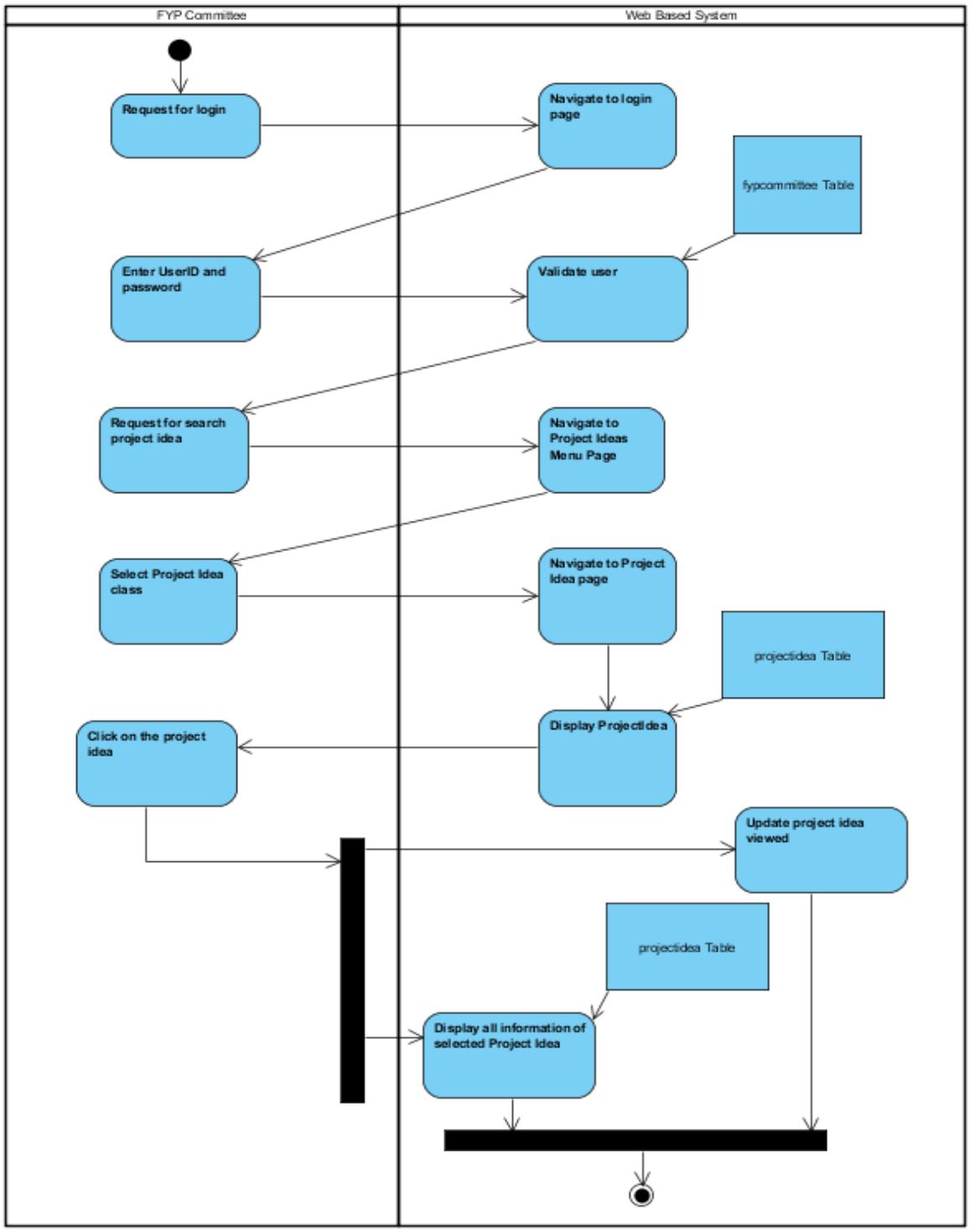

Figure 3.1.2.14: Activity diagram for Search Project Idea (FYP Committee)

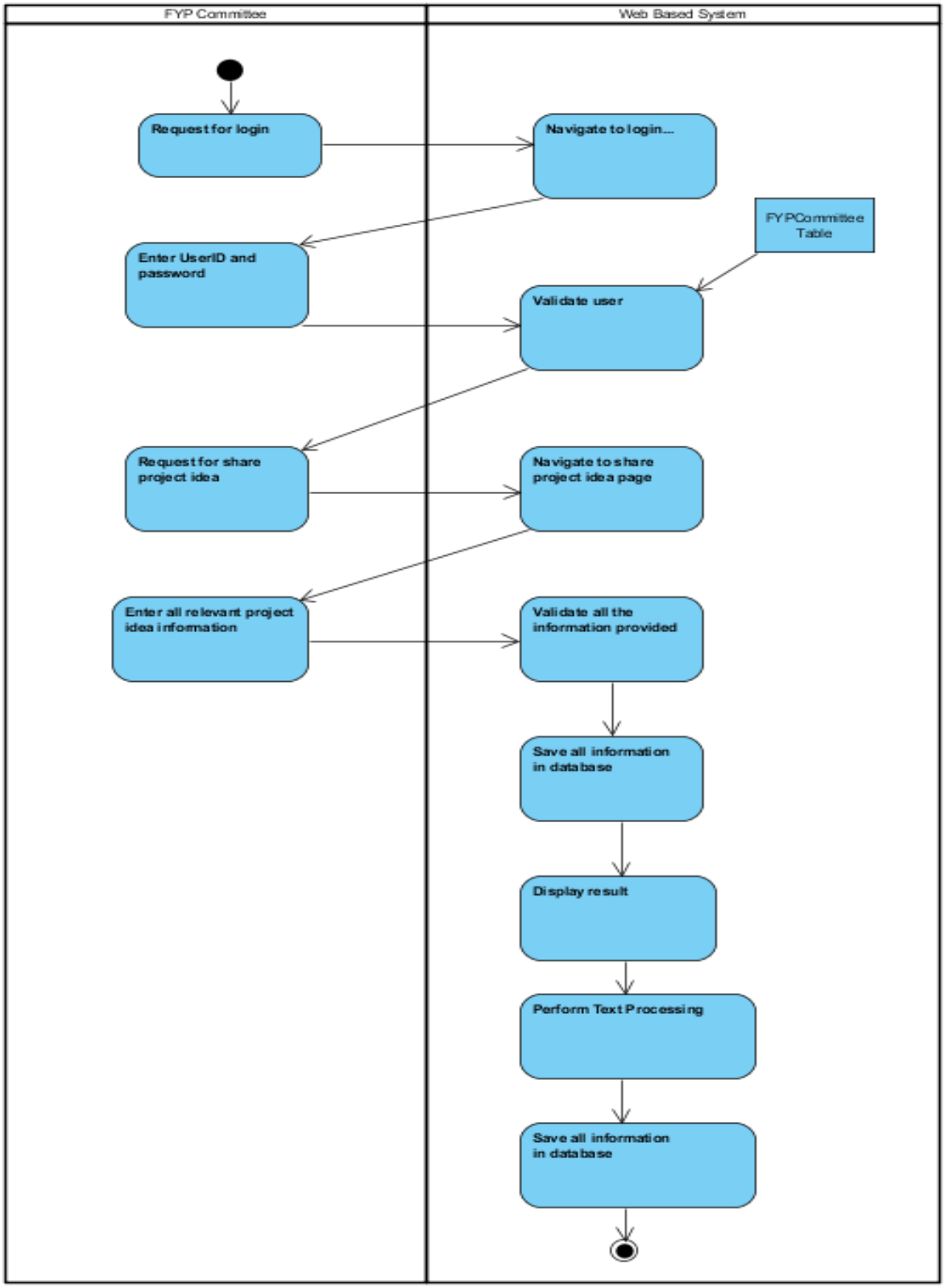

Figure 3.1.2.15: Activity diagram for Share Project Idea (FYP Committee)

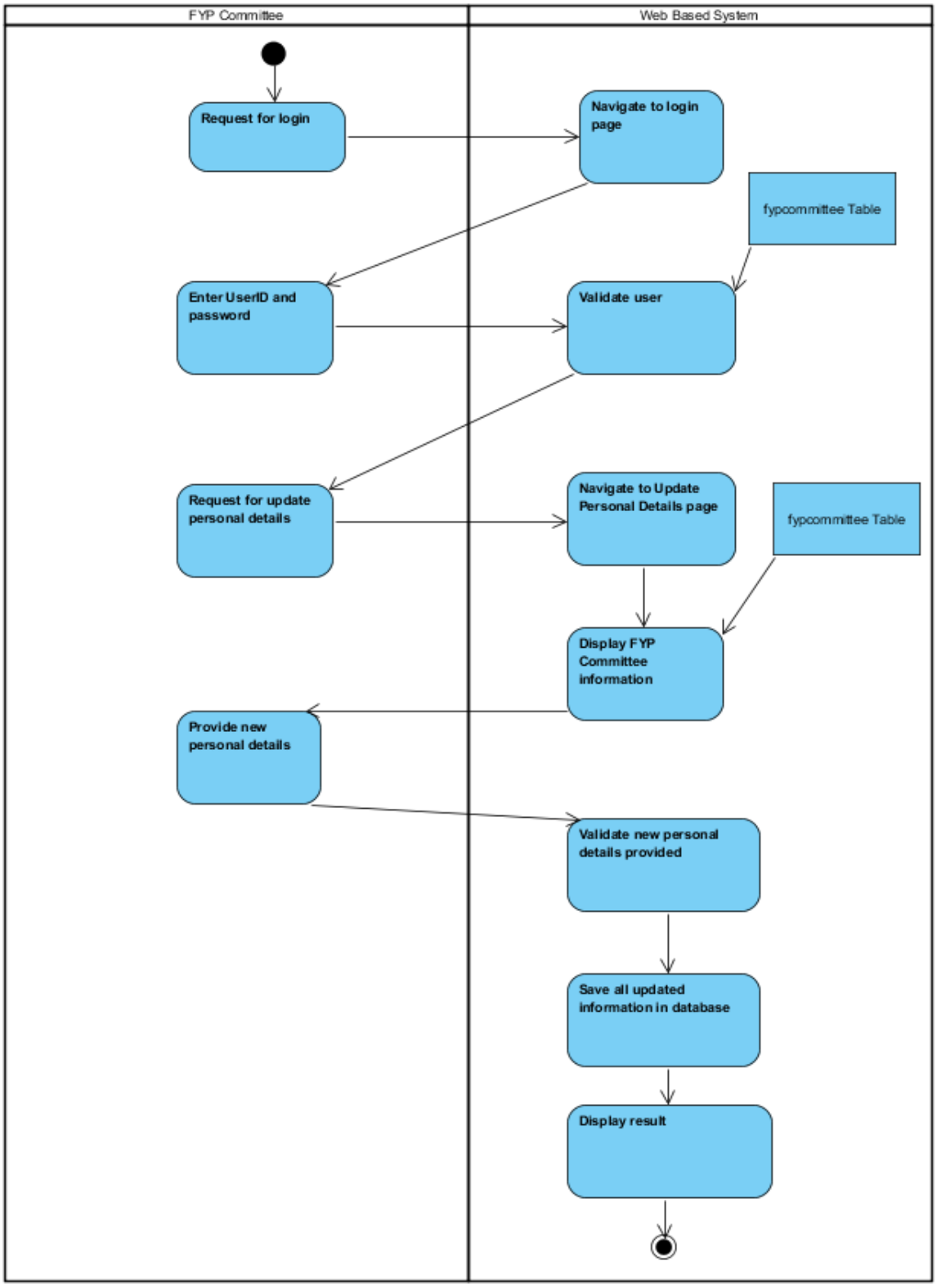

Figure 3.1.2.16: Activity diagram for Update Personal Details (FYP Committee)

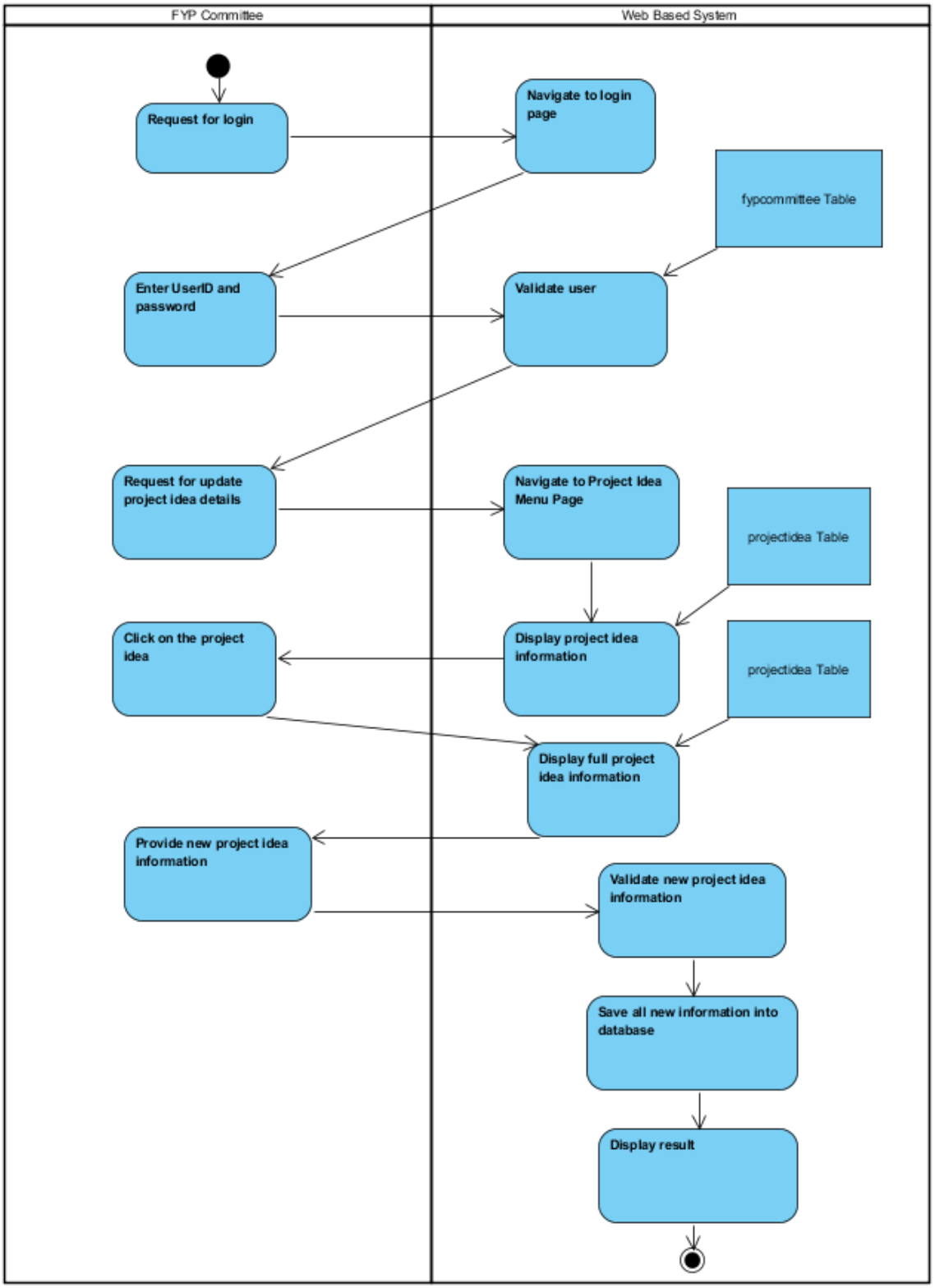

Figure 3.1.2.17: Activity diagram for Update Project Idea Details (FYP Committee)

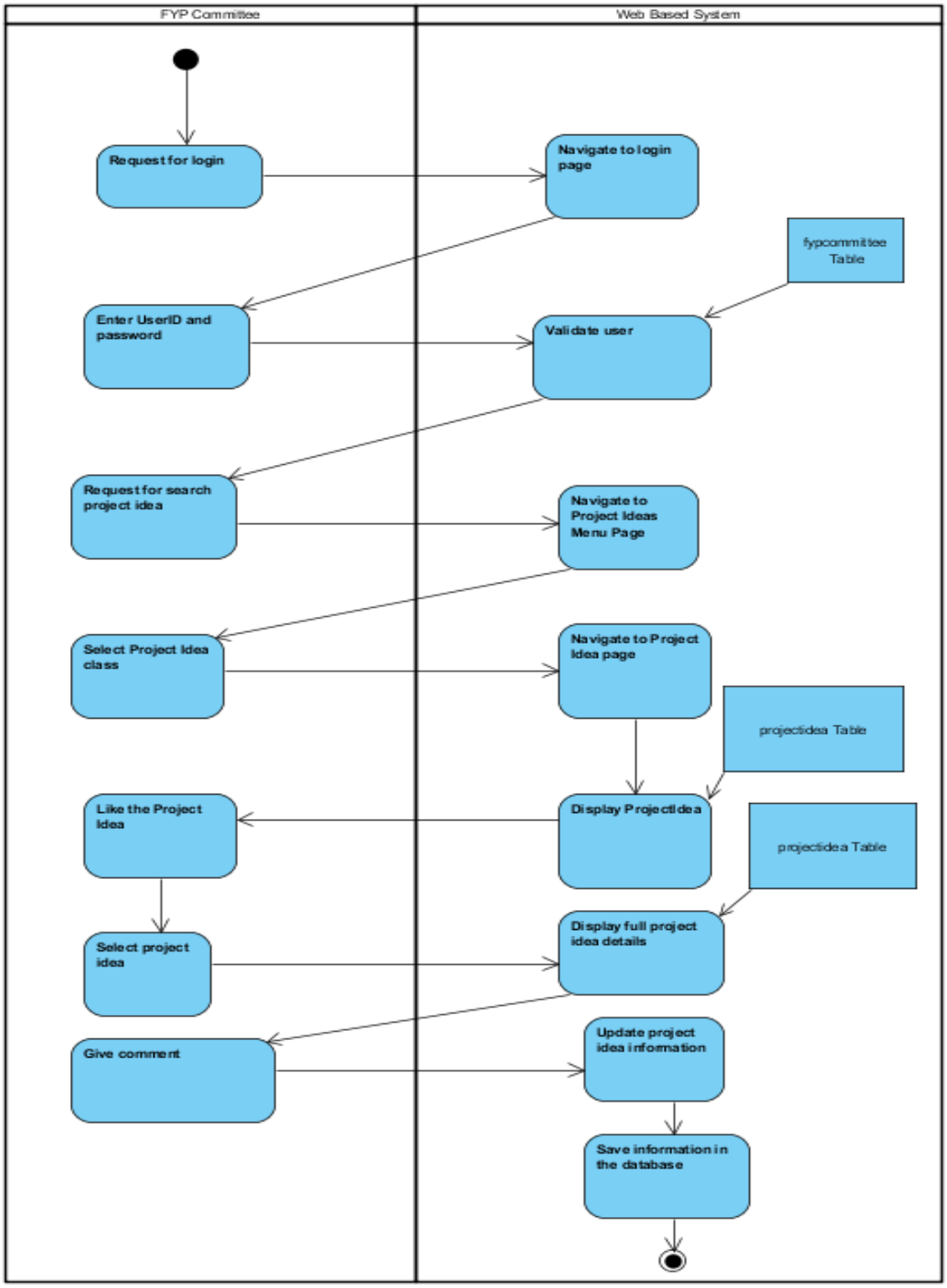

Figure 3.1.2.18: Activity diagram for Provide Feedback (FYP Committee)

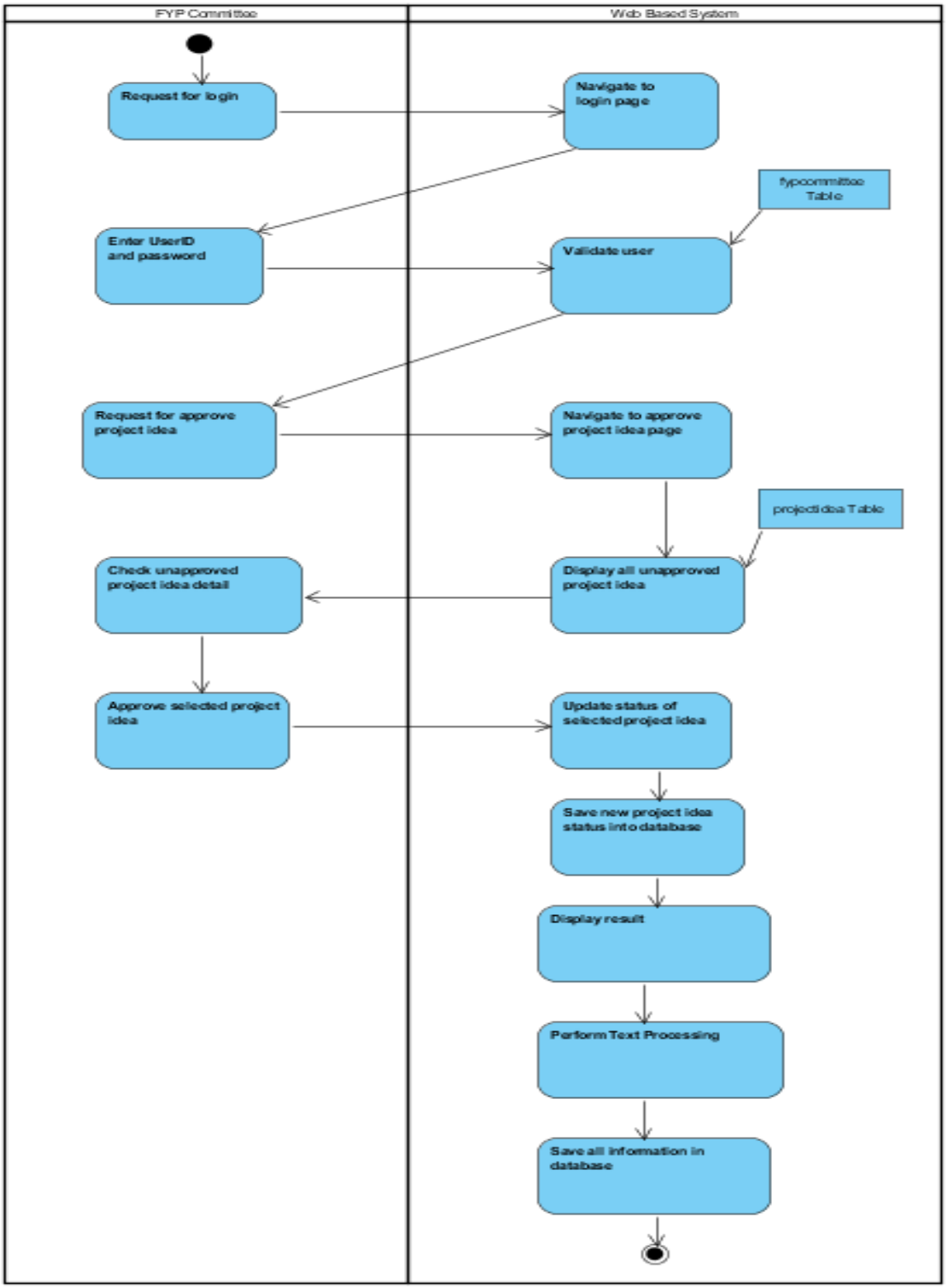

Figure 3.1.2.19: Activity diagram for Approve Project Idea (FYP Committee)

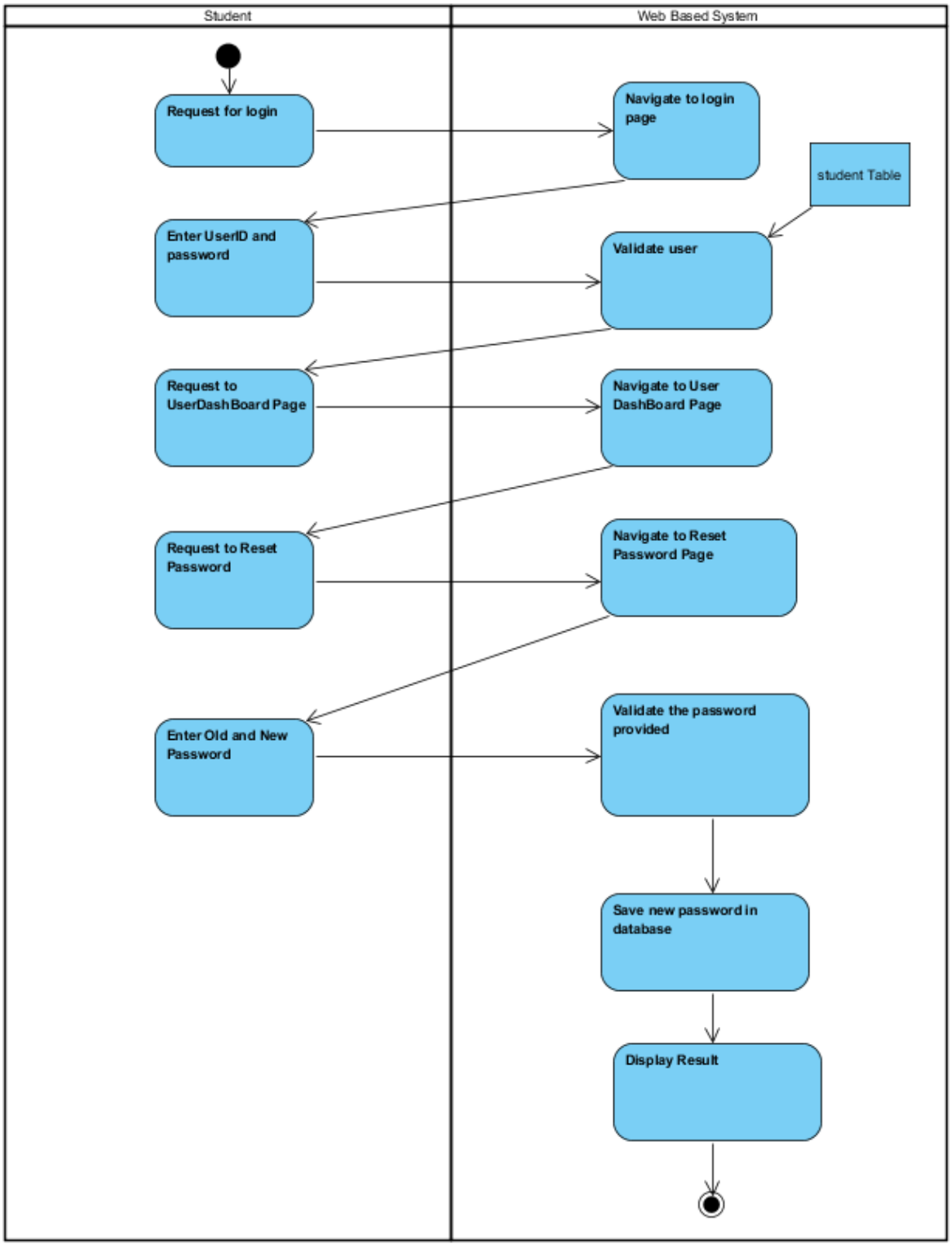

Figure 3.1.2.20: Activity diagram for Reset Password (Student)

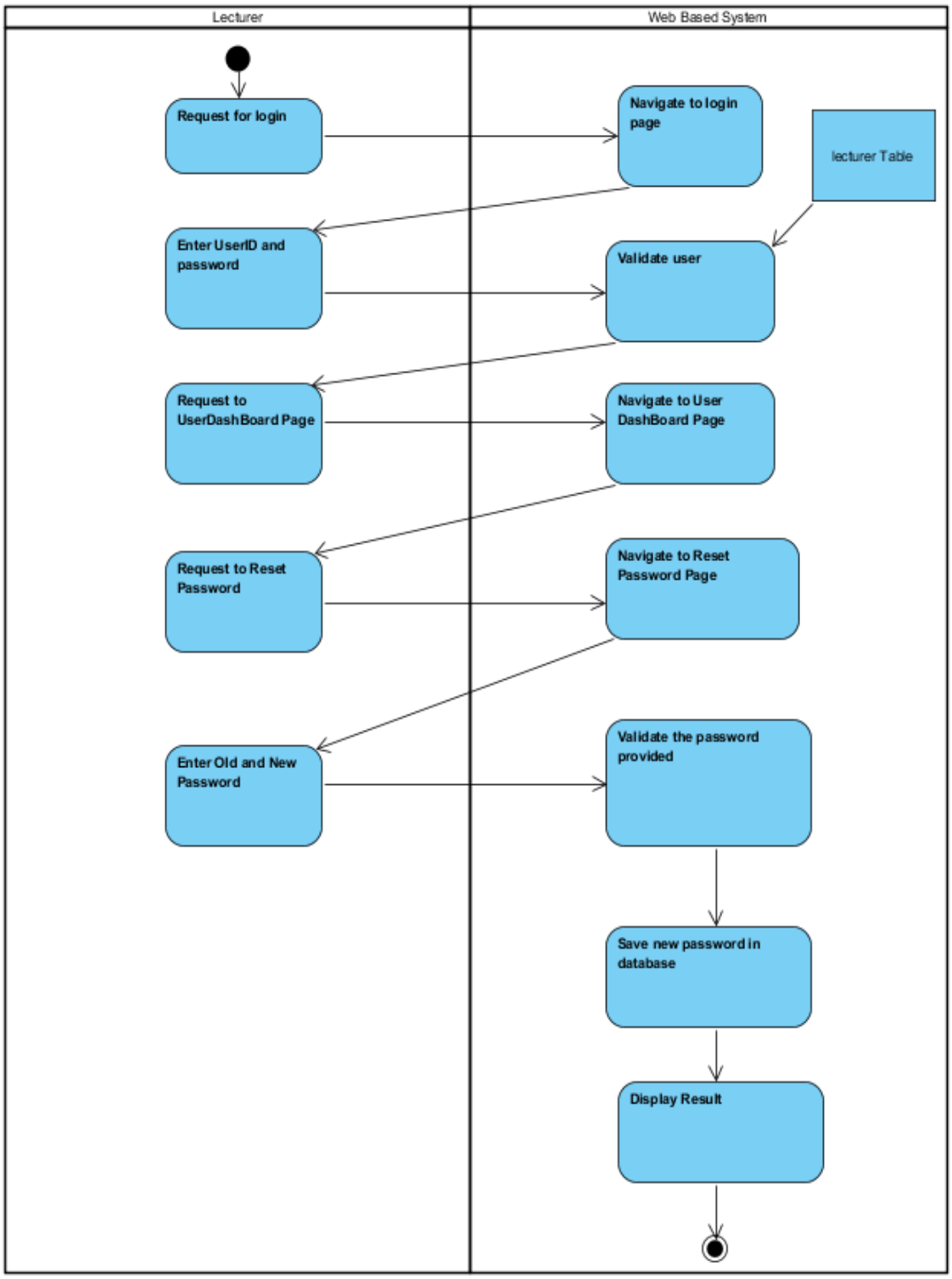

Figure 3.1.2.21: Activity diagram for Reset Password (Lecturer)

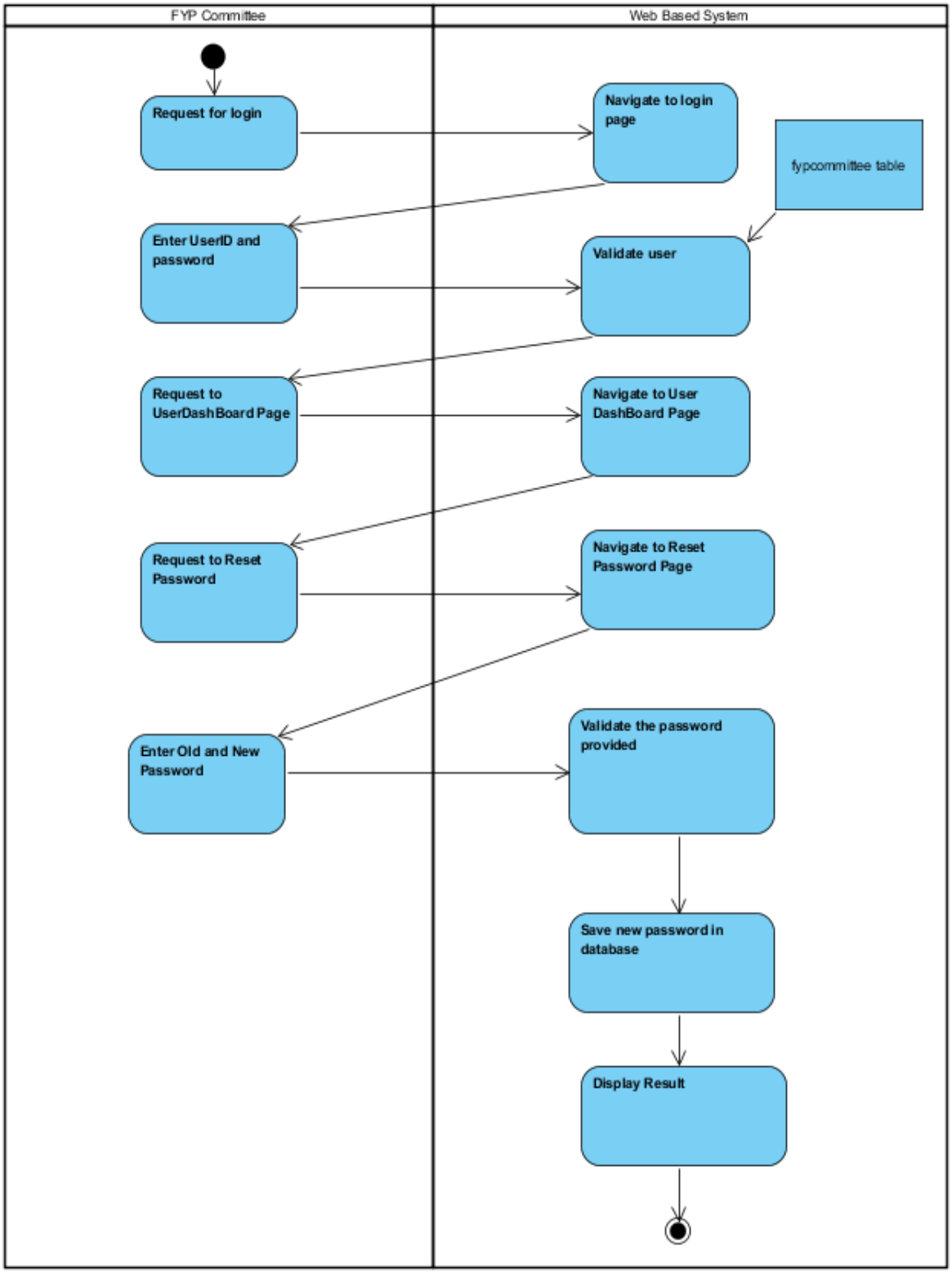

Figure 3.1.2.22: Activity diagram for Reset Password (FYP Committee)

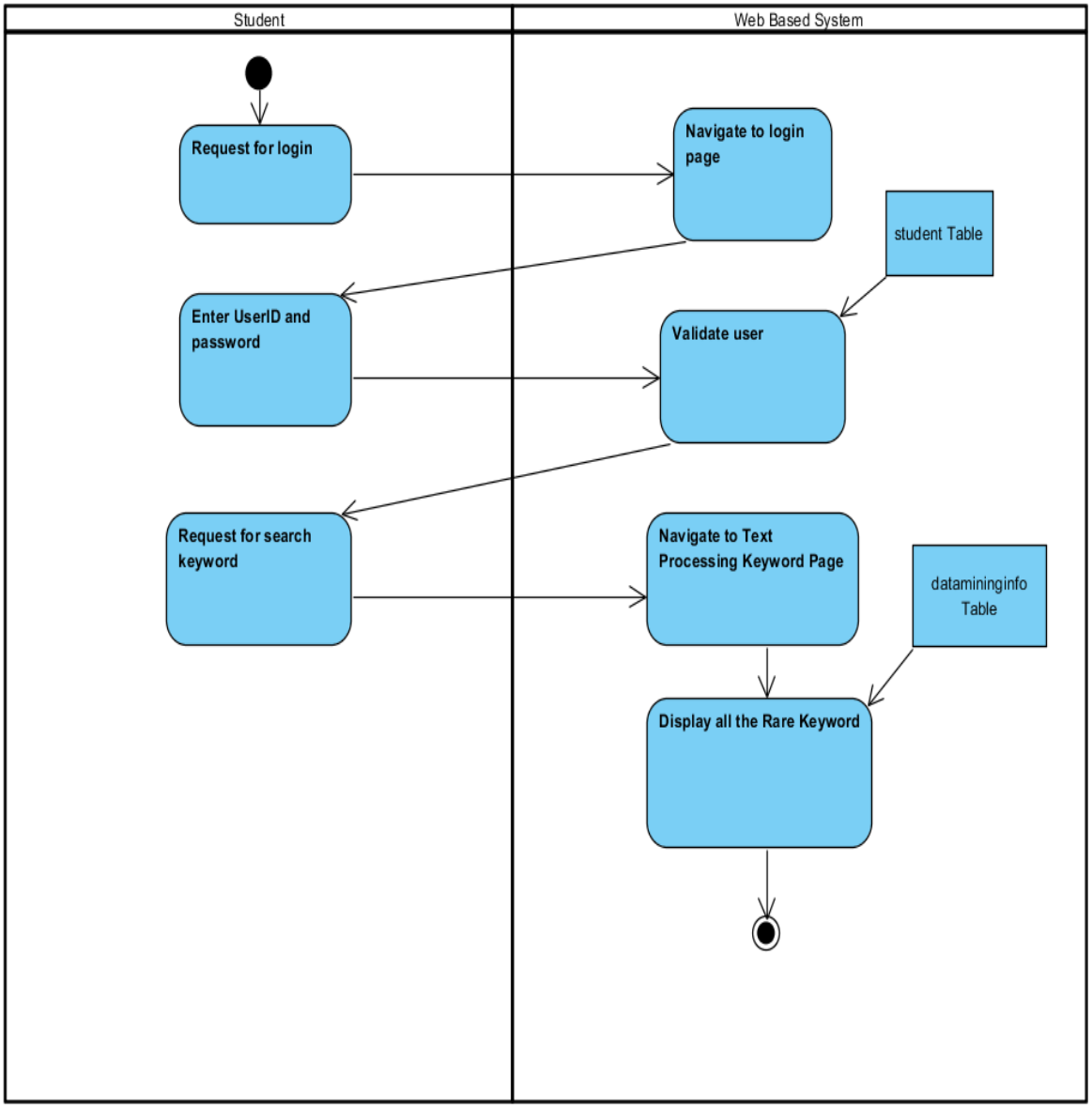

Figure 3.1.2.23: Activity diagram for Search Rare Keyword (Student)

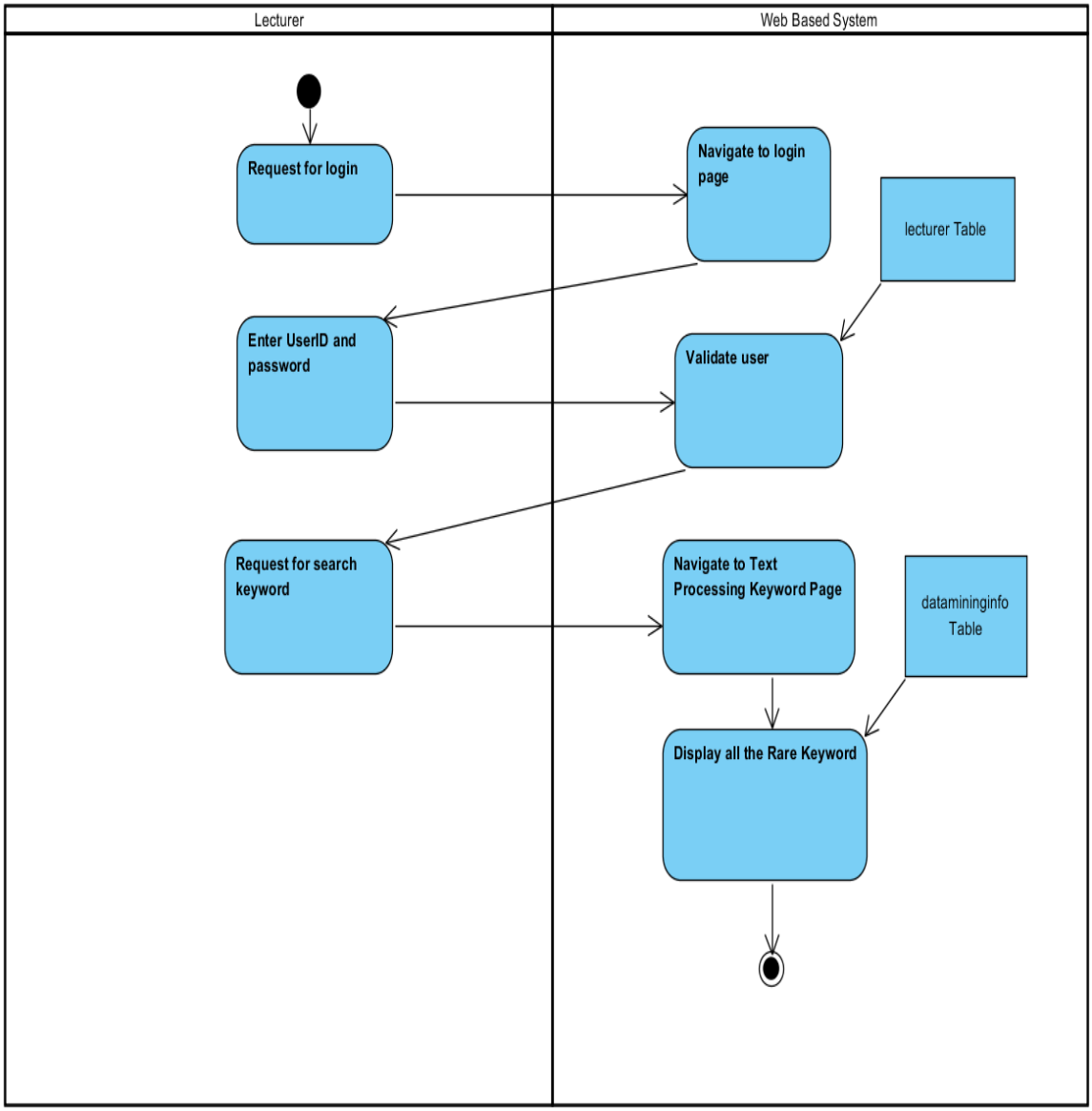

Figure 3.1.2.24: Activity diagram for Search Rare Keyword (Lecturer)

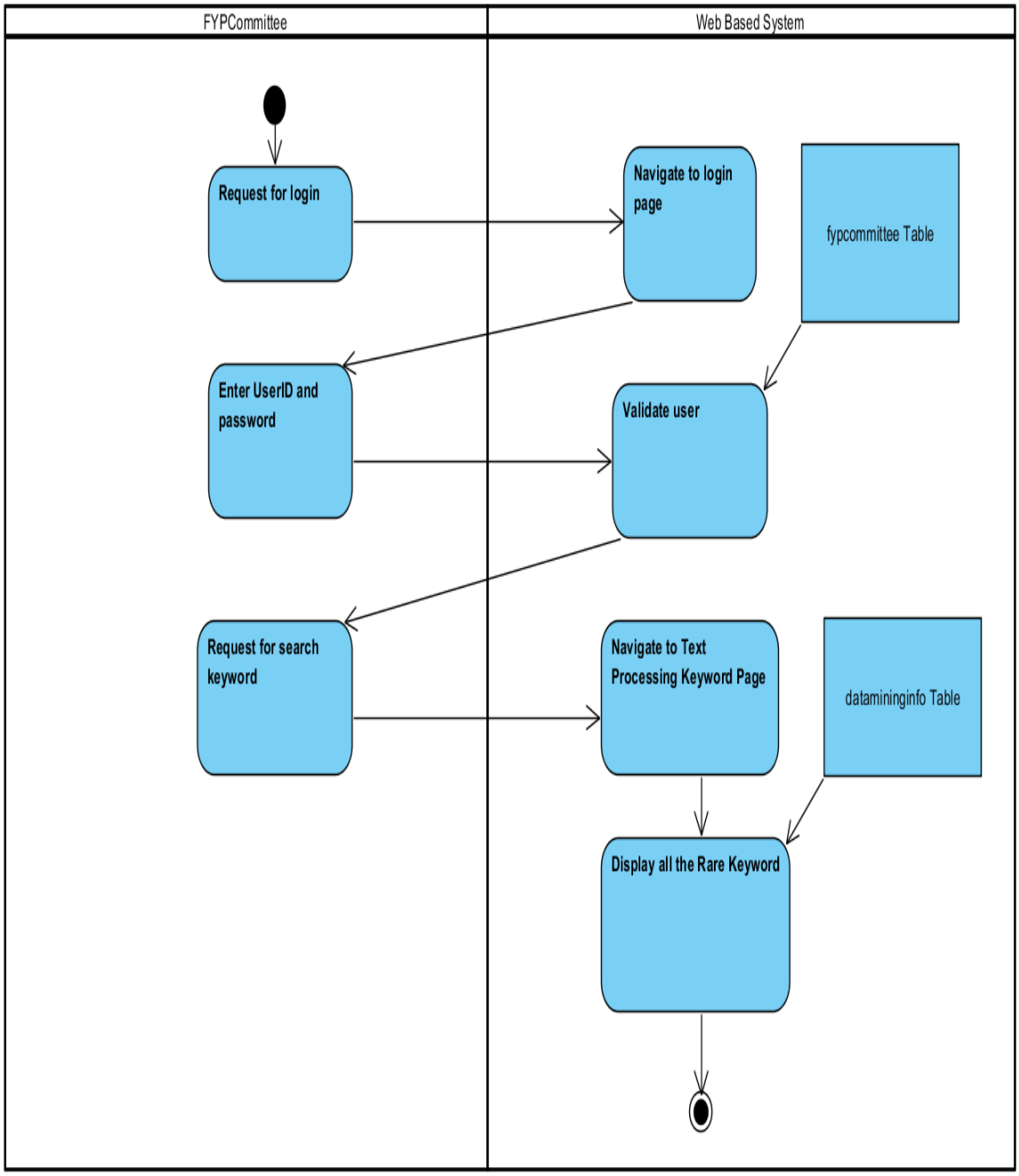

Figure 3.1.2.25: Activity diagram for Search Rare Keyword (FYP Committee)

3.1.3 Use Case Description

Use Case Name: Registration	ID: 1	Importance Level: High
Primary Actor: Student	Use Case Type: Essential, Detail	
Stakeholders and Interests: Student – wants register an account in order to share project idea and search project idea		
Brief Description: This use case describe how student register as a new user		
Trigger: Student wants to register an account to share project idea and search project idea Type: External		
Relationships: Association: Student Include: Extend: Generalization:		
Normal Flow of Events: 1. The Student wants to register an account in order to share and search for project ideas. 2. The student enters all required information in the system. 3. The system validates the required information provided by the student. 4. The system saves the student information in the database. 5. The system provides the result of the registration to the student.		
Sub Flows: Not applicable		
Alternate / Exceptional Flows: Not applicable		

Figure 3.1.3.1: Registration Use Case description

Use Case Name: Share Project Idea	ID: 2	Importance Level: High
Primary Actor: Student	Use Case Type: Essential, Detail	
Stakeholders and Interests: Student – wants to share a new project idea		
Brief Description: This use case describe how we handle the student share a new project idea		
Trigger: Student wants to share a new project idea Type: External		
Relationships: Association: Student Include: Extend: Approve Project Idea Generalization:		
Normal Flow of Events: 1. The student wants to share a new project idea 2. The student enter his student id and password in order to login the system 3. The system validates the student id and password. 4. The student select share project idea hyperlink in menu page. 5. The system navigates to share project idea page. 6. The student enters all new project idea information in the system. 7. The system validates all information provided by student. 8. The system saves the new project idea in to database. 9. The system provides the result of the creation of new project idea.		
Sub Flows: Not applicable		
Alternate / Exceptional Flows: Not applicable		

Figure 3.1.3.2: Share Project Idea Use Case description

Use Case Name: Search Project Idea	ID: 3	Importance Level: High
Primary Actor: Student	Use Case Type: Essential, Detail	
Stakeholders and Interests: Student – wants to search for project idea		
Brief Description: This use case describe how we handle the student search for project idea		
Trigger: Student wants to search for project idea Type: External		
Relationships: Association: Student Include: Extend: Generalization:		
Normal Flow of Events: 1. The student wants to search for project idea 2. The student enter his student id and password in order to login the system 3. The system validates the student id and password. 4. The student select Project IDEAS Bank hyperlink in menu page. 5. The system navigates to Project Idea Menu. 6. The student selects the class of the project idea (IA, IB, CN, CT, and CS). 7. The system navigates to Project Idea page. 8. The system gets the project ideas information from the database. 9. The system displays the project ideas information to the student. 10. The student can press on the project id to view the full information of the project idea		
Sub Flows: Not applicable		
Alternate / Exceptional Flows: Not applicable		

Figure 3.1.3.3: Search Project Idea Use Case description

Use Case Name: Update Personal Details	ID: 4	Importance Level: High
Primary Actor: Student	Use Case Type: Essential, Detail	
Stakeholders and Interests: Student – wants to update his/her personal details		
Brief Description: This use case describe how we handle the student update his/her personal details		
Trigger: Student wants to update his/her personal details Type: External		
Relationships: Association: Student Include: Extend: Generalization:		
Normal Flow of Events: 1. The student wants to update his/her personal details 2. The student enter his student id and password in order to login the system 3. The system validates the student id and password. 4. The student select update personal details hyperlink in menu page. 5. The system navigates to Update Personal Details page. 6. The systems fetch all the old personal details in provided text field. 7. The Student enters his/her new personal details in the text field. 8. The system validates all information provided by student. 9. The system saves the new student personal details into database. 10. The system provides the result of the modification of personal details.		
Sub Flows: Not applicable		
Alternate / Exceptional Flows: Not applicable		

Figure 3.1.3.4: Update Personal Details Use Case description

Use Case Name: Update Project Idea Details	ID: 5	Importance Level: High
Primary Actor: Student	Use Case Type: Essential, Detail	
Stakeholders and Interests: Student – wants to update his/her project idea details		
Brief Description: This use case describe how we handle the student update his/her project idea details		
Trigger: Student wants to update his/her project idea details Type: External		
Relationships: Association: Student Include: Extend: Approve Project Idea Generalization:		
Normal Flow of Events: 1. The student wants to update his/her project idea details 2. The student enter his student id and password in order to login the system 3. The system validates the student id and password. 4. The student select update project idea details hyperlink in menu page. 5. The system navigates to Project Idea Menu page. 6. The student select project idea that want to perform modification 7. The system navigates to Update Project Ideas page. 8. The system fetches all the old project idea details in provided text field. 9. The Student enters his/her new project idea details in the text field. 10. The system validates all information provided by student. 11. The system saves the new project idea details into database. 12. The system provides the result of the modification of project idea details.		
Sub Flows: Not applicable		
Alternate / Exceptional Flows: Not applicable		

Figure 3.1.3.5: Update Project Idea Details Use Case description

Use Case Name: Provide feedback	ID: 6	Importance Level: High
Primary Actor: Student	Use Case Type: Essential, Detail	
Stakeholders and Interests: Student – wants to provide feedback to a project idea		
Brief Description: This use case describe how we handle the student provide feedback to a project idea		
Trigger: Student wants to provide feedback to a project idea Type: External		
Relationships: Association: Student Include: Like project idea Extend: Generalization:		
Normal Flow of Events: 1. The student wants to provide feedback to a project idea 2. The student enter his student id and password in order to login the system 3. The system validates the student id and password. 4. The student select search project idea button in menu page. 5. The system navigates to Project Idea Menu page. 6. The student selects the class of the project idea (IA, IB, CN, CT, and CS). 7. The system navigates to Project Idea page. 8. The system gets the project ideas information from the database. 9. The system displays the project ideas information to the student. 10. The student presses the like button beside the project idea. 11. The system updates number of likes of the project idea. 12. The system saves the information into the database. 13. The student can press on the project id to view full information of the project idea and leave comment for the project idea. 14. The system saves all the information in the database.		

Sub Flows: Not applicable
Alternate / Exceptional Flows: Not applicable

Figure 3.1.3.6: Provide feedback Use Case description

Use Case Name: Registration	ID: 7	Importance Level: High
Primary Actor: Lecturer	Use Case Type: Essential, Detail	
Stakeholders and Interests: Lecturer – wants register an account in order to share project idea and search project idea		
Brief Description: This use case describe how lecturer register as a new user		
Trigger: Lecturer wants to register an account to share project idea and search project idea Type: External		
Relationships: Association: Lecturer Include: Extend: Generalization:		
Normal Flow of Events: 1. The lecturer wants to register an account in order to share and search for project ideas. 2. The lecturer enters all required information in the system. 3. The system validates the required information provided by the lecturer.		

4. The system saves the lecturer information in the database. 5. The system provides the result of the registration to the lecturer.
Sub Flows: Not applicable
Alternate / Exceptional Flows: Not applicable

Figure 3.1.3.7: Registration Use Case description

Use Case Name: Share Project Idea	ID: 8	Importance Level: High
Primary Actor: Lecturer	Use Case Type: Essential, Detail	
Stakeholders and Interests: Lecturer – wants to share a new project idea		
Brief Description: This use case describe how we handle the lecturer share a new project idea		
Trigger: Lecturer wants to share a new project idea Type: External		
Relationships: Association: Lecturer Include: Extend: Generalization:		
Normal Flow of Events: 1. The lecturer wants to share a new project idea 2. The lecturer enter his lecturer id and password in order to login the system 3. The system validates the lecturer id and password.		

4. The lecturer select share project idea hyperlink in menu page. 5. The system navigates to share project idea page. 6. The lecturer enters all new project idea information in the system. 7. The system validates all information provided by lecturer. 8. The system saves the new project idea in to database. 9. The system provides the result of the sharing of new project idea. 10. The system then performs text processing on the information of project ideas. 11. The system saves all the extracted information into database.
Sub Flows: Not applicable
Alternate / Exceptional Flows: Not applicable

Figure 3.1.3.8: Share Project Idea Use Case description

Use Case Name: Search Project Idea	ID: 9	Importance Level: High
Primary Actor: Lecturer	Use Case Type: Essential, Detail	
Stakeholders and Interests: Lecturer – wants to search for project idea		
Brief Description: This use case describe how we handle the lecturer search for project idea		
Trigger: Lecturer wants to search for project idea Type: External		
Relationships: Association: Lecturer Include:		

Extend: Generalization:
Normal Flow of Events: 1. The lecturer wants to search for project idea 2. The lecturer enter his lecturer id and password in order to login the system 3. The system validates the lecturer id and password. 4. The lecturer select Project IDEAS Bank hyperlink in menu page. 5. The system navigates to Project Idea Menu. 6. The lecturer selects the class of the project idea (IA, IB, CN, CT, and CS). 7. The system navigates to Project Idea page. 8. The system gets the project ideas information from the database. 9. The system displays the project ideas information to the lecturer. 10. The lecturer can press on the project id to view the full information of the project idea.
Sub Flows: Not applicable
Alternate / Exceptional Flows: Not applicable

Figure 3.1.3.9: Search Project Idea Use Case description

Use Case Name: Update Personal Details	ID: 10	Importance Level: High
Primary Actor: Lecturer	Use Case Type: Essential, Detail	
Stakeholders and Interests: Lecturer – wants to update his/her personal details		
Brief Description:		

This use case describe how we handle the lecturer update his/her personal details
Trigger: Lecturer wants to update his/her personal details Type: External
Relationships: Association: Lecturer Include: Extend: Generalization:
Normal Flow of Events: 1.The lecturer wants to update his/her personal details 2.The lecturer enter his lecturer id and password in order to login the system 3. The system validates the lecturer id and password. 4. The lecturer select update personal details hyperlink in menu page. 5. The system navigates to Update Personal Details page. 6. The systems fetch all the old personal details in provided text field. 7. The lecturer enters his/her new personal details in the text field. 8. The system validates all information provided by lecturer. 9. The system saves the new lecturer personal details into database. 10. The system provides the result of the modification of personal details.
Sub Flows: Not applicable
Alternate / Exceptional Flows: Not applicable

Figure 3.1.3.10: Update Personal Details Use Case description

Use Case Name: Update Project Idea Details	ID: 11	Importance Level: High
Primary Actor: Lecturer	Use Case Type: Essential, Detail	
Stakeholders and Interests: Lecturer – wants to update his/her project idea details		
Brief Description: This use case describe how we handle the lecturer update his/her project idea details		
Trigger: Lecturer wants to update his/her project idea details Type: External		
Relationships: Association: Lecturer Include: Extend: Generalization:		
Normal Flow of Events: 1. The lecturer wants to update his/her project idea details 2. The lecturer enter his lecturer id and password in order to login the system 3. The system validates the lecturer id and password. 4. The lecturer select update project idea details hyperlink in menu page. 5. The system navigates to Project Idea Menu page. 6. The lecturer can press on the project id to perform modification on a project idea. 7. The system navigates to Update Project Idea page. 8. The system fetches all the old project idea details in provided text field. 9. The lecturer enters his/her new project idea details in the text field. 10. The system validates all information provided by lecturer. 11. The system saves the new project idea details into database. 12. The system provides the result of the modification of project idea details.		
Sub Flows: Not applicable		

Alternate / Exceptional Flows: Not applicable

Figure 3.1.3.11: Update Project Idea Details Use Case description

Use Case Name: Provide feedback	ID: 12	Importance Level: High
Primary Actor: Lecturer	Use Case Type: Essential, Detail	
Stakeholders and Interests: Lecturer – wants to provide feedback to a project idea		
Brief Description: This use case describe how we handle the lecturer provide feedback to a project idea		
Trigger: Lecturer wants to provide feedback to a project idea Type: External		
Relationships: Association: Lecturer Include: Like project idea, Comment on project idea Extend: Generalization:		
Normal Flow of Events: 1. The Lecturer wants to provide feedback to a project idea 2. The Lecturer enter his Lecturer id and password in order to login the system 3. The system validates the Lecturer id and password. 4. The Lecturer select search project idea button in menu page. 5. The system navigates to Project Idea Menu. 6. The Lecturer selects the class of the project idea (IA, IB, CN, CT, and CS). 7. The system navigates to Project Idea page. 8. The system gets the project ideas information from the database. 9. The system displays the project ideas information to the Lecturer.		

10. The Lecturer presses the like button beside the project idea. 11. The system updates number of likes of the project idea. 12. The Lecturer presses the project idea. 13. The system navigate to Project Idea Detail page 14. The lecturer left comment on the project idea. 15. The system saves the information into the database.
Sub Flows: Not applicable
Alternate / Exceptional Flows: Not applicable

Figure 3.1.3.12: Provide feedback Use Case description

Use Case Name: Registration	ID: 13	Importance Level: High
Primary Actor: FYP Committee	Use Case Type: Essential, Detail	
Stakeholders and Interests: FYP Committee – wants register an account in order to share project idea and search project idea.		
Brief Description: This use case describe how FYP Committee register as a new user		
Trigger: FYP Committee wants to register an account to share project idea and search project idea. Type: External		
Relationships: Association: FYP Committee Include:		

Extend: Generalization:
Normal Flow of Events: 1. The FYP Committee wants to register an account in order to share and search for project ideas. 2. The FYP Committee enters his FYP Committee id and password in order to login the system. 3. The system validates the FYP Committee id and password. 4. The FYP Committee Add New Admin hyperlink in menu page. 5. The FYP Committee enters all required information in the system. 6. The system validates the required information provided by the FYP Committee. 7. The system saves the lecturer information in the database. 8. The system provides the result of the registration to the FYP Committee.
Sub Flows: Not applicable
Alternate / Exceptional Flows: Not applicable

Figure 3.1.3.13: Registration Use Case description

Use Case Name: Share Project Idea	ID: 14	Importance Level: High
Primary Actor: FYP Committee	Use Case Type: Essential, Detail	
Stakeholders and Interests: FYP Committee – wants to share a new project idea.		
Brief Description: This use case describes how we handle the FYP Committee share a new project idea.		

Trigger: FYP Committee wants to share a new project idea. Type: External
Relationships: Association: FYP Committee Include: Extend: Generalization:
Normal Flow of Events: 1. The FYP Committee wants to share a new project idea. 2. The FYP Committee enters his FYP Committee id and password in order to login the system. 3. The system validates the FYP Committee id and password. 4. The FYP Committee select share project idea hyperlink in menu page. 5. The system navigates to share project idea page. 6. The FYP Committee enters all new project idea information in the system. 7. The system validates all information provided by FYP Committee. 8. The system saves the new project idea in to database. 9. The system provides the result of the sharing of new project idea. 10. The system then performs text processing on the information of project ideas. 11. The system saves all the information extracted into database.
Sub Flows: Not applicable
Alternate / Exceptional Flows: Not applicable

Figure 3.1.3.14: Share Project Idea Use Case description

Use Case Name: Search Project Idea	ID: 15	Importance Level: High
Primary Actor: FYP Committee	Use Case Type: Essential, Detail	
Stakeholders and Interests: FYP Committee – wants to search for project idea.		
Brief Description: This use case describes how we handle the FYP Committee search for project idea.		
Trigger: FYP Committee wants to search for project idea Type: External		
Relationships: Association: FYP Committee Include: Extend: Generalization:		
Normal Flow of Events: 1. The FYP Committee wants to search for project idea. 2. The FYP Committee enters his FYP Committee id and password in order to login the system. 3. The system validates the FYP Committee id and password. 4. The FYP Committee select Project IDEAS Bank hyperlink in menu page. 5. The system navigates to Project Idea Menu. 6. The FYP Committee selects the class of the project idea (IA, IB, CN, CT, and CS). 7. The system navigates to Project Idea page. 8. The system gets the project ideas information from the database. 9. The system displays the project ideas information to the FYP Committee. 10. The FYP Committee can press on the project id to view the full information of the project idea.		
Sub Flows: Not applicable		
Alternate / Exceptional Flows:		

Not applicable

Figure 3.4.1.15: Search Project Idea Use Case description

Use Case Name: Update Personal Details	ID: 16	Importance Level: High
Primary Actor: FYP Committee	Use Case Type: Essential, Detail	
Stakeholders and Interests: FYP Committee – wants to update his/her personal details.		
Brief Description: This use case describes how we handle the FYP Committee update his/her personal details.		
Trigger: FYP Committee wants to update his/her personal details. Type: External		
Relationships: Association: FYP Committee Include: Extend: Generalization:		
Normal Flow of Events: 1. The FYP Committee wants to update his/her personal details. 2. The FYP Committee enters his FYP Committee id and password in order to login the system. 3. The system validates the FYP Committee id and password. 4. The FYP Committee select update personal details hyperlink in menu page. 5. The system navigates to Update Personal Details page. 6. The system fetches all the old personal details in provided text field. 7. The FYP Committee enters his/her new personal details in the text field.		

8. The system validates all information provided by FYP Committee. 9. The system saves the new FYP Committee personal details into database. 10. The system provides the result of the modification of personal details.
Sub Flows: Not applicable
Alternate / Exceptional Flows: Not applicable

Figure 3.1.3.16: Update Personal Details Use Case description

Use Case Name: Update Project Idea Details	ID: 17	Importance Level: High
Primary Actor: FYP Committee	Use Case Type: Essential, Detail	
Stakeholders and Interests: FYP Committee – wants to update his/her project idea details.		
Brief Description: This use case describes how we handle the FYP Committee update his/her project idea details.		
Trigger: FYP Committee wants to update his/her project idea details. Type: External		
Relationships: Association: FYP Committee Include: Extend: Generalization:		

Normal Flow of Events: 1. The FYP Committee wants to update his/her project idea details. 2. The FYP Committee enters his FYP Committee id and password in order to login the system. 3. The system validates the FYP Committee id and password. 4. The FYP Committee select update project idea details hyperlink in menu page. 5. The system navigates to Project Idea Menu page. 6. The FYP Committee can press on the project id to perform modification of the project idea. 7. The system navigates to Update Project Details page. 8. The system fetches all the old project idea details in provided text field. 9. The FYP Committee enters his/her new project idea details in the text field. 10. The system validates all information provided by FYP Committee. 11. The system saves the new project idea details into database. 12. The system provides the result of the modification of project idea details.
Sub Flows: Not applicable
Alternate / Exceptional Flows: Not applicable

Figure 3.1.3.17: Update Project Idea Details Use Case description

Use Case Name: Provide feedback	ID: 18	Importance Level: High
Primary Actor: FYP Committee	Use Case Type: Essential, Detail	
Stakeholders and Interests: FYP Committee – wants to provide feedback to a project idea.		

Brief Description: This use case describe how we handle the FYP Committee provide feedback to a project idea.
Trigger: FYP Committee wants to provide feedback to a project idea. Type: External
Relationships: Association: FYP Committee Include: Like project idea, Comment on project idea Extend: Generalization:
Normal Flow of Events: 1. The FYP Committee wants to provide feedback to a project idea. 2. The FYP Committee enters his FYP Committee id and password in order to login the system. 3. The system validates the FYP Committee id and password. 4. The FYP Committee select search project idea button in menu page. 5. The system navigates to Project Idea Menu. 6. The FYP Committee selects the class of the project idea (IA, IB, CN, CT, and CS). 7. The system navigates to Project Idea page. 8. The system gets the project ideas information from the database. 9. The system displays the project ideas information to the FYP Committee. 10. The FYP Committee presses the like button beside the project idea. 11. The system updates number of likes of the project idea. 12. The FYP Committee presses the project id. 13. The system navigates to Project Idea Detail page. 14. The FYP Committee left comment on the project idea. 15. The system saves the information into the database.
Sub Flows:

Not applicable
Alternate / Exceptional Flows: Not applicable

Figure 3.1.3.18: Provide feedback Use Case description

Use Case Name: Approve Project Idea	ID: 19	Importance Level: High
Primary Actor: FYP Committee	Use Case Type: Essential, Detail	
Stakeholders and Interests: FYP Committee – wants to approve project ideas share by students.		
Brief Description: This use case describe how we handle the FYP Committee approve projects idea share by students.		
Trigger: FYP Committee wants to approve project ideas share by students. Type: External		
Relationships: Association: FYP Committee Include: Extend: Generalization:		
Normal Flow of Events: 1. The FYP Committee wants to provide approve project ideas share by students. 2. The FYP Committee enters his FYP Committee id and password in order to login the system. 3. The system validates the FYP Committee id and password. 4. The FYP Committee select Approve Project Idea hyperlink in menu page. 5. The system navigates to Approve Project page.		

6. The system fetches all the project idea with the approval status “no” in a table. 7. The FYP Committee approved the selected project ideas. 8. The system updates the status of the project ideas. 9. The system saves the information into the database. 10. The system then performs text processing on the information of project ideas. 11. The system saves all the information extracted into database.
Sub Flows: Not applicable
Alternate / Exceptional Flows: Not applicable

Figure 3.1.3.19: Approve Project Idea Use Case description

Use Case Name: Reset Password	ID: 20	Importance Level: High
Primary Actor: Student	Use Case Type: Essential, Detail	
Stakeholders and Interests: Student – wants to reset password for the account.		
Brief Description: This use case describes how we handle the student reset their password for the account.		
Trigger: Student wants to reset his/her password for the account. Type: External		
Relationships: Association: Student Include: Extend:		

Generalization:
Normal Flow of Events: 1. The student wants to reset password for the account. 2. The student enters his id and password in order to login the system. 3. The system validates the id and password. 4. The student select User DashBoard hyperlink in menu page. 5. The system navigates to User DashBoard page. 6. The student presses the reset password button. 7. The system navigates to Reset Password page. 8. The student enters their old password and new password. 9. The system saves the new password into the database. 10. The system displays the result of reset password.
Sub Flows: Not applicable
Alternate / Exceptional Flows: Not applicable

Figure 3.1.3.20: Reset Password Use Case description

Use Case Name: Reset Password	ID: 21	Importance Level: High
Primary Actor: Lecturer	Use Case Type: Essential, Detail	
Stakeholders and Interests: Lecturer – wants to reset password for the account.		
Brief Description: This use case describes how we handle the lecturer reset their password for the account.		

Trigger: Lecturer wants to reset his/her password for the account. Type: External
Relationships: Association: Lecturer Include: Extend: Generalization:
Normal Flow of Events: 1. The lecturer wants to reset password for the account. 2. The lecturer enters his id and password in order to login the system. 3. The system validates the id and password. 4. The lecturer select User DashBoard hyperlink in menu page. 5. The system navigates to User DashBoard page. 6. The lecturer presses the reset password button. 7. The system navigates to Reset Password page. 8. The lecturer enters their old password and new password. 9. The system saves the new password into the database. 10. The system displays the result of reset password.
Sub Flows: Not applicable
Alternate / Exceptional Flows: Not applicable

Figure 3.1.3.21: Reset Password Use Case description

Use Case Name: Reset Password	ID: 22	Importance Level: High
Primary Actor: FYP Committee	Use Case Type: Essential, Detail	
Stakeholders and Interests: FYP Committee – wants to reset password for the account.		
Brief Description: This use case describes how we handle the FYP Committee reset their password for the account.		
Trigger: FYP Committee wants to reset his/her password for the account. Type: External		
Relationships: Association: FYP Committee Include: Extend: Generalization:		
Normal Flow of Events: 1. The FYP Committee wants to reset password for the account. 2. The FYP Committee enters his id and password in order to login the system. 3. The system validates the id and password. 4. The FYP Committee select User DashBoard hyperlink in menu page. 5. The system navigates to User DashBoard page. 6. The FYP Committee presses the reset password button. 7. The system navigates to Reset Password page. 8. The FYP Committee enters their old password and new password. 9. The system saves the new password into the database. 10. The system displays the result of reset password.		
Sub Flows: Not applicable		
Alternate / Exceptional Flows: Not applicable		

Figure 3.1.3.22: Reset Password Use Case description

Use Case Name: Search Rare Keyword	ID: 23	Importance Level: High
Primary Actor: Student	Use Case Type: Essential, Detail	
Stakeholders and Interests: Student – wants to search for rare keyword extracted by the web based system.		
Brief Description: This use case describes how we handle the Student search for rare keyword extracted by the web based system.		
Trigger: Student wants to search for rare keyword extracted by the web based system. Type: External		
Relationships: Association: Student Include: Extend: Generalization:		
Normal Flow of Events: 1. The student wants to wants to search for rare keyword extracted by the web based system. 2. The Student enters his id and password in order to login the system. 3. The system validates the id and password. 4. The Student select Keyword Bank hyperlink in menu page. 5. The system navigates to Keyword Bank page. 6. The system displays the extracted Keyword to the student.		
Sub Flows: Not applicable		
Alternate / Exceptional Flows: Not applicable		

Figure 3.1.3.23: Search Rare Keyword Use Case description

Use Case Name: Search Rare Keyword	ID: 23	Importance Level: High
Primary Actor: Lecturer	Use Case Type: Essential, Detail	
Stakeholders and Interests: Lecturer – wants to search for rare keyword extracted by the web based system.		
Brief Description: This use case describes how we handle the Lecturer search for rare keyword extracted by the web based system.		
Trigger: Lecturer wants to search for rare keyword extracted by the web based system. Type: External		
Relationships: Association: Lecturer Include: Extend: Generalization:		
Normal Flow of Events: 1. The lecturer wants to wants to search for rare keyword extracted by the web based system. 2. The Lecturer enters his id and password in order to login the system. 3. The system validates the id and password. 4. The Lecturer select Keyword Bank hyperlink in menu page. 5. The system navigates to Keyword Bank page. 6. The system displays the extracted Keyword to the lecturer.		
Sub Flows: Not applicable		
Alternate / Exceptional Flows: Not applicable		

Figure 3.1.3.24: Search Rare Keyword Use Case description

Use Case Name: Search Rare Keyword	ID: 23	Importance Level: High
Primary Actor: FYP Committee	Use Case Type: Essential, Detail	
Stakeholders and Interests: FYP Committee – wants to search for rare keyword extracted by the web based system.		
Brief Description: This use case describes how we handle the FYP Committee search for rare keyword extracted by the web based system.		
Trigger: FYP Committee wants to search for rare keyword extracted by the web based system. Type: External		
Relationships: Association: FYP Committee Include: Extend: Generalization:		
Normal Flow of Events: 1. The FYP Committee wants to wants to search for rare keyword extracted by the web based system. 2. The FYP Committee enters his id and password in order to login the system. 3. The system validates the id and password. 4. The FYP Committee select Keyword Bank hyperlink in menu page. 5. The system navigates to Keyword Bank page. 6. The system displays the extracted Keyword to the FYP Committee.		
Sub Flows: Not applicable		
Alternate / Exceptional Flows: Not applicable		

Figure 3.1.3.25: Search Rare Keyword Use Case description

3.1.4 Entity Relationship Diagram (ERD)

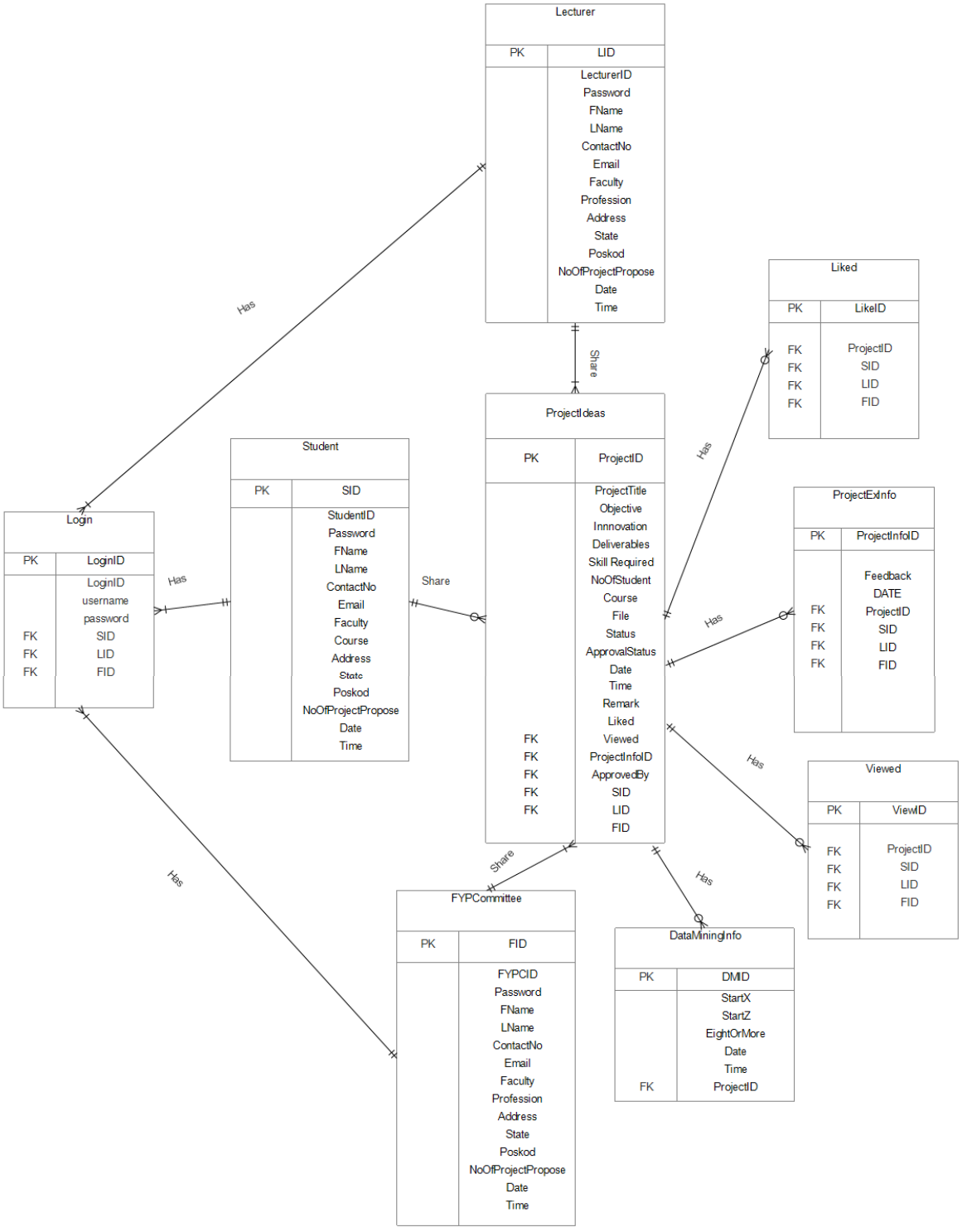

Figure 3.1.4.1 Entity Relationship Diagram (ERD)

3.1.5 Low Level Class Diagram

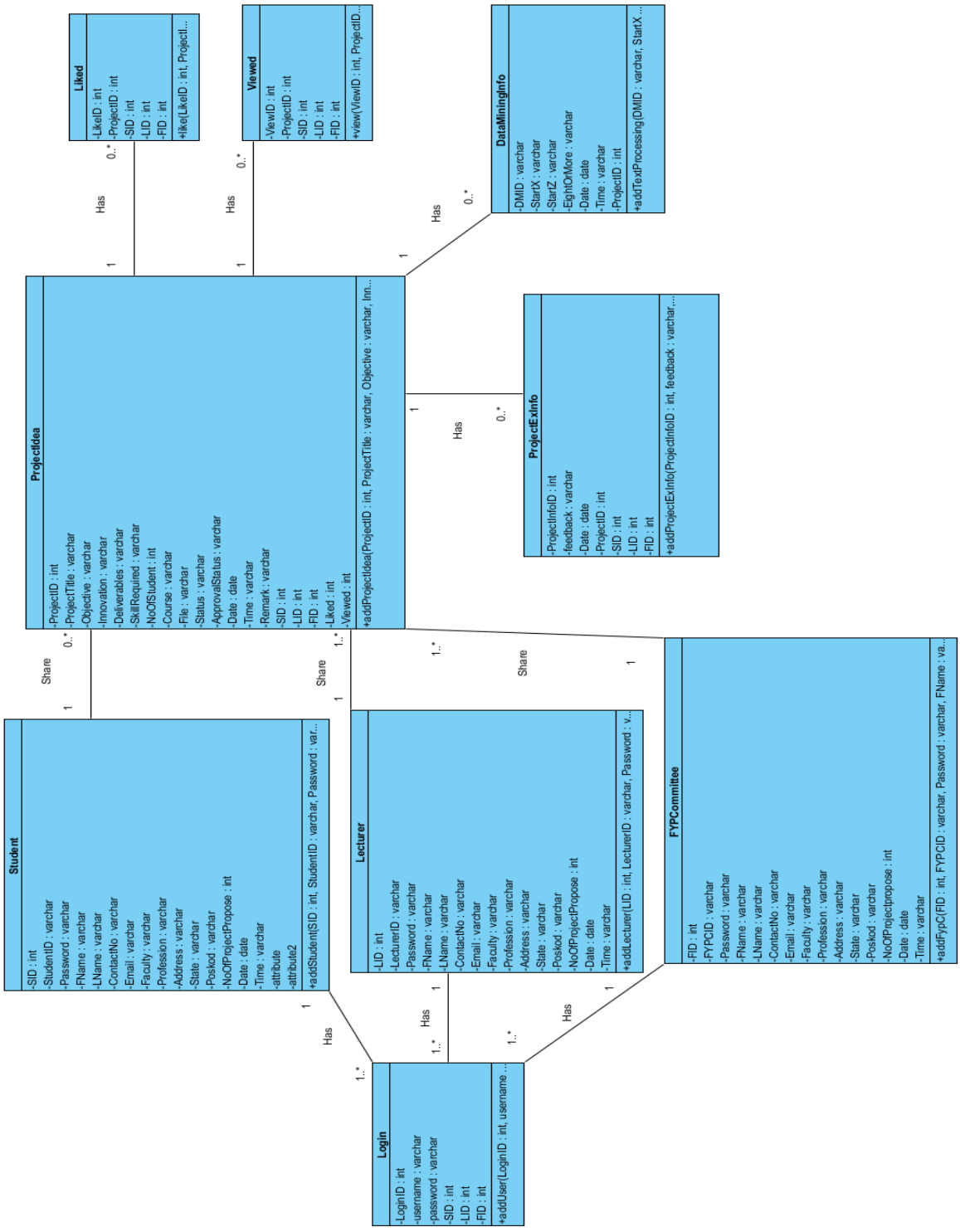

Figure 3.1.5.1: Low Level Class Diagram

3.1.6 Object Diagram

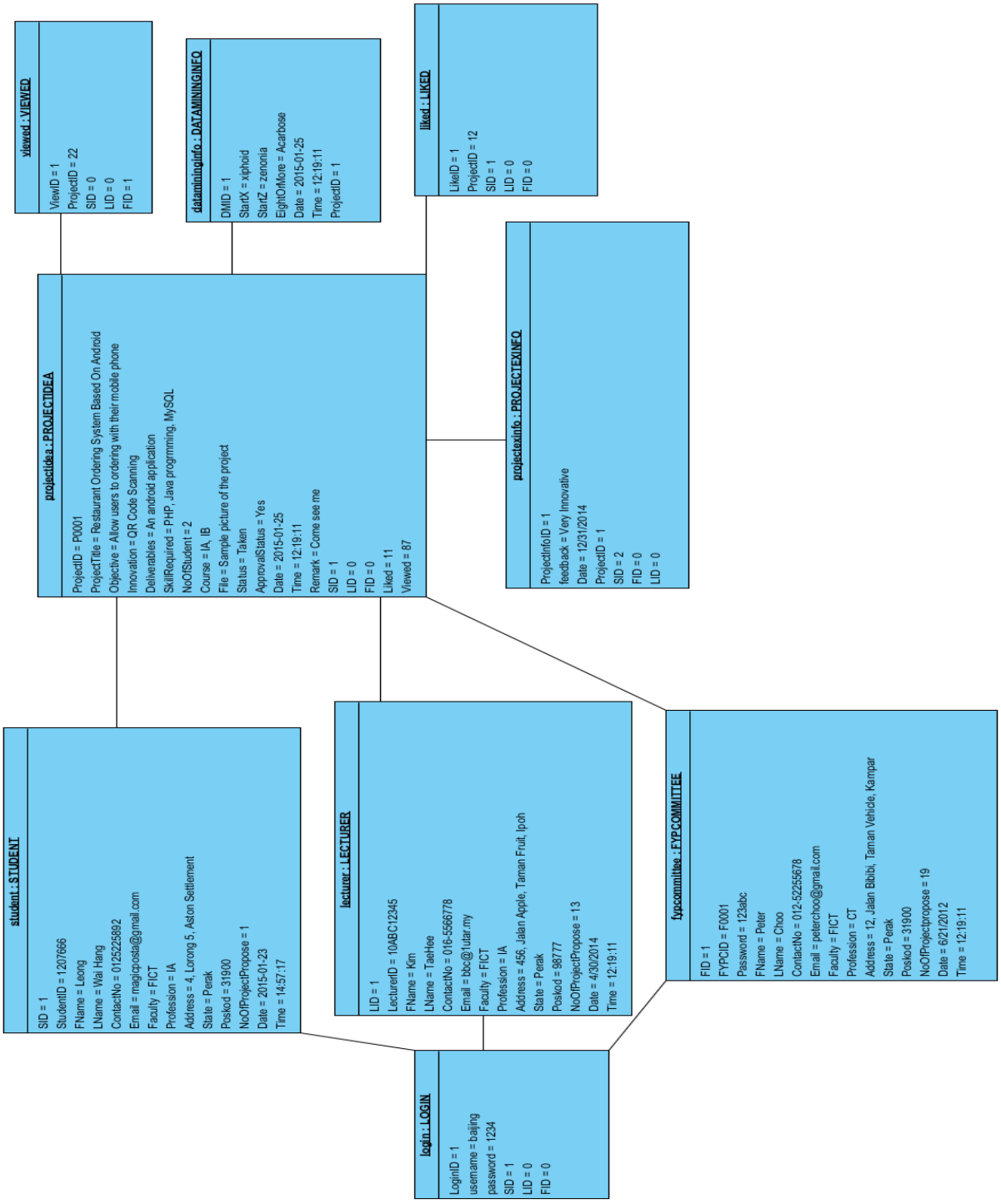

Figure 3.1.6.1: Object Diagram

3.1.7 CRC Card

Front side of STUDENT class

Class Name: STUDENT	ID: 1	TYPE: Concrete, Domain
Description: Student wants to register an account in order to share and search for project idea.		Associated Use Cases: 1,2,3,4,5,6,20,23
Responsibilities addStudent		Collaborators ProjectIdea, Login

Back side of Student class

Attributes:	
SID	
StudentID	Faculty
Password	Profession
FName	Address
LName	State
ContactNo	Poskod
Email	NoOfProjectpropose
Date	Time

Relationships:

Generalization (a – kind – of): not applicable

Aggregation (has – parts): not applicable

Other Associations: PROJECTIDEA, LOGIN

Figure 3.1.7.1: CRC Card of STUDENT class

Front side of LECTURER class

Class Name: LECTURER	ID: 2	TYPE: Concrete, Domain
Description: Lecturer wants to register an account in order to share and search for project idea.		Associated Use Cases: 7, 8, 9, 10, 11, 12,21,24
Responsibilities addLecturer	Collaborators ProjectIdea, Login	

Back side of Lecturer class

Attributes:	
LID	
LectureID	Faculty
Password	Profession
FName	Address
LName	State
ContactNo	Poskod
Email	NoOfProjectpropose
Date	Time

Relationships:

Generalization (a – kind – of): not applicable

Aggregation (has – parts): not applicable

Other Associations: PROJECTIDEA, LOGIN

Figure 3.1.7.2: CRC Card of Lecturer class

Front side of FYPCOMMITTEE class

Class Name: FYPCOMMITTEE	ID: 3	TYPE: Concrete, Domain
Description: FYPCOMMITTEE wants to register an account in order to share and search for project idea.		Associated Use Cases: 13, 14, 15, 16, 17, 18, 19,22,25
Responsibilities addFypC		Collaborators ProjectIdea, Login

Back side of FYPCommittee class

Attributes:	
FID	
FYPCID	Faculty
Password	Course
FName	Address
LName	State
ContactNo	Poskod
Email	NoOfProjectpropose
Date	Time

Relationships:

Generalization (a – kind – of): not applicable

Aggregation (has – parts): not applicable

Other Associations: PROJECTIDEA, LOGIN

Figure 3.1.7.3: CRC Card of FYPCommittee class

Front side of PROJECTIDEA class

Class Name: PROJECTIDEA	ID: 4	TYPE: Concrete, Domain
Description: Store the information of the project ideas share by student, lecturer and FYP committee		Associated Use Cases: 2, 3, 5, 6, 8, 9, 11, 12, 14, 15, 17, 18, 19,23,24,25
Responsibilities addProjectIdea, updateApprovalStatus, updateProjectStatus, addTextProcessing		Collaborators Student, Lecturer, FYPCommittee, ProjectExInfo, datamininginfo, viewed, liked

Back side of ProjectIdea class

Attributes:	
ProjectID	NoOfStudent
ProjectTitle	Course
Objective	File
Innovation	Status
Deliverables	Approval Status
Skill Required	Date
Time	Remark
SID	LID
FID	Viewed
Liked	

Relationships:

Generalization (a – kind – of): not applicable

Aggregation (has – parts): not applicable

Other Associations: STUDENT, LECTURER, FYPCOMMITTEE, PROJECTEXINFO, DATAMININGINFO, VIEWED, LIKED

Figure 3.1.7.4: CRC Card of ProjectIdea class

Front side of PROJECTEXINFO class

Class Name: PROJECTEXINFO	ID: 5	TYPE: Concrete, Domain
Description: Store the feedback of the project idea from users.		Associated Use Cases: 6, 12, 18
Responsibilities addProjectExInfo	Collaborators ProjectIdea	

Back side of ProjectExInfo class

Attributes:	
ProjecInfoID	Feedback
Date	ProjectID
SID	LID
FID	

Relationships:

Generalization (a – kind – of): not applicable

Aggregation (has – parts): not applicable

Other Associations: ProjectIdea

Figure 3.1.7.5: CRC Card of ProjectExInfo class

Front side of DATAMININGINFO class

Class Name: DATAMININGINFO	ID: 6	TYPE: Concrete, Domain
Description: Store extracted information.		Associated Use Cases: 2,8,14,23,24,25
Responsibilities addTextProcessing	Collaborators Projectidea	

Back side of DataMiningInfo class

Attributes:	
DMID	StartX
StartZ	EightOrMore
Date	Time
ProjectID	

Relationships:

Generalization (a – kind – of): not applicable

Aggregation (has – parts): not applicable

Other Associations: PROJECTIDEA

Figure 3.1.7.6: CRC Card of DataMiningInfo class

Front side of Login class

Class Name: Login	ID: 7	TYPE: Concrete, Domain
Description: Handle Login function of the web based system		Associated Use Cases: 2,3,4,5,6,8,9,10,11,12,13,14, 15,16,17,18,19,20,21,22,23,24,25
Responsibilities Login	Collaborators Student, Lecturer, FypCommittee	

Back side of Login class

Attributes:	
LoginID	Username
Password	SID
LID	FID

Relationships:

Generalization (a – kind – of): not applicable

Aggregation (has – parts): not applicable

Other Associations: STUDENT, LECTURER, FYPCOMMITTEE

Figure 3.1.7.7: CRC Card of Login class

Front side of Viewed class

Class Name: Viewed	ID: 8	TYPE: Concrete, Domain
Description: Count how many users already viewed the system		Associated Use Cases: 3,9,15
Responsibilities View	Collaborators ProjectIdea	

Back side of Viewed class

Attributes:	
ViewID	ProjectID
SID	LID
FID	
Relationships:	
Generalization (a – kind – of): not applicable	
Aggregation (has – parts): not applicable	
Other Associations: PROJECTIDEA	

Figure 3.1.7.8: CRC Card of Viewed class

Front side of Liked class

Class Name: Liked	ID: 8	TYPE: Concrete, Domain
Description: Count how many users already viewed the system		Associated Use Cases: 3,9,15
Responsibilities Like	Collaborators ProjectIdea	

Back side of Viewed class

Attributes:
LikeID ProjectID SID LID FID
Relationships: Generalization (a – kind – of): not applicable Aggregation (has – parts): not applicable Other Associations: PROJECTIDEA

Figure 3.1.7.9: CRC Card of Viewed class

3.1.8 Sequence Diagram

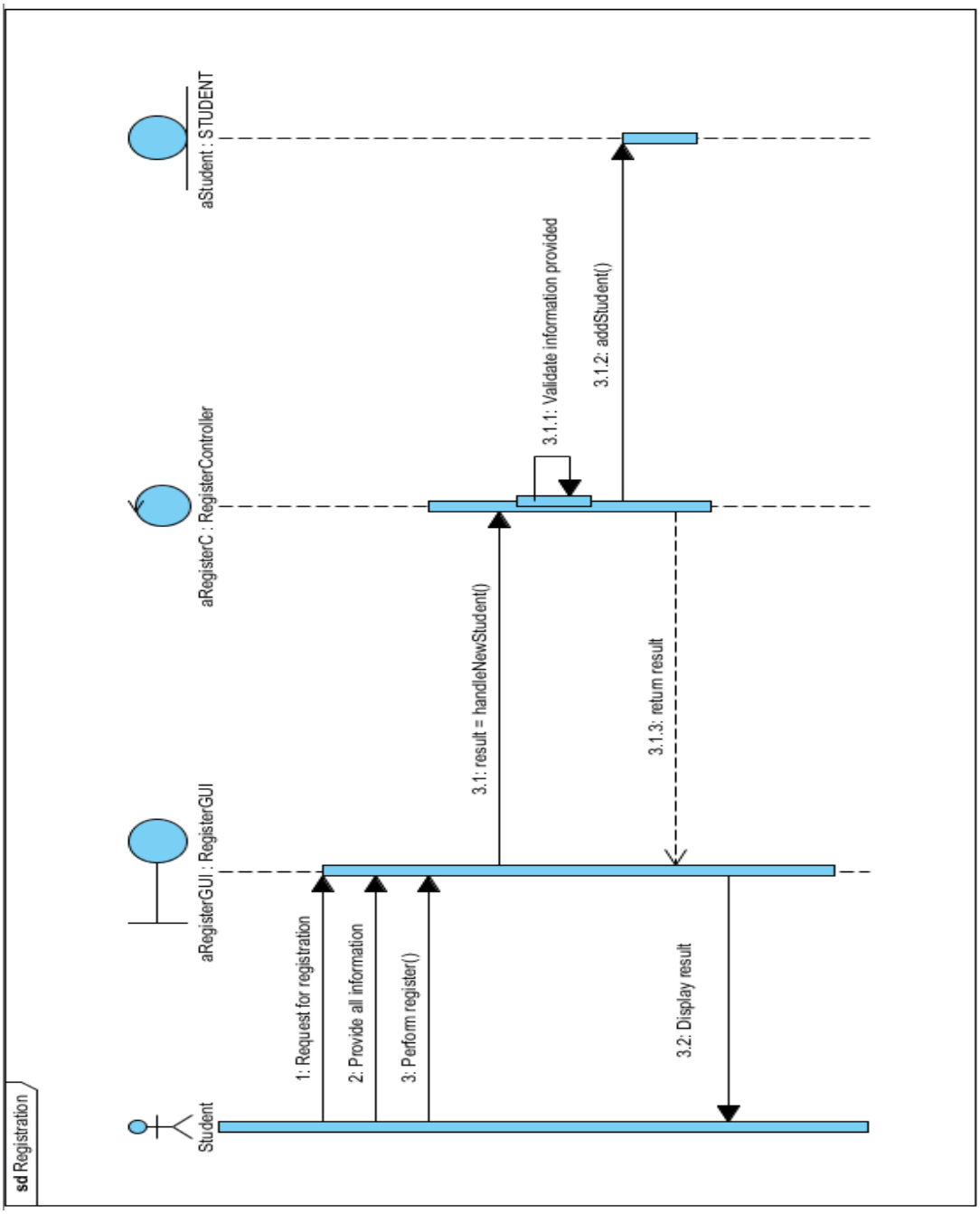

Figure 3.1.8.1: Sequence diagram of Registration (Student)

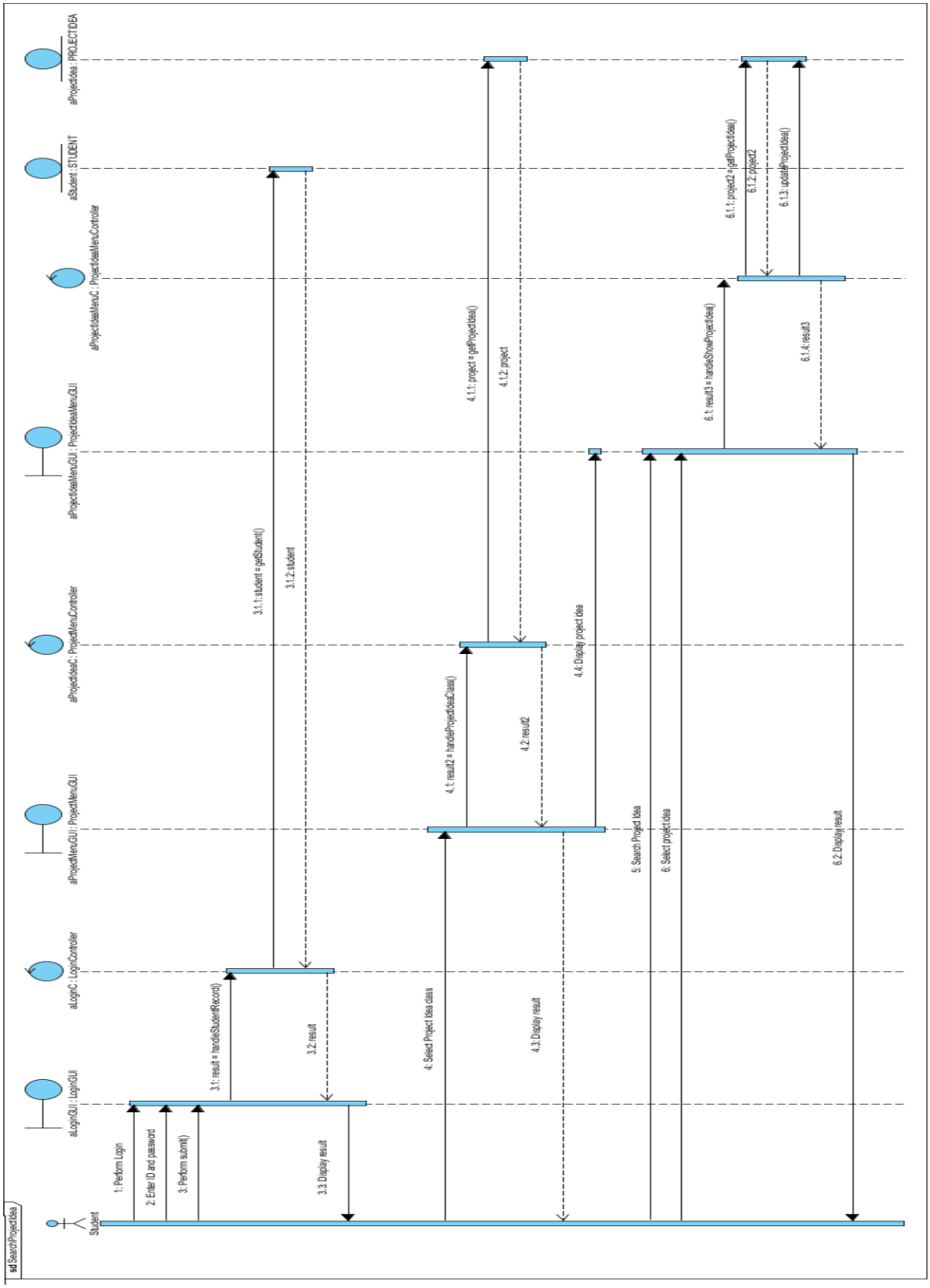

Figure 3.1.8.2: Sequence diagram of Search Project Idea (Student)

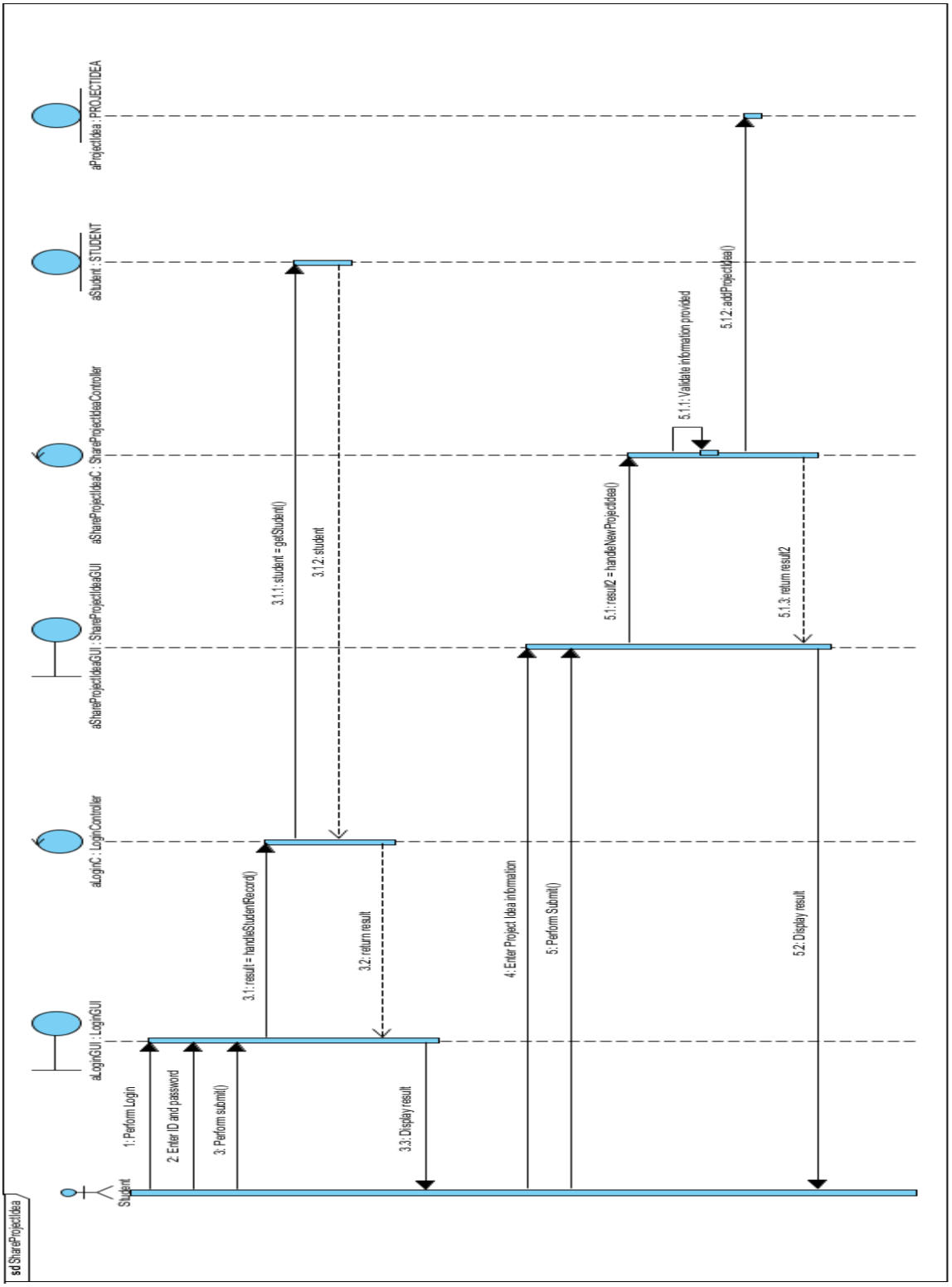

Figure 3.1.8.3: Sequence diagram of Share Project Idea (Student)

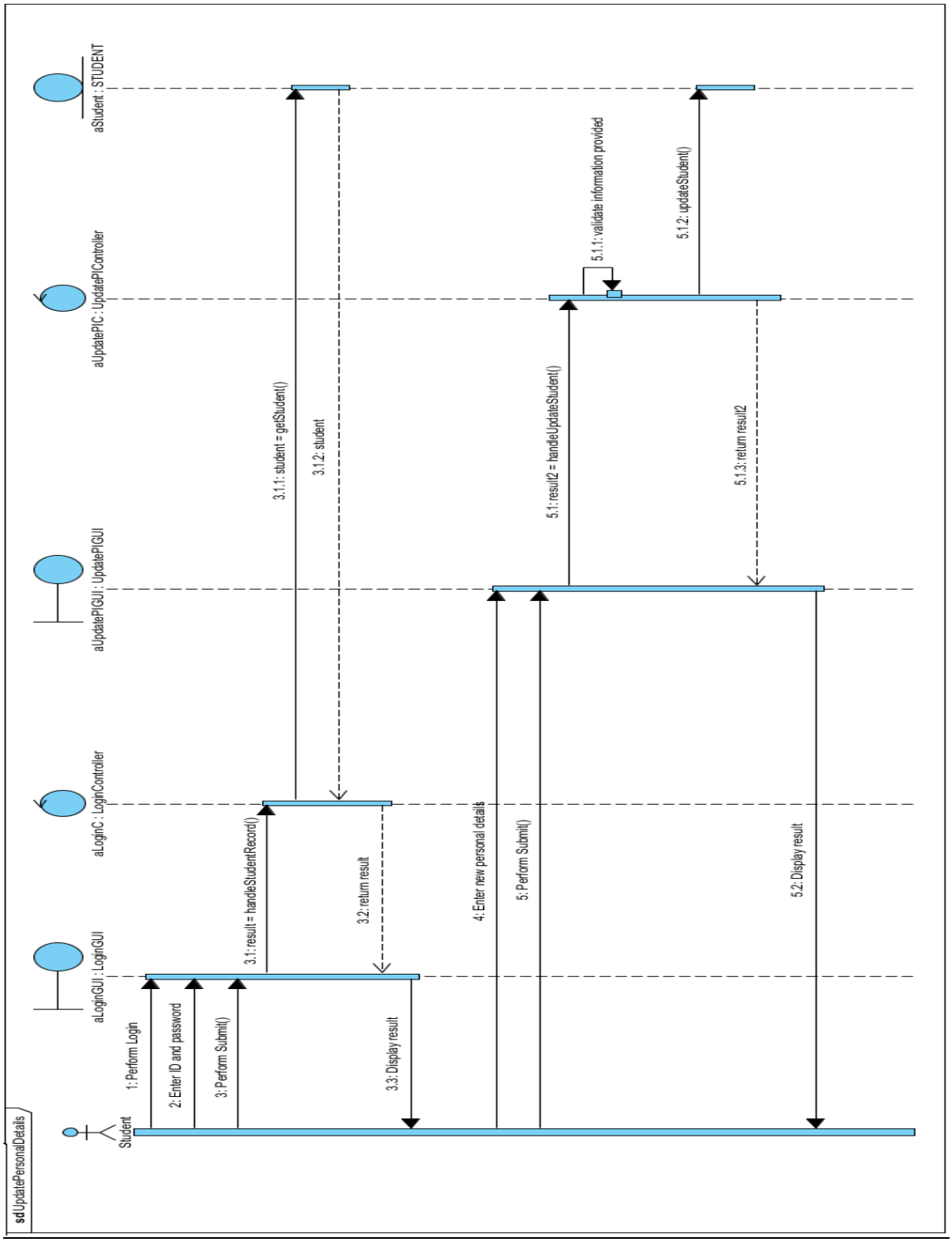

Figure 3.1.8.4: Sequence diagram of update personal details (Student)

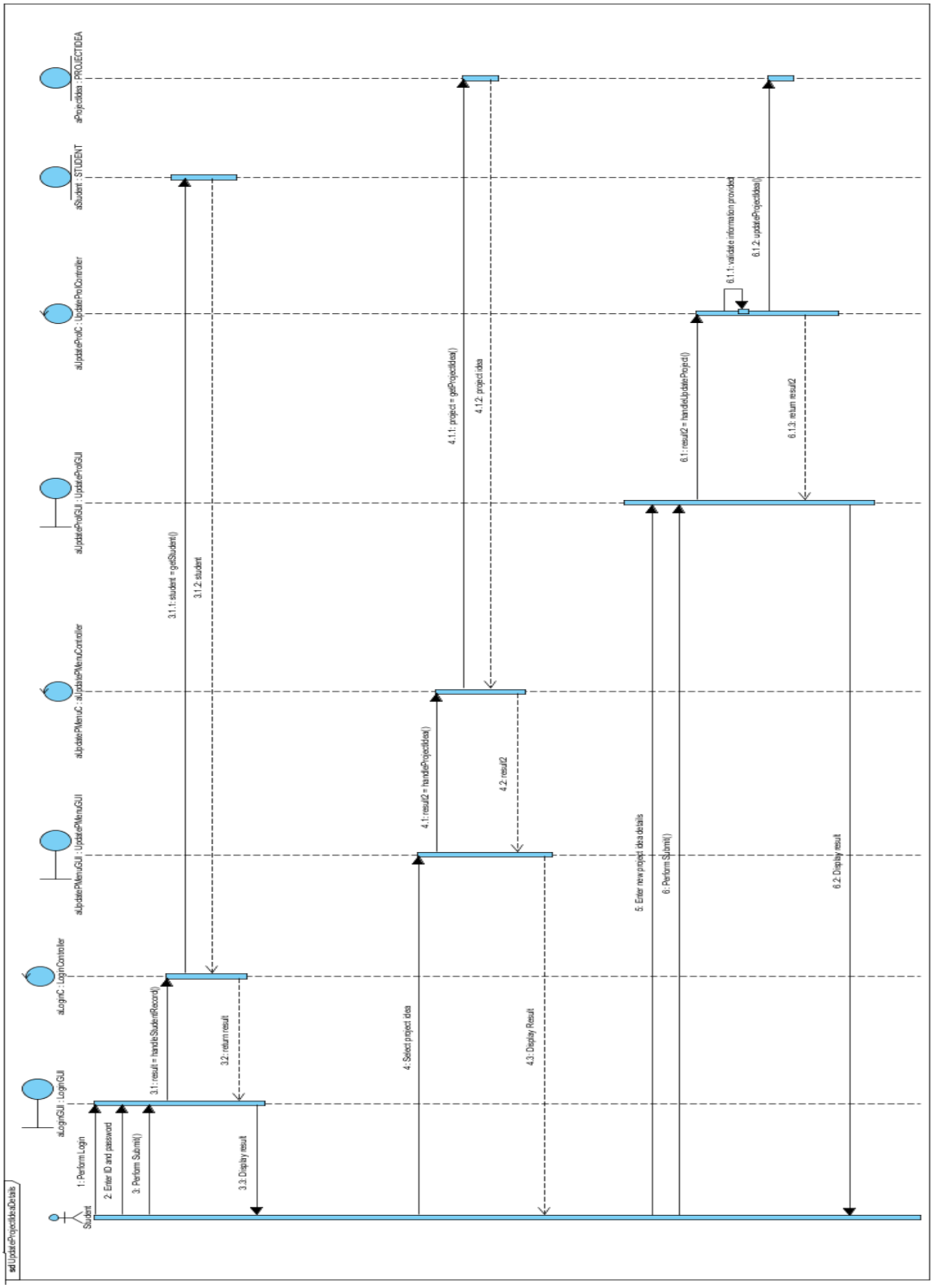

Figure 3.1.8.5: Sequence diagram of update project idea details (Student)

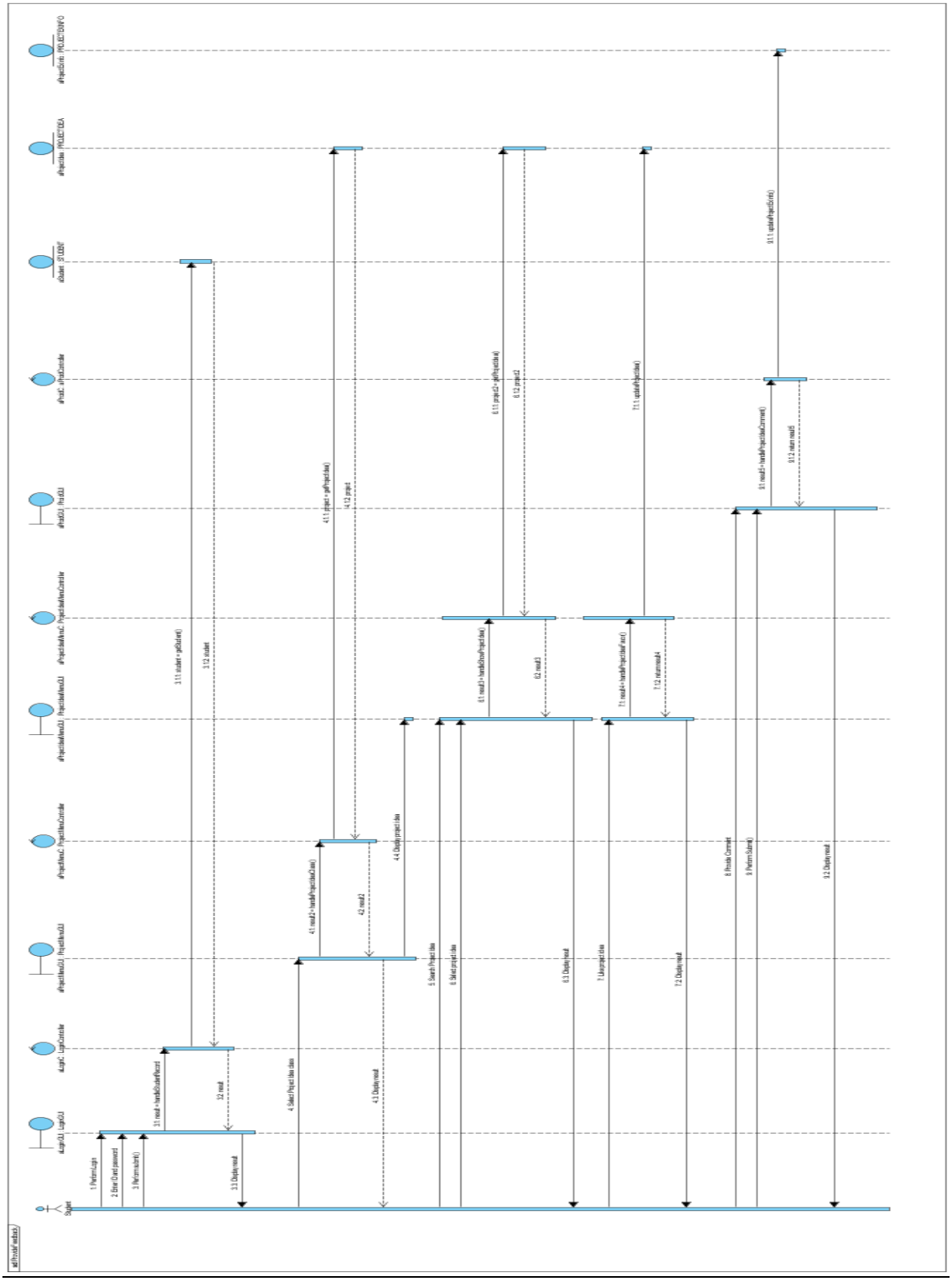

Figure 3.1.8.6: Sequence diagram of Provide Feedback (Student)

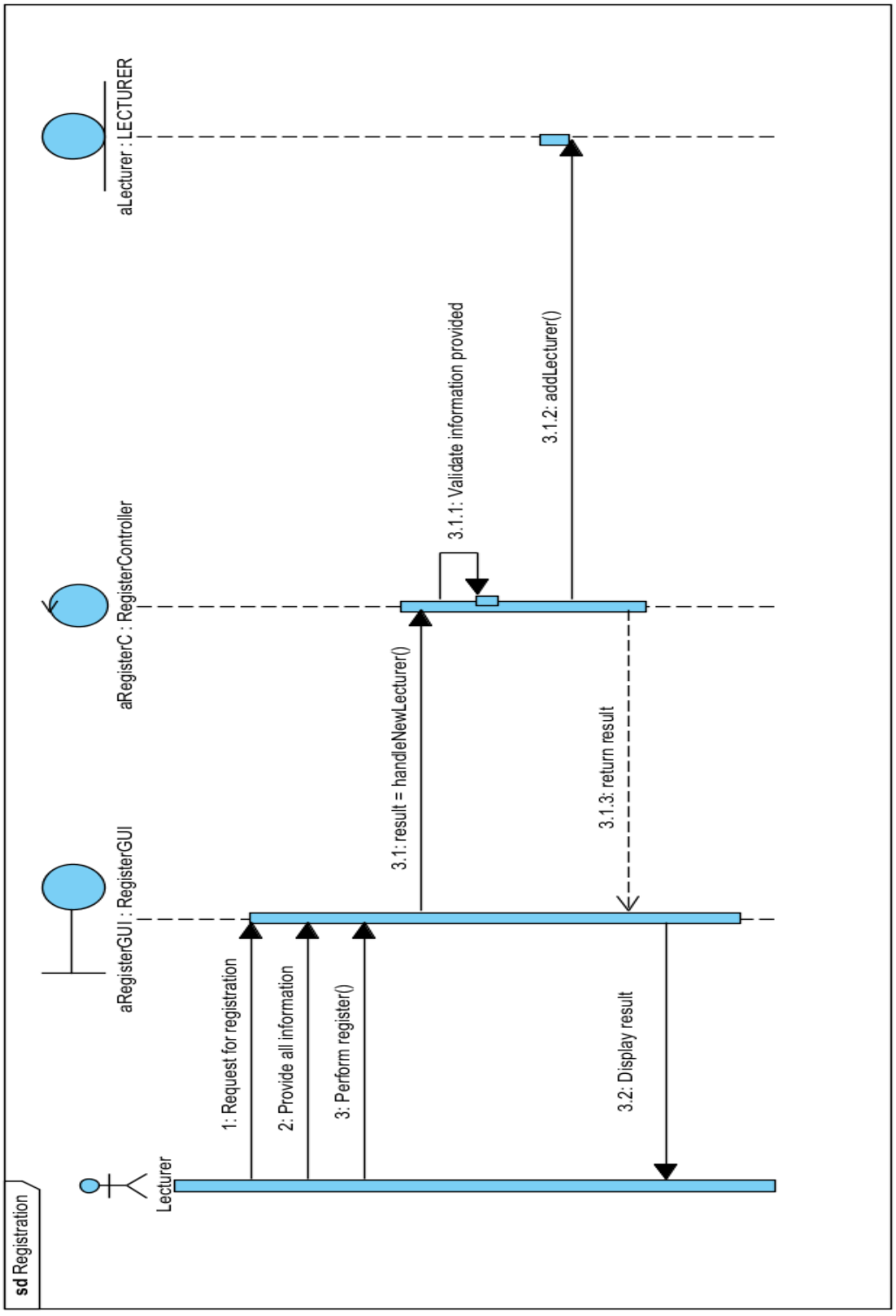

Figure 3.1.8.7: Sequence diagram of Registration (Lecturer)

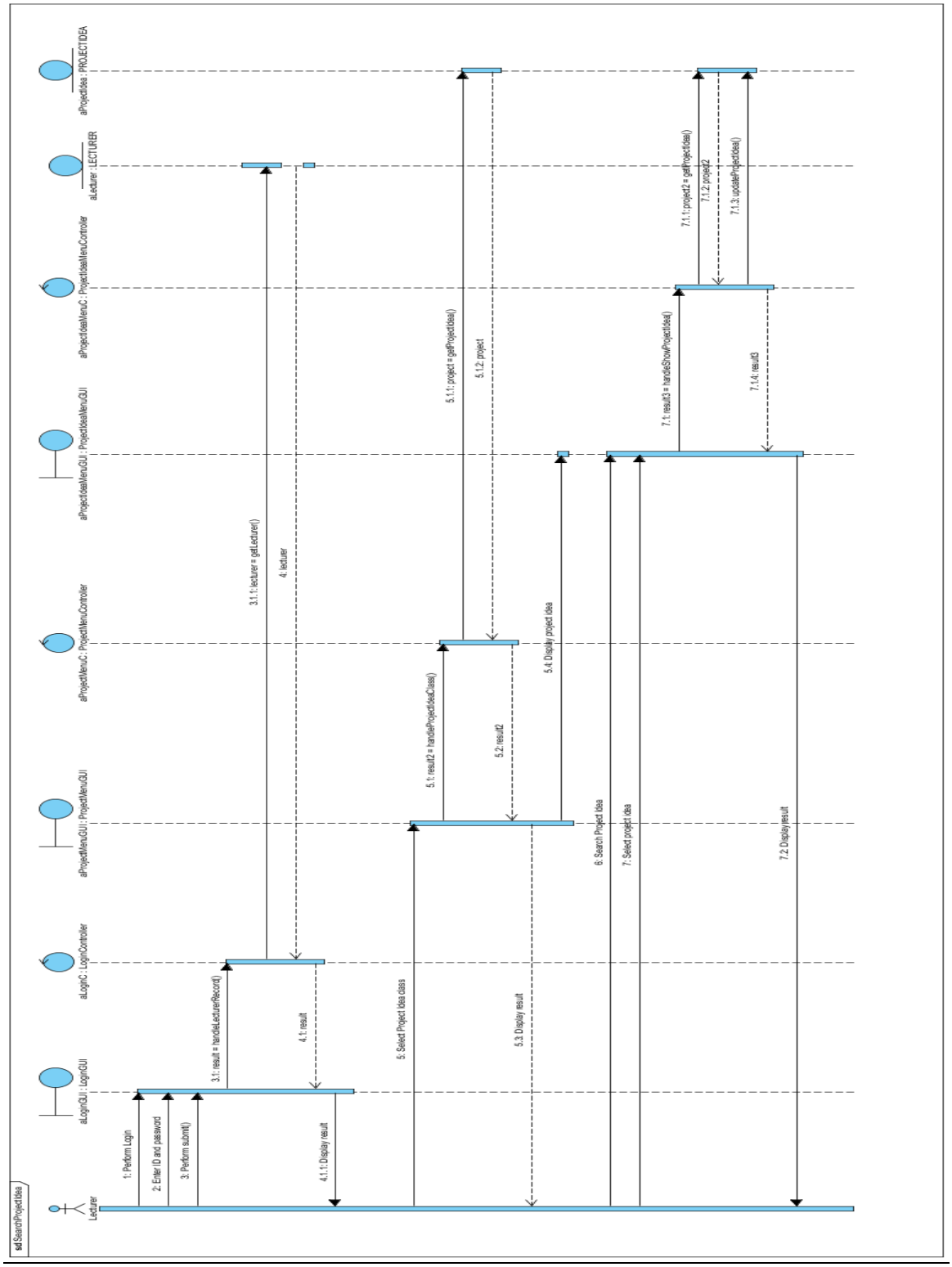

Figure 3.1.8.8: Sequence diagram of Search Project Idea (Lecturer)

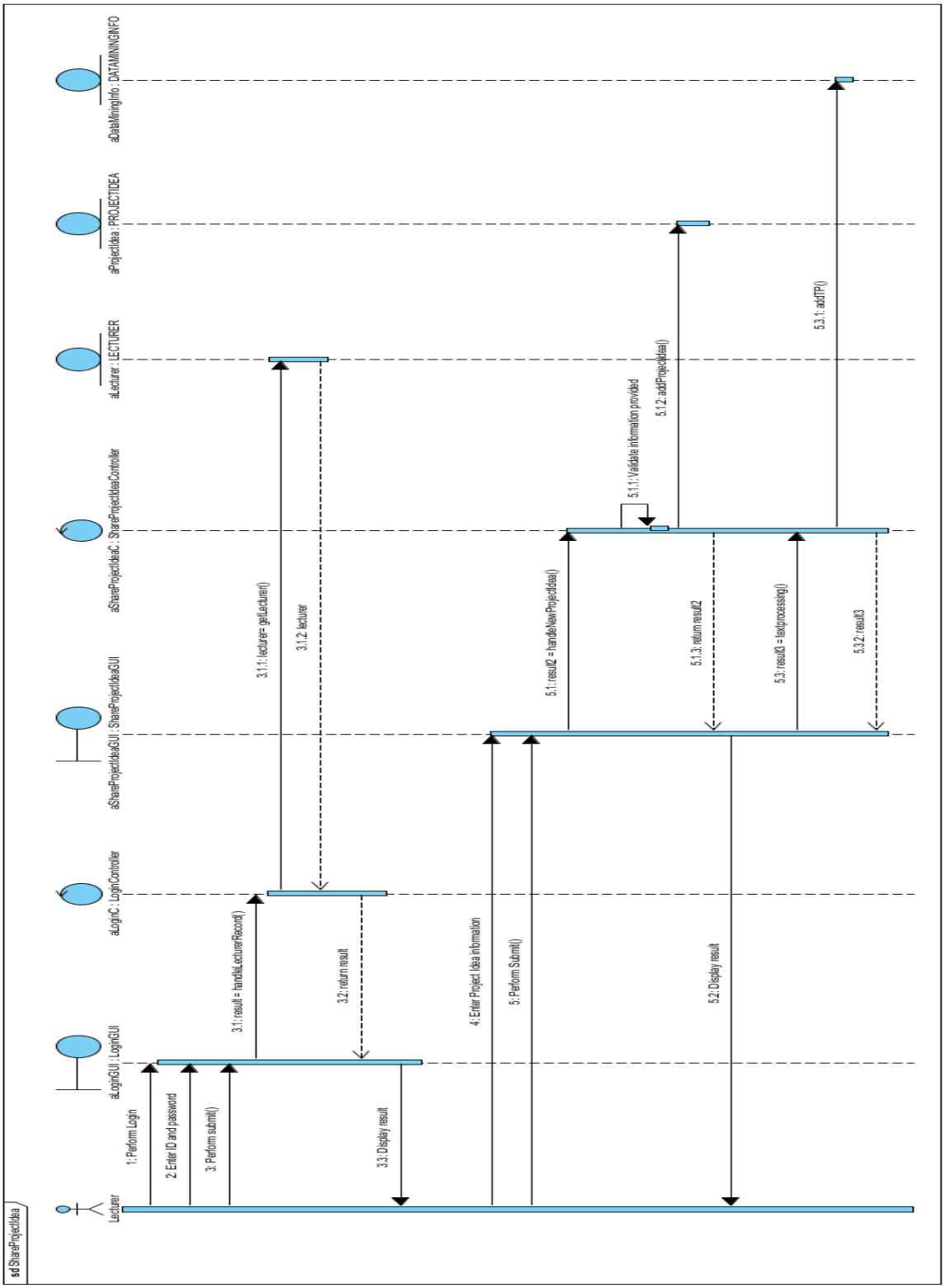

Figure 3.1.8.9: Sequence diagram of Share Project Idea (Lecturer)

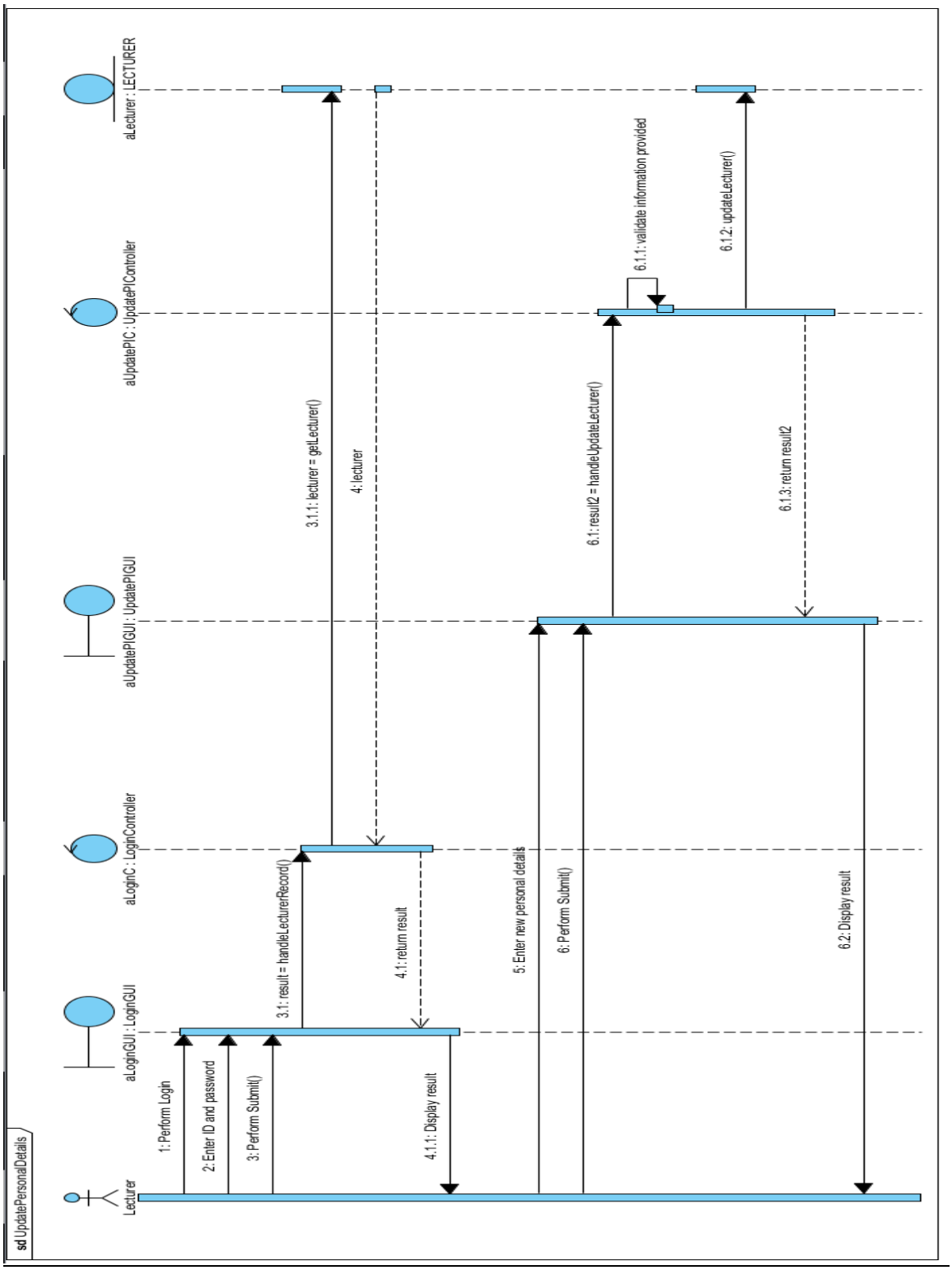

Figure 3.1.8.10: Sequence diagram of Update Personal Details (Lecturer)

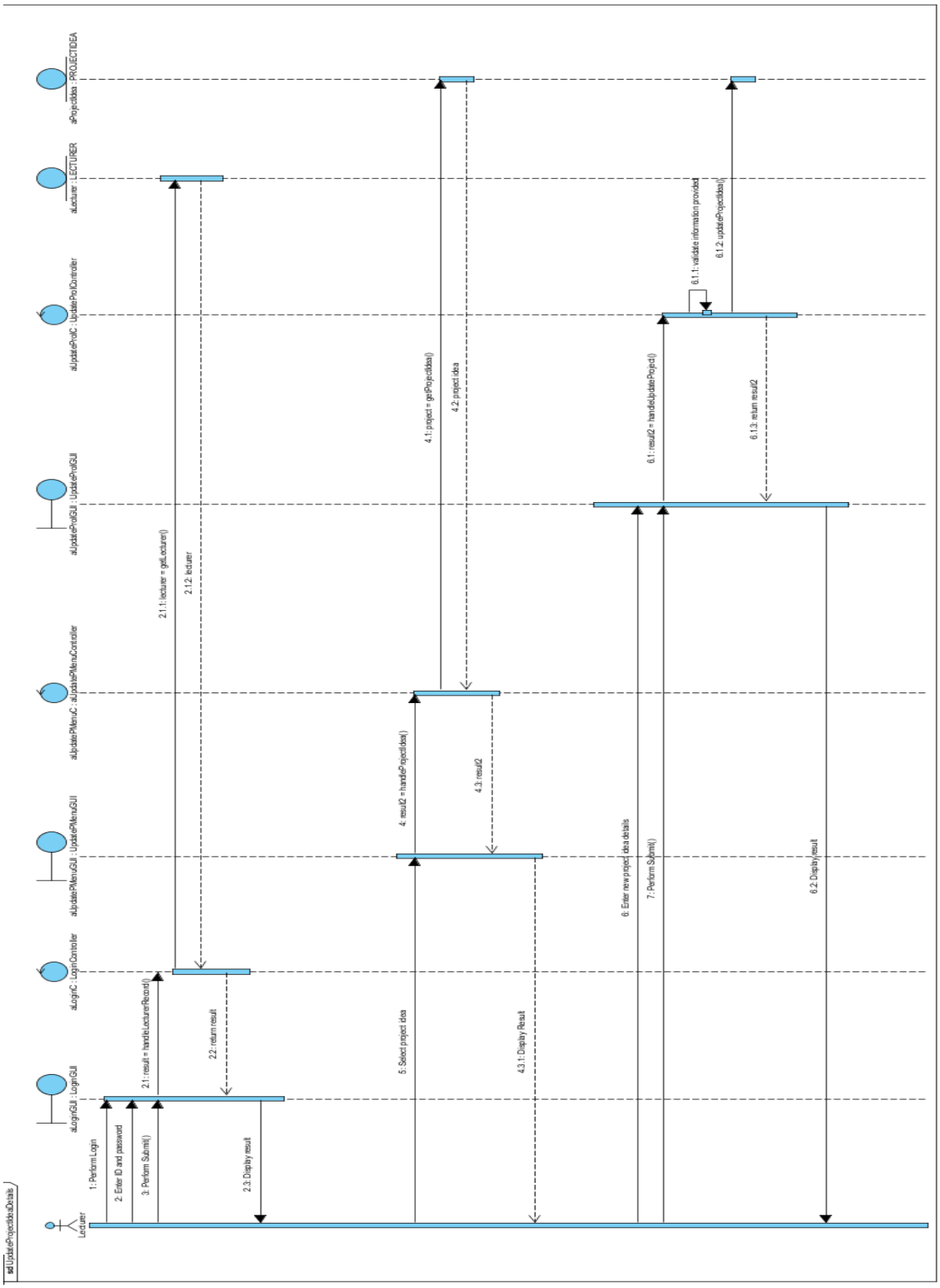

Figure 3.1.8.11: Sequence diagram of Update Project idea Details (Lecturer)

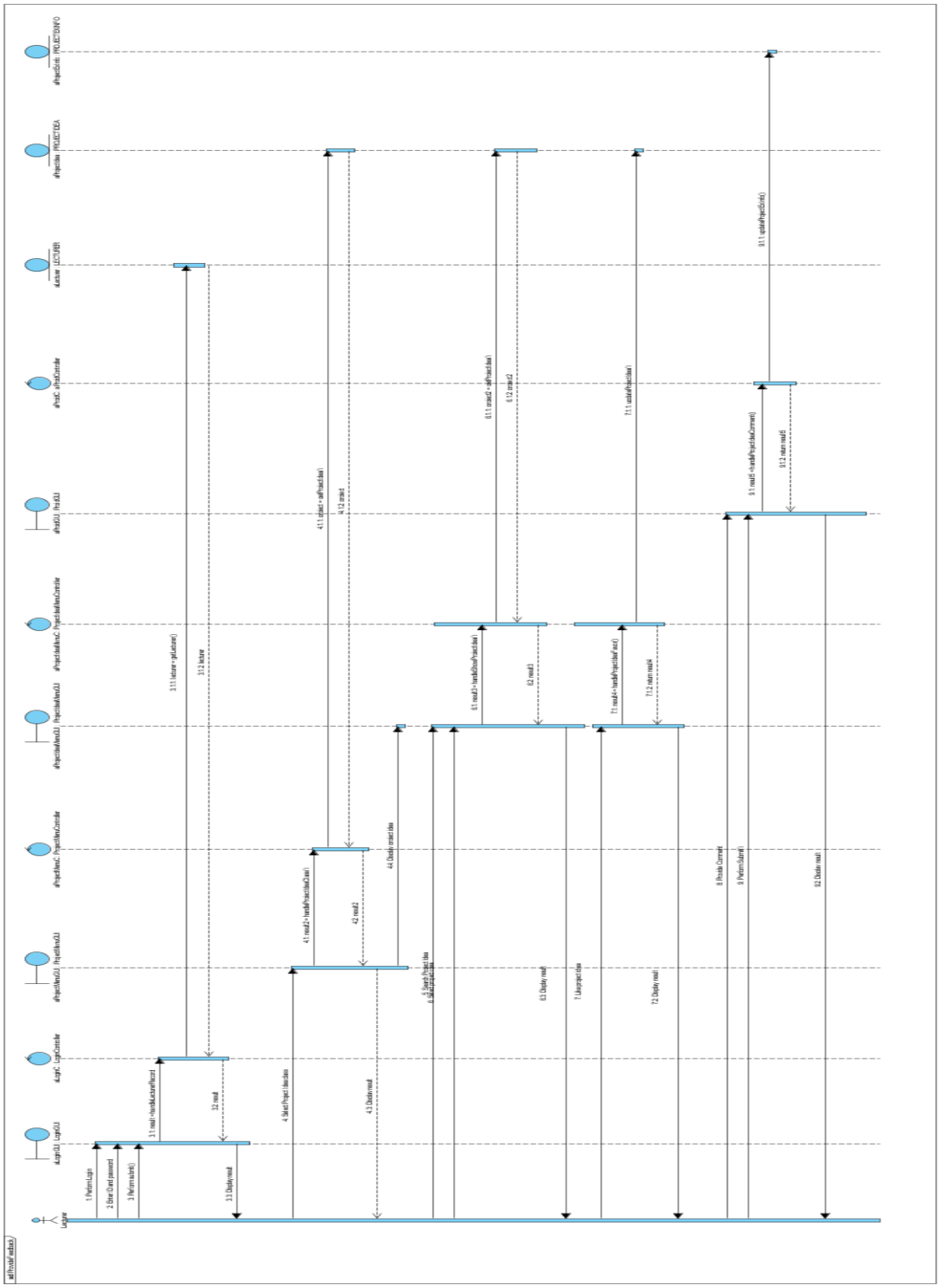

Figure 3.1.8.12: Sequence diagram of Provide Feedback (Lecturer)

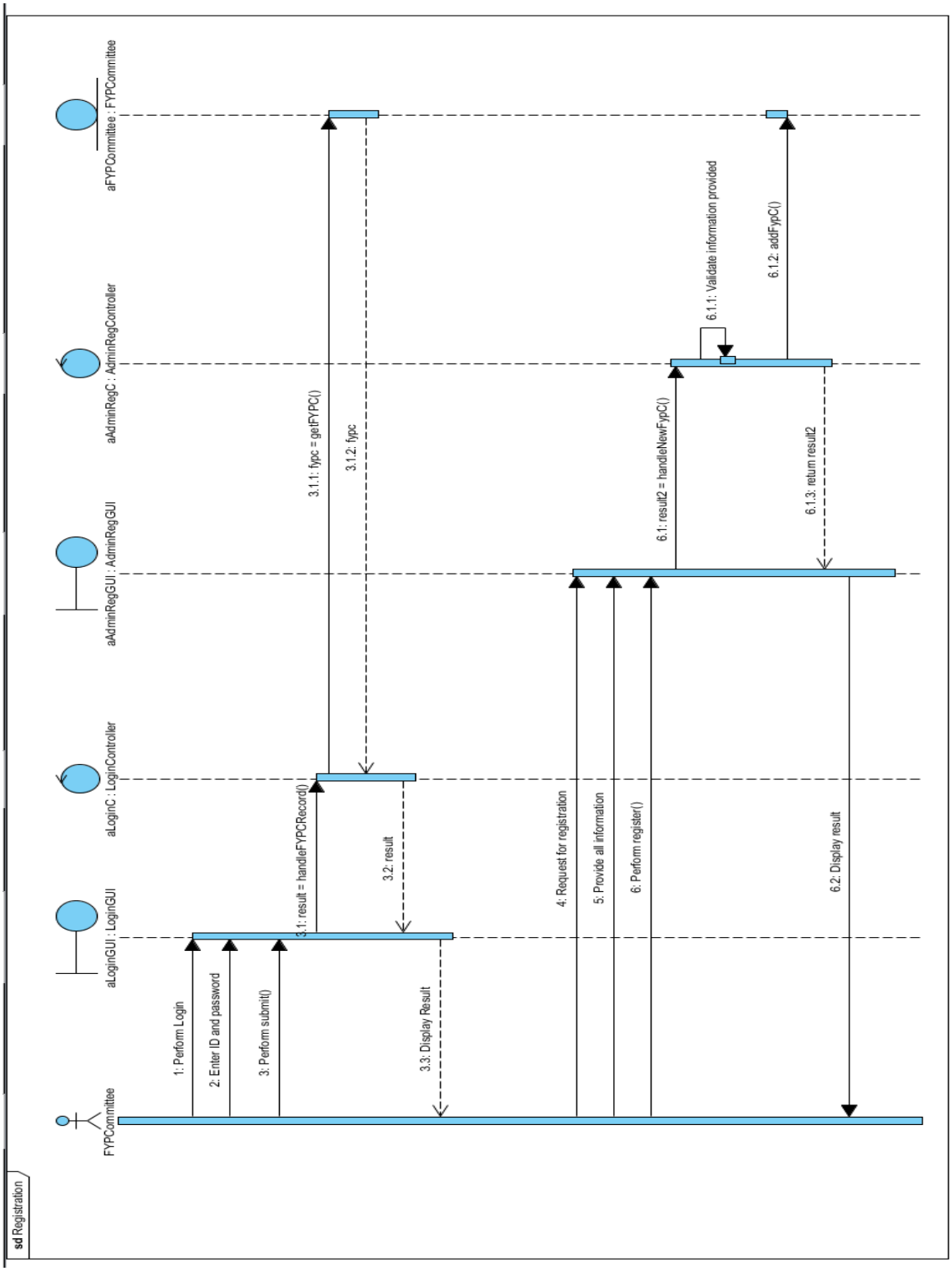

Figure 3.1.8.13: Sequence diagram of Registration (FYP Committee)

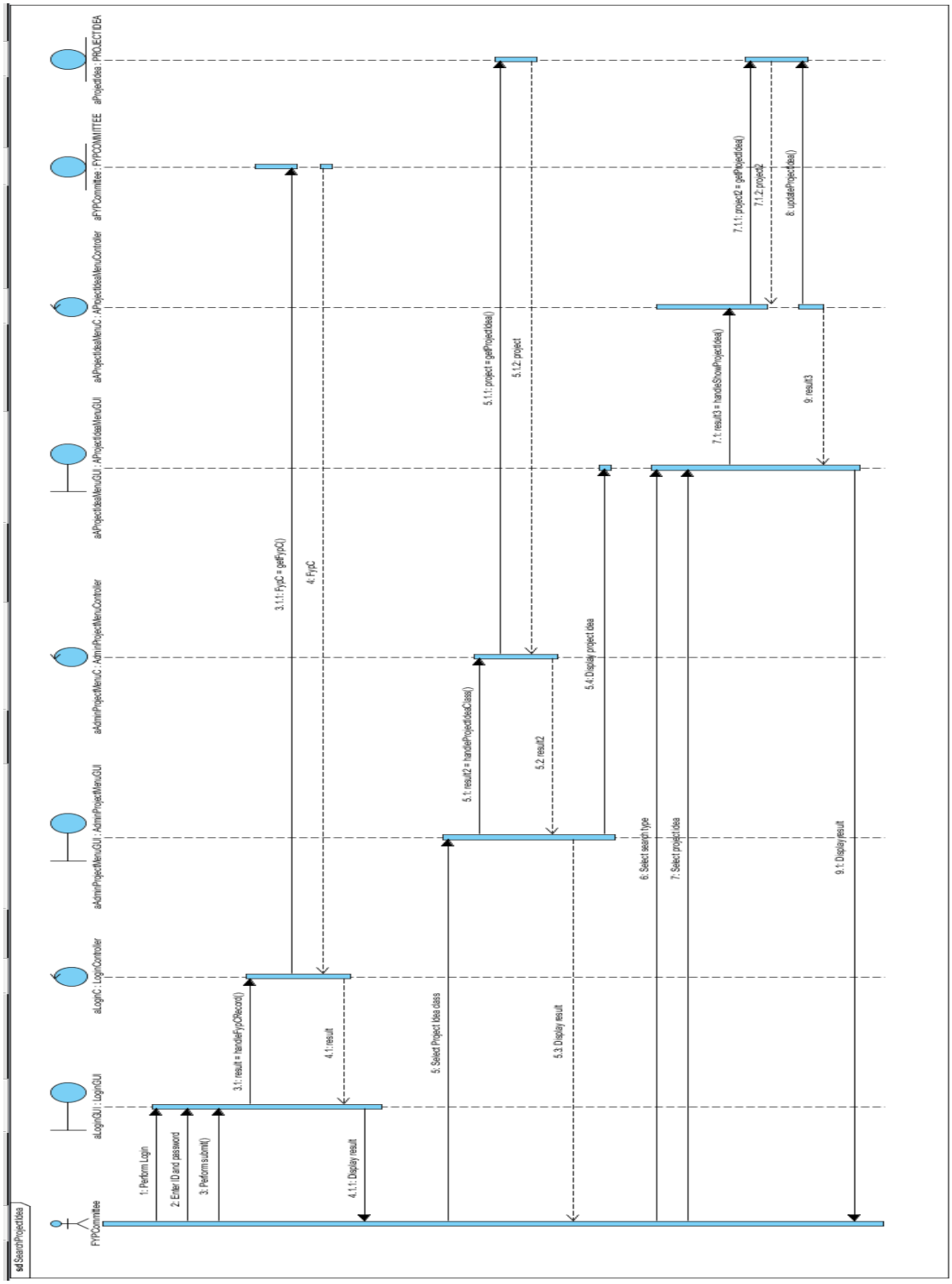

Figure 3.1.8.14: Sequence diagram of Search Project Idea (FYP Committee)

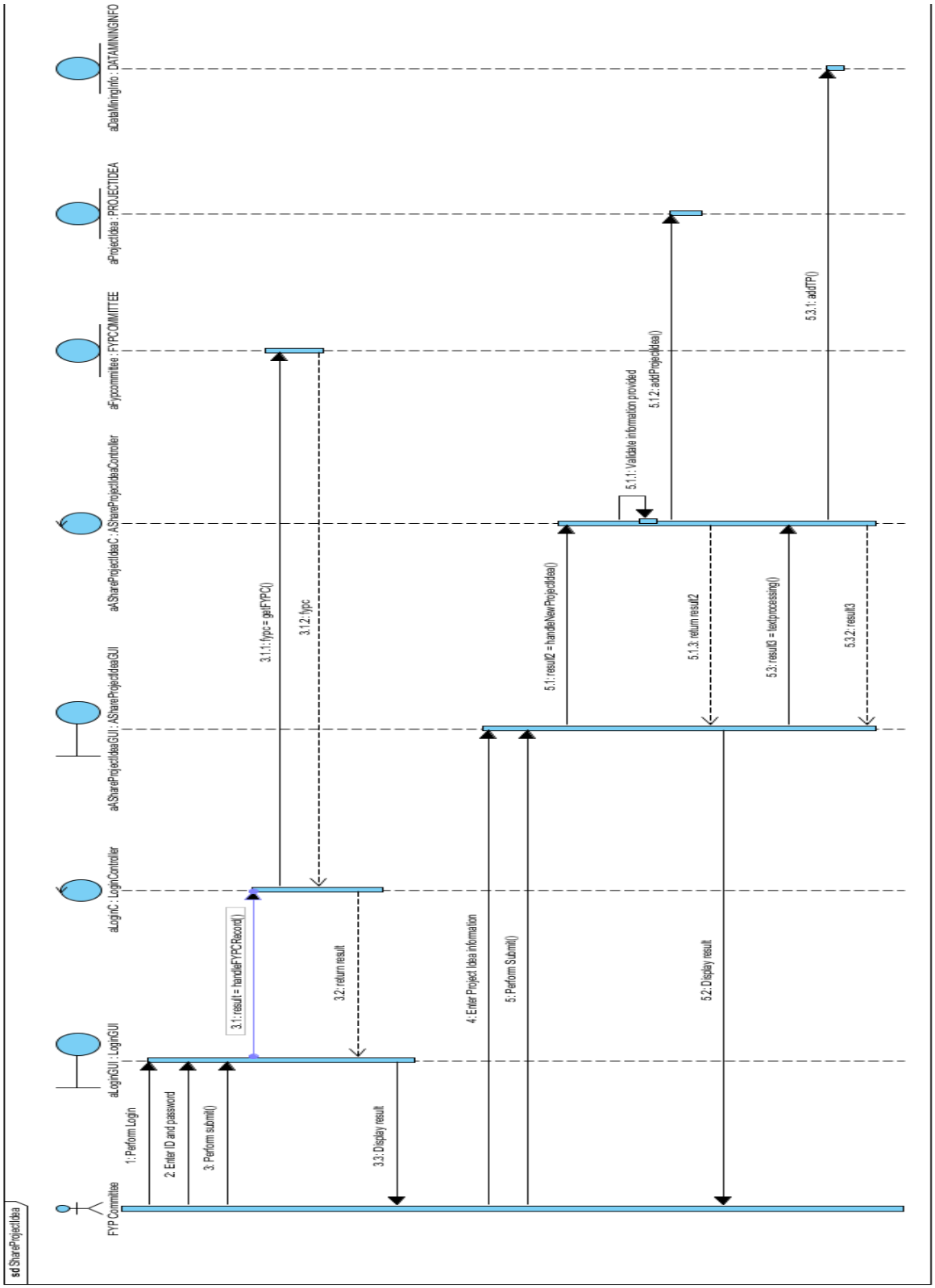

Figure 3.1.8.15: Sequence diagram of Share Project Idea (FYP Committee)

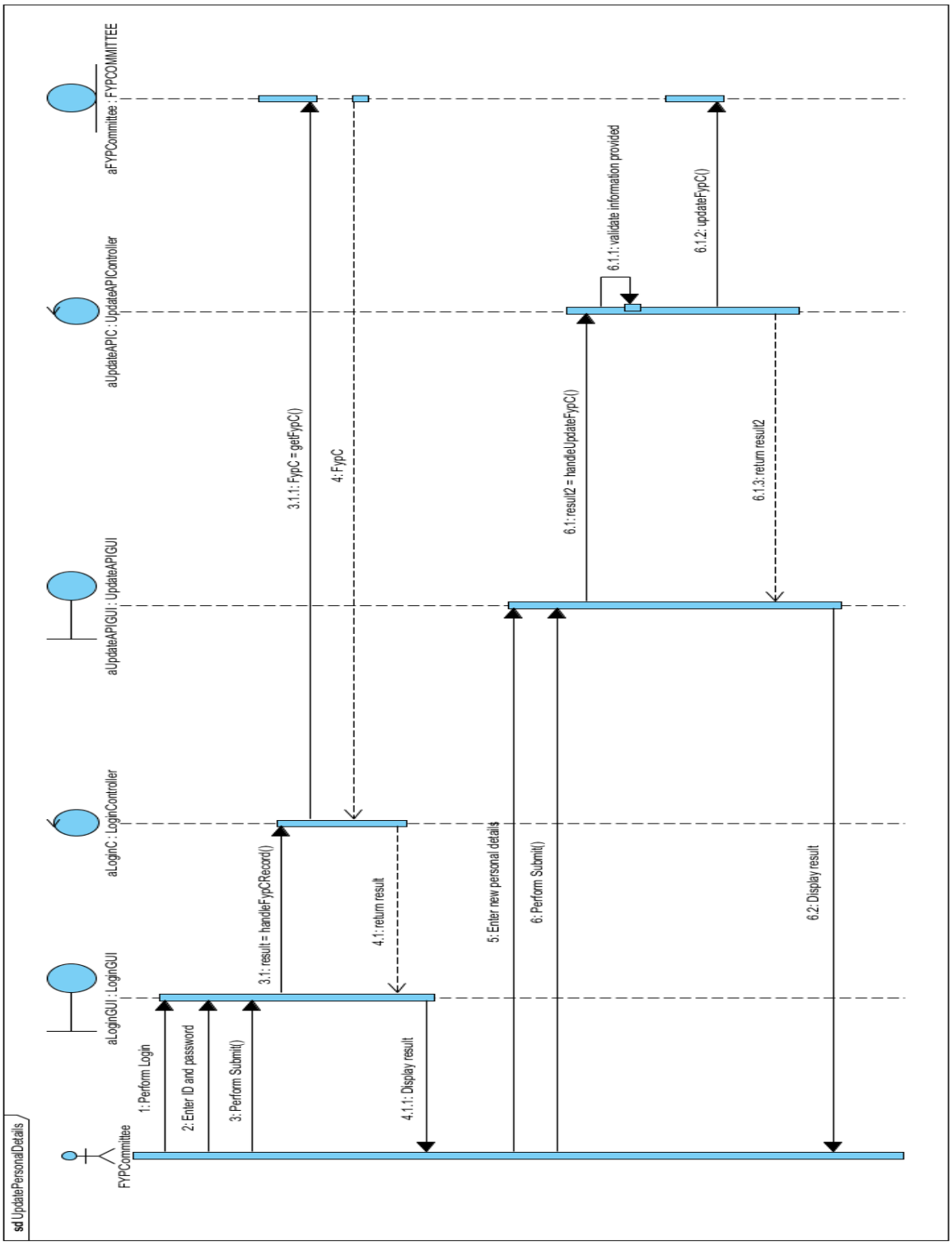

Figure 3.1.8.16: Sequence diagram of Update Personal Details (FYP Committee)

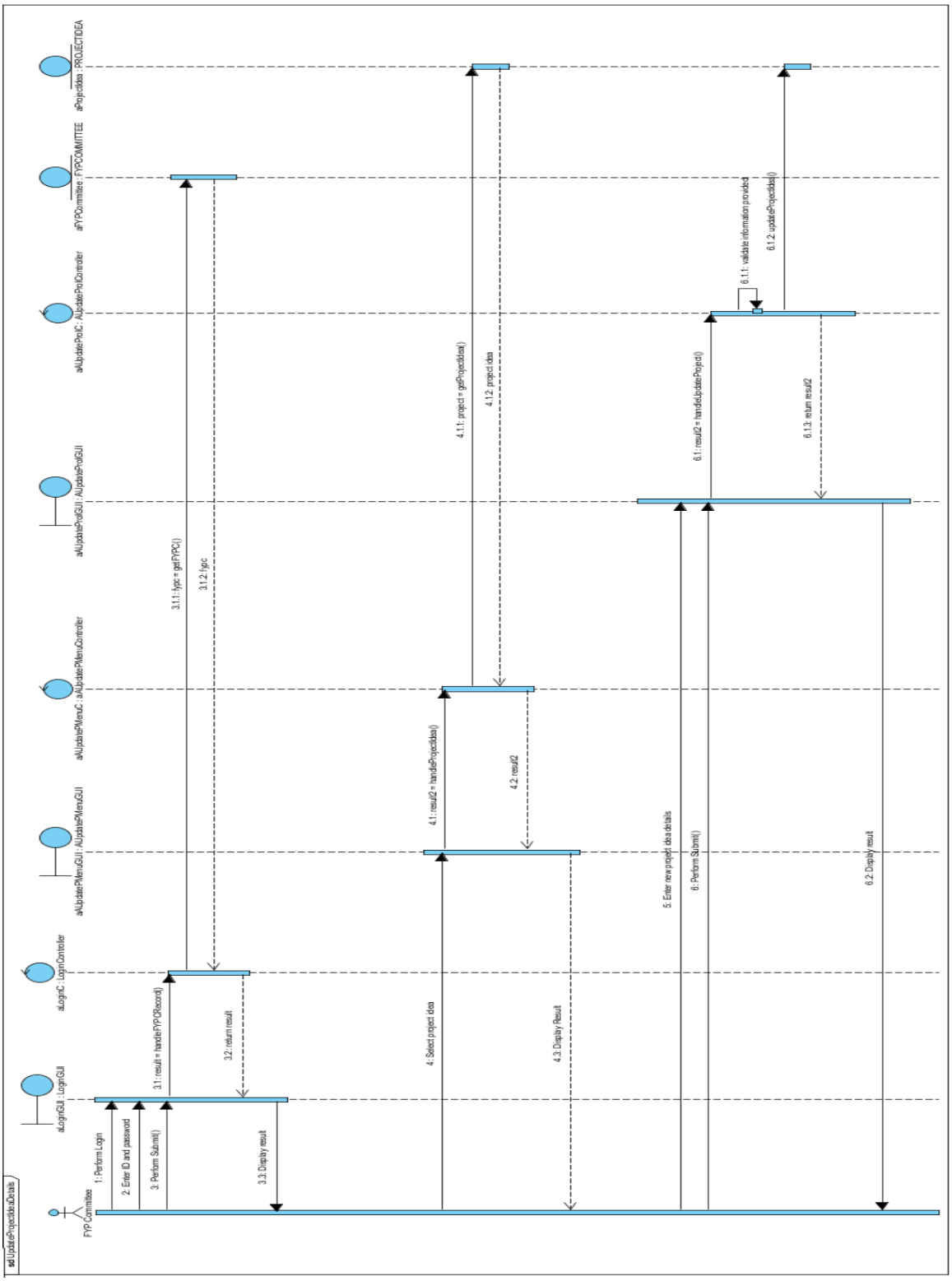

Figure 3.1.8.17: Sequence diagram of Update Project Idea Details (FYP Committee)

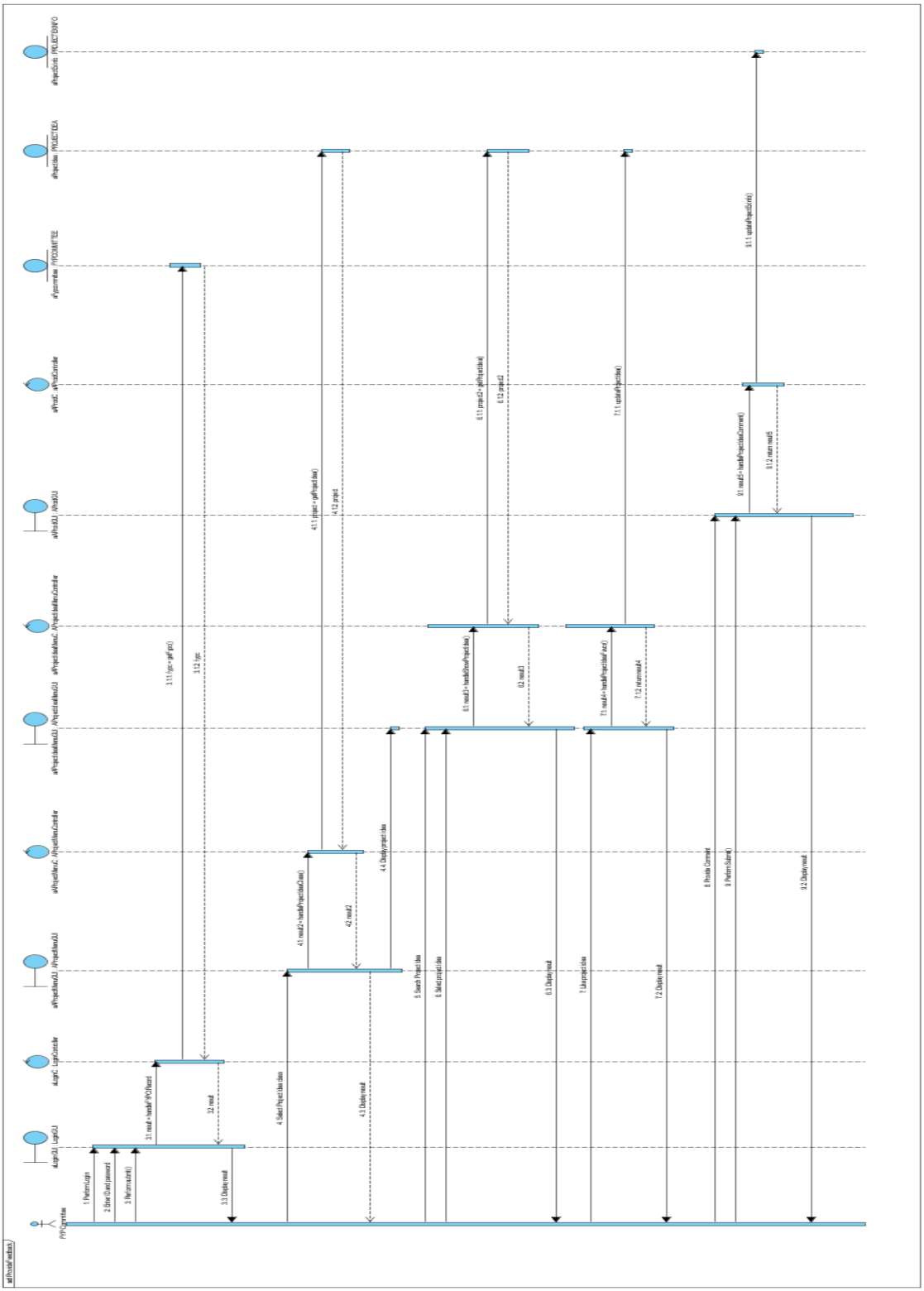

Figure 3.1.8.18: Sequence diagram of Provide Feedback (FYP Committee)

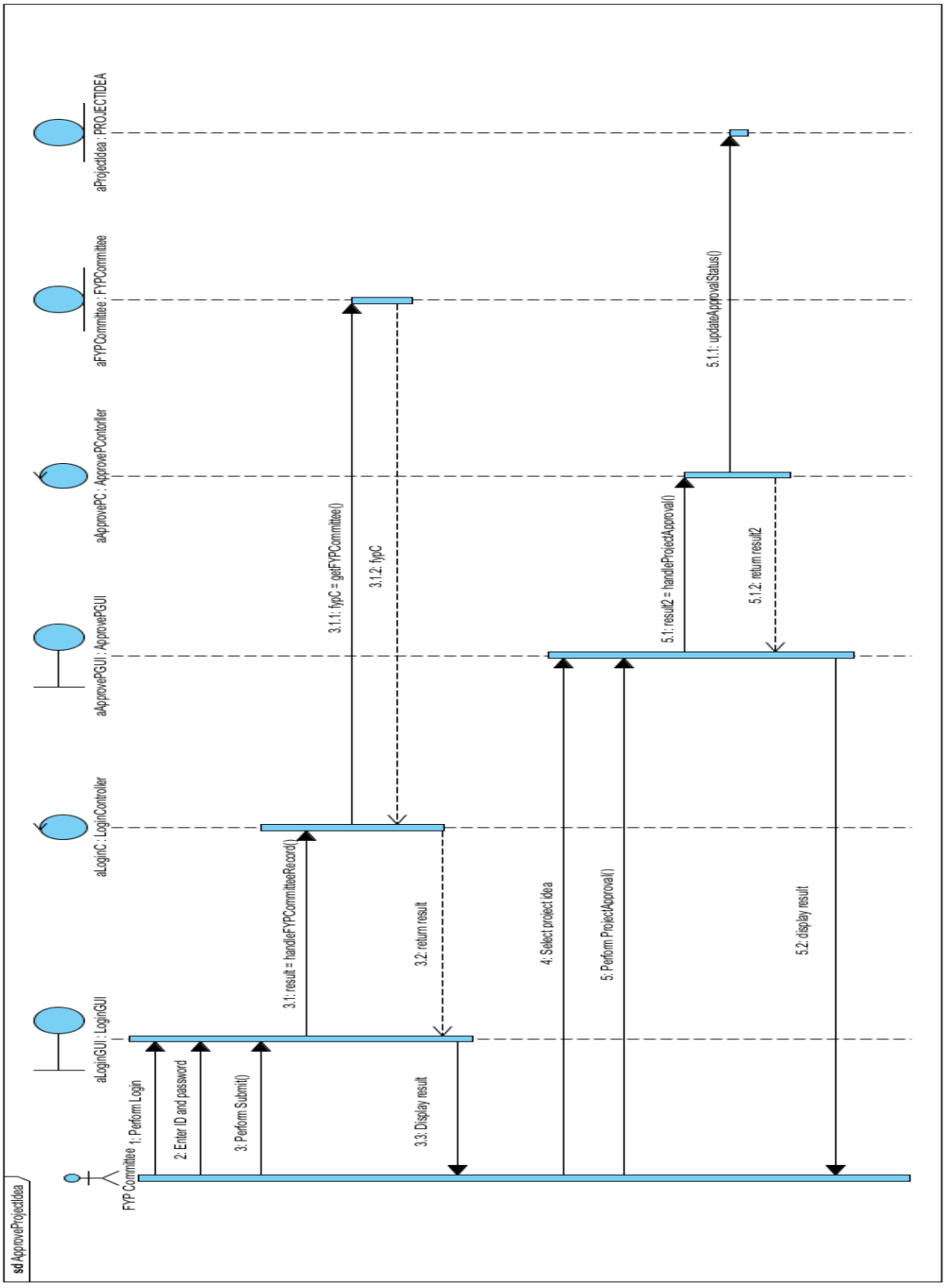

Figure 3.1.8.19: Sequence diagram of Approve Project Idea (FYP Committee)

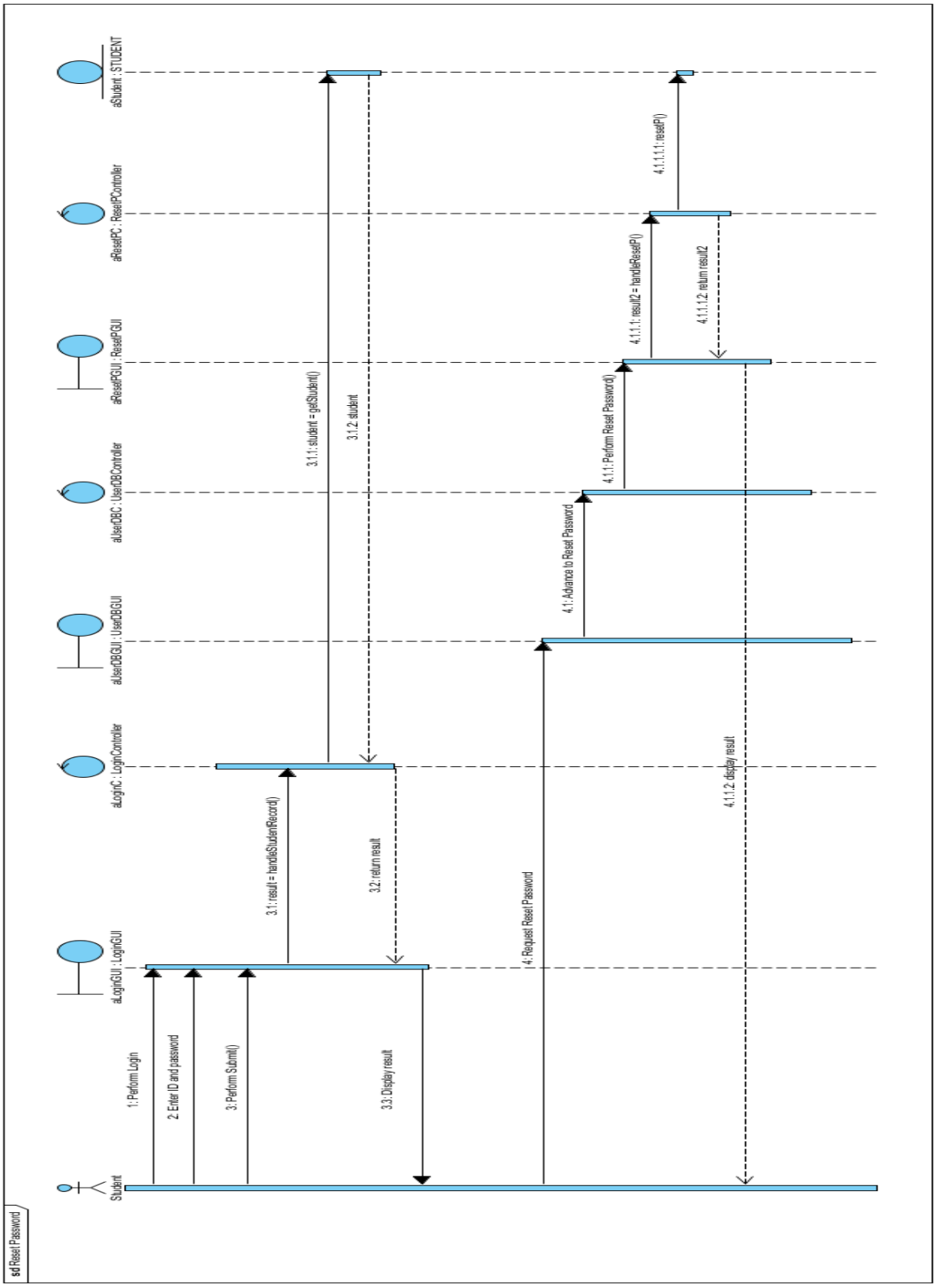

Figure 3.1.8.20: Sequence diagram of Reset Password (Student)

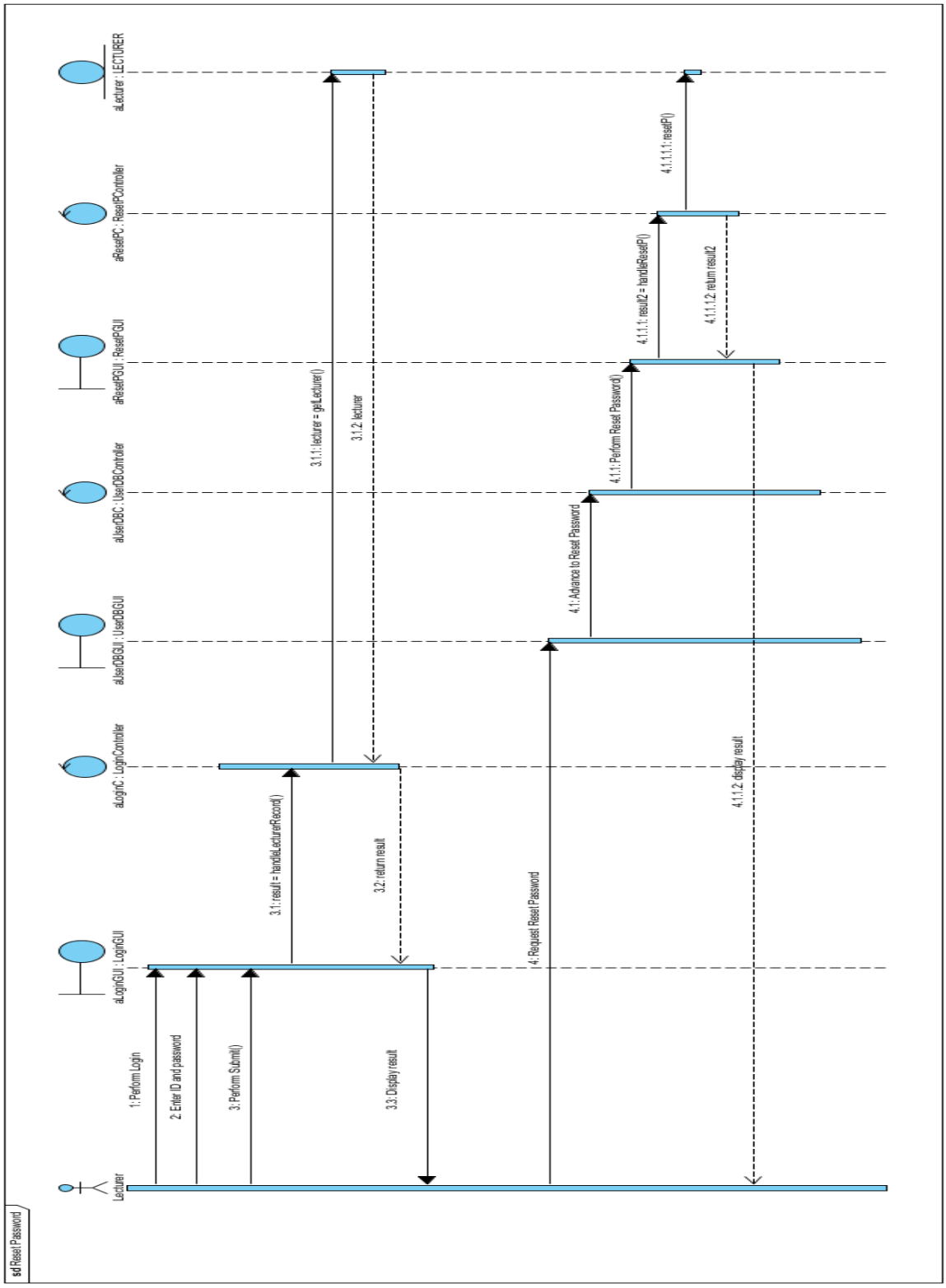

Figure 3.1.8.21: Sequence diagram of Reset Password (Lecturer)

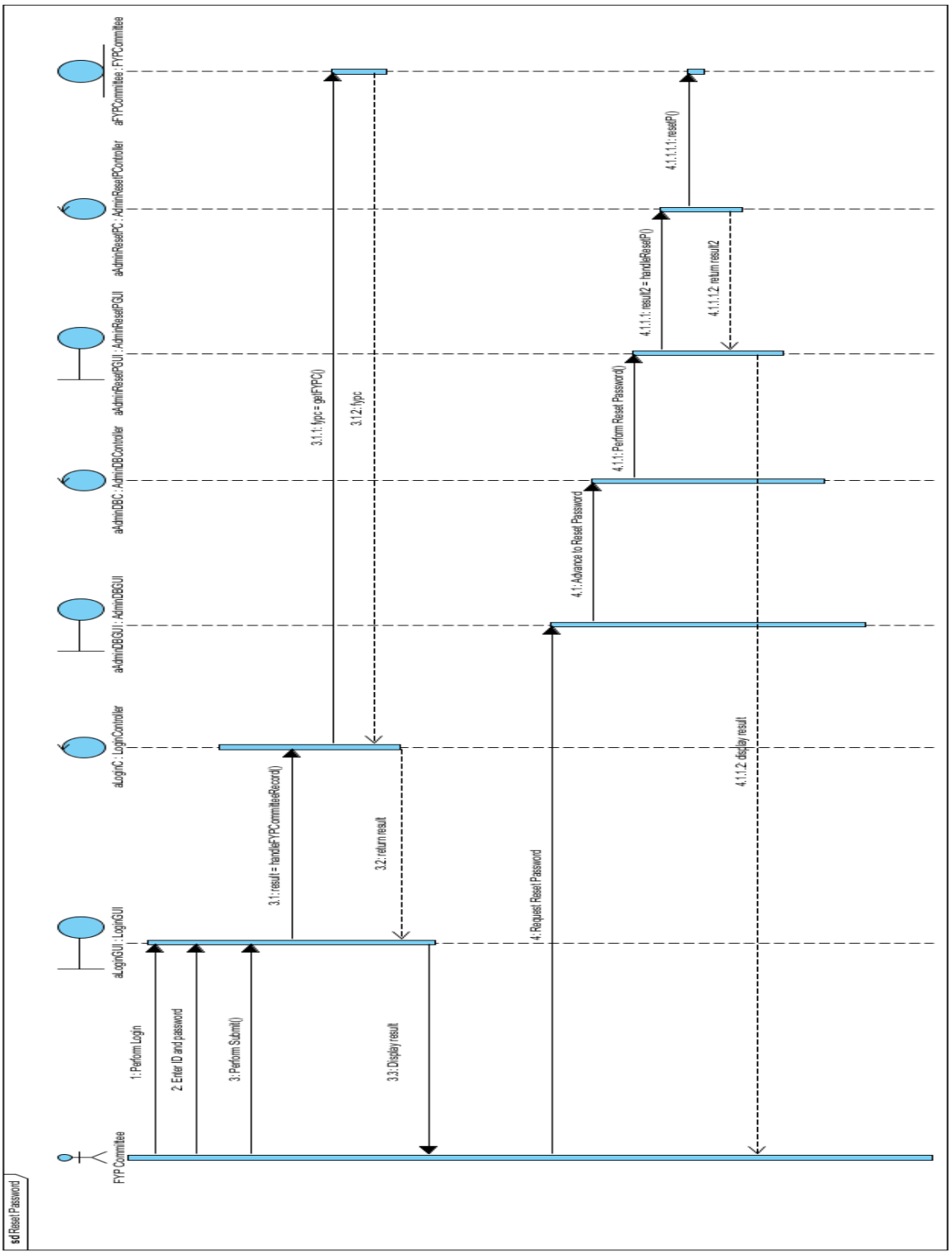

Figure 3.1.8.22: Sequence diagram of Reset Password (FYP Committee)

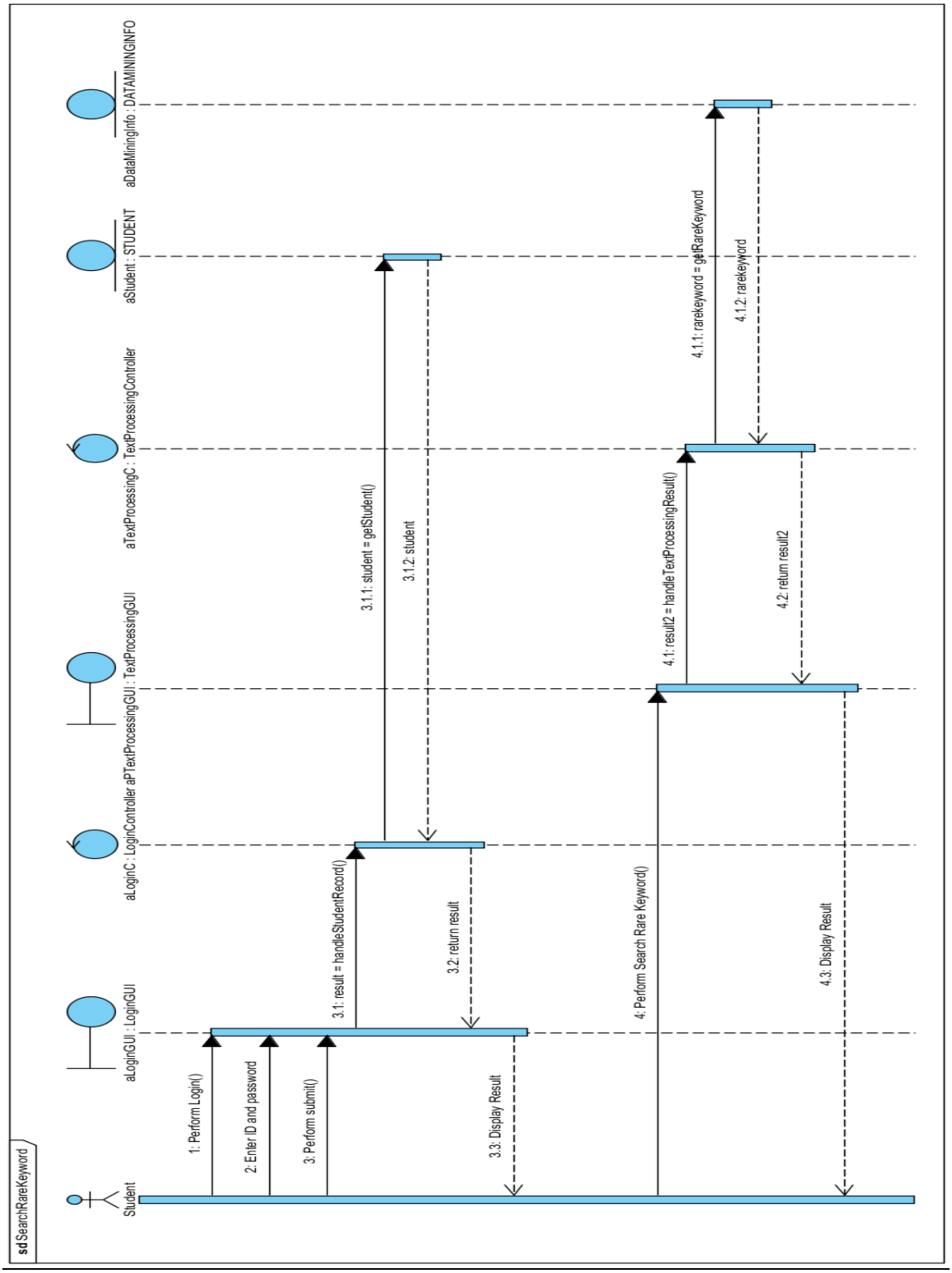

Figure 3.1.8.23: Sequence diagram of Search Rare Keyword (Student)

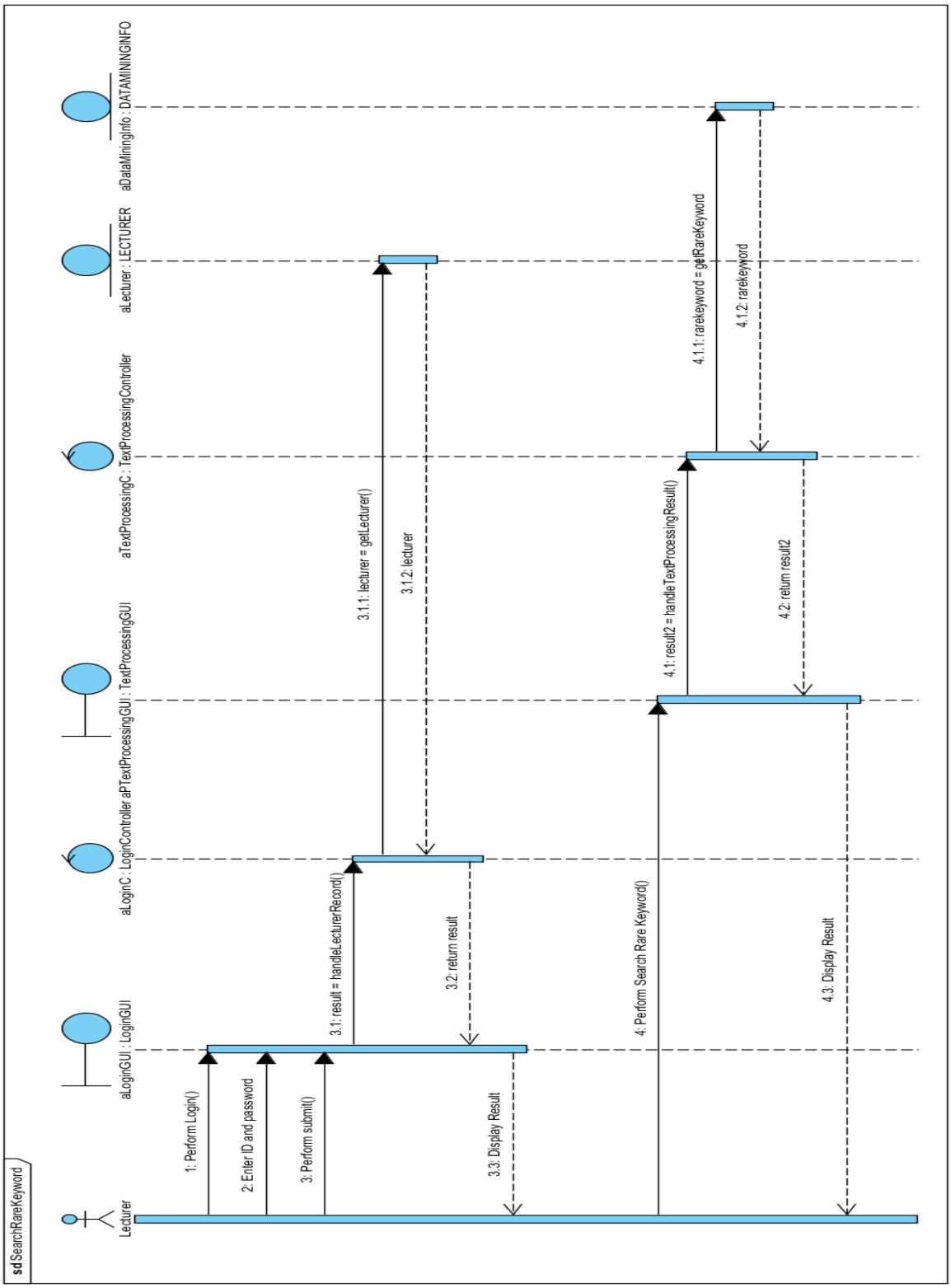

Figure 3.1.8.24: Sequence diagram of Search Rare Keyword (Lecturer)

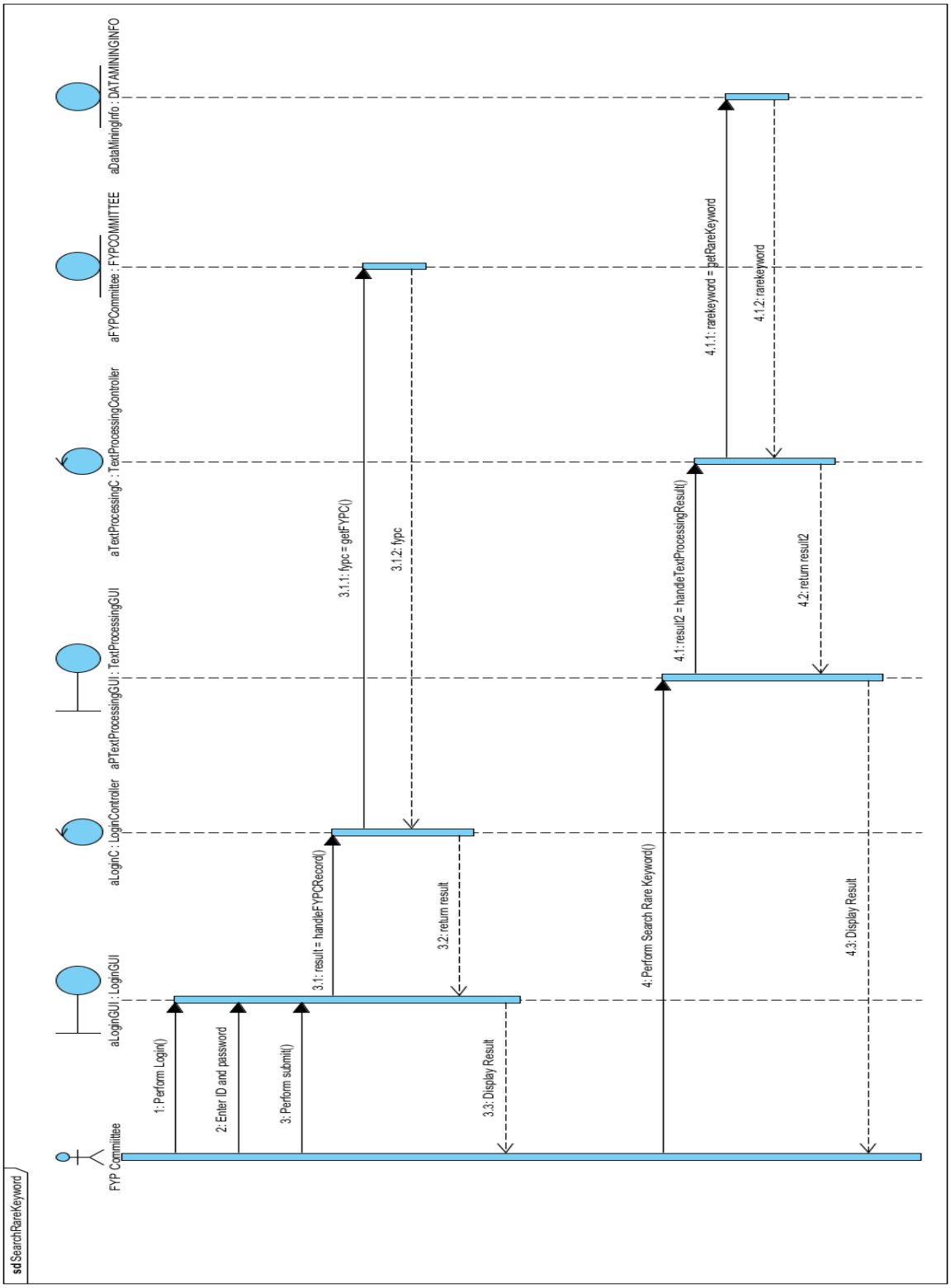

Figure 3.1.8.25: Sequence diagram of Search Rare Keyword (FYPCommittee)

3.1.9 CRUDE Analysis

Table 3.1.9.1: CRUDE Analysis of FICT FYP IDEAS Bank

	Student	Lecturer	FYP Committee	Project Idea	Project ExInfo	DataMining Info	Login	Liked	Viewed
Student	C, R, U			C, R, U, E	C, R, U, E	C, R, U, E	C, R, U	C, R, U	C, R, U
Lecturer		C, R, U		C, R, U, E	C, R, U, E	C, R, U, E	C, R, U		
FYPCommittee			C, R, U	C, R, U, E	C, R, U, E	C, R, U, E	C, R, U		
Project Idea								R	R
Project ExInfo									
Data Mining Info									
Login	R	R	R						
Liked									
Viewed									

3.1.10 Method Specifications

Method Name: addStudent()	Class Name: STUDENT	ID: 1
Clients (Consumers): RegisterController		
Associated Use Cases: Registration		
Description of Responsibilities: Add new student's information into the system		
Arguments Received: SID (int), StudentID (varchar), Password (varchar), FName (varchar), LName (varchar), ContactNo (varchar), Email (varchar), Faculty (varchar), Profession (varchar), Address (varchar), State (varchar), Poskod(varchar), NoOfProjectPropose (int), Date (date), Time (varchar)		
Type of Value Returned: String		
Pre-conditions: The student had successfully done the registration process in the system.		
Post conditions: The student profile successfully added into the system.		
Algorithm Specification: 1. Get the data passed in by RegisterController class. 2. Get the latest SID from Student table. 3. Create a new SID by adding one to the latest SID. (e.g. 1 -> 2) 4. Add and save all student personal details into STUDENT table 5. Return the result (e.g. "✔ Registration Successful")		

Figure 3.1.10.1: Method specification for addStudent()

Method Name: addLecturer()	Class Name: LECTURER	ID: 2
Clients (Consumers): RegisterController		
Associated Use Cases: Registration		
Description of Responsibilities: Add new lecturer's information into the system		
Arguments Received: LID (int), LecturerID (varchar), Password (varchar), FName (varchar), LName (varchar), ContactNo (varchar), Email (varchar), Faculty (varchar), Profession (varchar), Address (varchar), State (varchar), Poskod(varchar), NoOfProjectPropose (int), Date (date), Time (varchar)		
Type of Value Returned: String		
Pre-conditions: The lecturer had successfully done the registration process in the system.		
Post conditions: The lecturer profile successfully added into the system.		
Algorithm Specification: 1. Get the data passed in by RegisterController class. 2. Get the latest LID from Lecturer table. 3. Create a new LID by adding one to the latest LID. (e.g. 2 -> 3) 4. Add and save all lecturer personal details into Lecturer table 5. Return the result (e.g. "✔ Registration Successful")		

Figure 3.1.10.2: Method specification for addLecturer()

Method Name: addFypC()	Class Name: FYPCommittee	ID: 3
Clients (Consumers): adminreg Controller		
Associated Use Cases: Registration		
Description of Responsibilities: Add new FYP committee's information into the system		
Arguments Received: FID (int), FYPCID (varchar), Password (varchar), FName (varchar), LName (varchar), ContactNo (varchar), Email (varchar), Faculty (varchar), Profession (varchar), Address (varchar), State (varchar), Poskod(varchar), NoOfProjectPropose (int), Date (date), Time (varchar)		
Type of Value Returned: String		
Pre-conditions: The FYP committee had successfully done the registration process in the system.		
Post conditions: The FYP committee profile successfully added into the system.		
Algorithm Specification: 1. Get the data passed in by adminregController class. 2. Get the latest FID from FYPCommittee table. 3. Create a new FID by adding one to the latest FID. (e.g. 3 -> 4) 4. Add and save all FYP committee personal details into FYPCommittee table 5. Return the result (e.g. "✔ Registration Successful")		

Figure 3.1.10.3: Method specification for addFypC()

Method Name: addProjectIdea()	Class Name: ProjectIdea	ID: 4
Clients (Consumers): ShareProjectIdeaController, AShareProjectIdeaController		
Associated Use Cases: Share Project Idea		
Description of Responsibilities: Add new project idea into the system		
Arguments Received: ProjectID (int), ProjectTitle (varchar), Objective (varchar), Innovation (varchar), Deliverables (varchar), Skill Required (varchar), NoOfStudent (int), Course (varchar), Picture (varchar), Status (varchar), ApprovalStatus (varchar), Date (date), Time (varchar), Remark (varchar), Liked (int), Viewed (int), SID (int), LID (int), FID (int)		
Type of Value Returned: String		
Pre-conditions: The Project Idea had successfully done the registration process in the system.		
Post conditions: The new project idea information successfully added into the system.		
Algorithm Specification: 1. Get the data passed in by ShareProjectIdeaController or AShareProjectIdeaController class. 2. Get the latest ProjectID from ProjectIdea table. 3. Create a new ProjectID by adding one to the latest ProjectID. (e.g. 5 -> 6) 4. Add and save all new project idea details into ProjectIdea table 5. Return the result (e.g. "✔ Project IDEAS Shared")		

Figure 3.1.10.4: Method specification for addProjectIdea()

Method Name: updateApprovalStatus()	Class Name: ProjectIdea	ID: 6
Clients (Consumers): ApprovePController		
Associated Use Cases: Approve Project Idea		
Description of Responsibilities: Update the project idea approval status so that it can be show in the system		
Arguments Received: ApprovalStatus (varchar)		
Type of Value Returned: String		
Pre-conditions: The system will update the project idea status after student share project idea in the system.		
Post conditions: The project idea approval status is updated successfully.		
Algorithm Specification: 1. Get the data passed in by ApprovePController class. 2. Open the ApproveProject page and select project idea to update status. 3. Updates the project idea status into the system (e.g. “No” -> “Yes”) 4. Save the approval status into the system		

Figure 3.1.10.5: Method specification for updateApprovalStatus()

Method Name: addProjectExInfo()	Class Name: ProjectExInfo	ID: 7
Clients (Consumers): ProidController, AProidController		
Associated Use Cases: Search Project Idea		
Description of Responsibilities: Provide feedback for a project idea		
Arguments Received: ProjectInfoID (int), Feedback (varchar), Date (date), ProjectID (int), SID (int), LID (int), FID (int)		
Type of Value Returned: String		
Pre-conditions: The system will update the feedback provide by the users.		
Post conditions: The Project Idea extra information had successfully added.		
Algorithm Specification: 1. Get the data passed in by ProidController or AProidController class. 2. Get the latest ProjectInfoID from ProjectExInfo table. 3. Create a new ProjectInfoID by adding one to the latest ProjectInfoID. (e.g. 1 -> 2) 4. Add and save all new project idea extra information into ProjectExInfo table		

Figure 3.1.10.6: Method specification for addProjectExInfo()

3.1.11 Windows Navigation Diagram

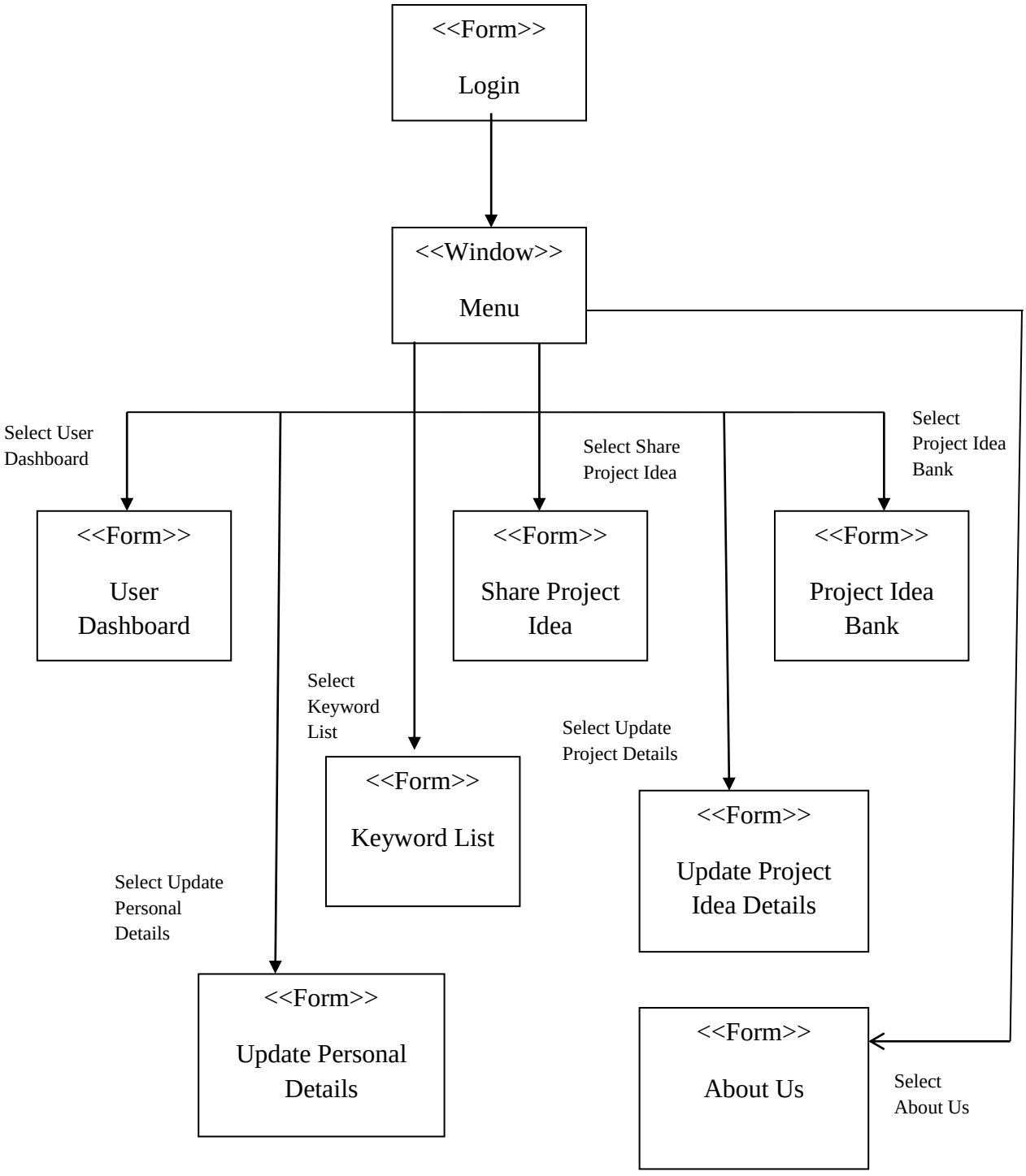

Figure 3.1.11.1: Windows Navigation Diagram of Student

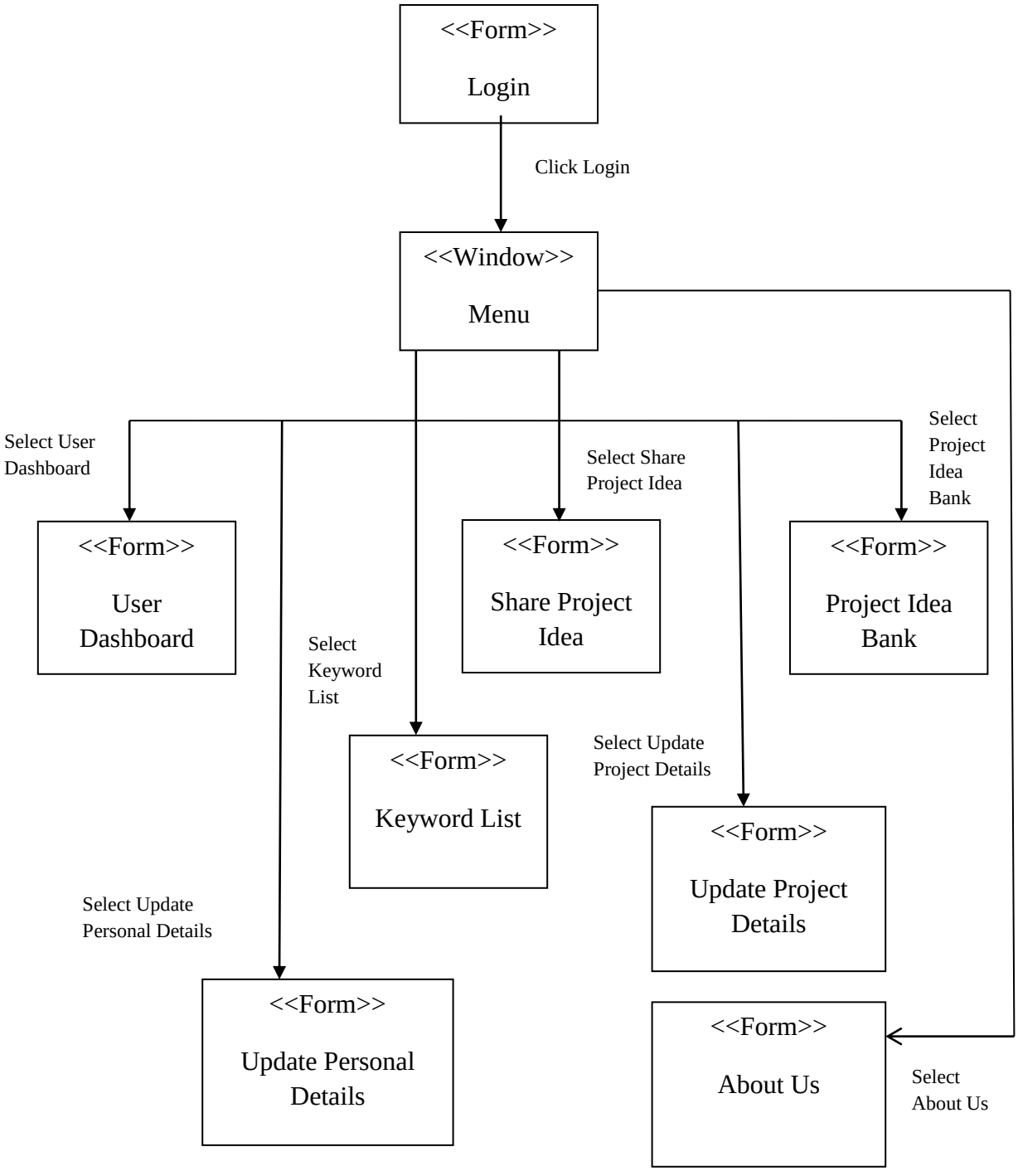

Figure 3.1.11.2: Windows Navigation Diagram of Lecturer

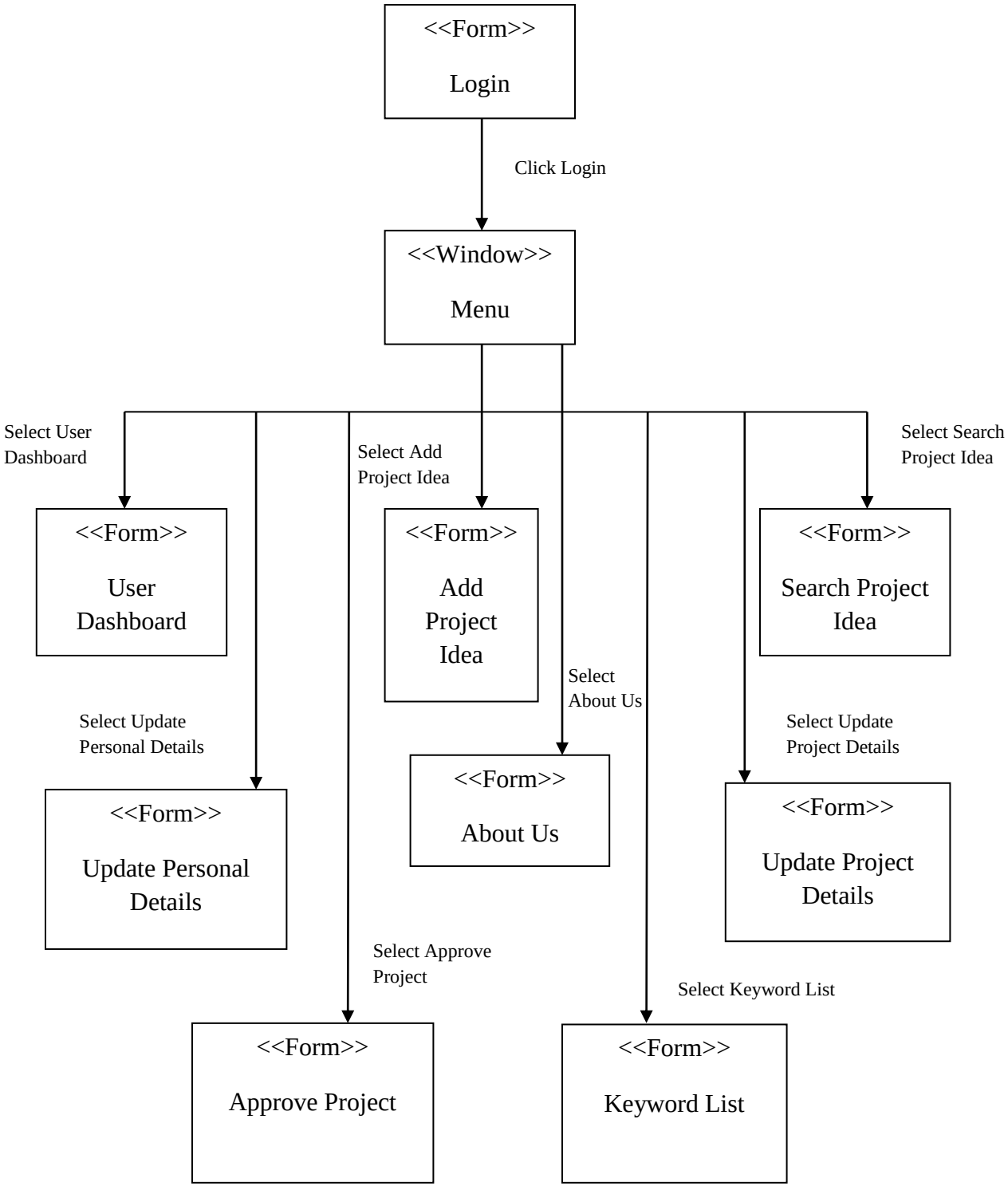

Figure 3.1.11.3: Windows Navigation Diagram of FYP Committee

3.1.12 Interface of FICT FYP IDEAS BANK (User Manual)

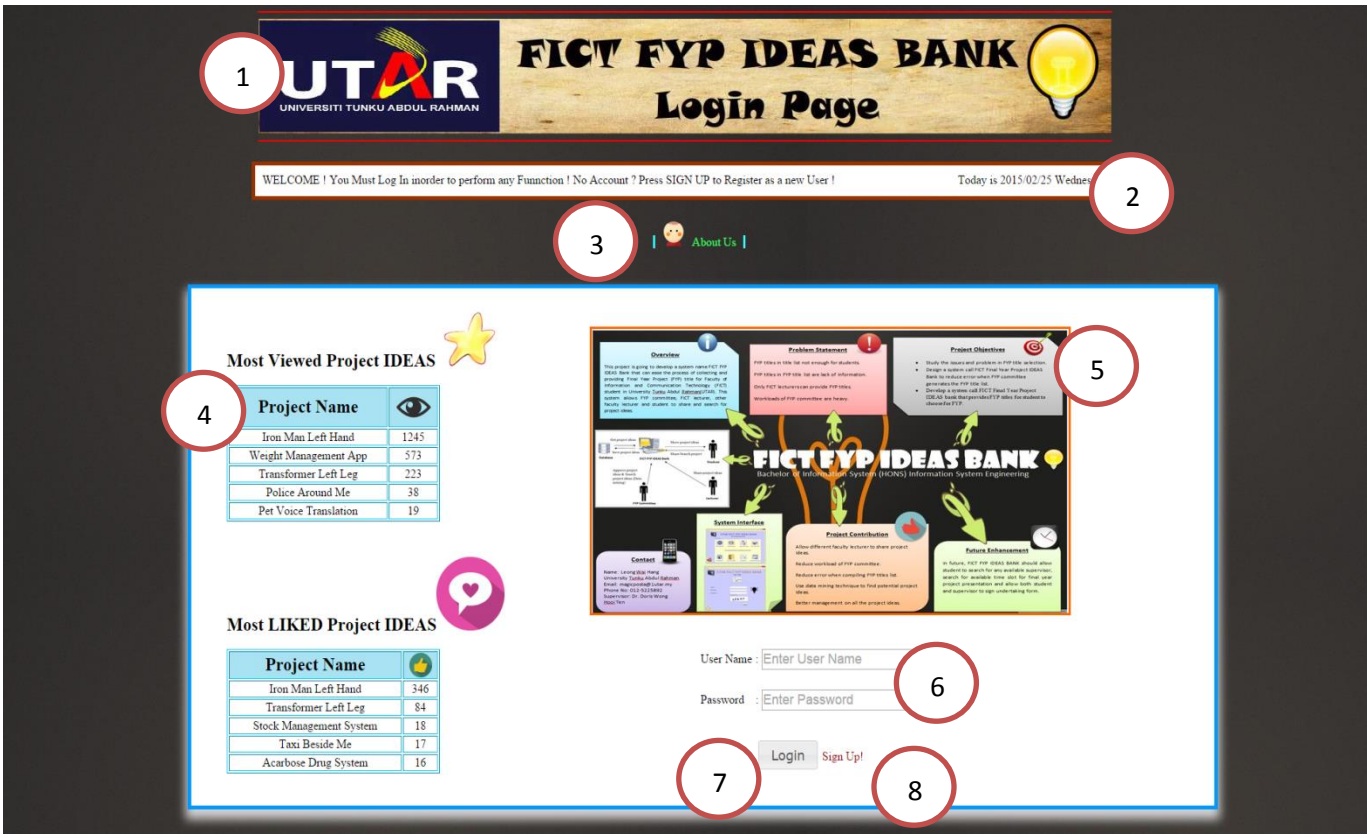

Figure 3.1.12.1: Login Page

User is required to enter their username and password in this login page in order to perform any the function of the system. FYP committee, lecturer and student hold different types of ID so the system will detect the ID of the user and navigate to different menu page.

1. Logo the FICT FYP IDEAS BANK (Applied to all the other FICT FYP IDEAS BANK pages)
2. Title bar of FICT FYP IDEAS BANK (Applied to all the other FICT FYP IDEAS BANK pages)
3. Menu bar of FICT FYP IDEAS BANK. User can click on the hyperlink on the menu bar to navigate to different page - (About Us)

4. Ranking of the project ideas. The web based system will show the ranking of the project ideas such as, most liked, most viewed, most recent project ideas and etc. (Applied to the other FICT FYP IDEAS BANK pages)
5. Auto loading image.
6. Users are required to enter their username and password her in order to login.
7. Login button – Login to the system. User must provide valid username and password in order to login. An error message will show if the user provide invalid username and password.
8. Sign Up hyperlink – Navigate to registration page.

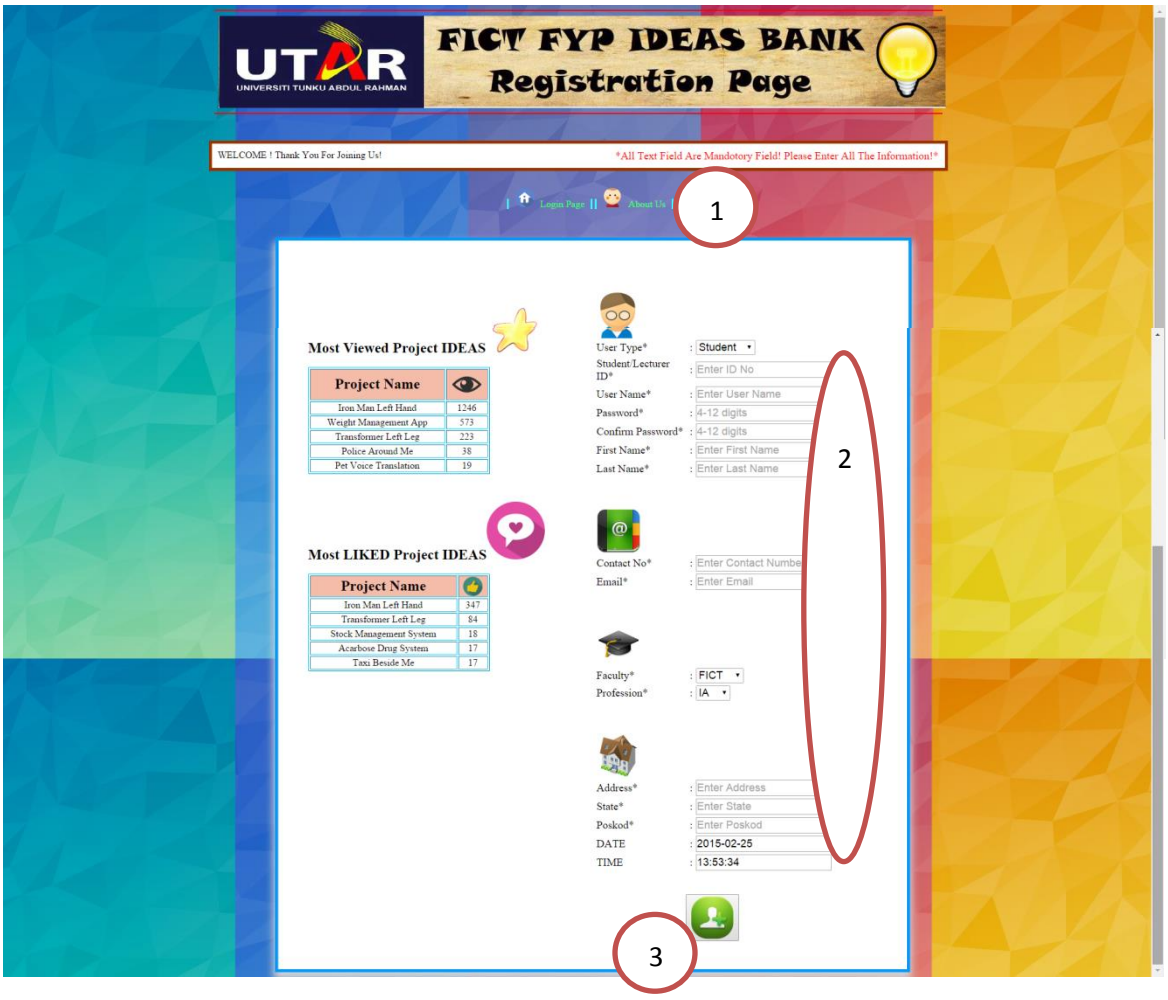

Figure 3.1.12.2: Registration Page

Users are required to register an account in this registration page in order to login to the system. This registration page is only for student and lecturer.

1. Menu bar of FICT FYP IDEAS BANK. User can click on the hyperlink on the menu bar to navigate to different page - (About Us Page, Login Page)
2. Users are required to enter all the information needed by the web based system in order to register as a user's.
3. Register button – After filled in all the information, user can click on the register button to perform registration. Successful message will be display if the user successful registers an account.

Figure 3.1.12.3: Admin/FYP Committee Menu Page

After FYP committee entered ID and password in login page then the system will navigate to this page. FYP committee can select what function they want to perform in this page by clicking the hyperlink provided.

1. Title bar – Admin can navigate to user dashboard page by clicking the hyperlink provided.
2. Menu bar of FICT FYP IDEAS BANK. User can click on the hyperlink on the menu bar to navigate to different page - (Home Page, Share Project Idea Page, Project Idea Bank Page, Keyword List Page, User DashBoard Page, Update Personal Details Page, Update project Idea Details Page, About Us Page, Log Out) *Applied to all FICT FYP IDEAS BANK pages except login page.
3. Special function for admin. Only admin can trigger these function (Add New Admin page, Approve project Idea page). *Applied to all admin page
4. Hyperlink provided allows admin to navigate to approve project idea page.

Figure 3.1.12.4: Admin Registration Page

Only admin can navigate to this page and help to register a new admin.

1. To register as an admin, FYP committee need to fill in all the personal details needed by the web based system.
4. Register button – After filled in all the information, FYP committee can click on the register button to perform registration. Successful message will be display if the admin successful registers an account.

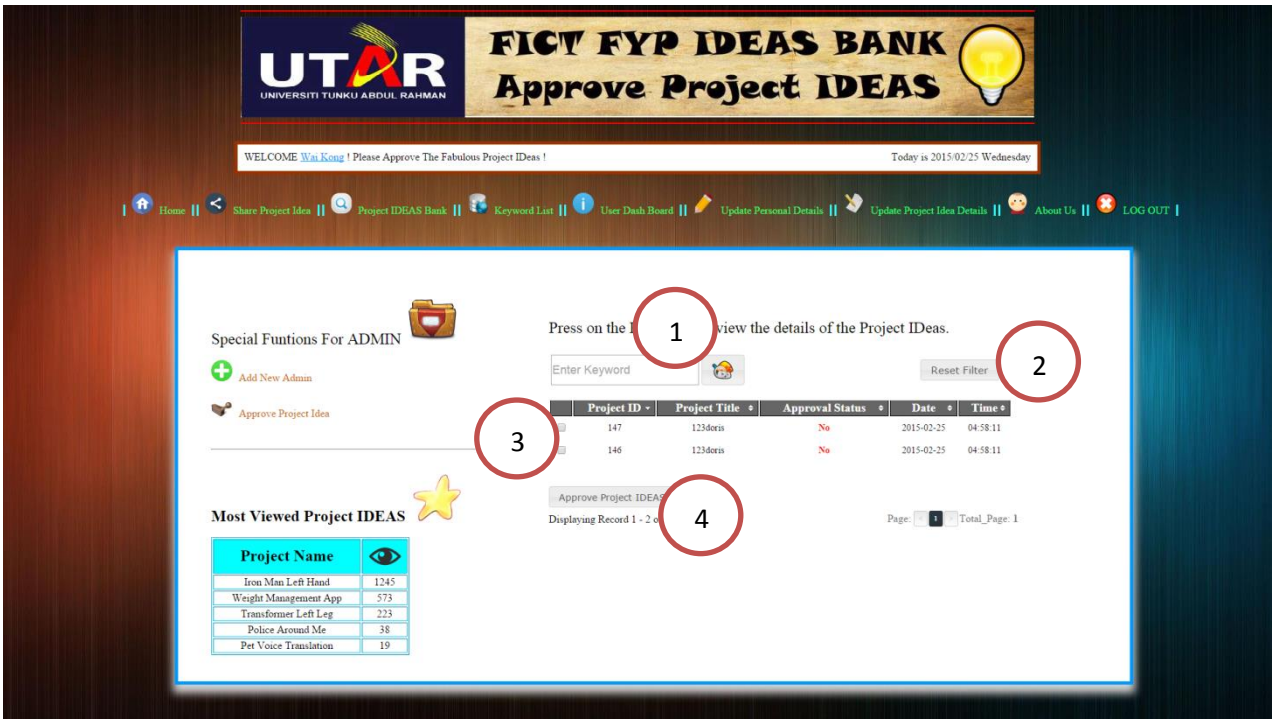

Figure 3.1.12.5: Approve Project Idea Page

Only admin are allowed to enter this page. Project Idea shared by student will not directly show in the system so admin need to approve the project Idea proposed by student in this page.

1. Search text field and search button – Admin are able to search for a project idea by enter the project title in search text field and then press on search button.
2. Reset filter button – It will refresh the page and show all the project idea which are yet to approve.

3. Table that show all the project idea which is yet to approve. 1st column of the table is check box which allows admin to check which project wants to approve.
4. Approve Project IDEAS status button – Update the status of the 'checked' project idea in the table.
5. Once the admin successfully shared a project idea, the web based system will perform it text processing function to extract rare item.

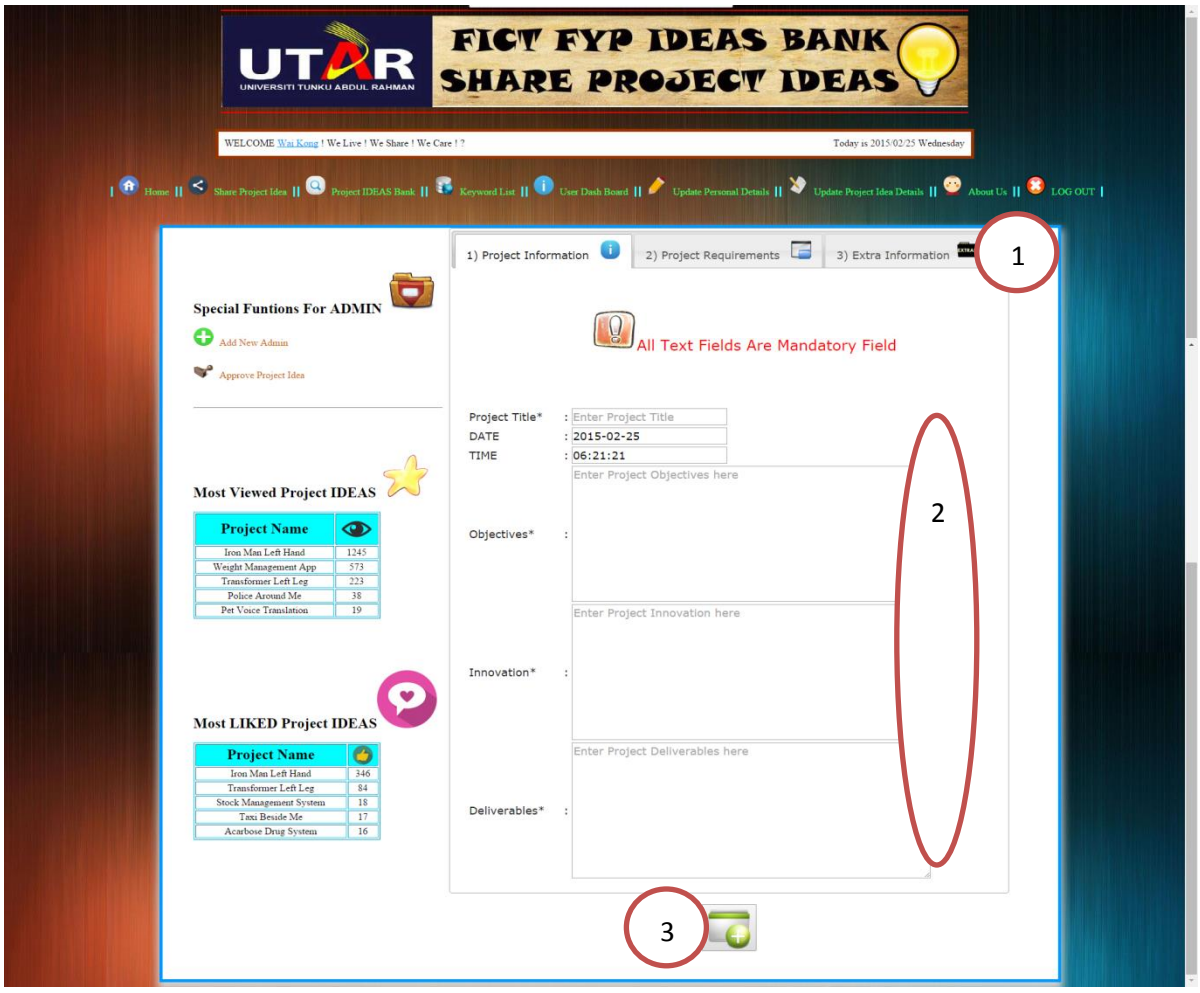

Figure 3.1.12.6: Admin Share Project Idea Page

Admin will navigate to this page after they clicked on the Share Project Idea hyperlink on Menu bar. In this page admin can share a new project idea.

1. Tabs – To share a project idea admin are required to fill in the information in each tab. 1st and 2nd tab is mandatory field which admin must fill the information while 3rd tab are optional fields.
2. Admin is required to enter all the information needed in order to share new project idea.
5. Share button – Click to share new project idea but admin must fill in all the relevant information. Once the admin successfully shared a project idea, the web based system will perform it text processing function to extract rare item. Successful message will be display if the admin successful shares a project idea.

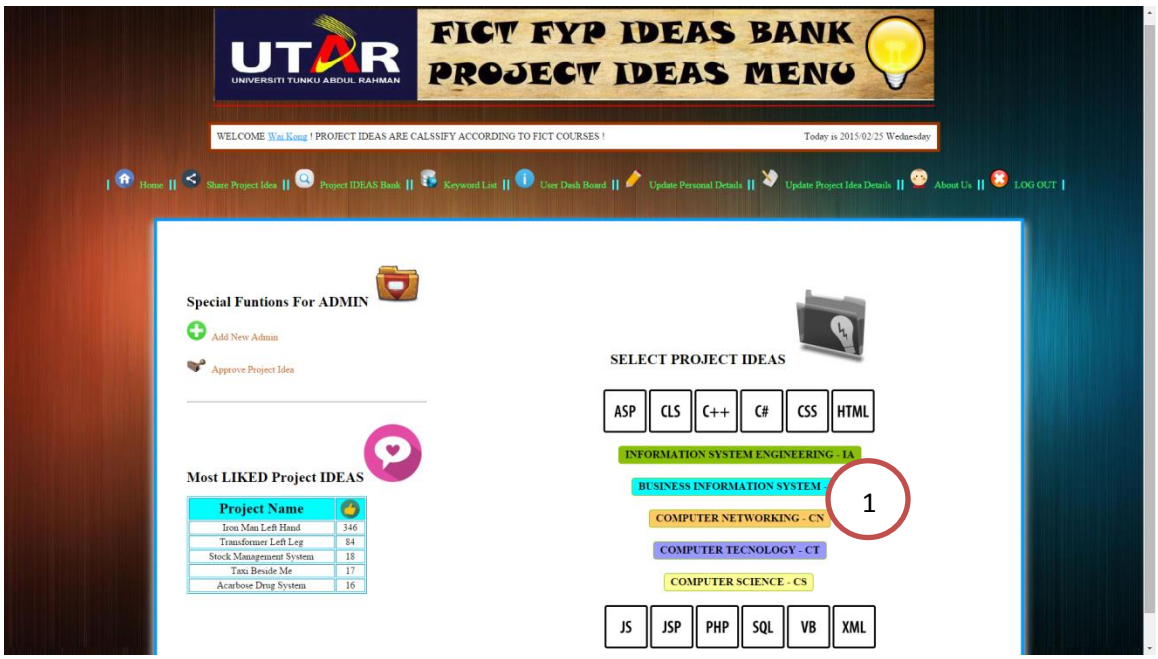

Figure 3.1.12.7: Admin Project Menu Page

Admin will navigate to this page after they clicked on the Project IDEAS Bank hyperlink on Menu bar. In this page admin can select which course of the project ideas that wants to search.

1. Course hyperlink – Admin can select which type of project ideas that want to search (IA, IB, CN, CT, CS)

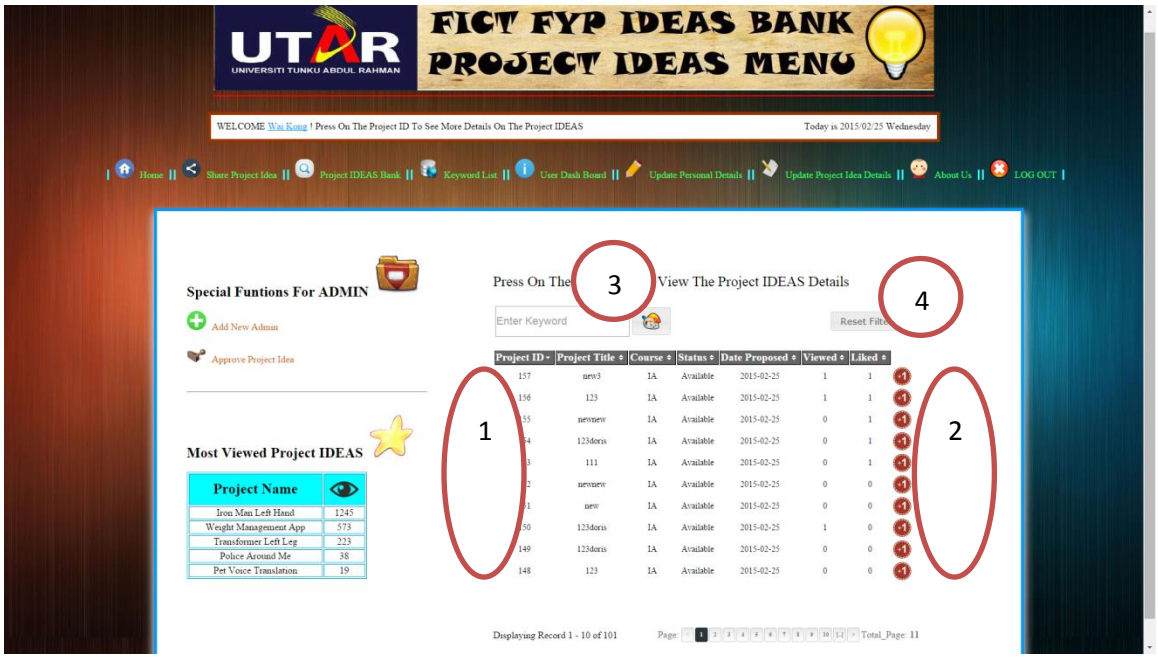

Figure 3.1.12.8: Admin Project Idea Menu Page

Admin will navigate to this page after they clicked on the course hyperlink in Admin project menu page (refer **Figure 3.4.12.7:** Admin Project Menu Page). In this page admin can select which project idea they want to view.

1. Table that show all the project ideas according to the course that admin select on Admin Project Idea Menu. Admin can click on the project id to view full information of the project idea.
2. Like button – Admin are allow to give a like the project idea to encourage the project idea provider to share more project ideas.
3. Search text field and search button – Admin are able to search for a project idea by enter the project title in search text field and then press on search button.
4. Reset filter button – It will refresh the page and show all the project idea.

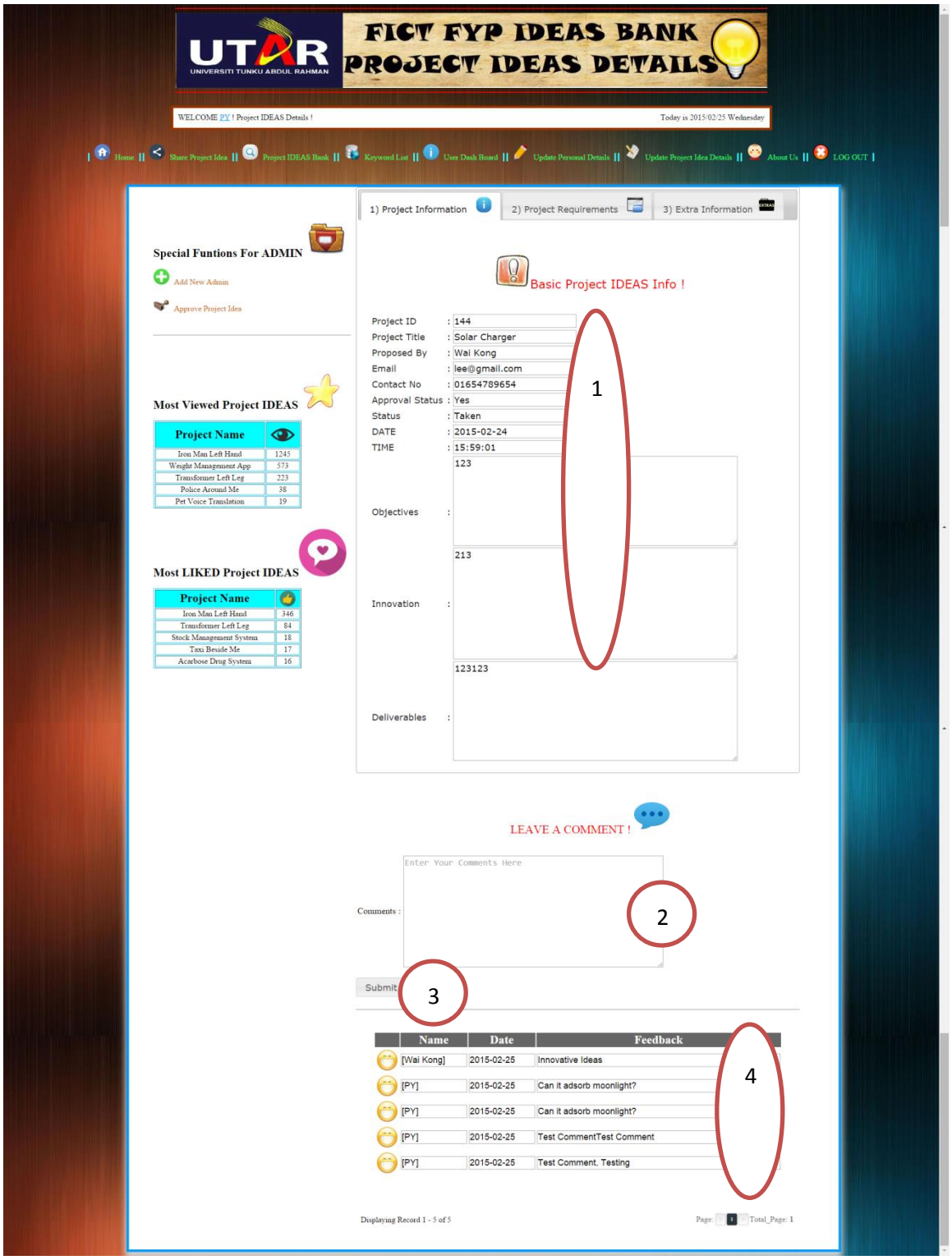

Figure 3.1.12.9: Admin Project Idea Details Menu Page

Admin will navigate to this page after they clicked on the course hyperlink in Admin project idea menu page (refer **Figure 3.4.12.8:** Admin Project Idea Menu Page). In this page admin can view the full information of a project idea.

1. All the information of a project idea will display in the text field provided.
2. Comment box that allow admin to leave a comment to the project idea.
3. Submit button that will save the comment of the admin into database.
4. Comment area that show all the previous comment provided by all the users.

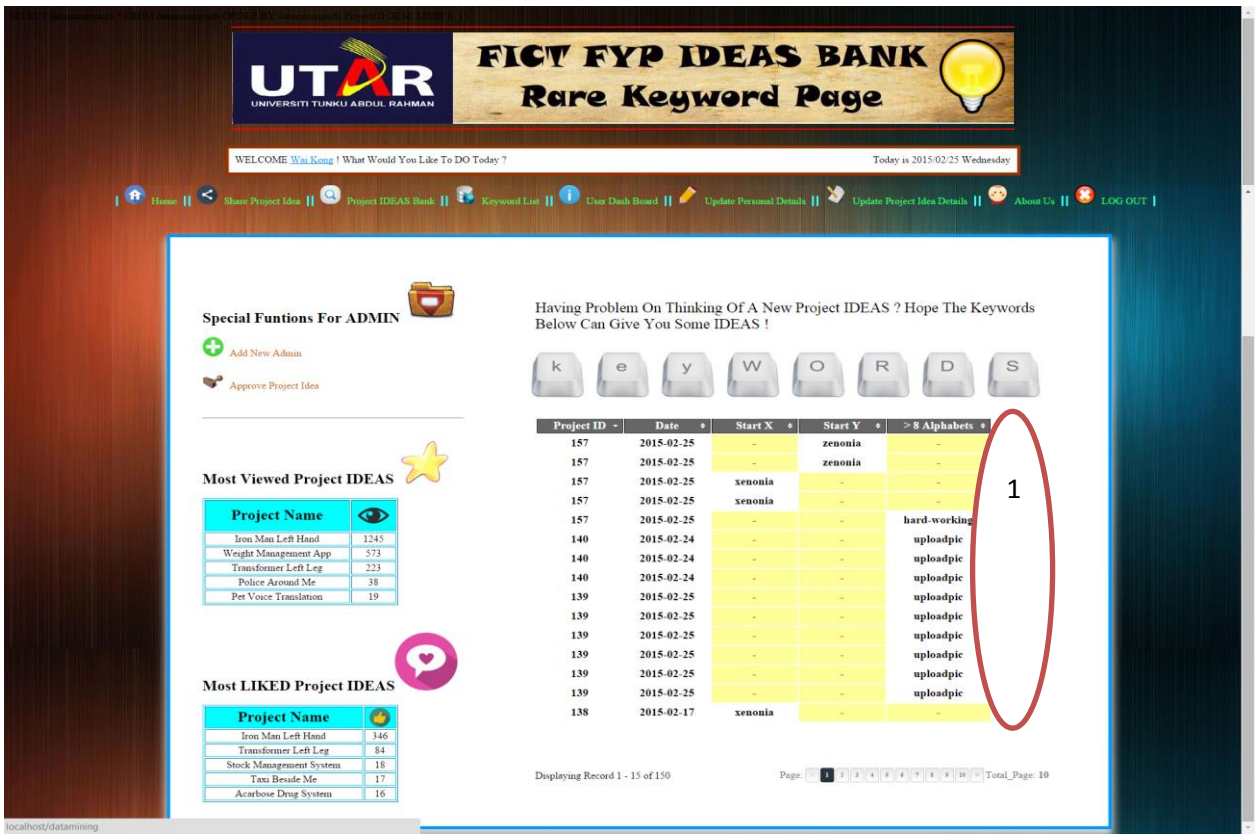

Figure 3.1.12.10: Admin Rare Keyword Page

Admin will navigate to this page after they clicked on the Keyword List hyperlink on Menu bar. In this page admin can view all the rare keyword extracted by the web based system.

1. Table that show all the extracted rare items and admin can click on the project id to view full information of a project idea.

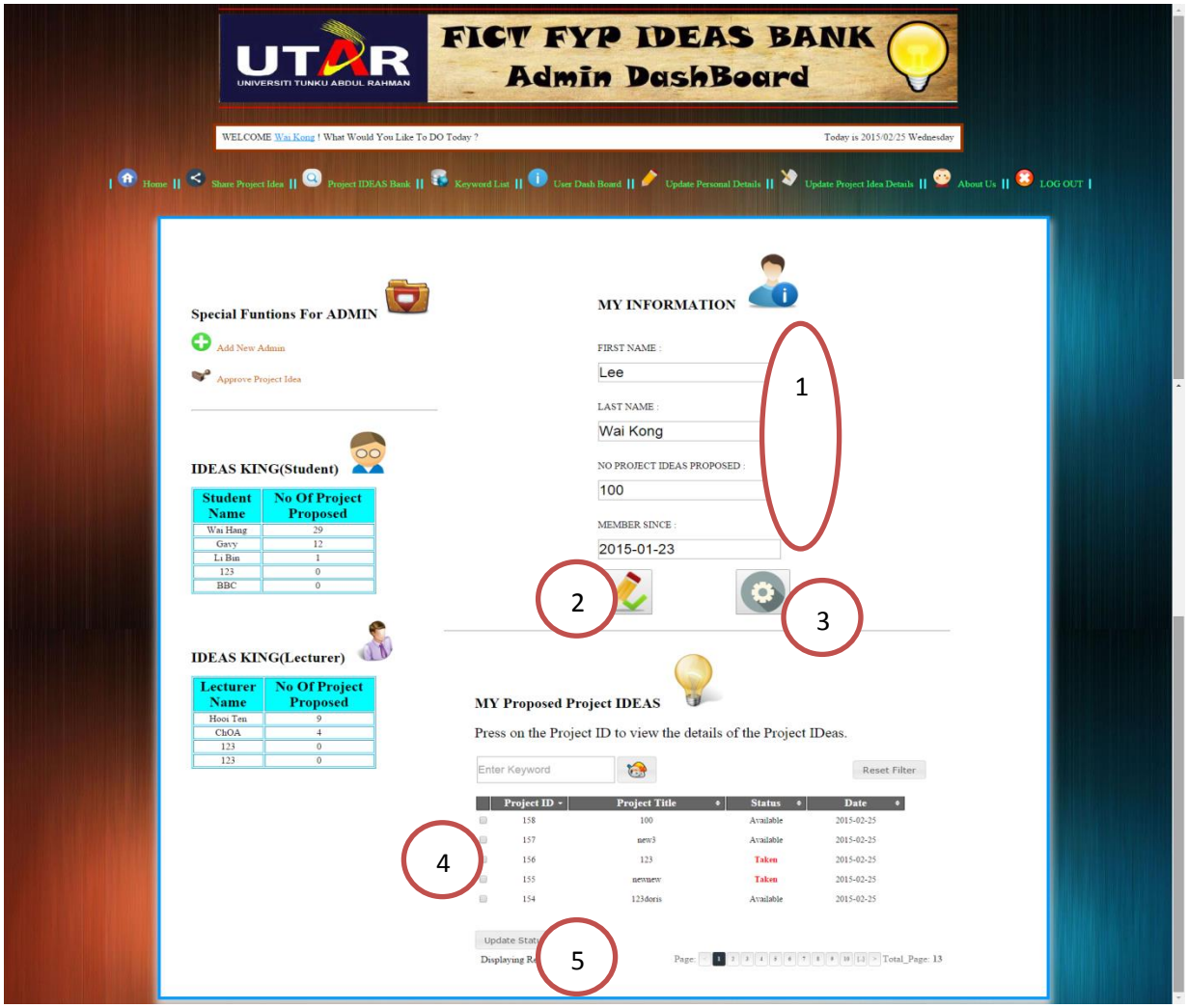

Figure 3.1.12.11: Admin UserDashBoard Page

Admin will navigate to this page after they clicked on the User DashBoard hyperlink on Menu bar. In this page admin can view their basic information and all the project idea that the admin had shared. Besides that, admin also can update the available status of the project idea in this page.

1. Basic information of admin

2. Update personal details button – Navigate to update personal details page.
3. Reset Password button – Navigate to Reset Password Page.
4. Table that show all the project idea that shared by the admin. 1st column of the table is checkbox for admin to select which project idea to update available status.
5. Update status button – Update the status of 'checked' project idea in the table.

Figure 3.1.12.12: Admin Reset Password Page

Admin will navigate to this page after they clicked on the Reset Password hyperlink on Admin DashBoard Page (refer **Figure 3.4.12.11:** Admin UserDashBoard Page). In this page admin can reset their password.

1. Old and New password text field – In order to reset password all the text field must be fill in with valid information.
6. Submit button – Change the old password to new password when clicked. Successful message will be display if the admin successful reset password.

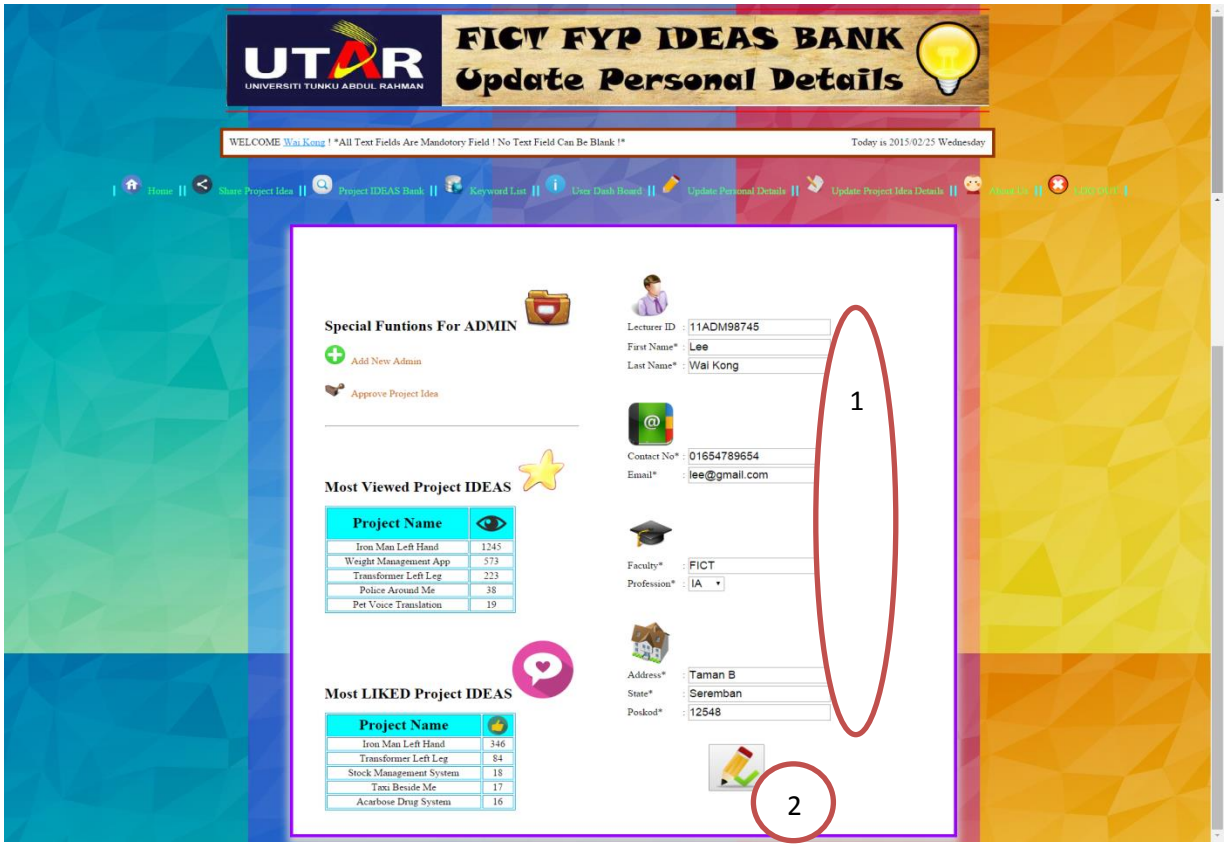

Figure 3.1.12.13: Admin Update Personal Detail Page

Admin will navigate to this page after they clicked on the Update Personal Details hyperlink on Menu bar. In this page admin can update their personal details.

1. All the pervious personal information will display in the text field when 1st enter the page. Admin can perform modification on the old information.
2. Update button – New personal information will be save after Update button is clicked. Successful message will be display if the admin successful updates their personal details.

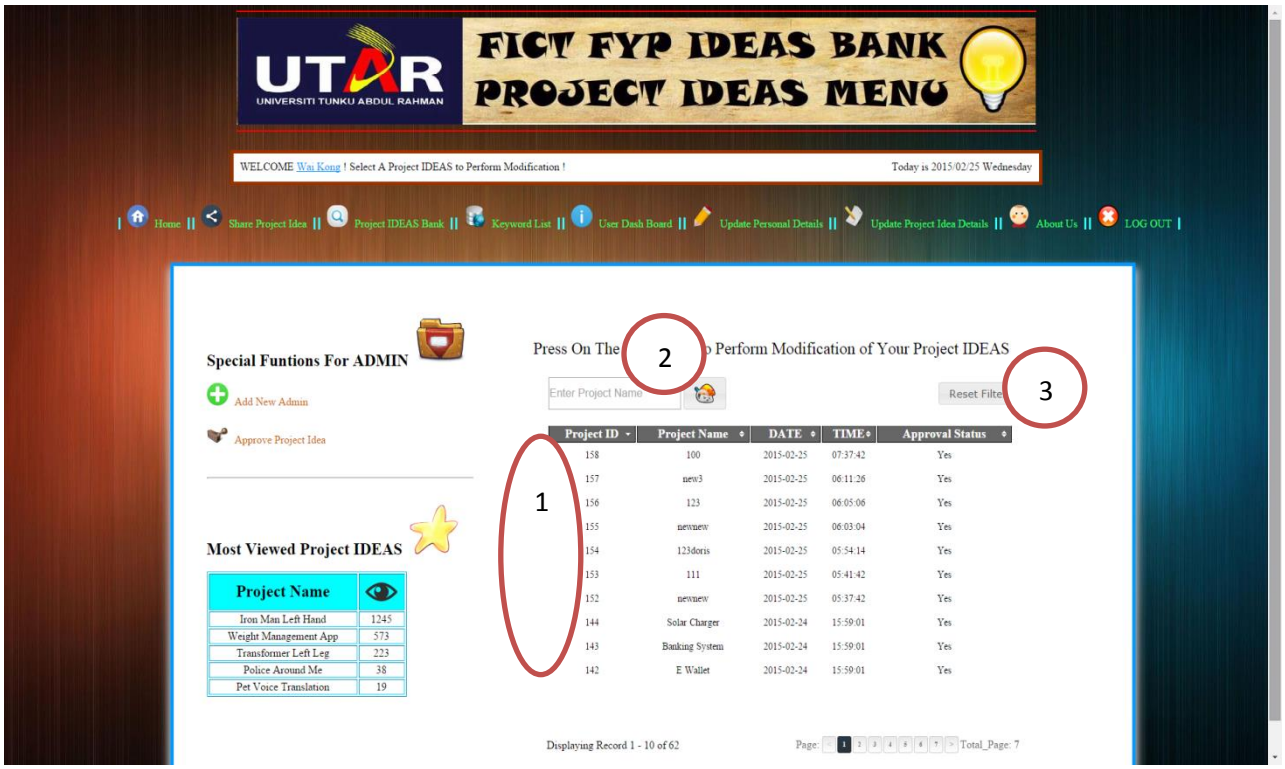

Figure 3.1.12.14: Admin Update Project IDEAS Menu Page

Admin will navigate to this page after they clicked on the Update Project IDEAS Details hyperlink on Menu bar. In this page admin can update all the shared project IDEAS detail.

1. Table that show all the project ideas shared by the admin. Admin can click on the project id to perform modification of the project ideas.
2. Search text field and search button – Admin are able to search for a project idea by enter the project title in search text field and then press on search button.
3. Reset filter button – It will refresh the page and show all the project idea.

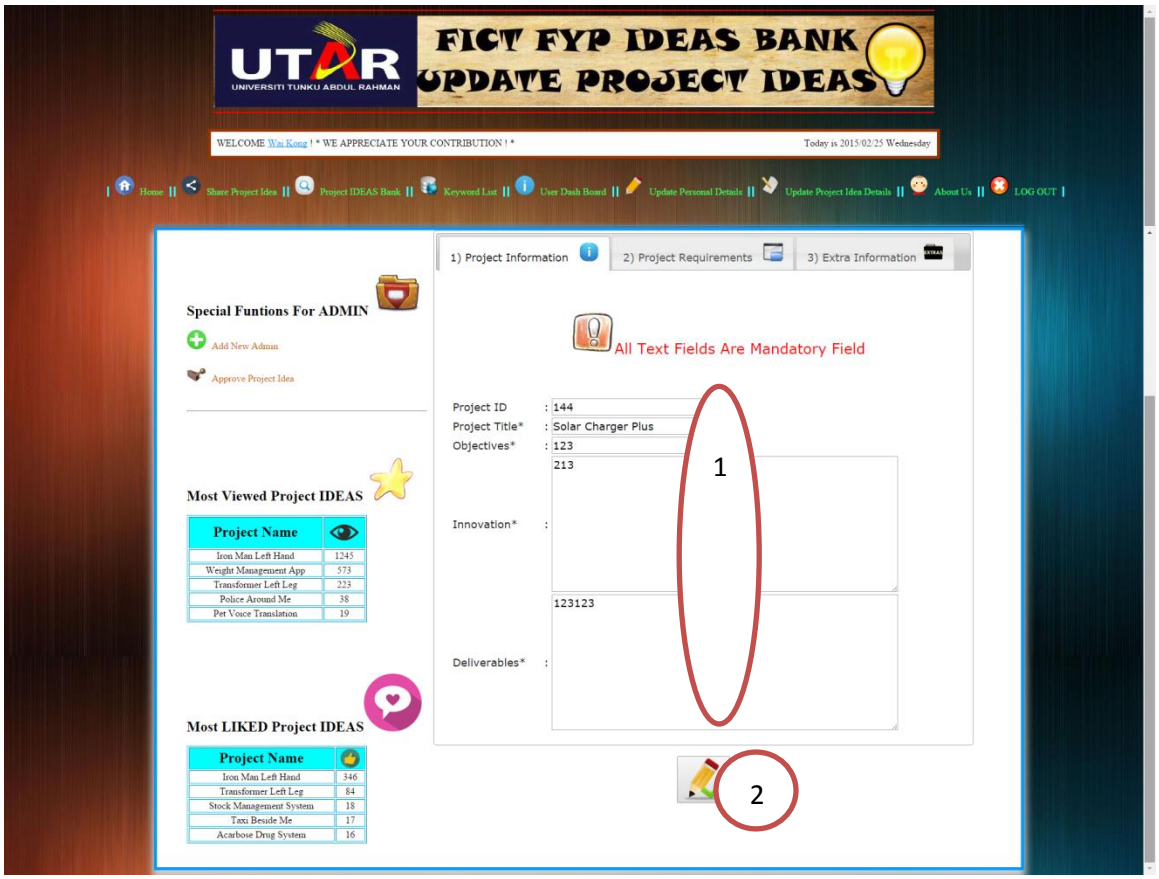

Figure 3.1.12.15: Admin Update Project IDEAS Detail Page

Admin will navigate to this page after they clicked on the Project ID on Admin Update Project IDEAS Menu Page (refer **Figure 3.4.12.14:** Admin Update Project IDEAS Menu Page). In this page admin can update project idea details.

1. All the pervious project idea details will display in the text field when 1st enter the page. Admin can perform modification on the old project details.
3. Update button – New project idea details will be save after Update button is clicked. Successful message will be display if the admin successful updates project idea details.

Figure 3.1.12.16: Student Menu Page

After Student entered ID and password in login page then the system will navigate to this page. Student can select what function they want to perform in this page by clicking the hyperlink provided.

1. Title bar – Student can navigate to user dashboard page by clicking the hyperlink provided.
2. Menu bar of FICT FYP IDEAS BANK. User can click on the hyperlink on the menu bar to navigate to different page - (Home Page, Share Project Idea Page, Project Idea Bank Page, Keyword List Page, User DashBoard Page, Update Personal Details Page, Update project Idea Details Page, About Us Page, Log Out) *Applied to all FICT FYP IDEAS BANK pages except login page.
3. Hyperlink provided allows Student to navigate to Update Project IDEAS Menu page.

Figure 3.1.12.17: Lecturer Menu Page

After Lecturer entered ID and password in login page then the system will navigate to this page. Lecturer can select what function they want to perform in this page by clicking the hyperlink provided.

1. Title bar – Lecturer can navigate to user dashboard page by clicking the hyperlink provided.
2. Menu bar of FICT FYP IDEAS BANK. User can click on the hyperlink on the menu bar to navigate to different page - (Home Page, Share Project Idea Page, Project Idea Bank Page, Keyword List Page, User DashBoard Page, Update Personal Details Page, Update project Idea Details Page, About Us Page, Log Out) *Applied to all FICT FYP IDEAS BANK pages except login page.

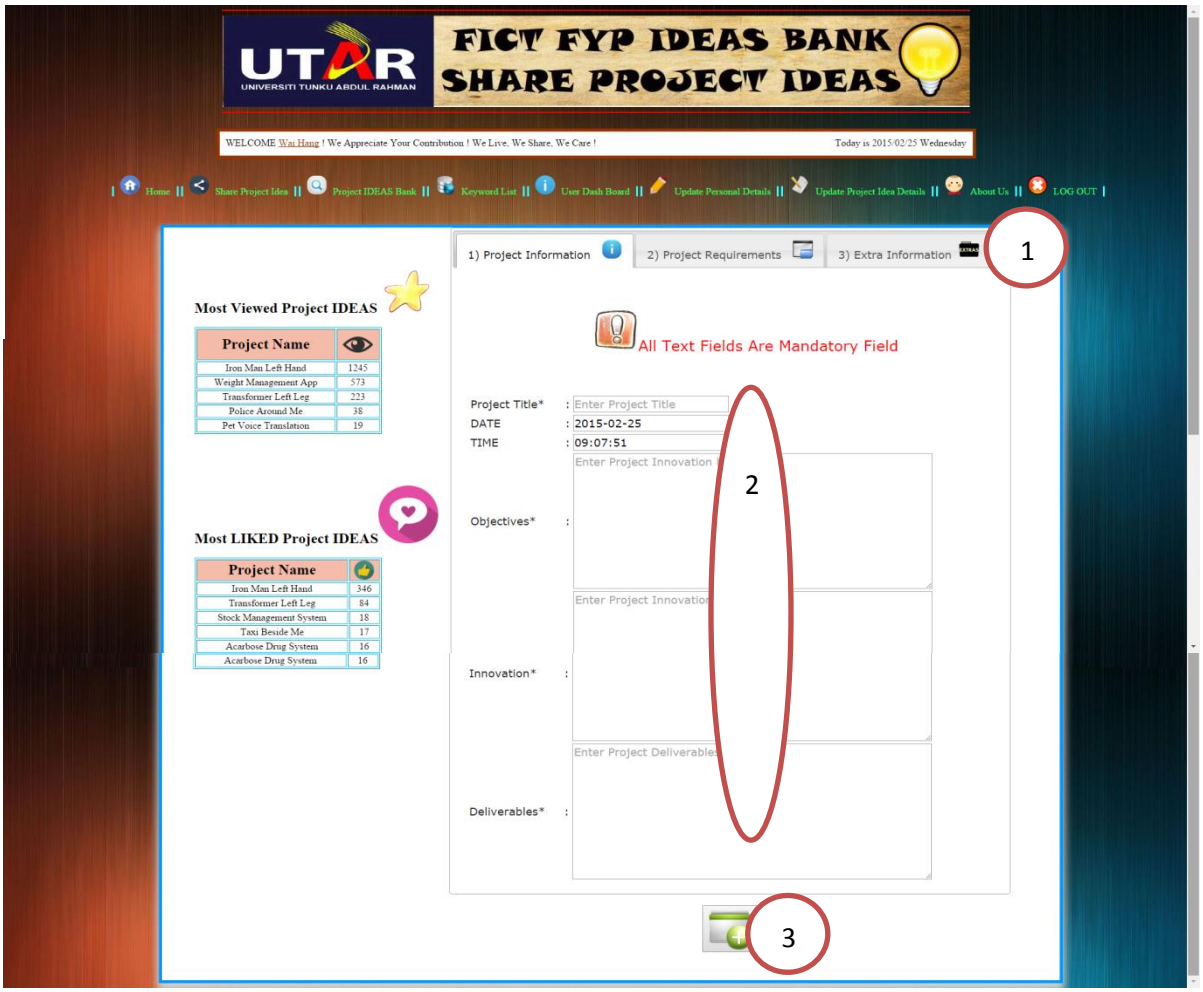

Figure 3.1.12.18: Share Project Idea Page (Student, Lecturer)

User will navigate to this page after they clicked on the Share Project Idea hyperlink on Menu bar. In this page User can share a new project idea.

1. Tabs – To share a project idea admin are required to fill in the information in each tab. 1st and 2nd tab is mandatory field which User must fill the information while 3rd tab are optional fields.
2. User is required to enter all the information needed in order to share new project idea. Successful message will be display if the user successful shares a project idea.

3. Share button – Click to share new project idea but User must fill in all the relevant information. Once the User successfully shared a project idea, the web based system will perform it text processing function to extract rare item.

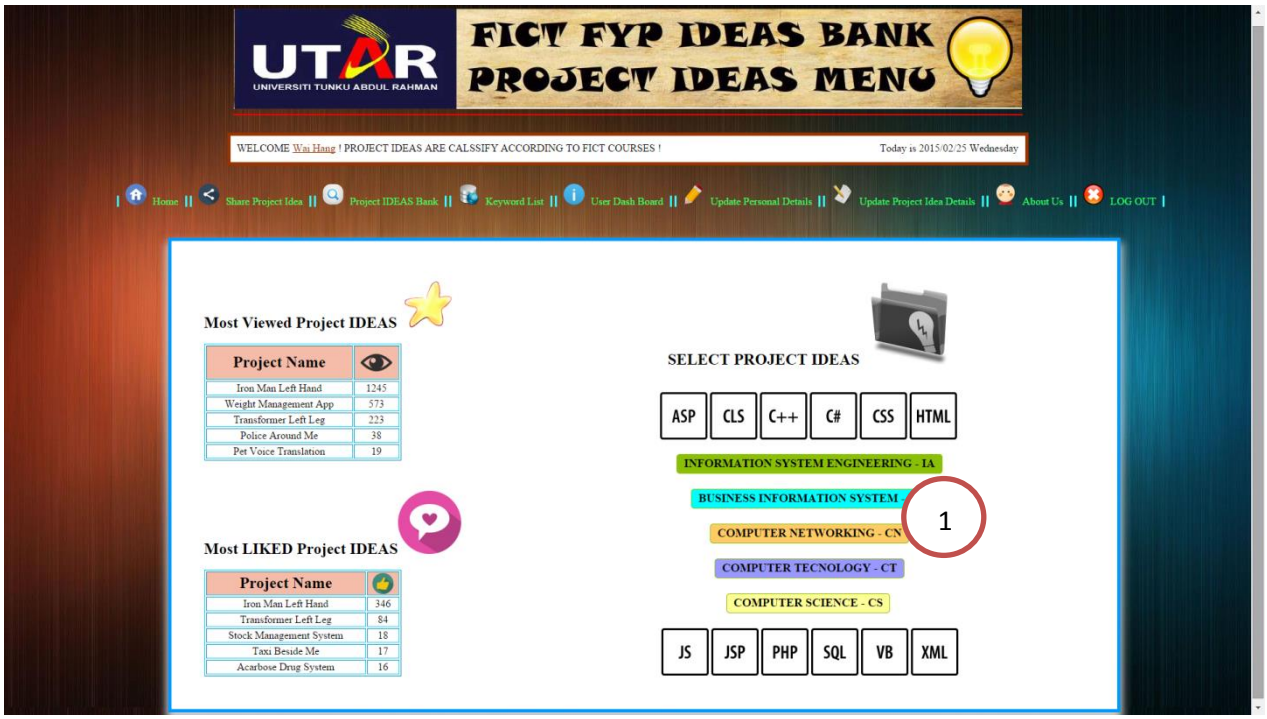

Figure 3.1.12.19: Project Menu Page (Student, Lecturer)

User will navigate to this page after they clicked on the Project IDEAS Bank hyperlink on Menu bar. In this page User can select which course of the project ideas that wants to search.

1. Course hyperlink – User can select which type of project ideas that want to search (IA, IB, CN, CT, CS)

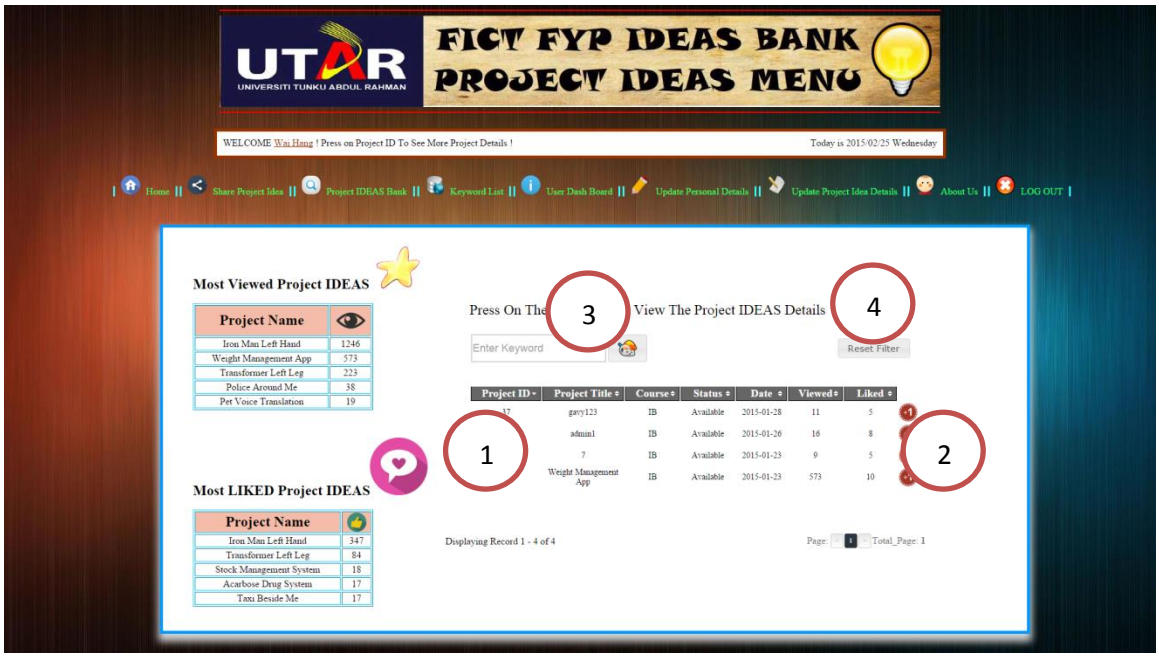

Figure 3.1.12.20: Project Idea Menu Page (Student, Lecturer)

User will navigate to this page after they clicked on the course hyperlink in User project menu page (refer **Figure 3.4.12.19:** Project Menu Page). In this page User can select which project idea they want to view.

1. Table that show all the project ideas according to the course that User select on Project Idea Menu Page. User can click on the project id to view full information of the project idea.
2. Like button – User are allow to give a like the project idea to encourage the project idea provider to share more project ideas.
3. Search text field and search button – User are able to search for a project idea by enter the project title in search text field and then press on search button.
4. Reset filter button – It will refresh the page and show all the project idea.

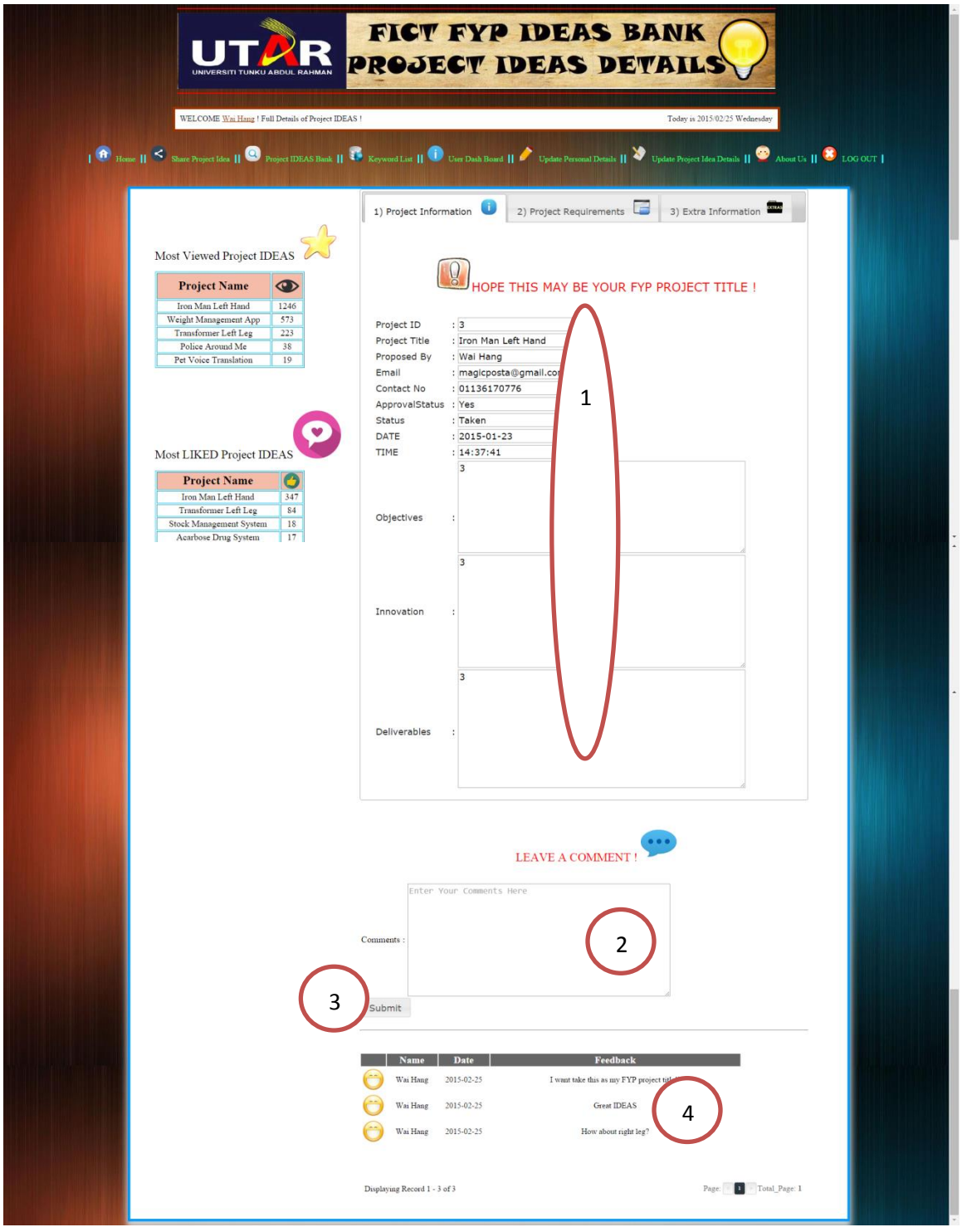

Figure 3.1.12.21: Project Idea Details Page (Student, Lecturer)

User will navigate to this page after they clicked on the course hyperlink in project idea menu page (refer **Figure 3.4.12.20:** Project Idea Menu Page). In this page User can view the full information of a project idea.

1. All the information of a project idea will display in the text field provided.
2. Comment box that allow User to leave a comment to the project idea.
3. Submit button that will save the comment of the User into database.
4. Comment area that show all the previous comment provided by all the users.

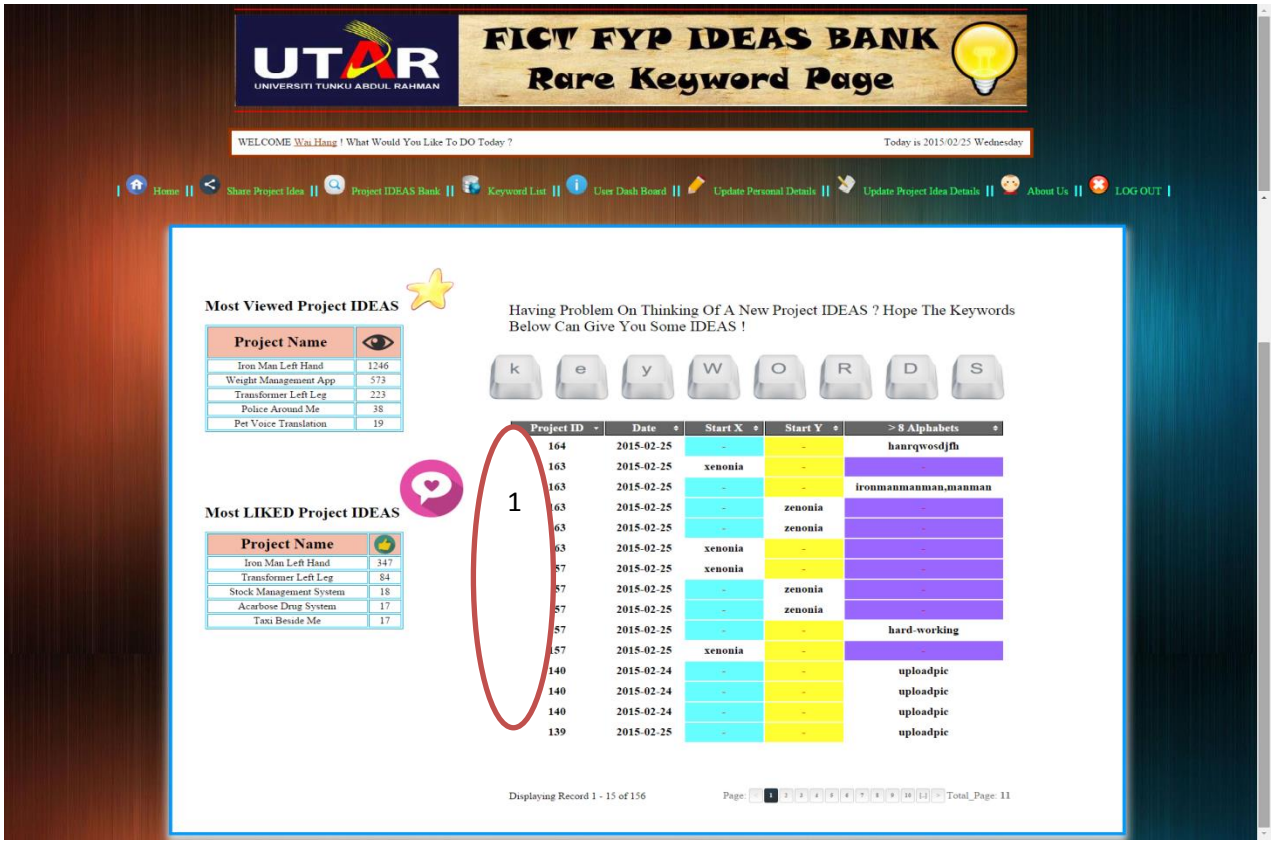

Figure 3.1.12.22: Rare Keyword Page (Student, Lecturer)

User will navigate to this page after they clicked on the Keyword List hyperlink on Menu bar. In this page User can view all the rare keyword extracted by the web based system.

1. Table that show all the extracted rare items and User can click on the project id to view full information of a project idea.

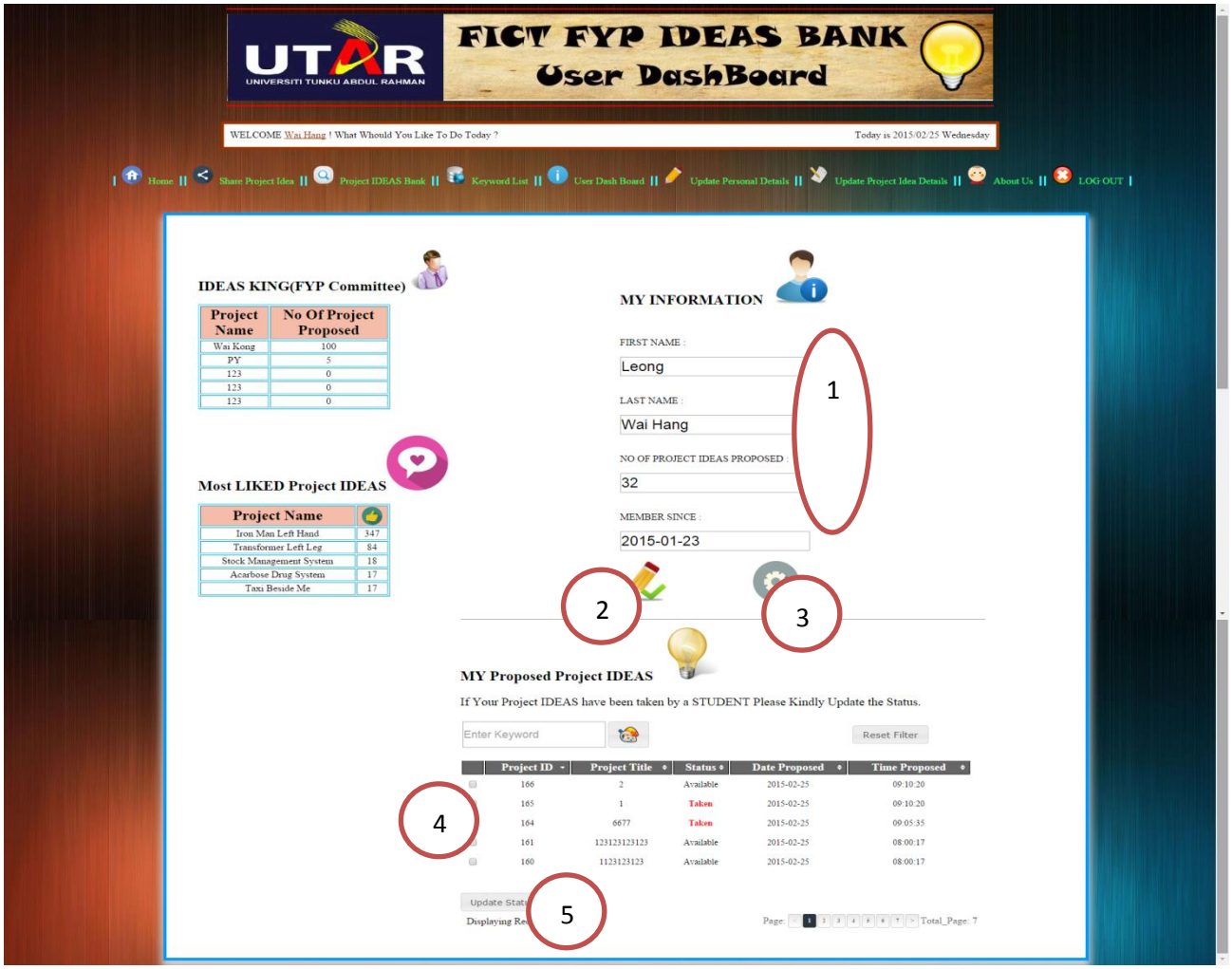

Figure 3.1.12.23: User DashBoard Page (Student, Lecturer)

User will navigate to this page after they clicked on the User DashBoard hyperlink on Menu bar. In this page User can view their basic information and all the project idea that the User had shared. Besides that, User also can update the available status of the project idea in this page.

1. Basic information of User

2. Update personal details button – Navigate to update personal details page.
3. Reset Password button – Navigate to Reset Password Page.
4. Table that show all the project idea that shared by the User. 1st column of the table is checkbox for User to select which project idea to update available status.
5. Update status button – Update the status of 'checked' project idea in the table.

Figure 3.1.12.24: Reset Password (Student, Lecturer)

User will navigate to this page after they clicked on the Reset Password hyperlink on User DashBoard Page (refer **Figure 3.4.12.23:** User DashBoard Page). In this page User can reset their password.

1. Old and New password text field – In order to reset password all the text field must be fill in with valid information.
2. Submit button – Change the old password to new password when clicked. Successful message will be display if the user successful reset password.

Figure 3.1.12.25: Update Personal Details (Student, Lecturer)

User will navigate to this page after they clicked on the Update Personal Details hyperlink on Menu bar. In this page User can update their personal details.

1. All the pervious personal information will display in the text field when 1st enter the page. User can perform modification on the old information.
2. Update button – New personal information will be save after Update button is clicked. Successful message will be display if the user successful update their personal details

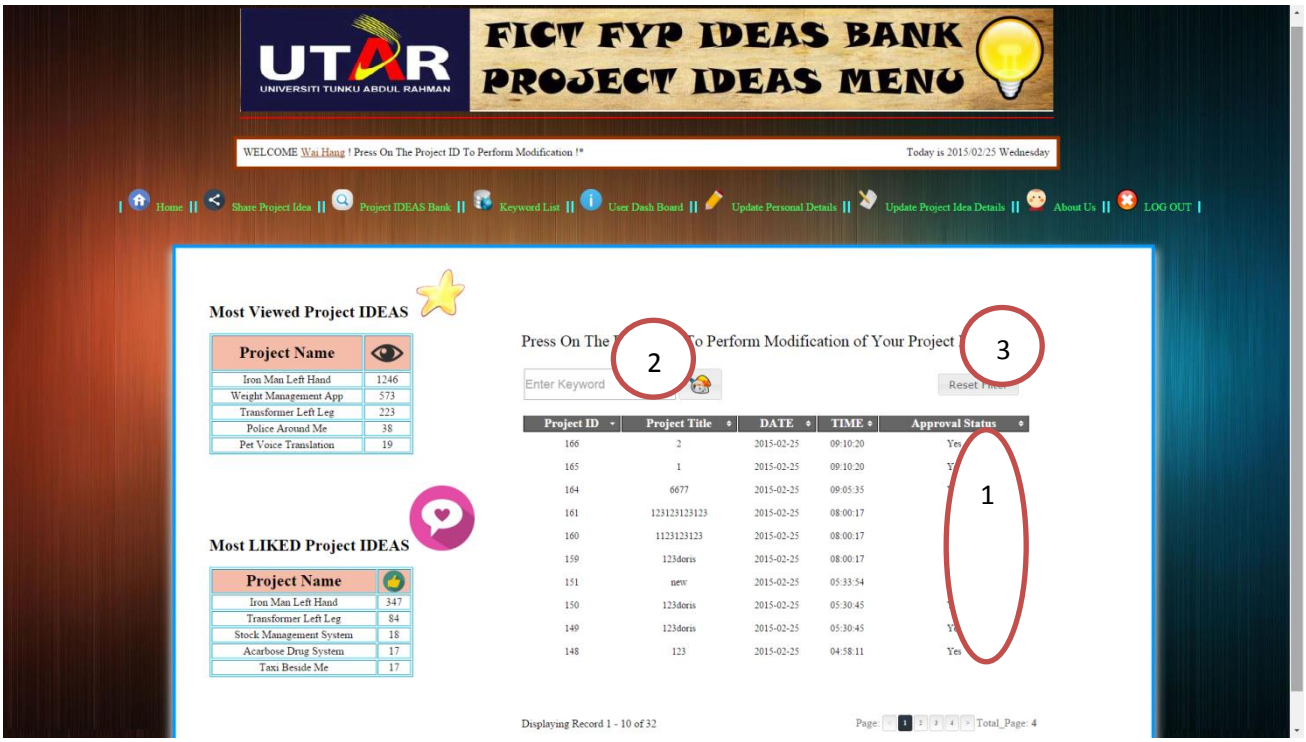

Figure 3.1.12.26: Update Project Idea Menu Page (Student, Lecturer)

User will navigate to this page after they clicked on the Update Project IDEAS Details hyperlink on Menu bar. In this page User can update all the shared project IDEAS detail.

1. Table that show all the project ideas shared by the admin. User can click on the project id to perform modification of the project ideas.
2. Search text field and search button – User are able to search for a project idea by enter the project title in search text field and then press on search button.
3. Reset filter button – It will refresh the page and show all the project idea.

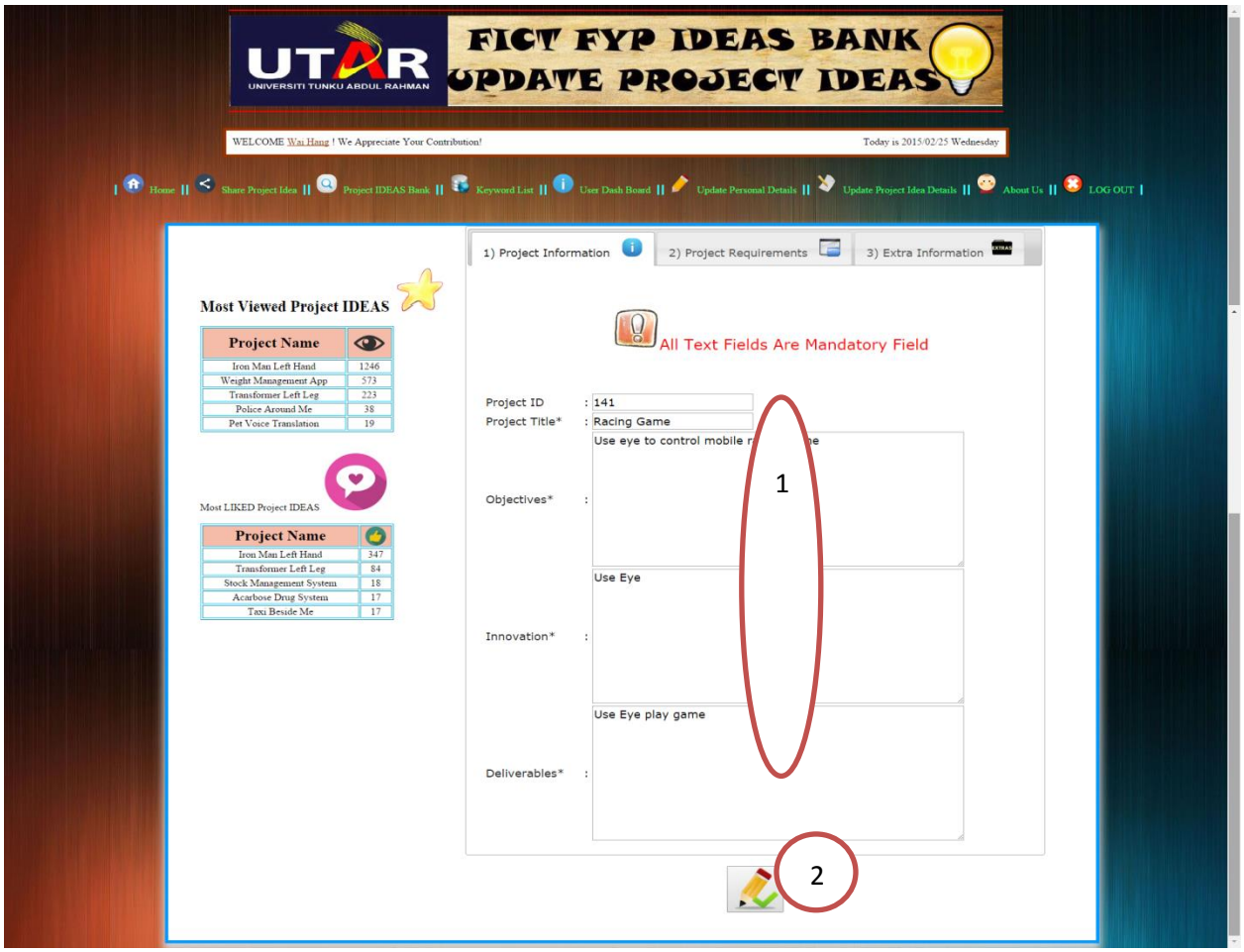

Figure 3.1.12.27: Update Project Idea Details Page (Student, Lecturer)

User will navigate to this page after they clicked on the Project ID on User Update Project IDEAS Menu Page (refer **Figure 3.4.12.26:** User Update Project IDEAS Menu Page). In this page User can update project idea details.

1. All the pervious project idea details will display in the text field when 1st enter the page. User can perform modification on the old project details.
2. Update button – New project idea details will be save after Update button is clicked. Successful message will be display if the user successful updates a project idea details.

3.1.13 Interaction Overview Diagram

Figure 3.1.13.1: Student Side Interaction Overview Diagram

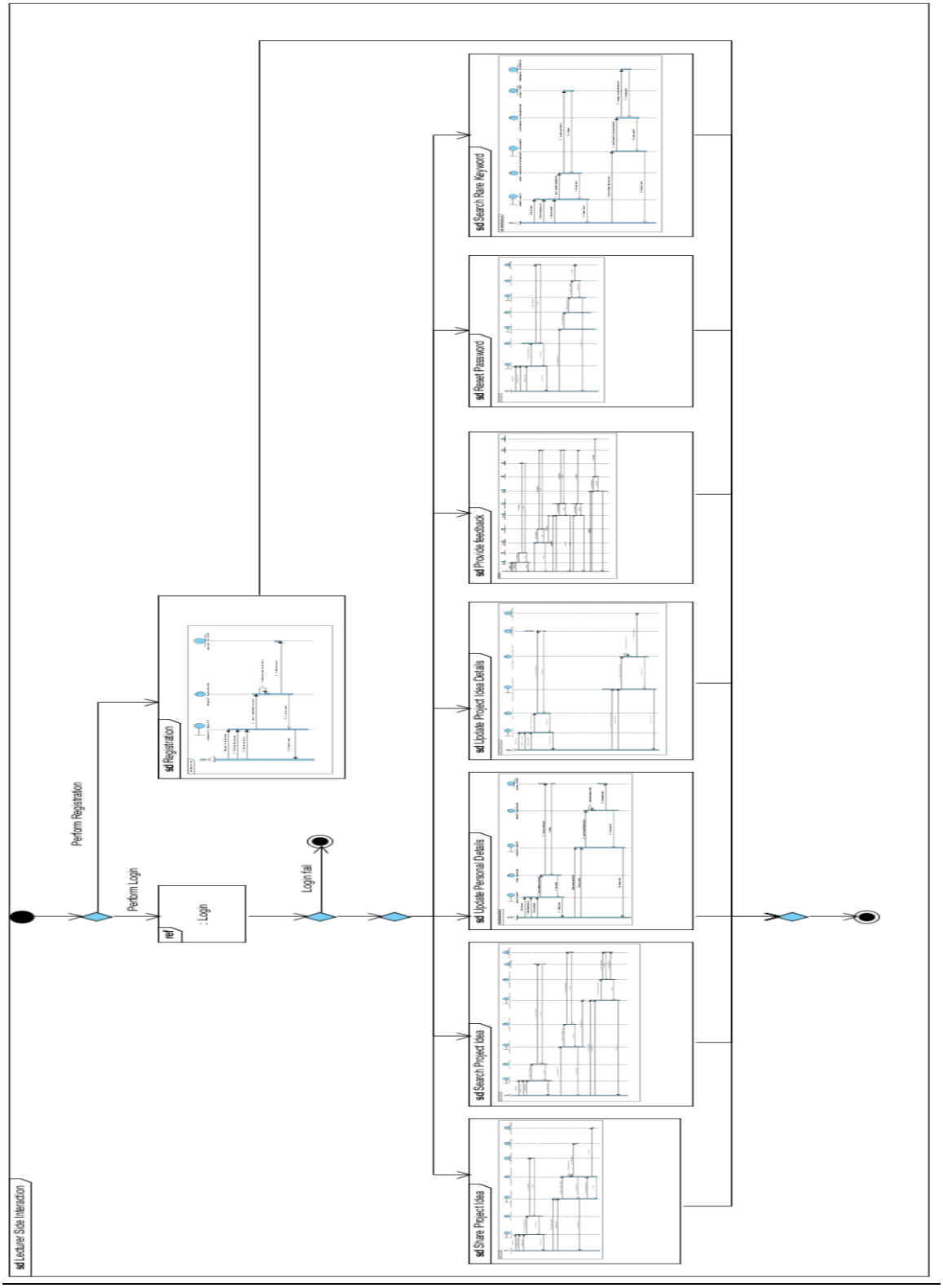

Figure 3.1.13.2: Lecturer Side Interaction Overview Diagram

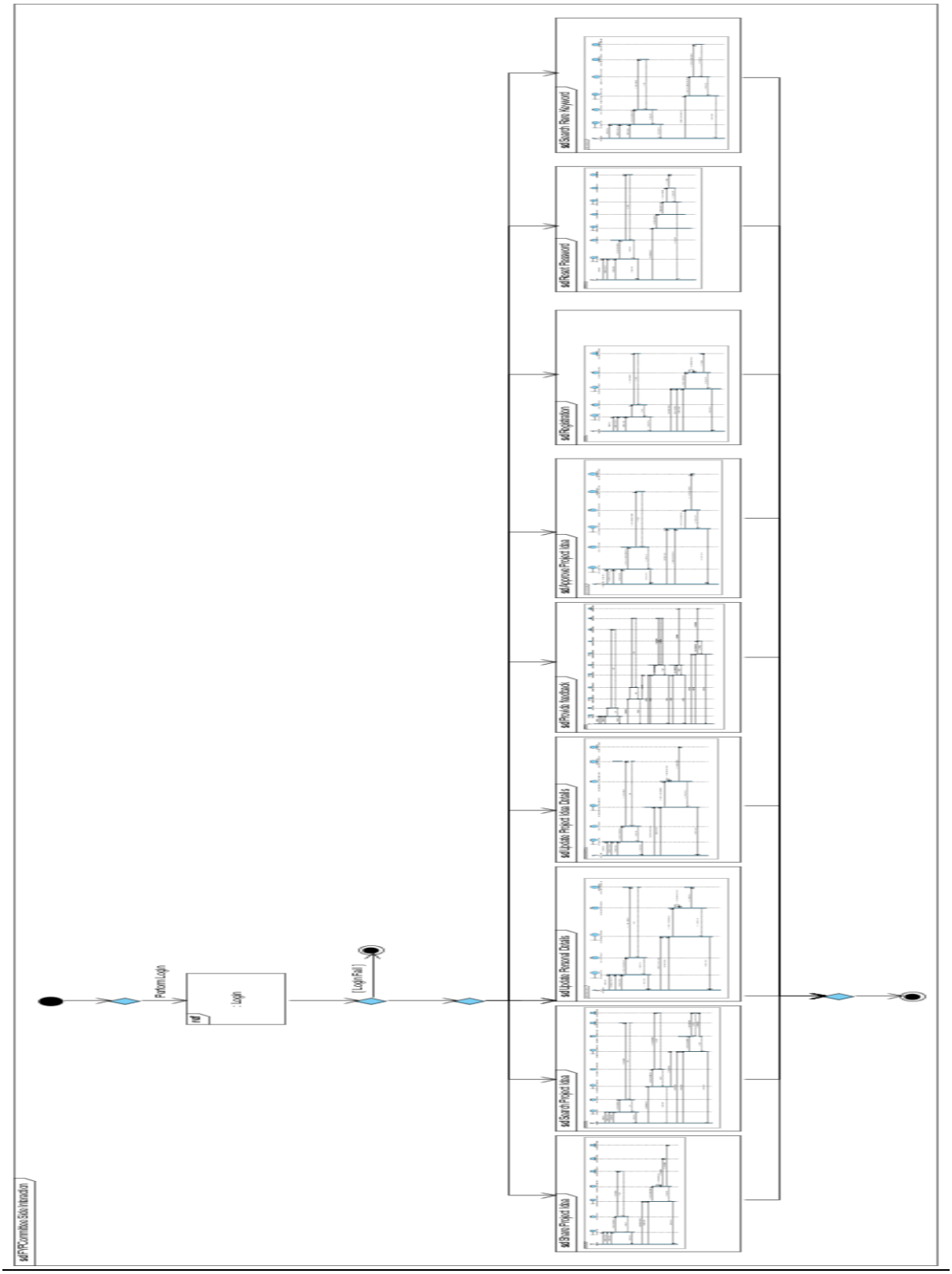

Figure 3.1.13.3: FYP Committee Side Interaction Overview Diagram

3.1.14 Low Level Network Diagram

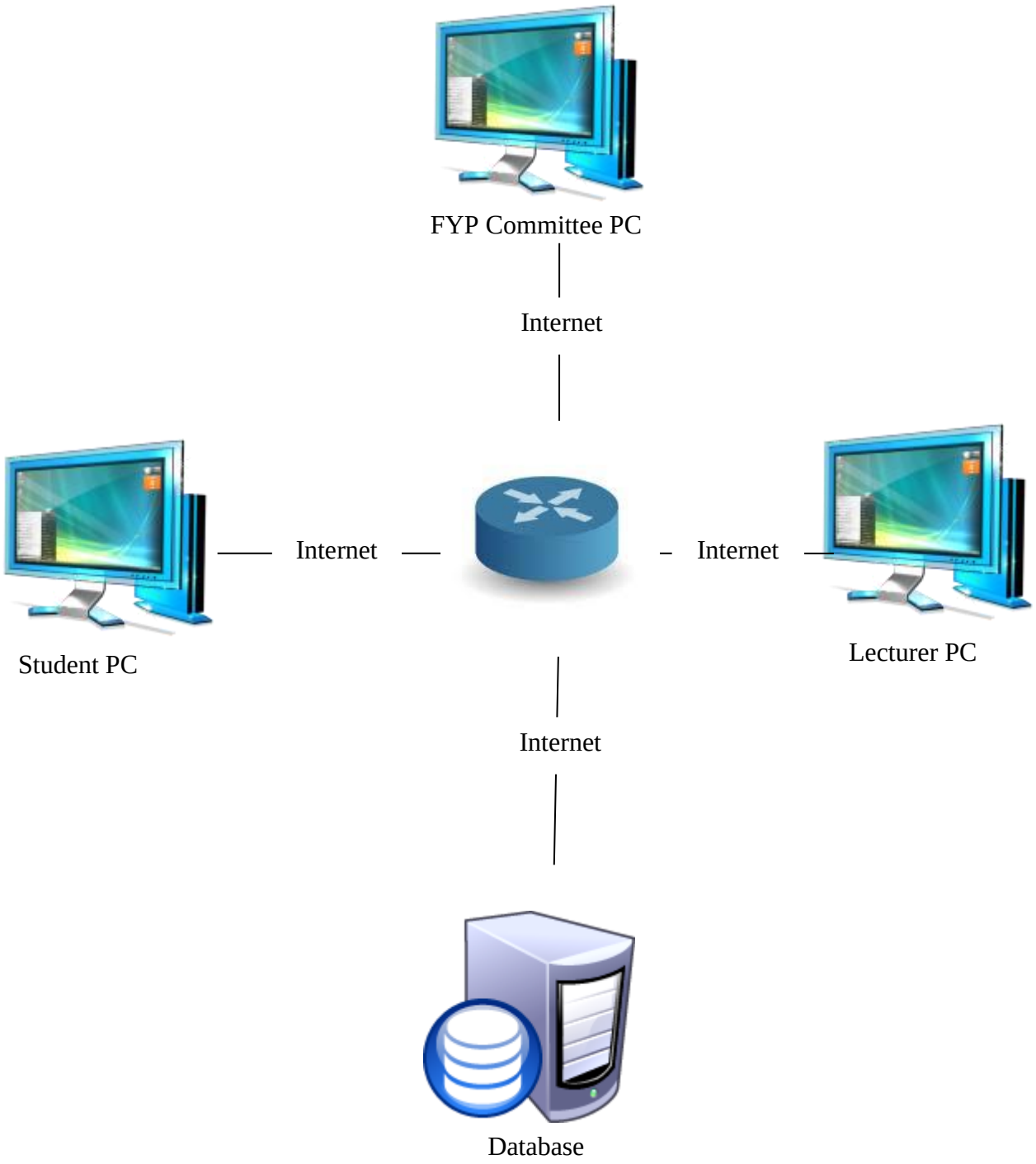

Figure 3.1.14.1: Low Level Network Diagram

3.2 Implementation Issues and Challenges

According to (Team Software, 2012) 'Implementing new software carries a number of challenges and the process can be overwhelming, confusing and lengthy'. System implementation is the most complicated and complex process for FICT FYP IDEAS Bank because coding on the prototype is started and implements the database in the system is started as well. There are several difficult challenges and issues during the implementation of FICT FYP IDEAS Bank.

First implementation issue and challenge is shortage of time in system implementation. Since only one developer handle the whole implementation of FICT FYP IDEAS Bank so all the coding, database implantation, system testing will require more time and the web based system might unable to complete on time or the web based system might unable to fully test before it is introduce.

Second implementation issue and challenge is lack of support. FICT FYP IDEAS Bank is an individual project so it only handles by one developer. When problem occurred during the implementation, the developer needs to handle all problems by himself. In addition, some problems might require some time to be solved so it is a challenge during implementation of the system.

Last implementation issue and challenge is computer requirement problem. FICT FYP IDEAS Bank is a system which provides text processing technique for extract information and save all the extracted information into database. This process might require a high end computer due to the process of text processing might be time consuming if there are a lot of data need to extract and compare so it may require computer with good specs in order to perform well.

3.3 Timeline

Task Name	Duration	Start	Finish	Predecessors
1.0 Planning	**6 days**	**Mon 4/11/13**	**Mon 11/11/13**	
1.1 Weekly Meeting with Supervisor	6 days	Mon 4/11/13	Mon 11/11/13	
1.2 Study on Project Background	1 day	Mon 4/11/13	Mon 4/11/13	
1.3 Define Problem Statement	1 day	Tue 5/11/13	Tue 5/11/13	
1.4 Define Project Scope	1 day	Tue 5/11/13	Tue 5/11/13	
1.5 Feasibility Studies	**3 days**	**Wed 6/11/13**	**Fri 8/11/13**	
1.5.1 Technical Feasibility	1 day	Wed 6/11/13	Wed 6/11/13	
1.5.2 Ecoomic Studies	1 day	Wed 6/11/13	Wed 6/11/13	
1.5.3 Organizational Feasibility	1 day	Thu 7/11/13	Thu 7/11/13	
1.5.4 Schedule Feasibility	1 day	Fri 8/11/13	Fri 8/11/13	
Submit Preliminary Report to Supervisor for checking	0 days	Mon 11/11/13	Mon 11/11/13	

Figure 3.3.1: Gantt chart of planning phase

Task Name	Duration	Start	Finish	Predecessors
2.0 Analysis	**14 days**	**Tue 12/11/13**	**Fri 29/11/13**	**1**
2.1 Weekly Meeting with Supervisor	14 days	Tue 12/11/13	Fri 29/11/13	
2.2 Literature Review	**7 days**	**Tue 12/11/13**	**Wed 20/11/13**	
2.2.1 Benchmarking with Similar System	7 days	Tue 12/11/13	Wed 20/11/13	
2.3 Identify Project Innovation and Contribution	3 days	Wed 20/11/13	Fri 22/11/13	
2.4 Identify technologies and software involved	3 days	Fri 22/11/13	Tue 26/11/13	
2.5 Study on Methodologies	**3 days**	**Tue 26/11/13**	**Thu 28/11/13**	
2.5.1 Comparison of selected methodologies	3 days	Tue 26/11/13	Thu 28/11/13	
Submit Complete Preliminary Report to Supervisor	0 days	Fri 29/11/13	Fri 29/11/13	
Presentation of Preliminary Report	0 days	Fri 29/11/13	Fri 29/11/13	

Figure 3.3.2: Gantt chart of Analysis phase

Task Name	Duration	Start	Finish	Predecessors
3.0 Design Phase	**53 days**	**Mon 16/6/14**	**Wed 27/8/14**	**13**
3.1 Weekly Meeting with Supervisor	53 days	Mon 16/6/14	Wed 27/8/14	
3.2 Identify impact, significance and contribution of the system	3 days	Mon 16/6/14	Wed 18/6/14	
3.3 Explanation on chosen methodology	5 days	Fri 29/11/13	Thu 5/12/13	19
3.4 Develop Gantt chart	1 day	Wed 25/6/14	Wed 25/6/14	
3.5 Database Design	**8 days**	**Thu 26/6/14**	**Mon 7/7/14**	
3.5.1 Develop ERD	3 days	Thu 26/6/14	Mon 30/6/14	
3.5.2 Develop Low Level Class Diagram	2 days	Tue 1/7/14	Wed 2/7/14	31
3.5.3 Develop Object Diagram	2 days	Tue 1/7/14	Wed 2/7/14	31
3.5.4 Develop CRC cards	2 days	Tue 1/7/14	Wed 2/7/14	31
3.5.5 Method Specification	1 day	Tue 1/7/14	Tue 1/7/14	31
3.6 Develop Diagrams	**12 days**	**Mon 7/7/14**	**Tue 22/7/14**	
3.6.1 Develop Use Case Diagram	1 day	Mon 7/7/14	Mon 7/7/14	
3.6.2 Develop Activity Diagrams	3 days	Tue 8/7/14	Thu 10/7/14	37
3.6.3 Develop Sequence Diagrams	3 days	Tue 8/7/14	Thu 10/7/14	37
3.6.4 Use Case Description	1 day	Tue 8/7/14	Tue 8/7/14	37
3.6.5 CRUDE Analysis	1 day	Wed 16/7/14	Wed 16/7/14	
3.6.6 Develop Interaction Overview Diagrams	2 days	Wed 16/7/14	Thu 17/7/14	40
3.6.7 Develop Windows Navigation Diagrams	2 days	Fri 18/7/14	Mon 21/7/14	
3.6.8 Develop Low Level Network Model	1 day	Mon 21/7/14	Mon 21/7/14	
3.6.9 Develop Storyboard	2 days	Mon 21/7/14	Tue 22/7/14	
Submit Weekly Log to Supervisor	0 days	Wed 23/7/14	Wed 23/7/14	
Submit 2 Project Proposals to Supervisor	0 days	Wed 23/7/14	Wed 23/7/14	
3.7 Develop Prototype	25 days	Wed 23/7/14	Tue 26/8/14	47
3.8 Protoype Presentation	1 day	Wed 27/8/14	Wed 27/8/14	48

Figure 3.3.3: Gantt chart of Design phase

	Task Name	Duration	Start	Finish	Predecessors
52	**4.0 Implementation**	**70 days**	**Thu 8/1/15**	**Wed 15/4/15**	**48**
53	4.1 Coding	66 days	Thu 8/1/15	Thu 9/4/15	48
54	**4.2 Documentation**	**8 days**	**Mon 23/2/15**	**Wed 4/3/15**	**53**
55	4.2.1 Modification on FYP1 Report	3 days	Mon 23/2/15	Wed 25/2/15	53
56	4.2.2 Develop Test Plan	3 days	Thu 26/2/15	Sat 28/2/15	55
57	4.2.3 Develop User Manual	1 day	Mon 2/3/15	Mon 2/3/15	56
58	4.2.4 System Implementation and Installation guideline	2 days	Tue 3/3/15	Wed 4/3/15	57
59	**Submit Draft FYP2 Report**	0 days	Thu 5/3/15	Thu 5/3/15	54
60	4.3 Collect Feedback on Draft FYP2 Report	0 days	Mon 9/3/15	Mon 9/3/15	59
61	4.4 Modification on FYP2 Report	20 days	Tue 10/3/15	Sat 4/4/15	60
62	**Submit Complete FYP2 Report**	0 days	Mon 6/4/15	Mon 6/4/15	61
63	4.5 System Testing	3 days	Tue 7/4/15	Thu 9/4/15	56
64	4.6 Complete System Demostration	1 day	Fri 10/4/15	Fri 10/4/15	63
65	4.7 Final Presentation	1 day	Wed 15/4/15	Wed 15/4/15	64
66	4.8 Collect Feedback	1 day	Wed 15/4/15	Wed 15/4/15	65

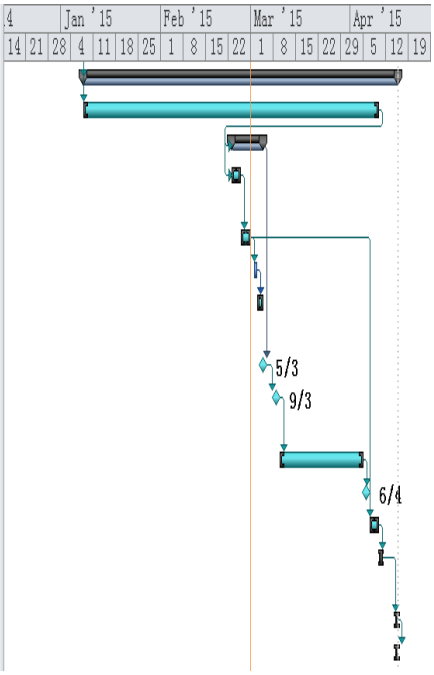

Figure 3.3.4: Gantt chart and network diagram of Implementation phase (Current semester)

Chapter 4 Methodology and Tools

4.1 Introduction of SDLC Methodology

According to Avison & Fitzgerald, cited in Richard Vidgen (2002, p.3), software methodology "is a collection of procedures, techniques, tools and documentation aids which will help the systems developers in their efforts to implement a new information system".

The common phases in every SDLC model are planning phase, analysis phase, design phase and implementation phase. In the planning phase, system developer needs to understand why the system is needed and conduct feasibility study. In the analysis phase, system developer need to define the problem statement of the system, conduct literature review, defines the system scope and objectives and identify which methods and technology involved to develop the system. In the design phase, system developer is requires to design the interface and the layout of the system and describe the functions and features of the system in detail. In the implementation phase which is the final stage of SDLC, the system is built, tested and installed in the customer site. If the system can run smoothly on customer side then the system will be ready to launch.

The success of the project is depends heavily on choosing the suitable SDLC methodology for the project. Choosing the wrong SDLC Methodology will make the project fail or extra time and extra budget needed when goes to development stage. In order to choose the suitable SDLC methodology for the system, study on acceptable SDLC methodology for the system must be conducted.

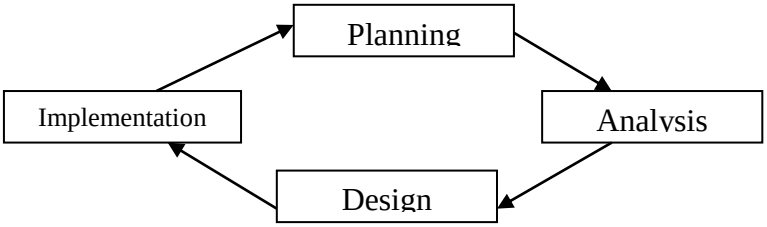

Figure 4.1.1: System Development Life Cycle (SDLC)

4.1.1 Waterfall Methodology

Waterfall model is the first SDLC methodology. It is easy to understand and use so many developer will implement waterfall model for their project. In waterfall model, each phase must be completed before the next phase can begin. Waterfall model is suitable for short project. To use waterfall model, the project requirements must be understood very well.

Strengths of waterfall model are it is easy to understand and use, easy to manage, work great on smaller project with well know requirements, and progress of the system development can be measure.

Weaknesses of waterfall model are it is inflexible. Once the project had start it cannot go back to the previous phase so developer needs to start doing again from the first phase. Besides that, waterfall model is not suitable for large and complex project.

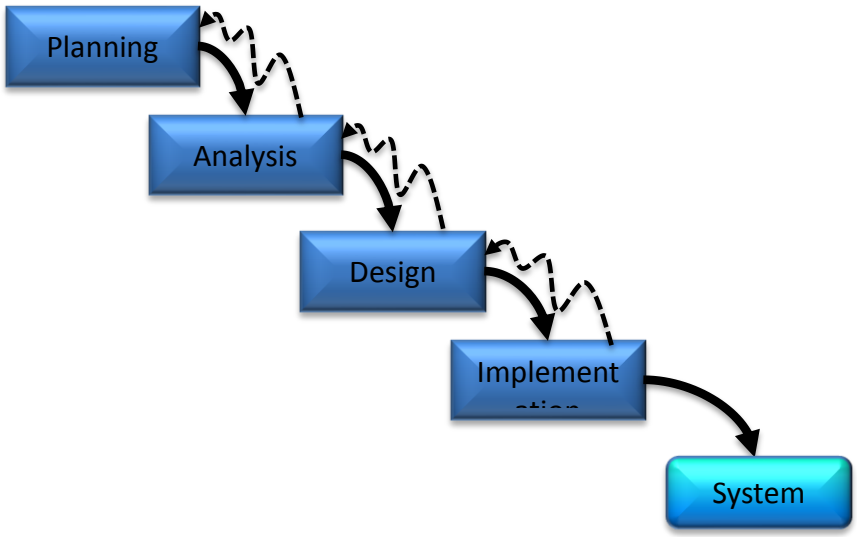

Figure 4.1.1.1: Waterfall Model

4.1.2 Phased Development Methodology

Phased development methodology breaks the whole system into a series of version that is developed sequentially. Normally system will be break into 3 parts which is system version 1, system version 2, system version 3. Every version has its own analysis, design and implementation. Once version 1 is implemented, developer can begins to work on version 2. This process will continue until the whole system is built.

Strengths of Phased development methodology are suitable for complex system. Since phased development can be break the whole system into a series of version, developers can develop the first version of the software to the user first, whenever user have problem on the first version, developer can directly work on the second version of the system. By using the phased development methodology, developers able to adjust, enhance and improve the features that need to add on the next version. Besides that, phased development methodology is useful for a project that have short time schedule.

Weakness of Phased development methodology is the system that first delivery to the user doesn't cover all the functions which may cause problem to the users.

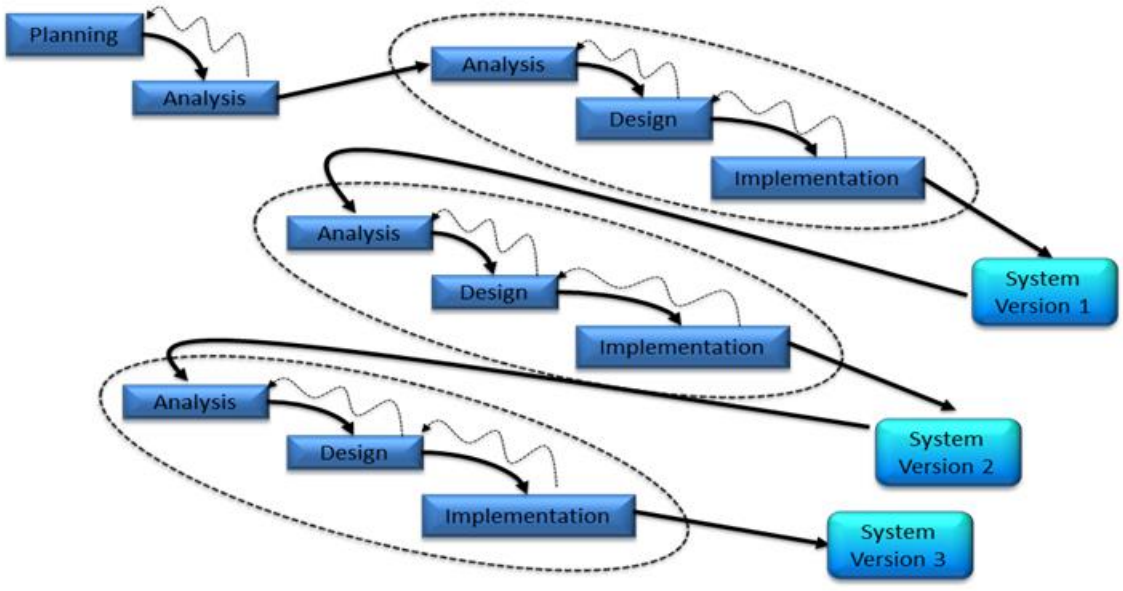

Figure 4.1.2.1: Phase Development

4.1.3 Prototyping

Prototyping is an activity that creating a prototype of a software. Although prototype is incomplete software but it includes important components of the software which is the major software modules, database, layout and design of the software and possible output when interact with users. In prototyping, analysis, development and implementation are done concurrently and produce a prototype of the software. If the prototype meets the requirements of the users, developer will start coding and produce the final product. However, if the prototype doesn't meet the requirements of users, developer need to improve their prototype until it meets the requirements of users.

Strengths of prototyping are it is good to use when the user requirements are unclear. Besides that, prototyping suitable for short time schedule. Next, develop can deliver the system to the users very fast if the first prototype can meet all the requirements of the users.

Weaknesses of prototyping are developer might need extra time and cost to develop the prototypes again and again if the prototype doesn't meet the requirements of users. Besides that, prototyping is not suitable to use when the technology is unfamiliar and system is complex.

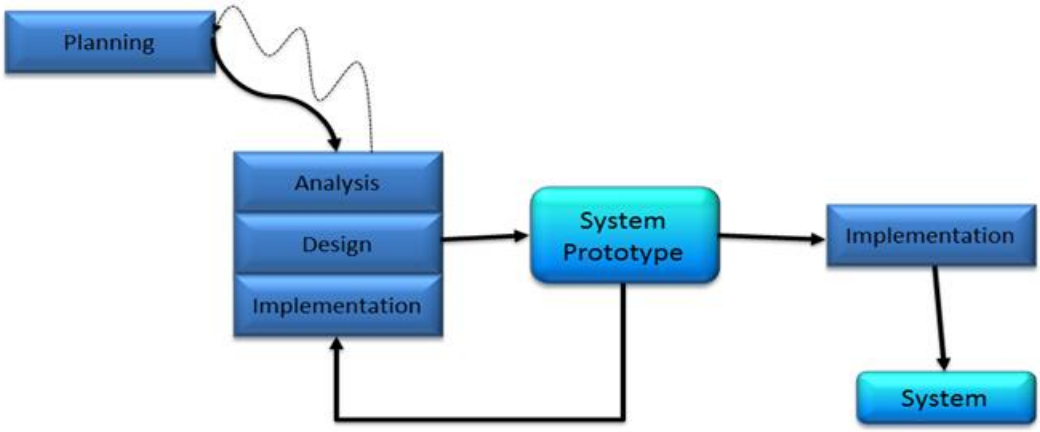

Figure 4.1.3.1: Prototyping

4.1.4 Comparison and Justification

Table 4.1.4.1: Comparison of Software Methodology

Ability to develop system	Waterfall	Phased	Prototyping
with unclear User requirements	Poor	Good	Excellent
with unfamiliar Technology	Poor	Good	Poor
that are Complex	Good	Good	Poor
with Short time schedule	Poor	Excellent	Excellent

4.2 Methodologies and General Work Procedures

After careful consideration on different aspect such as project size, complexity, budget, time, technology and etc, Prototyping methodology will be suitable for develop FICT Final Year Project IDEAS Bank because with prototyping methodology, a prototype with core functions of the system can developed fast and deliver quickly to end users. Besides that, with system prototype developers can demo how the system works to the end users. If end users feel that there are something need to be implemented in the current system, developer can start develop another prototype. In short, by using prototyping methodology developers can manage and implement the system easier and it is suitable for project with unclear user requirements and with short time schedule.

There are four phases in Prototyping methodology: Planning, Analysis, Design, and Implementation phase. All the objectives of four phases of Prototyping methodology will be discuss in this session.

4.2.1 Phase I – Planning

Main Task:

- Define problem statement
- Define project scope
- Define project objectives
- Feasibility studies

Planning consider as a very important phase for every project because during the planning phase developers will decide whether the project is worthy to pursue or not. During planning phase, meeting with supervisor will be conduct every week till the end of the phase. The first task in the planning phase is study on the project background. By studying on the project background developers will know what the problem of the existing system is, who are facing the problem and need a solution and why the problem is important. Following task is to define the problem statement, project scope and project objectives of FICT FYP IDEAS Bank. Next task will be performing feasibility analysis. The feasibilities that need to be study in this phase are technical feasibility, economic feasibility, and organizational feasibility and schedule feasibility. Weekly meeting with supervisor is a must in this phase. The outcome of this phase is to produce a preliminary report which contains background, problem statement, project scope and project objectives of FYP FICT IDEAS Bank.

4.2.2 Phase II – Analysis

Main tasks:

- Benchmarking
- Identify Project Innovation and Contribution
- Identify technologies and software involved
- Comparison of the selected methodologies

During the analysis phase, the first task is to choose three similar systems to be the benchmarking model of FICT FYP IDEAS Bank. The purpose of performing benchmarking is to identify the strength and weaknesses of FICT FYP IDEAS Bank. Second task that need to perform is analyze and identify the innovation and contribution involved in FICT FYP IDEAS Bank. This is an important task for developers to make the system become more valuable. Next task that need to perform is identify and analyze the technologies and software which will be involved in developing the FICT FYP IDEAS Bank. Last task before proceed to design phase is to select several SDLC methodologies to do comparison and select one of the methodology to apply in the development of the FICT FYP IDEAS Bank. Meeting with supervisor every week is necessary in this phase. The outcome of this phase is to produce an updated version of preliminary report from the previous phase.

4.2.3 Phase III – Design Phase

Main tasks:

- Identify impact, significance and contribution of the system
- Explanation on chosen methodology
- Develop Gantt chart
- Database design (ERD, low level class diagram, object diagram, CRC cards)
- Develop diagrams (Use case, Activity diagram, sequence diagrams and etc.)
- Develop storyboard
- Develop Prototype

During the design phase, the major task is to identify the impact, significance and contribution of the FICT FYP IDEAS Bank. This is very important because this is where we need to “sell” or “promote” the system. The next task is further elaborate of chosen methodology. It required developer to identify all the tasks that need to be done in each phase of the chosen methodology. After identified all the tasks in each phase of chosen methodology, the next task is develop a Gantt chart for the current semester and also next

semester. The following task is database design which consists of identify all the entity required for the system, attributes in every entity and relationship between each entity.

Next, a use case diagram needs to be developed to show what are the functions that can be perform by the end users of FICT FYP IDEAS Bank. Besides use case diagrams other diagrams such as use case description, activity diagram, sequence diagram, story board and etc are required to develop to show how the FICT FYP IDEAS Bank perform its functions. Developer are required to submit a project proposal to supervisor before proceed prototype design. The project proposal consist of all the information in preliminary report plus all the information in design phase which is the impact, contribution, significance, database design, use case diagrams and all the relevant diagrams of FICT FYP IDEAS Bank.

The prototype of FICT FYP IDEAS Bank are able to start after submit the project proposal. Weekly meeting with supervisor is a important in this phase. At the end of the design phase, presentation of the prototype to supervisor is required to conduct and a poster of FICT FYP IDEAS Bank is required to submit to the supervisor.

4.2.4 Phase IV – Implementation

- Main tasks:
- Coding
- Develop test plan
- Develop user manual
- System testing
- Demonstration
- Final presentation
- Collect feedback

Implementation is the most complicated phase among all the four phases; the first task is to start coding and connect the database on the prototype that has created from design phase. After finish coding and connect the database to the prototype, the following task is to develop a test plan and user manuals. The test plan consists of what types of testing need to perform and how the system will be tested while the user manuals will act as a guideline for end users to operate the FICT FYP IDEAS Bank. During the system testing, if the prototype cannot meet the user requirements, it may need to go through the analysis phase, design phase and implementation phase until it is successfully tested and approved by supervisor. After the prototype successfully tested and approved by supervisor, a final version of FICT FYP IDEAS Bank will be developed and demonstration of FICT FYP IDEAS Bank will be done in front of the end users. After final presentation, feedback from end users will be gathered for future enhancement.

4.3 Technology and software involved

There are several technologies and software used in order to complete this project. These technologies are text processing (regular expression), Cascading Style Sheets (CSS), PHP programming language, java script and MySQL. Software which involved are Adobe Dreamweaver CS6 and SQLyog.

4.3.1 Text Processing (Regular Expression)

Text processing is the process of analyzing a large volume of text from different perspectives and summarizing those data into information according to the pattern that have been identified.

In order to help in finding more FYP ideas for students, text processing will implement in this system and the technique used for text processing is Regular Expression. According to Jan Goyvaerts (2013) ‘A regular expression is a special text string for describing a search pattern.’ In this project, regular expression will be used to identify the rare keywords which are helpful in thinking of new project ideas.

Figure 4.3.1.1: Regular Expression logo

4.3.2 PHP Programming Language

In this project, PHP programming language will be use to develop the FICT Final Year Project IDEAS Bank. 'PHP is a popular general purpose scripting language that is especially suited to web development' (PHP.net, 2015).

Since FICT Final Year Project IDEAS Bank is a web based system therefore PHP programming language is selected to develop this project but not others programming language. Next 'PHP programming language is fast, flexible and pragmatic' (PHP.net, 2015). Furthermore, PHP is open source which allow anyone to access to the source code and can use for develop own website. Last but not least, PHP are platform independent which means PHP can be used on different operating system such as Windows, Linux and etc. In this project PHP programming language will used to handle all the function of the web based system.

Figure 4.3.2.1: PHP Programming Language Logo

4.3.3 Java Script

'JavaScript is a programming language commonly used in web development' (TechTerms.com, 2014). Besides that, according to TechTerms.com (2014) 'JavaScript is a client-side scripting language, which means the source code is processed by the client's web site instead of web server'. In short, JavaScript are able to run even it is not

communicating with the web server. In this project, JavaScript file is used to handle the validation of the input that the users entered. An alert dialog box will show if the data entered by the user is invalid.

Figure 4.3.3.1: Java Script Programming Language Logo

4.3.4 CSS

According to Margeret Rouse (2015) 'A cascading style sheet (CSS) is a Web page derived from multiple sources with a defined order of precedence where the definitions of any style element conflict'. CSS allow developer to creating different text style and it is also very helpful on formatting the webpage layout. In this project, CSS will be used to design the interface of the entire web based system.

Figure 4.3.4.1: CSS Logo

4.3.5 MySQL Database

'MySQL database management system is developed by Oracle Corporation and it is the most popular Open Source SQL database management system' (Oracle Corporation, 2013). In this project, all the data like user information, FYP project titles, ideas and other important information will be stored in MySQL database management system.

MySQL database management system is selected as the project database because it is Open Source software. Open Source software means anybody can download it from the web and use it for free. Besides that, MySQL allow users to modify the source code to suit user need. Furthermore, MySQL provides strong data protection that only allows authorized users access to the database server. (Oracle Corporation)

Figure 4.3.5.1: MySQL Logo

4.3.6 Adobe Dreamweaver CS6

As PHP programming language has chosen as the programming language that used to develop FICT Final Year Project IDEAS Bank. Therefore, Adobe Dreamweaver CS6 is chosen as the development tools of FICT Final Year Project IDEAS Bank.

According to Jennifer Kyrnin (2015) 'Dreamweaver remains one of the most popular professional web design programs available. It offers a lot of power and flexibility for both designers and developers. '. In order to develop FICT Final Year Project IDEAS Bank, just using PHP programming language is not enough, other programming language such as CSS and JavaScript are needed. Therefore, Adobe Dreamweaver is chosen as this project development tool because it supports all the programming language that needed to complete this web based system.

Figure 4.3.6.1: Adobe Dreamweaver CS6 Logo

4.3.7 SQLyog

As MySQL database management system is selected as the project database. Therefore, database software named SQLyog which can support MySQL is chosen.

According to the feedback of SQLyog users 'SQLyog is the best database management tool I have ever used. It's easy to use, backups are easy and fast. Transferring from one DB to another is a breeze. The query builder makes life much easier.' (Justin Hubbard, 2014), SQLyog will be the most suitable database software used to create database and build SQL query for FICT FYP IDEAS Bank.

Figure 4.3.7.1: SQLyog Logo

4.3.8 Xampp Web server

FICT FYP IDEAS BANK is a web based system; therefore a web server is needed in order to run the web based system. Besides that, a web server is definitely needed to perform testing on FICT FYP IDEAS BANK after finish development.

Xampp web server is selected as FICT FYP IDEAS BANK web server. According to Kasia Mikoluk (2013) 'XAMPP Stand for Cross Platform, Apache, MySQL, PHP and Perl. It is a simple, lightweight Apache distribution that makes it easy for developers to

create a local web server for testing purposes. ’. Besides that, Xampp also a cross platform web server which mean besides windows it also work well on other operating system such as Linux and Mac.

As MySQL database and PHP programming language are selected develop FICT FYP IDEAS BANK, therefore, Xampp is suitable to be the web server of FICT FYP IDEAS BANK.

Figure 4.3.8.1: Xampp Logo

4.3.9 CodeIgniter Web Framework

CodeIgniter web framework has been selected as FICT FYP IDEAS BANK web framework. According to British Columbia Institute of Technology (2015) “CodeIgniter is a powerful PHP framework with a very small footprint, built for developers who need a simple and elegant toolkit to create full-featured web applications.”

Reasons why CodeIgniter selected as FICT FYP IDEAS BANK are it is easy to learn and to get proficient with and CodeIgniter got no restrictive rule on coding which mean developer are able to use their own coding and naming conventions.

Figure 4.3.9.1: CodeIgniter Logo

Chapter 5 Implementation and Requirements

In this session, how the implementation of the system will be discussed. Besides that, softwares that are needed for system implementation will be discussed. Last but not least, all the software requirements are show in this session as well. Currently, softwares which are required for FICT FYP IDEAS BANK implementation are Adobe Dreamweaver CS6, SQLyog database, Xampp web server and MySQL server 5.5.

5.1 System Implementation and Requirement

After all the careful consideration, Adobe Dreamweaver CS6 will be selected as FICT FYP IDEAS BANK main development tool. As I choosing PHP programming language as my main programming language therefore Adobe Microsoft Weaver are suitable for develop FICT FYP IDEAS BANK. In order to use Adobe Dreamweaver CS6, user computer must meet the minimum hardware and software requirements of Adobe Dreamweaver CS6. Assuming the user computer is Windows OS. According to (Adobe, 2015) below is the software and hardware system requirement for Adobe Dreamweaver CS6.

Hardware Requirement

- Intel® Pentium® 4 or AMD Athlon® 64 processor
- 512 MB of RAM
- 1 GB of available hard-disk space for installation; additional free space required during installation (cannot install on removable flash storage devices)
- 1280 x 800 display with 16-bit graphics adapter
- DVD-ROM drive

Software Requirement

- Java™ Runtime Environment 1.6 (included)
- QuickTime 7.6.6 software required for HTML5 media playback
- Microsoft® Windows® XP with Service Pack 3 or Windows 7 with Service Pack 1. Adobe® Creative Suite® 5.5 and CS6 applications also support Windows 8 and Windows 8.1.

After all careful consideration, Xampp are chosen as FICT FYP IDEAS BANK web server. Xampp are web server which support Apache, MySQL, PHP and Perl. As MySQL database and PHP programming language are selected develop FICT FYP IDEAS BANK, therefore, Xampp is suitable to be the web server of FICT FYP IDEAS BANK. During implementation phase, Xampp web server plays a very important role because without the web server, FICT FYP IDEAS BANK is unable to run and unable to perform testing after implementation. Assuming the user computer is Windows OS.

Software requirement

- Microsoft® Windows® 2008 or Windows 2012 or Windows Vista or Windows 7 or Windows 8.

After all careful consideration, MySQL database management system is selected as FICT FYP IDEAS BANK database. Therefore, database software named SQLyog which can support MySQL is chosen to manage the project database. Database is very important during implementation phase because database deal with all the input and output of data. Besides that, during implementation phase the first thing that needs to do is to construct the database and make sure all the tables are created. Assuming the user computer is Windows OS.

Software requirement

- Microsoft® Windows® XP or Windows Vista or Windows 7 or Windows 8.

After all the above softwares were installed to the system, now FICT FYP IDEAS BANK is able to deploy to the Xampp web server.

Software requirements of FICT FYP IDEAS BANK

- Microsoft® Windows® XP or Windows Vista or Windows 7 or Windows 8.
- Google chrome version 40.0.2214.94 or above

5.2 System Installation

In this session, guideline on how to install Adobe Dreamweaver CS6, SQLyog Xampp web server and MySQL server 5.5 will be show in this section.

5.2.1 Adobe Dreamweaver CS6 Installation

1st step: Double click on set-up.exe and then click Try (Trial version).

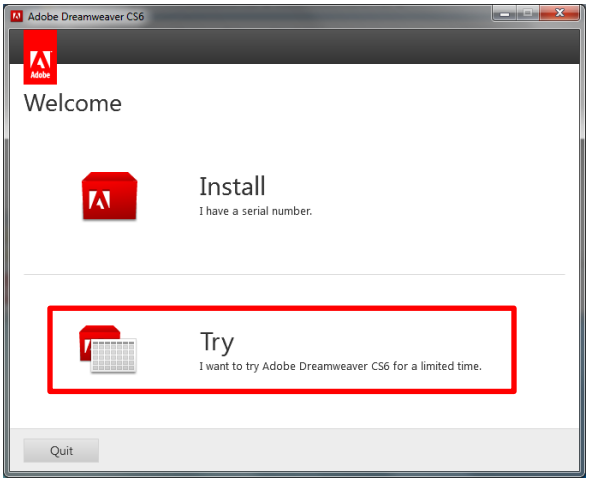

Figure 5.2.1.1: Adobe Dreamweaver CS6 installation Guide

2nd step: Press accept button, select a location to install the system and then press install button.

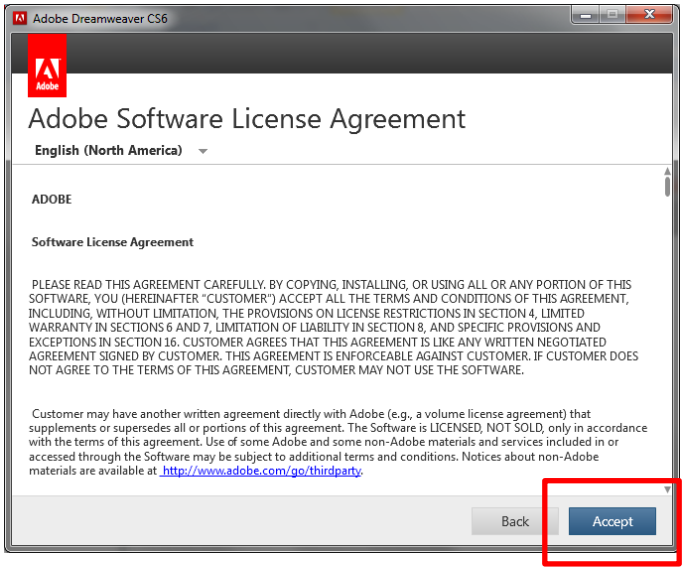

Figure 5.2.1.2: Adobe Dreamweaver CS6 installation Guide

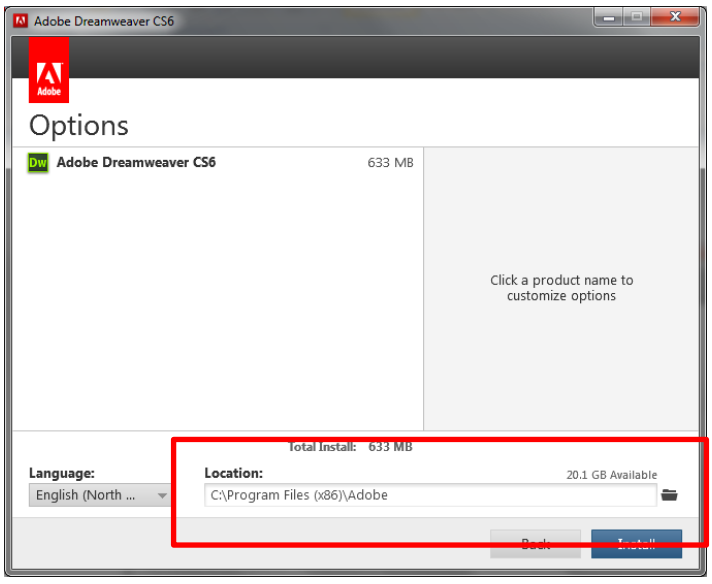

Figure 5.2.1.3: Adobe Dreamweaver CS6 installation Guide

3rd step: Wait for the software finish install, press Launch Now button and start using Adobe Dreamweaver CS6.

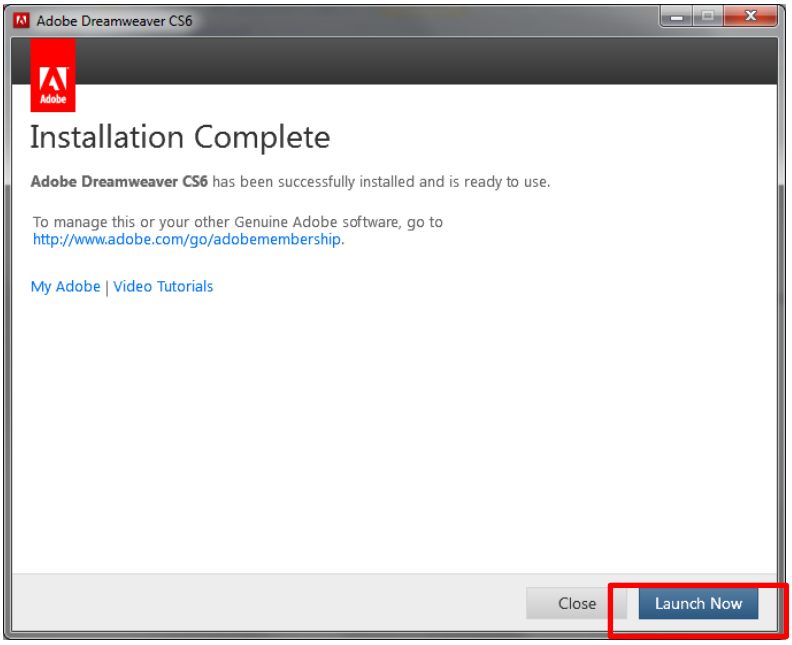

Figure 5.2.1.4: Adobe Dreamweaver CS6 installation Guide

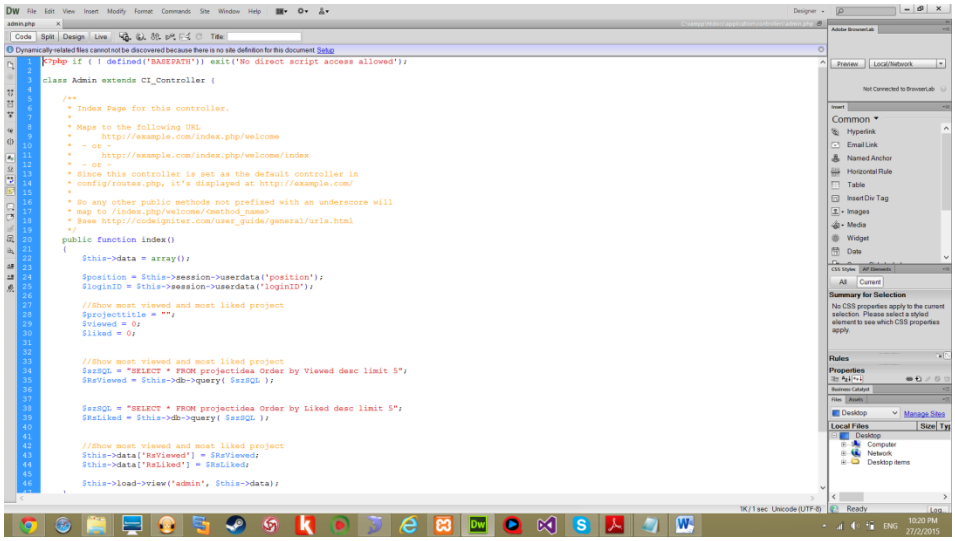

Figure 5.2.1.5: Coding using Adobe Dreamweaver CS6

5.2.2 SQLyog Database Installation

1st step: Double click on 'SQLyog-9.2.0-2Community.exe' to perform installation. Click on the next button.

Figure 5.2.2.1: SQLyog installation guide

2nd step: Accept the License Agreement and press Next button

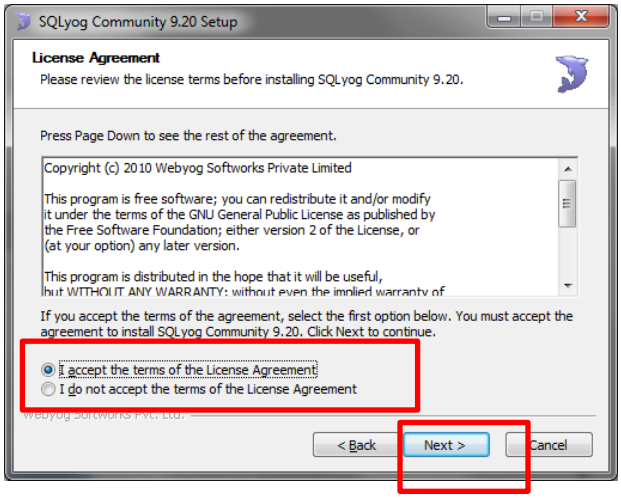

Figure 5.2.2.2: SQLyog installation guide

3rd step: Select component to install and choose a location to install SQLyog then click on Install button.

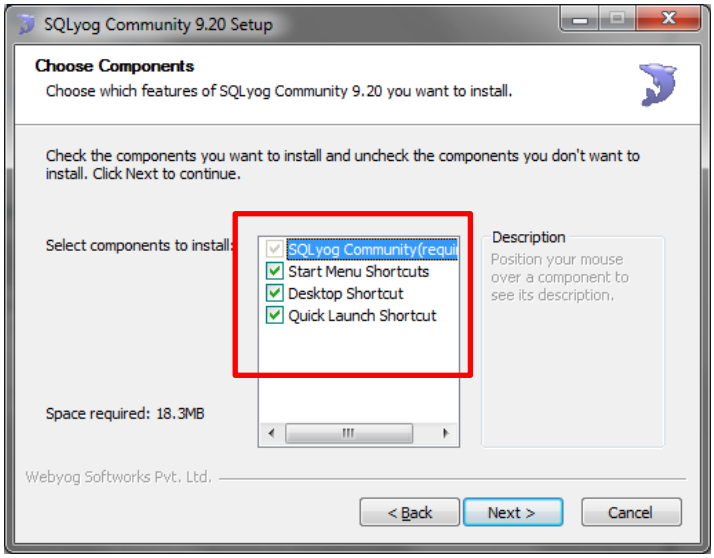

Figure 5.2.2.3: SQLyog installation guide

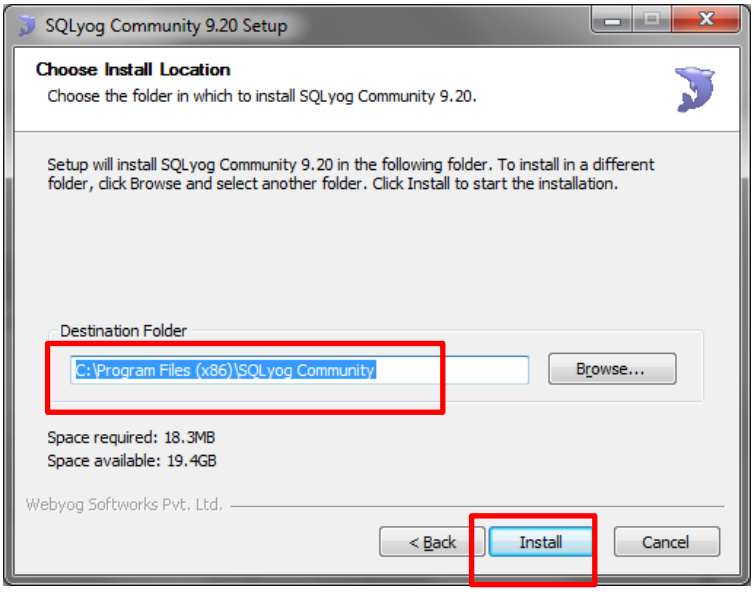

Figure 5.2.2.4: SQLyog installation guide

4th step: Wait for the installation finish and SQLyog is ready to use.

Figure 5.2.2.5: SQLyog installation guide

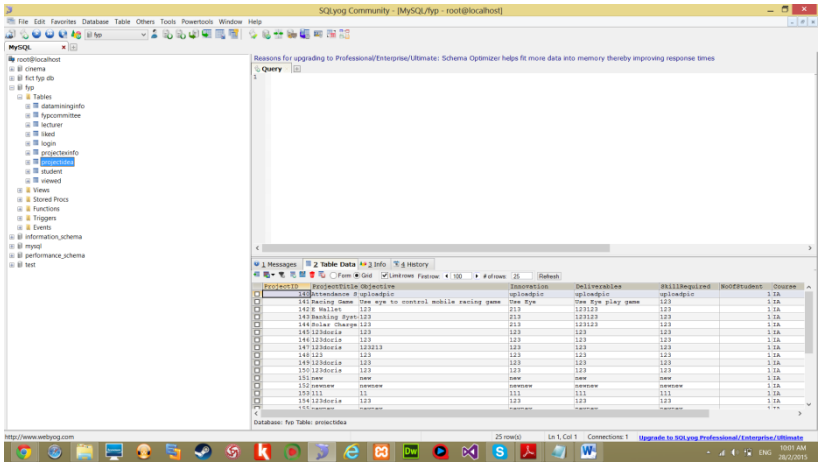

Figure 5.2.2.6: Using SQLyog to manage database

5.2.3 Xampp installation

1st step: Double click on 'xampp-win32-1.8.0-VC9-installer' to perform installation.

2nd step: Choose a Location to install Xampp web server. The destination folder of Xampp is very important because later whole FICT FYP IDEAS BANK project file need to copy to the Xampp folder. Click on next button after select a destination folder

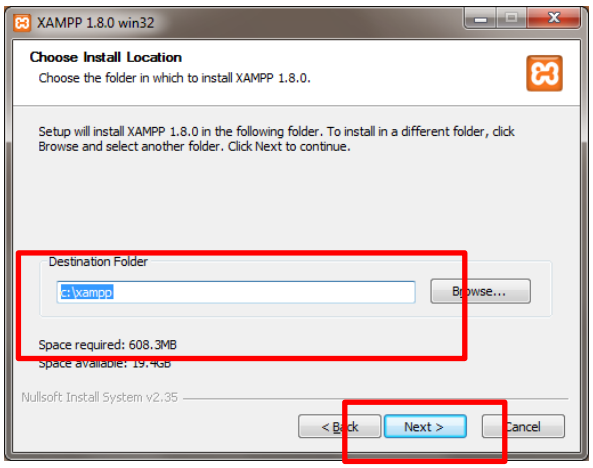

Figure 5.2.3.1: Xampp installation guide

3rd step: Tick all the Xampp Options and press install button

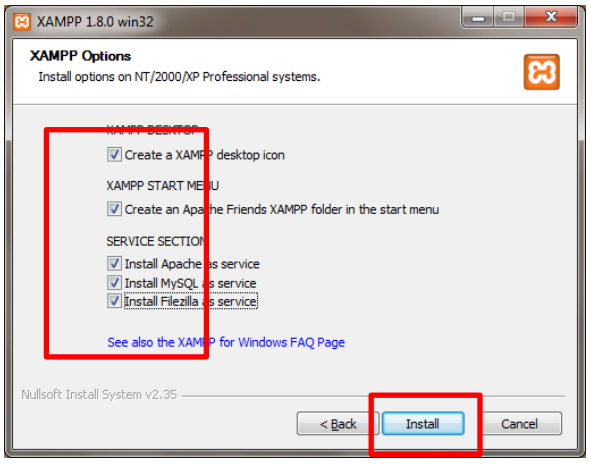

Figure 5.2.3.2: Xampp installation guide

4th: Wait for the installation finish and now Xampp web server is ready to use.

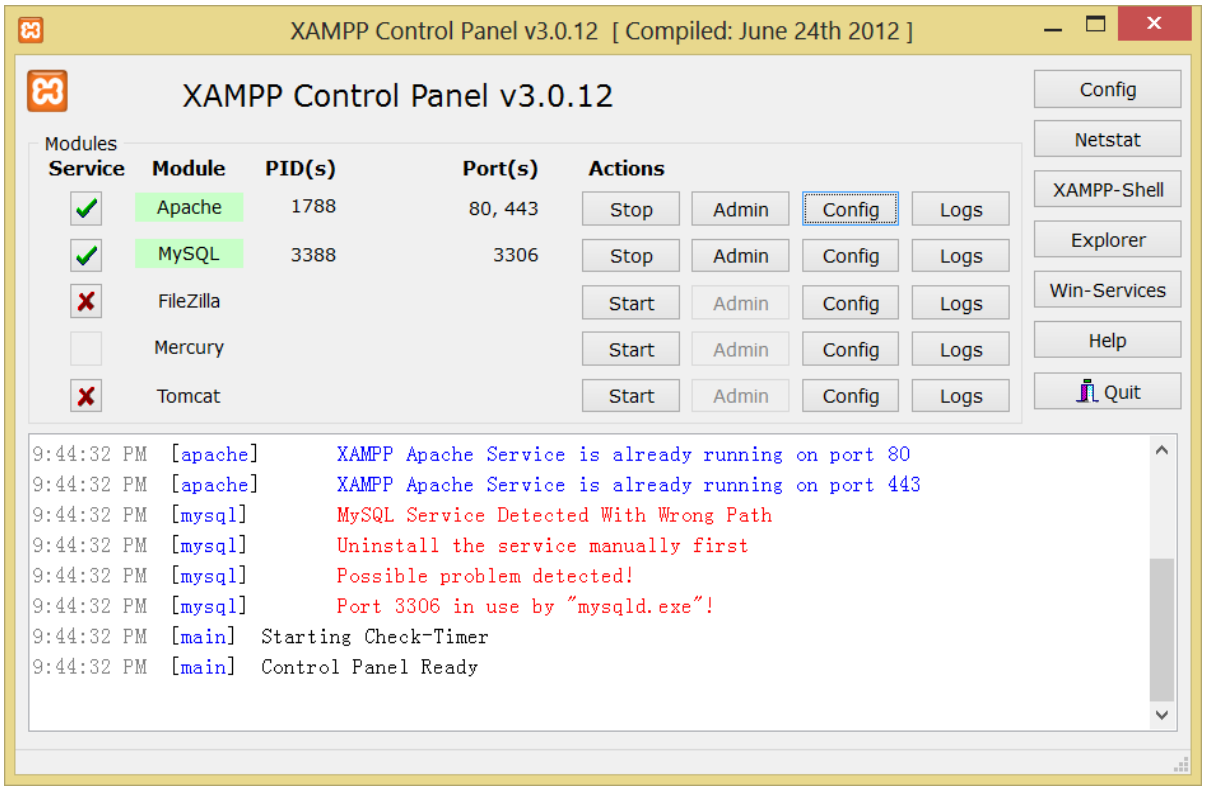

Figure 5.2.3.3: Xampp Control Panel

5.2.4 MySQL Server 5.5 installation

1st step: Double click on mysql-5.5.10-win32.exe to perform installation. Click on next button whenever needed and accept the License Agreement whenever needed.

2nd step: Click on 'Typical' setup type.

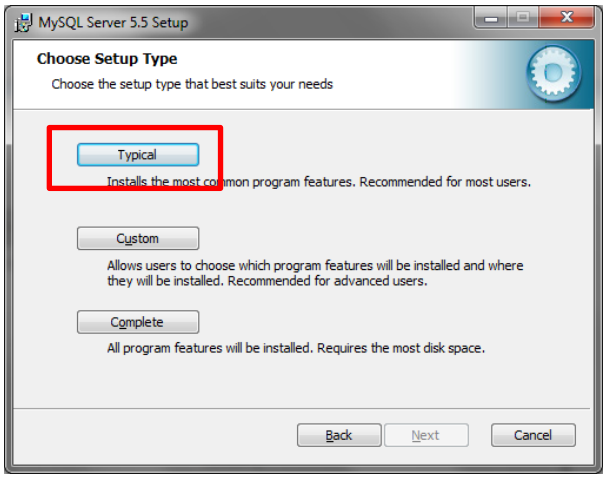

Figure 5.2.4.1: MySQL server 5.5 installation guide

3rd step: Click on Install button and for the installation complete.

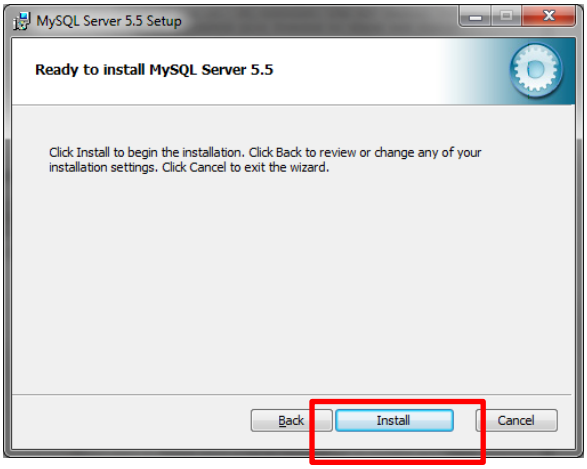

Figure 5.2.4.2: MySQL server 5.5 installation guide

4th step: Do not tick the 'Launch the MySQL Instance Configuration Wizard' and click on the finish button to finish the installation.

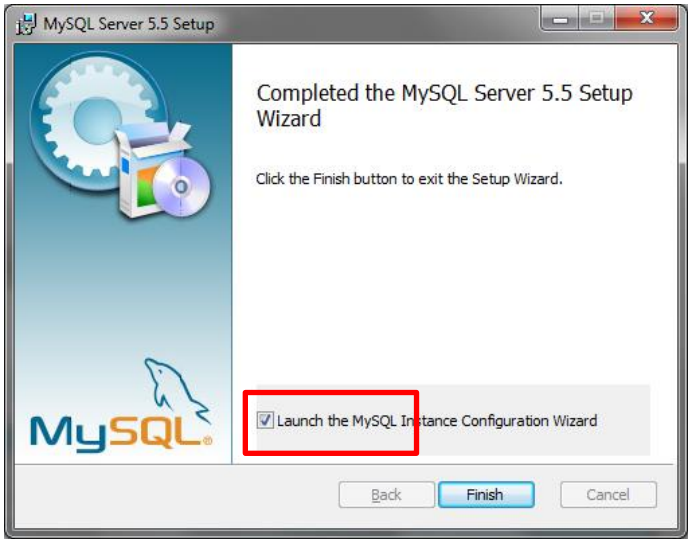

Figure 5.2.4.3: MySQL server 5.5 installation guide

5.3 Deploy FICT FYP IDEAS BANK to Xampp web server

Guideline on how to deploy FICT FYP IDEAS BANK to Xampp web server will be discussed in this section. Before deployment, make sure user computer have install all the softwares mentioned above. Refer Section 5.2.1 Adobe Dreamweaver CS6 installation, Section 5.2.2 SQLyog database installation, Section 5.2.3 5.2.3 Xampp installation and Section 5.2.4 MySQL Server 5.5 installation for software installation guide. Deployment of FICT FYP IDEAS BANK is tested on both Windows 7 and Windows 8.

1st step: Launch Xampp.

2nd step: Press Start button to start Apache and MySQL service.

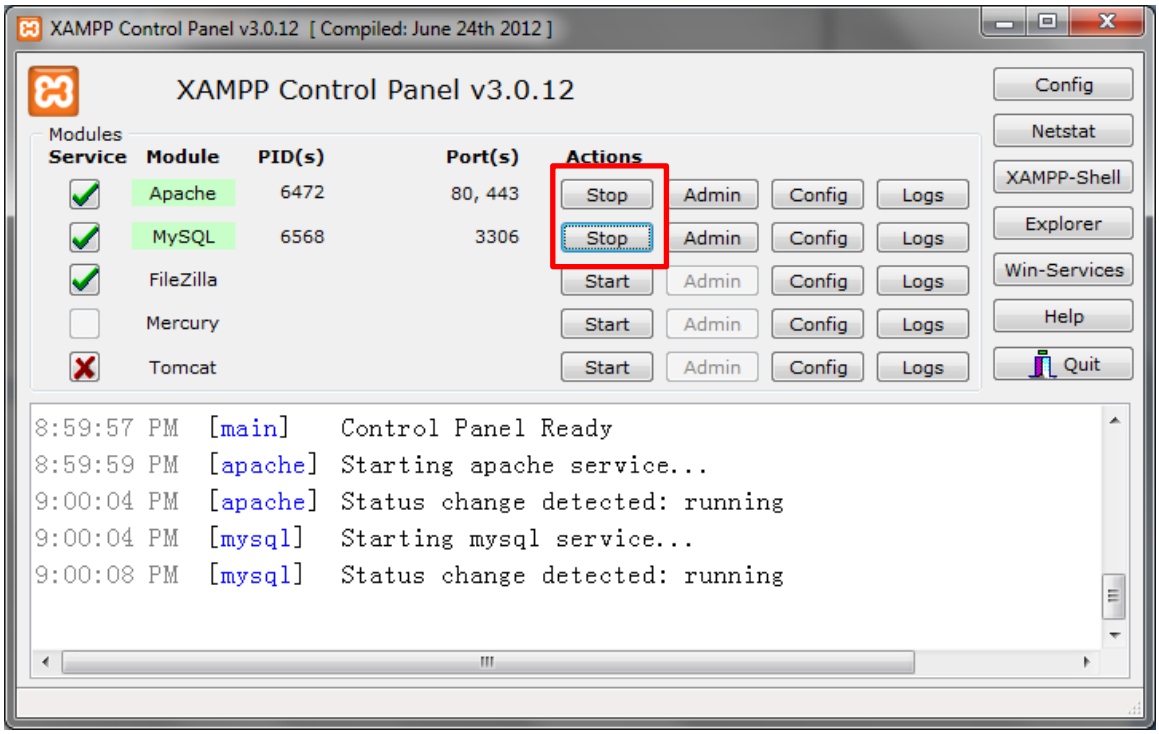

Figure 5.3.1: Start Apache and MySQL service

3rd step: Import FICT FYP IDEAS BANK to SQLyog. Lauch SQLyog and create a new connection buy clicking the New button.

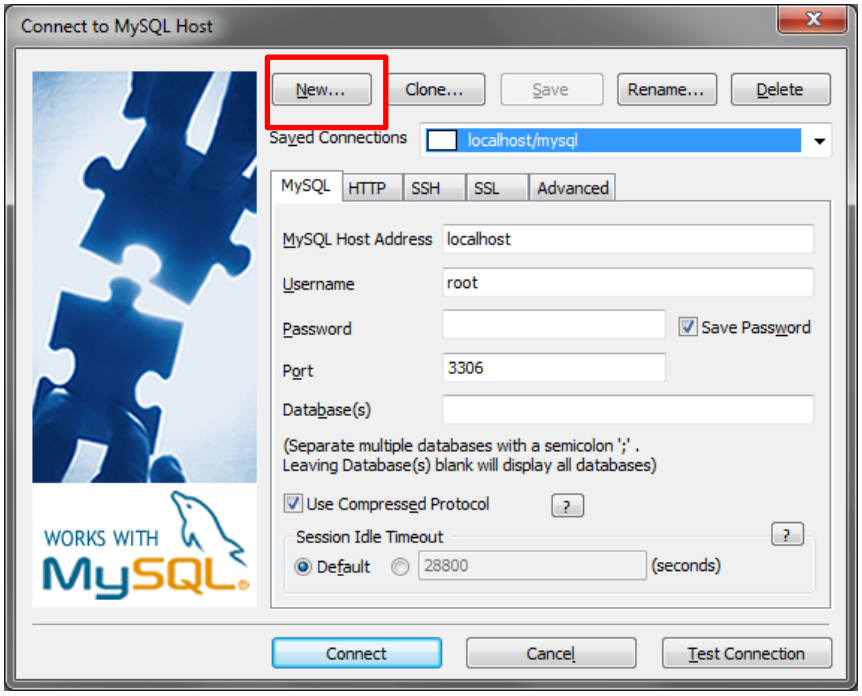

Figure 5.3.2: Create new Connection

4th step: Name the new connection as 'mysql' and press on OK button.

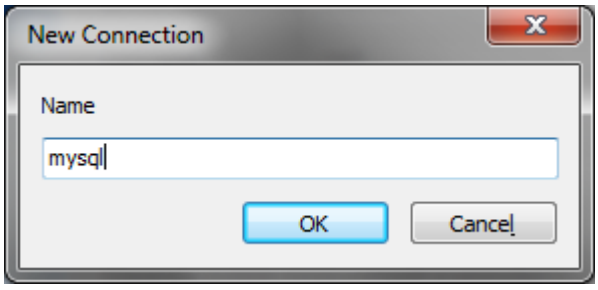

Figure 5.3.3: Enter name for new Connection

5th step: New connection is created and please makes sure the information is same as below screen shot.

MySQL Host Address: localhost

Username: root

Port: 3306

After enter all the information needed then press on Test Connection to make sure the connection is created. Lastly, click on the Connect button to connect MySQL database.

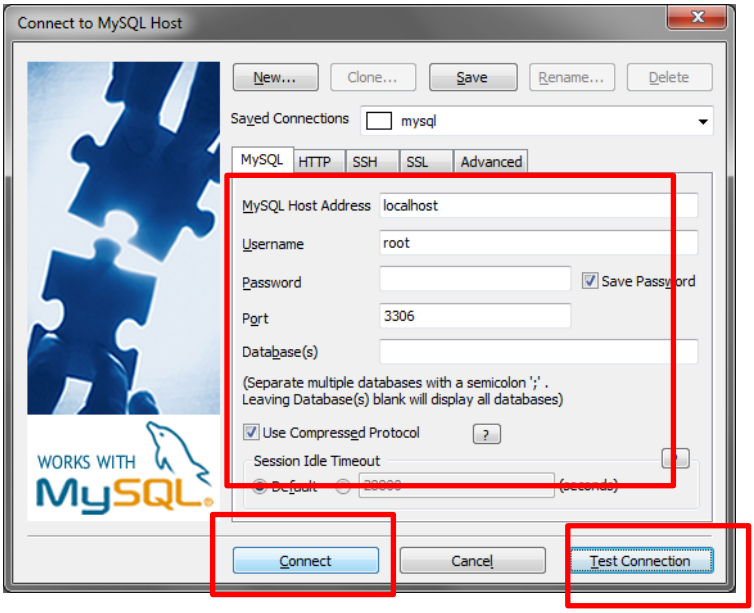

Figure 5.3.4: Enter information for created Connection

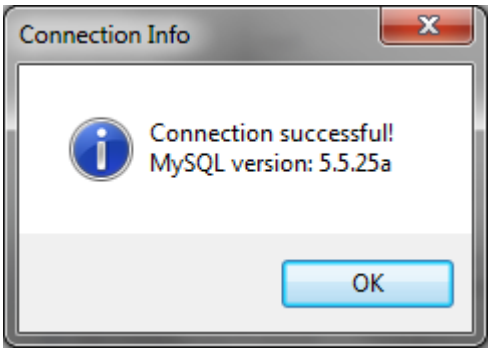

Figure 5.3.5: Test connection

6th step: After connect to the MySQL database now import FICT FYP IDEAS BANK database is required.

At the menu bar, look for Database > Import > Execute SQL Script.

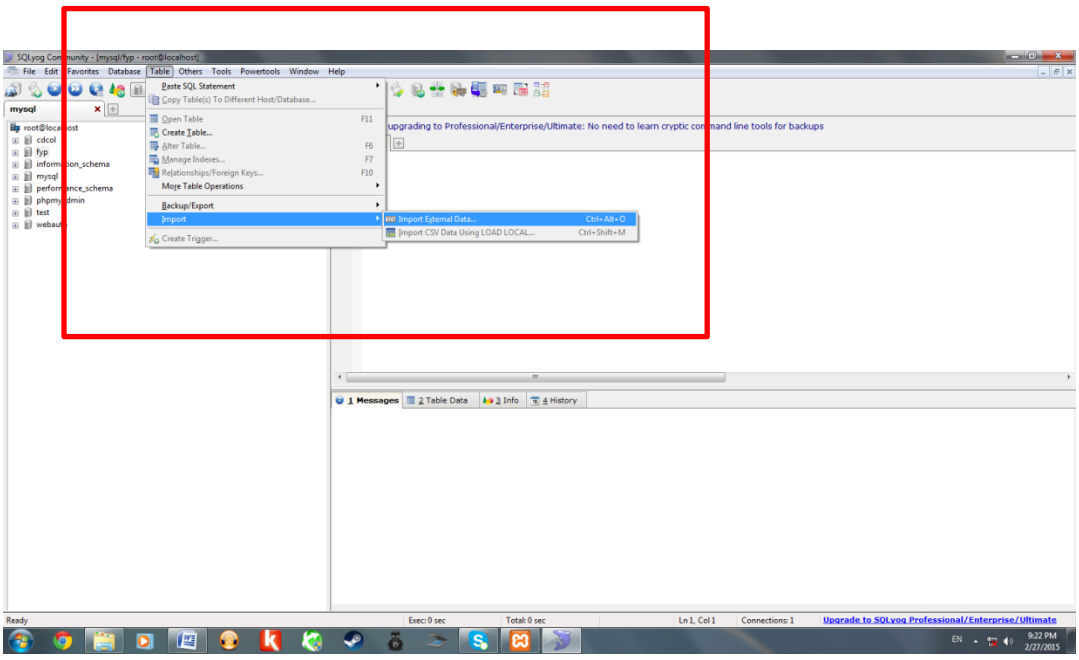

Figure 5.3.6: Import FICT FYP IDEAS BANK database

Select the location of the FICT FYP IDEAS BANK database. It is attached in the DVD and name with 'fypdb.sql'. After that, click on Execute button, wait for the fypdb.sql finish executed and click on Done button.

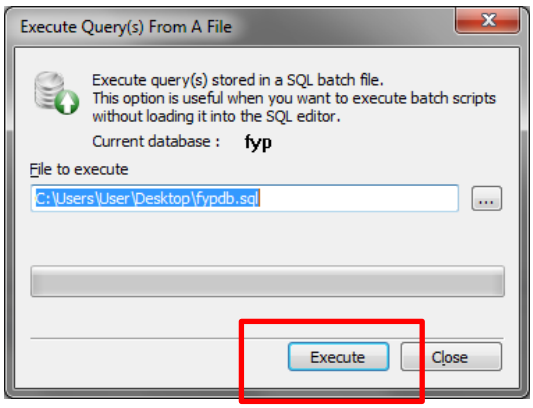

Figure 5.3.7: Execute FICT FYP IDEAS BANK database

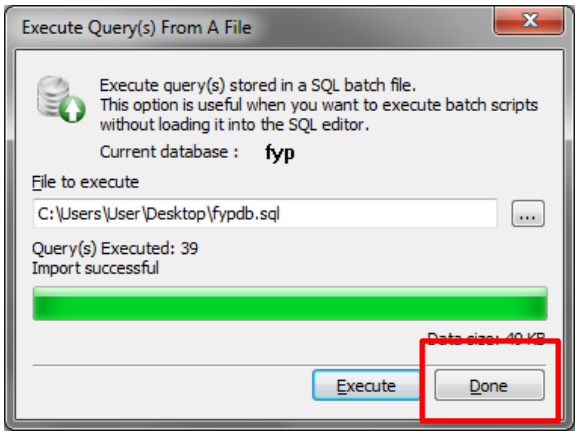

Figure 5.3.8: Execute FICT FYP IDEAS BANK database

After finish executed FICT FYP IDEAS BANK database, press F5 to refresh the SQLyog and now a database name ‘fyp’ is show in SQLyog.

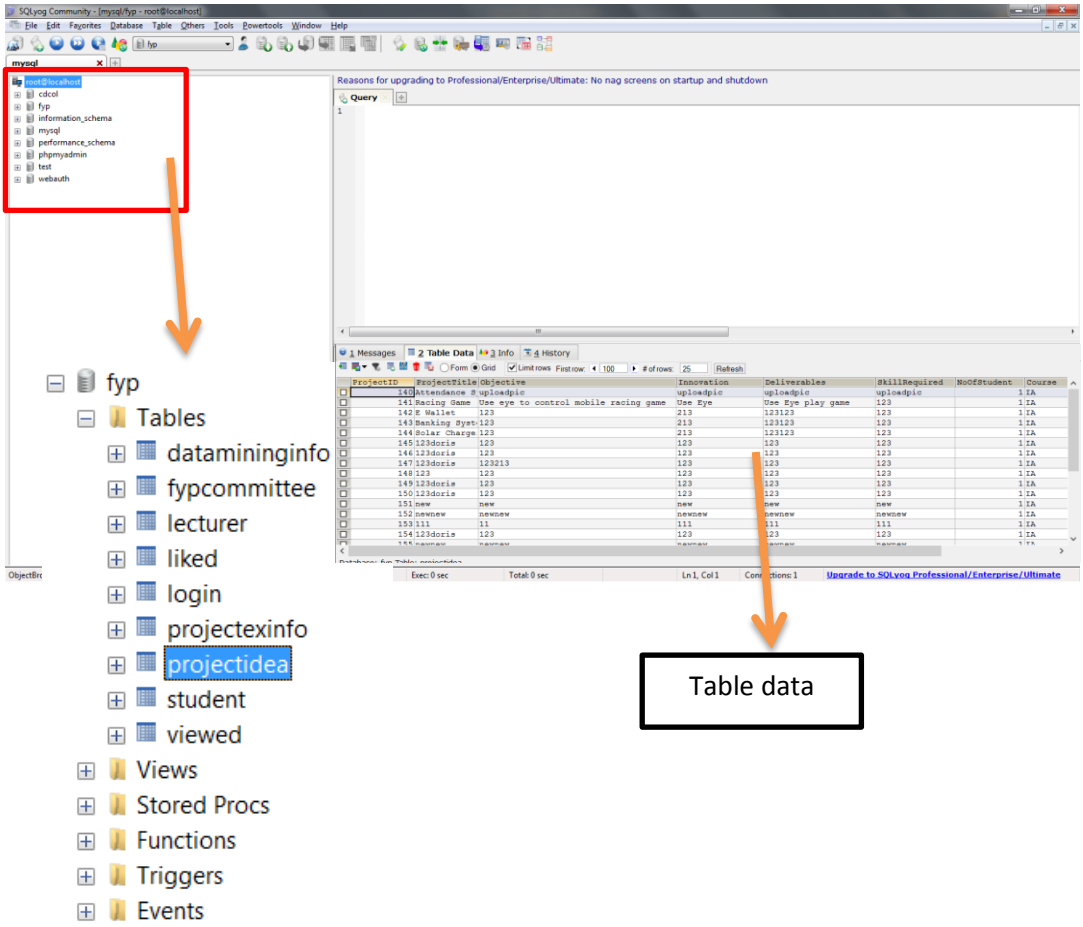

Figure 5.3.9: FICT FYP IDEAS BANK database imported

7th step: After successfully imported FICT FYP IDEAS BANK database now it's time to deal with FICT FYP IDEAS BANK project file (FICT FYP IDEAS BANK project file is attached in the DVD). First copy the project file name 'htdocs' inside 'FICT FYP IDEAS BANK Project' folder then replace it with the 'htdocs' in xampp folder. The location of xampp folder is located in the place that you specify during installation (Refer Figure 5.2.3.1: Xampp installation guide).

8th step: After replace the 'htdocs' folder now open XAMPP Control Panel, press the Config button and select PHP (php.ini).

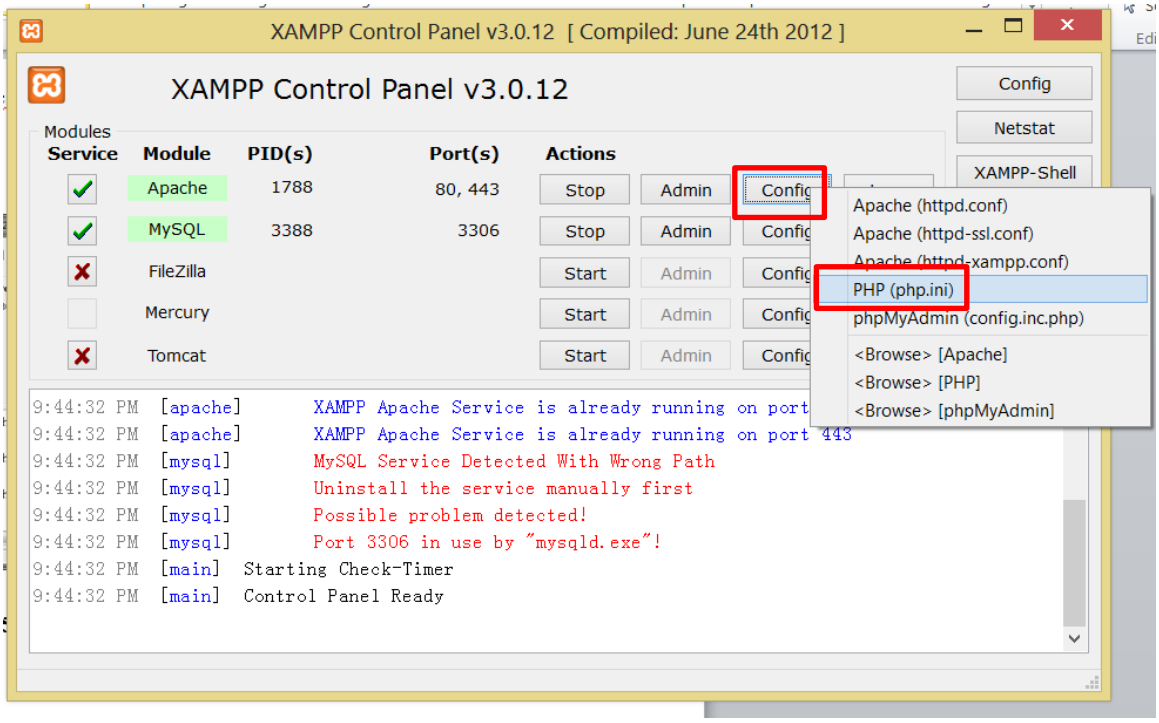

Figure 5.3.10: PHP.ini configuration

9th step: Modify the value of short_open_tag to 'On' as shown in the screen shot below.

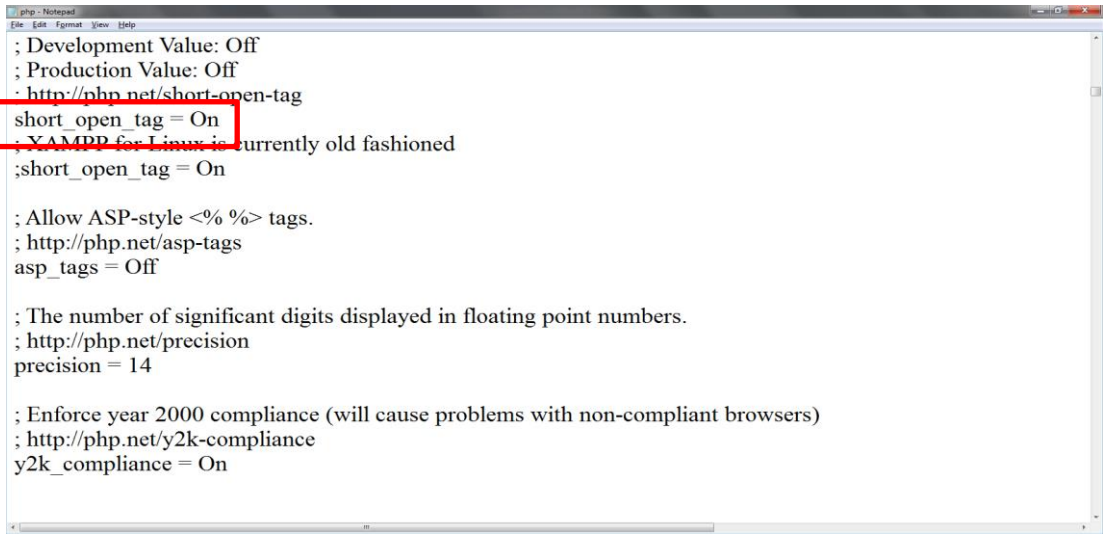

Figure 5.3.11: PHP.ini configuration

10th step: Go to xampp > htdocs > application > config and look for a php file name 'database.php'. Double click open the php file with Adobe Dreamweaver CS6. Go to line 51 and configure database value as shown in the screenshot below.

```
51  $db['default']['hostname'] = 'localhost';
52  $db['default']['username'] = 'root';
53  $db['default']['password'] = '';
54  $db['default']['database'] = 'fyp';
55  $db['default']['dbdriver'] = 'mysql';
56  $db['default']['dbprefix'] = '';
57  $db['default']['pconnect'] = TRUE;
58  $db['default']['db_debug'] = TRUE;
59  $db['default']['cache_on'] = FALSE;
60  $db['default']['cachedir'] = '';
61  $db['default']['char_set'] = 'utf8';
62  $db['default']['dbcollat'] = 'utf8_general_ci';
63  $db['default']['swap_pre'] = '';
64  $db['default']['autoinit'] = TRUE;
65  $db['default']['stricton'] = FALSE;
66
```

. **Figure 5.3.12**: FICT FYP IDEAS BANK database configuration

Final step: Congratulation! FICT FYP IDEAS BANK is successfully deploy to Xampp web server. Open Google Chrome and type 'localhost' in the address bar. It will navigate to the Login page of FICT FYP IDEAS BANK. Now FICT FYP IDEAS BANK is at your service. Implementation is tested on Windows 7 and Windows 8. Recommend to use Google Chrome for the best experience.

Figure 5.3.13: FICT FYP IDEAS BANK login page

Chapter 6 Testing

According to an article of BusinessDictionary.com (n.d) 'The process of performing a variety of tests on a system to explore functionality or to identify problems.' System testing is usually required before and after a system is put in place.' In order to make sure that the functions provided by FICT FYP IDEAS BANK are able to perform like it was intended. Unit test and integration test will be used to test the FICT FYP IDEAS BANK.

6.1 Unit Test

Unit testing is a testing method that used to test every single component or modules of a system. Unit test is used to test every page of FICT FYP IDEAS BANK to ensure that the system is suitable to use. The following section is the test plan which used to test FICT FYP IDEAS Bank.

6.1.1 Unit Test 1: Login Page

Testing objective: To ensure the login page is working correctly.

Table 6.1.1.1: Login Page Test Plan

No	Event	Value	Expected Result	Actual Result
1.	Verify username and password after click on the login button in login page with valid username and id. Able to verify user belong to which user type such as Admin,	Username: baijing Password: 1234	Navigate to student menu page.	Same as expected result

	Student or Lecturer.			
2.	Attempt to login with invalid username or password	Username:abcd Password:1234	Display error message 'Invalid ID or Password Entered'	Same as expected result
3.	Attempt to login without enter username and password	Username: Blank Password: Blank	Pop up a dialog box to request user enter username and password.	Same as expected result

6.1.2 Unit Test 2: Registration Page for Student and Lecturer

Testing objective: To ensure that the registration page is working correctly.

Table 6.1.2.1: Registration Page Test Plan

No	**Event**	**Value**	**Expected Result**	**Actual Result**
1.	Verify all the information enters by the student after click on the register button with all valid input.	UserType: Student Student/Lecturer ID: 12ADC07666 Username: magicposta Password:1234 Confirm Password:1234 FirstName: Leong LastName: Wai Hang ContactNo: 01136170776 Email:	A successful message will display.	Same as expected result

		magicposta@gmail.com Faculty: FICT Profession: IA Address: 4, Aston Settlement State: Perak Poskod: 31900		
2.	Student attempt to register an account with registered username or student id	UserType: Student Student/Lecturer ID: 12ADC07666 Username: magicposta Password:1234 Confirm Password:1234 FirstName: Leong LastName: Wai Hang ContactNo: 01136170776 Email: magicposta@gmail.com Faculty: FICT Profession: IA Address: 4, Aston Settlement State: Perak Poskod: 31900	Error message will display '✘ Username Already In Use! ✘' or '✘ Student ID Already In Use! ✘'	Same as expected result
3.	Verify all the information enters by the lecturer after	UserType: Lecturer Student/Lecturer ID: 12LEC07666	A successful message will display.	Same as expected result

	click on the register button with all valid input.	Username: lecturer1 Password:1234 Confirm Password:1234 FirstName: Peter LastName: Chin ContactNo: 01236170776 Email: peter123@gmail.com Faculty: FICT Profession: IB Address: 41, Taman A State: Perak Poskod: 31900		
4.	Lecturer attempt to register an account with registered username or lecturer id	UserType: Lecturer Student/Lecturer ID: 12LEC07666 Username: lecturer1 Password:1234 Confirm Password:1234 FirstName: Peter LastName: Chin ContactNo: 01236170776 Email: peter123@gmail.com Faculty: FICT Profession: IB	Error message will display '✘ Username Already In Use! ✘' or '✘ Student ID Already In Use! ✘'	Same as expected result

		Address: 41, Taman A State: Perak Poskod: 31900		
5.	Student or lecturer attempt to register an account without enter 1 or more information needed	UserType: Lecturer Student/Lecturer ID: blank Username: blank Password: blank Confirm Password: blank FirstName: blank LastName: blank ContactNo: blank Email: blank Address: blank State: blank Poskod: blank	Pop up a dialog box to request user enter missing information.	Same as expected result
6.	Password and Confirm password not match when click on the register button	Password: 1234 Confirm Password: 1233	Pop up a dialog box that mention password not match.	Same as expected result
7.	Student or Lecturer attempt to register an account by enter special characters in textfield provided	UserType: Lecturer Student/Lecturer ID: !@#$ Username: @#$ Password: ^&*(Confirm Password: ^&*(FirstName: %^&	Pop up a dialog box that mention using special characters are not allow.	Same as expected result

		LastName: %^& ContactNo: !@#$ Email: 123@gmail.com Address: !@#$%^ State: #$%^&* Poskod: #$%^&		
8.	Student or Lecturer attempt to register an account with invalid format email.	Email: 123gmail	Pop up a dialog box that mention invalid email format.	Same as expected result
9.	Student or Lecturer attempt to register an account with invalid phone number format.	Phone No: 123456QWER	Pop up a dialog box that mention invalid email format. Only digits are available.	Same as expected result

6.1.3 Unit Test 3: Registration Page for Admin

Testing objective: To ensure that the admin registration page is working correctly.

Table 6.1.3.1: Admin Registration Page Test Plan

No	**Event**	**Value**	**Expected Result**	**Actual Result**
1.	Verify all the information enters by the admin after click on the register button	Lecturer ID: 12ADM09999 Username: adminpro1 Password:1234	A successful message will be display.	Same as expected result

	with all valid input.	Confirm Password:1234 FirstName: Prof LastName: Lee ContactNo: 01136170456 Email: adminpro@gmail.com Faculty: FICT Profession: CS Address: 4, Aston Settlement State: Perak Poskod: 31900		
2.	Admin attempt to register an account with registered username or lecturer id	Lecturer ID: 12ADM09999 Username: adminpro1 Password:1234 Confirm Password:1234 FirstName: Prof LastName: Lee ContactNo: 01136170456 Email: adminpro@gmail.com Faculty: FICT Profession: CS Address: 4, Aston	Error message will display '✘ Username Already In Use! ✘' or '✘ Student ID Already In Use! ✘'	Same as expected result

		Settlement State: Perak Poskod: 31900		
3.	Admin attempt to register an account without enter 1 or more information needed	Lecturer ID: blank Username: blank Password: blank Confirm Password: blank FirstName: blank LastName: blank ContactNo: blank Email: blank Faculty: blank Profession: blank Address: blank State: blank Poskod: blank	Pop up a dialog box to request user enter missing information.	Same as expected result
6.	Password and Confirm password not match when click on the register button	Password: 1234 Confirm Password: 1233	Pop up a dialog box that mention password not match.	Same as expected result
7.	Admin attempt to register an account by enter special characters in textfield provided	Lecturer ID: !@#$ Username: @#$ Password: ^&*(Confirm Password: %^&*	Pop up a dialog box that mention using special characters are not allow.	Same as expected result

		FirstName: %^& LastName: %^& ContactNo: !@#$ Email: 123@gmail.com Address: !@#$%^ State: #$%^&* Poskod: #$%^&		
8.	Admin attempt to register an account with invalid format email.	Email: 123gmail	Pop up a dialog box that mention invalid email format.	Same as expected result
9.	Admin attempt to register an account with invalid phone number format.	Phone No: 123456QWER	Pop up a dialog box that mention invalid email format. Only digits are available.	Same as expected result

6.1.4 Unit Test 4: Approve Project Idea Page (Admin)

Testing objective: To ensure that the approve project idea page is working correctly.

Table 6.1.4.1: Approve Project Idea Page Test Plan

No	Event	Value	Expected Result	Actual Result
1.	Admin click on the approve project idea hyperlink	N/A	Navigate to approve project idea page and display all the project idea which approval status is 'No'.	Same as expected result
2.	Admin click on the project id of the project idea in the table	N/A	Navigate to project idea details page with all the information of the project idea.	Same as expected result
3.	Admin tick the check box beside the project idea and click on the Update Status button.	N/A	Approval status of the project idea is updated to 'Yes' and able to show in Project Idea Menu Page.	Same as expected result
4.	Enter keyword in the search text field and click on search button.	Racing	Display the project ideas that match the searched keyword.	Same as expected result
5.	Perform text processing	Objectives:	Extract all the	Same as

	after user successfully shared a project idea	Zenonia Innovation: Acarbose Deliverables: xenopus	rare keywords that start with letter x and z and word more than 8 alphabets. Extracted rare keywords will save in database and display in rare keyword page.	expected result

6.1.5 Unit Test 5: Share Project Idea Page (Admin, Student, Lecturer)

Testing objective: To ensure that the share project idea page is working correctly.

Table 6.1.5.1: Share Project Idea Page Test Plan

No	Event	Value	Expected Result	Actual Result
1.	Verify all the project idea information enters by the user after click on the share button with all valid input.	ProjectTitle: Racing Game Objectives: Release stress Deliverables: mobie app racing game Innovation: use eye ball to control car Skill Required: C++ Suitable for: IA	A successful message will display.	Same as expected result

		No of Student: 1 Remarks(optional): Come see me for more details Choose file(optional): image.png		
2.	Attempt to share a project idea without fill in one or more information needed	ProjectTitle: blank Objectives: blank Deliverables: mobie app racing game Innovation: blank Skill Required: C++ Suitable for: IA No of Student: 1 Remarks(optional): Come see me for more details Choose file(optional): image.png	Pop up a dialog box to request user fill in the missing information	Same as expected result
3.	Perform text processing after user successfully shared a project idea	Objectives: Zenonia Innovation: Acarbose Deliverables: xenopus	Extract all the rare keywords that start with letter x and z and word more than 8 alphabets. Extracted rare keywords will save in database and display in rare keyword page.	Same as expected result

6.1.6 Unit Test 6: Project Menu Page (Admin, Student, Lecturer)

Testing objective: To ensure that the Project Menu page is working correctly.

Table 6.1.6.1: Project Menu page Test Plan

No	Event	Value	Expected Result	Actual Result
1.	Click on the course button (IA, IB, CS, CT, CN)	N/A	Navigates to Project Idea Menu Page that shows only the selected course project idea.	Same as expected result

6.1.7 Unit Test 7: Project Idea Menu Page (Admin, Student, Lecturer)

Testing objective: To ensure that the Project Idea Menu page is working correctly.

Table 6.1.7.1: Project Idea Menu page Test Plan

No	Event	Value	Expected Result	Actual Result
1.	User click on the project id to view the full information of the project idea.	N/A	Navigates to project idea details page and display all project idea information.	Same as expected result
2.	User attempt to click on the like button.	N/A	Update number of likes of the project idea and show the current	Same as expected result

			number of likes of a project idea.	
3.	Enter keyword in the search text field and click on search button.	Racing	Display the project ideas that match the searched keyword.	Same as expected result

6.1.8 Unit Test 8: Project Idea Details Page (Admin, Student, Lecturer)

Testing objective: To ensure that the Project Idea Details page is working correctly.

Table 6.1.8.1: Project Idea Details page Test Plan

No	Event	Value	Expected Result	Actual Result
1.	User want to view the full information of the project idea	N/A	The web based system will fetch all the project idea information and display to the user.	Same as expected result
2.	User enter comment in a text field and click on the submit button	Comment: Very innovative idea	Comment of the user provided will be display at the table below.	Same as expected result
3.	User click on the submit button without enter any comment	Comment: blank	Pop up a dialog box to request user to enter the comment.	Same as expected result

6.1.9 Unit Test 9: Rare Keyword Page (Admin, Student, Lecturer)

Testing objective: To ensure that the Rare Keyword page is working correctly.

Table 6.1.9.1: Rare Keyword page Test Plan

No	Event	Value	Expected Result	Actual Result
1.	User want to view rare keyword extracted by the system	N/A	The web based system will fetch all the extracted rare keyword from database and display to the user.	Same as expected result

6.1.10 Unit Test 10: User DashBoard Page (Admin, Student, Lecturer)

Testing objective: To ensure that the User DashBoard page is working correctly.

Table 6.1.10.1: User DashBoard page Test Plan

No	Event	Value	Expected Result	Actual Result
1.	User click on the update personal details hyperlink.	N/A	Navigates to update personal details page.	Same as expected result
2.	User click on the reset password hyperlink.	N/A	Navigates to reset password page.	Same as expected result
3.	User want to keep track of all the project ideas that	N/A	The web base system will fetch all the project	Same as expected result

	already been shared by him.		ideas from the database that belongs to the user.	
4.	View full information of the project idea by clicking the project id	N/A	Navigate to project idea details page and show full information of the project idea.	Same as expected result
5.	Update the status of the project idea by 'checked' the project idea and click on the update status button	N/A	The project idea status is updated. If the current status is 'Taken' then the word taken will be highlighted in red color.	Same as expected result
6.	Enter keyword in the search text field and click on search button.	Racing	Display the project ideas that match the searched keyword.	Same as expected result

6.1.11 Unit Test 11: Reset Password Page (Admin, Student, Lecturer)

Testing objective: To ensure that the Reset Password page is working correctly.

Table 6.1.11.1: Reset Password page Test Plan

No	Event	Value	Expected Result	Actual Result
1.	Click on the reset password button with all the valid information	Old Password: 1234 New Password: 12345 Confirm New Password: 12345	Successful message will be display.	Same as expected result
2.	Click on the reset password button without enter 1 or more information needed.	Old Password: blank New Password: blank Confirm New Password: blank	Pop up a dialog box to request user enter the information needed.	Same as expected result
3.	Click on the reset password button with invalid old password	Old Password: abcd New Password: 12345 Confirm New Password: 12345	Error message will be display '✘ WRONG OLD PASSWORD ENTERED ✘'	Same as expected result
4.	Click on the reset password button with valid old password but different new password and confirm new password	Old Password: 1234 New Password: 12345 Confirm New Password: abcde	Pop up a dialog box that mention password not match	Same as expected result

5.	Click on the reset password button with new password which is shorter than 4 values.	Old Password: 1234 New Password: 1 Confirm New Password: 1	Pop up a dialog box that mention password too short	Same as expected result
6.	Click on the reset password button with new password which is longer than 12 values.	Old Password: 1234 New Password: 1234abcderfgthytr Confirm New Password: 1234abcderfgthytr	Pop up a dialog box that mention password too long	Same as expected result
7.	Click on the reset password button with new password which is contain special char.	Old Password: 1234 New Password: 1234!@#$ Confirm New Password: 1234!@#$	Pop up a dialog box that mentions no special character is allow.	Same as expected result

6.1.12 Unit Test 12: Update Personal Details Page (Admin, Student, Lecturer)

Testing objective: To ensure that the Update Personal Detail page is working correctly.

Table 6.1.12.1: Update Personal Detail page Test Plan

No	**Event**	**Value**	**Expected Result**	**Actual Result**
1.	Verify all the information enters by the user after click on the update button with all valid input.	FirstName: Leong LastName: Wai Hang ContactNo: 01136170776 Email:	A successful message will display.	Same as expected result

		magicposta@gmail.com Faculty: FICT Profession: IA Address: 4, Aston Settlement State: Perak Poskod: 31900		
2.	User attempt to update personal details without enter 1 or more information needed	FirstName: blank LastName: blank ContactNo: blank Email: blank Faculty: blank Profession: blank Address: blank State: blank Poskod: blank	Pop up a dialog box to request user enter missing information.	Same as expected result
7.	User attempt to update his personal details by enter special characters in textfield provided	FirstName: %^& LastName: %^& ContactNo: !@#$ Email: 123@gmail.com Address: !@#$%^ State: #$%^&* Poskod: #$%^&	Pop up a dialog box that mention using special characters are not allow.	Same as expected result
8.	User attempt to update his email with invalid format email.	Email: 123gmail	Pop up a dialog box that mention invalid email format.	Same as expected result
9.	User attempt to	Phone No:	Pop up a dialog	Same as

	update his phone number with invalid phone number format.	123456QWER	box that mention invalid email format. Only digits are available.	expected result

6.1.13 Unit Test 13: Update Project Menu Page (Admin, Student, Lecturer)

Testing objective: To ensure that the Update Project Menu page is working correctly.

Table 6.1.13.1: Update Project Menu page Test Plan

No	Event	Value	Expected Result	Actual Result
1.	User click on the project id to view the full information of the project idea.	N/A	Navigates to update project idea details page and display full project idea information.	Same as expected result
2.	Enter keyword in the search text field and click on search button.	Racing	Display the project ideas that match the searched keyword.	Same as expected result

6.1.14 Unit Test 14: Update Project Idea Detail Page (Admin, Student, Lecturer)

Testing objective: To ensure that the Update Project Idea Detail page is working correctly.

Table 6.1.14.1: Update Project Idea Detail page Test Plan

No	Event	Value	Expected Result	Actual Result
1.	Verify all the project idea information enters by the user after click on the update project idea button with all valid input.	ProjectTitle: Racing Game Objectives: Release stress Deliverables: mobie app racing game Innovation: use eye ball to control car Skill Required: C++ Suitable for: IA No of Student: 1 Remarks(optional): Come see me for more details Choose file(optional): image.png	A successful message will display.	Same as expected result
2.	Attempt to update a project idea without fill in one or more information needed	ProjectTitle: blank Objectives: blank Deliverables: mobile app racing game Innovation: blank Skill Required: C++ Suitable for: IA No of Student: 1 Remarks(optional): Come see me for more	Pop up a dialog box to request user fill in the missing information	Same as expected result

		details Choose file(optional): image.png		

6.2 Integration Test

Integration test is a testing method that combines all individual modules together and tested as a group. Before integration test can start, unit test must be completed and make sure that all the individual modules are function like it was intended. After completed unit test then integrate all the individual modules as a group and perform unit test repeatedly. During, integration testing, all the pages of FICT FYP IDEAS BANK will be integrated. After integrated, unit test must be performed in order to make sure no error occur after integrated. Finally a full system test will be performed; the full system test will test FICT FYP IDEAS BANK step by step from the beginning. In short, each function will be tested starting from the login page. Test plan and test result are provided in this section.

6.2.1 Integration Test 1: Admin Approve Project Ideas

Testing objective: To ensure that Admin are able to approve project ideas share by student.

Table 6.2.1.: Admin Approve project Ideas Test Plan

Step	**Event**	**Value**	**Expected Result**	**Actual Result**
1.	Login with Admin username and password	Username : admin Password : 1234	Login successful and navigate to Admin menu page.	Same as expected result
2.	Admin click on the approve project idea hyperlink	N/A	FICT FYP IDEAS BANK will navigate to approve project idea page and display all the project ideas with approval status 'No' that shared by student in table.	Same as expected result
3.	Admin approve project idea by tick the checkbox beside the project ideas and press on 'Approve Project IDEAS' button.	N/A	Successfully approve the project idea and show the project idea in project idea menu page.	Same as expected result

6.2.2 Integration Test 2: Admin Share Project Idea

Testing objective: To ensure that Admin are able to share project idea.

Table 6.2.2: Admin share project Ideas Test Plan

Step	**Event**	**Value**	**Expected Result**	**Actual Result**
1.	Login with Admin username and password	Username : admin Password : 1234	Login successful and navigate to Admin menu page.	Same as expected result
2.	Admin click on the share project idea hyperlink	N/A	FICT FYP IDEAS BANK will navigate to share project idea page	Same as expected result
3.	Admin fill in all the information needed and click on the share button.	ProjectTitle: Racing Game Objectives: Release stress Deliverables: mobie app racing game Innovation: use eye ball to control car Skill Required: C++ Suitable for: IA No of Student: 1 Remarks(optional): Come see me for more details Choose file(optional): image.png	Successfully shared a project idea and show the project idea in project idea menu page.	Same as expected result

6.2.3 Integration Test 3: Admin Search Project Idea

Testing objective: To ensure that Admin are able to search project idea.

Table 6.2.3: Admin search project Ideas Test Plan

Step	Event	Value	Expected Result	Actual Result
1.	Login with Admin username and password	Username : admin Password : 1234	Login successful and navigate to Admin menu page.	Same as expected result
2.	Admin click on the Project IDEAS Bank hyperlink	N/A	FICT FYP IDEAS BANK will navigate to project menu page.	Same as expected result
3.	Admin select which course of the project ideas that want to see.	IA	FICT FYP IDEAS BANK navigates to project idea menu page and display all the project idea belong to 'IA' course in the table.	Same as expected result
4.	Admin click on the project id to view the full detail of the project idea.	N/A	FICT FYP IDEAS BANK navigates to project idea page and show full detail of a project idea.	Same as expected result

6.2.4 Integration Test 4: Admin Search Rare Keyword

Testing objective: To ensure that Admin are able to search rare keyword.

Table 6.2.4: Admin search rare keyword Test Plan

Step	Event	Value	Expected Result	Actual Result
1.	Login with Admin username and password	Username : admin Password : 1234	Login successful and navigate to Admin menu page.	Same as expected result
2.	Admin click on the Keyword List hyperlink	N/A	FICT FYP IDEAS BANK will navigate to rare keyword page and display all the extracted rare keyword and display in the table.	Same as expected result
3.	Admin click on the project id to see full project idea detail that contain this rare keyword	N/A	FICT FYP IDEAS BANK will navigate to project idea detail page.	Same as expected result

6.2.5 Integration Test 5: Admin Update Project Idea Status

Testing objective: To ensure that Admin are able to update project idea status.

Table 6.2.5: Admin update project idea status Test Plan

Step	Event	Value	Expected Result	Actual Result
1.	Login with Admin username and password	Username : admin Password : 1234	Login successful and navigate to Admin menu page.	Same as expected result
2.	Admin click on the User DashBoard hyperlink	N/A	FICT FYP IDEAS BANK will navigate to User DashBoard page and display all the project ideas that shared by the admin in a table	Same as expected result
3.	Admin click on the project id to see full project idea detail	N/A	FICT FYP IDEAS BANK will navigate to project idea detail page.	Same as expected result
4.	Admin approve project idea by tick the checkbox beside the project ideas and press on 'Update Status' button.	N/A	Successfully update the status of a project idea.	Same as expected result

6.2.6 Integration Test 6: Admin Reset Password

Testing objective: To ensure that Admin are able to reset account password.

Table 6.2.6: Admin reset account password Test Plan

Step	Event	Value	Expected Result	Actual Result
1.	Login with Admin username and password	Username : admin Password : 1234	Login successful and navigate to Admin menu page.	Same as expected result
2.	Admin click on the User DashBoard hyperlink	N/A	FICT FYP IDEAS BANK will navigate to User DashBoard page.	Same as expected result
3.	Admin click on the reset password button	N/A	FICT FYP IDEAS BANK will navigate to reset password page.	Same as expected result
4.	Admin enter his old password, new password and confirm new password	Old Password: 1234 New Password: abc123 Retype New Password: abc123	FICT FYP IDEAS BANK validates information provided and update new password.	Same as expected result

6.2.7 Integration Test 7: Admin Update Personal Details

Testing objective: To ensure that Admin are able to update personal details.

Table 6.2.7: Admin update personal details Test Plan

Step	Event	Value	Expected Result	Actual Result
1.	Login with Admin username and password	Username : admin Password : 1234	Login successful and navigate to Admin menu page.	Same as expected result
2.	Admin click on the update personal details hyperlink	N/A	FICT FYP IDEAS BANK will navigate to update personal details page and fetch current personal details in text field provided.	Same as expected result
3.	Admin provide new personal details then click on update personal detail button	Contact No: 01112345671	FICT FYP IDEAS BANK validates information provided and updates admin personal details.	Same as expected result

6.2.8 Integration Test 8: Admin Update Project Idea Details

Testing objective: To ensure that Admin are able to update personal details.

Table 6.2.8: Admin update project idea details Test Plan

Step	Event	Value	Expected Result	Actual Result
1.	Login with Admin username and password	Username : admin Password : 1234	Login successful and navigate to Admin menu page.	Same as expected result
2.	Admin click on the update project ideas details hyperlink	N/A	FICT FYP IDEAS BANK will navigate to update project menu page and display all the project ideas shared by admin.	Same as expected result
3.	Admin click on the project id to view full information of a project idea	N/A	FICT FYP IDEAS BANK will navigate to project idea detail page and fetch current project details to text field provided.	Same as expected result
4.	Admin provide new project ideas information and click update project idea button	Innovation: Use eyes to control object.	Validate new information provided and updates new project idea details.	Same as expected result

6.2.9 Integration Test 9: Lecturer Share Project Idea

Testing objective: To ensure that Lecturer are able to share project idea.

Table 6.2.9: Lecturer share project Ideas Test Plan

Step	**Event**	**Value**	**Expected Result**	**Actual Result**
1.	Login with Lecturer username and password	Username : choa Password : 1234	Login successful and navigate to lecturer menu page.	Same as expected result
2.	Lecturer click on the share project idea hyperlink	N/A	FICT FYP IDEAS BANK will navigate to share project idea page	Same as expected result
3.	Lecturer fill in all the information needed and click on the share button.	ProjectTitle: Racing Game Objectives: Release stress Deliverables: mobie app racing game Innovation: use eye ball to control car Skill Required: C++ Suitable for: IA No of Student: 1 Remarks(optional): Come see me for more details Choose file(optional): image.png	Successfully shared a project idea and show the project idea in project idea menu page.	Same as expected result

6.2.10 Integration Test 10: Lecturer Search Project Idea

Testing objective: To ensure that Lecturer are able to search project idea.

Table 6.2.10: Lecturer search project Ideas Test Plan

Step	Event	Value	Expected Result	Actual Result
1.	Login with Lecturer username and password	Username : chao Password : 1234	Login successful and navigate to lecturer menu page.	Same as expected result
2.	Lecturer click on the Project IDEAS Bank hyperlink	N/A	FICT FYP IDEAS BANK will navigate to project menu page.	Same as expected result
3.	Lecturer selects which course of the project ideas that want to see.	IA	FICT FYP IDEAS BANK navigates to project idea menu page and display all the project idea belong to 'IA' course in the table.	Same as expected result
4.	Lecturer click on the project id to view the full detail of the project idea.	N/A	FICT FYP IDEAS BANK navigates to project idea page and show full detail of a project idea.	Same as expected result

6.2.11 Integration Test 11: Lecturer Search Rare Keyword

Testing objective: To ensure that Lecturer are able to search rare keyword.

Table 6.2.11: Lecturer search rare keyword Test Plan

Step	Event	Value	Expected Result	Actual Result
1.	Login with Lecturer username and password	Username : chao Password : 1234	Login successful and navigate to lecturer menu page.	Same as expected result
2.	Lecturer click on the Keyword List hyperlink	N/A	FICT FYP IDEAS BANK will navigate to rare keyword page and display all the extracted rare keyword and display in the table.	Same as expected result
3.	Lecturer click on the project id to see full project idea detail that contain this rare keyword	N/A	FICT FYP IDEAS BANK will navigate to project idea detail page.	Same as expected result

6.2.12 Integration Test 12: Lecturer Update Project Idea Status

Testing objective: To ensure that Lecturer are able to update project idea status.

Table 6.2.12: Lecturer update project idea status Test Plan

Step	Event	Value	Expected Result	Actual Result
1.	Login with Lecturer username and password	Username : choa Password : 1234	Login successful and navigate to lecturer menu page.	Same as expected result
2.	Lecturer click on the User DashBoard hyperlink	N/A	FICT FYP IDEAS BANK will navigate to User DashBoard page and display all the project ideas that shared by the lecturer in a table	Same as expected result
3.	Lecturer click on the project id to see full project idea detail	N/A	FICT FYP IDEAS BANK will navigate to project idea detail page.	Same as expected result
4.	Lecturer approves project idea by tick the checkbox beside the project ideas and press on 'Update Status' button.	N/A	Successfully update the status of a project idea.	Same as expected result

6.2.13 Integration Test 13: Lecturer Reset Password

Testing objective: To ensure that Lecturer are able to reset account password.

Table 6.2.13: Lecturer reset account password Test Plan

Step	Event	Value	Expected Result	Actual Result
1.	Login with Lecturer username and password	Username : choa Password : 1234	Login successful and navigate to lecturer menu page.	Same as expected result
2.	Lecturer click on the User DashBoard hyperlink	N/A	FICT FYP IDEAS BANK will navigate to User DashBoard page.	Same as expected result
3.	Lecturer click on the reset password button	N/A	FICT FYP IDEAS BANK will navigate to reset password page.	Same as expected result
4.	Lecturer enter his old password, new password and confirm new password	Old Password: 1234 New Password: abc123 Retype New Password: abc123	FICT FYP IDEAS BANK validates information provided and update new password.	Same as expected result

6.2.14 Integration Test 14: Lecturer Update Personal Details

Testing objective: To ensure that Lecturer are able to update personal details.

Table 6.2.14: Lecturer update personal details Test Plan

Step	Event	Value	Expected Result	Actual Result
1.	Login with Lecturer username and password	Username : choa Password : 1234	Login successful and navigate to lecturer menu page.	Same as expected result
2.	Lecturer click on the update personal details hyperlink	N/A	FICT FYP IDEAS BANK will navigate to update personal details page and fetch current personal details in text field provided.	Same as expected result
3.	Lecturer provide new personal details then click on update personal detail button	Contact No: 01112345671	FICT FYP IDEAS BANK validates information provided and updates lecturer personal details.	Same as expected result

6.2.15 Integration Test 15: Lecturer Update Project Idea Details

Testing objective: To ensure that Lecturer are able to update personal details.

Table 6.2.15: Lecturer update project idea details Test Plan

Step	Event	Value	Expected Result	Actual Result
1.	Login with Lecturer username and password	Username : choa Password : 1234	Login successful and navigate to lecturer menu page.	Same as expected result
2.	Lecturer click on the update project ideas details hyperlink	N/A	FICT FYP IDEAS BANK will navigate to update project menu page and display all the project ideas shared by Lecturer.	Same as expected result
3.	Lecturer click on the project id to view full information of a project idea	N/A	FICT FYP IDEAS BANK will navigate to project idea detail page and fetch current project idea details to text field provided.	Same as expected result
4.	Lecturer provide new project ideas information and click update project idea button	Innovation: Use eyes to control object.	FICT FYP IDEAS BANK validates information provided and updates new project idea details.	Same as expected result

6.2.16 Integration Test 16: Student Share Project Idea

Testing objective: To ensure that Student are able to share project idea.

Table 6.2.16: Student share project Ideas Test Plan

Step	Event	Value	Expected Result	Actual Result
1.	Login with Student username and password	Username : baijing Password : 1234	Login successful and navigate to student menu page.	Same as expected result
2.	Student click on the share project idea hyperlink	N/A	FICT FYP IDEAS BANK will navigate to share project idea page	Same as expected result
3.	Student fill in all the information needed and click on the share button.	ProjectTitle: Racing Game Objectives: Release stress Deliverables: mobie app racing game Innovation: use eye ball to control car Skill Required: C++ Suitable for: IA No of Student: 1 Remarks(optional): Come see me for more details Choose file(optional): image.png	Successfully shared a project idea and show the project idea in project idea menu page.	Same as expected result

6.2.17 Integration Test 17: Student Search Project Idea

Testing objective: To ensure that Student are able to search project idea.

Table 6.2.17: Student search project Ideas Test Plan

Step	Event	Value	Expected Result	Actual Result
1.	Login with Student username and password	Username : baijing Password : 1234	Login successful and navigate to student menu page.	Same as expected result
2.	Student click on the Project IDEAS Bank hyperlink	N/A	FICT FYP IDEAS BANK will navigate to project menu page.	Same as expected result
3.	Student selects which course of the project ideas that want to see.	IA	FICT FYP IDEAS BANK navigates to project idea menu page and display all the project idea belong to 'IA' course in the table.	Same as expected result
4.	Student click on the project id to view the full detail of the project idea.	N/A	FICT FYP IDEAS BANK navigates to project idea page and show full detail of a project idea.	Same as expected result

6.2.18 Integration Test 18: Student Search Rare Keyword

Testing objective: To ensure that Student are able to search rare keyword.

Table 6.2.18: Student search rare keyword Test Plan

Step	Event	Value	Expected Result	Actual Result
1.	Login with Student username and password	Username : baijing Password : 1234	Login successful and navigate to student menu page.	Same as expected result
2.	Student click on the Keyword List hyperlink	N/A	FICT FYP IDEAS BANK will navigate to rare keyword page and display all the extracted rare keyword and display in the table.	Same as expected result
3.	Student click on the project id to see full project idea detail that contain this rare keyword	N/A	FICT FYP IDEAS BANK will navigate to project idea detail page.	Same as expected result

6.2.19 Integration Test 19: Student Update Project Idea Status

Testing objective: To ensure that Student are able to update project idea status.

Table 6.2.19: Student updates project idea status Test Plan

Step	Event	Value	Expected Result	Actual Result
1.	Login with Student username and password	Username : baijing Password : 1234	Login successful and navigate to student menu page.	Same as expected result
2.	Student click on the User DashBoard hyperlink	N/A	FICT FYP IDEAS BANK will navigate to User DashBoard page and display all the project ideas that shared by the student in a table	Same as expected result
3.	Student click on the project id to see full project idea detail	N/A	FICT FYP IDEAS BANK will navigate to project idea detail page.	Same as expected result
4.	Student approves project idea by tick the checkbox beside the project ideas and press on 'Update Status' button.	N/A	Successfully update the status of a project idea.	Same as expected result

6.2.20 Integration Test 20: Student Reset Password

Testing objective: To ensure that Student are able to reset account password.

Table 6.2.20: Student reset account password Test Plan

Step	Event	Value	Expected Result	Actual Result
1.	Login with Student username and password	Username : baijing Password : 1234	Login successful and navigate to student menu page.	Same as expected result
2.	Student click on the User DashBoard hyperlink	N/A	FICT FYP IDEAS BANK will navigate to User DashBoard page.	Same as expected result
3.	Student click on the reset password button	N/A	FICT FYP IDEAS BANK will navigate to reset password page.	Same as expected result
4.	Student enter his old password, new password and confirm new password	Old Password: 1234 New Password: abc123 Retype New Password: abc123	FICT FYP IDEAS BANK validates information provided and update new password.	Same as expected result

6.2.21 Integration Test 21: Student Update Personal Details

Testing objective: To ensure that Student are able to update personal details.

Table 6.2.21: Student update personal details Test Plan

Step	Event	Value	Expected Result	Actual Result
1.	Login with Student username and password	Username : baijing Password : 1234	Login successful and navigate to student menu page.	Same as expected result
2.	Student click on the update personal details hyperlink	N/A	FICT FYP IDEAS BANK will navigate to update personal details page and fetch current personal details in text field provided.	Same as expected result
3.	Student provide new personal details then click on update personal detail button	Contact No: 01112345671	FICT FYP IDEAS BANK validates information provided and updates student personal details.	Same as expected result

6.2.22 Integration Test 22: Lecturer Update Project Idea Details

Testing objective: To ensure that Lecturer are able to update personal details.

Table 6.2.22: Lecturer update project idea details Test Plan

Step	Event	Value	Expected Result	Actual Result
1.	Login with Student username and password	Username : baijing Password : 1234	Login successful and navigate to student menu page.	Same as expected result
2.	Student click on the update project ideas details hyperlink	N/A	FICT FYP IDEAS BANK will navigate to update project menu page and display all the project ideas shared by Student.	Same as expected result
3.	Student click on the project id to view full information of a project idea	N/A	FICT FYP IDEAS BANK will navigate to project idea detail page and fetch current project idea details to text field provided.	Same as expected result
4.	Student provide new project ideas information and click update project idea button	Innovation: Use eyes to control object.	FICT FYP IDEAS BANK validates information provided and updates new project idea details.	Same as expected result

Chapter 7 Conclusion

In this section, objectives and contributions that the develop web based system had achieved will be discussed. Besides that, problem encountered during the development of the project and personal insight of the total research experience will be shared in this session. Last but not least, limitations and future enhancement of the developed web based system will be discussed as well.

7.1 Project Review

In conclusion, a web based system name FICT FYP IDEAS Bank will be developed in this project. The goals of the project are to ease up the workload of FYP committee when compiling the FYP title list and to provide more project title for student to choose as their FYP title. The objectives of FICT FYP IDEAS BANK is to study the issues in FYP title selection, reduce error when FYP committee generates the FYP title list, provides FYP ideas for student to choose and better management of all the FYP titles. The objectives mentioned are achieved by FICT FYP IDEAS BANK. Besides that, FICT FYP IDEAS BANK also serves as a platform for student and lecturer to share project ideas, perform some discussion on the proposed project ideas about project details. Next, innovations of FICT FYP IDEAS BANK are ranking of project idea and use of text processing to extract rare items to help in finding potential project ideas. Furthermore, the contribution that already achieved by FICT FYP IDEAS BANK are allow different faculty lecturer to share project ideas, reduce workload of FYP committee, reduce error when compiling FYP title list, make use of text processing technique to help in finding potential project ideas and better management on all the project ideas.

There are two major problems encountered during the whole project duration. First problem encountered is changing of programming language. At first, Java was selected as main programming language of the system but after careful consideration on the project design and function, PHP was then chosen to replace Java. Since FICT FYP IDEAS BANK also serve as a forum for student and lecturer to discuss some information

of the proposed project idea therefore a web based system is more suitable than a normal system. Second problem encountered is developing FICT FYP IDEAS BANK with PHP. This is first time that I use PHP for coding so during the development phase there are many problems occurred as I only have little knowledge on PHP. Although many problem were encountered during whole project duration but time and effort are spent to solve all the problem encountered and continue FYP until the end. After complete developed FICT FYP IDEAS BANK, a lot of knowledge has been gained, at first only have little knowledge on PHP but after spent some time on doing researching now I'm able to deliver what I have planned to deliver. Besides that, this is the 1st time that I handle the whole project alone, from the 1st phase of system development last cycle until the last phase. Although it is very tough for me all the time but after completed the whole project now I have knowledge and experience in each phase of SDLC.

7.2 Limitations

It is impossible to develop a perfect system; every system will have their strengths and limitations. Limitation of FICT FYP IDEAS BANK is the page navigation of Search Project IDEAS. Currently, after users advance to the Project Idea Details Page (refer **Figure 3.1.12.21:** Project Idea Details Page, pg. 145), user is required to back to Project Menu page (refer **Figure 3.1.12.19:** Project Menu Page, pg.143) instead of Project Idea Menu Page (refer **Figure 3.1.12.20:** Project Idea Menu Page, pg. 144). Another limitation of FICT FYP IDEAS BANK is there are some pages, users are not encourage to press the refresh button (F5) of web browser, for some reasons the web page will resubmit the input enter by users if refresh button is click.

7.3 Future Enhancement

As mentioned in Section 7.2 Limitations, it is impossible to develop a perfect system; every system will have their strengths and limitations. Different people have different point of view. Some people might think this is a good system while other might think this system is useless. Therefore, future enhancement is required for every system. Future enhancement of FICT FYP IDEAS BANK will be discussed in this section.

Currently, FICT FYP IDEAS BANK is aim to reduce the workload of FYP committee and allow student and lecturer to share and search for project titles. In the future, FICT FYP IDEAS BANK can implement a function which allow student to select their FYP supervisor through FICT FYP IDEAS BANK. Besides that, FICT FYP IDEAS BANK should allow student to sign all sort of forms through FICT FYP IDEAS BANK instead of printing all the forms out and sign. Furthermore, in future FICT IDEAS BANK might allow student to prepare weekly meeting report online so supervisor can keep track of what the student have done every week. In addition, in future FICT FYP IDEAS BANK should be able to let FYP supervisor and student to search for a lab and book for available FYP presentation time slot. Last but not least, currently FICT FYP IDEAS BANK only allow student and every faculty lecturers to share project ideas for FICT student only so in the coming future FICT FYP IDEAS BANK should allow student and lecturers to share FYP ideas for other courses as well and not just FICT.

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