

Student's Facilitator

Final Year Project

Session 2016-2020

A project submitted in partial fulfilment of the
COMSATS University Degree
of
BS in Computer Science / Software Engineering (CUI)



Department of Computer Science
COMSATS University Islamabad, Lahore Campus

01 January 2021

Project Detail

Type (Nature of project)	[D] Development [] Research [] R&D			
Area of specialization				
Project Group Members				
Sr.#	Reg. #	Student Name	Email ID	*Signature
(i)	FA16-BCS-232	Ahmad Hassan Minhas	ahmadhassanminnhas@gmail.com	
(ii)	FA16-BCS-054	Ayishm Azeem	ayishm96@gmail.com	
(iii)				

*The candidates confirm that the work submitted is their own and appropriate credit has been given where reference has been made to work of others

Plagiarism Free Certificate

This is to certify that, I am **Ahmad Hassan Minhas S/D/o Azhar Hussain Minhas**, group leader of FYP under registration no **CIIT/FA16-BCS-232/LHR** at Computer Science Department, COMSATS Institute of Information Technology, Lahore. I declare that my FYP proposal is checked by my supervisor and the similarity index is 9% that is less than 20%, an acceptable limit by HEC. Report is attached herewith as Appendix A.

Date: _____ Name of Group Leader: _____ Signature: _____

Name of Supervisor: **Amer Mehmood** Co-Supervisor (if any): _____

Designation: _____ Designation: _____

Signature: _____ Signature: _____

HoD: _____

Signature: _____

Abstract

The advancement in technological era demands facilities and comfort in every step of life. By using this idea and working with technology, we have designed an app to facilitate our youngsters. We have developed an application with a native code to provide facilitation to both, the android and IOS users.

Student's Facilitator is a mobile app that has been created to provide ease to the students of University. This application carries all those useful resources that students really need as their assistant. It is supposed to provide handy access to all those resources that will make its users relaxed and will lessen the burden of students. Students can help each other by providing good notes to all of their fellows and juniors through the feature of Notes Sharing. Anyone from University struggling in finding an accommodation to live can get a handy access to approach and contact Hostels with available rooms. Another problem that rises in the daily life of students is the lack of source that can help them to afford their extravagance. This facilitation system will tend to provide them a platform to earn through the services that they can easily provide to anyone i.e. Teaching and Ride Sharing. The feature of Carpooling and Tutor can be their go to source to get enough coins in their hands and those using the services will definitely be gaining equal benefit of finding a teacher and travel expenses in cheap rates. Lastly, communication barrier has also been considered by us. Students will be able to find solutions to their problems through a discussion forum on a single platform provided by us.

Student's facilitator will make university life a little easier, with that its features will keep everyone connected within their environment. So to achieve our goals we will be deploying this application in universities or educational institutes in need of it.

Table of Contents

Student's Facilitator	1
Final Year Project	1
Session 2016-2020	1
Project Detail.....	2
*The candidates confirm that the work submitted is their own and appropriate credit has been given where reference has been made to work of others.....	
Plagiarism Free Certificate	2
Contents.....	4
Chapter 1: Introduction	7
1.1 Introduction	7
1.2 Goals and Objectives	7
1.3 Problem Statement	8
1.4 Assumptions & Constraints	8
1.5 Project Scope	8
Chapter 2: Requirement Analysis	9
2.1 Actors	9
2.2 Requirement Elicitation	9
2.2.1 Functional Requirements	9
2.2.2 Non-Functional Requirements	11
2.2.3 Traceability Matrix.....	11
2.3 Use Case Description	13
2.4 Use case design.....	22
2.5 Software development life cycle	23
CHAPTER 3: System Design	24
3.1 Work breakdown structure (WBS)	24
Error! Not a valid embedded object.	24
3.2 Activity Diagrams	25

3.3	Sequence Diagram	32
32		
3.4	Class Diagram.....	37
3.5	Database Diagram	38
3.6	Network Diagram	39
3.7	Collaboration Diagram	39
CHAPTER 4: System Testing.....		43
4.1	Test Cases	43
4.2	Unit/Integration/Acceptance Testing	57
4.2.1	Unit Testing.....	57
4.2.2	Integration Testing	57
4.2.3	System Testing	57
4.2.4	Acceptance Testing	57
CHAPTER 5: Conclusion.....		58
5.1	Problems faced and lessons learned.....	58
5.2	Project Summary.....	58
5.3	Future Work	59
CHAPTER 6: References		65

Figures

Figure 1. Admin Use case	22
Figure 2. Students Use case.....	23
Figure 3. V- Model.....	23
Figure 4. Work Breakdown Structure	24
Figure 5. Registration	25
Figure 6. Notes Sharing.....	26
Figure 7. Carpooling.....	27
Figure 8. Discussion Forum	28
Figure 9. Hostels.....	29
Figure 10. Tutors	30
Figure 11. Profile.....	31
Figure 12. Logout	31
Figure 13. Sequence diagram of Login	32
Figure 14. Sequence diagram of registration process.....	32
Figure 15. Sequence diagram of Notes View/Download	33
Figure 16. Sequence diagram of uploading notes.....	33
Figure 17. Sequence diagram of posting hostel ads	34
Figure 18. Sequence diagram of hostel view/contact	34
Figure 19. Sequence diagram of driver	35
Figure 20. Sequence diagram of taking ride by passenger	35
Figure 21. Sequence Diagram of tutor	36
Figure 22. Sequence Diagram of Discussion Forum.....	36
Figure 23. Class Diagram	37
Figure 24. Database Diagram	38
Figure 25. Network Diagram.....	39
Figure 26. Collaboration diagram of login page.....	39
Figure 27. Collaboration diagram of Notes sharing	40
Figure 28. Collaboration diagram of Hostel.....	40
Figure 29. Carpooling collaboration diagram.....	41
Figure 30. Discussion forum	41
Figure 31. Collaboration diagram of Edit profile	42
Figure 32. Collaboration diagram of tutors	42

Chapter 1: Introduction

1.1 Introduction

Students Facilitator is an application that is designed to play a role of student's assistant. The main reason to create this application was to provide comfort and ease in student's life. This application will help students to have a handy access to features on a single platform, instead of making them struggle to approach them by facing problems. Through this application students will be able to **LEARN, EARN & SOCIALIZE**. Learning will be done through the notes exchanged between students, which will be arranged in order i.e. in a list of specific department and semester chosen by any one of them. Furthermore, learning access will also be provided to students by ones playing the role of free or paid tutor through the application. Residence search will be made easier through using a feature of hostel finder, which will give the gender specific results i.e. Girls and boys hostels. Feature of Carpooling will help student to gain a service of ride sharing with minimal rates. The last and the most helpful feature for students will be a discussion forum available in the application. It will help them to socialize and connect with each other. This will help all those introverts avoiding to talk to anyone for help.

All of the modules are designed carefully, by keeping in mind the standards of UI designing to make it useful by all types of users. The ultimate goal of this application is to ensure student's comfort, independence and build their social connections.

1.2 Goals and Objectives

Students will only be able to use this application by signing up and logging into their accounts using the email address provided by University. The way this application will serve its user has been listed below:

- Students will have an access to download and upload notes. Filters have been added in application to help students to find notes easily. The notes with good content, tips and tricks will definitely help students to cover their missed lectures, or help them grab concepts way more easily.
- Students will be provided with an access to google map to look for their destination point, and post it for the riders to pick them up and help them reach their desired place.
- An activity of posting and viewing hostel ads is added, with the division of ads specific to a particular gender.
- Discussion Forum will allow an activity for students to post their queries, and help them find answers in no time.
- Students will also be able to act as a tutor for students seeking for help in a particular subject.

The goals of modules designed will help students in the best way possible, providing them the opportunity earn through the resources they own or have access to and by also sharing their knowledge with those in need of it.

1.3 Problem Statement

Freshers in university face many problems during their first semester in University. The problems are not only bound to the new comers, Every step holds its hurdles and makes students upset when they find themselves helpless in a particular situation, whether that be academics, accommodation, general or issues related to travelling. We have experienced the problems related to above mentioned problems. We as students always desired for a solution or a saviour to help us get an escape from the problem, and this continued till the end of this journey with and without solutions. There is an urge to resolve this issue and bring a better idea to educate students by all means and in a more advanced and efficient manner.

Considering all those issues as a major constraint in our educational journey we will be launching an application to fulfil as many possible desires and needs of students on a single platform. Or it can be said that this application will be a bridge created among students.

1.4 Assumptions & Constraints

- This application is designed for the members of University only.
- Student will only be able to sign up with their university email address.
- An Internet connection will be necessary to use this online application.
- The project will release in January, 2021.

1.5 Project Scope

No such application provides all the above features in a single platform. Universities have designed their portals in such a way that the maximum help students get is to keep a track of their academic record. With that a portal where administration queries are posted, no gap is yet filled what students face in their daily routine. Student's Facilitator can be accessed anywhere at any time through a mobile device. It will serve students by dealing with their issues in an automated manner. Carpooling will effect students with a great impact on their ease of travelling, making it feasible for everyone to travel on a low cost. The main aim is to bless students with an e-assistant, which will provide notes sorted according to departments and semester, and a filter available to search notes of a particular subject. A friendly and disciplined environment will be provided through a discussion forum, which will help students get suggestions regarding their queries through experienced fellows and also to help students find a residence with by searching according to gender. Student's facilitator is a platform that basically connects students to solve each other's problems.

All of the activity performed on mobile application will be under admin's observation. Irrelevant stuff or reported posts will be deleted by the admin. The user causing disturbance will be banned after warning him twice.

Chapter 2: Requirement Analysis

This chapter outlines the functional and non-functional requirements of this application. It will provide the list of the users of Student's Facilitator

2.1 Actors

- Admin
- Students

2.2 Requirement Elicitation

2.2.1 Functional Requirements

FR01: Register

- Students will be able to sign up through the email address provided by University.
- Admin will sign register using their university email address on the admin site of the application

FR02: Login

- Students and Admin will only be able to login and sign up with the credentials they used to register themselves in the facilitation system.

FR03: Logout

- All type of users can logout.
- No access to features will be provided to users if they logout.

FR04: Authentication

- The system will keep the track of registered users.
- Incorrect Login credential will not allow the user to log into their accounts.

FR05: Notes Sharing

- Students will have an opportunity to find notes according to the desired department and semester.
- Students will be able to search notes according to subjects.
- Students can have an access to download the notes.
- Students can also report an irrelevant document.
- They will have an opportunity to help their fellows by sharing good quality notes with other members.
- A screen that takes in the important details regarding notes and only a PDF file with the related information of the post will be uploaded on server.

- Students can have access to their own notes and also delete them, This option will be found in **my folder** of the application.

FR06: Carpooling

- Student can post a trip.
- Driver's vehicle type, destination, current location and vacant seats will be recorded through a form.
- The system will notify the passengers about the driver that is willing to connect them with the desired rate the driver wants to charge.
- It will allow them to accept trip and communicate with drivers through a number riders would have shared in their request for trip.

FR07: Discussion Forum

- The application may allow its users post their issues, or any query that they have in their mind. Or any information that will be useful for everyone.
- The post will have a like, comment and report button.
- The ones posting the comment or query will have their user name, and profile photo shown on the post or comment.
- Application will list down the posts according to the date and time it has been posted. Most recent post will be shown on the top.

FR08: Hostels

- Hostels are sorted with gender specification. Girls or boys hostels will have their own particular screen.
- The app allows user to enter required details to post an ad of vacant rooms in hostels.
- Irrelevant Ad will be reported, and after reported by 20 users ad will be deleted by admin.
- User can also find their ads posted in their own folder "My Hostel ads".
- Post will also contain the information of user i.e. User email and profile picture
- Viewers will be able to contact the person, whoever's contact will be added in while filling a form to post an ad.

FR09: Tutor

- As screen with users' information who posted the ad with details he share to describe his role as a tutor.
- Students will use this service by filling a form and post about the job they will perform.
- User can contact tutor through the number or email he shared.

FR10: Profile

- Users can view their profile
- They will be shown their profile photo, username, email address, semester, and password.
- Users' profile is editable except, username and email address

2.2.2 Non-Functional Requirements

NFR01: Performance

- Enhanced performance of the app.

NFR02: Availability

- Students will be able to use application at any time with that internet connection is must.

NFR03: Usability

- No training sessions will be required to make users use the app efficiently
- It is built considering the standard of mobile application
- It can be used by all type of users.

NFR04: Security

- The ones having an access to the email address provide by university students, will only be able to use the application.
- Nobody will be able to view the profile of any user.
- The users violating the terms and conditions mentioned in application will be banned.

NFR05: Extensibility

- Application does allow the changes in future.
- It will easily be upgraded in future.

NFR06: Compatibility

- Application can run on both IOS and android devices having version ≤ 10 .

NFR07: Safety

- Application will only be usable if the user has signed up and logged in

2.2.3 Traceability Matrix

ID	Technical Requirements	Type	Priority
----	------------------------	------	----------

R_1	Register to use app	functional	HIGH
R_2	Log In	functional	HIGH
R_3	Log out	functional	HIGH
R_4	Verify user	functional	HIGH
R_5	Notes Sharing-download, upload, delete	functional	HIGH
R_6	Ride sharing	functional	HIGH
R_7	Queries posted, answer receiving	functional	HIGH
R_8	Post and view hostel ad	functional	HIGH
R_9	Students ca post tutor ad	functional	HIGH
R10	Profile is editable	functional	MEDIUM
R11	Authorized users may login	Non-functional	HIGH
R12	Interface is interactive	Non-functional	MEDIUM
R13	For all types of users	Non-functional	MEDIUM
R14	Maintain bug fixing for future usage	Non-functional	HIGH
R15	App compatible with all devices	Non-functional	MEDIUM

2.3 Use Case Description

Use Case ID:	R_1
Use Case Name:	Registration
Actors:	Student, Admin
Description:	Process through which registration is supposed to be done.
Pre - Condition:	There shall be no email registered before.
Post - Condition:	User is added in the record.
Normal Flow Of Events:	<ul style="list-style-type: none">• Open Application• Tap signup button.• Signup screen opens• Enter required details. i.e. email, username, password, confirm password, semester.• Admin shall signup with their university email address in the admin site.• Tap Signup button after filling in the details.• Button activity navigates to LogIn screen after successful registration process
Alternative flows:	<p>If user is registered already error message shown.</p> <p>Alert user for entering data that violated the validation of fields.</p>
Exceptions:	<<includes>>

Use Case ID:	R_2
Use Case Name:	LogIn
Actors:	Student, Admin
Description:	The process to follow to log into the application.
Pre - Condition:	The user shall have a record of their account. They must have signed up before logging in.
Post - Condition:	Users may get an access to their account.
Normal Flow Of Events:	<ul style="list-style-type: none"> • On the welcome screen tap the logIn button. • User will be navigated to Login page. • Enter the credentials. • Tap Login button then. • User will be verified through the record saved in the backend. • User will then be enter into application if credential used would be correct
Alternative flows:	<p>If the user has not signed up before, he must signup first.</p> <p>Alert user if the credentials entered are incorrect.</p>
Exceptions:	<<includes>>

Use Case ID:	R_3
Use Case Name:	Authentication
Actors:	Student, Admin
Description:	Authenticate the user.
Pre - Condition:	User must have university email address.
Post - Condition:	Registration will be successful with using correct email address.
Normal Flow Of Events:	<ul style="list-style-type: none"> User will be authenticated through the email address they will be using for the app.
Alternative flows:	<p>Outsiders are not allowed to register.</p> <p>University members with email will only be allowed to register</p>
Exceptions:	<<includes>>

Use Case ID:	R_4
Use Case Name:	Notes Sharing
Actors:	Student
Description:	Describes the process to access, upload and download notes.
Pre - Condition:	The user shall be a student of university.
Post - Condition:	Posts carrying description of notes and PDF file will be shown to the user.
Normal Flow Of Events:	<ul style="list-style-type: none"> On home screen tap “Notes Sharing”. Filter the notes search by picking up the desired department and tap the get

	<p>notes button to navigate to next screen</p> <ul style="list-style-type: none"> • Search notes of specific subjects with search field. • Notes post will be available with description and a pdf file attached. • To download notes tap download button. • To report irrelevant document tap report button. • To upload notes on main screen of notes sharing tap a plus icon to navigate to the form. • Fill in the details and upload pdf file only. • Tap submit after entering details, and attaching file. User will be shown an alert that confirms notes are posted.
Alternative flows:	If notes not downloaded check internet connection.
Exceptions:	none

Use Case ID:	R_5
Use Case Name:	Carpooling
Actors:	Student,Admin
Description:	Process to take and provide the service of ride sharing.
Pre - Condition:	The user must be logged in.
Post - Condition:	Carpooling service will be available to user.

<p>Normal Flow Of Events:</p>	<ul style="list-style-type: none"> • Open Carpooling by tapping “Carpool” on Home screen • Choose whether you will be a rider or driver. • The driver will enter the details i.e. car detail, vehicle type destination. • The actor will tap "Next" button. • The rider will be shown the screen having list of riders aiming to reach a same destination • Rider will be notified if driver is available. • Rider may accept or reject the request of driver. • Ride starts then if accepted. • Driver will move to the pickup location of rider. • Reaching to him he will pick up the rider and both will be directed to same destination. • Ride ends, receive cash. • Rider is asked to rate the driver • FOR RIDER <ul style="list-style-type: none"> -Choose destination and add contact number -Tap post button -Screen appears, “wait till rider connects you”. -Accept or reject the driver request. -If accepted, ride will initiate. -After ride ends, rate the driver
<p>Alternative flows:</p>	<p>If a problem occurs or request not posted, User is alerted.</p>

Exceptions:	None
--------------------	------

Use Case ID:	R_6
Use Case Name:	Discussion Forum
Actors:	Student
Description:	Process to follow to use Discussion forum.
Pre - Condition:	User must be logged in.
Post - Condition:	Users will have an access to view, respond, like and report the queries and also post them.
Normal Flow Of Events:	<ul style="list-style-type: none"> • Tap Discussion Forum on home screen. • Actors can view the most recent posts. • Type a query in the box and tap “Post button”. • The users viewing queries will be able to comment like and report the query. • User may receive notification if anyone posted a comment.
Alternative flows:	If error in posting alert shown to user to inform the problem.
Exceptions:	None

Use Case ID:	R_7
Use Case Name:	Hostels

Actors:	Student
Description:	Use case explains the flow to view and post an ad.
Pre - Condition:	User must be logged in
Post - Condition:	Users will be able to have access to view, post and report ads.
Normal Flow Of Events:	<ul style="list-style-type: none"> • Tap “Hostels” on home screen. • Select Boys or girls hostel. -Boys hostel will show post related to it. -Girls hostel will show ads related to it. • In ads tap contact button to contact the related person. • Report the irrelevant ad, or ad carrying incorrect details. -POST HOSTEL ADS. • Tap post ad on the main screen of hostels • Fill in the required fields, choose pictures to upload for enough information. • Post the ad. • If ad is posted successfully an alert showing “Ad is posted” will be shown.
Alternative flows:	If ad is not posted no activity takes place.
Exceptions:	None

Use Case ID:	R_8
Use Case Name:	Tutor
Actors:	Student
Description:	Process to post an ad as a tutor or find tutor to study one to one from him.
Pre - Condition:	User must be logged into application.
Post - Condition:	User will be shown available tutor ads and an option to post as a tutor.
Normal Flow Of Events:	<ul style="list-style-type: none"> • User will tap “Tutors” on home screen. • List of tutors ads will be shown, with a post button on the top of the screen. • The actor will contact a tutor. • To post a tutor ad, tap post button. • A form asking the desired information is filled. • Tap post after filling in the details. • The tutor ad will be posted for all users of the application. <p>If Ads are viewed</p> <ul style="list-style-type: none"> -Tap contact to call the tutor. -Copy email if want to send an email.
Alternative flows:	If request cannot be post system will show an error message.
Exceptions:	None

Use Case ID:	R_9
Use Case Name:	Logout
Actors:	Student, Admin
Description:	Process to follow to logout of Student's facilitator
Pre - Condition:	The user must be logged in the app.
Post - Condition:	As soon the user logs out he is navigated to login screen.
Normal Flow Of Events:	<ul style="list-style-type: none"> • Tap logout button in profile screen • Alert message shown to confirm logout activity. • After confirming "yes". User is logged out.
Alternative flows:	User will only logout if action takes place.

Use Case ID:	R_10
Use Case Name:	Profile Screen
Actors:	Student, Admin
Description:	Process describes how to view and edit profile.
Pre - Condition:	The user must be logged into the app.
Post - Condition:	The user will be able to view and edit the editable fields in profile.
Normal Flow Of Events:	<ul style="list-style-type: none"> • Tap setting button in header. • View profile. • Edit profile by tapping fields having label Update xyz

Alternative flows:	If no changes are made fields remain the same no action takes place.
Exceptions:	<<includes>>

2.4 Use case design

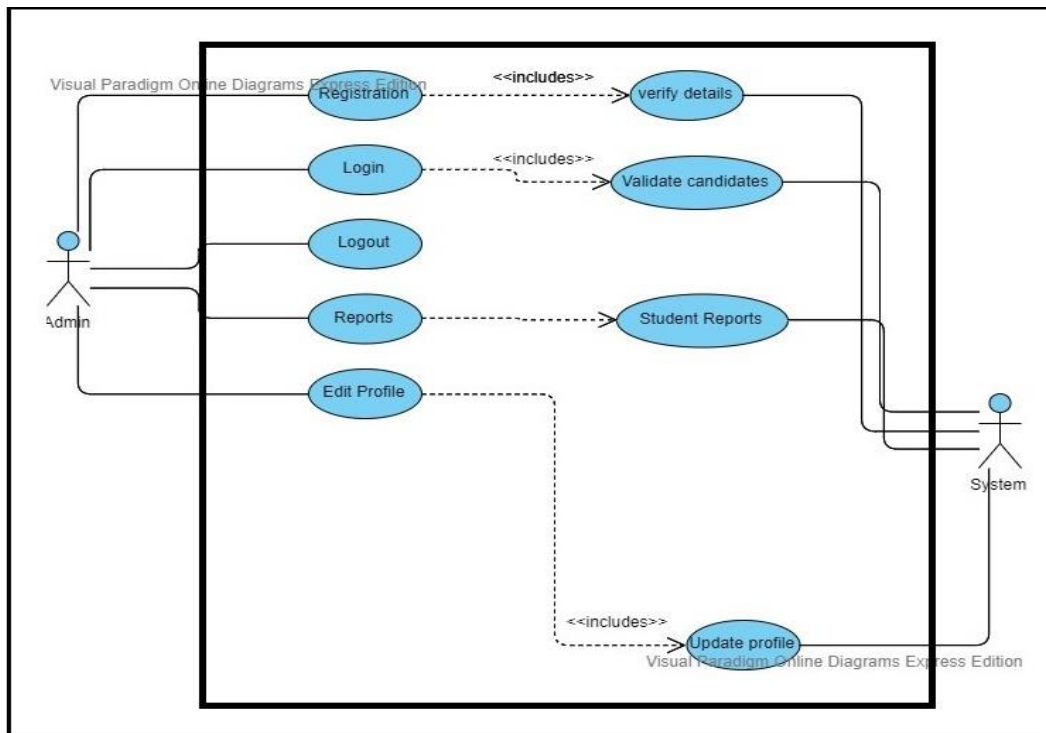


Figure 1. Admin Use case

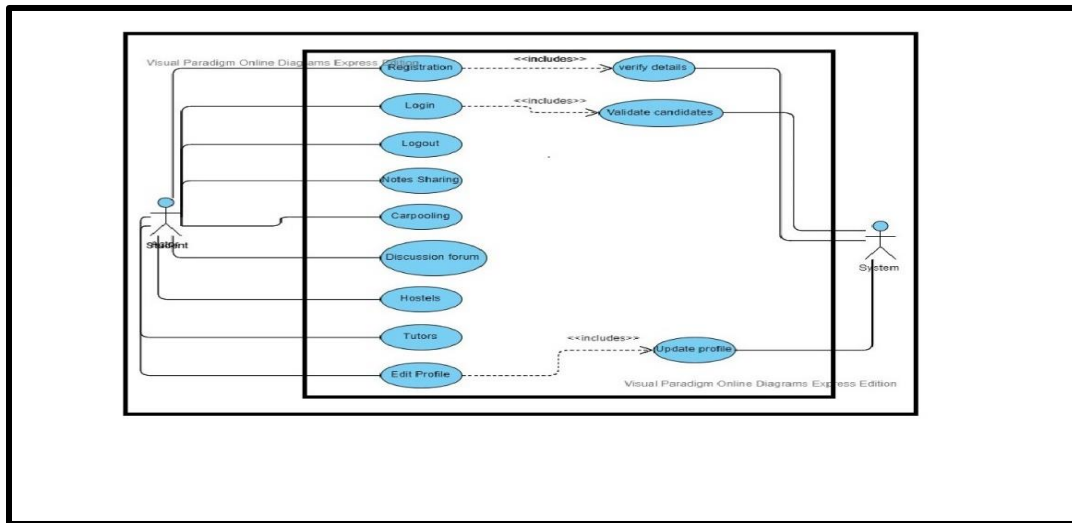


Figure 2. Students Use case

2.5 Software development life cycle

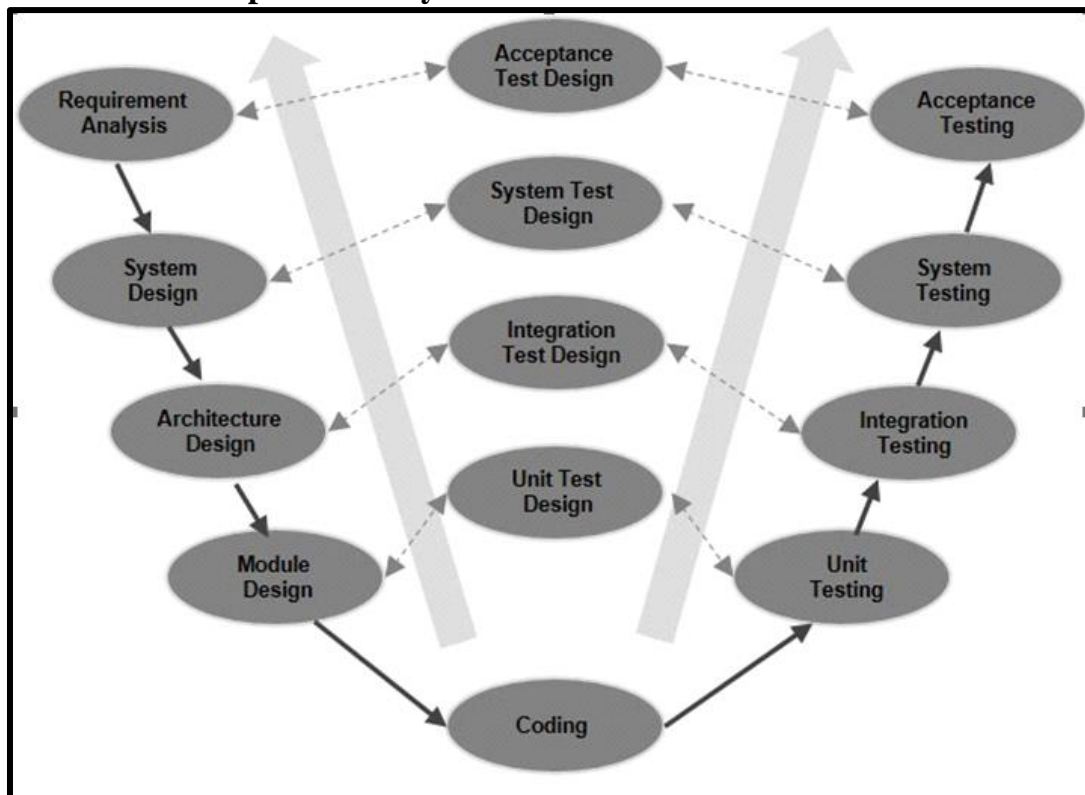


Figure 3. V- Model

We will use the V-Model.

- The advantages of the V-Model are following:
- Easy in use.
- Error findings will be easy.

- Flaws will be lesser.
- Works well for small projects where requirements are easily understood.

CHAPTER 3: System Design

3.1 Work breakdown structure (WBS)

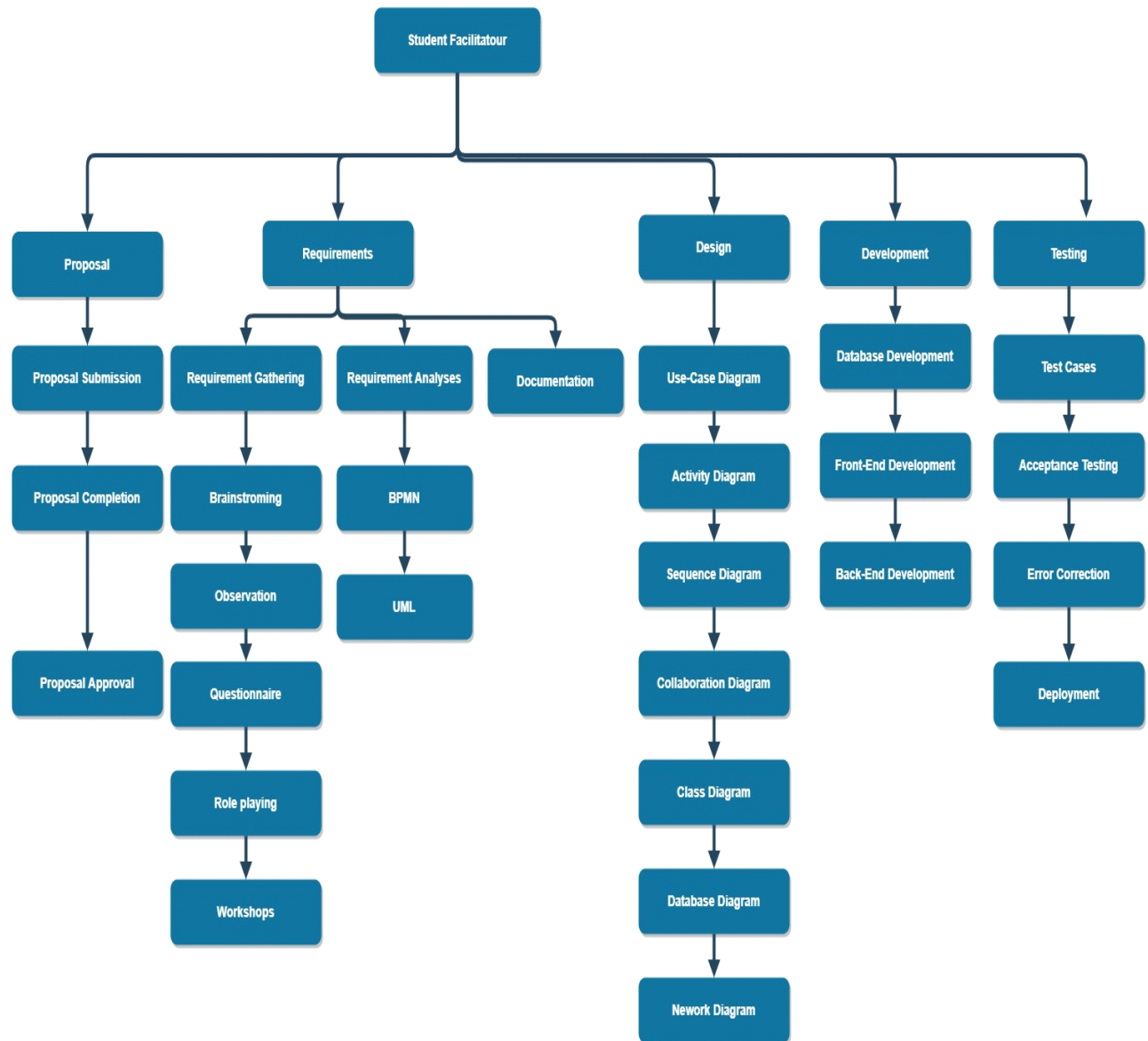


Figure 4. Work Breakdown Structure

3.2 Activity Diagrams

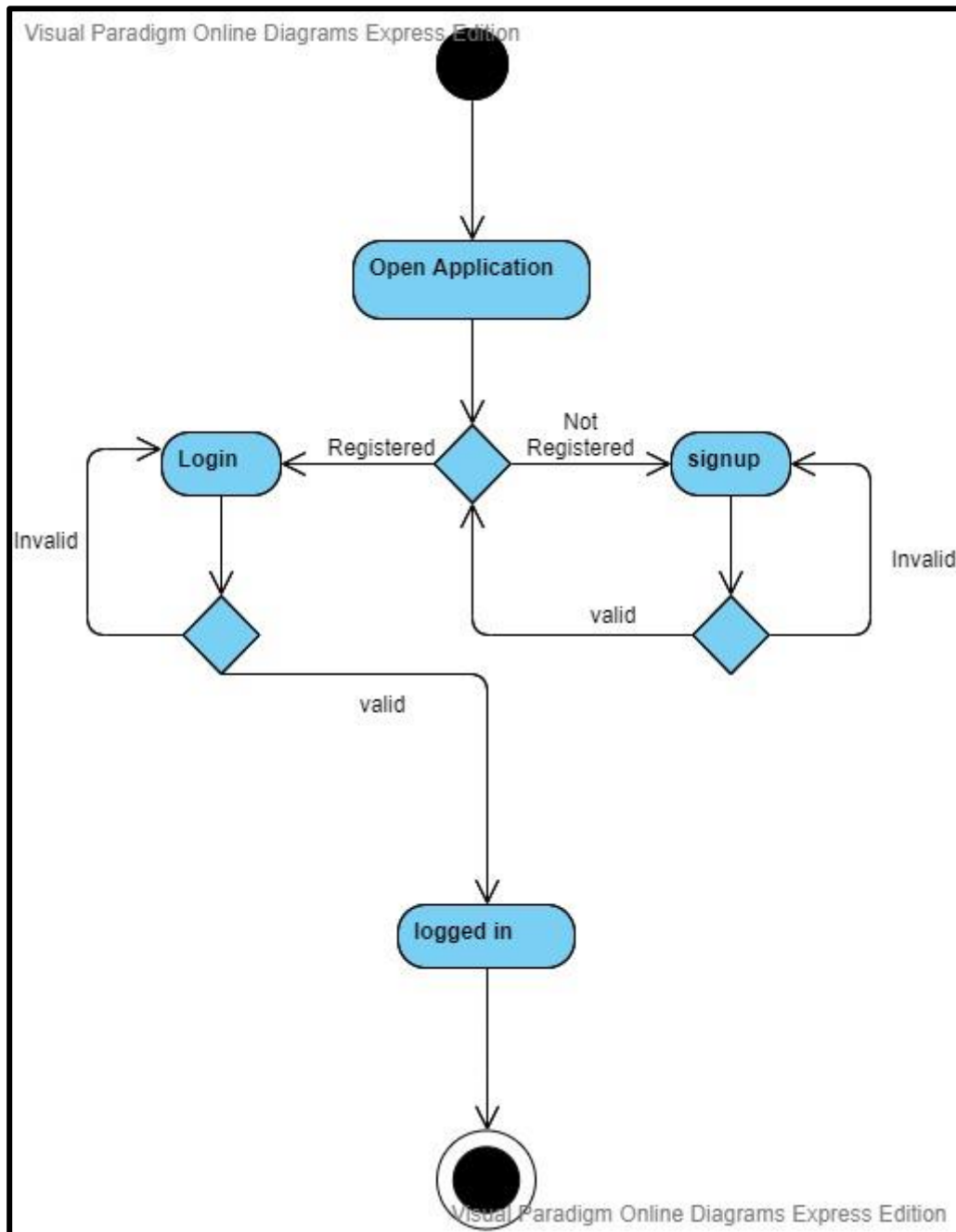


Figure 5. Registration

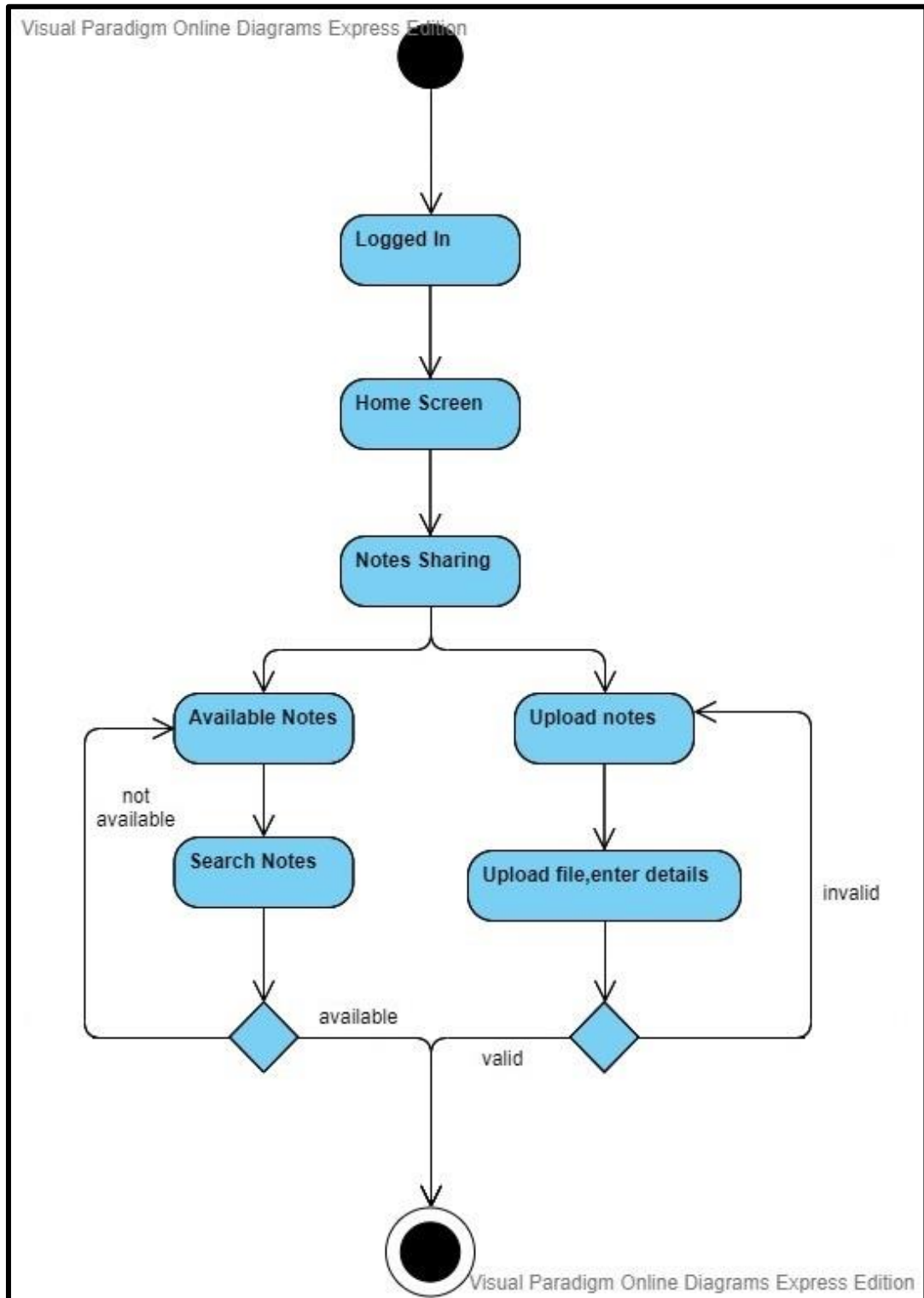


Figure 6. Notes Sharing

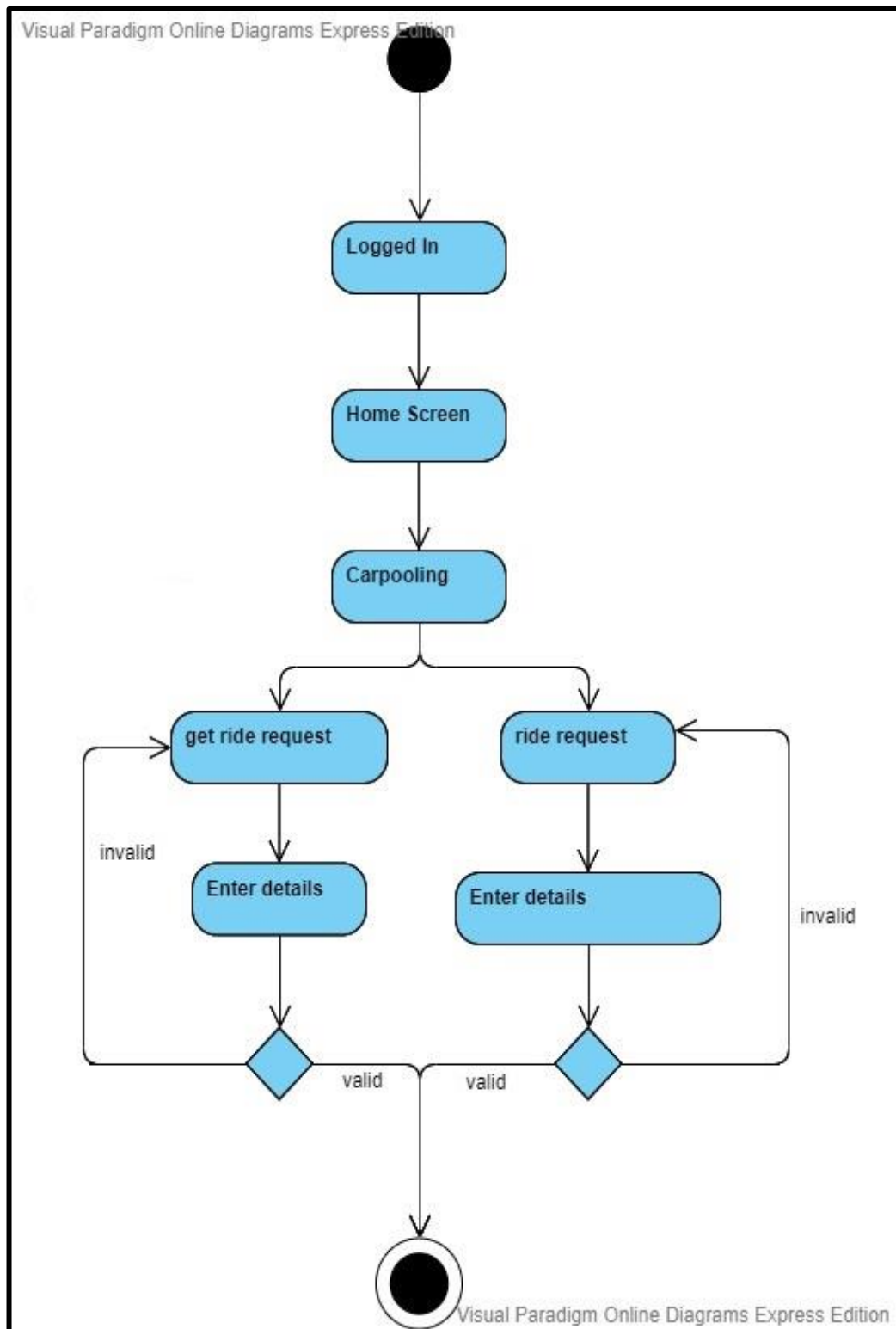


Figure 7. Carpooling

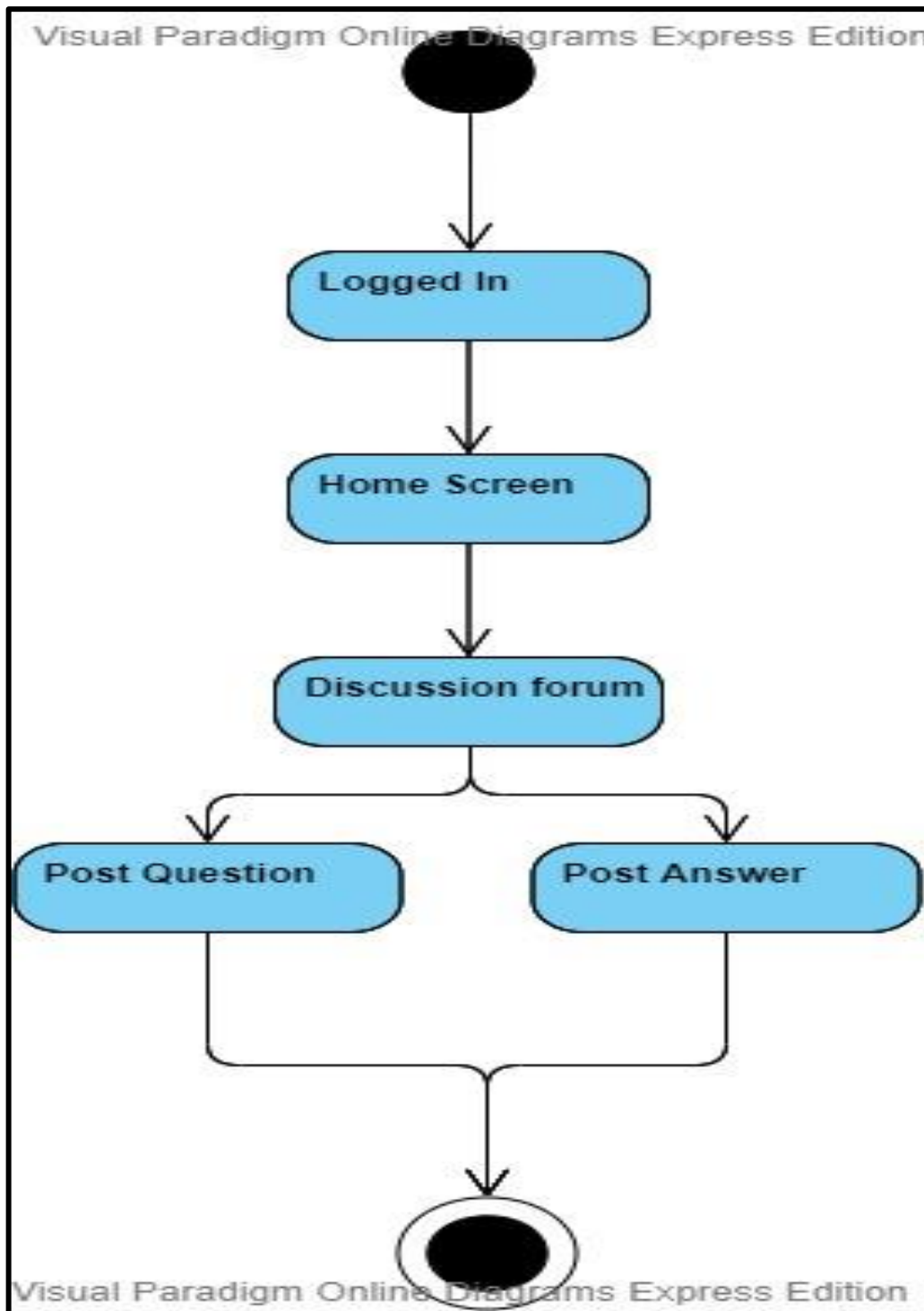


Figure 8. Discussion Forum

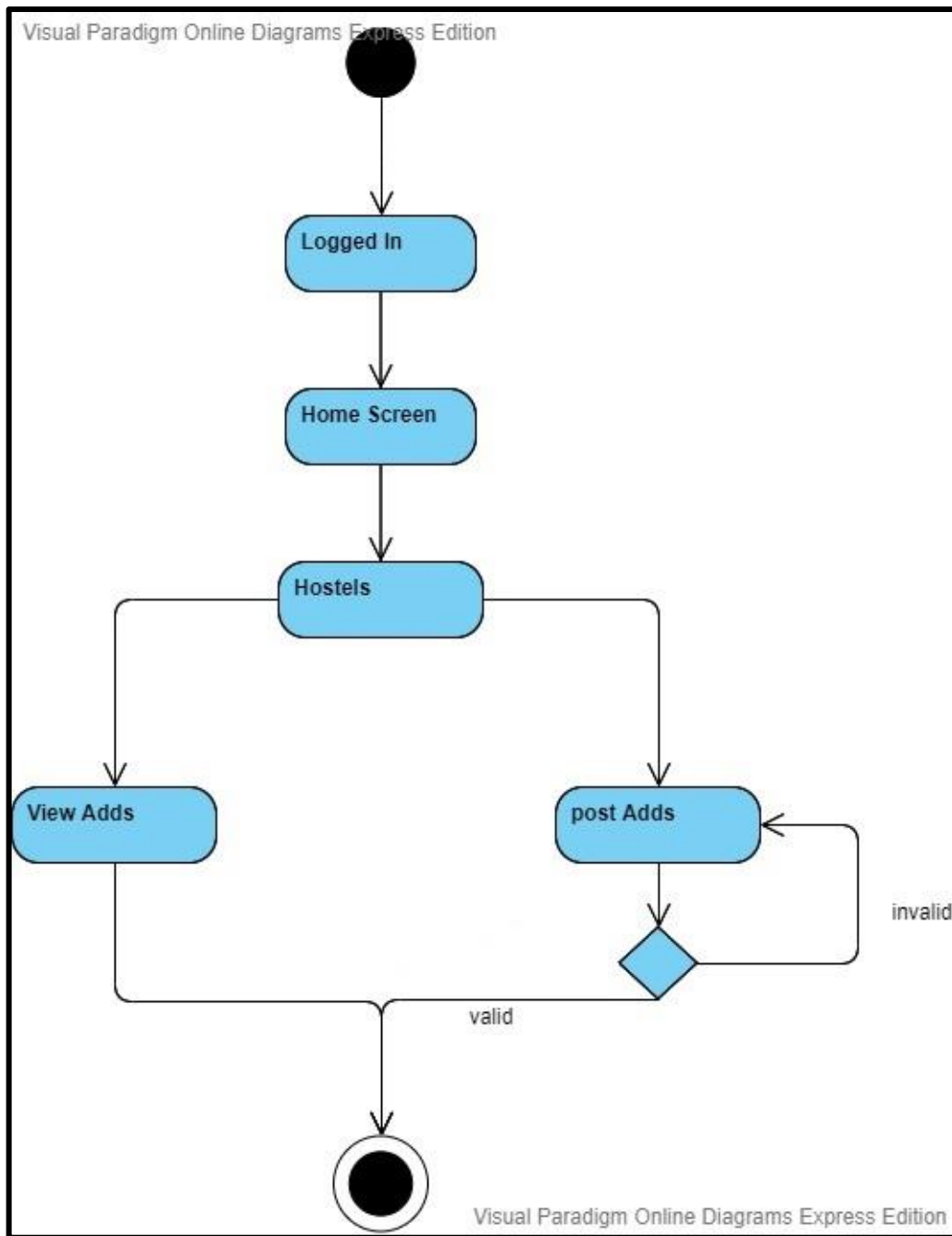


Figure 9. Hostels

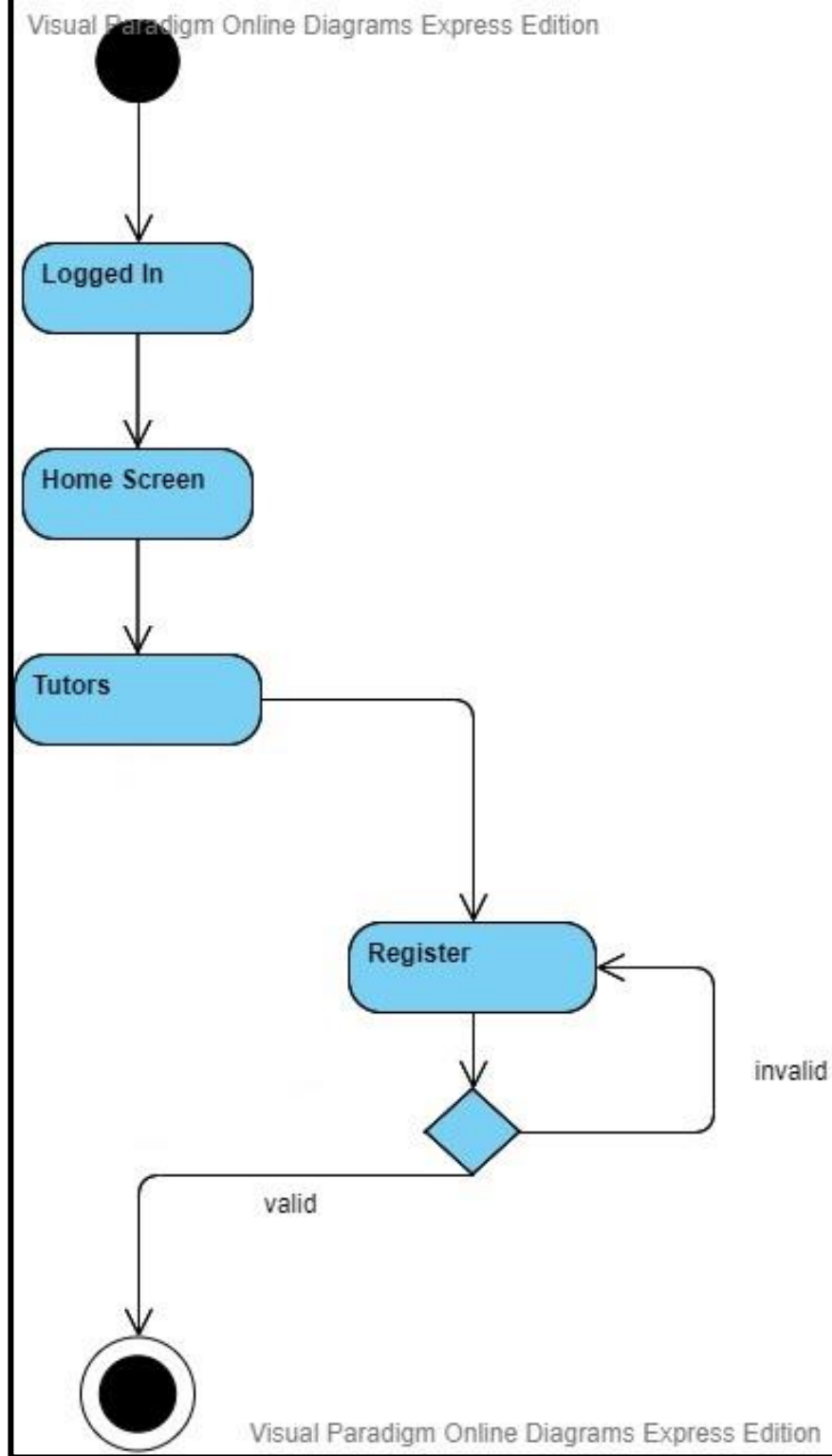


Figure 10. Tutors

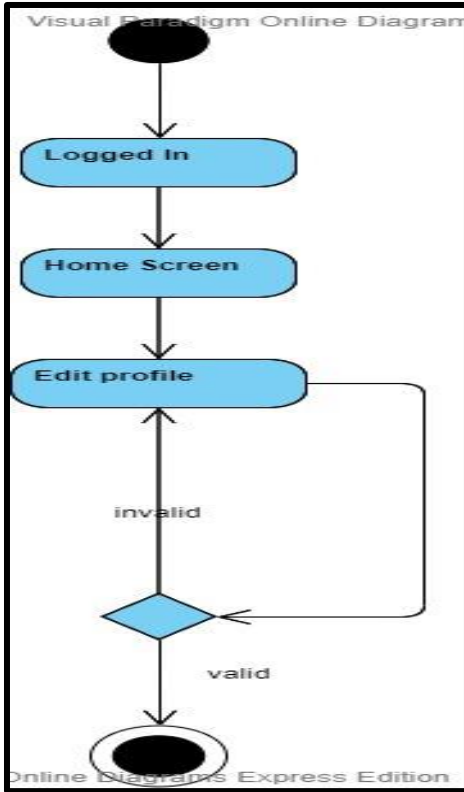


Figure 11. Profile

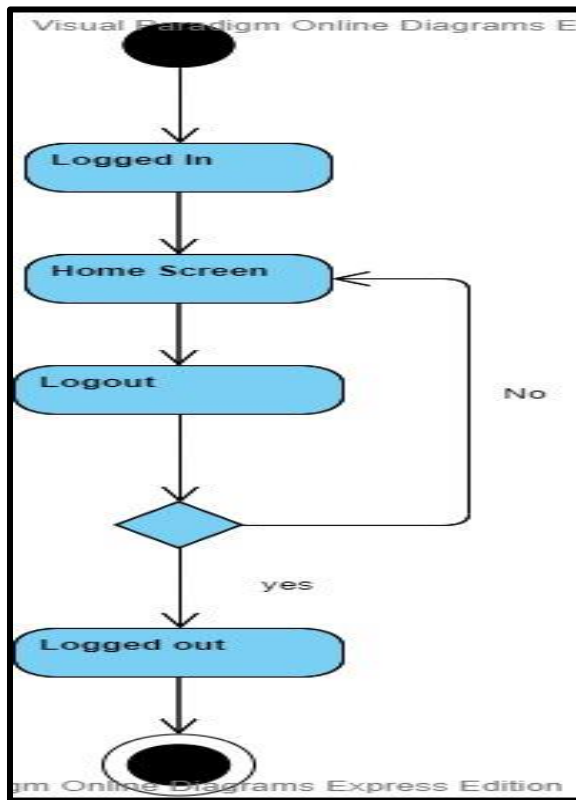


Figure 12. Logout

3.3 Sequence Diagram

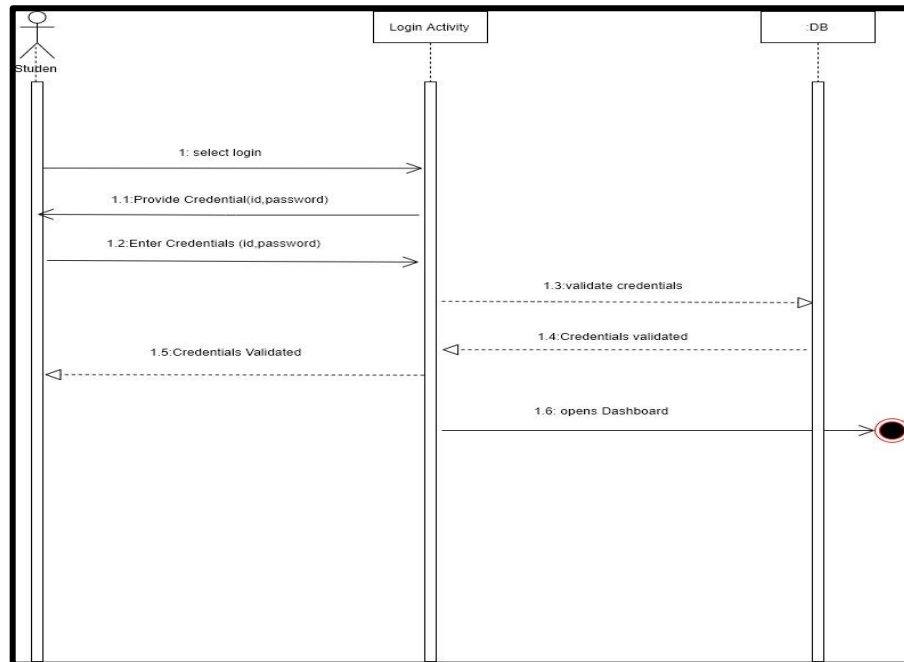


Figure 13. Sequence diagram of Login

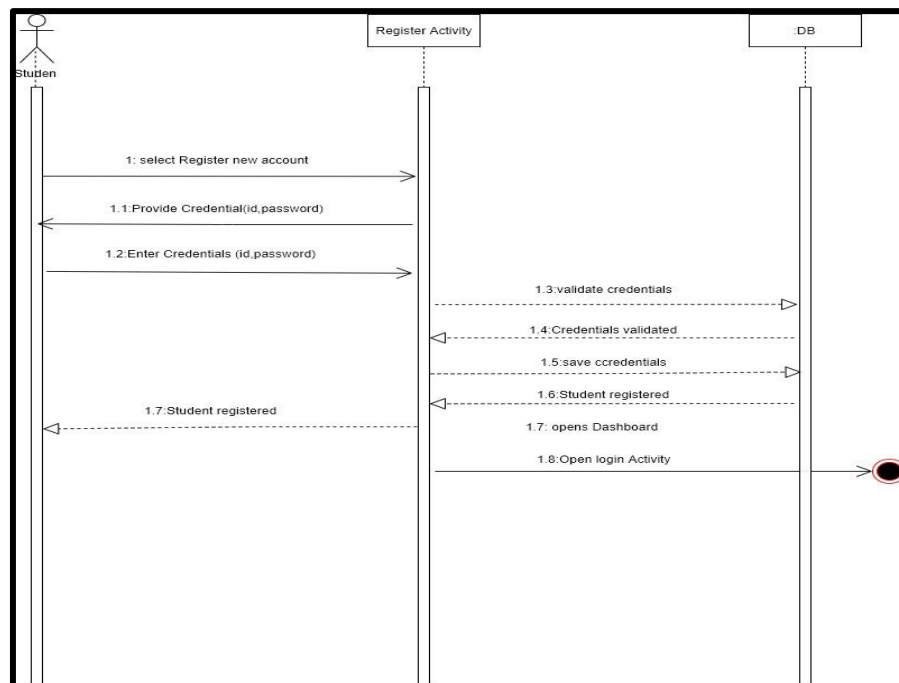


Figure 14. Sequene diagram of registration process.

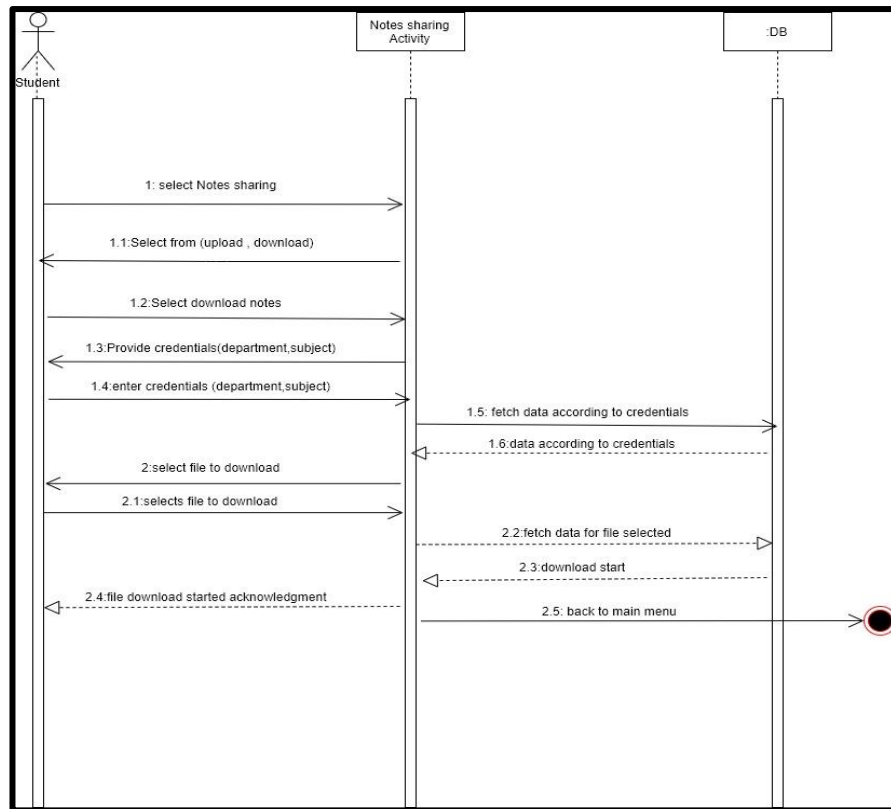


Figure 15 Sequence diagram of Notes View/Download

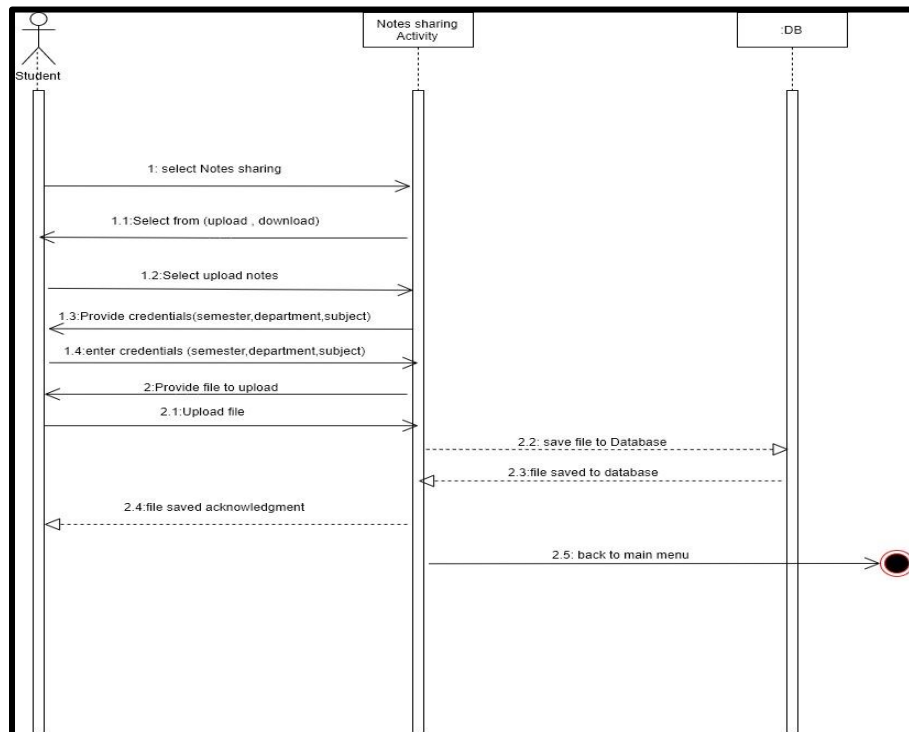


Figure 16. Sequence diagram of uploading notes

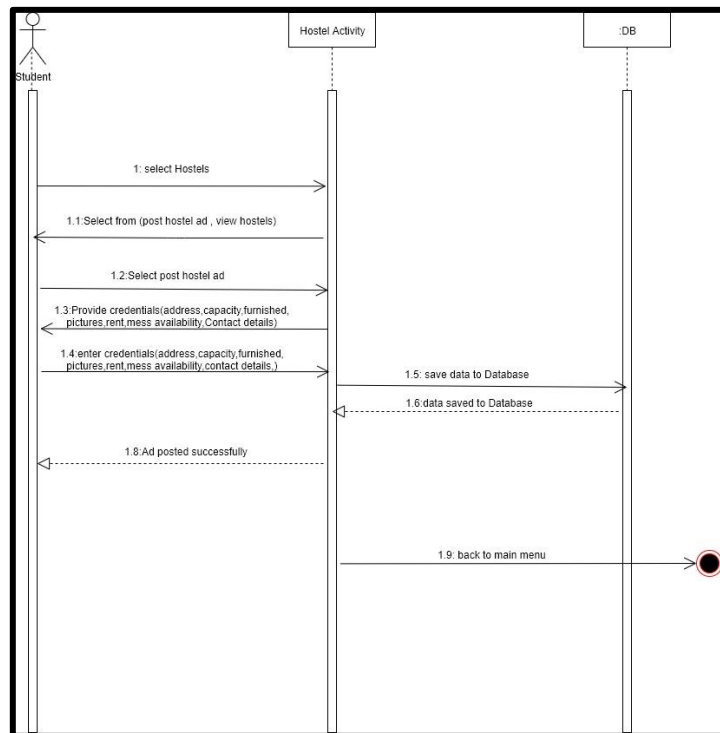


Figure 17.Sequence diagram of posting hostel ads

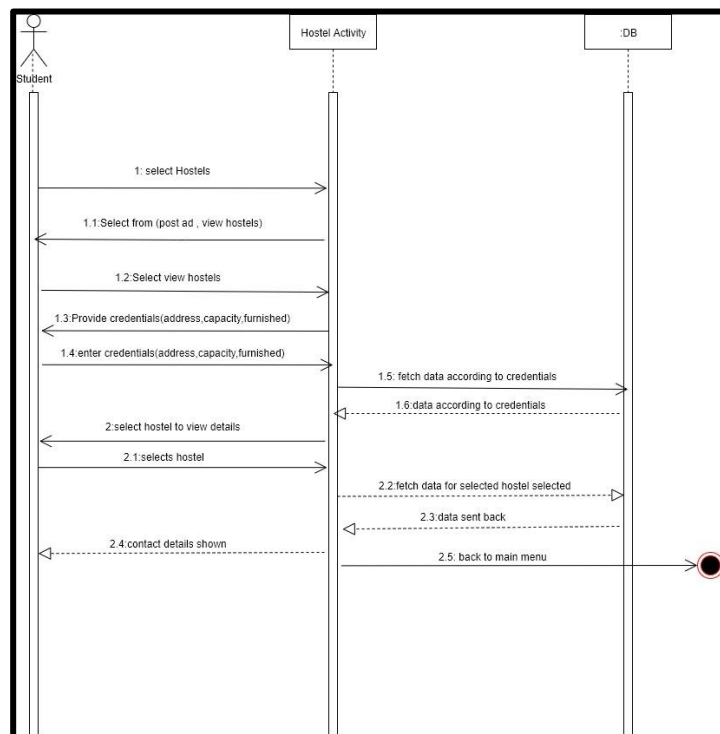


Figure 18.Sequence diagram of hostel view/contact

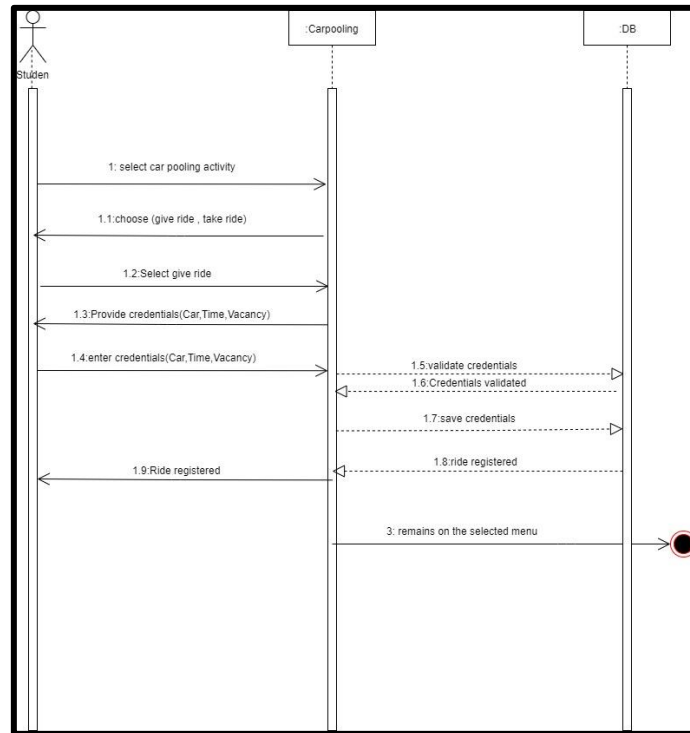


Figure 19.Sequence diagram of driver

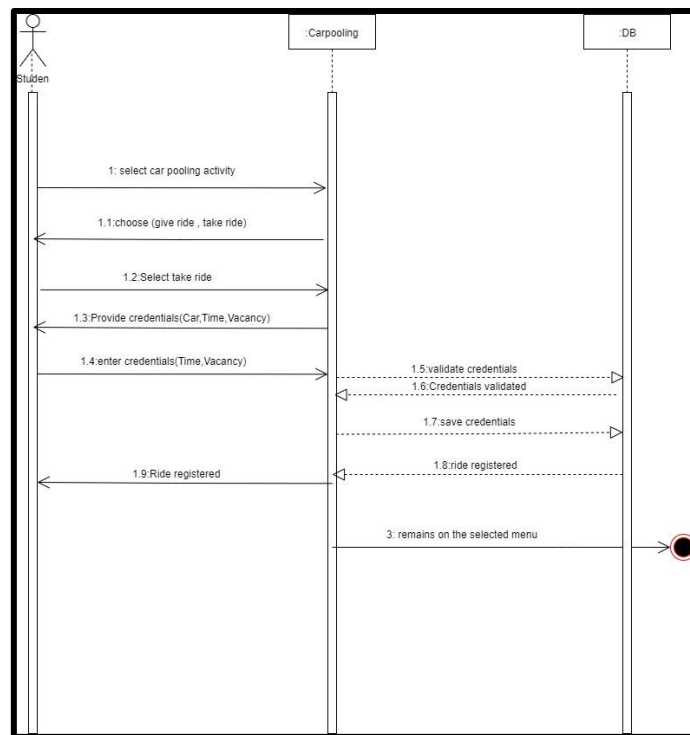


Figure 20.Sequence diagram of taking ride by passenger

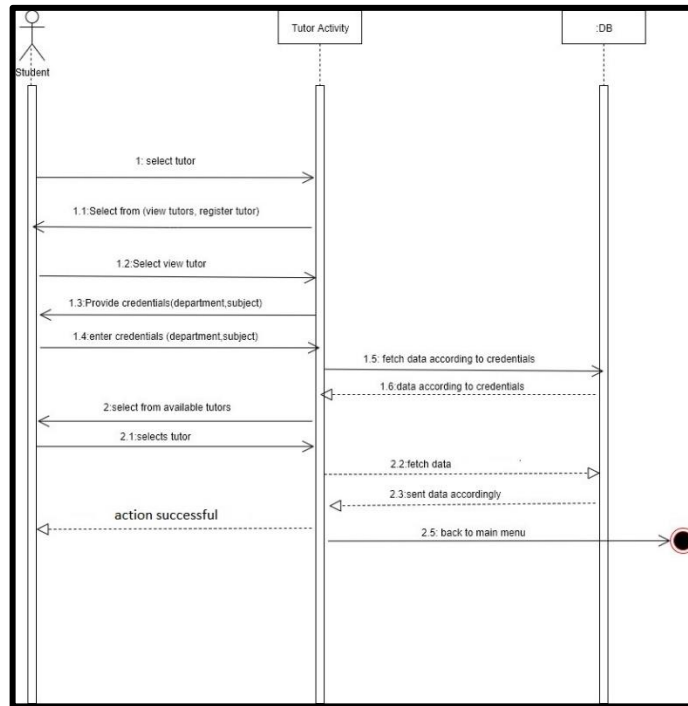


Figure 21.Sequence Diagram of tutor

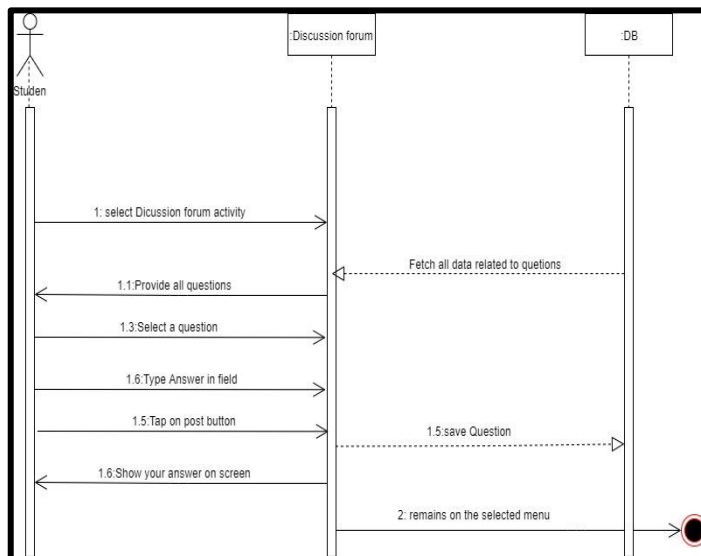


Figure 22.Sequence Diagram of Discussion Forum

3.4 Class Diagram

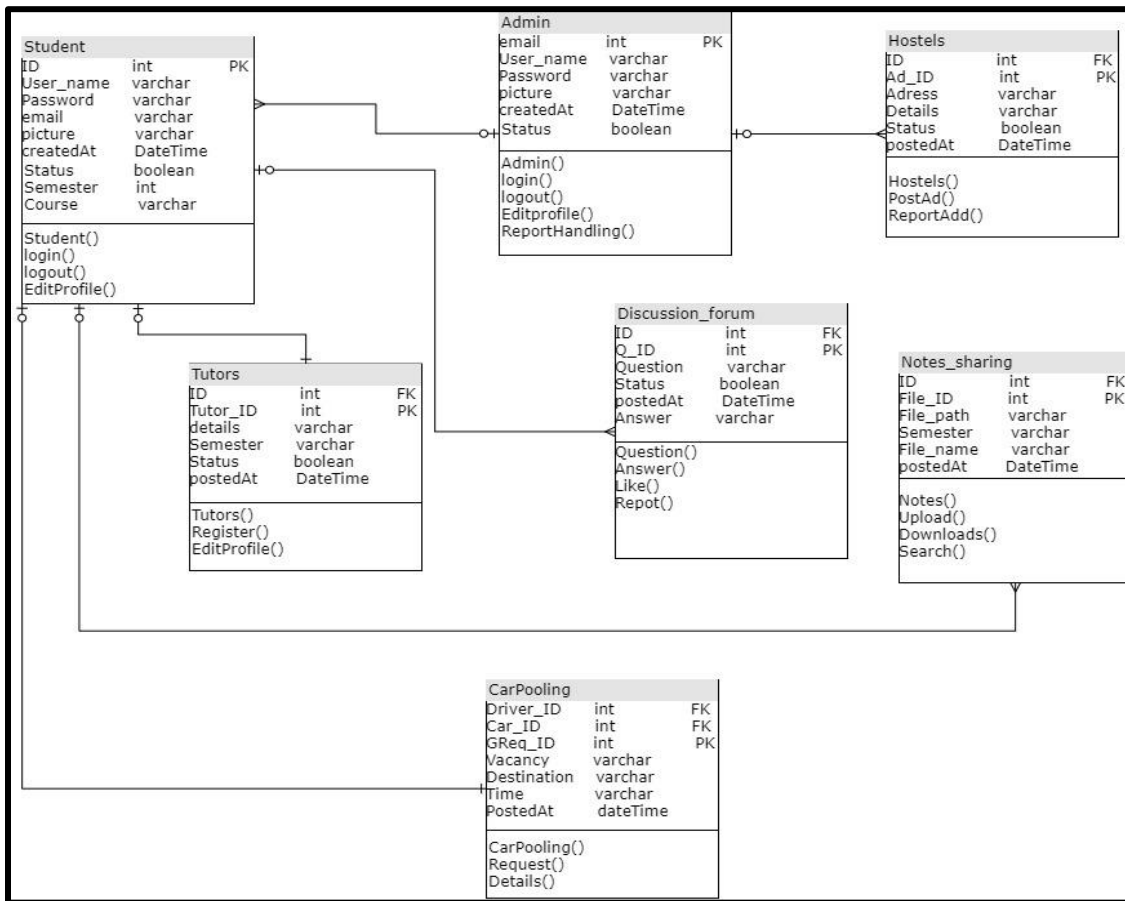


Figure 23. Class Diagram

3.5 Database Diagram

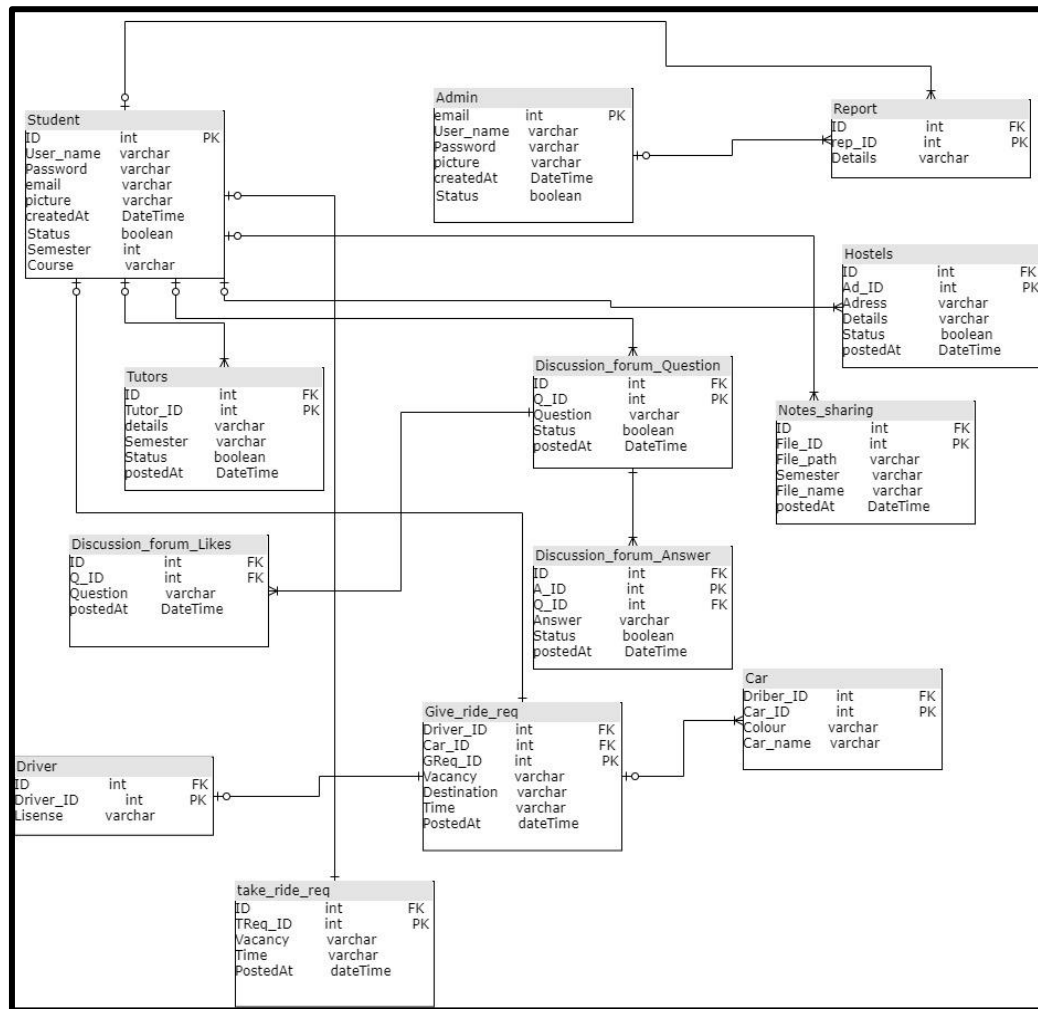


Figure 24.Database Diagram

3.6 Network Diagram

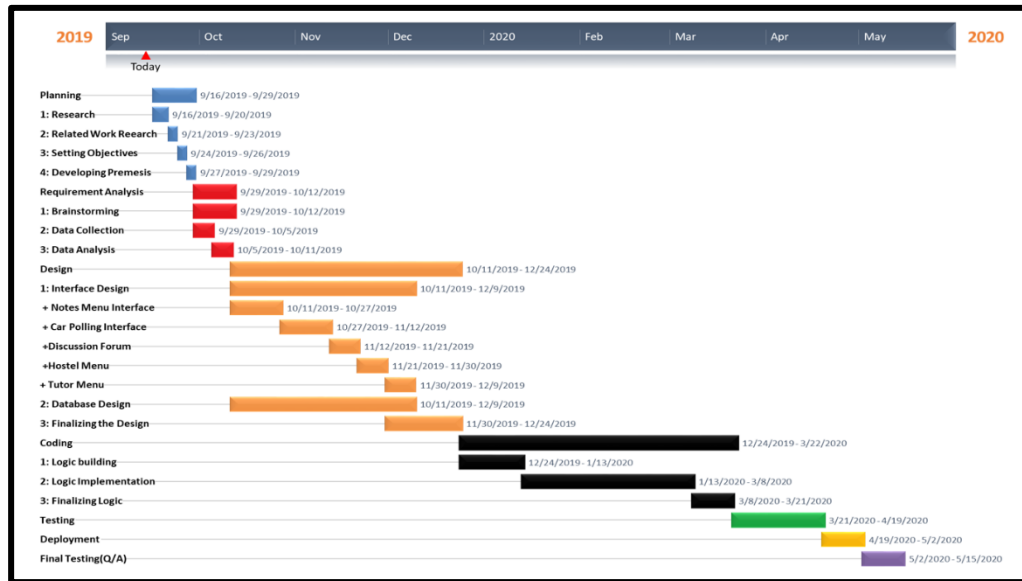


Figure 25. Network Diagram

3.7 Collaboration Diagram

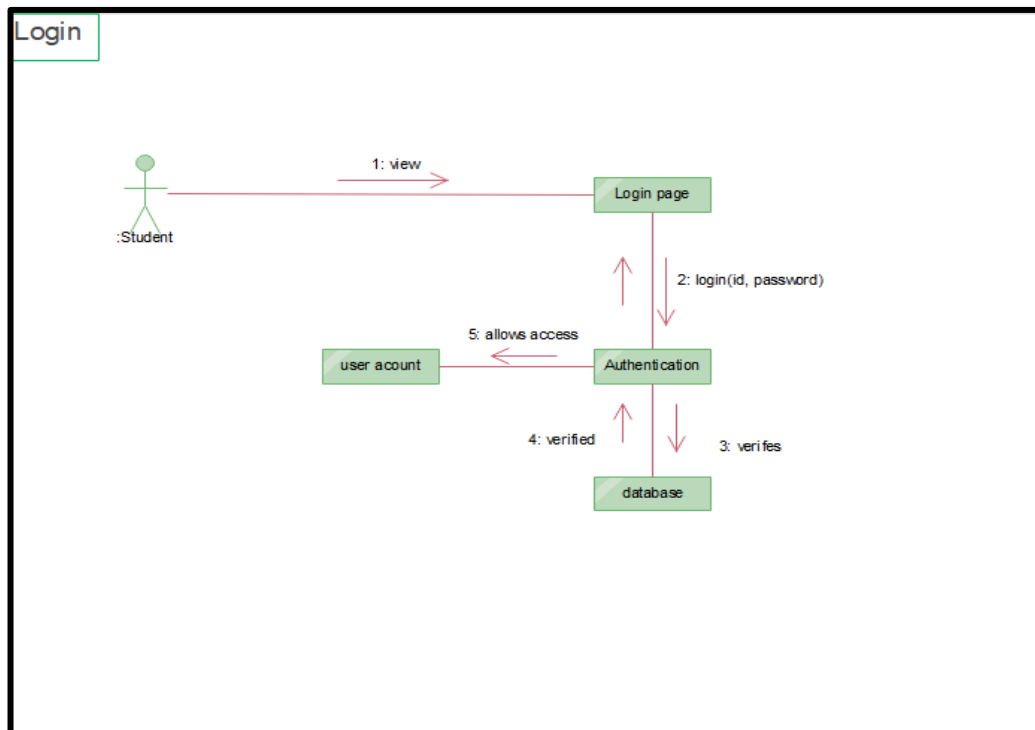


Figure 26. Collaboration diagram of login page

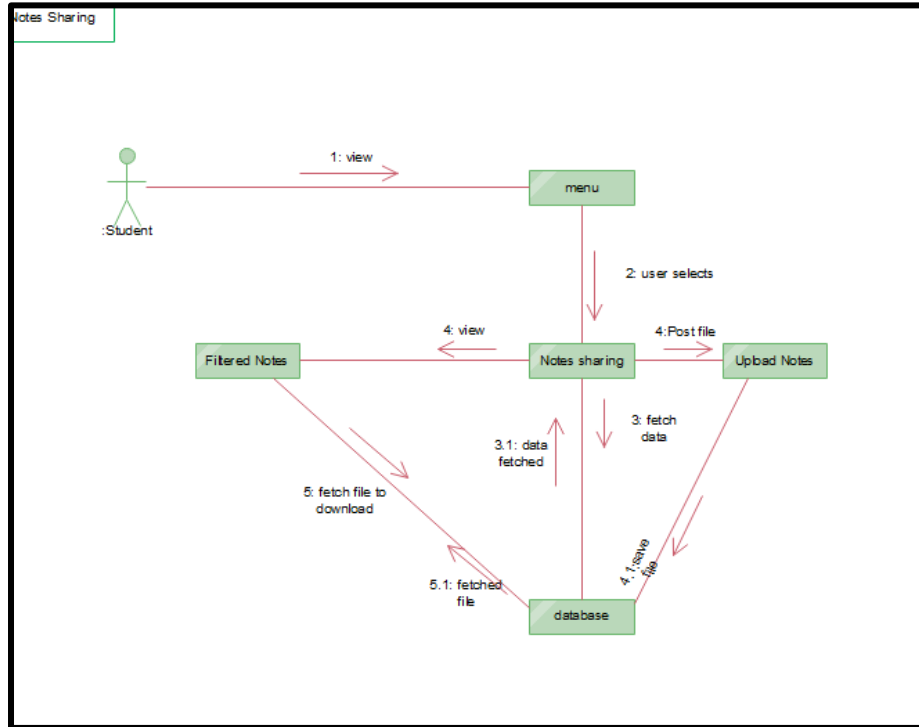


Figure 27. Collaboration diagram of Notes sharing

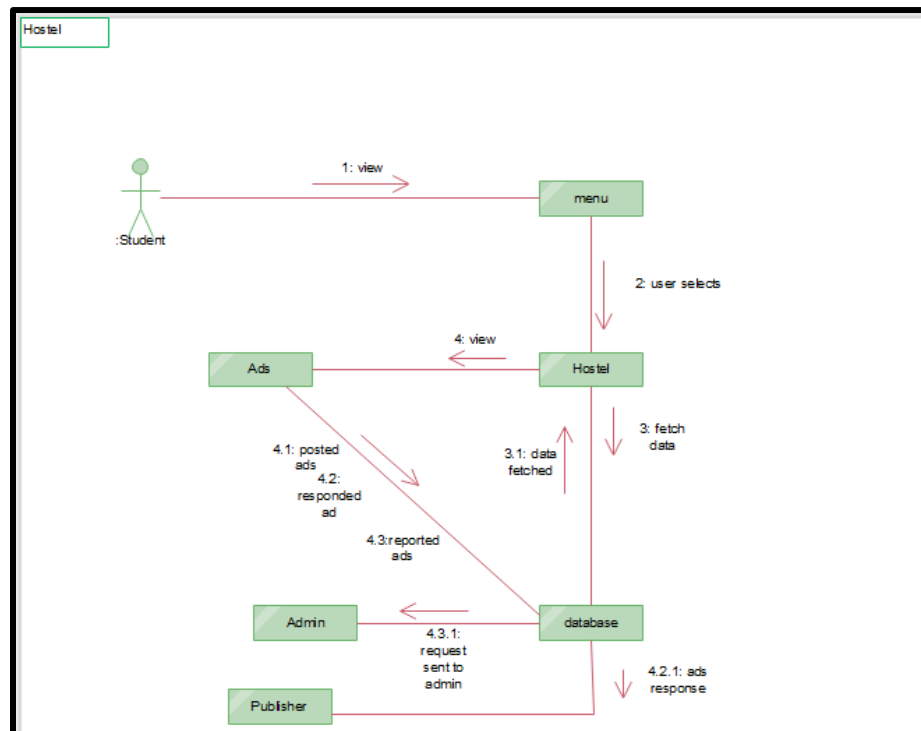


Figure 28. Collaboration diagram of Hostel

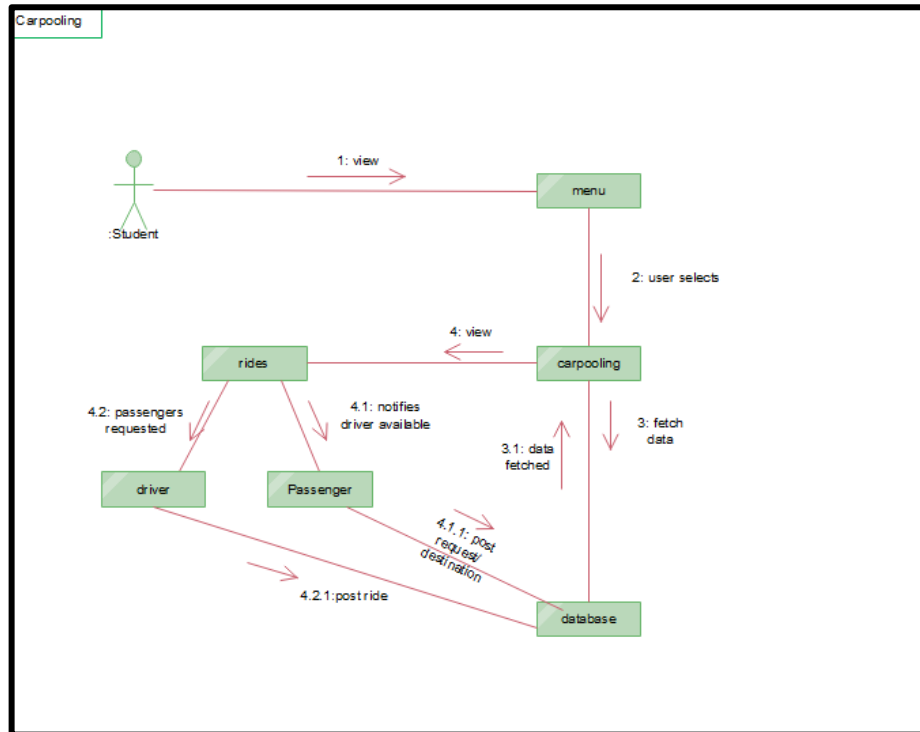


Figure 29. Carpooling collaboration diagram

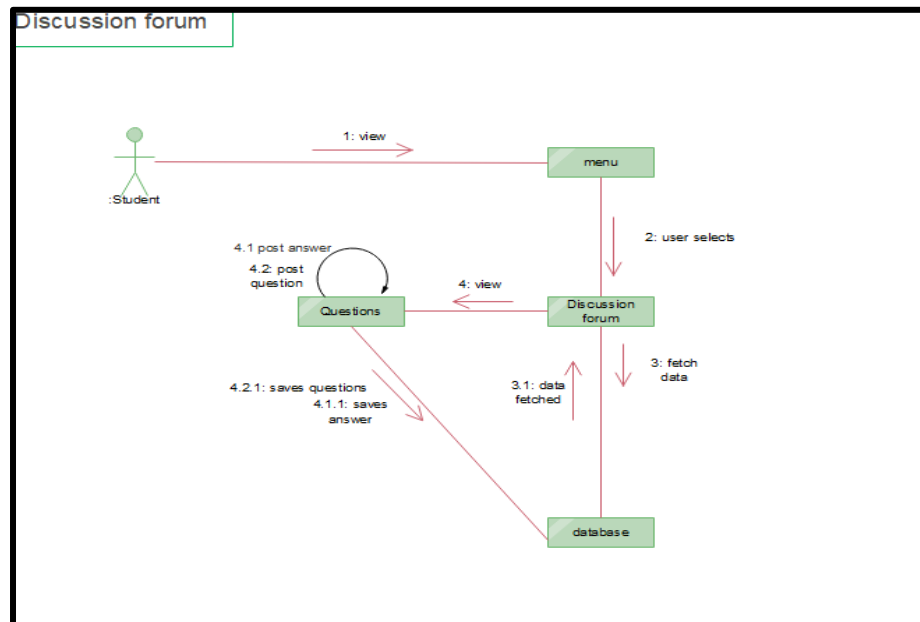


Figure 30. Discussion forum

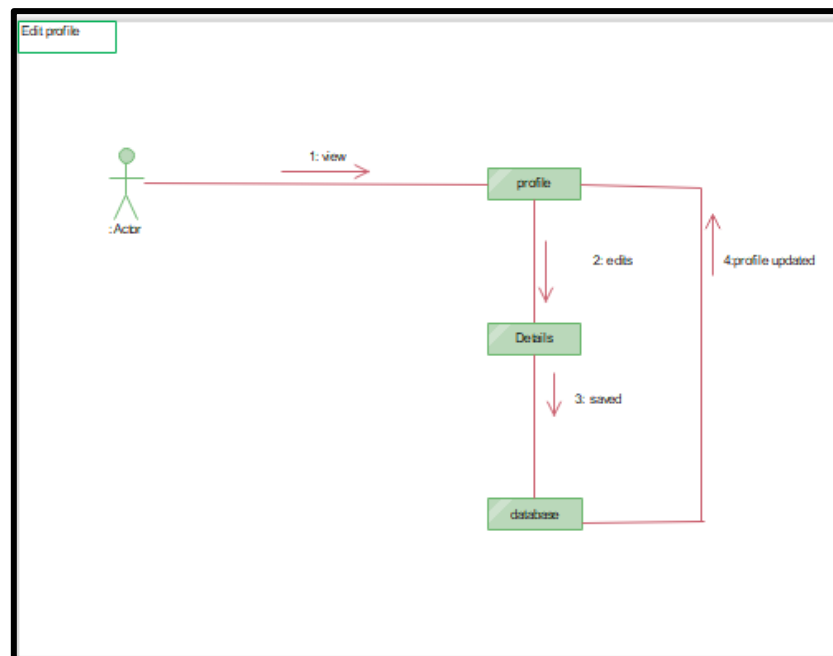


Figure 31. Collaboration diagram of Edit profile

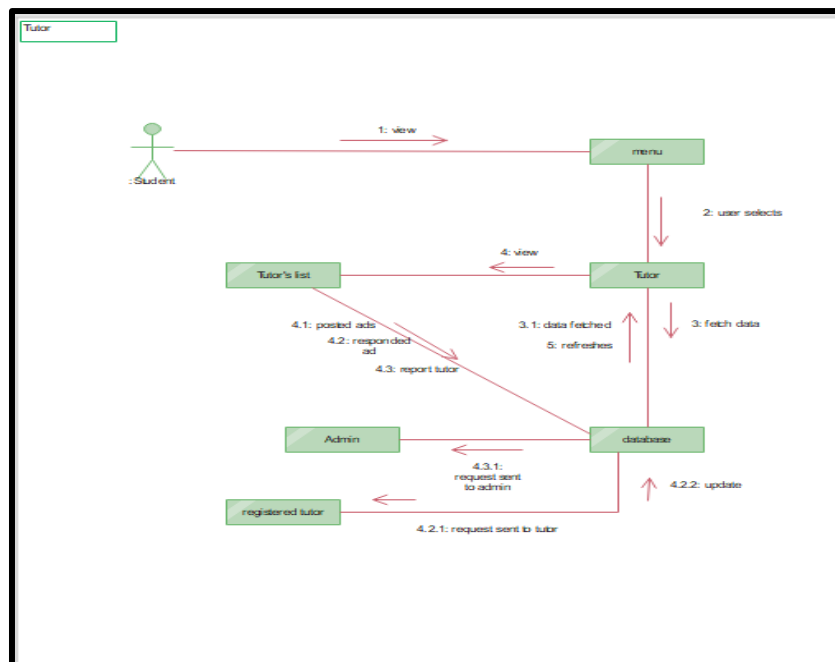


Figure 32. Collaboration diagram of tutors

CHAPTER 4: System Testing

4.1 Test Cases

Test case #:	1	Test Case Name:	Registration
System:	Student's Facilitation System	Subsystem:	Student
Designed By:	Ayishm Azeem	Design Date:	November 29, 2019
Executed By:	Ahmad Hassan Minhas	Execution Date:	January 20, 2020
Description:	Registration process for students shall be successful.		

Pre-Conditions:	Student shall be the member of university, and is signing up in the system for the first time.
------------------------	--

Step	Action	Expected System Response	Pass/Fail	Comment
1.	Student taps on "Sign up"	A registration form is displayed in result.	Pass	
2.	The student enters the registration number username and password.	System validates the user's information.	Pass	
3.	Students submits their details by tapping "Submit".	Login page is displayed for the user then.	Pass	

Post-Conditions:	Student successfully registers into the system.
-------------------------	---

	Student's record will be saved in the database.
--	---

Post-Conditions:	Admin successfully registers into the system. Admin's record will be saved in the database.
-------------------------	--

Test case #:	3	Test Case Name:	Login
System:	Student's Facilitation System	Subsystem:	Student
Designed By:	Ayishm Azeem	Design Date:	November 29, 2019
Executed By:	Ahmad Hassan Minhas	Execution Date:	January 20, 2020
Description:	The process through which user can log in.		

Pre-Conditions:	Students should have registered before, and shall have the record in database.
------------------------	--

Step	Action	Expected System Response	Pass/Fail	Comment
1.	Student taps on "Log in"	A Login form is displayed.	Pass	
2.	The student enters the registration number password.	System checks the record. Validates the information entered	Pass	
3.	Students taps "Login".	<ul style="list-style-type: none"> System verifies the details from database. Home page of 	Pass	

		the system is displayed to the user.		
--	--	--------------------------------------	--	--

Post-Conditions:	Student successfully enters into the system.
-------------------------	--

Test case #:	4	Test Case Name:	Login
System:	Student's Facilitation System	Subsystem:	Admin
Designed By:	Ayishm Azeem	Design Date:	November 29, 2019
Executed By:	Ahmad Hassan Minhas	Execution Date:	January 29, 2020
Description:	The process through which admin can log in.		

Pre-Conditions:	Admin shall already have an account to login, and shall have the record in database.
------------------------	--

Step	Action	Expected System Response	Pass/Fail	Comment
1.	Admin taps on "Log in"	A Login form is displayed.	Pass	
2.	Admin enters an email address and password.	<ul style="list-style-type: none"> System checks the record. Validates the information entered 	Pass	
3.	Admin taps "Login".	<ul style="list-style-type: none"> Home page for admin is displayed to the user. System 	Pass	

		verifies the details from database.		
--	--	-------------------------------------	--	--

Post-Conditions:	Admin successfully enters the system.
-------------------------	---------------------------------------

Test case #:	5	Test Case Name:	View and download notes
System:	Student's Facilitation System	Subsystem:	Student
Designed By:	Ayishm Azeem	Design Date:	November 29, 2019
Executed By:	Ayishm Azeem	Execution Date:	January 30, 2020
Description:	Access notes.		

Pre-Conditions:	Students must be logged in.
------------------------	-----------------------------

Step	Action	Expected System Response	Pass/Fail	Comment
1.	Students tap on "Notes" in menu on homepage.	System loads a screen where notes are uploaded.	Pass	
2.	Student filters notes Taps "department, semester and Subject" dropdown menu	<ul style="list-style-type: none"> Lists displays. Notes filtered according to selected filter. 	Pass	
5.	Tap "download" against document	<ul style="list-style-type: none"> Downloads notes 	Pass	

Post-Conditions:	After tapping filtering options, filtered notes are displayed.
-------------------------	--

Test case #:	6	Test Case Name:	Report notes
System:	Student's Facilitation System	Subsystem:	Student
Designed By:	Ahmad Hassan	Design Date:	November 29, 2019
Executed By:	Ayishm Azeem	Execution Date:	February 1, 2020
Description:	Students will be able to report notes.		

Pre-Conditions:	Student must be logged in. Student must be in the notes section.
------------------------	---

Step	Action	Expected System Response	Pass/Fail	Comment
1	Student taps on "Report" button.	Report Pop-ups.	Pass	
2.	Student taps on "Submit"	System displays a message "Reported".	Pass	

Post-Conditions:	Report is sent to the Admin.
-------------------------	------------------------------

Test case #:	7	Test Case Name:	Upload notes
System:	Student's Facilitation System	Subsystem:	Student

Designed By:	Ayishm Azeem	Design Date:	November 29, 2019
Executed By:	Ahmad Hassan	Execution Date:	February 3, 2020
Description:	Students will be able to upload notes.		

Pre-Conditions:	Student must be logged in.
------------------------	----------------------------

Step	Action	Expected System Response	Pass/Fail	Comment
1	Student taps on "Upload Notes" button.	System displays a screen to upload documents.	Pass	
2	Student chooses file to upload. Students enter details related to document.	-	Pass	
3.	Student taps on "Submit"	System displays a message "successfully uploaded".	Pass	

Post-Conditions:	Notes are uploaded with specific details. Database is updated.
-------------------------	---

Test case #:	8	Test Case Name:	Carpooling, take ride
System:	Student's Facilitation System	Subsystem:	Student
Designed By:	Ahmad Hassan	Design Date:	November 29, 2019
Executed By:	Ahmad Hassan	Execution Date:	February 5, 2020
Description:	Students will be able to upload notes.		

Pre-Conditions:	Student must be logged in.
------------------------	----------------------------

Step	Action	Expected System Response	Pass/Fail	Comment
1.	Students tap on "Carpool" in menu on homepage.	System loads a screen for carpooling process.	Pass	
2.	Students taps "destination"	Dropdown list of destination points will be displayed.	Pass	
3.	Students enters extra details i.e. timings, their name.	-		
4.	Student taps on "post"	Request is sent. A message is displayed "Driver will contact you soon"	Pass	

Post-Conditions:	Student is notified about the ride available. Database is updated.
-------------------------	---

Test case #:	9	Test Case Name:	Carpooling, as driver
System:	Student's Facilitation System	Subsystem:	Student
Designed By:	Ayishm Azeem	Design Date:	November 29, 2019
Executed By:	Ahmad Hassan	Execution Date:	February 10, 2020
Description:	Students will be able to upload notes.		

Pre-Conditions:	Student must be in carpool section.
------------------------	-------------------------------------

Step	Action	Expected System Response	Pass/Fail	Comment
1.	Student taps "Post as Driver" button	System loads a screen that shows the ads of drivers.	Pass	
2.	Students taps on "destination"	Dropdown list of destination points will be displayed.	Pass	
3.	Students enters extra details i.e. timings, their name, vacant seats, car details, cost.	-	Pass	

Post-Conditions:	Student is notified about the ride someone wants to avail.
-------------------------	--

Test case #:	10	Test Case Name:	Hostels
System:	Student's Facilitation System	Subsystem:	Student
Designed By:	Ayishm Azeem	Design Date:	November 30, 2019

Executed By:	Ahmad Hassan	Execution Date:	February 16, 2020
Description:	Students will be able to view and request for accommodation available on the page.		

Pre-Conditions:	Student must be in logged in.
------------------------	-------------------------------

Step	Action	Expected System Response	Pass/Fail	Comment
1.	Student taps “hostels” in menu on homepage.	System loads a screen that shows accommodations available.	Pass	
2.	User can contact the owner with given detail.	-	pass	

Post-Conditions:	<p>Student successfully views hostels list.</p> <p>Students can successfully request for particular ad posted.</p> <p>Database is updated.</p>
-------------------------	--

Test case #:	11	Test Case Name:	Hostels, post accommodation.
System:	Student’s Facilitation System	Subsystem:	Student
Designed By:	Ayishm Azeem	Design Date:	November 30, 2019
Executed By:	Ayishm Azeem	Execution Date:	February 21, 2020
Description:	Students will be able post ads for hostels.		

Pre-Conditions:	<p>Student must be logged in.</p> <p>Student must be in hostels section.</p>
------------------------	--

Step	Action	Expected System Response	Pass/Fail	Comment
1.	Student taps “Post ad”	System loads a form.	Pass	
2.	Students enters the details to post an ad.	-	Pass	
4.	Student taps on “Submit”	A post is uploaded in view list.	Pass	

Post-Conditions:	<p>Student successfully posts ad.</p> <p>Database is updated.</p>
-------------------------	---

Test case #:	12	Test Case Name:	View/Request tutors
System:	Student’s Facilitation System	Subsystem:	Student
Designed By:	Ahmad Hassan	Design Date:	November 30, 2019
Executed By:	Ayishm Azeem	Execution Date:	February 28, 2020
Description:	Students will be able to view and contact tutors displayed on the screen.		

Pre-Conditions:	Student must be logged in.
------------------------	----------------------------

Step	Action	Expected System Response	Pass/Fail	Comment
1.	Student taps “Tutors” in menu on homepage.	System loads a screen where notes are uploaded.	pass	
2.	Student taps on “contact” button against a tutor details	System displays contact number give.	pass	

Post-Conditions:	<p>Student successfully views the list of tutors.</p> <p>Student requests to hire a tutor.</p> <p>Database is updated.</p>
-------------------------	---

Test case #:	13	Test Case Name:	Register as a tutor
System:	Student’s Facilitation System	Subsystem:	Student
Designed By:	Ayishm Azeem	Design Date:	November 29, 2019
Executed By:	Ahmad Hassan	Execution Date:	February 29, 2020
Description:	Students will be able to register as a tutor.		

Pre-Conditions:	<p>Student must be in Tutor’s section.</p> <p>Student must be in or above 5th semester.</p>
------------------------	--

Step	Action	Expected System Response	Pass/Fail	Comment
------	--------	--------------------------	-----------	---------

1.	Student taps “Register as tutor” button	System loads a form.	Pass	
2.	Students enters details.	-	Pass	
4.	Student taps on “post”	System posts ad in view list of tutors.	Pass	

Post-Conditions:	Student successfully registers as a tutor and will receive requests by users willing to hire them Database is updated.
-------------------------	---

Test case #:	14	Test Case Name:	View/Reject request received by a tutor.
System:	Student’s Facilitation System	Subsystem:	Student
Designed By:	Ayishm Azeem	Design Date:	November 29, 2019
Executed By:	Ayishm Azeem	Execution Date:	February 30, 2020
Description:	Students accepts or rejects whatever request they have received by students.		

Test case #:	15	Test Case Name:	View/Accept request received by a tutor.
System:	Student’s Facilitation System	Subsystem:	Student
Designed By:	Ayishm Azeem	Design Date:	November 29, 2019

Executed By:		Execution Date:	February 1, 2020
Description:	Students accepts or rejects whatever request they have received by students.		

Pre-Conditions:	<p>Student must be in Tutor's section.</p> <p>Student should have registered as a tutor.</p> <p>Student must be in or above 5th semester.</p>
------------------------	--

Step	Action	Expected System Response	Pass/Fail	Comment
1.	Student taps "view requests" button	System displays list of requests, if received.	pass	
4.	Student taps on "Accept request"	System sends notification to the student requested for the desired tutor.	pass	

Post-Conditions:	<p>Student successfully accepts requests received by students.</p> <p>Database is updated.</p>
-------------------------	--

Test case #:	16	Test Case Name:	Edit Profile
System:	Student's Facilitation System	Subsystem:	Student and Admin
Designed By:	Ayishm Azeem	Design Date:	November 30, 2019
Executed By:	Ahmad Hassan	Execution Date:	March 5,2020

Description:	Student and Admin can edit their own profile.
---------------------	---

Pre-Conditions:	Student and Admin must be logged in.
------------------------	--------------------------------------

Step	Action	Expected System Response	Pass/Fail	Comment
1	Student and Admin clicks on “Profile” button.	System displays profile.	pass	
2	Student and Admin edit details	-	pass	
3	Student and Admin clicks on “Submit” button.	System validates details and displays “Successfully Edited” message	pass	

Post-Conditions:	Profile is edited.
-------------------------	--------------------

Test case #:	17	Test Case Name:	Logout
System:	Student’s facilitator System	Subsystem:	Students and Admin
Designed By:	Ayishm Azeem	Design Date:	November 30, 2019
Executed By:	Ayishm Azeem	Execution Date:	March 3, 2020
Description:	Students and Admin can logout from system.		

Pre-Conditions:	Students and Admin must be logged in.
------------------------	---------------------------------------

Step	Action	Expected System Response	Pass/Fail	Comment
1	Students and Admin clicks on “Logout” button.	System displays a login page.	Pass	

Post-Conditions:	Students and Admin will be logged out from system.
-------------------------	--

4.2 Unit/Integration/Acceptance Testing

4.2.1 Unit Testing

The purpose of unit testing is to evaluate units of the system. This type of testing helps to make sure that all units are working properly. Units that are supposed to be tested are mentioned as following.

- Admin Unit
- Student Unit
- Carpooling Unit
- Notes Unit
- Question/Answers Unit

4.2.2 Integration Testing

Integration testing is performed by combining modules, which then gives the results according to the usage. Each module will be tested with every possibility of interaction with it by the user.

4.2.3 System Testing

In this type of testing the system is tested with all of its units and the modules that will be interacting with users. This ensures that the whole system is working properly.

4.2.4 Acceptance Testing

Acceptance testing is done to confirm the requirements fulfilled by the system, and evaluation is done on a purpose to check if it is meeting user’s demand or not.

CHAPTER 5: Conclusion

5.1 Problems faced and lessons learned

Student facilitation system has been documented after some challenging tasks. We did have concepts that we grabbed throughout the educational time period in University, that helped us to face challenges with strength.

The filtering and selection of features to be added in our application was a challenging task, as we had to provide a full fledged working prototype to facilitate university students. It was a bit hard for us to analyse, filter and prioritize the problems faced by University students in everyday life. That were majorly required to be added in the application.

The end users will not be technical, so considering that we had problems designing an interface that would help our intended users to perform the tasks we wanted them to perform. Moving forward after formalizing a design to actually go ahead for our application, we had troubles to test and arrive at a design that was suitable for both our needs and the students to use.

Diagram creation was another task that was cumbersome. For that we reviewed the concepts that were given to us in the subject of Introduction to Software Engineering. Also, learnt through tutorials and grabbed information from technical communities in such a way to help us design the efficient flow of application.

All the problems raised during this time period had solutions, and also helped us to revise the important concepts that will be needed in future use. We explored about the techniques that will be applied in developing Students' facilitation system.

5.2 Project Summary

Student facilitation system is an android application that will be implemented to fulfil high quality modern mobile applications standards. It will be free to access, except the charges that only include if one avails some services like carpooling. The architecture of the application is designed in such a way that it will be reliable, scalable, extensible, and performing, it will be meeting high security and availability standards. It will not be allowing any third party services, as will be limiting the scope to university environment. The idea of this application is feasible in all ways. It will be the most important need of university students waiting for their assistance and finding few services that make their tasks to be performed with efficiency on the same platform. The services provided by this application on a single platform are already working well in market, yet with no such famous application exists that holds all of it.

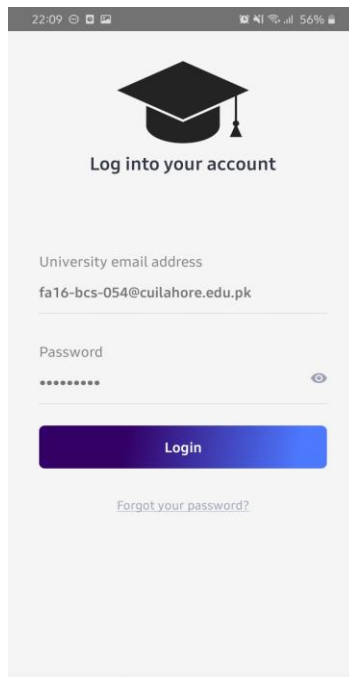
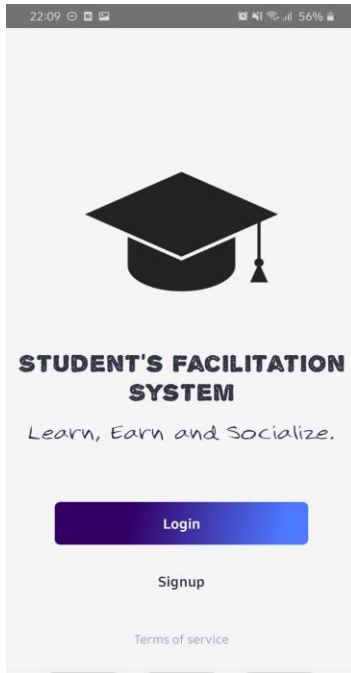
The result of this project will be an android application, which will be connected to a high functioning server ready to be deployed at a place in its need or demand.

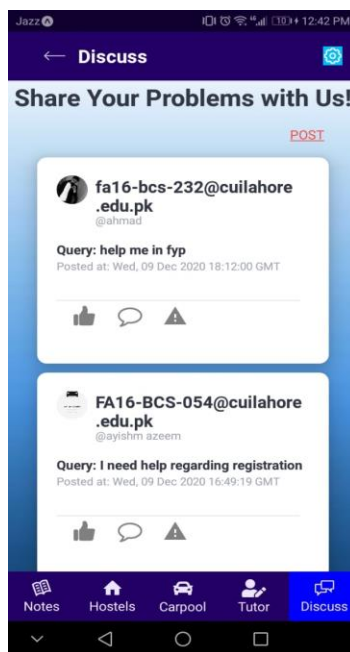
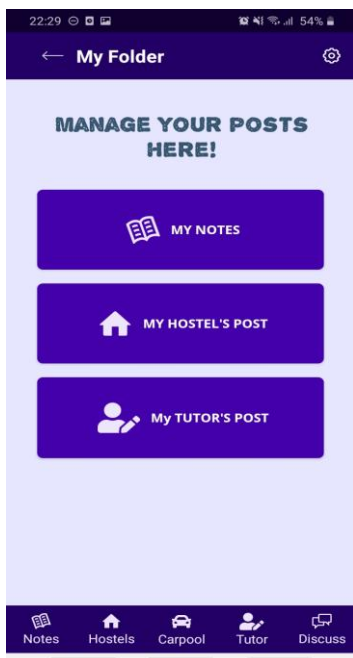
To develop this project with an ease and without facing any major hurdles. We will be following the development model mentioned above and go through every phase by which we will be ensuring an orderly approach to developing this project.

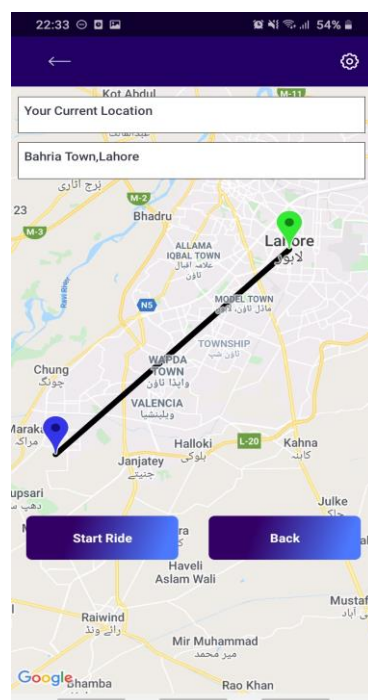
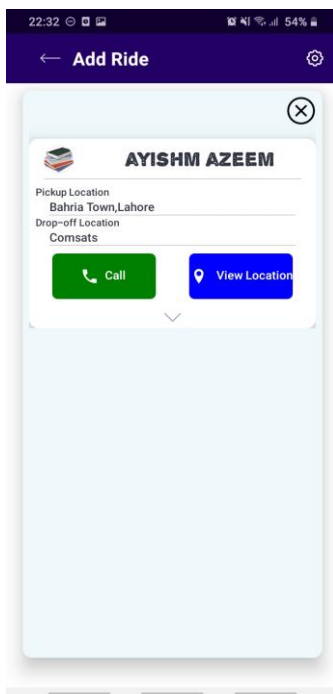
5.3 Future Work

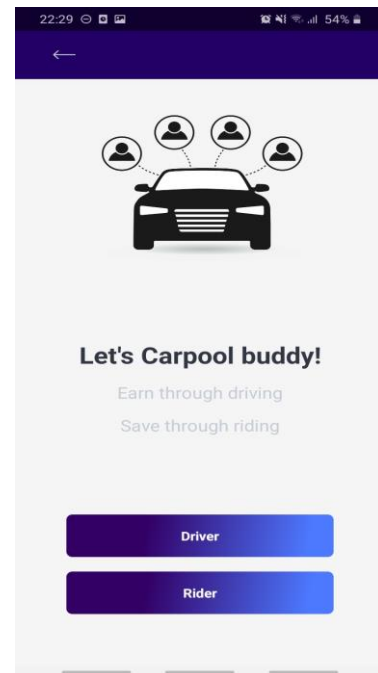
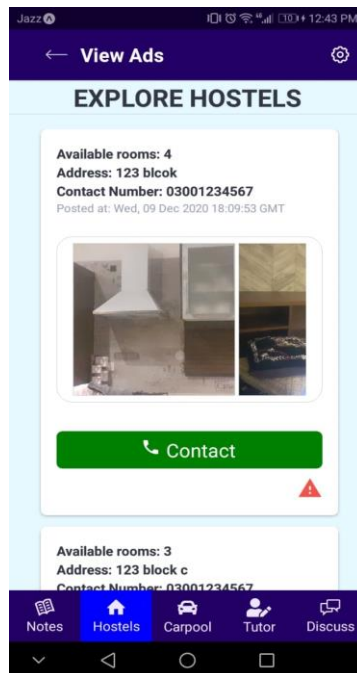
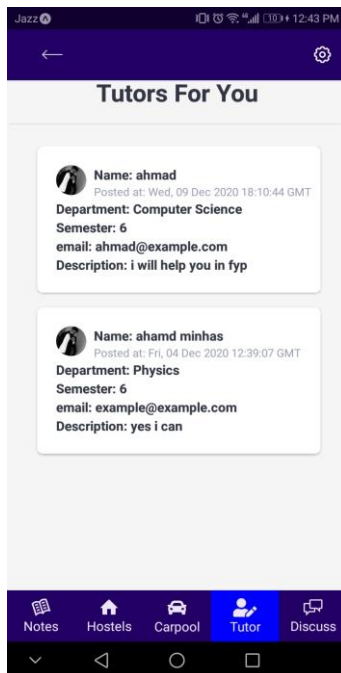
The main aim to develop this application was to help students and provide them an assistant with the use of technology. In future we will add a course add drop feature. Instead of visiting to offices students will be able to request for an add or drop of courses through Students' facilitation system. It will lessen the burden on students and will save their time

Mobile App









22:14 56%

← Share your Notes

My notes

Department: Comp..

Semester: 3

Subject: OOP

Description of notes

Notes for chapter 2

Choose file
you selected inspiron-1564_service manual_en-us.pdf

Post Notes

Notes Hostels Carpool Tutor Discuss

22:26 54%

←

My Posts

Post as a Tutor!

Name: Ayishm Azeem

Email: ayishm06@gmail.com

Department: Computer Science

Share important details for students.

I'll charge you Rs 50/hr.

Submit

Notes Hostels Carpool Tutor Discuss

Admin Side













Activities Google Chrome Jan 1 13:24

New Tab x Comment - Student Facilitator Admin x +

Not secure | 0.0.0.0:5000/admin/comment/

Student Facilitator Admin Home Account Hostel Tutor **Comment** Reply Note Profile Pic Rider Driver Hostel Image

List (6) Create With selected

<input type="checkbox"/>		Account	Likes	Comment	Status	Datetime
<input type="checkbox"/>	 	<Account 1>	0	I need Help in choosing FYP topics... can anyone help???? :(1	2020-11-04 13:10:26
<input type="checkbox"/>	 	<Account 1>	0	halo	1	2020-11-18 21:58:26
<input type="checkbox"/>	 	<Account 1>	0	Hey all i am new to uni afraid of ragging..	0	2020-12-01 22:10:14
<input type="checkbox"/>	 	<Account 1>	0	hello everyone	1	2020-12-05 16:38:59
<input type="checkbox"/>	 	<Account 2>	0	I need help regarding registration	0	2020-12-09 16:49:19
<input type="checkbox"/>	 	<Account 1>	0	help me in fyp	0	2020-12-09 18:12:00

CHAPTER 6:References

- [1] https://www.tutorialspoint.com/sdlc/sdlc_v_model.htm
- [2]<https://www.visual-paradigm.com/guide/uml-unified-modeling-language/what-is-uml-collaboration-diagram/>
- [3] <https://www.draw.io/> for diagrams

Plagiarism Report

ORIGINALITY REPORT

10%

SIMILARITY INDEX

2%

INTERNET SOURCES

0%

PUBLICATIONS

9%

STUDENT PAPERS

PRIMARY SOURCES

1

Submitted to Higher Education Commission
Pakistan

Student Paper

9%

2

Submitted to Oklahoma City University

Student Paper

<1%

3

Submitted to Colorado Technical University
Online

Student Paper

<1%

4

Submitted to NCC Education

Student Paper

<1%

5

www.creativefolder.dk

Internet Source

<1%

Exclude quotes Off

Exclude bibliography On

Exclude matches Off