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03-13142-111 Muhammad Basir Hayat

03-134142-055 Muhammad Ahmad Shahzad

FYP Automated System

In partial fulfilment of the requirements for the degree of
Bachelor of Science in Computer Science

Supervisor: Numan Aslam

Department of Computer Sciences
Bahria University, Lahore Campus

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Certificate



We accept the work contained in the report titled

“FYP Automated System”,

written by

Muhammad Basir Hayat

Muhammad Ahmed Shahzad

as a confirmation to the required standard for the partial fulfilment of the degree of
Bachelor of Science in Computer Science.

Approved by:

Supervisor:

Numan Aslam

(Signature)

January 11th, 2019

DECLARATION

We hereby declare that this project report is based on our original work except for citations and quotations which have been duly acknowledged. We also declare that it has not been previously and concurrently submitted for any other degree or award at Bahria University or other institutions.

Enrolment	Name	Signature
03-134142-111	Muhammad Basir Hayat	
03-134142-055	Muhammad Ahmed Shahzad	

Date : _____

Specially dedicated to
my beloved grandmother, mother and father
(Muhammad Basir Hayat)
my beloved grandmother, mother and father
(Muhammad Ahmed Shahzad)

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FYP AUTOMATED SYSTEM

ABSTRACT

Students working on final year projects, they go through a lot of stages like submitting FYP registration or allocation forms, getting proposal idea accepted by Coordinator and Supervisor, submitting proposals, going through proposal defense and then submitting Document 1 and Document 2.

The Goal is to develop an application that will automate entire Final year Project system and will bring all the paper work to negligible level. All the FYP submission stages will get automated in this project and it will surely benefit a lot of end users that are linked to it.

System will be designed to reduce the paperwork as much as possible. It will save the time of students and will facilitate with submitting forms and proposals related to FYP Project. Although there is still some possibility of some paperwork even after making this system automated but it will reduce the paperwork as much as possible.

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LIST OF SYMBOLS / ABBREVIATIONS

FYP Final Year Project

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CHAPTER 1

INTRODUCTION

1.1 Background

Final year project is a compulsory part of BS (CS) or BS (IT) degree. A student cannot avail degree if the final year project has not been submitted. When the students start working on final year project, they undergo different stages involved in submitting final year project. They fill up a form mentioning their projects name and look for a related supervisor. Even before this, they attend orientation seminars regarding their final year project. After submitting the form, students start developing the proposal for the project and when the panel is allocated, they present their proposal in front of the panel. After that the panel either approves or reject or recommend the proposal for a minor or major improvement. This system involves a lot of paper work and students have to do some hard work in terms of meeting FYP Coordinator and Supervisor repeatedly for queries. The paper work involved in this process is that a list of possible FYP fields and related supervisors have to be checked. The list is a printed list generated by FYP coordinator. After that, student has to fill a form explaining their project idea name and complete student information and selected supervisor's information. On approval of the idea by FYP coordinator, student fill FYP Registration form, and a group ID and project ID is assigned to the student. If proposal is rejected by the panel and student has to bring a new idea or if a particular group wants to add a new member in group, FYP General Request form is filled. Hence looking at the number of processes being worked on at the same time, this process involves a considerable amount of paperwork.

For this an application is being developed that will automate all this system and will bring the paper work to negligible level. All the forms that are filled by hand, will be available online on the portal and hence after filling the form it will be directly submitted to FYP coordinator and then database will be managed.

All the FYP submission stages will get automated in this project and it surely will benefit all the end users that are linked to it.

Paperwork will be reduced. It will save the time of student and will facilitate a lot regarding submitting forms and proposals related to FYP Project. Although there is still some possibility of having some paperwork even after making this system automated, a lot of paperwork will be reduced.

1.2 Problem Statements

Final year project is processed manually which is a wastage of time. A student has to start work on his/her final year project, he/she has to go through all the paper work that includes project name and group submission and all the processes that are compulsory to start working on Final year project. All these processes include paper work, which means they are done manually. The management of data collected manually is a tough task. This manual system requires a lot of manpower and paper work. It takes more time and money to work under such manual system. So this project is being developed to reduce the paper work and automate the Final year project submission system so it may take less manpower and money and will facilitate all the end user linked to Final year project.

1.3 Aims and Objectives

Our Objective is to design a Web-based Application that will automate the following different stages involved in the first phase of final year project:

- Submission of Proposal
- Proposal Evaluation Provisional result from Panel
- Schedule of Evaluation
- Panel Allocation
- Proposal submission and editing
- FYP Allocation and weekly log Book
- FYP Registration
- Announcement of Project proposed by faculty

1.4 Scope of Project

The primary scope of this project is to develop a web-based application for our client which will be the Final Year Project Coordinator. The purpose of this project is to automate the manual system of undergoing a Final year Project. In this project, client's requirements will be met. There will be a web based application through which four types of users i.e. The FYP Coordinator, the Supervisor, the Panel and a Student will interact with each other regarding the student's final year project. In this project various stages will be covered through which, the first phase of our project that is Approval of a project by Panel will be met, after getting approval working on development of project will start. So this application will meet the following demands of the clients that are the features to be included in the application:

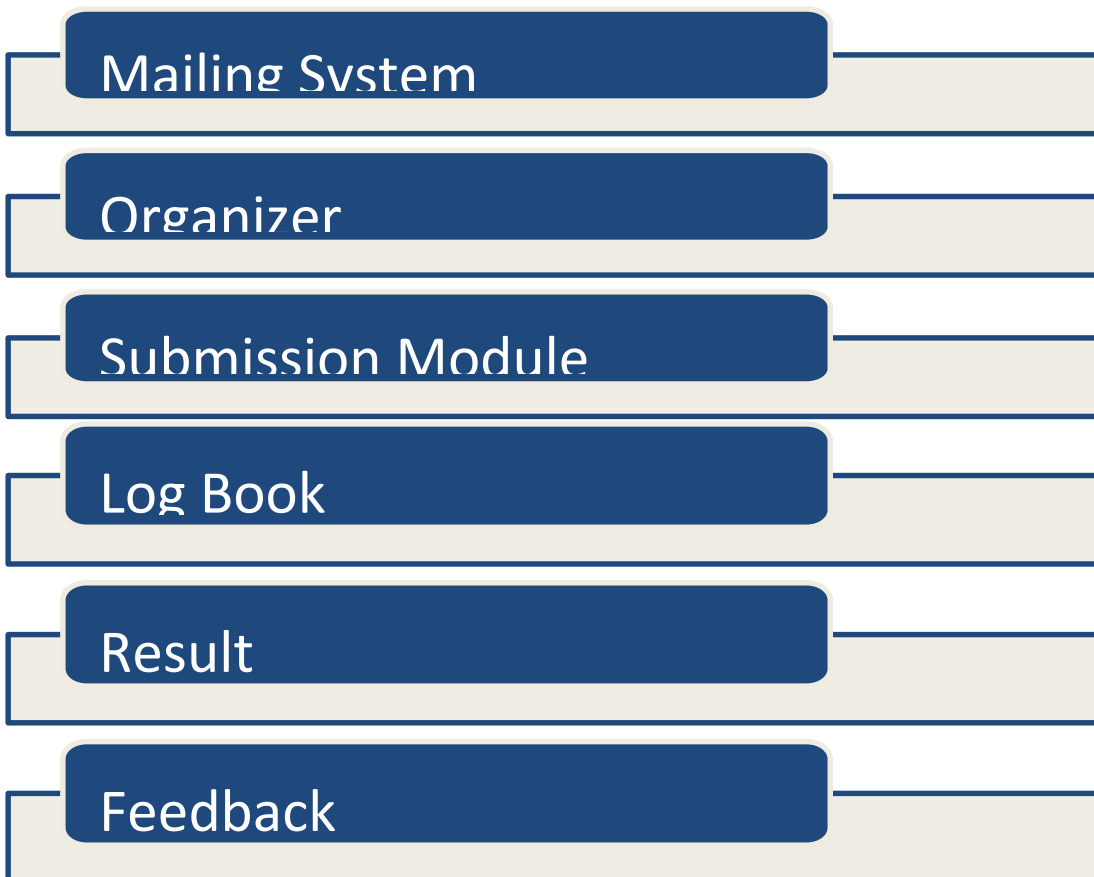


Figure 1.1 Scope of Project

CHAPTER 2

LITERATURE REVIEW

In this project a Web Based Application will be created that will automate the Final Year Project System. FYP Coordinator will be the client of our project and will be the Admin for this web based application. Logins will be provided to the Students that want to work on their Final Year Project. Student will login through their Enrolment number. There will be a list of various fields and concerning supervisors for the Final year projects. From there the student can decide what kind of project he wants to do and with which supervisor. Then student can discuss his idea with the appropriate supervisor through the discussion forum created. After that student can register himself for a project by filling out the FYP registration form available on the website.

Student will fill his form, FYP coordinator will receive it, and will verify it from the mentioned supervisor through E-mail. After Supervisor response, coordinator will decide whether or not, to forward that form for Database entry. Student's whole information in that form will be entered in the database. And after that, student will receive a FYP confirmation form through email and will be assigned a Group Number. That form will also be forwarded to the Supervisor to assign him/her that group.

Student will get their Weekly Log Books on the website and will be able to fill out the book with their weekly work progress and supervisor will be able to see the progress made by the student. Template for the FYP proposal will also be available on the website. Students can download the Template and make their proposals and after completing them, they will send it to the Supervisor. Supervisor will review the proposal and if any changes would be required, supervisor will give feedback to the student. After making amendments in the proposal, student will again send it to Supervisor and if it is perfect for project defence, supervisor will forward it to the Coordinator.

Coordinator will receive all the Proposals and adjust the time table for student's presentation regarding proposal defence in front of the Panel. Coordinator will assign each group a panel. After presentation, panel will evaluate student's project and proposal and will submit result to the FYP Coordinator and coordinator will display results on the website so each student can see their result.

If the proposal is accepted, students will start making their Software Requirement Specification Document. If it is rejected, they will have to start working on a new project and will have to go through the whole process again. Some students may require to make Minor or Major improvements in their Proposals.

After completing FYP Document, student will submit it to Supervisor and then supervisor will forward it to Coordinator and after that work on Document will start.

Hence this Web Based Application will reduce a lot of paper work and man power that is required in manual system.

2.1 Description

2.1.1 User Classes and Characteristics

Four types of users will interact with the application Coordinator, Supervisor, Student and Panel. So, all of them would have different type of requirements. Coordinator will manage entire application. Coordinator will work as an Admin of the application and will provide logins to all other users and will maintain records in database. Student will login from his/her portal and will select the field in which he/she wants to make the project and will select the available supervisor. Supervisor will confirm whether he/she wants to work with that group or not. After that, if that group and supervisor are willing to work on the project, coordinator will register them and will assign a group ID. Coordinator will manage all the record in database. After getting registered, student will be able to access all the online forms and templates and then student can develop proposal of their project for defense against the Panel. Panel will upload marks of student's defense on his portal and will forward to coordinator, and then coordinator will upload them on result portal. From where every student will be able to view their result from the portal and if proposal is accepted, student can further work on SRS Documentation. Student, supervisor and coordinator will be in communication with each other via their portals.

2.1.2 Operating Environment

It is a Web based app which will be accessed via Web Browser. Whether it is being accessed from a System the only thing required is a Web browser and Internet Connection.

2.1.3 Design and Implementation Constraints

The main constraint for project implementation is integration. When whole application is integrated, it generates some bugs at the end which are difficult to handle. FYP Automated system is based on database and one website, which needs proper internet connection every time, otherwise no one can use it.

2.1.4 Assumption and Dependencies

As for this application, since it would be a Web Based app and will be accessed via Web Browser, Student will like to work through mobile phone, so they should be familiar with the application and familiar with internet usage. The whole application is internet based so there

is a need of internet every time. It will be expected that the Coordinator and Student will have fair strength of internet.

2.2 System Use Cases

Use case is a methodology, which is used to identify, clarify and organize the system requirements. The use case should contain all system activities that are related to users . Use case should organize the functional requirements, actors (users) and Records paths from trigger events to goals.

Several system activities involved in our project, these activities and with their respective actors shown in the following diagram, which is explaining the working scenario of FYP Automated System. Each of the system activity is further explained in their unique tables.

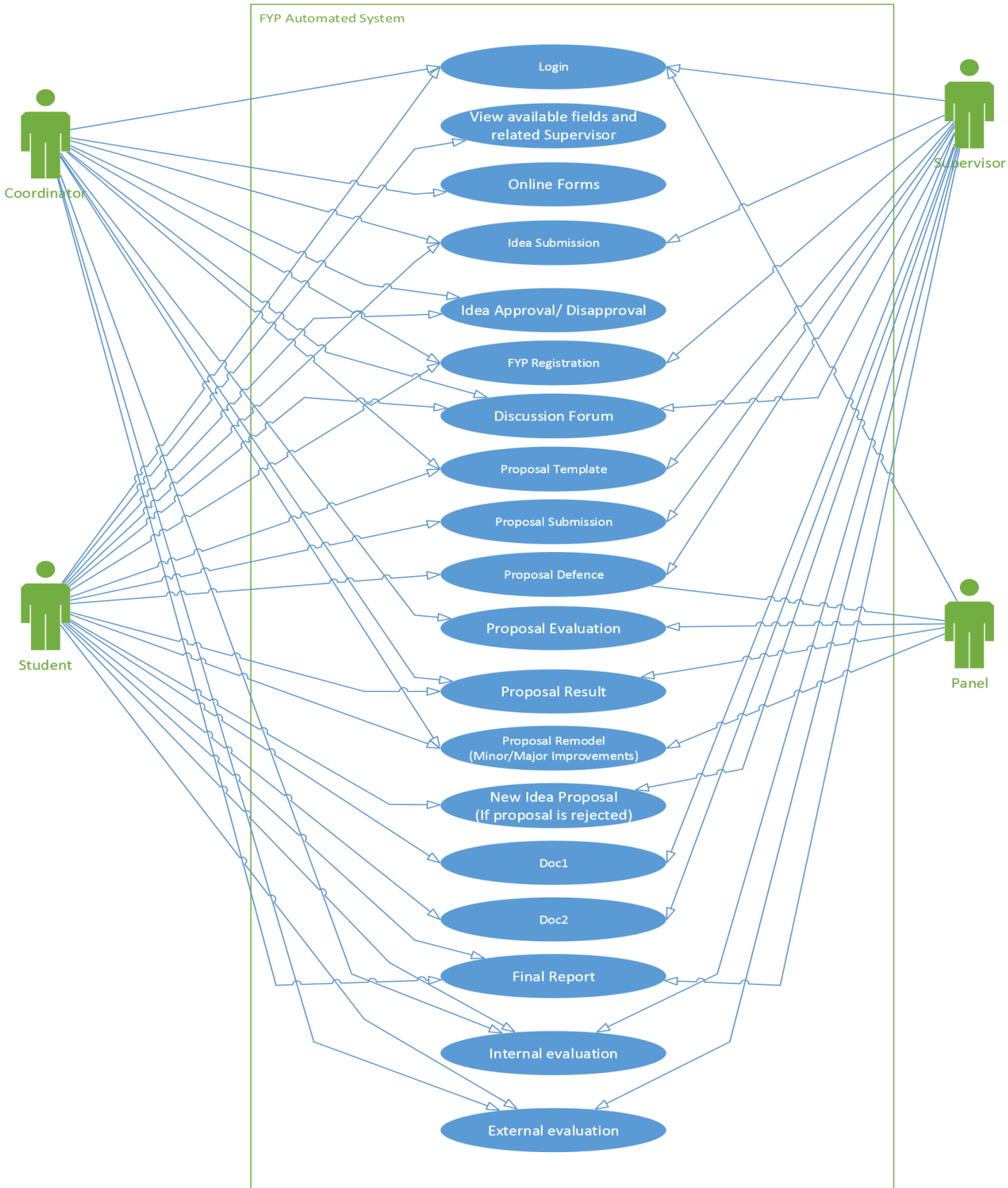


Figure 2-1 Use Case Diagram

2.2.1 Login:

Table 2-1 Login

Name	Login
Use Case ID	OTMS-1
Priority	High.
Primary Actor	Student, Coordinator.
Description	<ol style="list-style-type: none"> 1. User provide username 2. User provide password
Pre-condition	First done with the registration of user and user visits the application for login.
Trigger	<ol style="list-style-type: none"> 1. When user clicks the login button
System Response	<ol style="list-style-type: none"> 1. The System checks the validations 2. The System verifies the credentials 3. System show the profile after successful login.
Post Condition	Successfully User login and show the profile page to the user

2.2.2 View available fields and Related Supervisors:

Table 2-2 View available fields and Related Supervisors **2.2.3**

Name	View available fields and Related Supervisors.
Use Case ID	OTMS-2
Priority	High.
Primary Actor	Student, Coordinator.
Description	<ol style="list-style-type: none"> 1. Coordinator provides list of Available fields and Supervisors. 2. Student will view list of Available fields and Supervisors.
Pre-condition	Student login's to the portal and view the profile page.
Trigger	<ol style="list-style-type: none"> 1. Student clicks the List Menu.
System Response	<ol style="list-style-type: none"> 1. The System checks the validations 2. The System verifies the credentials 3. System will show the list of related fields and supervisors.
Post Condition	Student will successfully view the list of Available fields and Supervisors.

Online Forms :

Table 2-3 Online Forms

Name	Online Forms
Use Case ID	OTMS-3
Priority	High.
Primary Actor	Student, Coordinator.
Description	<ol style="list-style-type: none"> 1. Coordinator provides Proposal Idea Form and all the other forms on the Portal. 2. Student can view the online forms related to FYP.
Pre-condition	Student has viewed the list of available fields and supervisors.
Trigger	<ol style="list-style-type: none"> 1. Student selects the form view option.
System Response	<ol style="list-style-type: none"> 1. The System checks the validations 2. The System verifies the credentials 3. System will make the form visible to student. Since the student is in initial stages of submitting project so he will be able to view the Project idea form only.
Post Condition	Student can view the form that is required to be filled initially.

2.2.4 Idea Submission :

Table 2-4 Idea Submission

Name	Idea Submission
Use Case ID	OTMS-4
Priority	High.
Primary Actor	Student, Coordinator.
Description	<ol style="list-style-type: none"> 1. Student fills the first online form to submit his idea of Final Year Project to the Coordinator. 2. Coordinator receives the form on his profile. 3. In this form Students name and his Idea's name is mentioned and the name of supervisor with whom student wants to work.
Pre-condition	The form will be visible to student and he would be allowed to fill it.
Trigger	1. Student selects the form that is required.
System Response	<ol style="list-style-type: none"> 1. The System checks the validations 2. The System verifies the credentials 3. System will provide the form and after student fills it, system will automatically forward it to Coordinators portal and will make entry in database.
Post Condition	The form will be submitted successfully to the Coordinator.

2.2.5 Idea Approval/ Disapproval :

Table 2-5 Idea Approval/ Disapproval 2.2.6

Name	Idea Approval/ Disapproval
Use Case ID	OTMS-5
Priority	High.
Primary Actor	Student, Coordinator.
Description	<ol style="list-style-type: none"> 1. When student submits his idea to the Coordinator, he either approves or disapproves the Idea. 2. Coordinator will send Remarks on students Idea via "Remarks" option, and student can view whether his idea is approved or not.
Pre-condition	The form will be submitted successfully to the Coordinator.
Trigger	1. Student selects the form that is required.
System Response	<ol style="list-style-type: none"> 1. The System checks the validations 2. The System verifies the credentials 3. System will provide the form and after student fills it, system will automatically forward it to Coordinators portal and will make entry in database.
Post Condition	The form will be submitted successfully to the Coordinator.

FYP Registration :

Table 2-6 FYP Registration

Name	FYP Registration
Use Case ID	OTMS-6
Priority	High.
Primary Actor	Student, Coordinator and Supervisor.
Description	<ol style="list-style-type: none"> 1. When Coordinator approves Student's idea, Student gets access to fill the FYP Registration form available on the Website. 2. The form is also verified by the selected Supervisor since he also gets registered with that specific Student or group. 3. So, the student gets his Group ID and Project ID once he gets registered.
Pre-condition	The form will be submitted successfully to the Coordinator.
Trigger	1. Student selects FYP Registration form.
System Response	<ol style="list-style-type: none"> 1. The System checks the validations 2. The System verifies the credentials 3. System will provide form to student, once the student fill all hi information and supervisor's information the form is forward to supervisor for Verification of the form and when it is verified by supervisor, it is forward to Coordinator.
Post Condition	Student gets registered for his Final year project under the allocated ID.

2.2.7 Proposal Template :

Table 2-7 Proposal Template

Name	Proposal Template
Use Case ID	OTMS-8
Priority	High.
Primary Actor	Student, Coordinator
Description	<ol style="list-style-type: none"> 1. The template will be given on portal. 2. Students can download it to complete the proposal.
Trigger	2. A user will click on "Download" option available in their profile.
System Response	<ol style="list-style-type: none"> 4. The System checks the validations 5. The System verifies the credentials 6.
Post Condition	Coordinator, Student and Supervisor will successfully download the template.

2.2.8 Proposal Submission:

Table 2-8 Proposal Submission

Name	Proposal Submission
Use Case ID	OTMS-9
Priority	High.
Primary Actor	Student, Supervisor
Description	<ol style="list-style-type: none"> 1. Students will upload the proposal. 2. It will be send to the specific supervisor of the student. 3. Proposal will be also given in hard form to supervisor. 4. Proposal hard form document will be given to Coordinator. 5. This copy will handover to Panel for proposal defense.
Pre-condition	Coordinator, Student and Supervisor will successfully download the template.
Trigger	1. Student will “Click” on the upload button.
System Response	<ol style="list-style-type: none"> 1. System will send the proposal to the Supervisor. 2. It will aslo generate notification on the Supervisor screen.
Post Condition	Proposal will successfully sent to the Supervisor.

2.2.9 Proposal Defense :

Table 2-9 Proposal Defense

Name	Proposal Defense
Use Case ID	OTMS-10
Priority	High.
Primary Actor	Student, Panel
Description	<ol style="list-style-type: none"> 1. Students will make the presentation. 2. They will present their proposal in front of the Panel. 3. Panel will ask question about the proposal. 4. Panel will write comments about proposal presentation on the portal which will be only shown the Coordinator.
Pre-condition	Proposal will successfully sent to the Supervisor.
Trigger	
System Response	<ol style="list-style-type: none"> 1. The System checks the validations. 2. The System verifies the credentials 3. It will send to the Coordinator
Post Condition	Comments will be forwarded successfully to Coordinator.

2.2.10 Proposal Evaluation :

Table 2-10 Proposal Evaluation

Name	Proposal Evaluation
Use Case ID	OTMS-11
Priority	High.
Primary Actor	Coordinator, Panel
Description	<ol style="list-style-type: none"> 1. Panel will arrange meeting. 2. They will decide whether project is worth able or not for the final year project.
Pre-condition	Comments will be forwarded successfully to Coordinator.
Trigger	Panel will send email to Coordinator.
System Response	<ol style="list-style-type: none"> 1. The System checks the validations. 2. The System verifies the credentials. 3. It will send to the Coordinator. 4. It will generate notification on Coordinator screen.
Post Condition	Evaluation will send successfully to Coordinator.

2.2.11 Proposal Result :

Table 2-11 Proposal Result

Name	Proposal Result
Use Case ID	OTMS-12
Priority	High.
Primary Actor	Coordinator, Panel
Description	<ol style="list-style-type: none"> 1. Coordinator will make the list of student's result. 2. He will upload list on the portal.
Pre-condition	Evaluation will send successfully to Coordinator.
Trigger	Panel will send email to Coordinator.
System Response	<ol style="list-style-type: none"> 1. The System checks the validations. 2. The System verifies the credentials. 3. It will upload on the portal.
Post Condition	Result will be successfully upload on the portal and show to the students.

2.2.12 Proposal Remodeled:

Table 2-12 Proposal Remodeled

Name	Proposal Remodeled
Use Case ID	OTMS-13
Priority	High.
Primary Actor	Supervisor, Students,
Description	<ol style="list-style-type: none"> 1. The student will make major/minor changes in proposal. 2. Then he will send to the supervisor. 3. Proposal defense will be arranged again.
Pre-condition	Result will be successfully upload on the portal and show to the students.
Trigger	Proposal will redesign
System Response	<ol style="list-style-type: none"> 1. The System checks the validations. 2. The System verifies the credentials. 3. It will send to the supervisor
Post Condition	Proposal will be submitted successfully and Defense will be arranged.

2.2.13 New Idea Proposal:

Table 2-13 New Idea Proposal

Name	New Idea Proposal
Use Case ID	OTMS-14
Priority	High.
Primary Actor	Supervisor, Students,
Description	<ol style="list-style-type: none"> 1. The student will make new proposal with new idea. 2. New Supervisor will assign if required. 3. Then student will send the proposal to the assign Supervisor.
Pre-condition	Result will be successfully upload on the portal and show to the students.
Trigger	Proposal will redesign
System Response	<ol style="list-style-type: none"> 1. The System checks the validations. 2. The System verifies the credentials. 3. It will send to the supervisor
Post Condition	Proposal will be submitted successfully and Defense will be arranged.

2.2.14 Doc1 :

Table 2-14 Doc1

Name	Doc1
Use Case ID	OTMS-15
Priority	High.
Primary Actor	Supervisor, Students,
Description	<ol style="list-style-type: none"> 1. Student will write document1. 2. It will send to Supervisor. 3. If changes required, it will remodeled
Pre-condition	Result will be successfully upload on the portal and show to the students.
Trigger	Student will “Click: on upload button.
System Response	<ol style="list-style-type: none"> 1. The System checks the validations. 2. The System verifies the credentials. 3. It will send to the supervisor
Post Condition	Document1 will be submitted successfully.

2.2.15 Doc2 :

Table 2-15 Doc2

Name	Doc2
Use Case ID	OTMS-16
Priority	High.
Primary Actor	Supervisor, Students,
Description	<ol style="list-style-type: none"> 4. Student will write document2. 5. It will send to Supervisor. 6. If changes required, it will remodeled
Pre-condition	Document1 will be submitted successfully.
Trigger	Student will “Click: on upload button.
System Response	<ol style="list-style-type: none"> 1. The System checks the validations. 2. The System verifies the credentials. 3. It will send to the supervisor
Post Condition	Document2 will be submitted successfully.

2.2.16 Final Report :

Table 2-16 Final Report

Name	Final Report
Use Case ID	OTMS-17
Priority	High.
Primary Actor	Supervisor, Students, Coordinator
Description	<ol style="list-style-type: none"> 1. Student will Design final report for their project. 2. Supervisor will review it and forward to Coordinator.
	<ol style="list-style-type: none"> 3. Coordinator will confirm if Report is received without queries.
Pre-condition	Document 2 will be submitted successfully.
Trigger	Student will “Click: on upload button.
System Response	<ol style="list-style-type: none"> 4. The System checks the validations. 5. The System verifies the credentials. 6. It will send to the supervisor
Post Condition	Final Report will be submitted successfully.

2.2.17 Internal Evaluation:

Table 2-17 Internal Evaluation

Name	Internal Evaluation
Use Case ID	OTMS-17
Priority	High.
Primary Actor	Student, Coordinator
Description	<ol style="list-style-type: none"> 1. Internal Evaluators will evaluate Students Project and will submit results to Coordinator. 2. Coordinator will upload result on portal so students can see their result.
Pre-condition	Final Report will be submitted successfully.
Trigger	Coordinator will “Click: on upload button.
System Response	<ol style="list-style-type: none"> 7. The System checks the validations. 8. The System verifies credentials. 9. It will send to the supervisor
Post Condition	Internal Evaluation Result will be Uploaded.

2.2.18 External Evaluation:

Table 2-18 External Evaluation

Name	External Evaluation
Use Case ID	OTMS-19
Priority	High.
Primary Actor	Student, Coordinator
Description	<ol style="list-style-type: none"> 1. External Evaluators will evaluate Students Project and will submit results to Coordinator. 2. Coordinator will upload result on portal so students can see their result.
Pre-condition	Internal Evaluation Result will be Uploaded.
Trigger	Coordinator will “Click: on upload button.
System Response	<ol style="list-style-type: none"> 1. The System checks the validations. 2. The System verifies credentials. 3. It will send to the supervisor
Post Condition	External Evaluation Result will be Uploaded.

2.3 Other Non-functional Requirements

The requirements in this section will describe the system performance and security requirements of the software. Following are the Non-functional requirements which are identified during the process of the requirements analysis.

2.3.1 Performance

Description:

- The system should perform all the actions correct and frequently.
- The system should give a response within reasonable time.

2.3.2 Reliability

Description:

- The system should generate correct results.

2.3.3 Availability

Description:

- The system should be available 24/7.

2.3.4 Security

Description:

- The system should be secure.

2.3.5 Maintainability

Description:

- The system should be maintained and configured easily.

2.3.6 Software Quality Attributes Description:

- This is a web based application and gives users a high portability so it can be used on different devices with internet access and browser. The system encrypts and secures data of different users from others and gives access only on the basis of their rights.

2.4 Other Requirements

2.4.1 Response Time

The response time should not be more than 5 seconds although the wish is that it should not be more than 2 second 100 percent of the time.

2.4.2 Accuracy of Interpretation

Application must maintain at least 70 percent accuracy although it should be 100 percent accurate at most of the time.

2.4.3 Battery Life

The battery life of the device should last for at least 50 minutes.

2.5 System Requirements Chart

Table 2-17 System Requirements

Requirement No	Priority	Type	Source	Contained in Use Case	Description
SR1	High	Functional	The Key Stakeholders	U1	Coordinator, Student, 21 Supervisor and Panel, all will login to use the services of YP Automated System. They can easily change their details like mobile number, name etc.,
SR2	High	Functional	Student and Supervisor	U1	System will allow students to register themselves for Portal. System will also register supervisors.
SR3	High	Functional	Admin (Coordinator)	U1,U2,U3,U4,U5, U6,U7,U8,U9,U12, U14,U15,U16	System will provide access to Admin. Coordinator will be the Admin of this System.
SR4	High	Functional	User (Student, Supervisor and Panel)	U1,U2,U3,U4,U6, U7,U8,U9,U10,U11, U12,U13,U14,U15, U16	System will provide access to all the users of system. Student, supervisor and panel can have access to related portals.
SR5	High	Functional	Student	U3	System will provide all required forms regarding FYP registration to the student. Forms will be filled and submitted online.
SR6	High	Functional	End Users		The End Users i.e; Student and Supervisor will receive notifications via Email.

SR7	High	Functional	Panel and Student	U10	Coordinator will assign each student or group a panel for defense presentation.
SR8	Medium	Functional	Coordinator		The Client that is FYP Coordinator will receive feedbacks from Supervisor and Panel regarding Students project. They will communicate via Email and will share their views. They will also guide the student regarding his/her project.
SR9	High	Functional	Student	U3,U8,U15, U16	Online templates for Proposal, Doc1 and Doc2 will be available on the portal so that student can easily do documentational work.
SR10	High	Functional	All Users		All the users i.e. Coordinator, Student, Supervisor and Panel will interact with each other via email service. Email addresses of all users will be available on their profile.

CHAPTER 3

DESIGN AND METHODOLOGY

3.1 Design

3.1.1 Use case Diagram (refined and updated)

Refined and updated use case diagram is shown in following figure, this use case is a complete use case with extended processes and includes dependencies.

Include: Include is a direct relationship between two use cases which shows that the behavior of one use case is added into the behavior of the base use case.

Extend: Extended use case is meaningful on its own, it is independent of the extending base use case.

3.1.2 Domain Model

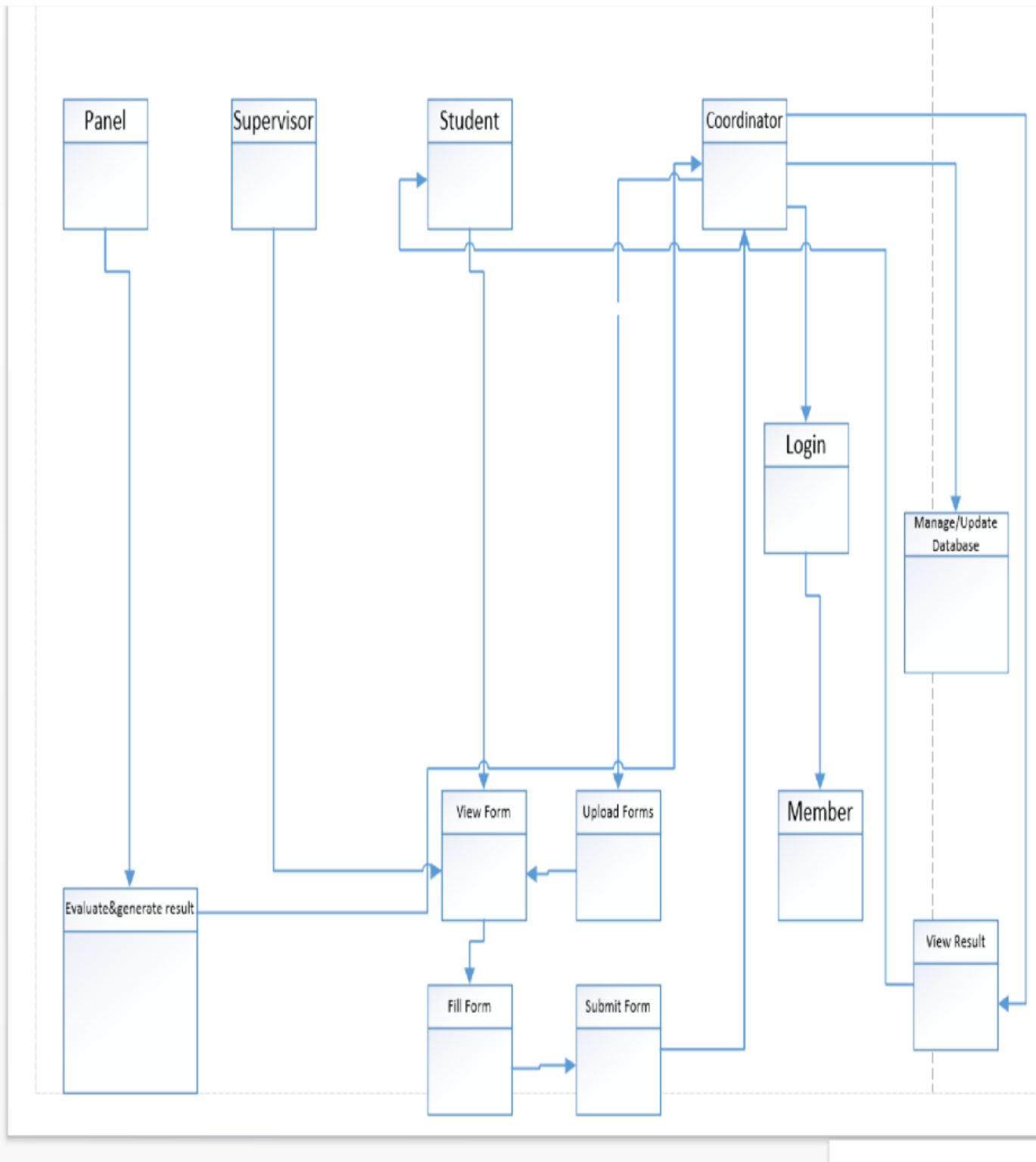


Figure 3-2(Domain Model)

3.1.3 Sequence Diagram

A sequence diagram shows interaction between objects arranged in time sequence. It depicts the objects and classes involved in the scenario and the sequence in which messages are exchanged between the objects that need to carry out the functionality of the scenario.

3.1.3.1 Login:

The Diagram depicts that firstly the User ID and Password are submitted in the Login GUI then after that the User ID and Password entered are matched with the entire Database if the login credentials match with the Database Credentials then Login is a success otherwise login is a failure. If Login is successful then user is provided with his homepage and his entire Credentials.

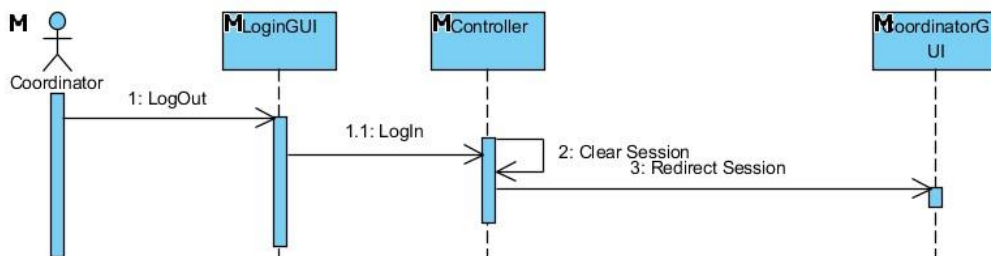


Figure 3-3 (Sequence Diagram: Login)

3.1.3.2 Register:

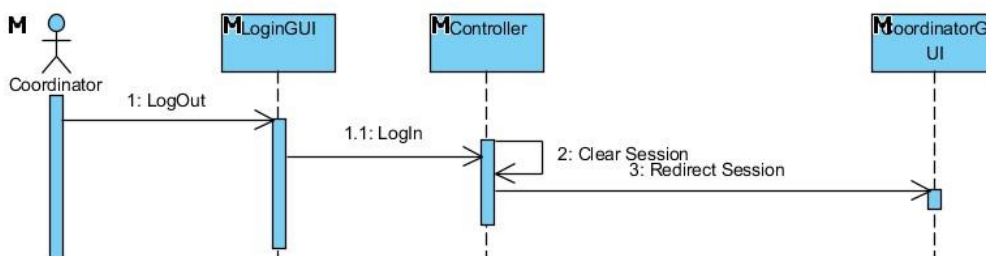


Figure 3-4 (Sequence Diagram: Register)

The above picture depicts that firstly you have to click on the Register button after that you have to enter your credentials like User ID, password, name and type and after that the values are set and values are stored in the database and from there the credentials are validated, if credentials are validated Home Screen GUI is created against that particular account.

3.1.3.3 Student

The following picture depicts that User has to be logged in, in order to generate feedback. First of all we enter a User ID the system validates the mobile number from User Database after that database returns result set then you enter the password and password is again validated from the user database the result set is returned, if the result set is validated then you can generate feedback from the User Feedback system after that the feedback is stored in users database.

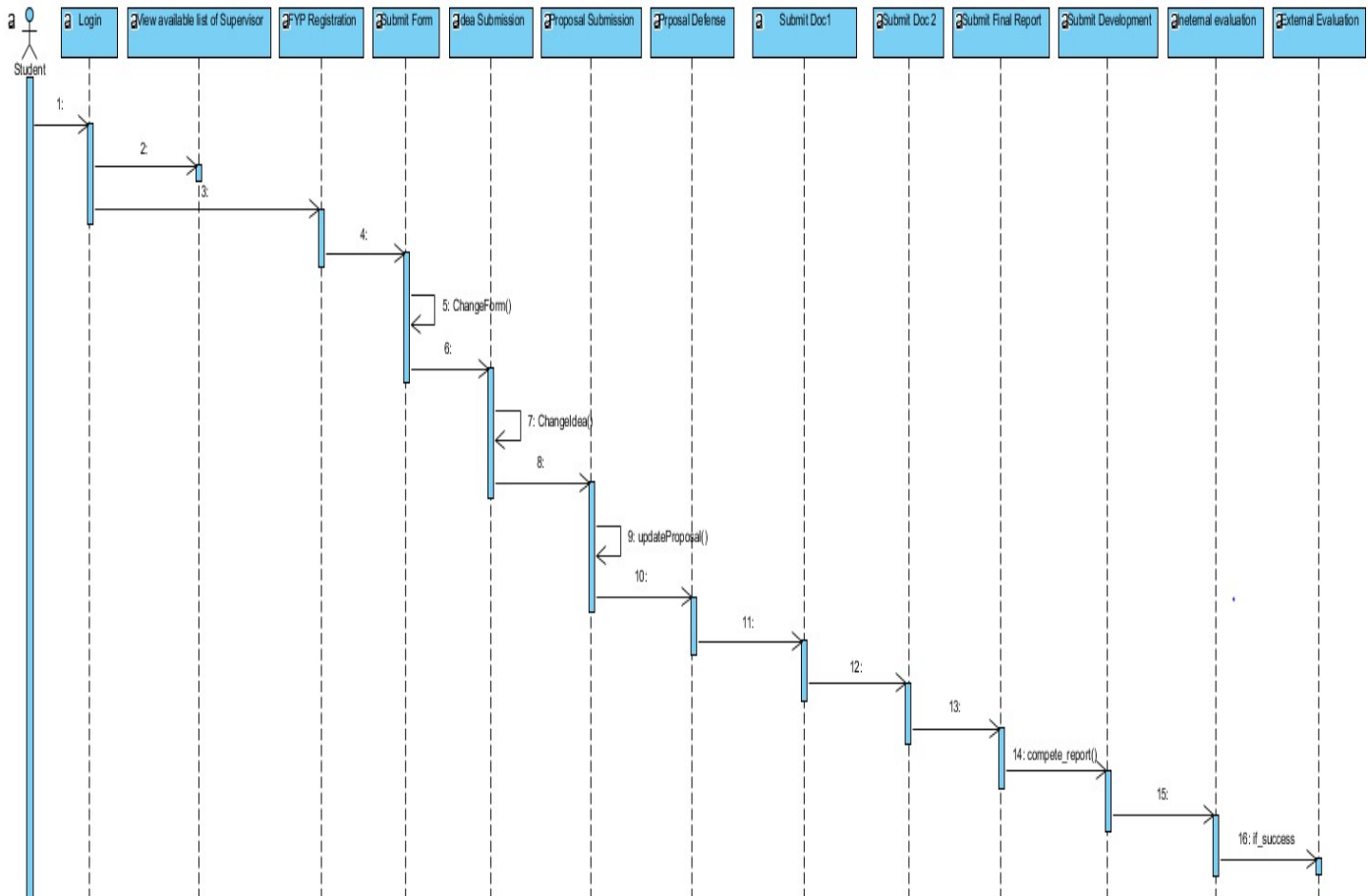


Figure 3-5(Sequence Diagram: Reviews)

3.1.3.4 Login:

The Diagram depicts that a Coordinator/Supervisor/Student/panel clicks on the Register Button the controller moves the control to login GUI where the logout button is called, and the Coordinator/Supervisor/Student/Panel is redirected to admin GUI Home Screen.

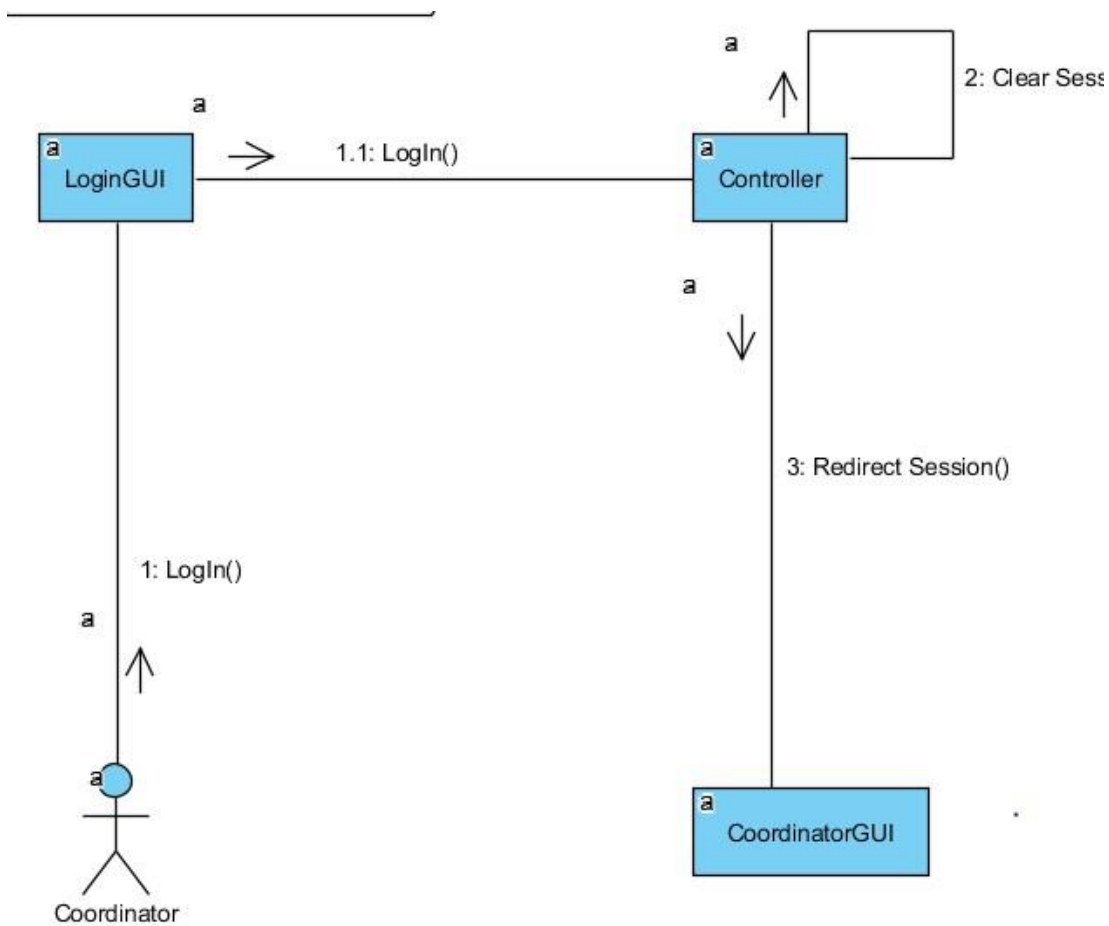


Figure 3-6 (Sequence Diagram: Logout)

3.1.4 Collaboration Diagram

A collaboration diagram, also known as communication diagram, is a depiction of the relationships and interaction amongst the software objects in Unified Modelling Language (UML).

3.1.4.1 Student:

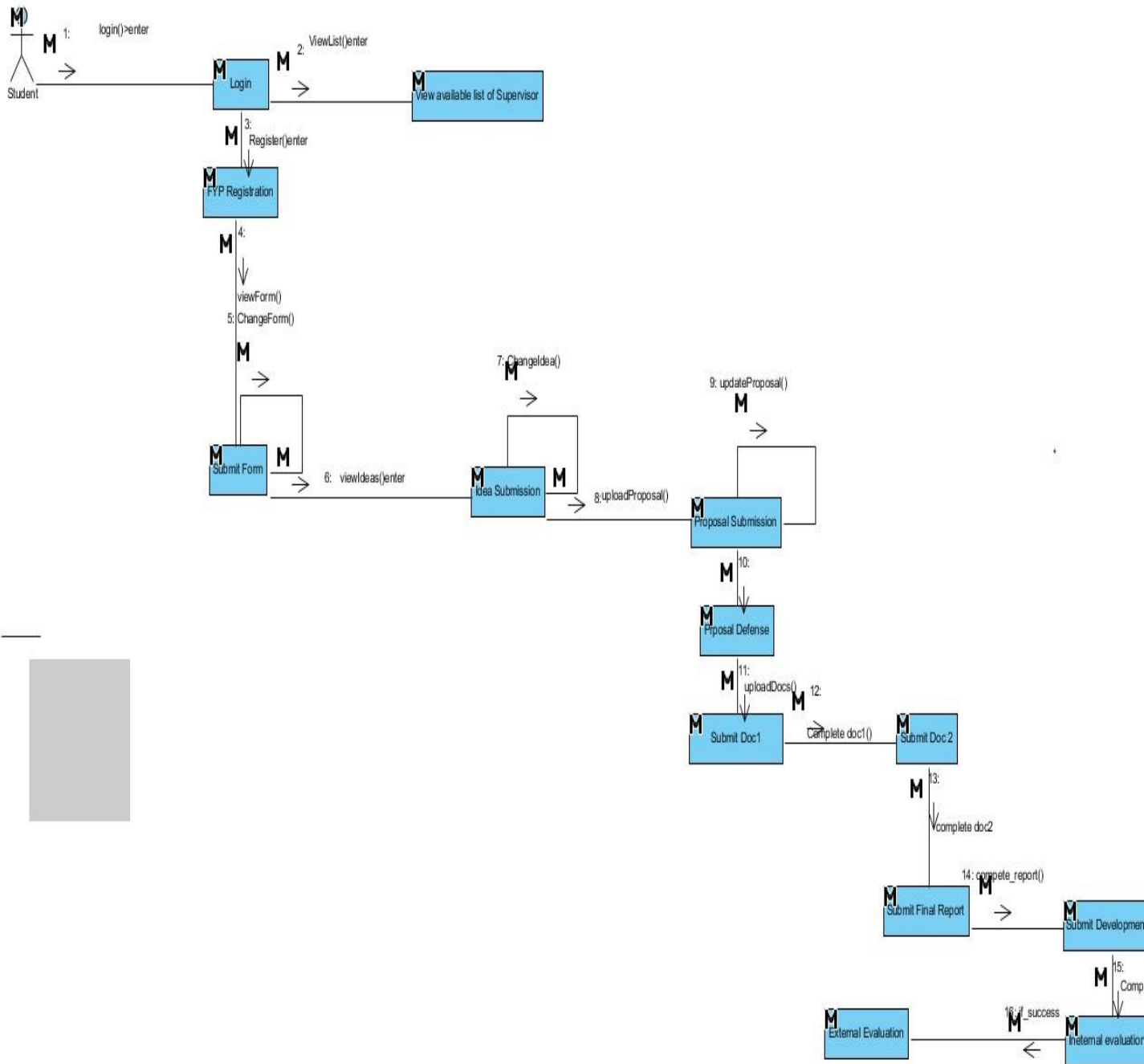
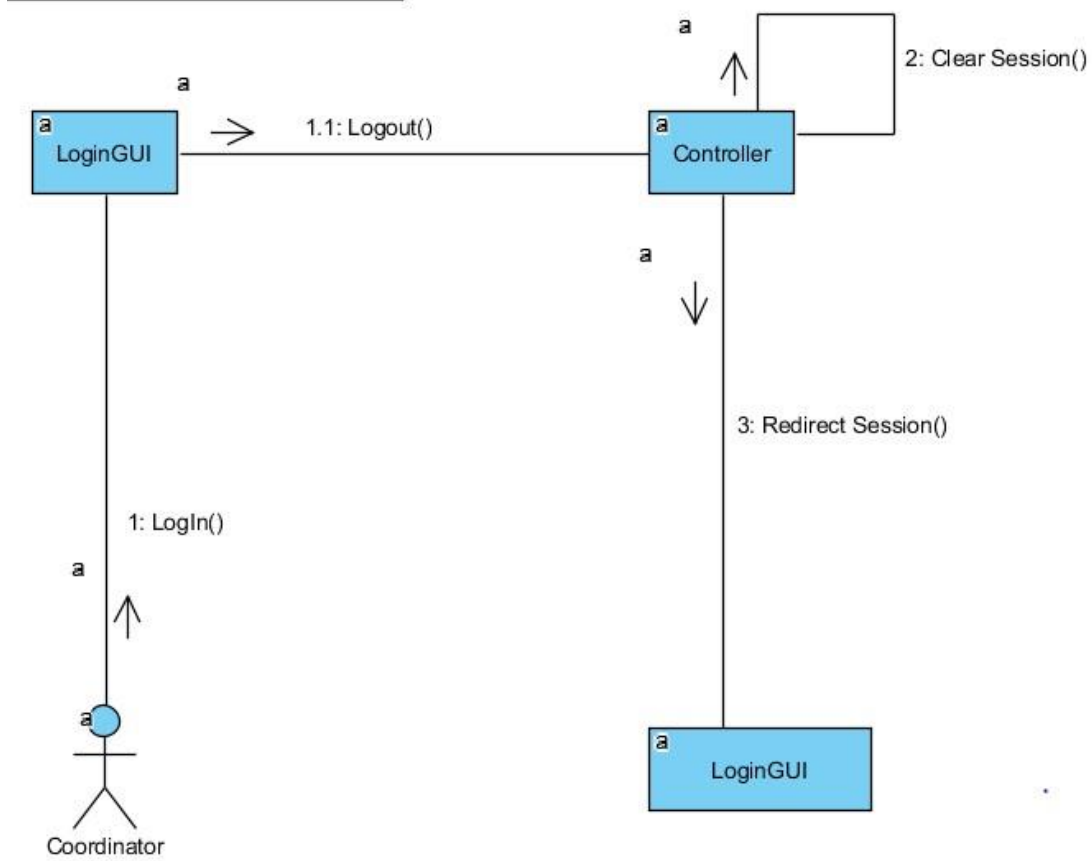


Figure 3-7(Collaboration Diagram: Student)

3.1.4.2 Logout:



list

Figure 3-8(Collaboration Diagram: Logout)

3.1.5 Design Class Diagram :

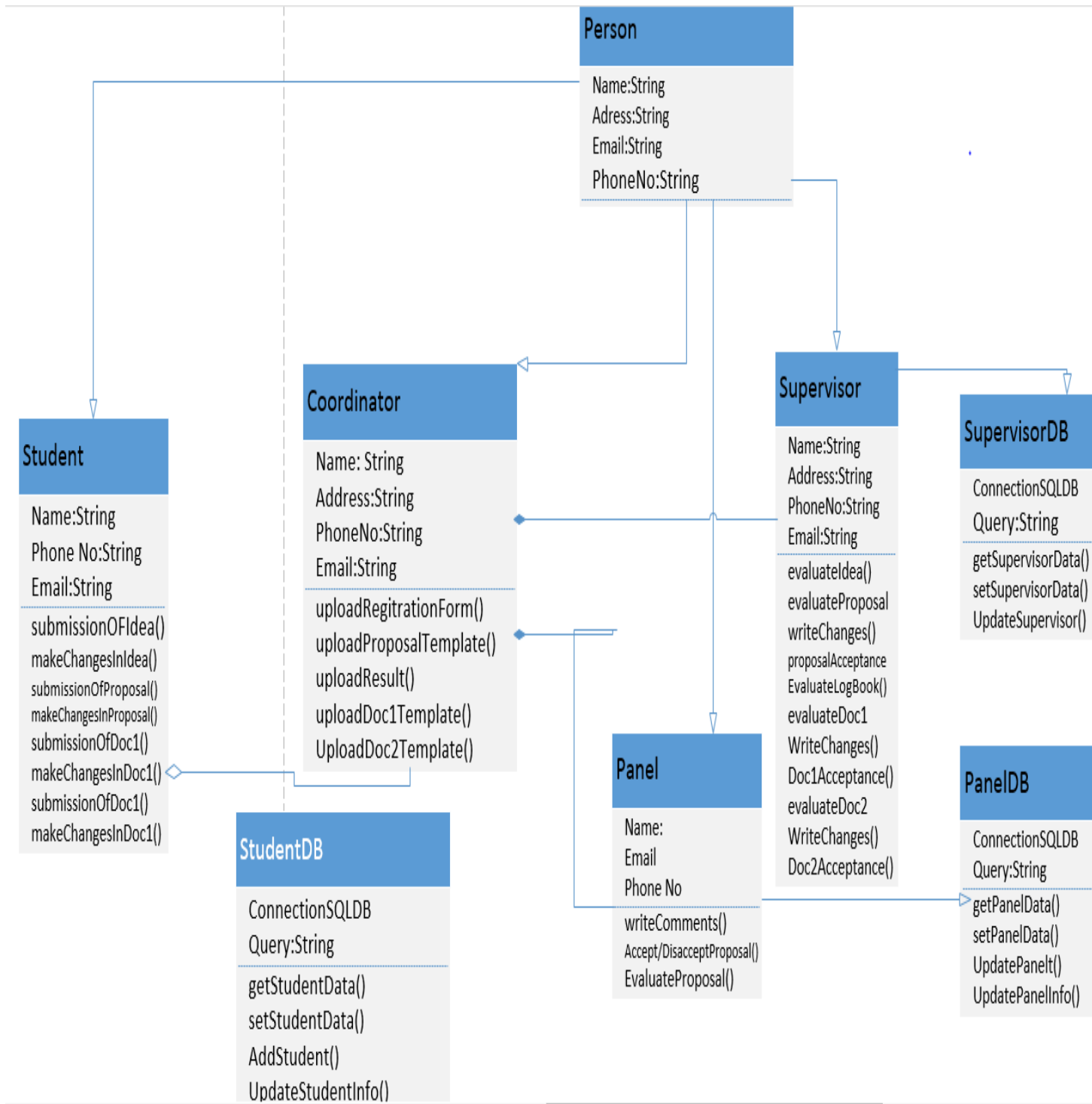


Figure 3-9 (Class Diagram) **Description**

1. In the figure above the Login class has loginId of type usernameId of type string and passwordId of type string.
2. Admin Control class contains controlID which contains nameId of type string, emailId of type string and PhoneNoId of type String.
3. CoordinatorId contains the related function Id's.

4. StudentId contains its related Function Id's.
5. SupervisorId contains the related Function Id's.
6. PanelId contains the related Function Id's.
7. StudentDB contains the Databse Id's of ConnectorSQLDB and Query Id of type String.
8. LogoutID will contain logout functionalities.

3.1.6 Data Model

3.1.6.1 Identify Entities

Coordinator, Student, Supervisor and Panel are the entities of data model.

3.1.6.2 Find Relationships :

Table 3.1- Find Relationship

	Coordinator (Admin)	Student	Panel	Supervisor
Coordinator (Admin)		Send Documents Template	Discuss	Tell Rules
Student	Submit Documents		Defense	Check Documents
Panel	Submit Result	Evaluate		
Supervisor	Discussion	Recommend Update Documents		

3.1.6.3 Primary Keys

The primary keys are CoordinatorID, SupervisorID, PanelID and StudentID.

3.1.6.4 Identify Attributes:

The only attributes indicated are CoordinatorID, SupervisorID, PanelID and StudentID

3.1.6.5 Map Attributes:

Table 3.2- Map Attributes

Attribute	Entity
CoordinatorID	Coordinator
StudentID	Student
SupervisorID	Supervisor
PanelID	Panel

3.1.6.6 Draw Fully Attributed ERD

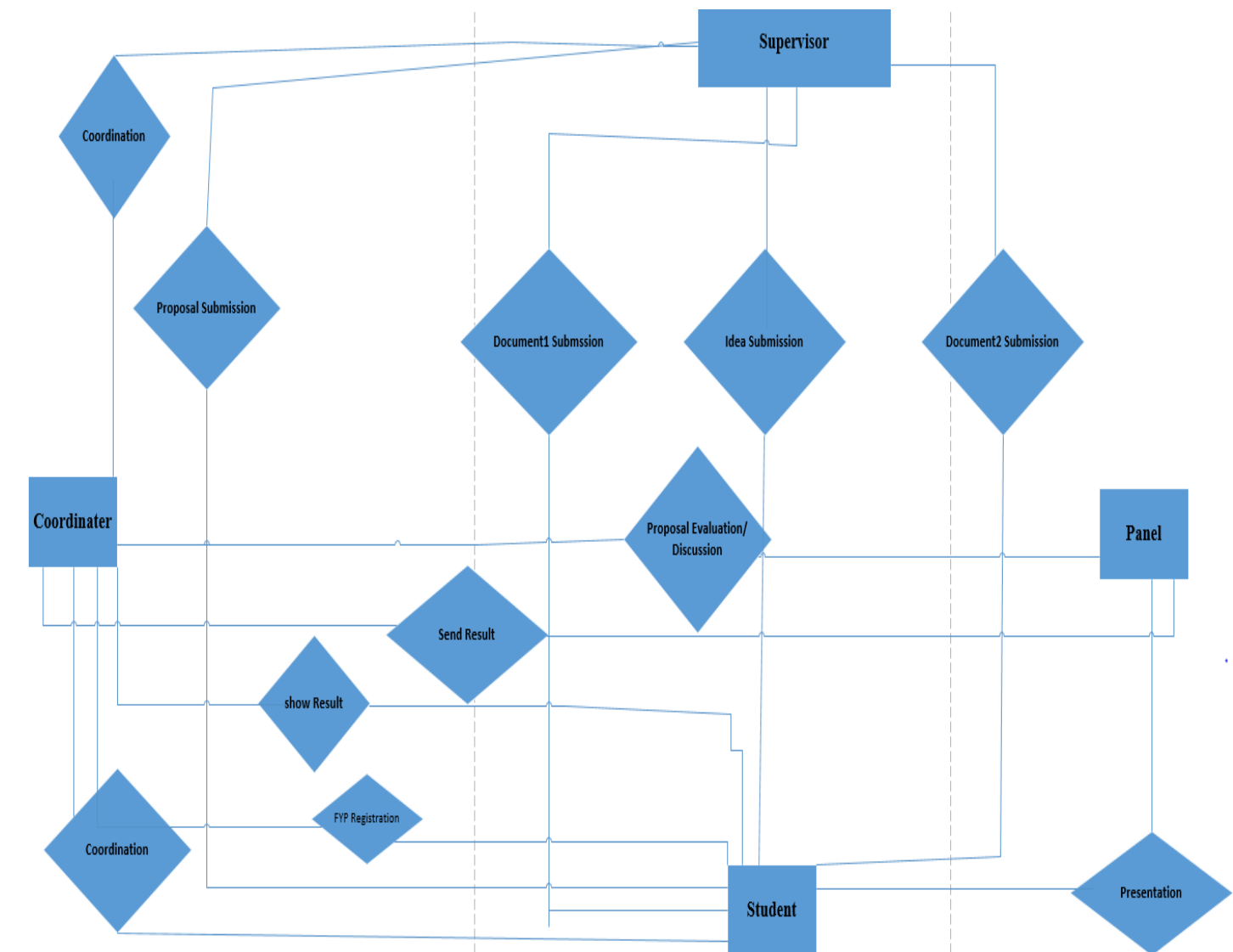


Figure 3-10 (Fully Attributed ERD)

3.1.7 METHODOLOGY

3.1.7.1 Waterfall

The Waterfall methodology will be followed to complete this project. The project will be followed in sequence. Our methodology will involve following steps:

- Analysis
- Requirement Specification
- Design
- Implementation
- Testing and Integration
- Operation and Maintenance

With this methodology each and every aspect of our project will be worked on in sequence so we may not face any sort of problem or barrier through our project.

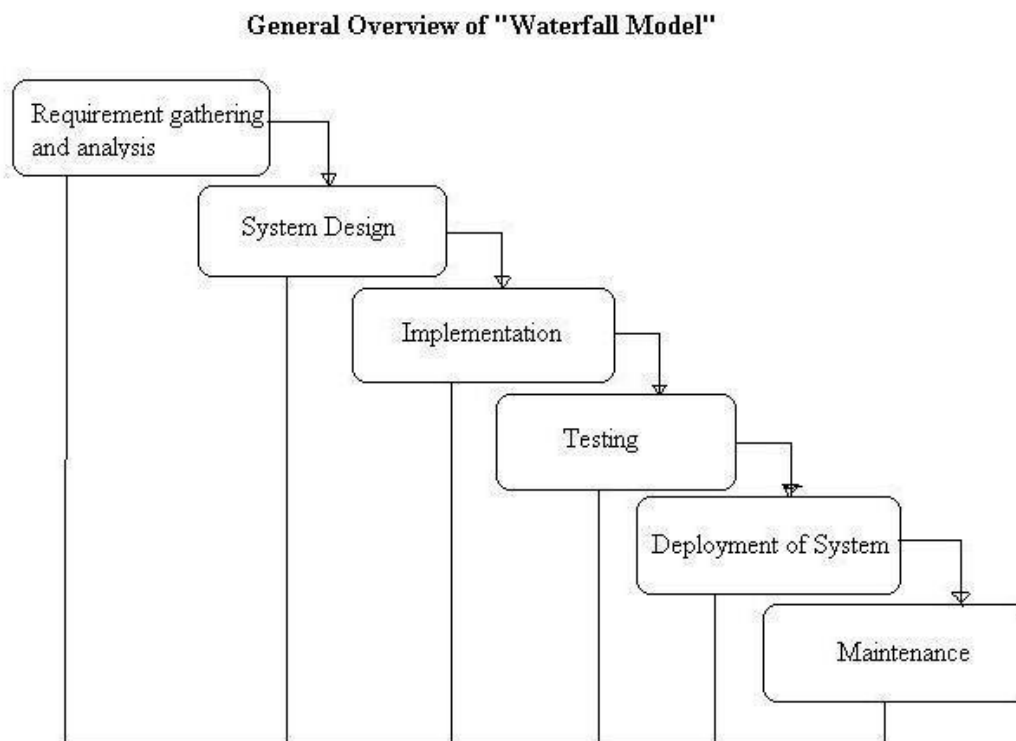


Figure 3.11 Waterfall

3.1.7.2 ADVANTAGES:

- This model is simple and easy to understand and use.
- It is easy to manage due to the rigidity of the model – each phase has specific deliverables and a review process.
- In this model phases are processed and completed one at a time. Phases do not overlap.
- Waterfall model works well for smaller projects where requirements are very well understood.

3.1.7.3 CONS

- On start of testing, It is very difficult to go back and change something that was not well thought out in the concept stage.
- No working prototype is produced end of the life cycle.
- High amounts of risk.
- Not a good model for complex and object-oriented projects.
- Poor model for long and ongoing projects.
- Not suitable for the projects where requirements are constantly changing.

CHAPTER 4

DATA AND EXPERIMENTS (and/or IMPLMENTATION)

4.1 DATABASE

We have used SQL database and linked it to our web application as well as our website so that the user receives the latest set of data. Data is synchronized in real-time and stored as XAMP to every connected user.

There are six main roots

- Coordinator
- Student
- Supervisor
- Panel
- FYP Registration
- Result

4.1.1 Coordinator

In Coordinator root will be the Admin root and will make entire data entries in database. Coordinator will assign user ID's and password to student, supervisor and panel id's. All database will be managed and maintained from this root.

4.1.2 Student

Student root will deal with student ID's and functionalities. All the data entries in database for student's records will be sent through this and Coordinator root will manage it. **4.1.3 Supervisor**

Supervisor root will deal with the work related to supervisor. All kind of data entries for supervisor ID's will be sent from this root and will be managed by Coordinator root.

4.1.4 Panel

Panel root will deal with result submission and entry data from panels ID and Coordinator will update and maintain data from Coordinator root. **4.1.5 FYP Registration**

Data entries for registration of Final Year Project will be sent from this root. It will contain student and supervisor's record and will assign them a Project ID. All this work will be managed from Coordinators root.

4.1.6 Result

Result root will handle the results of Proposal, Doc1, Doc2, Final Report, Internal Evaluation and External Evaluation. Results will be managed and uploaded by Coordinator from Coordinator Root.

4.2 Software used for Web development:

4.2.2 Brackets:

Brackets is an integrated development environment used for the development of Web applications.

4.2.2.1 Advantages:

- Quick Edit
- Quick Docs
- Live Preview
- JSLint
- LESS support
- Open source
- Extensibility

4.2.3 XAMPP

XAMPP is a web server solution stack package developed by Apache Friends, consisting mainly of the Apache HTTP Server, and interpreters for scripts written in the PHP and database languages.

CHAPTER 5

RESULTS AND DISCUSSIONS (or USER MANUAL)

Application will work as described earlier. It will complete all required tasks.

Mailing system will also be integrated with this application so that all the users can communicate with each other.

Application will be responsive and efficient. All the data is managed in Database.

No user can have access to any other users account. Security will be kept so that every user gets satisfied with the application.

Students will not need to register themselves, they will login with the User ID and Password assigned by Coordinator (Admin).

Application will reduce a lot of paper work and will facilitate user as most of the functionality will be followed on the Application.

Templates for Proposal, Doc1, Doc2 and Final Report will be available on the website but they will be submitted in Hardcopy once they are approved. Before that student can share their documents in Soft Copy with their Supervisors so they can make changes and amendments as Supervisor suggests.

Marks of every document will also be uploaded on portal so students can easily view their results.

Starting Screen:

It is the starting screen of FYP automated system from where the End User (Admin, Faculty/Supervisor and Student) can gain access to their respective Login Portal.

They can also view details regarding their Login Portals

Welcome To FYP Management System

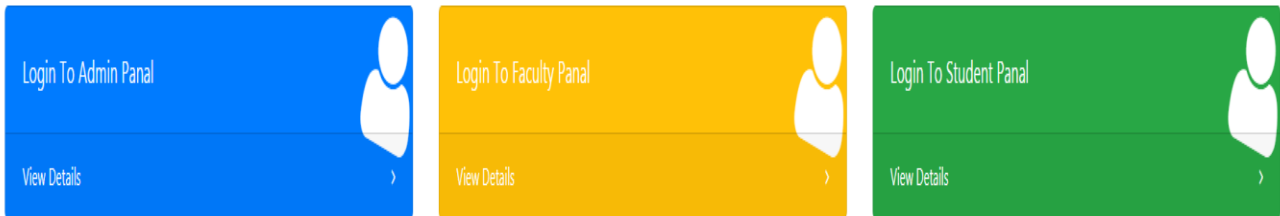


Figure 5.1 Starting Screen

Admin Login Screen:

It is a login interface of Admin of FYP management system (Same kind of login will also be available to Faculty and Students).

The login portal will require Username and Password so the User can access respective portal.

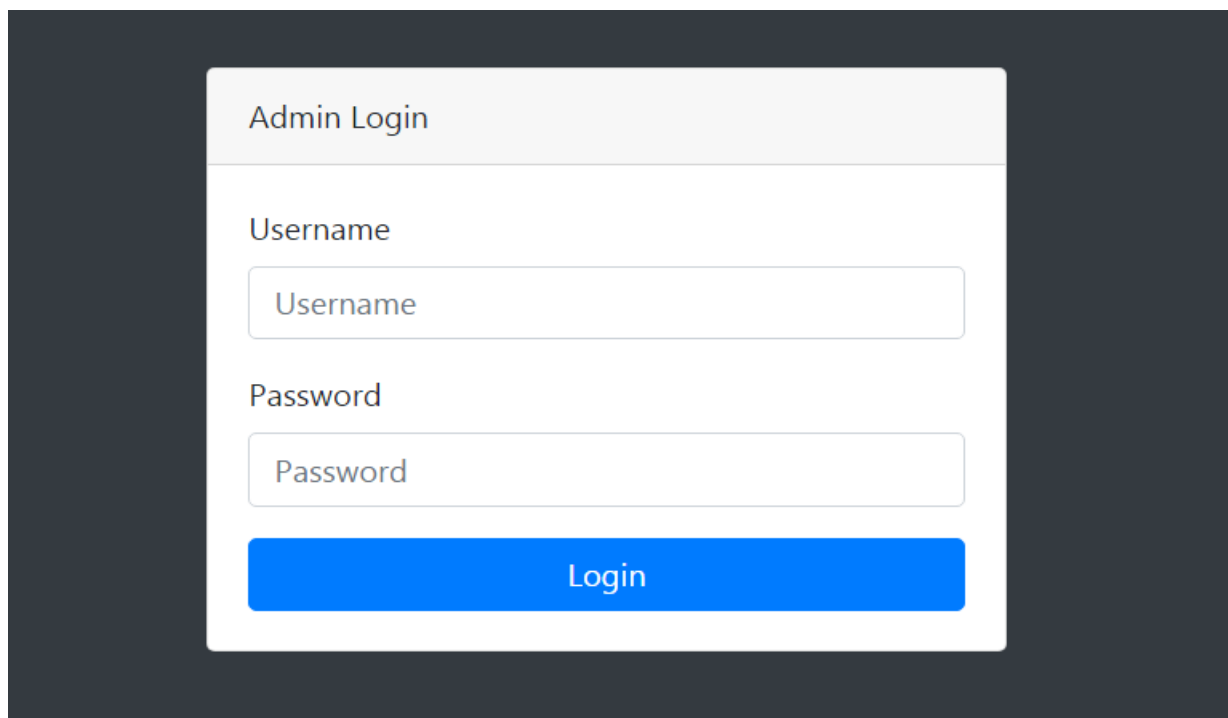
The image displays the Admin Login screen. It features a white login form centered on a dark gray background. The form has a title "Admin Login" at the top. Below the title, there are two input fields: "Username" and "Password". Each field contains a placeholder text with the same label as the field. At the bottom of the form, there is a prominent blue button labeled "Login".

Figure 5.2 –Admin Login Screen

Admin Portal – Add Notification:

On this portal the admin will add documents with title, priority and description. Student will be able to view these documents from Student's Portal.

The screenshot shows the 'Admin Panel' interface. On the left is a dark sidebar with navigation links: Home, Notification, Faculty, and Student. The main content area is titled 'Notification Add' and contains the following form fields:

- Title:** A text input field with the placeholder 'Title'.
- Priority:** A dropdown menu with the selected option 'Choose'.
- Description:** A text area with the placeholder 'Description'.
- File:** A file upload field with a 'Choose File' button and the text 'No file chosen'.

 A blue 'Submit' button is located below the form fields. The footer of the page contains the text 'Copyright © Bahria University 2018'.

Figure 5.3 Add Notification

Admin Portal – Add Faculty/Supervisor:

This portal will allow Admin to add basic information of those faculties who will serve as supervisors. Students will be able to view information of their respective supervisors.

The screenshot shows the 'Admin Panel' interface. On the left is a dark sidebar with navigation links: Home, Notification, Faculty, and Student. The main content area is titled 'Faculty Add' and contains the following form fields:

- Username:** A text input field with the placeholder 'Username'.
- Password:** A text input field with the placeholder 'Password'.
- Email:** A text input field with the placeholder 'Email'.
- Field:** A text input field with the placeholder 'Field'.
- Contact:** A text input field with the placeholder 'Contact'.

 A blue 'Submit' button is located below the form fields. The footer of the page contains the text 'Copyright © Bahria University 2018'.

Figure 5.4-Add Faculty/Supervisor

Admin Portal – Add Student Screen:

On this portal the admin will add the Fyp Students group including name phone no. Student will login through the Group ID and password assigned by admin. Each member of group will use the same login.

Admin Panal Logout

Home / Student Add

Student Add

Group# *

Password *

First Name * First Email * First Phone

Second Name Second Email Second Phone

Third Name Third Email Third Phone

Copyright © Bahria University 2018

Figure 5.5-Add student Screen

Admin Portal – Student View:

All information of each group will be Viewed here. Students logbook and results can be viewed and edited here.

Admin Panal Logout

Home / Student View

Student View

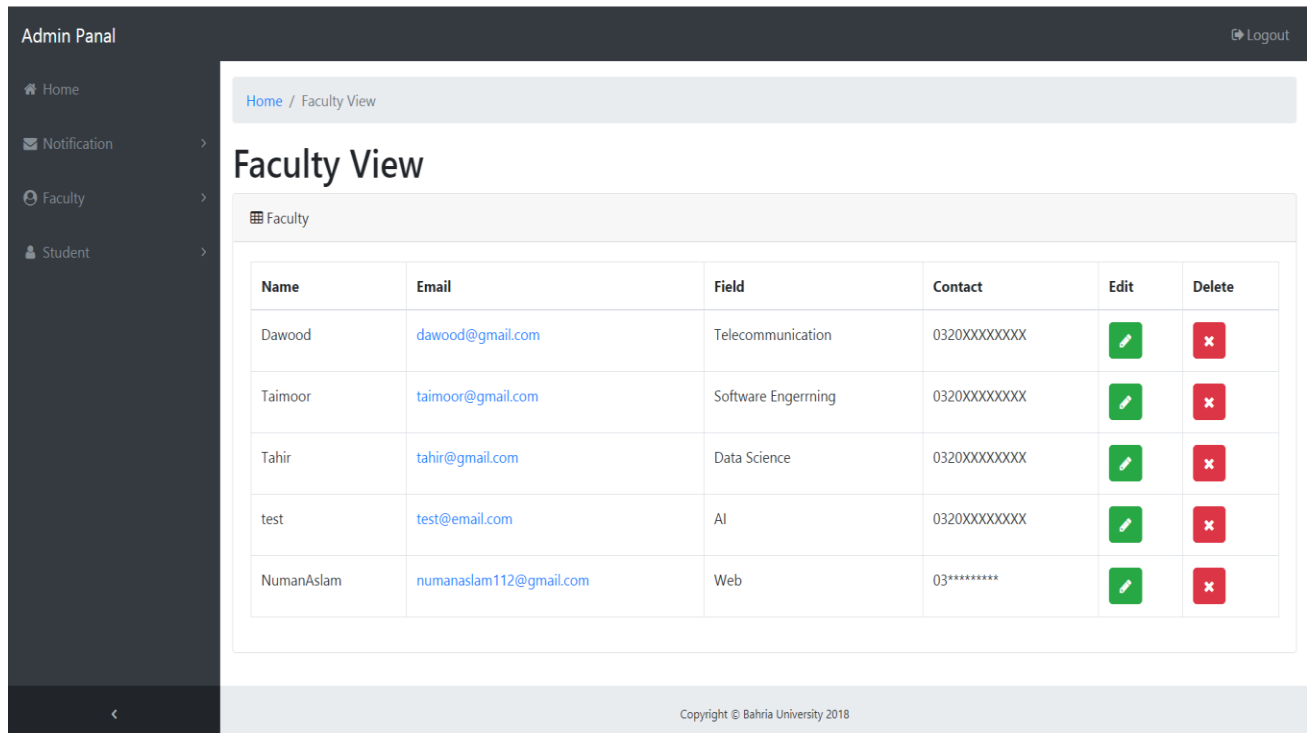
Students

Group#	Names	Emails	Phones	Logbook	Results	Edit	Delete
g2	Basir Hamza Muhammad	hamza@gmail.com hamza@gmail.com khalid@gmail.com	0320000000 0320000000 0320000000				
g1	Usman Ali Ahmed	test@gmail.com test@gmail.com test@gmail.com	0320XXXXXX 0320XXXXXX 0320XXXXXX				
g3	Basir	test@gmail.com					
G4	Farhan	farhan@gmail.com	0344*****				
G9	Reham	reham@gmail.com	0344555555				

Figure 5.6 – Student View

Admin Portal – Faculty View:

This is the view of faculty with their emails and specific field. Admin can edit information of all the supervisors and can delete information,



The screenshot displays the 'Faculty View' page in an admin portal. The page has a dark sidebar on the left with navigation options: Home, Notification, Faculty, and Student. The main content area shows a breadcrumb 'Home / Faculty View' and a title 'Faculty View'. Below the title is a table with the following data:

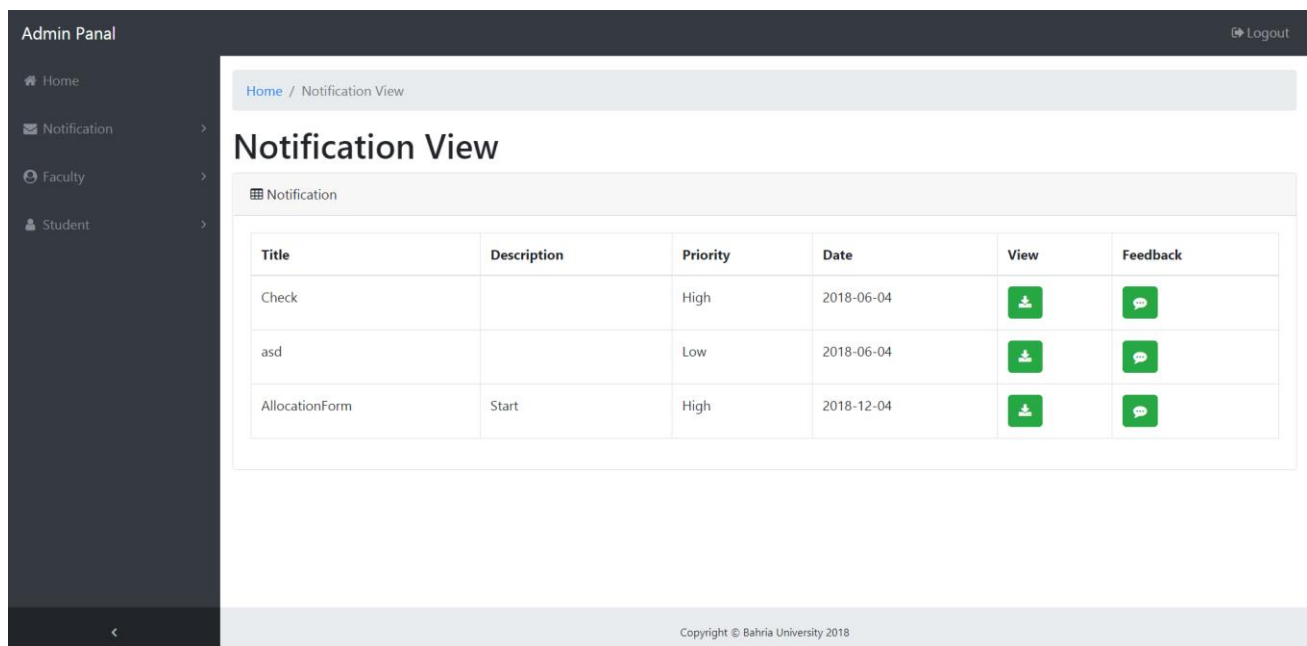
Name	Email	Field	Contact	Edit	Delete
Dawood	dawood@gmail.com	Telecommunication	0320XXXXXXXX		
Taimoor	taimoor@gmail.com	Software Engerning	0320XXXXXXXX		
Tahir	tahir@gmail.com	Data Science	0320XXXXXXXX		
test	test@email.com	AI	0320XXXXXXXX		
NumanAslam	numanaslam112@gmail.com	Web	03*****		

At the bottom of the page, there is a footer: 'Copyright © Bahria University 2018'.

Figure 5.7 – Faculty View

Admin Portal – Notification View:

In this page the admin can view the uploaded documents and detail of the documents and can give feedback on documents submitted by students.



The screenshot displays the 'Notification View' page in an admin portal. The page has a dark sidebar on the left with navigation options: Home, Notification, Faculty, and Student. The main content area shows a breadcrumb 'Home / Notification View' and a title 'Notification View'. Below the title is a table with the following data:

Title	Description	Priority	Date	View	Feedback
Check		High	2018-06-04		
asd		Low	2018-06-04		
AllocationForm	Start	High	2018-12-04		

At the bottom of the page, there is a footer: 'Copyright © Bahria University 2018'.

Figure 5.8 Notification View

Faculty/Supervisor Portal – Notification View:

On this page supervisor can view notifications received from admin and can give feedback to admin.

The screenshot displays the 'Faculty Panel' interface. The main content area is titled 'Notifications' and contains two tables:

Admin Notification

Title	Description	Priority	Date	View	Feedback
Check		High	2018-06-04		
asd		Low	2018-06-04		
AllocationForm	Start	High	2018-12-04		

Notification

Title	Description	Priority	Date	View
final	fala	Normal	2018-12-03	

Figure 5.9 –Supervisor Portal-Notification View

Supervisor/Faculty Portal – Student View:

On this page supervisor and access logbook of respective FYP Groups and can give feedback to student regarding their Logbook.

The screenshot displays the 'Faculty Panel' interface. The main content area is titled 'Student View' and contains a table with student information:

Group#	Names	Emails	Phones	Logbook	Results
G4	Farhan	farhan@gmail.com	0344*****		

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Figure 5.10 – Faculty Portal- Student View

Student Portal:

Here each group from their login will upload the logbook with as the format given the logbook page which will be submitted to supervisor and admin.

No table of figures entries found.

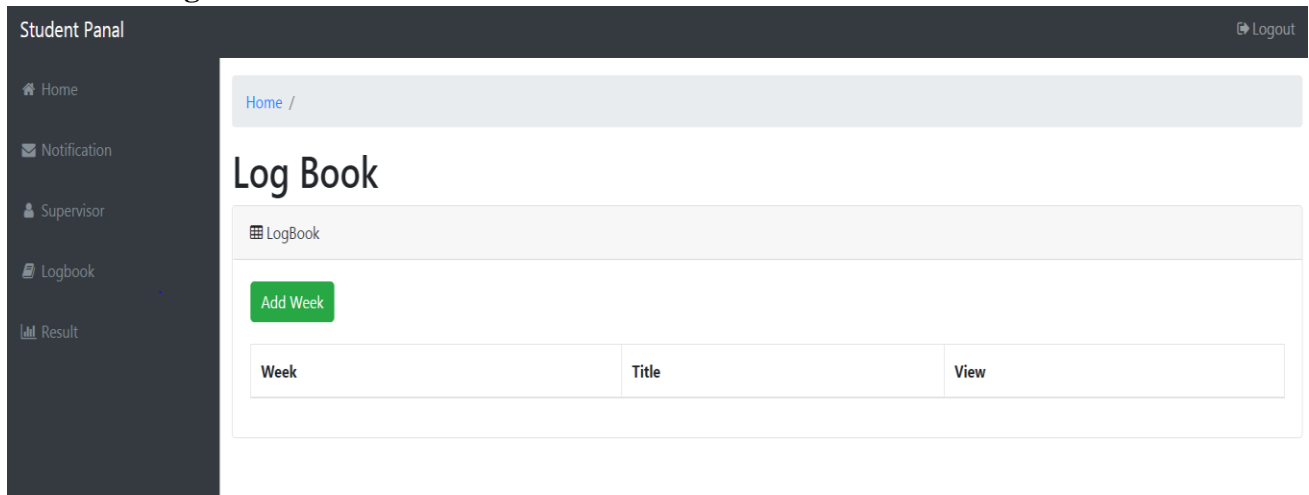


Figure 5.11 Student Portal

CHAPTER 6

CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion:

FYP Automated System is designed to fulfill Client's Requirement. Admin (Coordinator) will be the client for this application. So it is necessary to meet the requirements that client has asked for. This application is for a purpose that has to be fully workable.

Student's Final Year projects are necessary part of their degree so students will be highly dependable on smooth working of this Application.

Hence this application is designed to meet all user's requirements.

6.2 Recommendations:

6.2.1 Strong internet connection:

The Users should use a Strong internet facility on their systems/mobiles otherwise the application might lag while working.

APPENDICES

APPENDIX A: Graphs

Spacing between chapter title and first line of text is 4.5 lines. The first paragraph in a subsection should align with left margin. General alignment for texts in paragraph should be “justified”.

Spacing between paragraphs is 1.5 lines. Subsequent paragraphs should be indented 1.27 cm (0.5 inch) from the left margin. General alignment for texts in paragraph should be “justified”.

APPENDIX B: Computer Program Listing

Spacing between chapter title and first line of text is 4.5 lines. The first paragraph in a subsection should align with left margin. General alignment for texts in paragraph should be “justified”.

Spacing between paragraphs is 1.5 lines. Subsequent paragraphs should be indented 1.27 cm (0.5 inch) from the left margin. General alignment for texts in paragraph should be “justified”.

