# DEVELOP A MOBILE APPLICATION TO HELP UTAR STUDENTS TO FIND BETTER ASSIGNMENT TEAMMATES

BY

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A REPORT

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BACHELOR OF INFORMATION SYSTEMS (HONOURS)

BUSINESS INFORMATION SYSTEMS

Faculty of Information and Communication Technology

(Kampar Campus)

JAN 2022

**UNIVERSITI TUNKU ABDUL RAHMAN**

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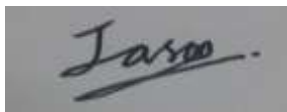**UNIVERSITI TUNKU ABDUL RAHMAN**

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# ACKNOWLEDGEMENTS

# ABSTRACT

In this project, a mobile application is built with the aim to help UTAR students to find better assignment teammates for academic purpose. It will provide students opportunities to team up with students of his or her preference with the settings. This will allow students to score the desired marks easily as they will be able to view and choose team members that have the same target such as wanting to pass or scoring A. System will then match the students with the same target together and grant them opportunities to form a team and discuss. From the design point of view, emphasis is laid on social media design flow as the intention is to create a platform for UTAR students to meet, communicate and discuss with each other. Privacy and security are also emphasized as social media means to share content via network so students will be able to choose to reveal the information or not where the project will protect students' account with biometric authentication. As a social media type project, identity, conversations, sharing, presence, reputation, and groups from functional building blocks of social media are stressed. Students will be able to edit and decorate his or her own profile with information and pictures to reveal their identify and also able to communicate with each other in the same platform. Here, students will also be having the ability to post forum to ask questions and solving doubts. The posts can be liked, commented and shared to allow interaction and information exchange between students. Students will be able to view a pie chart of academic performance to quickly identify one's performance and preference so that they are able to choose the better assignment teammates to work together with. Furthermore, preferences can be selected including age, gender, current homestay and more based on the students' preferences. They can select all to match regarding of the criteria where they will all be able to view the student academic performance of another student. Student academic performance included attendance which occupy 20%, lecturers' review and students' review with both occupying 40%. For each of the category, greater than 90% will be consider good, less than 90% and more than 80% will be consider average while less than 80% will be consider bad. Different colours will be shown to indicate each category respectively to allow students easily identify their own and others' academic performance result and make decision on to carry on or so.

# TABLE OF CONTENTS

# LIST OF FIGURES

# LIST OF TABLES

# LIST OF SYSMBOLS

%     Percentages

# LIST OF ABBREVIATIONS

*UTAR*                    Universiti Tunku Abdul Rahman

*i.e.*                      id est (that is)

*CGPA*                 Cumulative Grade Point Average

*GPA*                    Grade Point Average

*PhD*                    Doctor of Philosophy

*IDE*                     Integrated Development Environment

*NDK*                  Native Development Kit

*SDK*                   Software Development Kit

*APK*                   Android Application Package

*OS*                      Operating System

*iOS*                     iPhone Operating System

*XML*                  Extensible Markup Language

*PDF*                    Portable Document Format

# CHAPTER 1 INTRODUCTION

Introduction chapter is where problem statement and motivation, objectives, project scope and direction, contributions and report organization will be identified. It is the most basic chapter to allow readers to briefly understand and know what this project is all about.

## 1.1 Problem Statements and Motivation

Nowadays, there are a lot of attractions, entertainments and distractions which can have bad influence on students if he or she do not have self-control that would drag them down. Students are not determined to perform their very best as they are not aware of their surrounding environment or in other words, the competition is not there. They are not motivated and so they just provide just enough content for their assignment and tests as they are not determined in their education or school's life.

In associate with that, **the content and quality of students' assignments are simply normal and dull**. Some of the content might just had been fully copied from Google website while some of them just provide a little content which is not sufficient to be considered as good quality work. This will be unfair to his or her team members who are very motivated and determined to work hard and score good grades. These highly focused and motivated students want to score higher marks and get better outcome for many reasons such as to maintain the scholarship. At the same time, this is unfair too to those who provide just enough content as they just want to pass the subjects and graduate.

2. Do you find it difficult to find teammates with same values and believes?
40 responses



- Yes
- No

70%
30%
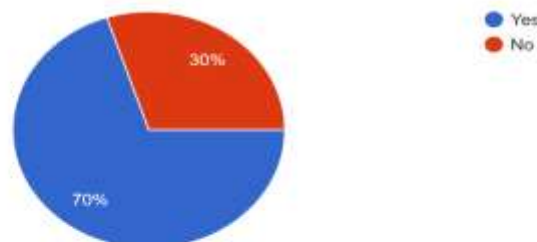
*Figure 1-1 Result of Google Survey (a)*

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3. Do you think that being able to identify one's academic performance help in finding better teammate?
40 responses
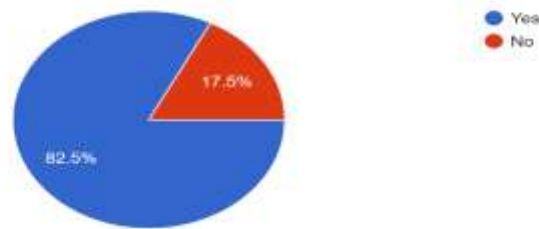
*Figure 1-2 Result of Google Form (b)*

**Many of the students face troubles finding better and compatible assignment teammates** as they are unable to identify one's other students' academic performance in a glance. Some might even get stress because of this. They need a platform to enable them to find teammates with the same values and believes. According to the result of survey on around 40 UTAR students, there are around 70% of the students surveyed think that it is difficult to find teammates with the same values, objectives, and believes as shown in *Figure 1-1*.

*Figure 1-2* further verify the needs of being able to identify one's academic performance. 82.5% of the students think that it will be a factor to help them search for better assignment teammates. Sun Tzu in his Art of War once said, know your enemy and know yourself. This indicates that by having more information, student will be able to grasp the situation better and made better decision. Academic performance consisting of attendance, lecturers' review and students' review will be used as relevant factors.

4. Do you ever face difficulties in lacking of ideas and guidelines to accomplish assignments/ researches?
40 responses
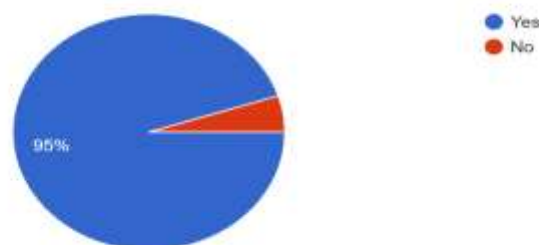
*Figure 1-3 Result of Google Survey (c)*

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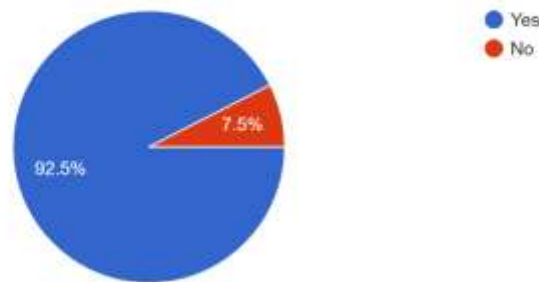
*Figure 1-4 Result of Google Survey (d)*

Meanwhile, certain **students could be lacking ideas, guidelines, and advice on how to score well in their assignment**. In the survey, some students state that certain lecturers are being unclear on what is actually required to be delivered for assignments. Here, having seniors' advice is invaluable to help students to achieve better results as they had been through the situations and more experienced. However, students are unable to determine who is their seniors and so here is where the proposed project is able to help students to perform better and shine.

*Figure 1-3* shows that 95% of the students (i.e., almost all of those surveyed) said that they faced difficulties while doing their assignment. *Figure 1-4* shows that 92.5% agree that being able to communicate with seniors/colleagues will be able to help them in their university life. [1] emphasize the importance of seniors' advice which allow newly joined and junior students to learn from the seniors' experiences and mistakes and not to repeat the same mistakes. The juniors can strike to do better with these experiences in mind.

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## 1.2 Objectives

Firstly, this project intent **to increase the relevant contents of students'
assignments**. Students will be able to view the academic performance of their own
performances, and these are also shown to others. The statistical data are derived by
analysing the data of attendances, rating from lecturers and rating from other students.
By allowing students to view academic performance of others, it will increase the spirit
of being competitive among students and thus, they will try and strive to perform better.
This also aims to help decide whether to team up with a specific student or not.
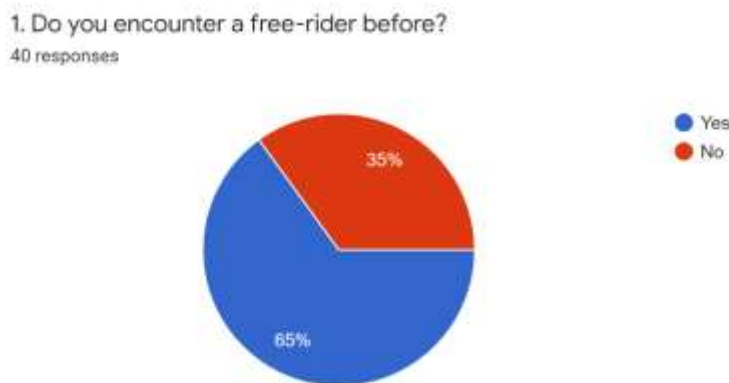


*Figure 1-5 Result of Google Survey (e)*

More importantly, it allows good students to easily identify the growing
numbers of free riders. A free rider is someone who gets the same result as others
without making any significant contribution or work. Based on the survey conducted,
as shown in *Figure 1-5*, there are 65% of students had met with one or more than one
free rider in their assignment group. While the free riders are sitting back and chilling,
these free riders unfairly cause other teammates to do the free riders' parts. This make
others to do more work while it is supposed to be teamwork where everyone does their
agreed upon, respective parts.

Secondly, in addition, this project **enables students to team up with
compatible assignment teammates that really do works**. This mobile application is
a platform that allows and enables hard working students to join forces, work together
and achieve their common goals. For students who just want to pass the subject, it will
be certain settings for them that will separate and group them accordingly. This is to be

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fair for both students who work hard to get higher GPA and CGPA and also students who just want to merely pass the subjects and graduate with minimal effort.

This will also allow students to have more ways to express themselves. The platform in proposed project include posting, profiles and badges features to let students have new ways to know each other within a short period of time. This allow students to recognize each other's ability and goals so that the students with the same targets and aim are able to find each other and work together effectively. It can also act as a platform to share their ideas and thoughts to improve each other especially for seniors to be able to give advice to their juniors.

Last but not least**, creating a new platform for students in the same lecture or tutorial group to chat and help each other**. Top students or lecturers are able to provide some advice in hope to let all the other students be able to score higher and better in their school tasks. This also allow announcements to be made easily and doubts from students to be solve right away as they can communicate with each other easily. Students can also use it to discuss on assignment details with their teammates.

## 1.3 Project Scope

The project aims to develop a platform to help UTAR students to find better assignment teammates. It is expected that students' quality will be increased if this project implemented at the university and made available for the use of students. Students will be able to access the relevant data and reviews of people such as CGPA, GPA, attendances and more. This helps students to decide better on whether the person in front of screen or real life is an assignment teammate that suits him or her preference.

When a student registers an account in the mobile application, he or she will need to choose the school/university and also his/her role (i.e., a student or a lecturer). Currently the system aims to focus on UTAR students, so the preferences are all based on UTAR grading system. Therefore, only students able to access the finder interface and look for their teammates. Students are also able to change the profile picture, cover picture and edit their personal information whenever they like.

Preferences of students are also obtained from the survey conducted as shown in appendix where all type of preferences are being evaluated by students. The top five factors are GPA, CGPA, students' review, lecturers' review, and attendance. In association with that, these five factors will be taken as the most basic preferences for student to set on. Additional factors are also available including age, gender, race and more to give the students flexibility where they can select to add on or not.

For students who do not mind teaming up with anyone as they trust their own ability or trying to help other students, there is also an "all" option available to select for all the preferences. By selecting this, students will be able to match with all other students who also taking this subject regardless of other factors. When one had decided on his or her preferences, the system will then find and send request based on the preferences, for what subject, number of team members needed and group name.

Students who are invited will be able to view the requests in the team request section and decide to accept or deny the request. Student who sent invitation will be able to view the request and the result on whether accepted or declined in My request section. The students will not be able to accept the team that is full or while having another team for the same subject as subject will be taken as the main consideration where one student will be only to have one assignment group per subject.

Lecturers are not allowed to enter Finder interface. However, lecturers are able to create a group for the subjects and add all relevant students to it. Only lecturers are able to create group chat directly to allow discussions in the subject. Lecturers will not be involved in the result of the teammates found as they do not have academic performance and other relevant information. Apart from Finder interface and function, lecturers will be able to access all the other functions that the students have including posting into forums, chatting with other students or lecturers and more.

Additionally, students with high attendance, students' and lecturers' reviews will be able to get special badges in the system. This feature is aimed to motivate students to stay active and to get better result in assignments, academic and real life. The students will also be able to share their tips and tricks to score good marks assignments in this platform with other students. It is expected that the mobile application can be used regardless of having the ability to meet each other in real life or not.

As the subject comes to an end, the creator of the group who may be the lecturer or the group leader, is able to disband the group chat. Then all the participants will be able to evaluate each other which will become the data of lecturers' review and students' review. In addition, the lecturers will be able to add attendance data of all the other students. This is an alternative of getting attendance records as currently the application unable to access UTAR database which then needs to key in manually.

## 1.4 Contribution

The very first intention is to help UTAR students to find better assignment teammates, so the target user of the project is UTAR students. In FYP2, I plan to extend the scope to include more flexibilities on teaming up such as requesting and accepting. People with different interest, priorities and values are everywhere and this is fairly important especially when they are your teammates such as a person may view grades in particular subject as important but his or her teammates do not think so.

After experiencing both UTAR Sungai Long and Kampar campus, the project aware of different things can happen everywhere such as not doing work, going missing and uncontactable, not having any clues on what to do and more. This is very unfair to students especially to those who are working hard in order to get good results and maintain their scholarships. Bad behaviours like these influences students to be stressor and force them to do more works to cover their parts.

The application will enable students to see other student's academic performance but instead of marks, they will be seeing average graph or chart. Students' coursework marks, rating by others, improves throughout the semester will be shown. This will help UTAR students to identify whether if the person did attend the classes previously and also whether they have a great personality that are liked by others. By having these features, students will then be able to score higher as desired.

Other than that, by enabling students to be known and communicate with each other help to improve their academic performance. This is especially true for newbies or juniors who just entered the university, so they are not clear on what things need to be looking out of. Through sharing by seniors, they will then be able to learn and perform better as seniors had been through it before. This benefits to those who advice too as they are empowering others for a better academic life.

Lastly, lecturers will also be able to use it to communicate with all the students as the platform will only have UTAR students. This allow notices and tasks to be given easily. Lectures can also post topics which they think can help students in any kind of way in term of forum. This doesn't only include lectures with students but also lecturers and lecturers as they will be able to view each other forum. In future, the application can be further improved to allow lecturers form group for their PhD and so.

## 1.5 Report Organization

The report will be organized into 7 chapters where chapter 1 is introduction, chapter 2 consist of literature review, chapter 3 talks about system methodology/approach, chapter 4 systems design, chapter 5 system implementation, chapter 6 system evaluation and discussion and lastly chapter 7 conclusion and recommendation. All of the chapters mentioned exist in order to explain detailly for the whole developed mobile application, U-ssign.

Chapter 1 introduction give a brief idea of how the idea of the mobile application comes, what it is trying to solve and how would it solve. With that being said, problem statement and motivation, objectives, project scope, contribution and report organization are included in this chapter. Next, chapter 2 literature review will be having the technologies used by current mobile application and also similar existing system reviewed to what can be improved and implemented.

After that, chapter 3 system methodology is specifically needed for development-based project where the system equation used will be listed and system architecture diagram including use case diagram and description with activity diagram. For further informative system design like system block diagram, system components specifications, circuits and components design and system components interaction operations will be manifested in chapter 4 system design.

Then, chapter 5 system implementation will record both hardware and software setup, setting and configuration, system operation with screenshot and a concluding remark of the developed mobile application. On the other hand, chapter 6 system evaluation and discussion, as the name suggest, it will have the test result and performance metrics of the mobile application including project challenges and also how well the objectives evaluated with concluding remark for it.

Finally, chapter 7 will be about conclusion and recommendation. Conclusion about the important aspects of the project including problem statements, objectives and proposed solution will be summarized and highlighted again. Recommendation for future updates and implementation are also included where it will be able to give other person who trying to make the similar project or when the project is getting much attention to know what can be improved and implemented.

# CHAPTER 2 LITERATURE REVIEW

In this chapter, software or systems with similar functionality will be reviewed in order to know what they can do and cannot do. This is to identify what function is needed and not provided by other software or systems and establish it to the project.

## 2.1 The Student Room
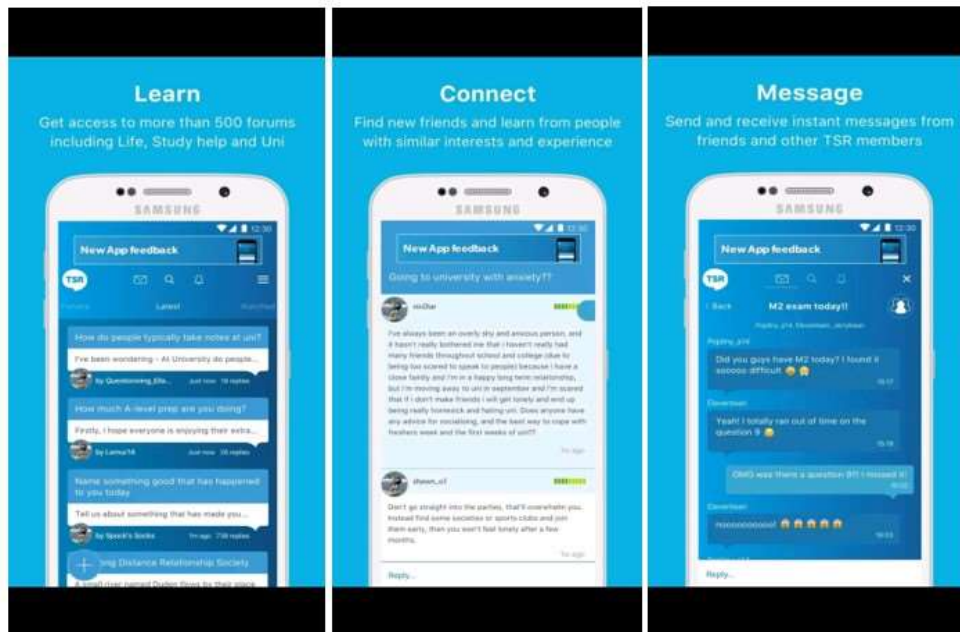


*Figure 2-1 The Student Room mobile application interface*

The Student Room is a mobile application developed by The Student Room Group which released around 24 July 2017. It has more than 50,000 downloads and has 2.8 rating in Google Play Store. *Figure 2-1* is the sample image obtained from the mobile application of The Student Room. This mobile application aims to allow users to learn from each other.

Users will be able to ask or answer problems faced. It plays as a platform to connect users around to solve the questions available. Chatting feature is included so users are able to talk to each other and get advice from each other. Users can also meet and know new friends here as the mobile application allows users around the world to download and login.

Seniors are able to post forums of some advice for juniors so that they can improve and do better than seniors. Numerous kinds of topics for forums are accessible such as education, jobs, relationships and many more. According to details wrote on [5], users are able to access more than 500 different types of forums and seek help on it. Strengths and weakness are also being reviewed at below.

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**Strengths of The Student Room:**

1. Able to get variety advice from people around the world anytime and anywhere. This allows users to get more perspective view of the problem and solve it more effectively.

2. Save users' time to find the solutions. Users just need to ask in this platform and get the answers without needing to do research on internet by themselves.

3. Filtrations like unanswered, latest, trending and followed forum can be made. This enables users to get what he or she want easily and quickly.

4. Watched forums can be identified and show in another interface. Having this feature allow user to watch back the forums at any time.

5. Push notifications available and preferred settings can be made on it which allow users to set what kind of notifications to receive and not receive.

6. Users are able to search the forums with keywords. So, users do not need to scroll one by one just to find one answer.

7. Tutorials recorded in mobile application to help user navigate better. This feature is to let users understanding more on the interface provided.

8. Providing new features like swipe up to post forum. Allow users to have new experience instead of just pressing button like usual.

**Weakness of The Student Room:**

1. Interface design is too complicated which will cause confusion among users. Some users might have hard time to deal with colours or too many features in one interface.

2. Unable to view grades of others so users do not know that whether the answer given is reliable or not.

3. Profiles cannot be edited. This will make it hard for users to identify each other's.

4. Web address links cannot be opened through the mobile application which need users to copy the link and use search engine themselves.

## 2.2 My Assignments
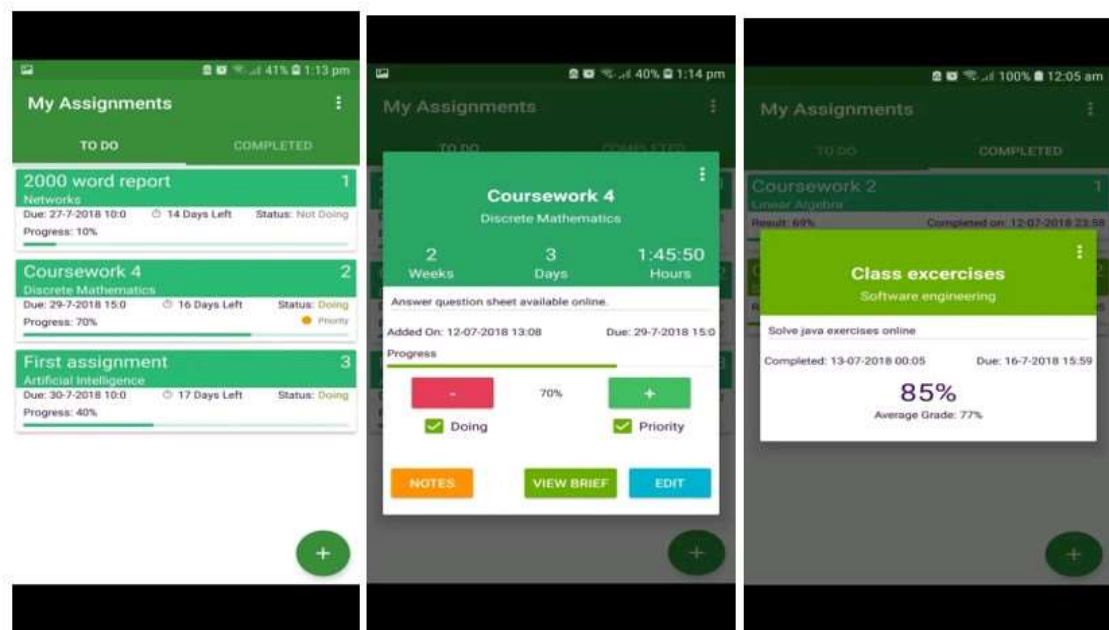


*Figure 2-2 My Assignments mobile application interface*

My Assignments is a mobile application developed by Najms which released around 12 July 2018. It has around 10,000 of downloads and has high rating as 3.9 in Google Play Store. *Figure 2-2* is the sample image obtained from the My Assignments mobile application. This mobile application aims to help student to manage assignment tasks. It will remind students when the assignment deadline is close.

Students will be able to add pending assignments or completed assignments result for future references. This allow students to be able to review back all their assignments result in just one side. Students will also allow to attach notes for each assignment separately. With this, it allows students to know what should be careful of next time or remember to include something in the particular assignment. Students can view the assignment in Portable Document Format (PDF) format which enable same content to be displayed regardless of systems or device.

Progress of assignments is available for student to update it every time he or she has new progress on it. According to the details wrote on [6], this mobile application is advertisement free which means no advertisement will pops up and interrupt user navigation. Strengths and weakness are also being reviewed at below.

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**Strengths of My Assignments:**

1. Users can use the application without login which allow user to use and experience the mobile application right after downloading it.

2. Assignments can be sort by date, module, progress. Users can search and check the assignment wanted quick and easily.

3. Interface design is straightforward. This allows users to understand quickly on each feature available.

4. Able to view back previous assignments grades. Users can check back past result with just few clicks.

5. Does not have any charges to use it. This allows users to use the mobile application without paying money.

6. Having no sudden pop-up advertisement. Users will then be able to use it without worrying something that pop up that will stop current activity and cause mis-click.

7. Able to add notes to the specific assignment task which can remind users on certain small things about the assignment.

8. Assignments can be set priority in order to let users have better view. This allow assignments that need to be submitted first to be identified easily.

**Weakness of My Assignments:**

1. Login is not available. Users are not able to save the information in cloud so reinstalling the mobile application will need to re-enter everything.

2. Only PDF files are able to be uploaded to it. This will stop users to upload assignment files other than PDF format.

3. Cannot view other grades. Users cannot know others' result on the same assignments.

4. It is reported that some notes will be automatically deleted. This indicates that there are still some bugs to be fixed in order for the application to works normally.

## 2.3 Campus
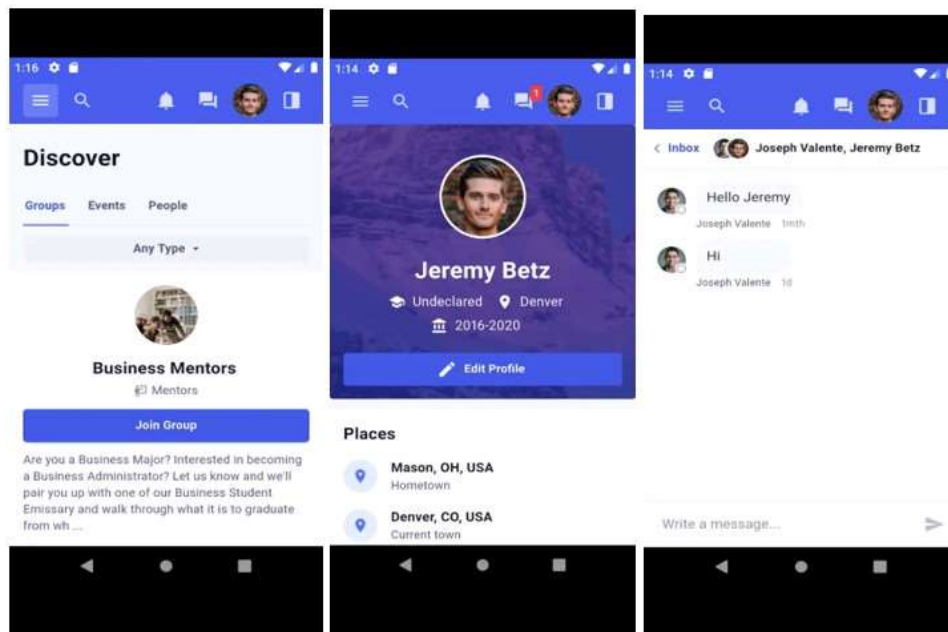


*Figure 2-3 Campus mobile application interface*

Campus is a mobile application developed by Campus.app which released around 6 July 2014. It has around 5,000 of downloads and has rating of 3.5 in Google Play Store. *Figure 2-3* is the sample image obtained from the Campus mobile application. This mobile application aims to connect users to their university community for communication, collaboration, advice and many more. It allows users to ask different kind of questions in the form of polls or words.

This enables users to answer in variety ways instead of just pure typing. Groups, events and people are classified which let users post and find information based on it. By having this feature, the groups, events or people can put details within so users able to understand it quickly. Users will be able to join the preferred groups or events and learn with other users in it.

Things like timetable, textbooks, advice can be shared among the users as the mobile application allow chatting. According to details wrote on [7], users are able to view the other users within the same class and also find users that have the same course or interests. With this, friends can be made easily through the mobile application which also allow them to discuss and study together. Strengths and weakness are also being reviewed at below.

**Strengths of Campus:**

1. Easy to understand interface for users to navigate through. This enables users to get used to the interface and functions easily and quickly.

2. Able to add and change profile details which allow other users. Users will be able to know more details about other users.

3. Find other users with same course or interests easily. This will save users time from asking around the same area.

4. Having different kind of filter to help users to search quickly. Users' time can be saved as things can be found effortlessly.

5. Users able to form groups and events with less effort. This allows users with the same events to communicate easily.

6. Pinned tools available to let users highlight what he or she want to. Users will then able to view what they want without troubles.

7. Spotlighting the things that he or she want with the favourite feature. This will make the favourited things to be stand out and can be spotted right away.

8. Users able to search their own preferred information with the keywords which allow users to get what he or she want.

**Weakness of Campus:**

1. Unable to group message or forward the message in the same time. Users will need to save and send again the same messages when trying to inform on something to friends.

2. Disabling the feature of allowing other users to find him or her is unavailable. This will cause inconvenience to the users that does not want to be found and talked with.

3. Application keeps crashing. Users will have bad experience on this and give bad reviews which might make them stop using the application.

4. Campus had been stop updating since 2015 where there are still lot of bugs, and no new features will be added. This basically tell users to give up on their application.

## 2.4 Edmodo
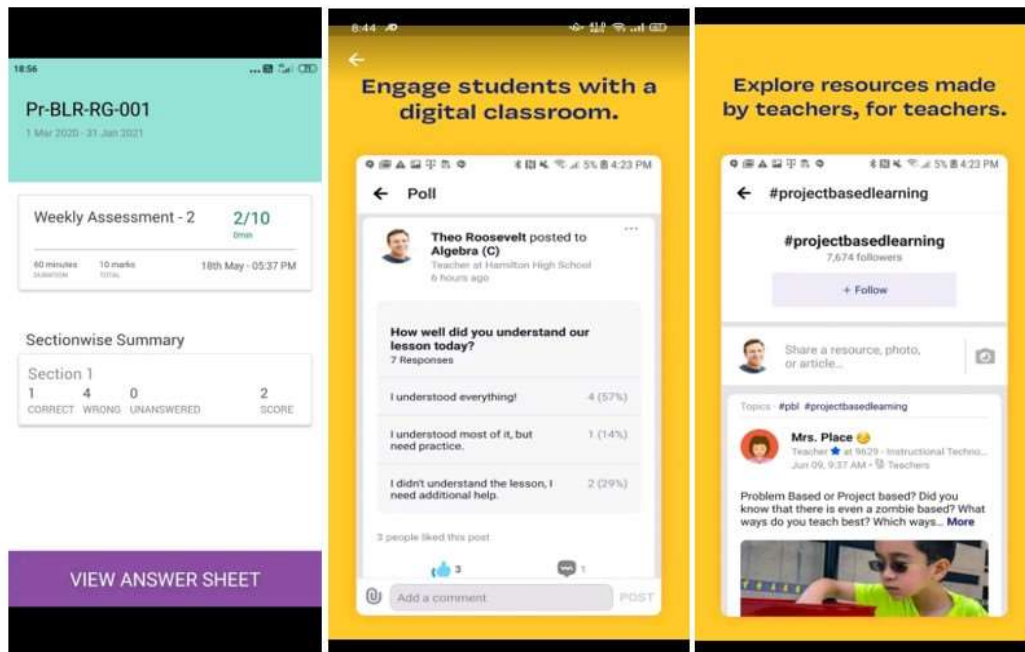


*Figure 2-4 Edmodo mobile application interface*

Edmodo is a mobile application developed by Edmodo, Inc which released around 2 November 2010. In Google Play Store, it has yachieved more than 10,000,000 downloads and has 3.7 rating. *Figure 2-4* is the sample image obtained from the Edmodo mobile application. This mobile application aims to give teachers the features for sharing lessons, view students result, organizing students work and many more.

It allows users around the world to register and use so that teachers are able to discover and learn with teachers of other country. Chat feature available for teachers to send messages directly to the students or parents. Teachers are able to use various of tools to communicate with students such as making pools, using voice messages, apply hashtags and many others more. This will help students to be more attracted to the study and understand better.

Reminder and planning features are also available to aids teachers to operate easily. According to details wrote on [8], automatically updated planner is included to help teachers organize students. This enable teacher to plan effortlessly which is also why the application is popular especially among foreign country during pandemic. Strengths and weakness are also being reviewed at below.

**Strengths of Edmodo:**

1. Having a straightforward design. This help users to understand easily.
2. Real-time notifications to notify users whenever new messages available. Allow users aware of up-to-date information based on the mobile application.
3. Included badges to motivate students to be more active. Users will then be more active in classes to try to get the badges.
4. Able to monitor students easily. Lecturers here are able to operate the classes with variety kind of functions.
5. No advertisements will pop up suddenly to interrupt the class session. This allows teachers to conduct the class peacefully.
6. Interacting features such as setting up poll questions to interact with teachers or students. This will give them new experience which then make them more excited.
7. Hashtag feature is also available to classified different subjects and interests. Students or teachers will then be able to search easily.
8. Having planner feature to allow teachers to plan the quizzes or tests which will also appear in student's view. This will remind both party about the quizzes or tests available.

**Weakness of Edmodo:**

1. Users must have school code to use the mobile applications as student. This will stop users that do not have the code to try the mobile application.
2. Prompting too many notifications to users. Certain users do not like receiving a lot of notifications as it is annoying.
3. Some people might use it to post whatever he or she likes as no limitation available. This might be a bad influence especially to under-age students where they might be expose to things that they should not touch yet.
4. Interface is rather difficult for people who do no use smart device often. Users might not like it and leave a bad rating.

## 2.5 Assignments
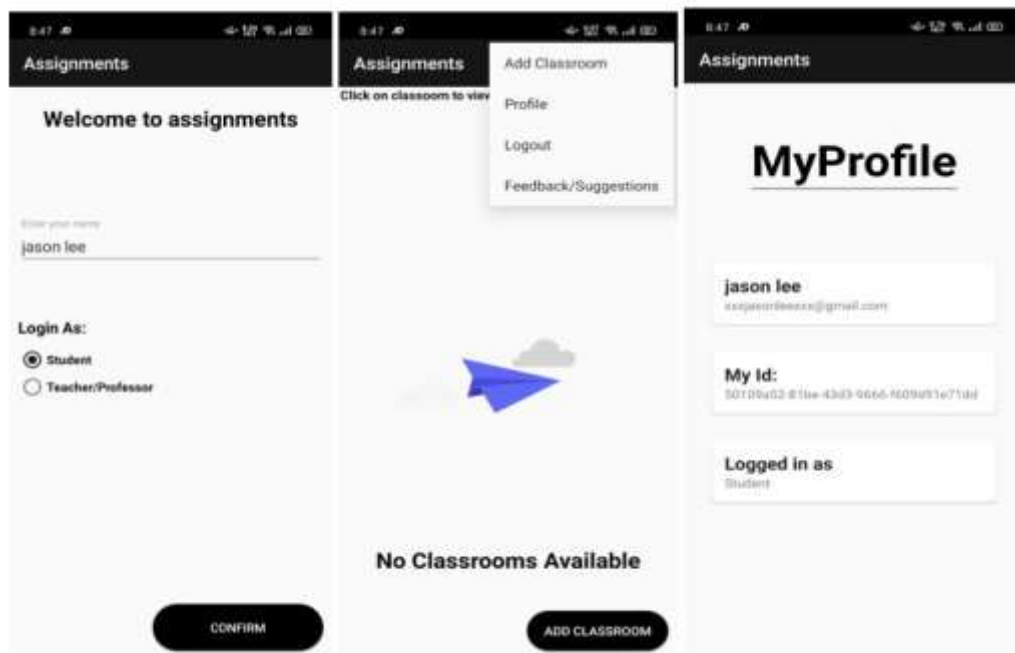


*Figure 2-5 Assignments mobile application interface*

Assignments is a mobile application developed by Jishnu Goyal which released around 27 June 2020. It has more than 1,000 downloads and has 4.8 rating in Google Play Store. *Figure 2-5* is the sample image obtained from the Assignments mobile application. This mobile application aims to help assignments process to be done by teachers or students.

Students will be notified whenever new assignments posted by teachers. They will also be able to check whether the submitted assignments been seen or not. If students do not submit the assignment before the deadlines, some funny interactions will appear to warn students. This allow students to be more engaged and remember to do their own works.

On the other hand, teachers will be able to set deadlines and give remarks for each separate assignment. Teachers can create new classroom, view classrooms and share classroom code to the students. With this, teachers are able to organize classroom easily. According to details wrote on [9], everything will be free of charge, so users does not need to pay even one cent to use it. Strengths and weakness are also being reviewed at below.

**Strengths of Assignments:**

1. Easy to understand interface for users to understand quickly. Allow users to know how to use all the features available quickly.

2. Automatically include class number and name to the assignments submitted. This will help lecturer to organize the assignments better.

3. Organize assignments easily with one click. Less time will be needed to be spent just to organize everything together.

4. Able to download back submitted assignments for double checking. Users will be able to check whether the uploaded files are the same as what he or she intends to send.

5. Notify users straight away whenever there are new assignments posted. This enables users to get the information quickly.

6. Having variety interactions which make the assignments submission to be more efficient. This would encourage students to work harder.

7. Enable users to know whether his or her assignment been seen or not. Users will then have a sense of relief as he or she can confirm that the submission is successful.

8. Having different interface based on selection on teachers or students. This allows them to classify the work effortlessly.

**Weakness of Assignments:**

1. Unable to view assignments grades. This will cause confusion among users whether the assignment submitted worth how many marks.

2. Chat features not provided for communication. Users are only allowed to send and receive assignments in this mobile application.

3. As everything is done within one click, one mis-click such as removing the assignment will then be critical. Users will need to be careful while operating the application.

4. The submission only shown seen or not seen whereby users will be having difficulties in identifying did they submitted successfully or not. Users with bad internet connection will be worrying a lot about it.

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INFORMATION SYSTEMS
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## 2.6 Summary of the Existing Systems

|  | The Student Room | My Assignments | Campus | Edmodo | Assignments | **Proposed Project** |
|---|---|---|---|---|---|---|
| Verify user with different authentications | No | No | Yes | Yes | No | **Yes** |
| Ability to post and edit forum questions | Yes | No | Yes | Yes | No | **Yes** |
| Able to react and interact with posts | Yes | No | No | Yes | No | **Yes** |
| Finding user in the same platform | No | No | Yes | No | No | **Yes** |
| Viewing previous grades | No | Yes | No | Yes | No | **Yes** |
| Matching users with the same target | No | No | Yes | No | No | **Yes** |
| Users able to set preferences | Yes | Yes | No | No | Yes | **Yes** |
| Able to view academic performance | No | No | No | No | No | **Yes** |
| Having chat features for discussion | Yes | No | Yes | Yes | Yes | **Yes** |
| Forming groups chat for group discussion | No | No | Yes | No | No | **Yes** |
| Able to edit and decorate own profile | No | No | Yes | Yes | No | **Yes** |
| Viewing profiles of others | No | No | Yes | Yes | No | **Yes** |
| Adding badges to motivate users | No | No | No | Yes | No | **Yes** |

*Table 2-1 Summary of the Existing Systems*

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# CHAPTER 3 PROPOSED METHOD/ APPROACH

In this chapter, system design diagram, equation, architecture diagram, use case diagram and description and also activity diagram is being identified. This is to give an overview on how the system design looks like and how the system works. Use case diagram and activity diagram will show how the flow of activities take place to manifest how the system will react with user.

## 3.1 System Design Diagram/Equation

Format of calculating attendance (y1):

$$y1 = \left( \frac{(\Sigma x1_i)}{(\Sigma x2_i)} + \frac{(\Sigma x3_i)}{(\Sigma x4_i)} \right) \times 20\%$$

where

   x1 = Total Lecture Class Attended,

   x2 = Total Lecture Class,

   x3 = Total Tutorial Class Attended,

   x4 = Total Tutorial Class,

   $\Sigma$ is add up all the values,

   $i$ is to get all the values of the variable

To calculate the attendance, the data will be gotten from lecturer where when he or she disband the group, the lecturer will be able to give all the attendance. The total lecture class attended of the student will be divided total lecturer available and add up with total tutorial class attended and divided by total tutorial class available. After the amount of attendance, it will be multiplied by 20% as it will occupy 20% of the academic performance.

Format of calculating lecturers' review (y2):

$$y2 = \frac{(\Sigma x_i)}{5n} \times 40\%$$

where

      x = Total of Ratings Received,

      $\Sigma$ is add up all the values,

      $i$ is to get all the values of the variable,

      n = Number of Ratings

Format of calculating students' review (y3):

$$y3 = \frac{(\Sigma x_i)}{5n} \times 40\%$$

where

      x = Total of Ratings Received,

      $\Sigma$ is add up all the values,

      $i$ is to get all the values of the variable,

      n = Number of Ratings

The calculation of lecturers' review and student's review are the same where both of them are evaluated by rating stars. The total of ratings received will be divided by total of ratings received multiplied by 5 as the maximum rating will be 5. The total will then be multiplied by 40% where both of them occupy 40% of the academic performance.

BACHELOR OF INFORMATION SYSTEMS (HONOURS) BUSINESS INFORMATION SYSTEMS
Faculty of Information and Communication Technology, UTAR (Kampar Campus)

CHAPTER 3 PROPOSED METHOD/ APPROACH

Format of calculating academic performance (ȳ):

$$\bar{y} = y1 + y2 + y3$$

where

        y1 = Total of Attendance,

        y2 = Total of Lecturers' Review,

        y3 = Total of Students' Review

After having all the values of attendance, lecturers' review and student review, academic performance of student can be calculated. By adding up all three values will make a 100% of pie chart of the academic performance to allow easily identification of students' performance.

### 3.1.1 System Architecture Diagram
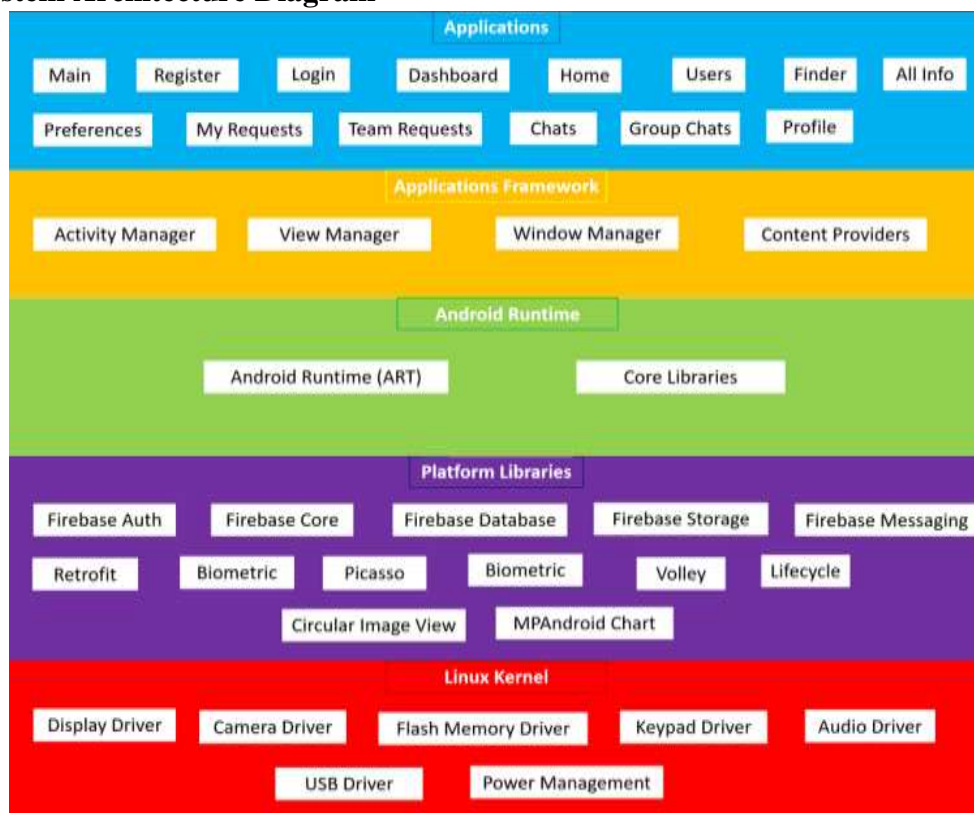


*Figure 3-1 System Architecture Diagram*

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## 3.1.2 Use Case Diagram and Description
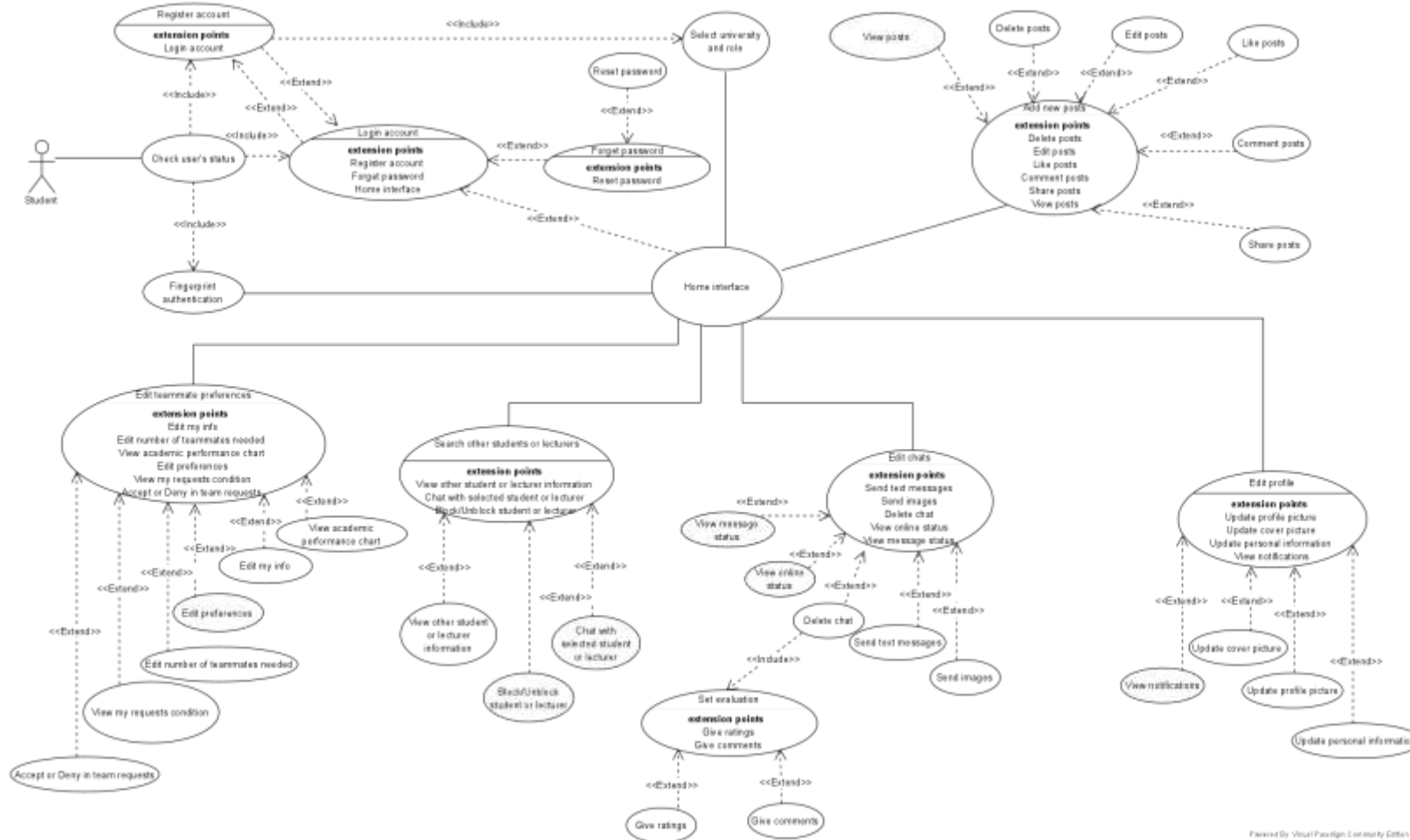


*Figure 3-2 Student Use Case Diagram*
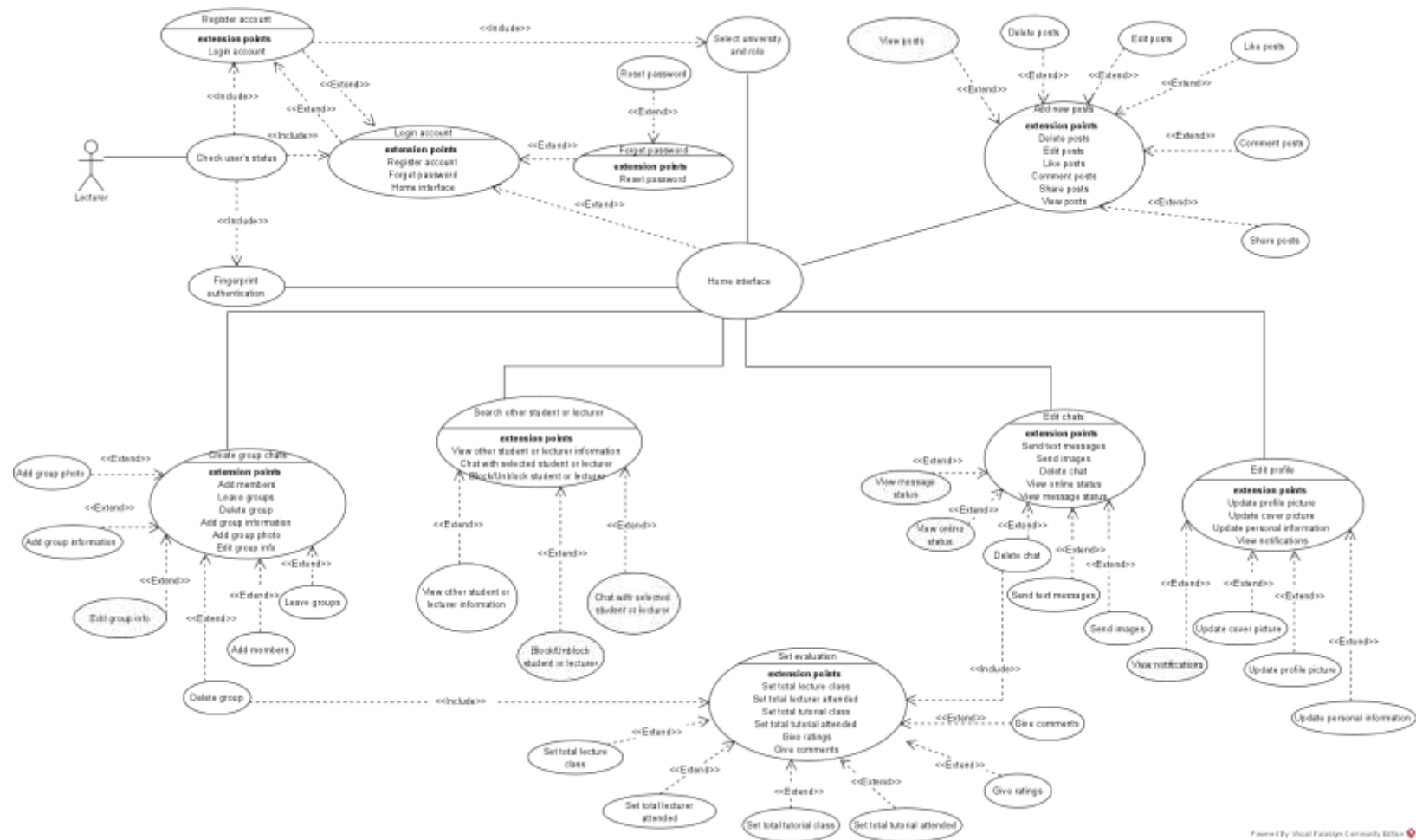
*Figure 3-3 Lecturer Use Case Diagram*

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| Use Case Name: Add new posts | ID: 1 | Importance Level: High |
|---|---|---|
| Primary Actor: Student or Lecturer | Use Case Type: Detail, Essential | |
| **Stakeholder and Interest:**<br>Student or Lecturer – intend to add new posts to ask questions or interact with others | | |
| **Brief Description:** Add new post use case describe how user add new posts to interact with others | | |
| **Trigger:** Student or Lecturer wants to add new posts with or without text and images | | |
| **Type:** External | | |
| **Relationships**<br>**Association:** Student or Lecturer<br>**Include:** Not applicable<br>**Extend:** View posts, Delete posts, Edit posts, Like posts, Comment posts, Share posts<br>**Generalization:** Not applicable | | |
| **Normal Flow of Events:**<br>1. Student or Lecturer add new posts with or without text and images<br>2. Student or Lecturer add title<br>3. Student or Lecturer add description<br>4. Student or Lecturer edit own posts<br>5. Student or Lecturer view posts of others<br>6. Student or Lecturer like posts of others<br>7. Student or Lecturer comment posts of others<br>8. Student or Lecturer share posts of others | | |
| **Sub Flows:** Not Applicable | | |
| **Alternate/Exceptional Flows:**<br>1a. Student or Lecturer cancel posting<br>2a. Student or Lecturer must add a title<br>3a. Student or Lecturer must add description | | |

*Table 3-1 Add New Posts Use Case Description*

| Use Case Name: Edit chats | ID: 2 | Importance Level: High |
|---|---|---|
| Primary Actor: Student or Lecturer | Use Case Type: Detail, Essential | |
| Stakeholder and Interest:<br><br>Student or Lecturer – wants to interact with chats | | |
| Brief Description: Edit chats use case indicate how student or lecturer edit and interact with chats feature with other student or lecturers | | |
| Trigger: Student or Lecturer wants to edit chats with others | | |
| Type: External | | |
| **Relationships**<br><br>Association: Student or Lecturer<br><br>Include: Not applicable<br><br>Extend: Send text messages, Send images, Delete chat, View online status, View message status<br><br>Generalization: Not applicable | | |
| Normal Flow of Events:<br><br>1. Student or Lecturer select student or lecturer to chat<br>2. Student or Lecturer send text messages<br>3. Student or Lecturer view message status whether delivered or seen<br>4. Student or Lecturer view online status of the other user<br>5. Student or Lecturer send images<br>6. Student or Lecturer delete the message send | | |
| Sub Flows: Not Applicable | | |
| Alternate/Exceptional Flows:<br><br>1a. Student or Lecturer didn't select another student or lecturer<br>2a. Student or Lecturer cancel sending text messages<br>3a. Student or Lecturer unable to deliver message due to no internet connection<br>5a. Student or Lecturer cancel sending images | | |

*Table 3-2 Edit Chats Use Case Description*

| Use Case Name: Edit profile | ID: 3 | Importance Level: High |
|---|---|---|
| Primary Actor: Student or Lecturer | Use Case Type: Detail, Essential | |
| **Stakeholder and Interest:** Student or Lecturer – wants to edit and modify profile | | |
| **Brief Description:** Edit profile use case tell how student or lecturer edit his or her own profile | | |
| **Trigger:** Student or Lecturer wants to edit his or her profiles | | |
| **Type:** External | | |
| **Relationships** <br><br> **Association:** Student or Lecturer <br><br> **Include:** Not applicable <br><br> **Extend:** Upload cover picture, Update profile picture, Update personal information, View notifications <br><br> **Generalization:** Not applicable | | |
| **Normal Flow of Events:** <br><br> 1. Student or Lecturer select picture to be updated as cover picture <br> 2. Student or Lecturer select picture to be updated as profile picture <br> 3. Student or Lecturer update personal information <br> 4. Student or Lecturer view notifications of his/her post's likes and comments | | |
| **Sub Flows:** Not Applicable | | |
| **Alternate/Exceptional Flows:** <br><br> 1a. Student or Lecturer cancel updating cover picture <br> 2a. Student or Lecturer cancel updating profile picture <br> 3a. Student or Lecturer cancel updating personal information | | |

*Table 3-3 Edit Profile Use Case Description*

| Use Case Name: Search other student or lecturer | ID: 4 | Importance Level: High |
|---|---|---|
| Primary Actor: Student or Lecturer | Use Case Type: Detail, Essential | |
| **Stakeholder and Interest:** Student or Lecturer – desire to search other users | | |
| **Brief Description:** Search other student or lecturer use case show how student or lecturer search other registered students or lecturers | | |
| **Trigger:** Student or Lecturer wants to search other registered users | | |
| **Type:** External | | |
| **Relationships** Association: Student or Lecturer Include: Not applicable Extend: View other users' information, Block/Unblock user, Chat with selected user Generalization: Not applicable | | |
| **Normal Flow of Events:** 1. Student or Lecturer scroll through all the registered students or lecturers 2. Student or Lecturer tap in to view another user's information 3. Student or Lecturer tap and select chat with the other students or lecturers 4. Student or Lecturer block the other user | | |
| **Sub Flows:** Not Applicable | | |
| **Alternate/Exceptional Flows:** 4a. Student or Lecturer unblock the other student or lecturer | | |

*Table 3-4 Search Other Student or Lecturer Use Case Description*

| Use Case Name: Edit teammate preferences | ID: 5 | Importance Level: High |
|---|---|---|
| Primary Actor: Student | Use Case Type: Detail, Essential | |
| **Stakeholder and Interest:**<br><br>Student – wants to edit teammate preferences | | |
| **Brief Description:** Edit teammate preferences use case give a view on how student edit teammates preferences for matching | | |
| **Trigger:** Student wants to edit teammate preferences for matching | | |
| **Type:** External | | |
| <u>**Relationships**</u><br><br>**Association:** Student<br><br>**Include:** Not applicable<br><br>**Extend:** Edit number of teammates needed, View academic performance chart, Edit preferences, Edit my info, View my requests condition, Accept or Deny in team requests<br><br>**Generalization:** Not applicable | | |
| **Normal Flow of Events:**<br><br>1. Student edit his/her own info<br><br>2. Student select his/her own preferences<br><br>3. Student select number of teammates needed, subject and group name<br><br>4. Student send request to form group with the other students<br><br>5. Student able to view own academic performance chart<br><br>6. Student able to view request sent condition<br><br>7. Student able to accept of deny in team request | | |
| **Sub Flows:** Not Applicable | | |
| **Alternate/Exceptional Flows:**<br><br>1a. Student must fill out all the info stated<br><br>2a. Student must select all the info stated<br><br>3a. Not enough preference teammates to form group<br><br>3b. No preference teammates to form group | | |

*Table 3-5 Edit Teammate Preferences Use Case Description*

| Use Case Name: Create group chats | ID: 6 | Importance Level: High |
|---|---|---|
| Primary Actor: Lecturer | Use Case Type: Detail, Essential | |
| **Stakeholder and Interest:**<br><br>Lecturer – wants to create group chats | | |
| **Brief Description:** Create group chats use case mention how user create group chats for discussion purpose | | |
| **Trigger:** Lecturer wants to create groups for discussion and matching | | |
| **Type:** External | | |
| **Relationships**<br><br>**Association:** Lecturer<br><br>**Include:** Not applicable<br><br>**Extend:** Add members, Leave groups, Delete group, Add group information, Add group photo, Edit group info<br><br>**Generalization:** Not applicable | | |
| **Normal Flow of Events:**<br><br>1. Lecturer create group chat<br><br>2. Lecturer add members to the group chats<br><br>3. Lecturer add group chats information<br><br>4. Lecturer edit group chats info<br><br>5. Lecturer add group chats photo<br><br>6. Lecturer send messages to the group chats<br><br>7. Lecturer delete group chats<br><br>8. Lecturer leave group chats | | |
| **Sub Flows:** Not Applicable | | |
| **Alternate/Exceptional Flows:**<br><br>1a. Lecturer cancel creating group chats<br><br>2a. Lecturer cancel adding members<br><br>3a. Lecturer cancel adding group chats information<br><br>5a. Lecturer cancel adding group chats photo | | |

*Table 3-6 Create Groups Use Case Description*

| Use Case Name: Set evaluation | ID: 7 | Importance Level: High |
|---|---|---|
| Primary Actor: Student or Lecturer | Use Case Type: Detail, Essential | |

| Stakeholder and Interest: |
|---|
| Student or Lecturer – wants to disband group |
| **Brief Description:** Set evaluation use case mention how student or lecturer set evaluation after group disband |
| **Trigger:** Student or Lecturer wants to disband group after semester ended |
| **Type:** External |
| **Relationships** <br><br> **Association:** Student or Lecturer <br><br> **Include:** Not applicable <br><br> **Extend:** Give ratings, Give comments, Set total lecturer class, Set total lecture attended, Set total tutorial class, Set total tutorial attended <br><br> **Generalization:** Not applicable |
| **Normal Flow of Events:** <br><br> 1. Student or Lecturer delete the group <br><br> 2. Student or Lecturer give ratings <br><br> 3. Student or Lecturer give comments <br><br> 4. Lecturer set total lecture class <br><br> 5. Lecturer set total lecture attended <br><br> 6. Lecturer set total tutorial <br><br> 7. Lecturer set total tutorial attended |
| **Sub Flows:** Not Applicable |
| **Alternate/Exceptional Flows:** <br><br> 1a. Student or Lecturer cancel creating group chats |

*Table 3-7 Set Evaluation Description*

### 3.1.3 Activity Diagrams
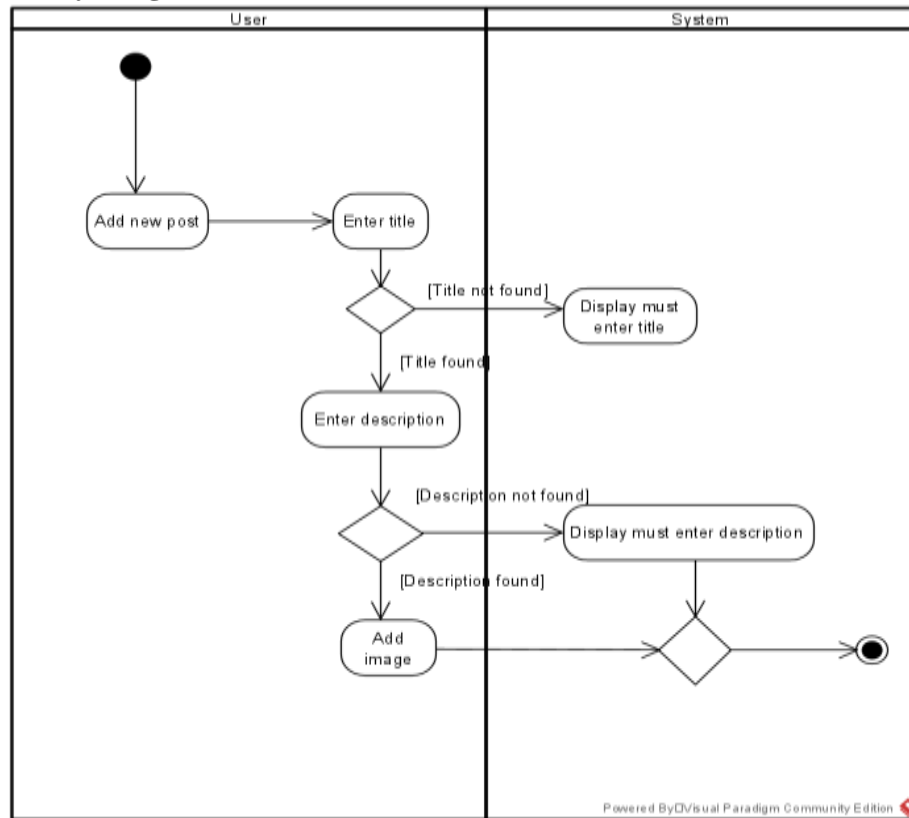


*Figure 3-4 Add New Post Activity Diagram*
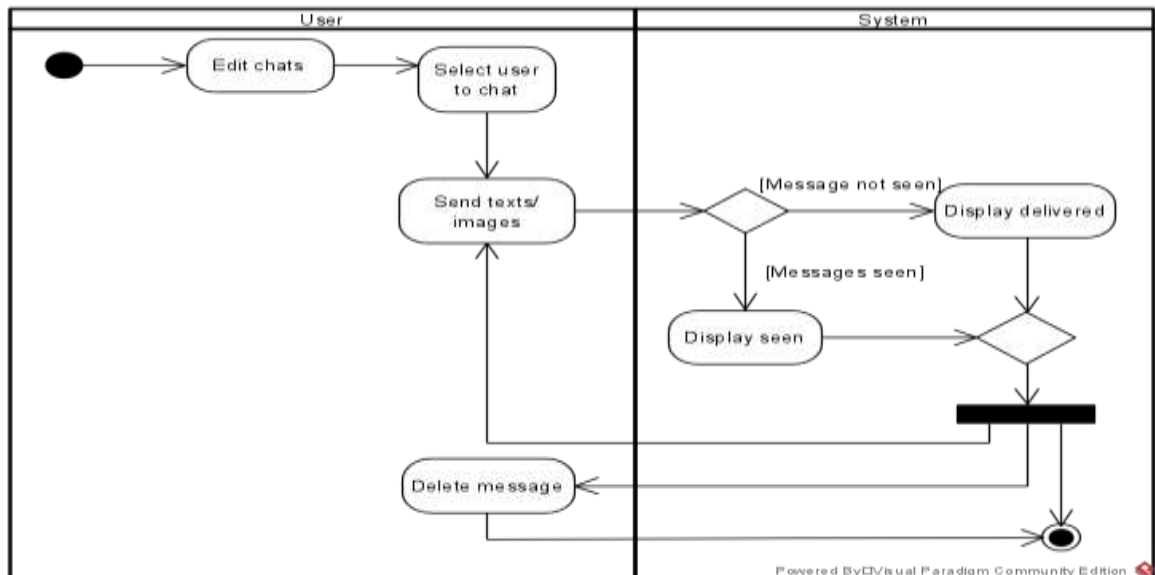


*Figure 3-5 Edit Chats Activity Diagram*

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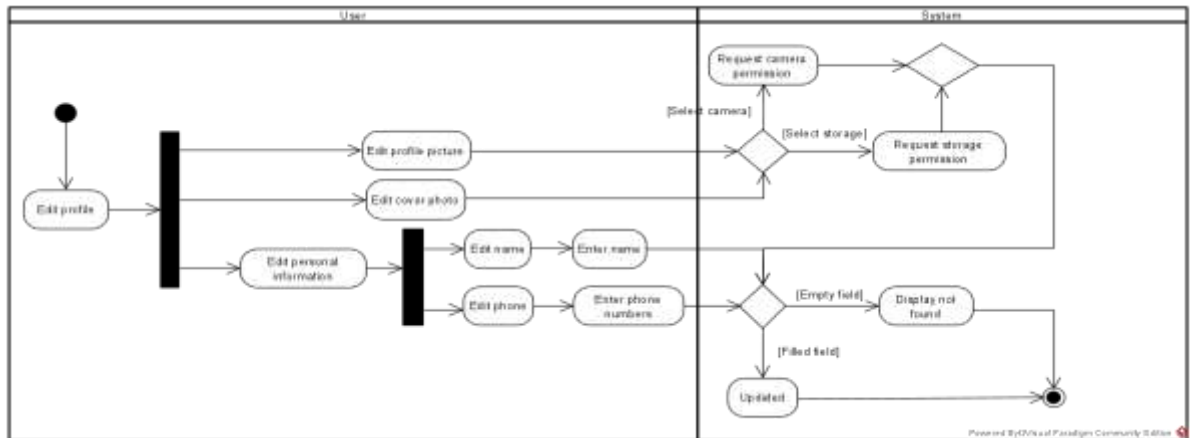
*Figure 3-6 Edit Profile Activity Diagram*
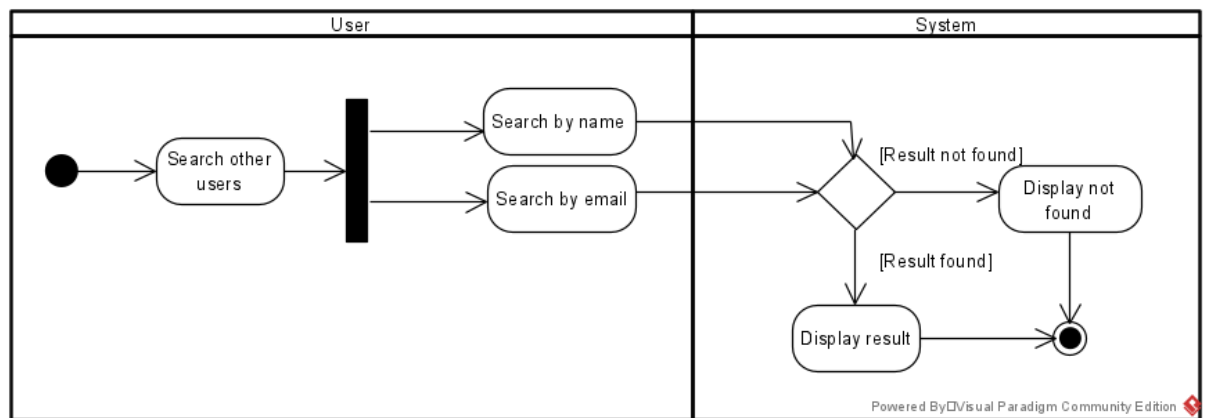


*Figure 3-7 Search Other Student or Lecturer Activity Diagram*
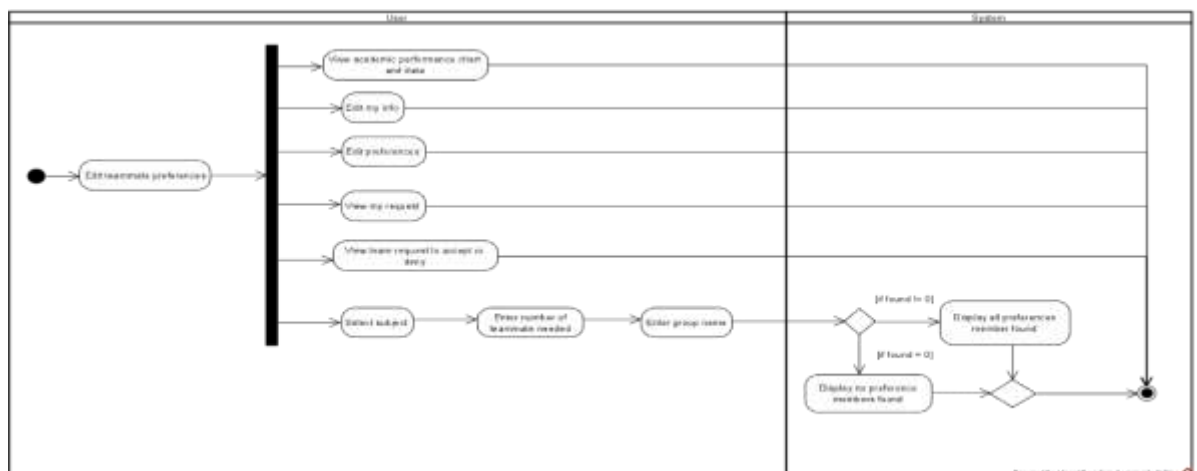


*Figure 3-8 Edit Teammate Preferences Activity Diagram*
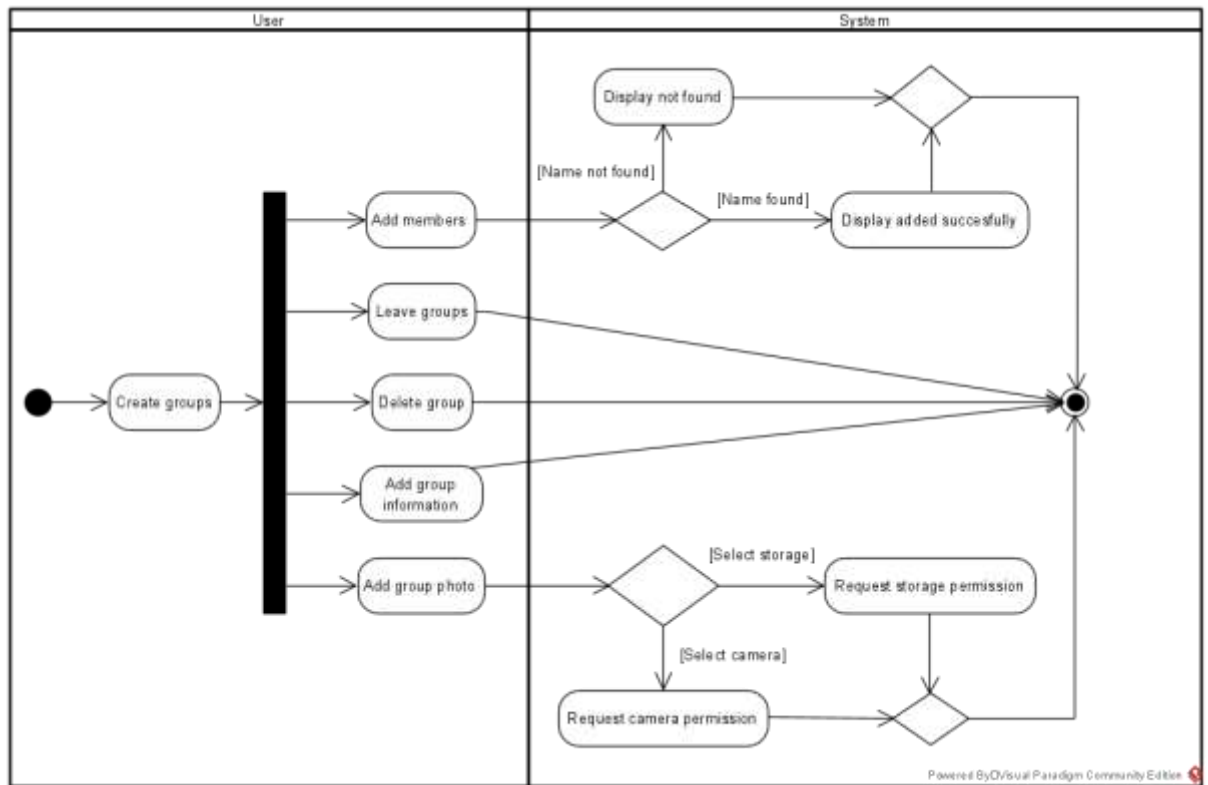
*Figure 3-9 Create Groups Activity Diagram*
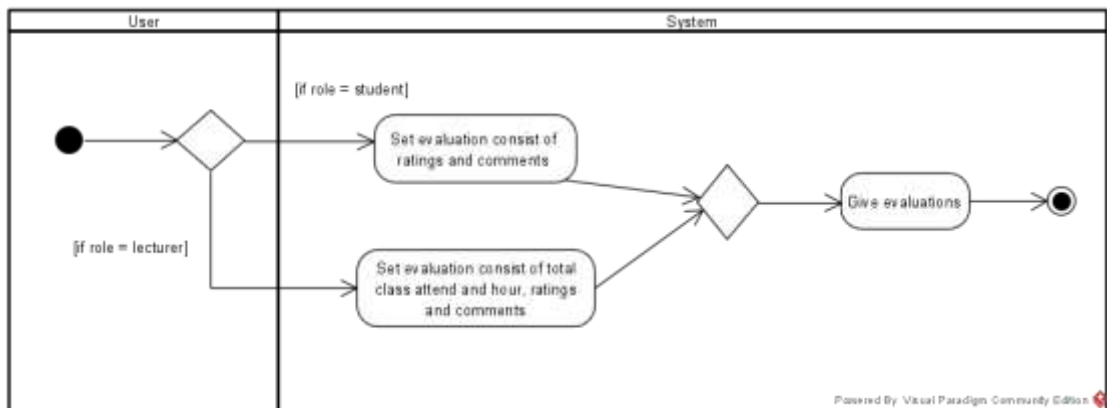


*Figure 3-10 Set Evaluation Activity Diagram*

# CHAPTER 4 SYSTEM DESIGN

In this chapter, system design will be shown to allow further understand of how all the sub-activities will interact with the main activities. Specification on system components and circuits and components design with interaction of system components will be specified here.

## 4.1 System Block Diagram
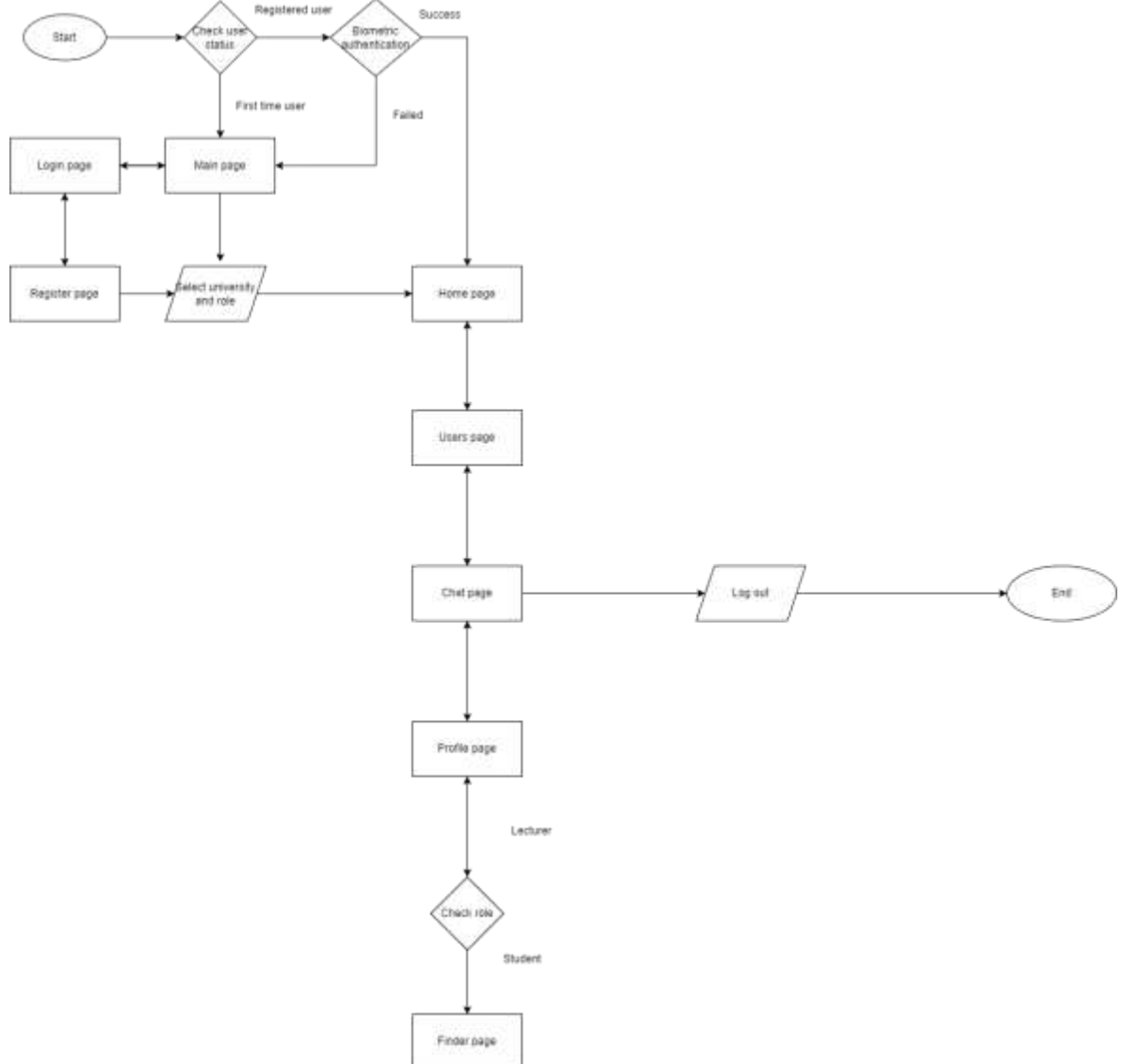


*Figure 4-1 Overall System Block Diagram*

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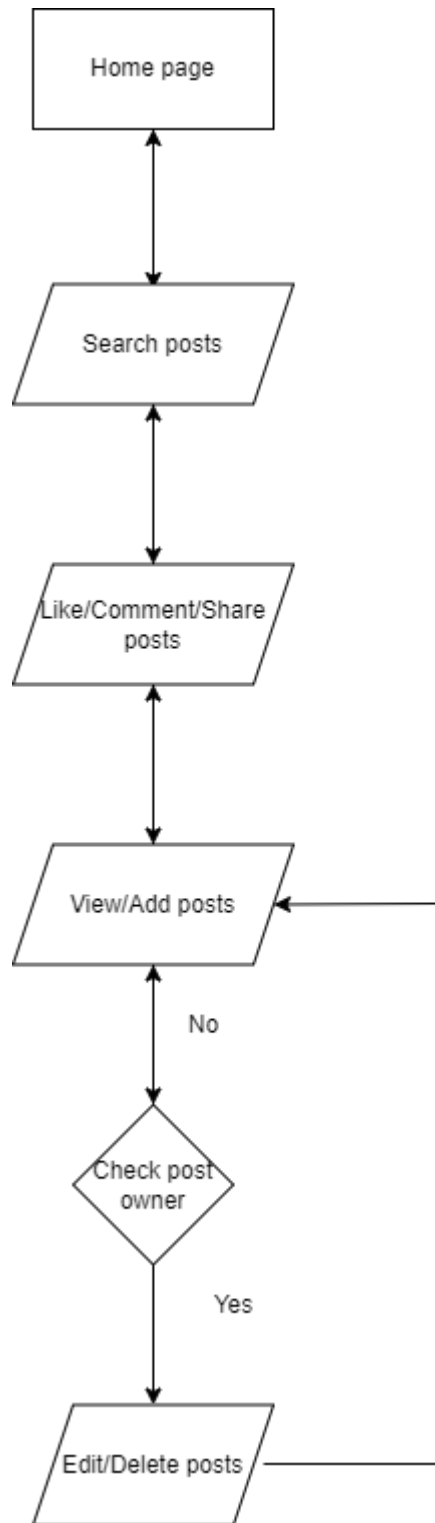
*Figure 4-2 Home Page Block Diagram*

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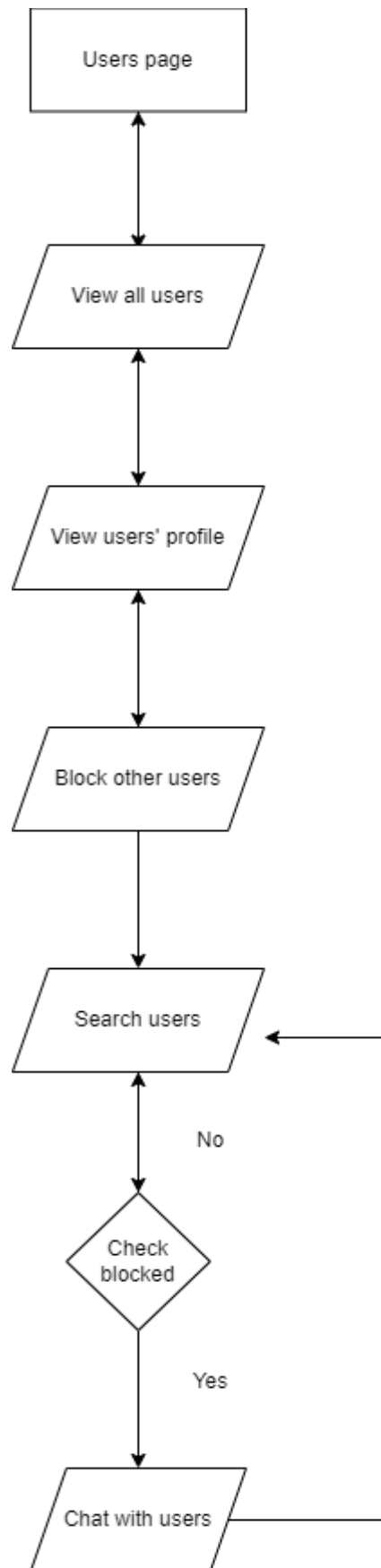
*Figure 4-3 Users Page Block Diagram*

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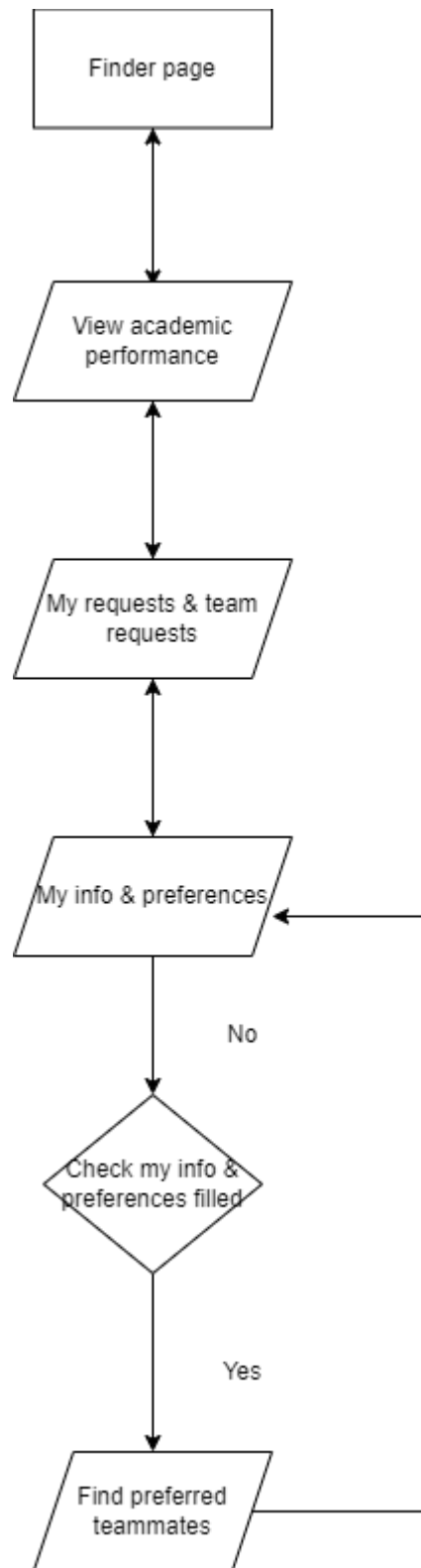
*Figure 4-4 Finder Page Block Diagram*

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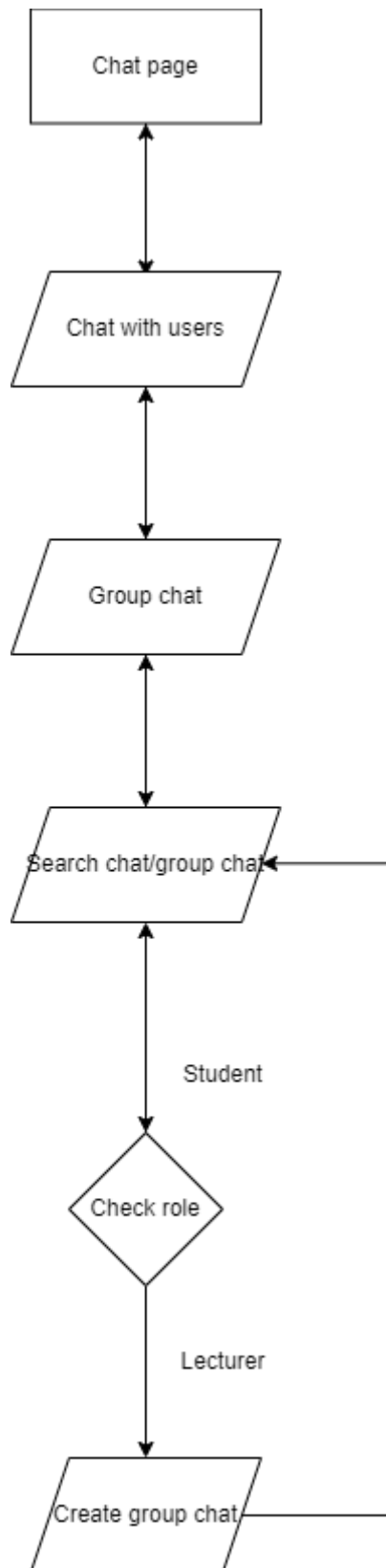
*Figure 4-5 Chat Page Block Diagram*
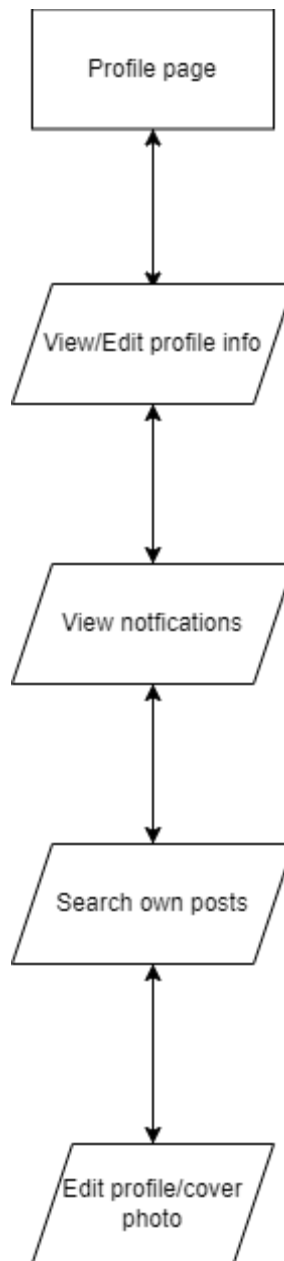
*Figure 4-6 Profile Page Block Diagram*

## 4.2 Overall System Design Illustration
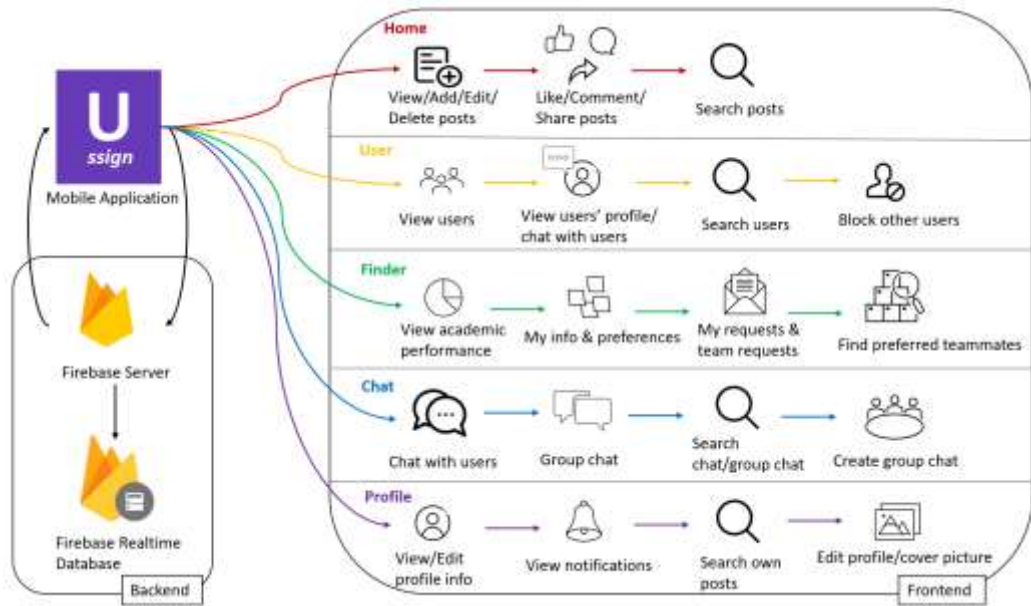


*Figure 4-7 Overall System Design Illustration*

# CHAPTER 5 SYSTEM IMPLEMENTATION

In this chapter, system implementation for the project will be evaluated. This include both hardware and software setup, setting and configuration, system operation with screenshot and a concluding remark for it.

## 5.1 System Methodology
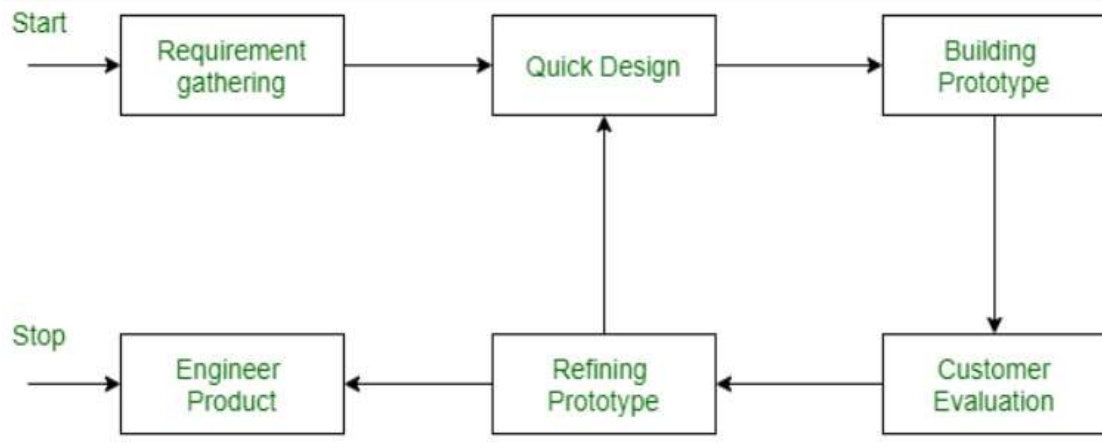


*Figure 5-1 Evolutionary prototyping model phases*

*(Source:* https://www.geeksforgeeks.org/advantages-and-disadvantages-of-prototype-model/*)*

The proposed methodology involved in developing this project will be evolutionary prototyping model. It is one of the four prototyping methods where the prototype will be constantly upgrading, and refining based on user's feedback as shown in *Figure 5-1* above. [10] states that technology that is still new and not clear enough will find this model useful as all functionalities will be checked first before implementing more and this is also the reason why I choose this methodology.

Steps involved will be firstly collecting and analysing requirements. In this proposed project, a survey had been done where it collected 40 UTAR students' feedbacks and recommendations fully online via social media like UTAR Kampar Facebook group. This allow what is required and needed to be identified easily and accurate as it is fully based on students' response. Open ended questions also involved in the survey to allow students to provide further comments if needed.

Then, a quick design will be made to identify overall interfaces. The design is made by analysing the survey data collect and implement the preferences selected and mentioned. By doing this, the proposed project able to make adjustment to fit students' need finer and better. After that, first prototype will be built, and users will then give comments and suggestions. The mobile application will be improved by redesigning and rebuilding the specific parts.

Lastly, maintenance to ensure that the application works like planned. This is to make sure that the mobile application will not crash easily and shut off students' action. [11] mention that maintenance is crucial to not just upgrade features or fixing bugs but also to ensure any security concern is updated to not be easily hacked down and stolen data. Security is a big part that need to be focused on especially in social media type application to guarantee users and prevent data leaking.

## 5.2 Project Workflow in Agile Development

Agile development refers to soft development process that is allowing repetition to be done where it defies how normal waterfall method works which allow processes involved to be repeatable. It is faster and smaller compared to traditional software development process as it directly establishes the connection easily. There are lots of different process available such as Scrum, eXtreme Programming (XP) and more. The agile development that will be discussed in this report will be Scrum.

Scrum consists of product owner, scrum master and developers. Product owner and scrum master does not involve in the process directly where product owner will be managing the product backlog which records the customer's needs while scrum master manage the whole scrum process. It requires the developers to meets daily and acknowledge work done, work to be done and blockers exist then solve the problems and deliver the work and keeps on repeating this process until the software is completed.

In term of proposed work, it is also able to work in scrum environment too as the initial proposed methodology is somehow iterative in between which indicates it is easily to be blend into agile framework. Scrum can be used as another alternative development process for the proposed work where agile prototyping can also be used as another option to make the development process of proposed work to be agile.

## 5.3 Project Timeline
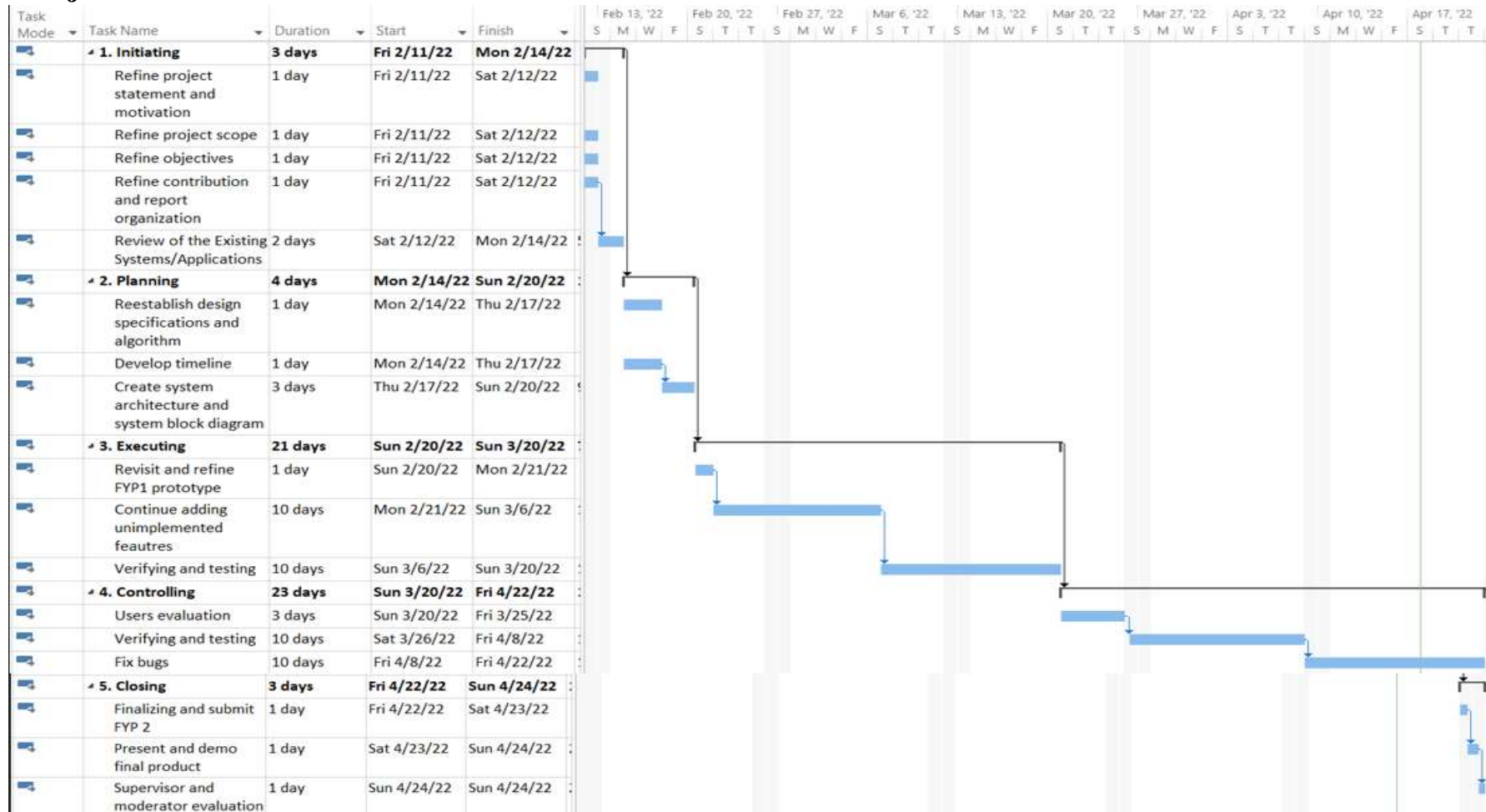


*Figure 5-2 Project Timeline*

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## 5.4 Technologies and Tools Involved
### 5.4.1 Hardware Platform

To build a mobile application, a platform is needed, and it is selected according to the needs there are tons of different platform available in the market such as Flutter, React Native, Xamarin and more. According to [2], there are more than 180 billion hours spent on mobile application. This indicate that the trend of mobile application is increasing and will be an essential by any company or business in one day later. In connection with it, selection of platform used is important to meet up the requirements.

Android Studio is the platform used to build proposed mobile application. It is a cross-platform IDE for developing Android app easily in the fastest way. Easily modified Gradle-based build system, vast selection of emulator with build in Google Cloud Platform which enable integration to done straightaway, NDK to support C/C++ and SDK to support Java programming language and more are available within the platform. It is an official platform provided by Google directly with JetBrains.

While being under Google, Android Studio able to provide different environment for developers to build application based on Android phones, tablets, Android TV and more Android owned devices. Beside Cloud integration, Firebase is another feature provided by Google which can also be used with the platform. Firebase assistant available in Android Studio to allow developers to connect and use Firebase services including authentication, real-time database, storage and more in one click.

Other than that, Android Studio allow user to easily to add commonly used vectors and used it in developed application. The vectors are provided by Google, so it allows the users of the application to identify the usage for it easily. APK and App bundle can also be built effortlessly with the build in tools provided and locate the file generated even if developer do not remember where the file stored.

### 5.4.2 Firmware/OS

Firmware or OS of the mobile application is crucial to manage system memory and processes for the developed mobile application. There lots of different OS in the market where the most popular will be Android OS and Apple iOS. The OS that is used by developed application is Android OS due to it is more well-known and used compared to Apple iOS which is also popular but not as well used as Android OS. *Figure 5-3* below show the latest comparison between the two operating system.



*Figure 5-3 Comparison of Different OS in the Market 2022*

(Retrieved from: https://gs.statcounter.com/os-market-share/mobile/worldwide )

Android OS is open source and Linux-based operating system developed by Google to be used on mobile devices. It was first released back in between 2007 and 2008 and continuing to update until version 12 today. Android enable more than hundred million of different mobile devices in not less than 190 countries worldwide where [3] states that averagely 1 million new Android devices activated daily. As state by [4], Android OS is a Google product which allow synchronization among other Google product such as email, cloud storage, calendar and more.

### 5.4.3 Database

Next, database of the proposed application will be identified. Database is where all the data will be stored and accessed. Developer should allow the users interact with the database to retrieve their respective data without interrupting another user. MySQL, PostgreSQL, Redis and more are types of databases available in the market where since for this project will be using Android Studio platform, Firebase Realtime Database and Storage will be used as the database for the proposed mobile application.

As introduced in Hardware Platform, Firebase is also a product developed by Google where it enables backend services like storage, authentication, hosting and more. It also provides analytics and reporting for developer to view the usage of the services in the application. Firebase Realtime Database allow the data to be synchronized in the actual time of the event occurred. Firebase Storage is used to store images and videos provided by users where both Realtime Database and Storage support cloud services.

### 5.4.4 Programming Language

In Android Studio, the two main programming languages used are Java and Kotlin while in term of layout, XML is used to form the layout. For the proposed mobile application, Java is selected to be used in Android Studio due its characteristics of being platform independent, object oriented and simple. In Android Studio, developers are able to generate the functions from empty without needed to type the same code reportingly. It also able to find the misspelling code or words which prevent more bugs.

At the same time, XML provides easy to build layout where it allows developer to drag and drop, purely coding or both functions been used together. This is especially user friendly for beginner to build the mobile application with it. XML is also built to be simple text-based format to allow better understanding of developers where it also allows different data and elements to be integrated easily. By being easily scalable and developed, developers able to build interface in any kind based on their needs.

### 5.4.5 Algorithm

Algorithm is a kind of formula set in order to solve certain specific problem. In mobile application, programming algorithm is used to solve different kind of activities by users every time it being called. Some common algorithms are sorting, searching, hashing and machine learning. In the proposed project, filtering algorithm and search algorithm including with different number of factors are included. This is to allows better view where the search algorithm to search for teammates with same preferences.

```
clear all the previous modelAttendances result;
clear all the previous modelReviews result;
for (DataSnapshot ds equal to each of parent (get children of dataSnapshot of "Evaluation" database)) {
    if (ds reference of child uid exists) {
        for (DataSnapshot ds2 equal to each of parent (get children of ds with reference of child uid)) {
            if (selectedFilters contains "all"){
                if (ds2 reference of child "lecT" exists) {

                    SpannableStringBuilder append to format ds2 reference of child "lecA" value to put / with "lecT";

                    SpannableStringBuilder append to format ds2 reference of child "tutA" value to put / with "tutT";

                    add attendance result to modelAttendances;
                }

                add review result to modelReviews;
            }
            else {
                for (String filter equal to each of selectedFilters){
                    if (filter contains "attendance") {

                        if (ds2 reference of child "lecA" exists){
                            SpannableStringBuilder append to format ds2 reference of child "lecA" value to put / with "lecT";

                            SpannableStringBuilder append to format ds2 reference of child "tutA" value to put / with "tutT";

                            add attendance result to modelAttendances;
                        }
                    } else {
                        if (filter contains "studentsReview"){
                            if (ds2 reference of child "hisRole" value equals "Student" ){
                                add review result to modelReviews;
                            }
                        }
                        else{
                            if (ds2 reference of child "hisRole" value equals "Lecturer"){
                                add review result to modelReviews;
                            }
                        }
                    }
                }
            }
        }
    }
    notify adapterAttendance changed;
    notify adapterReview changed;

    if (modelReviews is empty and modelAttendances is empty) {
        show empty_view text;
    } else {
        hide empty_view text;
    }
}
```

*Figure 5-4 Filter Algorithm Used*

*Figure 5-4* shows the filter algorithm used in proposed project to filter different type of academic performance data including attendance, students' review, and lectures' review. Students will be able to filter based on any number of filter mixture desired to show data wanted such as combination of students' review with attendance only and so. This allows students to view the data more effectively and not confusing them with lots of other undesired results.

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```
clear all the previous postList result;

for (DataSnapshot ds equal to each of parent (get children of dataSnapshot of "Posts" database)){
    get value from ds and put to ModelPost.class to retrieve Post data required;

    if (post title matches or post description matches)){
     add post result to postList;
    }

    adapterPosts to connect current activity with postList;

    set adapterPosts for recycle view to view;
}
```

*Figure 5-5 Search Algorithm Used*

```
clear all the previous modelFinderResults result;

for (DataSnapshot ds2 equal to each of parent (get children of dataSnapshot of "Users" database)) {

    if (ds2 reference of child "lecturersR" exists) {
        lecturersR = ds2 reference of child "lecturersR" value;
        studentsR = ds2 reference of child "studentsR" value;
        attendance = ds2 reference of child "attendance" value;

        if (attendanceAL contains attendance and studentAL contains studentsR and lecturerAL contains lecturersR) {
            fId = ds2 reference of child "uid" value;

            if (fId is not empty){
                for (DataSnapshot ds equal to each of parent (get children of dataSnapshot of "AllInfo" database)) {
                    if (ds reference of child "uid" value equals fId) {

                        clear all the previous modelFinderResults result;
                        if (gpaAL contains (ds reference of child "gpa" value) and
                            cgpaAL contains (ds reference of child "cgpa" value) and
                            facultyAL contains (ds reference of child "faculty" value) and
                            coorseAL contains (ds reference of child "course" value) and
                            probationAL contains (ds reference of child "probation" value) and
                            genderAL contains (ds reference of child "gender" value) and
                            raceAL contains (ds reference of child "race" value) and
                            ageAL contains (ds reference of child "age" value) and
                            homeTownAL contains (ds reference of child "homeTown" value) and
                            homeStayAL contains (ds reference of child "homeStay" value) {
                            if (ds reference of child("subjects" reference of child "s1" exists and ds.child("subjects").child("s1" value  equals s or
                                ds reference of child("subjects" reference of child "s2" exists and ds.child("subjects").child("s2" value  equals s or
                                ds reference of child("subjects" reference of child "s3" exists and ds.child("subjects").child("s3" value  equals s or
                                ds reference of child("subjects" reference of .child "s4" exists and ds.child("subjects").child("s4" value  equals s or
                                ds reference of child("subjects" reference of .child "s5" exists and ds.child("subjects").child("s5" value  equals s  or
                                ds reference of child("subjects" reference of child "s6" exists and ds.child("subjects").child("s6" value  equals s or
                                ds reference of child("subjects" reference of child "s7" exists and ds.child("subjects").child("s7" value  equals s  ) {
                                for (DataSnapshot ds2 equal to each parent (get children of dataSnapshot of "Users" database)) {
                                    if (ds2 reference of child "uid" value equals fId){
                                        add Finder result to modelFinderResults;
                                    }
                                }
                            }
                        }
                    }
                }
            }
        }
    }
}
```

*Figure 5-6 Search Algorithm Used for Finding Preferred Teammates*

The screenshots above show search algorithm used in proposed project where *Figure 5-5* is for normal searching result such as searching for specific posts with title or description and searching for specific users based on the name or email address while *Figure 5-6* is to find preferred teammates which will first filter based on academic performance data consist of attendance, students' review and lectures' review then further search according to other factors like CGPA, GPA, faculty and more and then lastly only match with the subject wanted.

# CHAPTER 6 SYSTEM EVALUATION AND DISCUSSION

In this chapter, system testing, and performance metrics and result will be tested and viewed. Project challenges and objectives evaluation will be talk about as well as concluding remark of it.

## 6.1 System Testing and Performance Metrics

| Test Case Name: Launching app | | | ID: 1 | |
|---|---|---|---|---|
| | **Test Steps** | **Action** | **Expected Result** | **Status** |
| **Main Flow** | 1 | The system shows a splash screen of mobile application. | The system will direct user into the mobile application. | **PASS** |
| | 2 | The system detect user is not first-timer. | | **PASS** |
| | 3 | The system verify user with fingerprint | | **PASS** |
| **Alternative/Exceptional Flows** | 1 | The system detect user is first timer. | The system will direct user to Main page consist of Register, Login and Google Sign in. | **PASS** |
| | 2 | The system unable to verify user with fingerprint for 3 times. | | **PASS** |
| | 3 | User press cancel on fingerprint authentication. | | **PASS** |

*Table 6-1 Launching App Test Case*

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| Test Case Name: Google Sign in | | | ID: 2 | |
|---|---|---|---|---|
| | **Test Steps** | **Action** | **Expected Result** | **Status** |
| **Main Flow** | 1 | The system displays available google accounts from device. | The system will direct user into the mobile application. | **PASS** |
| | 2 | User selects one of the google account. | | **PASS** |
| | 3 | User selects university/school and role. | | **PASS** |
| **Alternative/Exceptional Flows** | 1 | Select registered email address. | Account will not be created. | **PASS** |
| | 2 | Does not select university/school or role. | | **PASS** |
| | 3 | User pressed back. | | **PASS** |

*Table 6-2 Google Sign in Test Case*

| Test Case Name: Sign Up | | | ID: 3 | |
|---|---|---|---|---|
| | **Test Steps** | **Action** | **Expected Result** | **Status** |
| **Main Flow** | 1 | The system displays name, email, password, and Sign-Up button. | The system will direct user into the mobile application. | **PASS** |
| | 2 | User presses Sign Up button. | | **PASS** |
| | 3 | User selects university/school and role. | | **PASS** |
| **Alternative/Exceptional Flows** | 1 | Enter a registered email address. | Account will not be created. | **PASS** |
| | 2 | Password length does not contain at least 6 characters with one special characters, one digit, one uppercase and one lowercase. | | **PASS** |
| | 3 | Does not enter name, email, or password. | | **PASS** |
| | 4 | Does not select university/school or role. | | **PASS** |

*Table 6-3 Sign Up Test Case*

| Test Case Name: Login | | | ID: 4 | |
|---|---|---|---|---|
| | **Test Steps** | **Action** | **Expected Result** | **Status** |
| **Main Flow** | 1 | The system displays email and password. | The system will direct user into the mobile application. | **PASS** |
| | 2 | User presses Login button. | | **PASS** |
| **Alternative/Exceptional Flows** | 1 | Does not enter email or password. | The system will not login user. | **PASS** |
| | 2 | Select "forget password". | | **PASS** |
| | 3 | Enter email and system will send password reset via email. | | **PASS** |

*Table 6-4 Login Test Case*

| Test Case Name: Add Post | | | ID: 5 | |
|---|---|---|---|---|
| | **Test Steps** | **Action** | **Expected Result** | **Status** |
| **Main Flow** | 1 | The system displays title, description, and image. | The system will add new post for the user. | **PASS** |
| | 2 | User selects image and system will ask to choose from gallery or camera. | | **PASS** |
| | 3 | User selects gallery or camera, and system will ask for the permission to access it. | | **PASS** |
| | 4 | User presses Upload button. | | **PASS** |
| **Alternative/Exceptional Flows** | 1 | Does not enter title or description. | The system will not add new post. | **PASS** |
| | 2 | User presses back. | | **PASS** |

*Table 6-5 Add Post Test Case*

| Test Case Name: Edit Post | | | ID: 6 | |
|---|---|---|---|---|
| | **Test Steps** | **Action** | **Expected Result** | **Status** |
| **Main Flow** | 1 | User selects option for the specific post. | The system will allow edit post for the user. | **PASS** |
| | 2 | The system detect user is the post owner. | | **PASS** |
| | 3 | The system displays the title, description, and image of the post. | | **PASS** |
| | 4 | User presses Update button. | | **PASS** |
| **Alternative/Exceptional Flows** | 1 | The system detect user is not the post owner. | The system will not allow edit post. | **PASS** |
| | 2 | User presses back. | | **PASS** |

*Table 6-6 Edit Post Test Case*

| Test Case Name: Delete Post | | | ID: 7 | |
|---|---|---|---|---|
| | **Test Steps** | **Action** | **Expected Result** | **Status** |
| **Main Flow** | 1 | User selects option for the specific post. | The system will allow delete post for the user. | **PASS** |
| | 2 | The system detect user is the post owner. | | **PASS** |
| | 3 | The system asks for confirmation to delete the post. | | **PASS** |
| | 4 | User presses delete. | | **PASS** |
| **Alternative/Exceptional Flows** | 1 | The system detect user is not the post owner. | The system will not allow delete post. | **PASS** |
| | 2 | User presses no. | | **PASS** |
| | 3 | User presses back. | | **PASS** |

*Table 6-7 Delete Post Test Case*

| Test Case Name: Like Post | | | ID: 8 | |
|---|---|---|---|---|
| | **Test Steps** | **Action** | **Expected Result** | **Status** |
| **Main Flow** | 1 | The system display number of likes for the post. | The system will like the post of the specific post. | **PASS** |
| | 2 | User presses like button. | | **PASS** |
| | 3 | The system display liked. | | **PASS** |
| **Alternative/Exceptional Flows** | 1 | User presses like button again. | The system will unlike the post of the specific post. | **PASS** |

*Table 6-8 Like Post Test Case*

| Test Case Name: Comment Post | | | ID: 9 | |
|---|---|---|---|---|
| | **Test Steps** | **Action** | **Expected Result** | **Status** |
| **Main Flow** | 1 | The system display number of comments for the post. | The system will comment the post of the specific post. | **PASS** |
| | 2 | User presses comment button. | | **PASS** |
| | 3 | The system display post details with other comments available. | | **PASS** |
| | 4 | User enters comment and press send. | | **PASS** |
| **Alternative/Exceptional Flows** | 1 | User presses back. | The system will not comment the post of the specific post. | **PASS** |
| | 2 | User sends empty comments. | | **PASS** |

*Table 6-9 Comment Post Test Case*

| Test Case Name: Share Post | | | ID: 10 | |
|---|---|---|---|---|
| | Test Steps | Action | Expected Result | Status |
| Main Flow | 1 | The system displays all other platforms available to share. | The system will share the post of the specific post. | PASS |
| | 2 | User presses one of the platform available. | | PASS |
| | 3 | The system display post details to the selected platform. | | PASS |
| Alternative/Exceptional Flows | 1 | User presses back. | The system will not share the post of the specific post. | PASS |

*Table 6-10 Share Post Test Case*

| Test Case Name: Search Post | | | ID: 11 | |
|---|---|---|---|---|
| | Test Steps | Action | Expected Result | Status |
| Main Flow | 1 | User presses the search icon. | The system display post title or description that matches the text. | PASS |
| | 2 | User enters text or keyword. | | PASS |
| Alternative/Exceptional Flows | 1 | User presses cancel. | The system will stop searching and show all posts available. | PASS |

*Table 6-11 Search Post Test Case*

| Test Case: Block User | | | | ID: 12 | |
|---|---|---|---|---|---|
| | Test Steps | Action | | Expected Result | Status |
| **Main Flow** | 1 | The system displays all registered user in the mobile application. | | The system will block the specific user. | **PASS** |
| | 2 | User presses tick image. | | | **PASS** |
| **Alternative/Exceptional Flows** | 1 | User presses cancel image. | | The system will unblock the specific user. | **PASS** |

*Table 6-12 Block User Test Case*

| Test Case Name: View User's Profile | | | ID: 13 | |
|---|---|---|---|---|
| | Test Steps | Action | Expected Result | Status |
| **Main Flow** | 1 | User presses on the specific user. | The system will show the specific user's profile. | **PASS** |
| | 2 | User selected Profile. | | **PASS** |
| **Alternative/Exceptional Flows** | 1 | User presses back. | The system will un-show the specific user's profile. | **PASS** |

*Table 6-13 View User's Profile Test Case*

| Test Case Name: Chat with User | | | ID: 14 | |
|---|---|---|---|---|
| | Test Steps | Action | Expected Result | Status |
| **Main Flow** | 1 | User presses on the specific user. | The system will show chat dialog with the specific user. | **PASS** |
| | 2 | User selected Chat. | | **PASS** |
| **Alternative/Exceptional Flows** | 1 | User presses back. | The system will un-show chat dialog with the specific user. | **PASS** |

*Table 6-14 Chat with User Test Case*

| Test Case Name: Filter Academic Performance Data | | | ID: 15 | |
|---|---|---|---|---|
| | Test Steps | Action | Expected Result | Status |
| Main Flow | 1 | User presses View Data button. | The system will show attendance, lecturers' and students' review based on categories selected. | PASS |
| | 2 | User selects Lecturers' Review button. | | PASS |
| | 3 | User selects Attendance button. | | PASS |
| | 4 | User selects Students' Review button. | | PASS |
| Alternative/Exceptional Flows | 1 | User presses Reset All button. | The system will remove all categories selected and show all data. | PASS |

*Table 6-15 Filter Academic Performance Data Test Case*

| Test Case Name: Add Subjects in My Info | | | ID: 16 | |
|---|---|---|---|---|
| | Test Steps | Action | Expected Result | Status |
| Main Flow | 1 | User presses My Info button. | The system will show more subjects to be filled. | PASS |
| | 2 | User presses Add Subjects text. | | PASS |
| Alternative/Exceptional Flows | 1 | Total of subjects equal to 7. | The system will not show more subjects and remove Add Subjects text button. | PASS |

*Table 6-16 Add Subjects in My Info Test Case*

| Test Case Name: Set More Preferences | | | ID: 17 | |
|---|---|---|---|---|
| | Test Steps | Action | Expected Result | Status |
| **Main Flow** | 1 | User presses Preferences button. | The system will add the selected preferences. | **PASS** |
| | 2 | User presses More text. | | **PASS** |
| | 3 | The system shows 9 others more preferences to be set. | | |
| **Alternative/Exceptional Flows** | 1 | User presses back. | The system will not add the selected preferences. | **PASS** |
| | 2 | User presses Cancel button. | | **PASS** |
| | 3 | User selected All for the more preferences. | | **PASS** |

*Table 6-17 Enter Preferences Test Case*

| Test Case Name: Find Preferred Teammates | | | ID: 18 | |
|---|---|---|---|---|
| | Test Steps | Action | Expected Result | Status |
| **Main Flow** | 1 | User presses Find button. | The system will find teammates based on preferences and subject selected. | **PASS** |
| | 2 | The system display subject, group name and member needed. | | **PASS** |
| | 3 | User presses Find button. | | **PASS** |
| **Alternative/Exceptional Flows** | 1 | User presses back. | The system will not find teammates. | **PASS** |
| | 2 | User did not select subject or not entering group name or members needed. | | **PASS** |
| | 3 | User did not fill in My Info and Preferences. | | **PASS** |

*Table 6-18 Find Preferred Teammates Test Case*

| Test Case Name: Invite Preferred Teammates | | | ID: 19 | |
|---|---|---|---|---|
| | **Test Steps** | **Action** | **Expected Result** | **Status** |
| **Main Flow** | 1 | User presses Find button. | The system will show invited and update the value of total invited. | **PASS** |
| | 2 | The system display list of users that matches the preferences and taking the subject. | | **PASS** |
| | 3 | The system displays academic performance data with logo of the specific user. | | **PASS** |
| | 4 | User presses Invite button. | | **PASS** |
| **Alternative/Exceptional Flows** | 1 | User presses back. | The system will not show invited. | **PASS** |
| | 2 | User did not invite any of the users. | | **PASS** |
| | 3 | User presses Cancel button. | | **PASS** |

*Table 6-19 Invite Preferred Teammates Test Case*

| Test Case Name: Delete My Requests | | | ID: 20 | |
|---|---|---|---|---|
| | **Test Steps** | **Action** | **Expected Result** | **Status** |
| **Main Flow** | 1 | User presses My Requests button. | The system will delete the specific request sent. | **PASS** |
| | 2 | Status of request sent is not pending. | | **PASS** |
| | 3 | User presses delete icon. | | **PASS** |
| **Alternative/Exceptional Flows** | 1 | User presses back. | The system will not delete the specific request sent. | **PASS** |
| | 2 | User selects no. | | **PASS** |

*Table 6-20 Show My Requests Test Case*

| Test Case Name: Accept Team Requests | | | ID: 21 | |
|---|---|---|---|---|
| | **Test Steps** | **Action** | **Expected Result** | **Status** |
| **Main Flow** | 1 | User presses Team Request button. | The system will show accepted. | **PASS** |
| | 2 | User presses Accept button. | | **PASS** |
| | 3 | The system creates the group chat if not existing. | | **PASS** |
| | 4 | The system add user to the specific group chat. | | **PASS** |
| **Alternative/Exceptional Flows** | 1 | User presses back. | The system will not show accepted. | **PASS** |
| | 2 | User presses Reject button. | | **PASS** |

*Table 6-21 Show Team Requests Test Case*

| Test Case Name: Reject Team Requests | | | ID: 22 | |
|---|---|---|---|---|
| | **Test Steps** | **Action** | **Expected Result** | **Status** |
| **Main Flow** | 1 | User presses Team Request button. | The system will show rejected. | **PASS** |
| | 2 | User presses Reject button. | | **PASS** |
| **Alternative/Exceptional Flows** | 1 | User presses back. | The system will not show rejected. | **PASS** |
| | 2 | User presses Accept button. | | **PASS** |

*Table 6-22 Show Team Requests Test Case*

| Test Case Name: Delete Team Requests | | | ID: 23 | |
|---|---|---|---|---|
| | **Test Steps** | **Action** | **Expected Result** | **Status** |
| **Main Flow** | 1 | User presses Team Request button. | The system will delete the specific team request. | **PASS** |
| | 2 | Status of team request is either Accepted or Rejected. | | **PASS** |
| | 3 | User presses delete icon. | | **PASS** |
| **Alternative/Exceptional Flows** | 1 | User presses back. | The system will not delete the specific team request. | **PASS** |
| | 2 | User selects no. | | **PASS** |

*Table 6-23 Show Team Requests Test Case*

| Test Case Name: Reply Chat Text Message | | | ID: 24 | |
|---|---|---|---|---|
| | **Test Steps** | **Action** | **Expected Result** | **Status** |
| **Main Flow** | 1 | User presses the chat with specific user. | The system will send the text message to another user. | **PASS** |
| | 2 | User enters text to send text message. | | **PASS** |
| | 3 | User presses send icon. | | **PASS** |
| **Alternative/Exceptional Flows** | 1 | User presses back. | The system will not send the text message to another user. | **PASS** |
| | 2 | User does not enter text. | | **PASS** |

*Table 6-24 Reply Chat Text Message Test Case*

| Test Case Name: Reply Chat Image Message | | | ID: 25 | |
|---|---|---|---|---|
| | **Test Steps** | **Action** | **Expected Result** | **Status** |
| **Main Flow** | 1 | User presses the chat with specific user. | The system will send the image message to another user. | **PASS** |
| | 2 | User presses clip icon. | | **PASS** |
| | 3 | User selects image from Camera or Gallery. | | **PASS** |
| | 4 | User presses send icon. | | **PASS** |
| **Alternative/Exceptional Flows** | 1 | User presses back. | The system will not send the image message to another user. | **PASS** |
| | 2 | User denies permission to access Camera or Gallery. | | **PASS** |

*Table 6-25 Reply Chat Image Message Test Case*

| Test Case Name: Show User Online | | | ID: 26 | |
|---|---|---|---|---|
| | **Test Steps** | **Action** | **Expected Result** | **Status** |
| **Main Flow** | 1 | User presses the chat with another user. | The system will show green circle for user. | **PASS** |
| **Alternative/Exceptional Flows** | 1 | User did not press the chat with another user. | The system will show grey circle for user. | **PASS** |

*Table 6-26 Reply Chat Image Message Test Case*

| Test Case Name: Delete Chat Message | | | ID: 27 | |
|---|---|---|---|---|
| | **Test Steps** | **Action** | **Expected Result** | **Status** |
| **Main Flow** | 1 | User presses the specific chat message. | The system will delete the specific chat message. | **PASS** |
| | 2 | The system asked for delete confirmation. | | **PASS** |
| | 3 | User selects yes. | | **PASS** |
| **Alternative/Exceptional Flows** | 1 | User did not press any chat message. | The system will not delete the specific chat message. | **PASS** |
| | 2 | User selects no. | | **PASS** |

*Table 6-27 Delete Chat Message Test Case*

| Test Case Name: Create Group Chat | | | ID: 28 | |
|---|---|---|---|---|
| | **Test Steps** | **Action** | **Expected Result** | **Status** |
| **Main Flow** | 1 | The system display group image, title and description. | The system will create group chat. | **PASS** |
| | 2 | User presses image. | | **PASS** |
| | 3 | The system asked to pick image from and the permission to access. | | **PASS** |
| | 4 | User presses tick icon. | | **PASS** |
| **Alternative/Exceptional Flows** | 1 | User did not enter group tittle or description. | The system will not create group chat. | **PASS** |
| | 2 | User presses back. | | **PASS** |

*Table 6-28 Create Group Chat Test Case*

| Test Case Name: Lecturer Add Group Member | | | ID: 29 | |
|---|---|---|---|---|
| | **Test Steps** | **Action** | **Expected Result** | **Status** |
| **Main Flow** | 1 | User presses add icon. | The system will add the specific user to group. | **PASS** |
| | 2 | The system shows all register users. | | **PASS** |
| | 3 | User selects specific user. | | **PASS** |
| | 4 | The system asked adding the participant confirmation. | | **PASS** |
| | 5 | User selected add text. | | **PASS** |
| **Alternative/Exceptional Flows** | 1 | User did not select any user. | The system will not add the specific user to group. | **PASS** |
| | 2 | User selected cancel. | | **PASS** |
| | 3 | User presses back. | | **PASS** |

*Table 6-29 Lecturer Add Group Member Test Case*

| Test Case Name: Student Add Group Member | | | ID: 30 | |
|---|---|---|---|---|
| | **Test Steps** | **Action** | **Expected Result** | **Status** |
| **Main Flow** | 1 | User presses add icon. | The system will add the specific user to group. | **PASS** |
| | 2 | The system filter users based on subject selected, and preferences set. | | **PASS** |
| | 3 | User press Invite button. | | **PASS** |
| | 4 | Invited user presses accept. | | **PASS** |
| **Alternative/Exceptional Flows** | 1 | User did not invite any user. | The system will not add the specific user to group. | **PASS** |
| | 2 | User selected cancel. | | **PASS** |
| | 3 | User presses back. | | **PASS** |
| | 4 | Invited user presses reject. | | **PASS** |

*Table 6-30 Student Add Group Member Test Case*

| Test Case Name: Edit Group Chat Info | | | ID: 31 | |
|---|---|---|---|---|
| | **Test Steps** | **Action** | **Expected Result** | **Status** |
| **Main Flow** | 1 | User presses the specific group chat. | The system will edit the group info for the specific group chat. | **PASS** |
| | 2 | User presses info icon. | | **PASS** |
| | 3 | The system check user is creator of group chat. | | **PASS** |
| | 4 | User presses edit group. | | **PASS** |
| | 5 | The system display group image, title and description. | | **PASS** |
| | 6 | User presses tick button. | | **PASS** |
| **Alternative/Exceptional Flows** | 1 | The system check user is not the creator of the group. | The system will not edit the group info for the specific group chat. | **PASS** |
| | 2 | User presses back. | | **PASS** |

*Table 6-31 Edit Group Chat Info Test Case*

| Test Case Name: Delete Group Chat. | | | ID: 32 | |
|---|---|---|---|---|
| | **Test Steps** | **Action** | **Expected Result** | **Status** |
| **Main Flow** | 1 | User presses the specific group chat. | The system will delete the specific group chat. | **PASS** |
| | 2 | User presses info icon. | | **PASS** |
| | 3 | User presses leave group. | | **PASS** |
| | 4 | The system check user is creator of group chat. | | **PASS** |
| | 5 | The system display confirmation of delete group. | | **PASS** |
| | 6 | User presses delete. | | **PASS** |
| **Alternative/Exceptional Flows** | 1 | The system check user is not the creator of the group. | The system will delete the specific group chat. | **PASS** |
| | 2 | User presses back. | | **PASS** |
| | 3 | User presses cancel. | | **PASS** |

*Table 6-32 Delete Group Chat Test Case*

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| Test Case Name: Leave Group Chat. | | | ID: 33 | |
|---|---|---|---|---|
| | Test Steps | Action | Expected Result | Status |
| Main Flow | 1 | User presses the specific group chat. | The system will remove user from the specific group. | PASS |
| | 2 | User presses info icon. | | PASS |
| | 3 | User presses leave group. | | PASS |
| | 4 | The system check user is not the creator of the group. | | PASS |
| | 5 | The system display confirmation of delete group. | | PASS |
| | 6 | User presses delete. | | PASS |
| Alternative/Exceptional Flows | 1 | The system check user is creator of group chat. | The system will not remove user from the specific group. | PASS |
| | 2 | User presses back. | | PASS |
| | 3 | User presses cancel. | | PASS |

*Table 6-33 Leave Group Chat Test Case*

| Test Case Name: Promote Admin in Group Chat. | | | ID: 34 | |
|---|---|---|---|---|
| | Test Steps | Action | Expected Result | Status |
| Main Flow | 1 | User presses the specific group chat. | The system will promote admin for the specific user in group chat. | PASS |
| | 2 | User presses info icon. | | PASS |
| | 3 | User presses the specific user. | | PASS |
| | 4 | The system check user is creator of group chat. | | PASS |
| | 5 | User selected Make admin. | | PASS |
| Alternative/Exceptional Flows | 1 | The system check user is not the creator of group chat. | The system will not promote admin for the specific user in group chat. | PASS |
| | 2 | User presses back. | | PASS |
| | 3 | User presses cancel. | | PASS |

*Table 6-34 Promote Members in Group Chat Test Case*

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| Test Case Name: Demote Admin in Group Chat. | | | ID: 35 | |
|---|---|---|---|---|
| | Test Steps | Action | Expected Result | Status |
| **Main Flow** | 1 | User presses the specific group chat. | The system will demote admin for the specific user in group chat. | **PASS** |
| | 2 | User presses info icon. | | **PASS** |
| | 3 | User presses the specific user that is admin. | | **PASS** |
| | 4 | The system check user is creator of group chat. | | **PASS** |
| | 5 | User selected Remove admin. | | **PASS** |
| **Alternative/Exceptional Flows** | 1 | The system check user is not the creator of group chat. | The system will not demote admin for the specific user in group chat. | **PASS** |
| | 2 | User presses user that is not admin. | | |
| | 3 | User presses back. | | **PASS** |
| | 4 | User presses cancel. | | **PASS** |

*Table 6-35 Demote Members in Group Chat Test Case*

| Test Case Name: Kick Members in Group Chat. | | | ID: 36 | |
|---|---|---|---|---|
| | Test Steps | Action | Expected Result | Status |
| **Main Flow** | 1 | User presses the specific group chat. | The system will kick the specific user from the group chat. | **PASS** |
| | 2 | User presses info icon. | | **PASS** |
| | 3 | User presses the specific user that is admin. | | **PASS** |
| | 4 | The system check user is creator of group chat. | | **PASS** |
| | 5 | User selected Remove user. | | **PASS** |
| **Alternative/Exceptional Flows** | 1 | The system check user is not the creator of group chat. | The system will not kick the specific user from the group chat. | **PASS** |
| | 2 | User presses back. | | **PASS** |
| | 3 | User presses cancel. | | **PASS** |

*Table 6-36 Kick Members in Group Chat Test Case*

| Test Case Name: Search Chat | | | ID: 37 | |
|---|---|---|---|---|
| | **Test Steps** | **Action** | **Expected Result** | **Status** |
| **Main Flow** | 1 | User presses the search icon. | The system display chat that matches the text. | **PASS** |
| | 2 | User enters text or keyword. | | **PASS** |
| **Alternative/Exceptional Flows** | 1 | User presses cancel. | The system will stop searching and show all chat. | **PASS** |

*Table 6-37 Search Chat Test Case*

| Test Case Name: Edit Profile Picture/Cover Photo | | | ID: 38 | |
|---|---|---|---|---|
| | **Test Steps** | **Action** | **Expected Result** | **Status** |
| **Main Flow** | 1 | User presses the edit icon. | The system changes the profile picture or cover photo of the user. | **PASS** |
| | 2 | User selects Edit Profile Picture or Edit Cover Photo. | | **PASS** |
| | 3 | The system asks to choose image from camera or gallery and ask to access it. | | **PASS** |
| **Alternative/Exceptional Flows** | 1 | User presses back. | The system will not change the profile picture or cover photo of the user. | **PASS** |
| | 2 | User denies system to access gallery or camera, | | **PASS** |

*Table 6-38 Edit Profile Picture/Cover Photo Test Case*

| Test Case Name: Edit Name | | | ID: 39 | |
|---|---|---|---|---|
| | **Test Steps** | **Action** | **Expected Result** | **Status** |
| **Main Flow** | 1 | User presses the edit icon. | The system updates the username of the specific user. | **PASS** |
| | 2 | User selects Edit Name. | | **PASS** |
| | 3 | The system displays editable previous name. | | **PASS** |
| | 4 | User presses Update. | | **PASS** |
| **Alternative/Exceptional Flows** | 1 | User presses cancel. | The system will not update the username of the specific user. | **PASS** |
| | 2 | User presses back. | | **PASS** |

*Table 6-39 Edit Name Test Case*

| Test Case Name: Delete Notifications | | | ID: 40 | |
|---|---|---|---|---|
| | **Test Steps** | **Action** | **Expected Result** | **Status** |
| **Main Flow** | 1 | User presses the notification icon. | The system deletes the specific notification. | **PASS** |
| | 2 | User long pressed the specific notification. | | **PASS** |
| | 3 | The system display confirmation of deleting the notification. | | **PASS** |
| | 4 | User presses yes. | | **PASS** |
| **Alternative/Exceptional Flows** | 1 | User presses no. | The system will not delete the specific notification. | **PASS** |
| | 2 | User presses back. | | **PASS** |

*Table 6-40 Delete Notifications Test Case*

| Test Case Name: View Notifications Details | | | ID: 41 | |
|---|---|---|---|---|
| | Test Steps | Action | Expected Result | Status |
| Main Flow | 1 | User presses the notification icon. | The system direct user to the specific post details. | PASS |
| | 2 | User pressed the specific notification. | | PASS |
| Alternative/Exceptional Flows | 1 | User did not press any notification. | The system will not direct user to the specific post details. | PASS |
| | 2 | User presses back. | | PASS |

*Table 6-41 View Notifications Details Test Case*

| Test Case Name: Logging Out | | | ID: 42 | |
|---|---|---|---|---|
| | Test Steps | Action | Expected Result | Status |
| Main Flow | 1 | User presses the menu icon. | The system logs out current user and back to Main Page. | PASS |
| | 2 | User selects Log Out. | | PASS |
| Alternative/Exceptional Flows | 1 | User did not select anything. | The system will not log out current user and back to Main Page. | PASS |
| | 2 | User presses back. | | PASS |

*Table 6-42 Logging Out Test Case*

## 6.2 Testing Setup and Result

Mobile testing is important to ensure that it is able to deliver what is planned without any errors or disturbances. Bad performance has often been complained and end up people will stop using the specific app. A quality mobile application is always preferred especially in this modern and fast-paced world. People are not willing to spend more time on things that can be replaced easily and eager to test other new application to find what he or she wanted.

In previous sub-chapter, test case had been used for the proposed project system testing. A test case is similar to use case, but it records and verify a specific functionality or features of the application as mentioned by [12]. It allows different test scenario to be described and documented while expected result able to be identified in a glance. Test steps are included not just to clarify the functionality as well as to let the next people to know how to test the feature in the proper sequence.

More than 40 different test cases had been examined and executed to ensure that the proposed project to work as designed. If any errors were found during testing, debugging will be conducted to ensure that the problem is fixed and able to pass the test cases fully. After all test cases pass then it will be recorded in the test case template and be documented in this particular report. For any further features or functionalities implemented, test case is required to document and verify it.

## 6.3 Project Challenges

In proposed project, there are several issues and challenges faced during implementation as the saying goes nothing is perfect, and so there must be some difficulties available. The first issue is to generate ideas on design and functionality without much reference. Due to creating something that is not existing yet, there not much testimonial accessible for the project to take shape from. Proposed project will then need to figure out the whole process from zero to hero.

The next challenge will be the absence of better hardware and software to be used for implementation for the reason of lacking funds. A good hardware and software are required to allow system implementation and testing to be done easily without any other problems that could stop the whole process such as computer hanging and so. This will cause the implementation and testing needed to be repeat again to find out whether it is the developed system or the current used equipment being the problem.

Last and main challenge would be the time given. Time is always a problem as many internal or external events could happen to block the implementation and so dragged the whole process. Much time is needed by the proposed project because of the two issues mentioned before this. Luckily, the proposed project still be able to meet the time requirement and be completed with all the functionality as planned. However, for future and further improvement, extra time required to enhance the application.

## 6.4 Objectives Evaluation

The first objective of proposed project is to increase the relevant contents of students' assignments and the solution to is to by allowing students to view academic performance consisting of attendance, lecturers', and students' reviews of each other. The purpose of this is to increase the spirit of being competitive among students and to verify free riders easily. As proposed, academic performance had been included and everyone can see the performance of each other.

Enabling students to team up with compatible assignment teammates that really do works is the second objective of the proposed project. The mobile application would allow the students to join forces with people that are like them as there are lot of preferences setting available where wanting to get A or just merely want to pass is included as well. As intended, the proposed project able to do that to separate students and group them according to get their desired result easily.

Final objective is to create a new platform for students in the same lecturer or tutorial group to chat and help each other. This not just enable better communication but also allowing the top students or lecturers to give advice to other students to do better in their university life. As surveyed, more than 90% of the students think that communicating with seniors help so as proposed, the mobile application allows them to communicate easily without trouble.

## 6.5 Concluding Remark

Variety kinds of different test cases had been conducted and documented to ensure that the proposed project work as planned and allowing the next person to know the proper sequence of testing the functionalities. Project challenges also been elaborated to mention the difficulties faced during implementation of proposed project and lastly objectives had been evaluated again with the completed proposed project. Everything is working as intended and no additional problems to be addressed.

# CHAPTER 7 CONCLUSION AND RECOMMENDATION

In this chapter, important aspects of the project including problem, motivation and proposed solution will summarized and highlighted again. Recommendation for future updates and implementation will be discussed as well.

## 7.1 Conclusion

All in all, different problems had been identified including content and quality of students' assignments are simply normal and dull, students facing troubles finding better and compatible assignment teammates and lacking ideas, guidelines, and advice on how to score well in their assignment which makes the proposed project to comes in with the aim to provide a solution to solve the addressed problems. The proposed project is a mobile application named as U-ssign.

The motivation of proposed project is to help UTAR students to find better and preferred assignment teammates to complete their must-have task in university life, assignments. Many of them had faced people with different targets which makes them hard to cooperate well and this is not anyone fault but just having distinct thoughts. Some is having bad intention such as free riders who want to get the assignment marks without doing or contributing anything.

Having these kinds of teammates is troublesome, as they are not just doing nothing at all but also causes other teammates to have more work burden which then lead to stress and not enough sleep for other students. This is especially not fair to students who worked hard to maintain their scholarship because they cause more unnecessary stress which is not good for human body. To resolve this, proposed project has come to shine by providing students the opportunity to team up with preferred teammates only.

Students will have to fill up all their information and preferences which then allowing system to know and separately the group accordingly. Proposed project also allows students to have another platform which specialized for education purpose only. Posting and answering forums are available to let students communicate and share their opinions about events occur or tips about university life. Chatting and editing own profile are included as well for students to different ways of expressing themselves. The proposed project is expected to be able to help students to done better in their university life and graduate with their desired result.

## 7.2 Recommendation

As the saying goes nothing is perfect, there is always room of improvement for everything that exist in this world obviously including proposed project, U-ssign. The first recommendation to be elaborated is the interface design. The interface design is not so "modern" design which might make the current interface not so pleasant. Due to time constraint, the interface design was not upgraded much and so in the upcoming update, the interface design can be redesigned to fits modern world design better.

The next recommendation is to have better software and hardware to be used for the creation and implementation of proposed project. As mentioned in project challenges, the restriction of hardware and software using cause the time used on implementation and testing to be extended. In future, by using better software and hardware, the implementation can be fastened and better which enable better result to be provided as the tools used had been upgraded.

Lastly, another recommendation would be enhancing the proposed project with more and better features. Additional functionalities can be implemented to further improve the usage of the mobile application such as including store feature to allow students to sell their items to each other. This is especially useful for almost graduating students as they will not need the items anymore such as lecture notes, bus tickets and more. Students can sell it cheap which then enable new students to save their costs too.

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# APPENDIX

**Survey Questions and Answers**



## Mobile Application for Finding Better Assignment Teammates

Dear Respondent,

Good day, I am Lee Zi Hong, a final year undergraduate student pursuing Bachelor of Information Systems (Hons) Business Information Systems from Faculty of Information and Communication Technology (FICT) of Universiti Tunku Abdul Rahman (UTAR) Kampar campus. This questionnaire is to support the research for my final year project.

It will take approximately 3 minutes to complete. All collected data or figures and respondents' background information will be kept confidential. Your participation is highly appreciated. Thank you in advance for your help and participation.

In terms of confidentiality, rest assured that data collected through this questionnaire will be recorded to keep respondents anonymous. Thank you for taking the time to complete this questionnaire. Once again, your support is valuable to this research.

* Required

Email *

Your answer

Next

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APPENDIX

## Section A: Background Information

This section is to give a brief idea of respondent.

1. What is your gender? *

○ Male

○ Female

2. What is your age? *

○ Below 21 years old

○ 21 - 30 years old

○ 31 - 40 years old

○ Above 40 years old

3. What is your faculty/ division/ department? *

Your answer

4. What is your course? *

(Only applicable to UTAR Student/UTAR Alumni. Please put a " - " if not applicable to you.)

Your answer

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APPENDIX



Section B: Perceptions

This section is to understand the perspective of respondent.

1. Do you encounter a free-rider before? *

(Free-rider is a kind of teammate where he or she will not do any work but still get the same marks as you.)

○ Yes

○ No

2. Do you find it difficult to find teammates with same values and believes? *

○ Yes

○ No

3. Do you think that being able to identify one's academic performance help in finding better teammate? *

○ Yes

○ No

4. Do you ever face difficulties in lacking of ideas and guidelines to accomplish assignments/ researches? *

○ Yes

○ No

5. Do you think that being able to communicate with seniors/ colleagues help in university life? *

○ Yes

○ No

6. Any problems that you want to bring up or further elaborate?

(Optional.)

Your answer

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APPENDIX



Section C: Preferences

This section is to understand the preferences of respondent.

1. Do you think that GPA and CGPA are relevant to find better assignment teammates? *

|  | 1 | 2 | 3 | 4 | 5 |  |
|---|---|---|---|---|---|---|
| Strongly Disagree | O | O | O | O | O | Strongly Agree |

2. Do you think that Faculty and Course are relevant to find better assignment teammates? *

|  | 1 | 2 | 3 | 4 | 5 |  |
|---|---|---|---|---|---|---|
| Strongly Disagree | O | O | O | O | O | Strongly Agree |

3. Do you think that Probation Status is relevant to find better assignment teammates? *

|  | 1 | 2 | 3 | 4 | 5 |  |
|---|---|---|---|---|---|---|
| Strongly Disagree | O | O | O | O | O | Strongly Agree |

4. Do you think that Gender is relevant to find better assignment teammates? *

|  | 1 | 2 | 3 | 4 | 5 |  |
|---|---|---|---|---|---|---|
| Strongly Disagree | O | O | O | O | O | Strongly Agree |

5. Do you think that Race is relevant to find better assignment teammates? *

|  | 1 | 2 | 3 | 4 | 5 |  |
|---|---|---|---|---|---|---|
| Strongly Disagree | O | O | O | O | O | Strongly Agree |

6. Do you think that Age is relevant to find better assignment teammates? *

|  | 1 | 2 | 3 | 4 | 5 |  |
|---|---|---|---|---|---|---|
| Strongly Disagree | O | O | O | O | O | Strongly Agree |

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Faculty of Information and Communication Technology, UTAR (Kampar Campus)

APPENDIX

7. Do you think that Hometown is relevant to find better assignment teammates? *

|  | 1 | 2 | 3 | 4 | 5 |  |
|---|---|---|---|---|---|---|
| Strongly Disagree | ○ | ○ | ○ | ○ | ○ | Strongly Agree |

8. Do you think that Current Homestay is relevant to find better assignment teammates? *

|  | 1 | 2 | 3 | 4 | 5 |  |
|---|---|---|---|---|---|---|
| Strongly Disagree | ○ | ○ | ○ | ○ | ○ | Strongly Agree |

9. Do you think that Students Review is relevant to find better assignment teammates? *

|  | 1 | 2 | 3 | 4 | 5 |  |
|---|---|---|---|---|---|---|
| Strongly Disagree | ○ | ○ | ○ | ○ | ○ | Strongly Agree |

10. Do you think that Lecturers Review is relevant to find better assignment teammates? *

|  | 1 | 2 | 3 | 4 | 5 |  |
|---|---|---|---|---|---|---|
| Strongly Disagree | ○ | ○ | ○ | ○ | ○ | Strongly Agree |

11. Do you think that Attendance is relevant to find better assignment teammates? *

|  | 1 | 2 | 3 | 4 | 5 |  |
|---|---|---|---|---|---|---|
| Strongly Disagree | ○ | ○ | ○ | ○ | ○ | Strongly Agree |

12. Any preferences that you want to bring up or further elaborate?
(Optional.)

Your answer

Back    Submit

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APPENDIX

1. Do you encounter a free-rider before?
40 responses



- Yes
- No

35%

65%

2. Do you find it difficult to find teammates with same values and believes?
40 responses



- Yes
- No

30%

70%

3. Do you think that being able to identify one's academic performance help in finding better teammate?
40 responses



- Yes
- No

17.5%

82.5%
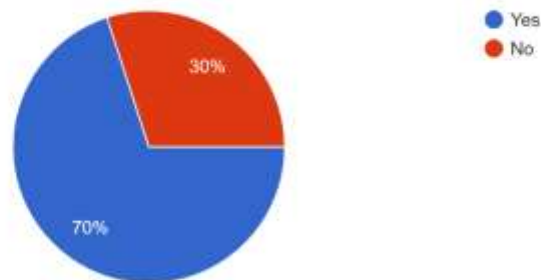
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APPENDIX

4. Do you ever face difficulties in lacking of ideas and guidelines to accomplish assignments/ researches?

40 responses



- Yes
- No

95%
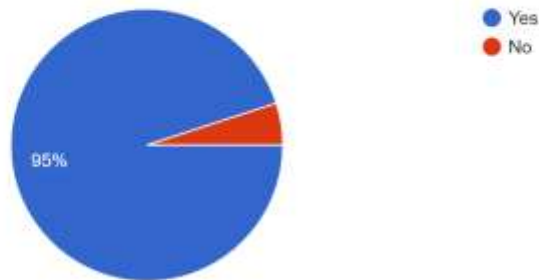
5. Do you think that being able to communicate with seniors/ colleagues help in university life?

40 responses
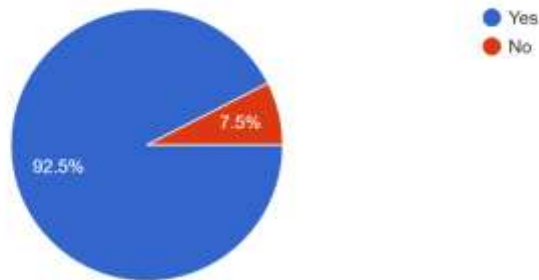


- Yes
- No

92.5%  7.5%

1. Do you think that GPA and CGPA are relevant to find better assignment teammates?

40 responses

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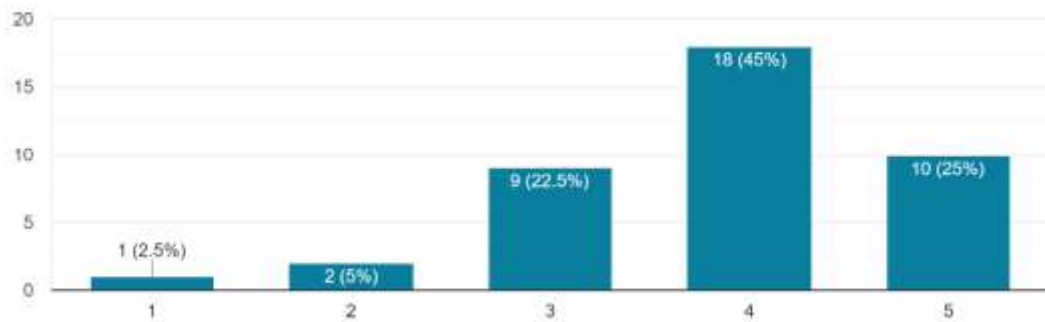
2. Do you think that Faculty and Course are relevant to find better assignment teammates?
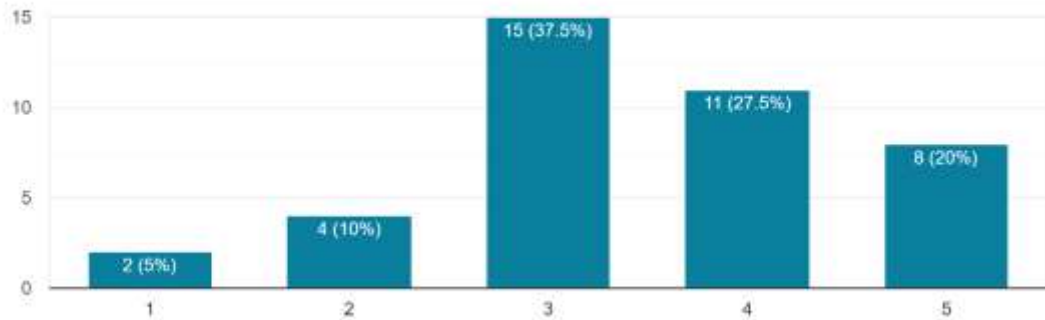
40 responses



3. Do you think that Probation Status is relevant to find better assignment teammates?

40 responses



4. Do you think that Gender is relevant to find better assignment teammates?
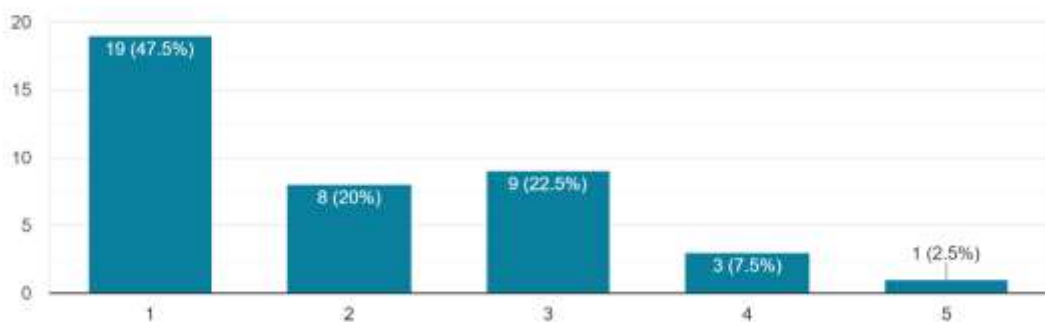
40 responses

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5. Do you think that Race is relevant to find better assignment teammates?
40 responses
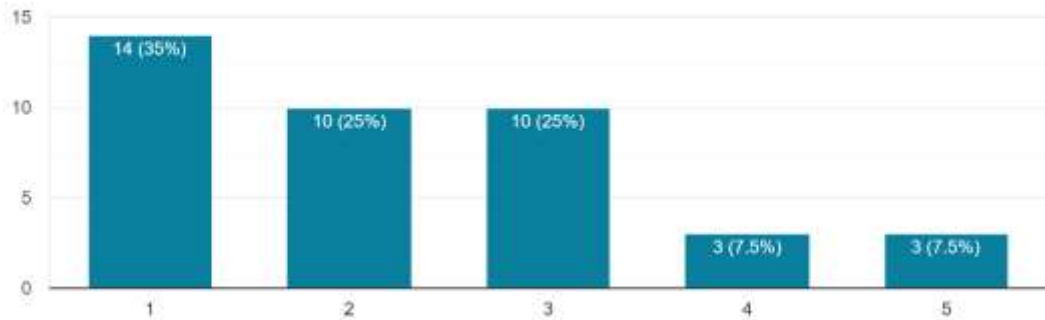


6. Do you think that Age is relevant to find better assignment teammates?
40 responses
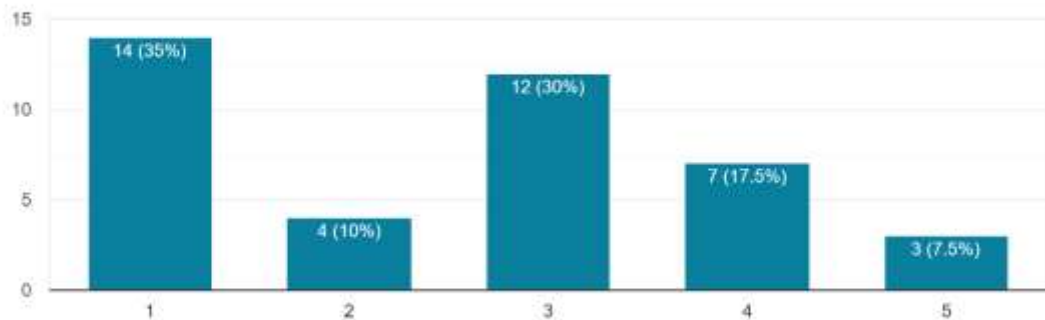


7. Do you think that Hometown is relevant to find better assignment teammates?
40 responses
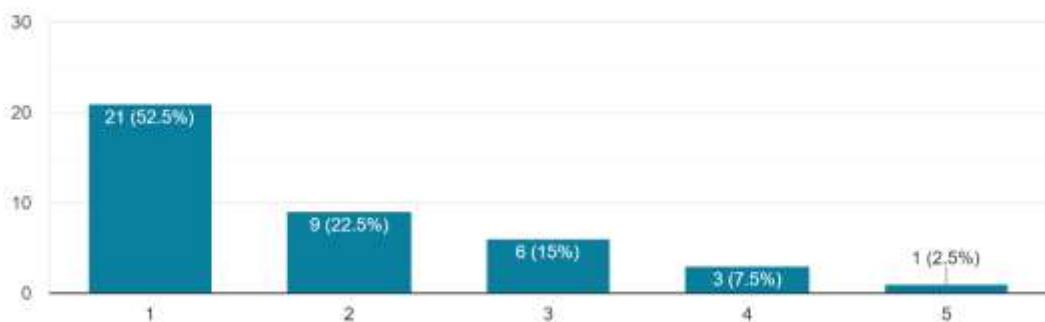
BACHELOR OF BUSINESS INFORMATION (HONOURS) BUSINESS
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8. Do you think that Current Homestay is relevant to find better assignment teammates?
40 responses
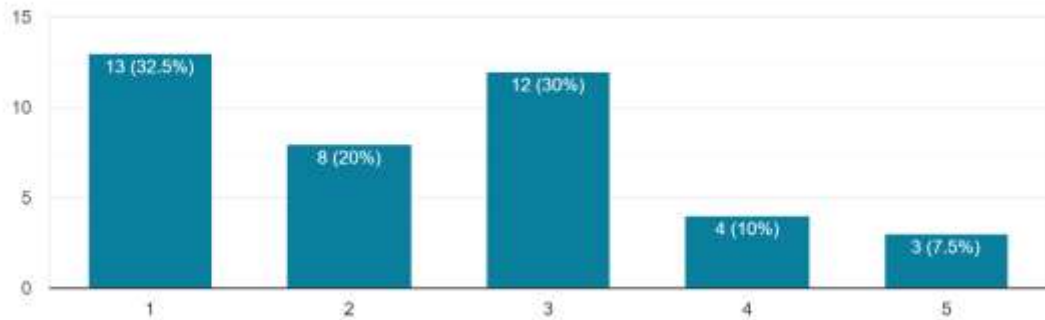


9. Do you think that Students Review is relevant to find better assignment teammates?
40 responses



10. Do you think that Lecturers Review is relevant to find better assignment teammates?
40 responses
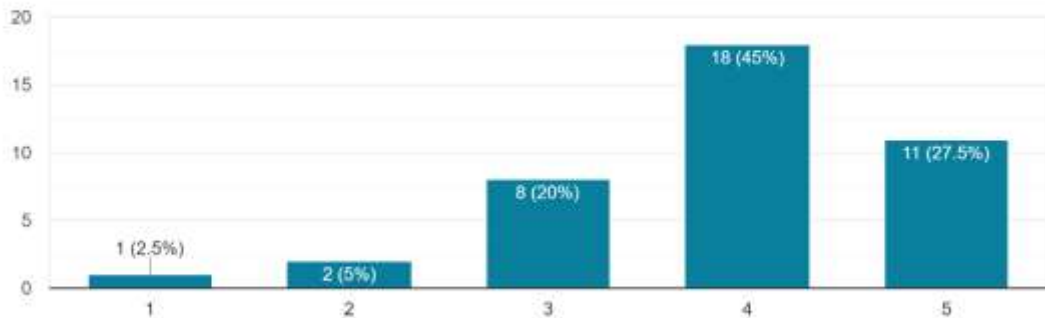
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Faculty of Information and Communication Technology, UTAR (Kampar Campus)
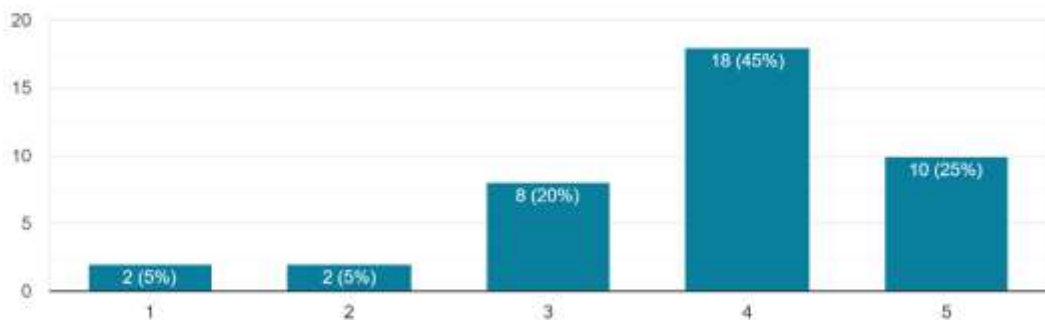
APPENDIX

11. Do you think that Attendance is relevant to find better assignment teammates?
40 responses

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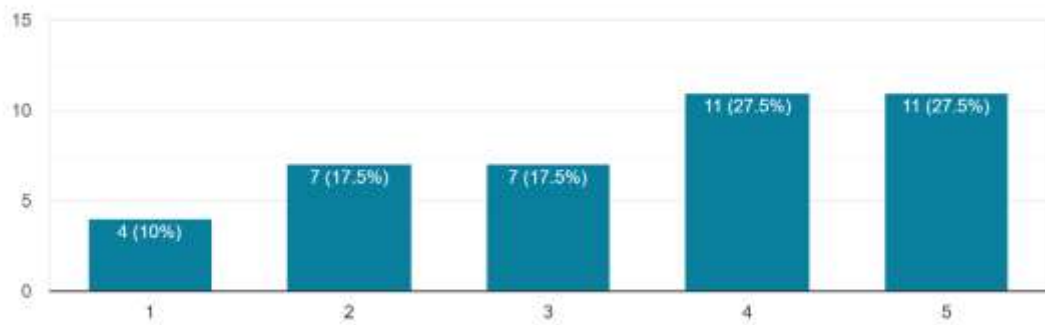
# WEEKLY LOG

# FINAL YEAR PROJECT WEEKLY REPORT

*(Project I / Project II)*

| | |
|---|---|
| **Trimester, Year:** Year 3 Semester 3 | **Study week no.:** 1 |
| **Student Name & ID:** Lee Zi Hong 18ACB04579 | |
| **Supervisor:** Mr. Su Lee Seng | |
| **Project Title:** DEVELOP A MOBILE APPLICATION TO HELP UTAR STUDENTS TO FIND BETTER ASSIGNMENT TEAMMATES | |

**1. WORK DONE**

[Please write the details of the work done in the last fortnight.]

Design new Register, Login and Main interface view

**2. WORK TO BE DONE**

Implement the newly designed Register, Login and Main interface view

**3. PROBLEMS ENCOUNTERED**
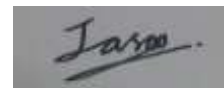
No

**4. SELF EVALUATION OF THE PROGRESS**

On track

Supervisor's signature

Student's signature

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# FINAL YEAR PROJECT WEEKLY REPORT

*(Project I / Project II)*

| | |
|---|---|
| **Trimester, Year:** Year 3 Semester 3 | **Study week no.:** 2 |
| **Student Name & ID:** Lee Zi Hong 18ACB04579 | |
| **Supervisor:** Mr. Su Lee Seng | |
| **Project Title:** DEVELOP A MOBILE APPLICATION TO HELP UTAR STUDENTS TO FIND BETTER ASSIGNMENT TEAMMATES | |

---

**1. WORK DONE**

[Please write the details of the work done in the last fortnight.]

Implement new Register, Login and Main interface view

---

**2. WORK TO BE DONE**

Implement the finder functions that is yet to be implement during FYP1

---

**3. PROBLEMS ENCOUNTERED**

No

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**4. SELF EVALUATION OF THE PROGRESS**

On track

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Supervisor's signature

Student's signature

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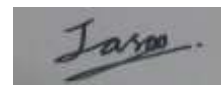
# FINAL YEAR PROJECT WEEKLY REPORT

*(Project I / Project II)*

| | |
|---|---|
| **Trimester, Year:** Year 3 Semester 3 | **Study week no.: 3** |
| **Student Name & ID:** Lee Zi Hong 18ACB04579 | |
| **Supervisor:** Mr. Su Lee Seng | |
| **Project Title:** DEVELOP A MOBILE APPLICATION TO HELP UTAR STUDENTS TO FIND BETTER ASSIGNMENT TEAMMATES | |

---

**1. WORK DONE**

[Please write the details of the work done in the last fortnight.]

Fix log out crash and passwords strength identification issue

---

**2. WORK TO BE DONE**

Implement the finder functions that is yet to be implement during FYP1

---

**3. PROBLEMS ENCOUNTERED**

No

---

**4. SELF EVALUATION OF THE PROGRESS**

On track

---

_SuLee_

Supervisor's signature

_Jason._

Student's signature

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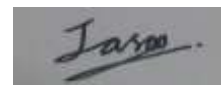
# FINAL YEAR PROJECT WEEKLY REPORT

*(Project I / Project II)*

| | |
|---|---|
| **Trimester, Year:** Year 3 Semester 3 | **Study week no.:** 4 |
| **Student Name & ID:** Lee Zi Hong 18ACB04579 | |
| **Supervisor:** Mr. Su Lee Seng | |
| **Project Title:** DEVELOP A MOBILE APPLICATION TO HELP UTAR STUDENTS TO FIND BETTER ASSIGNMENT TEAMMATES | |

---

**1. WORK DONE**

[Please write the details of the work done in the last fortnight.]

Add name insert during Registration and auto retrieve name in Google sign in

---

**2. WORK TO BE DONE**

Implement the finder functions that is yet to be implement during FYP1

---

**3. PROBLEMS ENCOUNTERED**

No

---

**4. SELF EVALUATION OF THE PROGRESS**

On track

---

_SuLee_

Supervisor's signature

_Jason_

Student's signature

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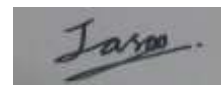
# FINAL YEAR PROJECT WEEKLY REPORT

*(Project I / Project II)*

| | |
|---|---|
| **Trimester, Year:** Year 3 Semester 3 | **Study week no.: 5** |
| **Student Name & ID:** Lee Zi Hong 18ACB04579 | |
| **Supervisor:** Mr. Su Lee Seng | |
| **Project Title:** DEVELOP A MOBILE APPLICATION TO HELP UTAR STUDENTS TO FIND BETTER ASSIGNMENT TEAMMATES | |

---

**1. WORK DONE**

[Please write the details of the work done in the last fortnight.]

Update the Profile view

---

**2. WORK TO BE DONE**

Implement the finder functions that is yet to be implement during FYP1

---

**3. PROBLEMS ENCOUNTERED**

No

---

**4. SELF EVALUATION OF THE PROGRESS**

On track

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*SuLee*

Supervisor's signature

*Jason.*

Student's signature

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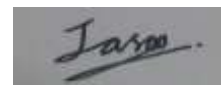
# FINAL YEAR PROJECT WEEKLY REPORT

*(Project I / Project II)*

| **Trimester, Year:** Year 3 Semester 3 | **Study week no.:** 6 |
|---|---|
| **Student Name & ID:** Lee Zi Hong 18ACB04579 | |
| **Supervisor:** Mr. Su Lee Seng | |
| **Project Title:** DEVELOP A MOBILE APPLICATION TO HELP UTAR STUDENTS TO FIND BETTER ASSIGNMENT TEAMMATES | |

| **1. WORK DONE** |
|---|
| [Please write the details of the work done in the last fortnight.] Add preferred teammates found interface and function |
| **2. WORK TO BE DONE** |
| Implement the finder functions that is yet to be implement during FYP1 |
| **3. PROBLEMS ENCOUNTERED** |
| No |
| **4. SELF EVALUATION OF THE PROGRESS** |
| On track |

*SuLee*

Supervisor's signature

*Jason.*

Student's signature

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Faculty of Information and Communication Technology, UTAR (Kampar Campus)
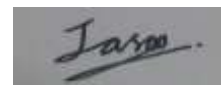
# FINAL YEAR PROJECT WEEKLY REPORT

*(Project I / Project II)*

| Trimester, Year: Year 3 Semester 3 | Study week no.: 7 |
|---|---|
| Student Name & ID: Lee Zi Hong 18ACB04579 | |
| Supervisor: Mr. Su Lee Seng | |
| Project Title: DEVELOP A MOBILE APPLICATION TO HELP UTAR STUDENTS TO FIND BETTER ASSIGNMENT TEAMMATES | |

**1. WORK DONE**

[Please write the details of the work done in the last fortnight.]

Add my request and team request interface and function

**2. WORK TO BE DONE**

Implement the finder functions that is yet to be implement during FYP1

**3. PROBLEMS ENCOUNTERED**

No

**4. SELF EVALUATION OF THE PROGRESS**

On track

*SuLee*

Supervisor's signature

*Jason.*

Student's signature

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Faculty of Information and Communication Technology, UTAR (Kampar Campus)
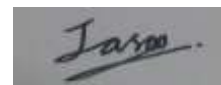
# FINAL YEAR PROJECT WEEKLY REPORT

*(Project I / Project II)*

| | |
|---|---|
| **Trimester, Year:** Year 3 Semester 3 | **Study week no.:** 8 |
| **Student Name & ID:** Lee Zi Hong 18ACB04579 | |
| **Supervisor:** Mr. Su Lee Seng | |
| **Project Title:** DEVELOP A MOBILE APPLICATION TO HELP UTAR STUDENTS TO FIND BETTER ASSIGNMENT TEAMMATES | |

**1. WORK DONE**

[Please write the details of the work done in the last fortnight.]

Add academic performance interface and function and implement different database for finder functions

**2. WORK TO BE DONE**

Show system to supervisor and make changes based on comments

**3. PROBLEMS ENCOUNTERED**
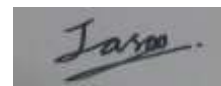
No

**4. SELF EVALUATION OF THE PROGRESS**

On track

SuLee

Supervisor's signature

Student's signature

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Faculty of Information and Communication Technology, UTAR (Kampar Campus)

# FINAL YEAR PROJECT WEEKLY REPORT

*(Project I / Project II)*

| | |
|---|---|
| **Trimester, Year:** Year 3 Semester 3 | **Study week no.: 9** |
| **Student Name & ID:** Lee Zi Hong 18ACB04579 | |
| **Supervisor:** Mr. Su Lee Seng | |
| **Project Title:** DEVELOP A MOBILE APPLICATION TO HELP UTAR STUDENTS TO FIND BETTER ASSIGNMENT TEAMMATES | |

**1. WORK DONE**

[Please write the details of the work done in the last fortnight.]

Showed system to supervisor and make changes based on comments

**2. WORK TO BE DONE**

Writing FYP2 report

**3. PROBLEMS ENCOUNTERED**

No

**4. SELF EVALUATION OF THE PROGRESS**

On track

_SuLee_

Supervisor's signature

_Jason._

Student's signature

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# FINAL YEAR PROJECT WEEKLY REPORT

*(Project I / Project II)*

| | |
|---|---|
| **Trimester, Year:** Year 3 Semester 3 | **Study week no.:** 10 |
| **Student Name & ID:** Lee Zi Hong 18ACB04579 | |
| **Supervisor:** Mr. Su Lee Seng | |
| **Project Title:** DEVELOP A MOBILE APPLICATION TO HELP UTAR STUDENTS TO FIND BETTER ASSIGNMENT TEAMMATES | |

| |
|---|
| **1. WORK DONE** <br><br> [Please write the details of the work done in the last fortnight.] <br><br> Mobile Application features and functions |
| **2. WORK TO BE DONE** <br><br> Writing FYP2 report |
| **3. PROBLEMS ENCOUNTERED** <br><br> No |
| **4. SELF EVALUATION OF THE PROGRESS** <br><br> On track |

*SuLee*

Supervisor's signature

*Jason*

Student's signature

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Faculty of Information and Communication Technology, UTAR (Kampar Campus)

# FINAL YEAR PROJECT WEEKLY REPORT

*(Project I / Project II)*

| | |
|---|---|
| **Trimester, Year:** Year 3 Semester 3 | **Study week no.:** 11 |
| **Student Name & ID:** Lee Zi Hong 18ACB04579 ||
| **Supervisor:** Mr. Su Lee Seng ||
| **Project Title:** DEVELOP A MOBILE APPLICATION TO HELP UTAR STUDENTS TO FIND BETTER ASSIGNMENT TEAMMATES ||

**1. WORK DONE**

[Please write the details of the work done in the last fortnight.]

FYP2 report

**2. WORK TO BE DONE**

Send FYP2 report and make changes based on Supervisor's comments

**3. PROBLEMS ENCOUNTERED**

No

**4. SELF EVALUATION OF THE PROGRESS**

On track

SuLee

Supervisor's signature

Jason.

Student's signature

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# FINAL YEAR PROJECT WEEKLY REPORT

*(Project I / Project II)*

| | |
|---|---|
| **Trimester, Year:** Year 3 Semester 3 | **Study week no.:** 12 |
| **Student Name & ID:** Lee Zi Hong 18ACB04579 | |
| **Supervisor:** Mr. Su Lee Seng | |
| **Project Title:** DEVELOP A MOBILE APPLICATION TO HELP UTAR STUDENTS TO FIND BETTER ASSIGNMENT TEAMMATES | |

| |
|---|
| **1. WORK DONE** <br><br> [Please write the details of the work done in the last fortnight.] <br><br> Make changes on FYP2 report based on suggestion by supervisor |
| **2. WORK TO BE DONE** <br><br> Submit FYP2 report and prepare for presentation |
| **3. PROBLEMS ENCOUNTERED** <br><br> No |
| **4. SELF EVALUATION OF THE PROGRESS** <br><br> On track |

SuLee

Supervisor's signature

Jason.

Student's signature

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## POSTER

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# PLAGIARISM CHECK RESULT

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PLAGIARISM CHECK RESULT

| Universiti Tunku Abdul Rahman | | | | |
|---|---|---|---|---|
| **Form Title : Supervisor's Comments on Originality Report Generated by Turnitin for Submission of Final Year Project Report (for Undergraduate Programmes)** | | | | |
| Form Number: FM-IAD-005 | Rev No.: 0 | Effective Date: 01/10/2013 | | Page No.: 1of 1 |

**FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY**

| Full Name(s) of Candidate(s) | Lee Zi Hong |
|---|---|
| ID Number(s) | 18ACB04579 |
| Programme / Course | Bachelor of Information Systems (Honours) Business Information System-(IB) |
| Title of Final Year Project | Develop A Mobile Application to Help UTAR Students to Find Better Assignment Teammates |

| **Similarity** | **Supervisor's Comments** **(Compulsory if parameters of originality exceeds the limits approved by UTAR)** |
|---|---|
| **Overall similarity index: 4%** **Similarity by source** Internet Sources: 3% Publications: 0 % Student Papers: 3% | |
| **Number of individual sources listed** of more than 3% similarity: 0 | |
| **Parameters of originality required and limits approved by UTAR are as Follows:** (i) **Overall similarity index is 20% and below, and** (ii) **Matching of individual sources listed must be less than 3% each, and** (iii) **Matching texts in continuous block must not exceed 8 words** *Note: Parameters (i) – (ii) shall exclude quotes, bibliography and text matches which are less than 8 words.* | |

Note Supervisor/Candidate(s) is/are required to provide softcopy of full set of the originality report to Faculty/Institute

*Based on the above results, I hereby declare that I am satisfied with the originality of the Final Year Project Report submitted by my student(s) as named above.*

SuLee

Signature of Supervisor                                   Signature of Co-Supervisor

Name: Su Lee Seng                                         Name: _____

Date: 20 April 2022                                       Date: _____

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Faculty of Information and Communication Technology, UTAR (Kampar Campus)

# FYP2 CHECKLIST



## UNIVERSITI TUNKU ABDUL RAHMAN

### FACULTY OF INFORMATION & COMMUNICATION TECHNOLOGY (KAMPAR CAMPUS)

**CHECKLIST FOR FYP2 THESIS SUBMISSION**

| Student Id | 18ACB04579 |
|---|---|
| Student Name | Lee Zi Hong |
| Supervisor Name | Mr. Su Lee Seng |

| TICK (√) | DOCUMENT ITEMS<br>Your report must include all the items below. Put a tick on the left column after you have checked your report with respect to the corresponding item. |
|---|---|
|  | Front Plastic Cover (for hardcopy) |
| √ | Title Page |
| √ | Signed Report Status Declaration Form |
| √ | Signed FYP Thesis Submission Form |
| √ | Signed form of the Declaration of Originality |
| √ | Acknowledgement |
| √ | Abstract |
| √ | Table of Contents |
| √ | List of Figures (if applicable) |
| √ | List of Tables (if applicable) |
| √ | List of Symbols (if applicable) |
| √ | List of Abbreviations (if applicable) |
| √ | Chapters / Content |
| √ | Bibliography (or References) |
| √ | All references in bibliography are cited in the thesis, especially in the chapter of literature review |
| √ | Appendices (if applicable) |
| √ | Weekly Log |
| √ | Poster |
| √ | Signed Turnitin Report (Plagiarism Check Result - Form Number: FM-IAD-005) |
| √ | I agree 5 marks will be deducted due to incorrect format, declare wrongly the ticked of these items, and/or any dispute happening for these items in this report. |

*Include this form (checklist) in the thesis (Bind together as the last page)

I, the author, have checked and confirmed all the items listed in the table are included in my report.



(Signature of Student)
Date: 20 April 2022

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