

MOBILE APPLICATION ON CAMPUS NEWS FOR UTP STUDENTS

by

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CERTIFICATION OF APPROVAL

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A project dissertation submitted to the
Information & Communication Technology Programme
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Approved by,

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CERTIFICATION OF ORIGINALITY

This is to certify that I am responsible for the work submitted in this project, that the original work is my own except as specified in the references and acknowledgements, and that the original work contained herein have not been undertaken or done by unspecified sources or persons.

ANIS LIYANA BT ABDUL RAHMAN

ABSTRACT

It is undeniable that information is essential in daily life. Information is important especially in the current world where information technology changing the people and the world to be more knowledgeable. With the various branch of information, news is one of the daily routine that needed to be consumed by the consumer. News will give people information about current or recent happening to the world.

The current trends in technology have given people the alternative of reading news through newspaper. Nowadays, people are likely to read news on website and even on their smartphone. News reading remains the important activity of what people do on their smartphone. Hence with the emergence of smartphone and tablet devices, the average consumption of news keeps getting higher and higher. Besides, mobile applications allows people to get news anywhere and anytime plus most people get news on the smartphone at least once per day.

As university students, they tend to adapt fast with the technology thus, most of them would already own a smartphone. In fact, some of them will always be alert with any news and updates especially on campus issues and events. Nevertheless, there are still some students that are not aware of what are the current issues in the campus. Campus news application will provide information to students and help them to be more aware of campus issues and be part of campus community. It is an easy used app in any university and this application has been made accordingly with Universiti Teknologi PETRONAS (UTP).

Through on campus news application, UTP students can just wake up in the morning and browse through updated news regarding any UTP issues or campus events and even academic related matters. Through one touch tap to the application, they will get all of the information, by just opening the UTP news application without having to open several web pages.

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CHAPTER 1

INTRODUCTION

1.1 Background of Study

News is one of specific branch of information that provides knowledge on recent happening. People usually buy newspapers to read the news about incidents, events, issues, economy, sports and so on. However, with the technological changes and emergence of smartphone, people nowadays have shown a great interest in the trend of having a smartphone. This smartphone will allow people to do multiple tasks just by using mobile applications.

Mobile applications or commonly known as apps have transformed the phone to a multi-tasking device. People nowadays spend most of their time with smartphone and less on computer as they are able to enjoy a variety of applications. Reading news through apps has become a trend whereby in each smartphone they opt to have at least one app to keep them updated with the current issues and technology.

Students are much likely to adapt fast with the current technology thus, through the uses of smartphone, it will increase their awareness about campus news. On campus news are essential for students as this information will keep them updated with any issues related with their academic or non-academic matters that are happening in the campus. An implementation of mobile campus news has been done in some of the universities in Malaysia hence, in this project development, University Teknologi PETRONAS (UTP) has been chosen.

The current campus news for UTP students are much more to individual approach and specifically managed by admin and lecturers for each sources of information. Hence, a mobile application is being developed that combine all of these sources of information for a more convenience approach has been proposed. It is basically developed for UTP students and UTP lecturers and the admin will be involved in managing this application.

1.2 Problem Statement

- **No centralized sources of news information for UTP students**

As the technology develops, so does the information whereby there is a lot of information from different sources. In regards of UTP news, there is no specific or centralized news sources that the students could get the latest news about the ongoing campus issues. Each of the news is having their individual sources or web pages. The students need to go to several web pages to get a quick update.

For example, if the students need a quick update or news regarding academic matters, they need to login to the e-learning to check on whether the lecturer have upload the assignment or update on classes and location. In some circumstances, students sometimes faced difficulties in trying to login in to e-learning thus, they have to wait until they are able to get access to it. This somehow made the lecturers use social media just to have quick update and connect with students. Besides, if the students want to know about current campus events and issues, they have to go to UTP website. However, there are certain events or issues that are not updated directly on the website such as small events. Hence, most of events and issues are accessible through Students Representative Council (SRC) Facebook page. In fact, there is some situation needs to be taken into consideration that some of the students do not have Facebook account.

As the students need to browse through several web pages to get the information, it is time consuming to open many web pages at the same time can sometime causes lagging when browsing this information. In some cases, students will just ignore about campus issues and events and only get to know the news from their friends or browse the web pages once per weekly.

1.3 Objective

This project is aimed at:

- Developing a mobile application that provides centralized information of UTP news for UTP students.

This mobile application will consists of combination all of the different sources of information into one application. Mobile application is chosen as a platform for development in order to reach out to the students. It is one of the current technologies that are easy and quick to be accessed by the students. Besides, the application should be able to provide information to the students about the latest news and ongoing campus issues and events.

1.4 Scope of Study

There are many sources of information and web pages related to news for the students. The project is developing android mobile application to consolidate these sources of information into a single app that contains all of the information. There are 4 major sources in which the news could be categorized such as academic, residential college, co-curriculum and events.

CHAPTER 2

LITERATURE REVIEW

2.1 Overview

Information is very essential especially in the age of globalization. Information provided the knowledge that keeps the people informed and needed for making decision and taking action. Rafiq and Ameen (2009) have quoted (Bruce, 2005) that information has certainly a major role in daily life for professional and personal lives. The information is important as people live in a world where they are constantly challenged to use it for work, fun and everyday decisions and tasks. These days, people are often equipped themselves with information, as a source of empowerment especially students of new generation, as they are exposed to the technology.

According to Naismith, Lonsdale, Vavoula, and Sharples (2006) the world is going mobile as the current technology trend nowadays keeps changing and evolving. The word ‘mobile’, it generally means as portable and personal for instance, the smartphone. Smartphones are simply irresistible devices that fit in the pockets and can connect to a variety of information sources and enable communication almost everywhere and anytime. Harrison, Flood, and Duce (2013) mentioned in one of their research for usability, the advance in mobile technology, has created an opportunity for the developer to develop variety of applications that can be customized according to people needs and can be used anywhere and anytime.

Mobile application according to Budiu (2013) can be classified into three types which are native apps, mobile web apps and hybrid apps. Native apps are available to be downloaded on the smartphone and can be accessed through icons on the smartphone home screen. These apps are installed through an application store or known as Google Play (previously called as Android Market). Meanwhile, web apps are not real apps in which it is a website that have the look and feel like native applications. They are run by a browser and normally written in HTML5. For hybrid apps, there are apparently part native apps and web apps. Similar with native apps, they exist in app store and can take advantage of the many device features available. Besides, they are

also much alike with web apps which rely on HTML being rendered in a browser that is embedded within the app.

Some informative facts that a research in the U.S (Rosenstiel and Mitchell, 2012) has shown almost half of all U.S. adults now have a mobile connection to the internet with 44% of them owned a smartphone. This has significantly great impact on mobile application for news with 62% of the smartphone owners reading the news through their smartphones. For most people, mobile technology is a way to get breaking news. Besides, research by Rosenstiel and Mitchell (2012) has shown that the amount of time spent on the smartphone for getting news is also getting extensive. Mobile news consumers spend an average of 50 minutes or more getting news on their smartphone on a typical day.

Hanover Research (2012) found that most of the existing mobile applications in university are related with simple mobile web and native applications that connect the students to account portals and shows upcoming events and news, building directories, campus maps, videos and photos. Ye, Woods, and Curran (2009) have discovered and created mobile application for students aimed at providing university information about services on campus. It provided timetable modules that allowed the students to retrieve real-time versions of their timetable, careers advice, campus map and email account for the students to read the news. The window based application is focused for new students but the current students also can receive important information and look for campus map.

2.2 Students and news consumption

These days, students have the chance to grab the knowledge through a more interactive choice without having to read the newspaper or wait to log on to their computer to get the news. For most students, all of they need to do is reach through their pocket and grab their smartphone. The convenience and easy access of information from the smartphone helps the students to read, listen and watch videos on all kind of news. In fact, a recent study by the University of Colorado Boulder (Column Five Media, 2012) on smartphone user found that 24 percent of students often consumed news articles and content from multiple sites.

It is undeniable that reading news is very important. According to Pratheek (2004), students have been exposed to read since they are at young age, hence reading news will enhance and broaden their knowledge as well as keeping up-to-date with recent developments in various fields. Reading news is an important tool of the learning process for students. Nowadays, most of students would prefer to read the news on website or even mobile application. Most of the news site would provide information in various kind of field. When they consume various kind of information, they are indirectly creating their own highly personalized news (Sonderman, 2012). Some of them would read all of the news while some of them would only read certain news. Through reading the news, they will be more aware of their surroundings and what happen to their campus. Students nowadays would read and share the news to their social media and indirectly, information will be spread hence, all of them will be involved as well as being part of the campus community.

2.3 On campus news mobile application

There are few research has been done in accordance with developing mobile application for on campus news consumption. A study by Ye, Woods, and Curran (2009) in University of Ulster in UK has found that students do possess smartphone and take the opportunity to develop a mobile application that provided the students with easy access to campus information and helps the staffs to deliver important university information. Hence, with the development of the mobile application, it has provided guidance for the students on campus information and makes their lives easier.

2.3 Web browser and mobile apps

Some of the research has been conducted to see whether people will download the news apps on smartphone or whether they access that content through a browser. The web-based survey by Rosenstiel and Mitchell (2012) of 300 smartphone news users revealed an even split in how people just checked headlines: 31% who had used their smartphone to check headlines in the last week said they mainly used apps, 39% mainly a browser, and 30% used both equally. However, Column Five Media (2012) found that people spend far more time in apps whereby they spend more time per day on apps than they do on the web with both desktop and mobile combined.

2.5 Importance of Android App

Constine (2013) has mentioned that android is open and easy to be customizable compared to iOS which is closed and designed for eased. The concepts of both OS are different with Android users being able to customize according to their preferences. He also mentions that Android operating system allows cross-app functionality and data sharing, which allows the users to share data without boundaries between apps. Sharing one device in iOS is a troublesome as it can only share with iOS devices compared to Android.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Project Methodology

This mobile application is using software development life cycle as a guideline to develop the application more systematically. The methodology used in developing this mobile application of news is using Rapid Application Development Model. The lifecycle (Bhardwaj, 2013) requires less planning and focus more on the rapid prototyping and constructing the application.

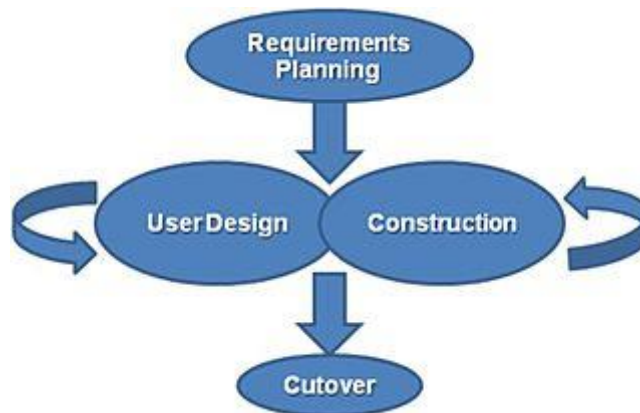


Figure 3.1: Rapid Application Development

Rapid Application Development (RAD) has been chosen as it integrates and uses the software development process. This methodology is chosen as it is suitable for developing the application in a short period of time. It consists of the planning and requirements phase, user design phase, construction phase and cutover phase.

In planning and requirement phase, RAD combines both planning and analysis phases of the Systems Development Life Cycle (SDLC). In the first phase, requirements for the application such as the functionality and the needs of the apps will be developed and collected through different techniques such as questionnaires and interviews.

Next, after gathering the requirements, a quick and simple design of the prototype will be build pertaining to the requirements. The prototype can be simply created using Photoshop or even an online mark-up design of mobile apps. The requirements for the apps can be categorized into functional and non-functional (Bhuskin, 2013) as follows.

- **Functional requirements** (describe what the system should do)

The application will be able to display the news into four categories which are academic, events, co-curriculum and residential college. In the academic section, students can filter the news by programs to ease them to search for relevant news. As for the other categories, it will be implemented accordingly just like other news applications.

Meanwhile there is an admin (Student Representative Council members) will be in charge of the news since they are the students and have good relationship with UTP staffs. As for academic related news, the lecturer will be able to post directly the updates.

- **Non-functional requirements** (describe how the system should do)

- **Usability**

The application should be simple and easy to be used. This will make the application more efficient to use as it takes less time to open the application and get the latest news within the timeline. The application should also be neat and user friendly as the apps will be used by all of the students from novice until expert users thus, the apps can easily be learned and can be used by first time users. As for the website, it also needs to be simple yet the main function which is posting and retrieving the news will not be neglected.

As the prototype is built, the developer will then get some feedbacks from the user about the application. The user will get the overview of the function of the apps and will give their thought about the apps. This feedback will be could be used to improvise the apps in the next phase to refining the prototype. As all of the feedbacks have been gathered and the apps will be coded using Eclipse and Android SDK to program and code the apps and the apps will be tested using suitable testing techniques through the smartphone installation of Android apk format of app and some of detected bugs need to be fixes to maintain the quality of the apps.

Besides, for the website, it is developed using notepad ++ and bootstrap component coding as it is one of the simple yet powerful open source code for website development.

3.2 Project Activities

By using this rapid application development, the entire process of the project development is compressed. Hence, the mobile application should be able to be built and cater to the user need in a much shorter period of 8 months. The figure below basically shows the project activities that are involved during the process of developing the mobile application. It represent the activities that are required during final year project one and final year project two.

In final year one activities, it involves activities from planning and analysis until the design (interface of application) or project prototype. Meanwhile in final year project two activities mainly involved the development which is coding of the website and apps, integration (testing of functionality), implementation in which the installation on Android apk (app format) into mobile devices, result and discussion from users testing based on final prototype and lastly is the recommendation for future enhancements.

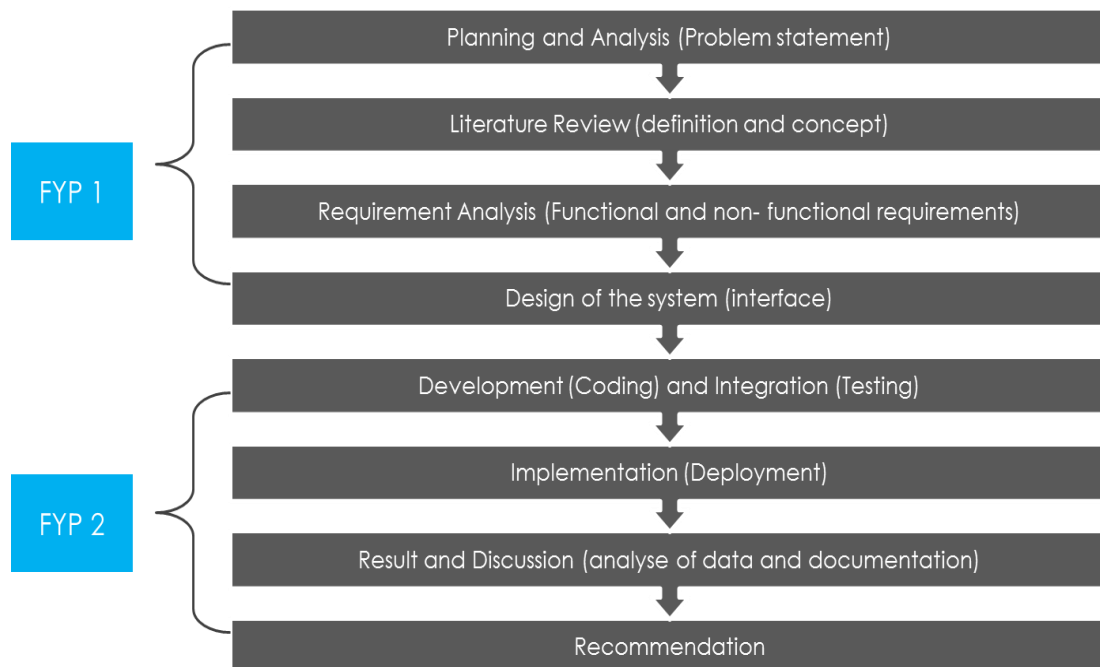


Figure 3.2: Project Activities

3.3 System Architecture

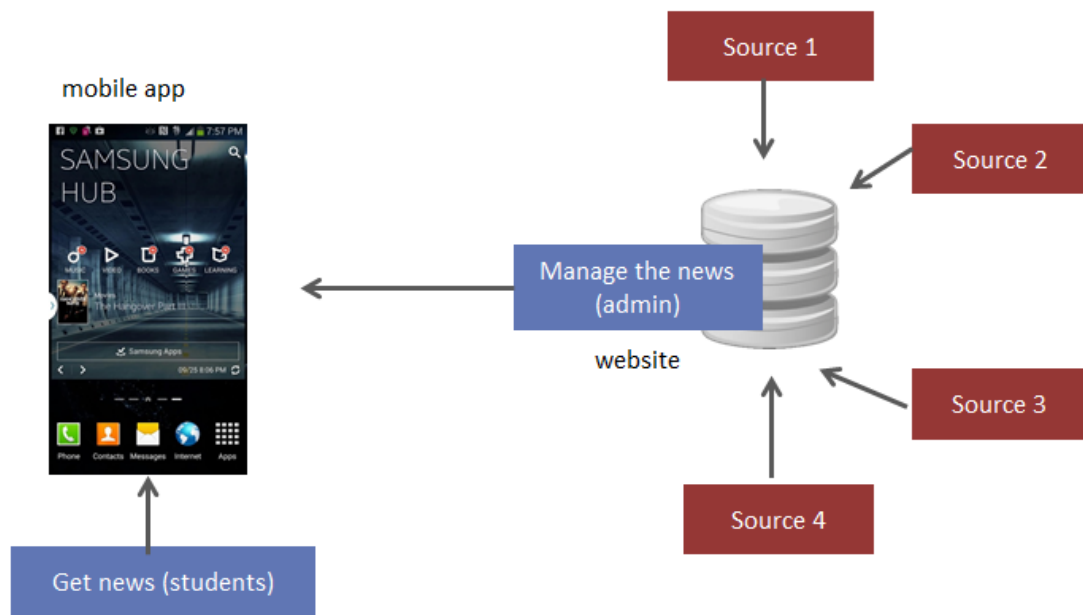


Figure 3.3: System Architecture

This application will be using software design architecture pattern of model-view-controller. View in this app context will be the interface that connects the students with the application. While for model will be the database that will store the information that has been managed by the admin and lecturers. As for the controller, admin will be the one that managed this application.

The system architecture of this mobile application will be developed using tools for Android based smartphone. The Android base application will be used by the user (student) while for the admin and the lecturer will be using website for easier administration and managing the information. This application will be categorized into 4 news categories which are the academic, event, co-curriculum and residential college.

The admin will basically manage and post any related news from difference sources and saved to the database, as the created is news posted. The news will be stored in the database of the website using phpMyAdmin. Meanwhile, the lecturers will managed more on academic section.

3.4 System Diagrams

3.4.1 Activity Diagram

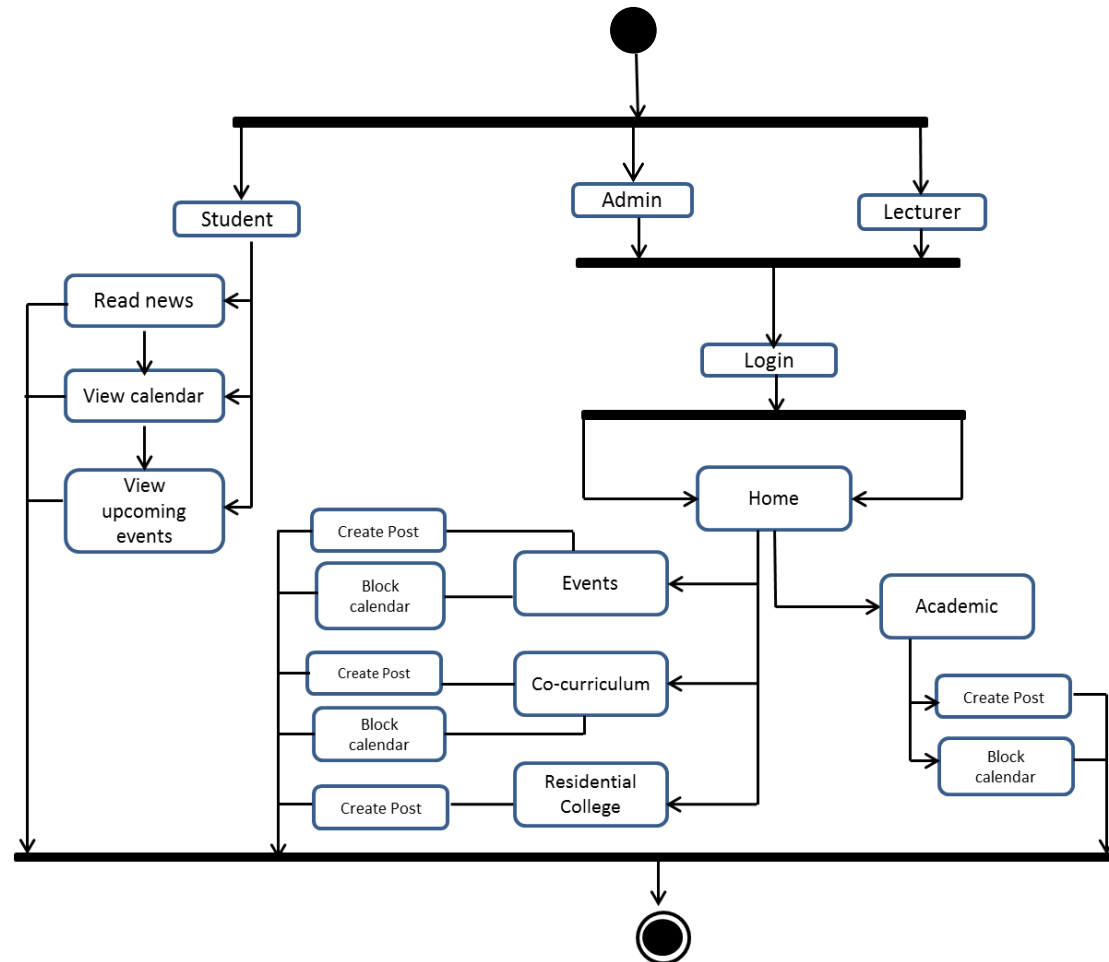


Figure 3.4: Activity Diagram

The activity diagram shows the overall system of the UTP News where it included the mobile application and website. For the students using mobile app, they will be able to read news, view calendar and view upcoming events. For admin and lecturers, they need to login to the system first and will be directed to home page where all of news posted activities can be view. Technically, lecturers will post in the academic section where they can create post and block calendar for academic purposes. As for admin, they will be able to manage events, co-curriculum and residential college.

3.4.2 Class Diagram

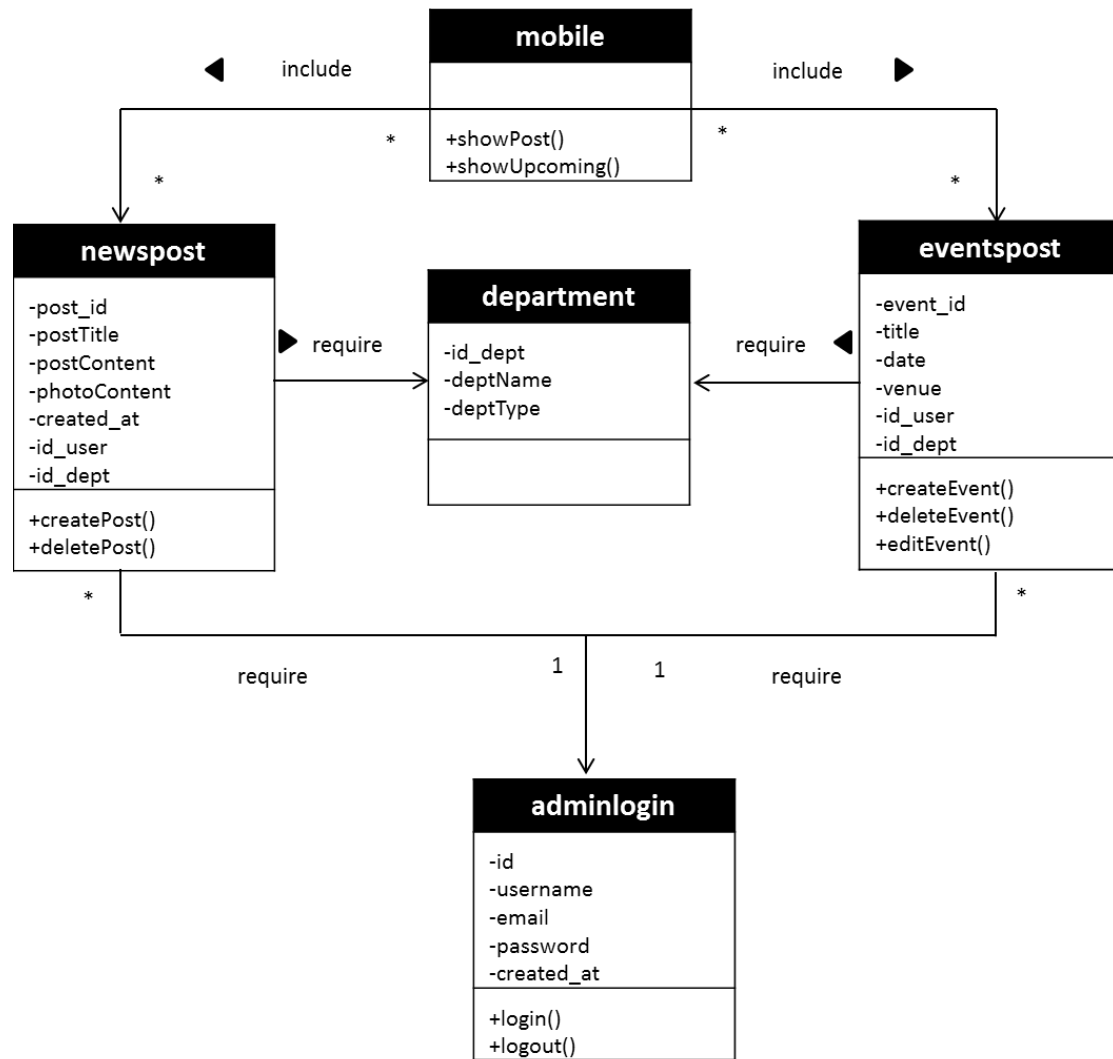


Figure 3.5: Class Diagram

3.5 Tools for Development

3.5.1 Software

- **Android Operating System**



Android is chosen as the platform to build the apps because the programming codes are open source in which there are easily available and accessible on the internet. This project is using Android version 4.1 (Jellybean) as it will provide more interactive functions to be included.

- **Android software development kit (SDK) and integrated development environment (IDE)**



Android software development kit is necessary tools and android programming code used for developers to develop Android based applications and IDE is used to integrate this coding which consists of a source code editor, build automation tools and a debugger. This project is using Eclipse IDE.

- **Notepad++, Xampp and PHPmyAdmin**



These tools will help to develop website for admin to manage the application. Notepad with html, css and even javascript code written could be execute as the .html or .php web pages while xampp will be used as server to connect to local host and PHPMyAdmin will be used as the database to store all of the information.

3.5.2 Hardware

- **Smartphone (any smartphone that supports Android platform)**

Smartphone Samsung Galaxy Y Neo is used to develop and test the project as the smartphone able to support the requirement of the project, Android 4.1 (Jellybean) platform.

- **Laptop**

Laptop is the main tools needed to develop the project design, code, testing and documentation.

3.6 System Development

The web pages are mainly coded with html, javascript, css and php languages. There are login page, home page, create academic news, view academic news, create events news, create co-curriculum news and create residential college news pages. There are some modifications added to the existing initial interface as per figure below.

UTP NEWS

Administrator Log in

Username

Password

Login

[Need an account?](#) [Sign up](#)

© UTPNEWS 2014

Figure 3.6: Admin login page

```
82 <center>ch2> UTP NEWS </h2></center>
83 </div>
84 </div>
85 </div>
86
87 <!-- Login Form -->
88 <div class="container-fluid">
89 <div class="row-fluid">
90 <div class="col-sm-6" style="display:none;">
91 <div class="accounts-form" id="signin">
92 <h2>Create new admin account</h2>
93 <hr class="small">
94
95 <form id="signin" class="clearfix" autocomplete="off" method="post" action="register-00.php">
96
97 <div class="input">
98 <input type="text" maxlength="30" name="username" placeholder="Username" required>
99 </div>
100 <div class="input">
101 <input type="text" maxlength="75" name="email" placeholder="Email" required>
102 <div class="email_suggestion" style="display: none;"></div>
103 </div>
104 <div class="input">
105 <input type="password" name="password" placeholder="Password" required>
106 </div>
107
108 <div class="actions">
109 <input type="submit" class="btn btn-success" value="Create account">
110 </div>
111 <p class="note"><span class="label label-warning">Already have an account?</span> <a href="#">Log in</a></p>
112 </form>
113 </div>
114 </div>
115 <div class="signin" style="display:block;">
116 <div class="accounts-form">
```

Figure 3.7: Login page coding using notepad++

The admin and lecturer will be having the same login page with it directed to the sign in page. For first time users, admin and lecturer will have to click sign up button, besides “Need an account?” alert displayed. It will prompt for users to create s new account by fill in the username, email and password.

Initially, when the users successfully log in, admin will be directed to home page where all of the news that has been posted. Users will able to manage and control all of the UTP news information updates. All of the categories will be in the menu bar and admin can select to create news post. In create academic post, lecturer can create any news regarding academic and there will also be academic calendar up to date accordingly. Meanwhile in view academic news, admin can view the news and filter the news accordingly with the academic courses.

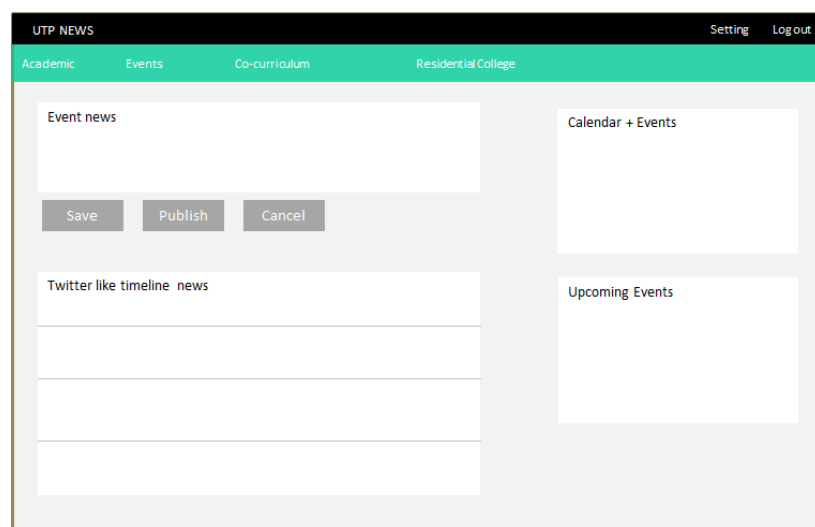


Figure 3.8: Admin events page

In the events and co-curriculum section, the layouts and the functions are most likely the same with each of them having form for updating and view their updated news and calendar of events and upcoming events. As for residential college section, there will be only forms for posting the updated news.

As for the students they will access the application through their smartphone which is using Android based operating system. The application is developed based on Android Jelly Bean version 4.1 and the coding and configuration will be done in Eclipse (Integrated Development Environment) and Android Development Kit (ADK) can be used in the phone. The interfaces have been compiled in the developer. The initial interface of the mobile application is shown below.

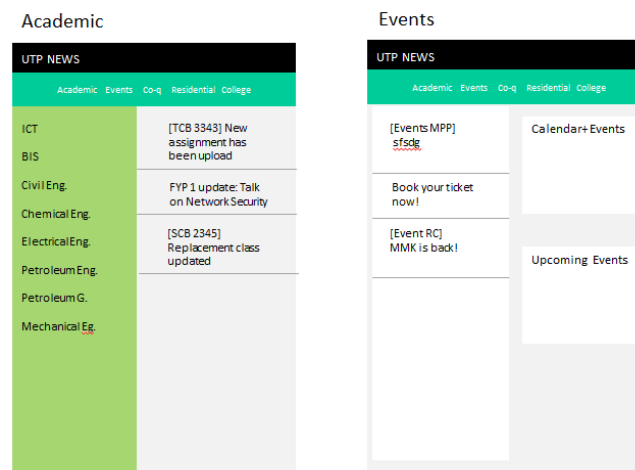


Figure 3.9: Initial mobile application interface for students

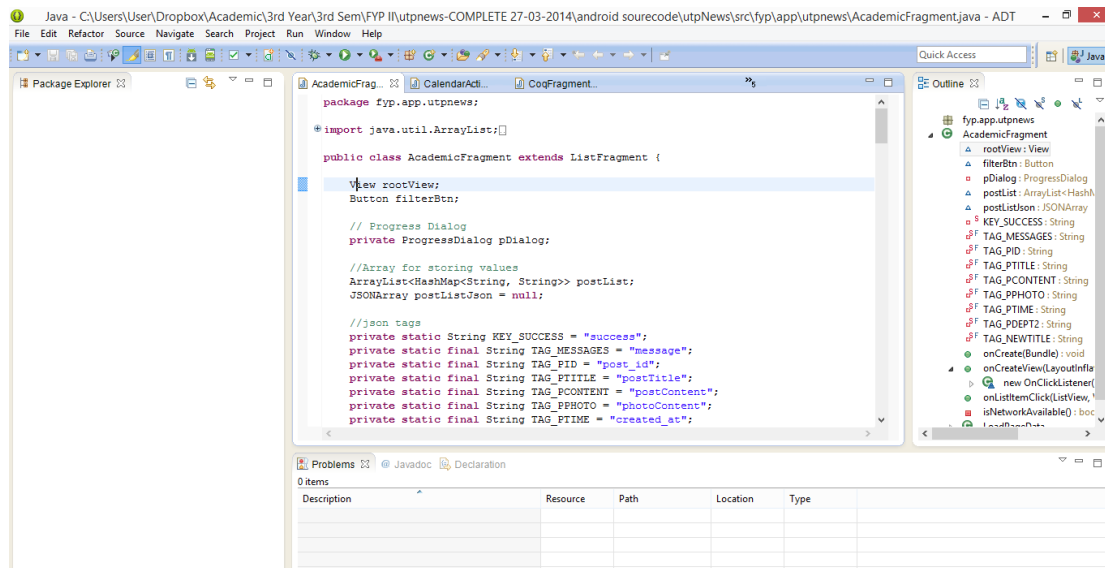


Figure 4.0: Coding of mobile app using Eclipse and Android SDK

Through the interface above, the design and function of the system are not much different as the purpose of it is to provide news for the students, the application is basically easy to be used with friendly user interface.

3.7 User Testing Plan

Upon the completion of the mobile application on campus news, the application will be given to the involved users to be tested. Below are the objectives and phases of the user testing.

Objectives of user testing:

- ✓ To check whether the system perform its function correctly
- ✓ To check whether the system meet the requirement of a news application
- ✓ To determine the user capability of using the application
- ✓ To provide platform for centralized sources of news in UTP

User testing phases:

- **Phase I** – Testing for admin.
- **Phase II** – Testing for lecturers.
- **Phase III** – Testing on students.

In phase I and II, testing for admin and lecturers are similar with both of them using the website as the platform to connect with students and would require computer or desktop in order to test the system. Meanwhile as for testing in phase III, it would require for the developer to provide a smartphone with the application installed for testing with the end users which are the students. The developer need to conduct some briefing before proceed with the user testing in order to give overview to the involved users regarding the mobile application on campus news for UTP students.

3.8 Gantt Chart & Key Milestone (FYP I and II)

Table 4.1: Gantt Chart and Key Milestone

Number of weeks	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Planning & Analysis: Feasibility Analysis Selection of Topic																												
Background Study: Literature review																												
Requirements Gathering: Develop System Proposal Extended Proposal																												
Design: Build prototype Interim Report																												
Development: Code the system Progress Report																												
Development: Integrate the system																												
Development: Testing system																												
Implementation: System installation Technical Paper																												
Documentation: Update documentation Project Dissertation, Presentation																												



Gantt Chart



Milestone

CHAPTER 4

RESULTS & DISCUSSION

4.1 Online Survey Result & Discussion

An online survey has been conducted to study about project research problem statement and research objective. The survey was designed using Google online survey documents in Google Drive. The survey form was distributed to the UTP students by using Gmail. There are 40 respondents from various years of study in UTP have completed and submitted the survey form online. The sample questionnaire is display at the appendix section.

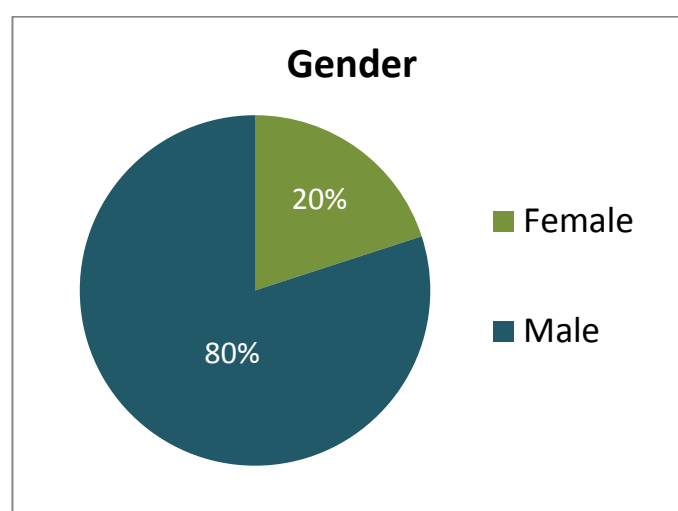
Question 1

Age *

- ☐ 18-21
- ☐ 22-29
- ☐ 30-45
- ☐ 45 and above

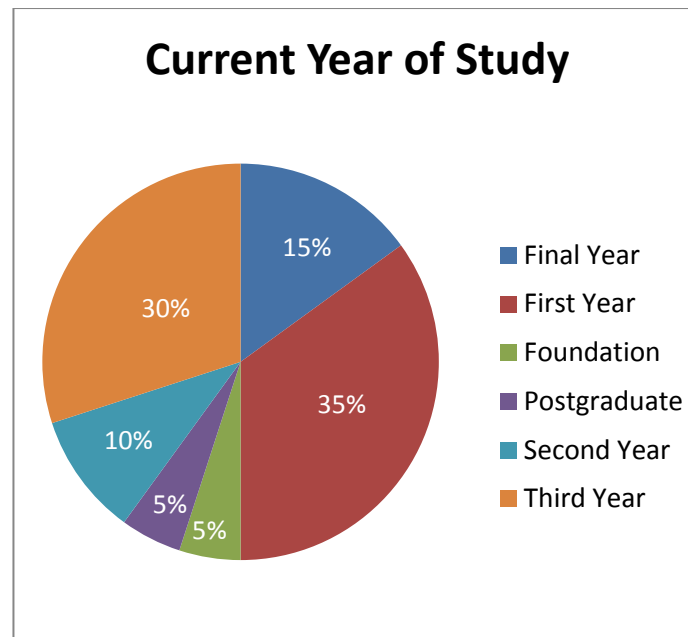
The online survey was done by the respondent from the age range from 18 years old to 45 years old.

Question 2



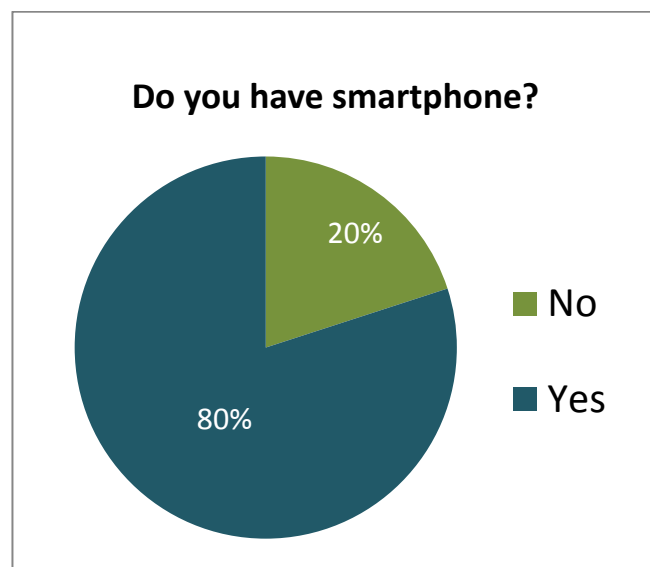
In the questionnaire results there were 32 males and 8 females respondent to the online survey.

Question 3



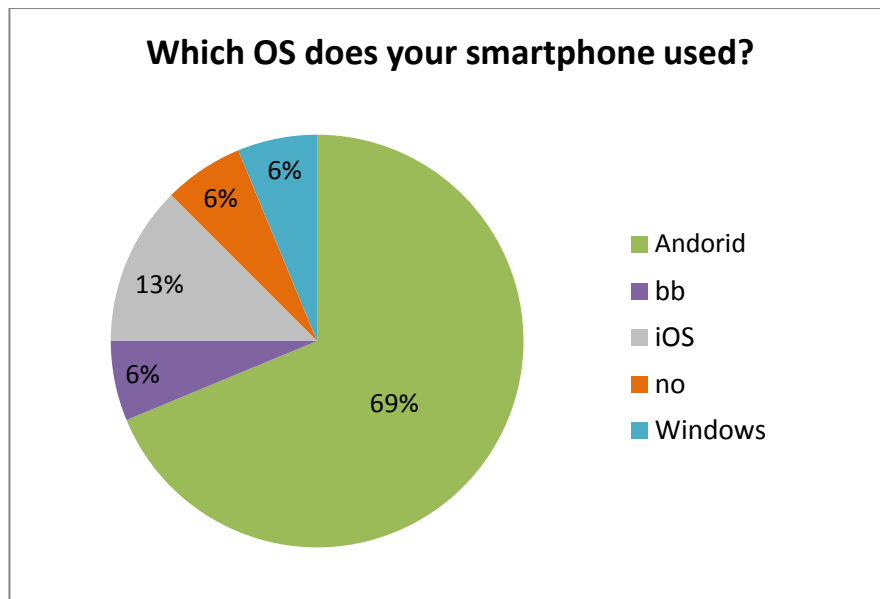
In question 3, most of the respondents are from first year of studies. The second highest respondents are from third year students, followed by final year, second year, foundation and postgraduate students.

Question 4



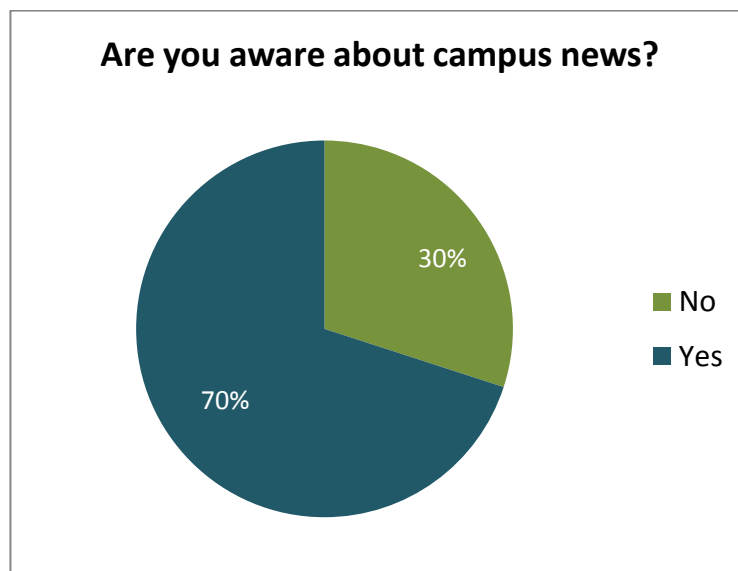
This questionnaire is basically to found out how many of UTP students owned a smartphone and the result shows that there were 32 students that own it while the other 8 students do not have one.

Question 5



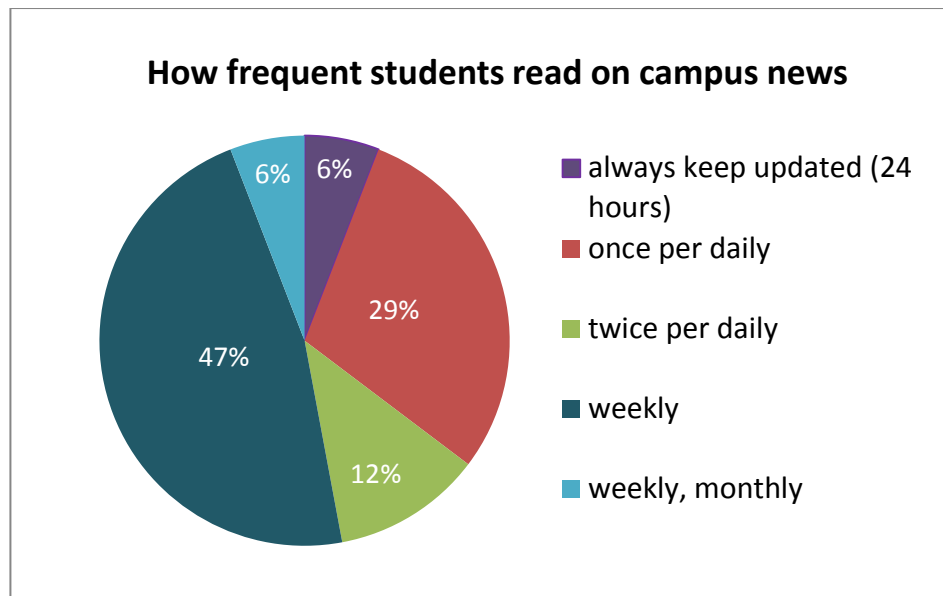
In the questionnaire results there were around 27 students that use Android as their smartphone Operating System. Other result such that other students using iOS, Blackberry (BB), Windows and there 6% of them do not own a smartphone.

Question 6



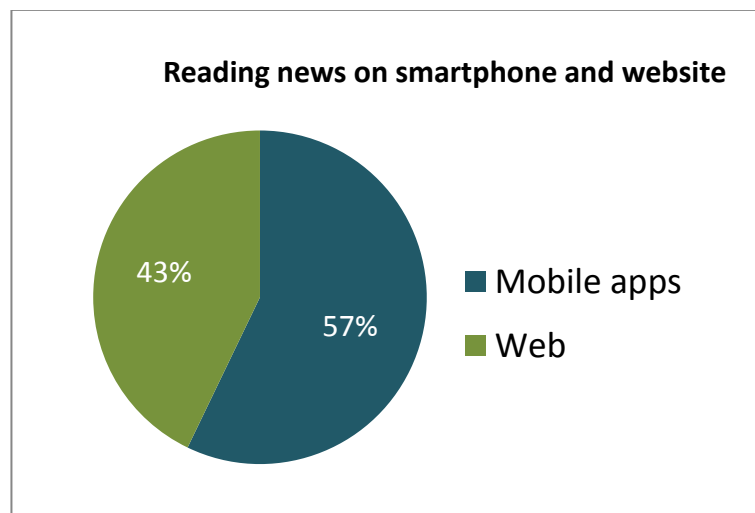
In question 6, this question is to check whether UTP students are aware of campus news and the results shows that most of them are aware of on campus issues and events with around 70% of them responding positively.

Question 7



This questionnaire is designed to find out how frequent does the student check news and the result indicate that most of the students will update or check on campus news at least once per weekly. While there are also 6% of students keep update with news 24 hours (constantly checking for updates).

Question 8



In this question, students were being asked whether they prefer to read news using website or mobile apps and the results show that most of the students with 57% of them prefer to read news in mobile application. This is relevant with the findings by Westlunds (2013) there is growing figures of mobile apps reader than web sites.

Question 9

This question is corresponding to the answer in question 8, students were being asked why they would prefer to read on either website or mobile apps. This question is optional and here is some of their opinion.

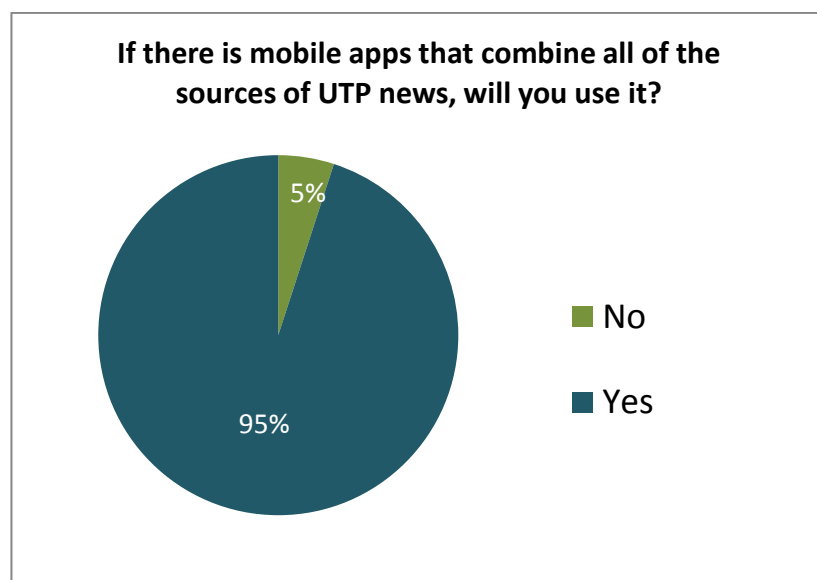
Student 1: “Can read anywhere anytime”

Student 2: “Easier updates and accessible through most gadgets nowadays”

Student 3: “Because it aggregates all the news I want to read into a single place.”

Student 4: “I'm using my phone more frequently than opening website”

Question 10



This question is design to found out whether the students will use if there is mobile application on campus news and the results illustrate that almost and majority of them will used it.

4.2 Final Prototype

The final prototype of UTP news for admin and lecturers will start with login page where admin or lecturers that do not have the account, they can click at the sign up button and they will have to enter their username, email and password. After that, they will be able to login using the account and will be directed to index-home page. In the home page, this is where the admin and lecturers can view all of the news that has been posted.

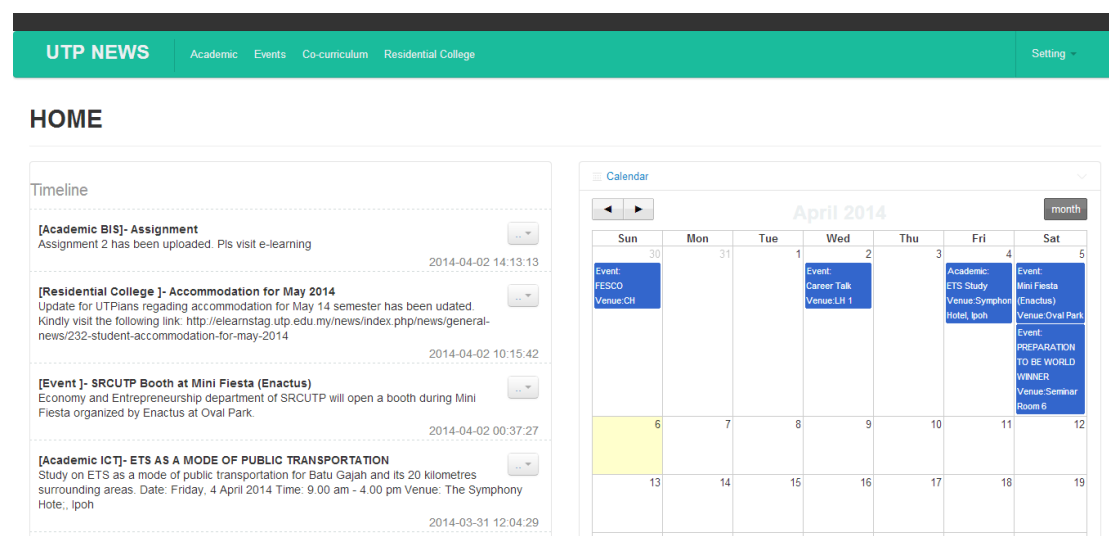


Figure 4.2: UTP News home page.

The admin and lecturer will create different news post based on the categories of academic, events, co-curriculum and residential college. Each of these categories is having different pages and if the lecturer wants to create post regarding academic, the lecturer can go to the academic section page. Besides create news post, lecturer can also blocked the calendar for certain assignment due date or test and students can view the calendar in the app. This can be done the same with events and co-curriculum and as for residential college, admin can only posted news. They just have to drag the new events (blue block) to the desired date and fill in the name and the venue of the event.

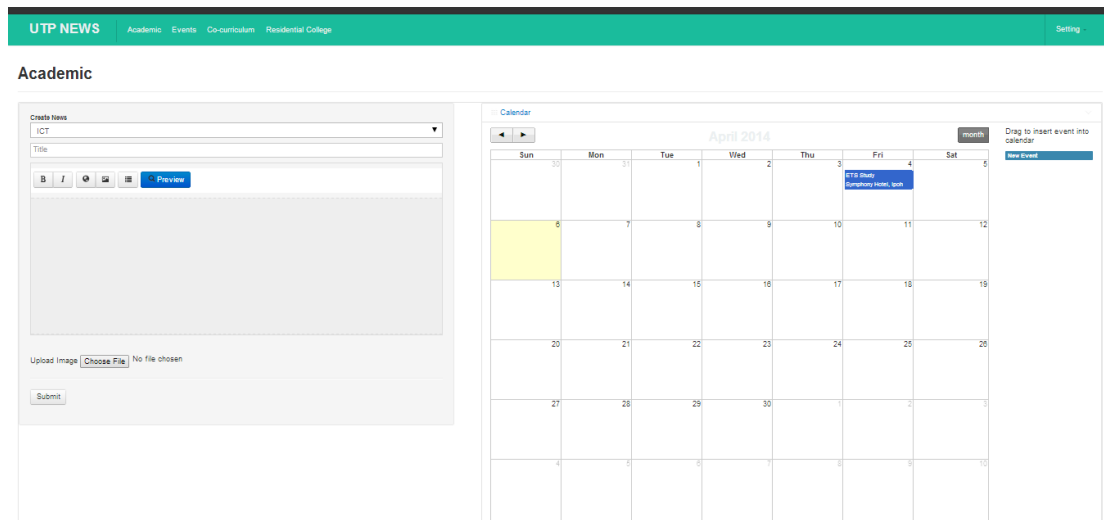


Figure 4.3: UTP News Academic page – create post

User testing has been conducted after the completion of the prototype and the result is analyzed at the result and discussion section. UTP lecturers and also representative from Student Representative Council has tested the website as the admin. A simple task has been given to see how they use the system.

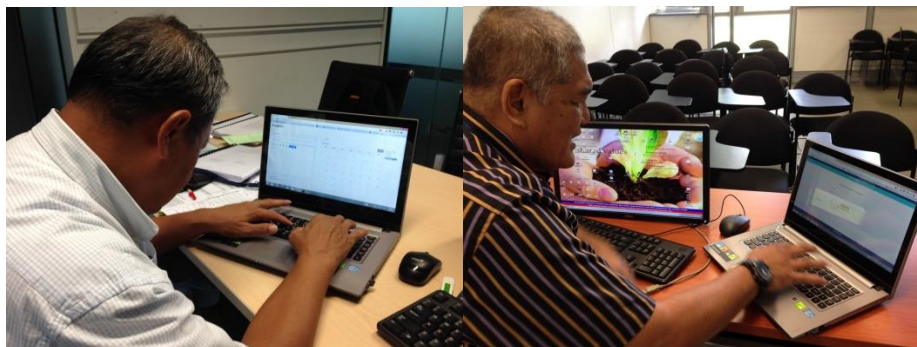


Figure 4.4: UTP lecturers are testing the website

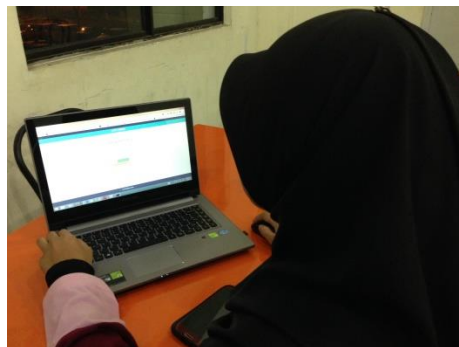


Figure 4.5: Representative from SRC

As for the students, they will browse through the mobile app which needs to deploy first before using it. For the moment, since this is just a prototype, students will have to manually install it and if it has been commercialize, it can be obtain at the Google Play market.

When the students have finished with installation, they will then click on the UTP News app and it will directly open the first tab of the app which is Academic. The app consists of four main tabs which are academic, events, co-curriculum and residential college and two alert buttons which are calendar and upcoming events. As for the academic, students can filter the news by programs which are ICT, BIS, Chemical Engineering, Civil Engineering, Mechanical Engineering, Electrical & Electronic Engineering, Petroleum Engineering and Petroleum Geoscience. The students can click on each of the news posted for further details.

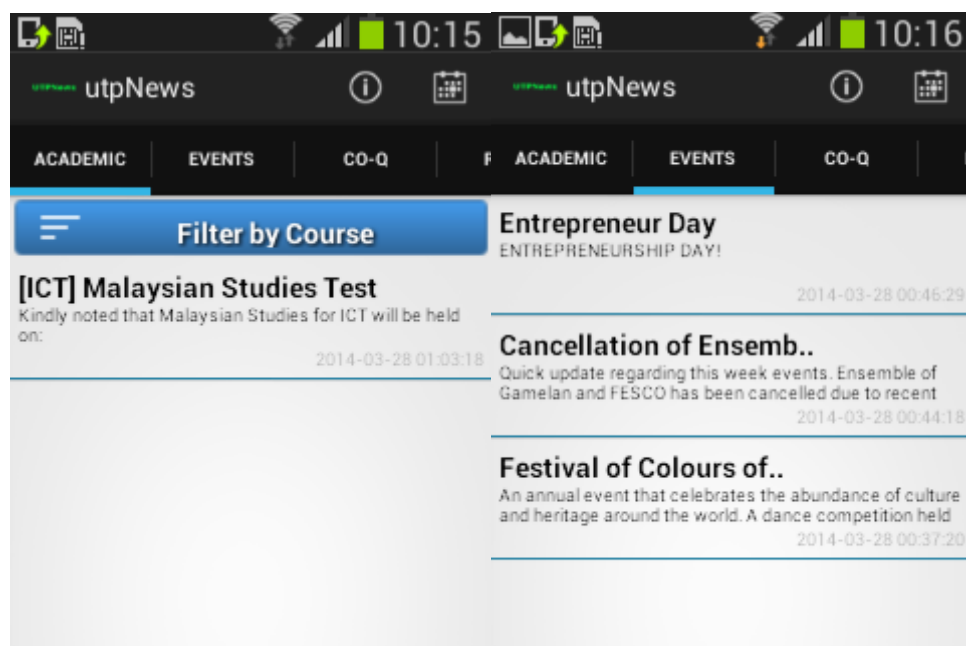


Figure 4.6: UTP News app academic and events tab

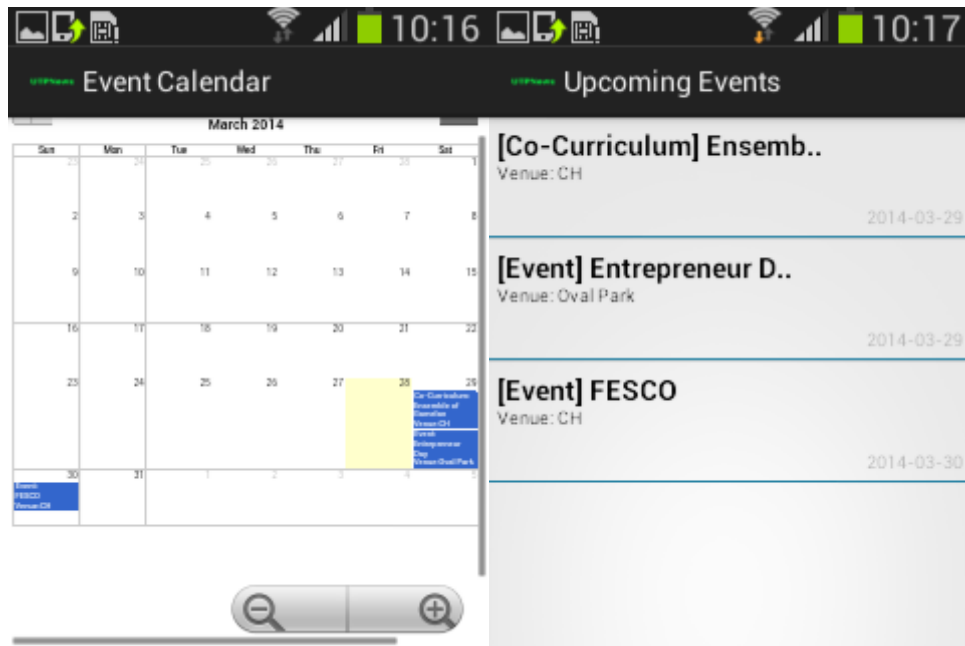


Figure 4.7: Calendar and Upcoming Event

A few simple user testing has been conducted among UTP students to receive their feedback regarding the application. Most of them review the app positively and a lot of ideas that were given during the sessions.



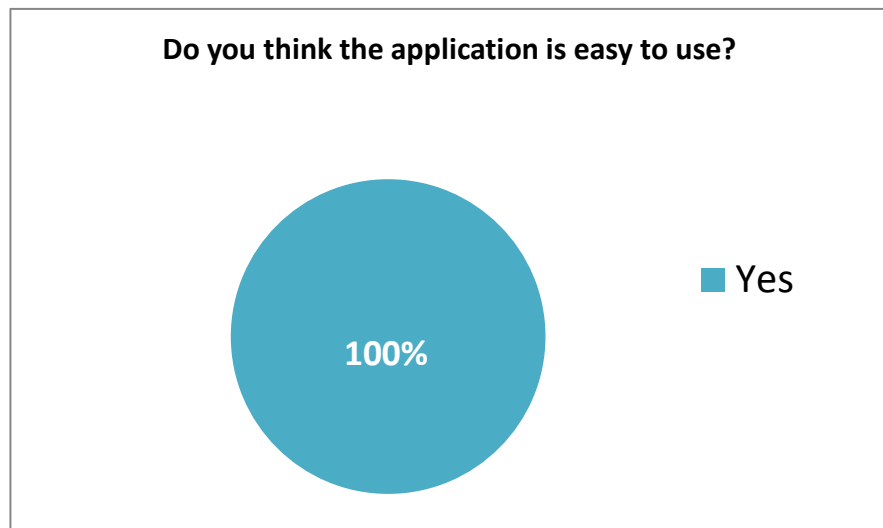
Figure 4.8: UTP students are testing the app

4.3 User Testing Result & Discussion

User testing has been conducted after completion of the project. The questionnaire was designed to receive feedback from user (students, lecturers and admin) after using the application and website. The testing was conducted between 35 students for application and 15 for lecturers and admin using website. The questionnaire form is included at the appendix section.

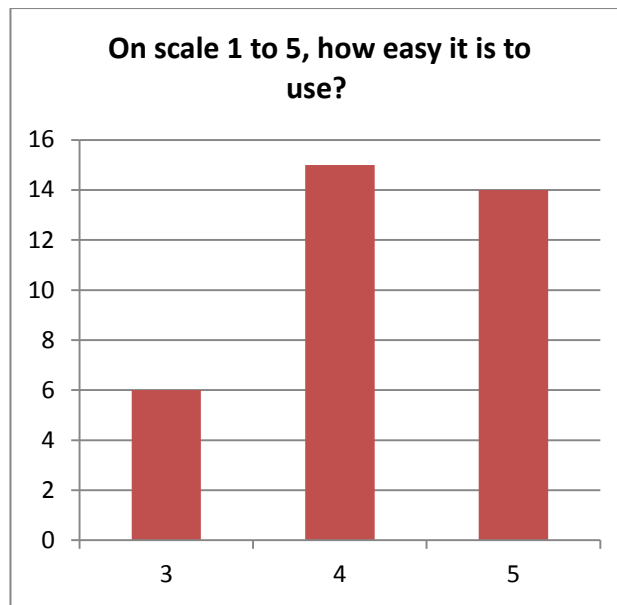
4.3.1 Result for application testing (student)

Question 1



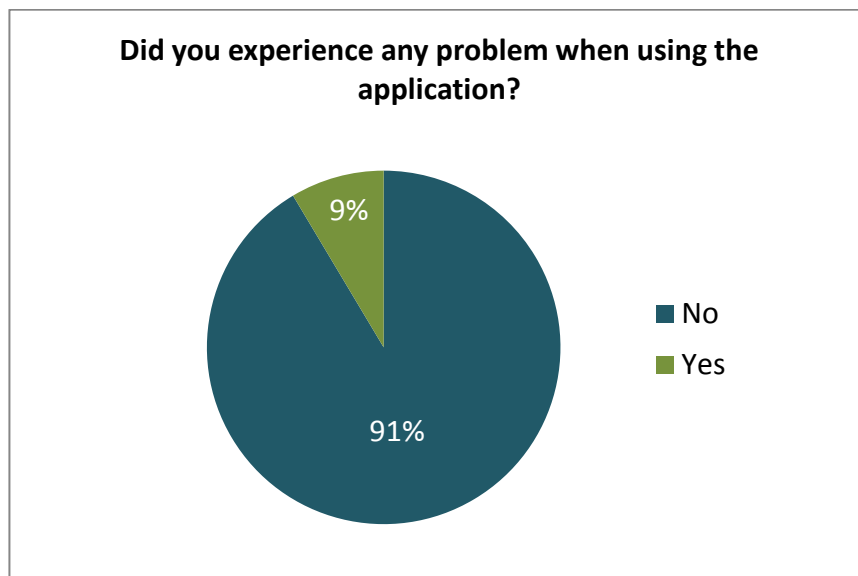
This question is design to found out whether students are having difficulties when using the application and the result shows that the all of them found that the application is easy to use.

Question 2



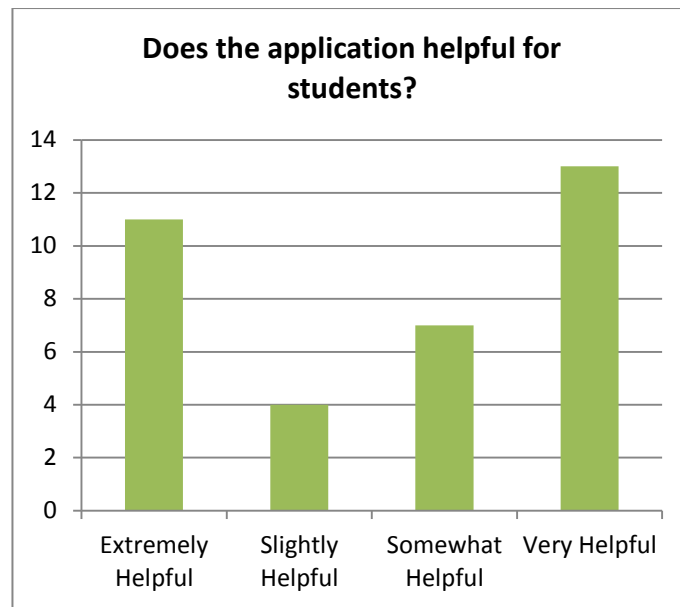
The students were being asked the level of difficulties or easiness of the application based on the scale 1 (very hard) to 5 (very easy) and most of them respond within the scale 3 to 5 which indicates that the app is easy to use.

Question 3



Majority of them, with 91% did not experience any problem and only 9% of them are having slight problem when using the app.

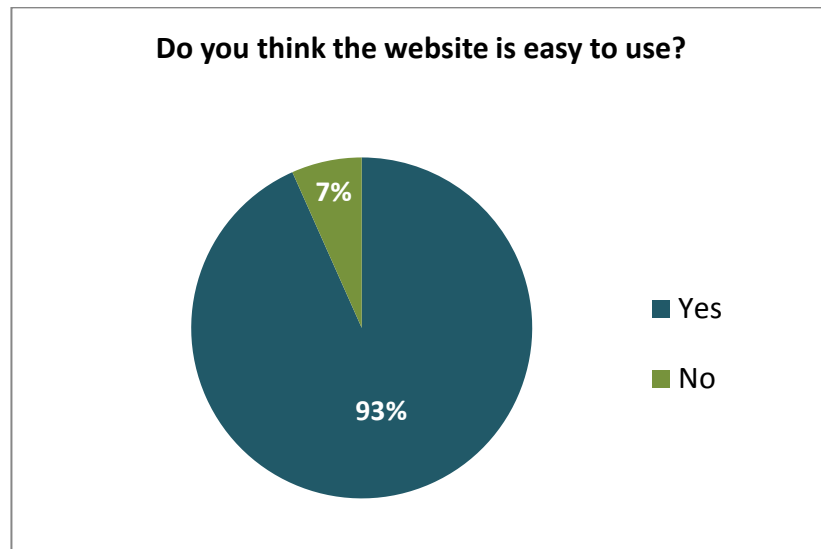
Question 4



The students were being asked the level of usefulness of the application based on the lowest scales (not helpful) to highest scale (extremely helpful) and 13 of them respond with very helpful, this shows that the app is useful for the students to be more aware of campus news.

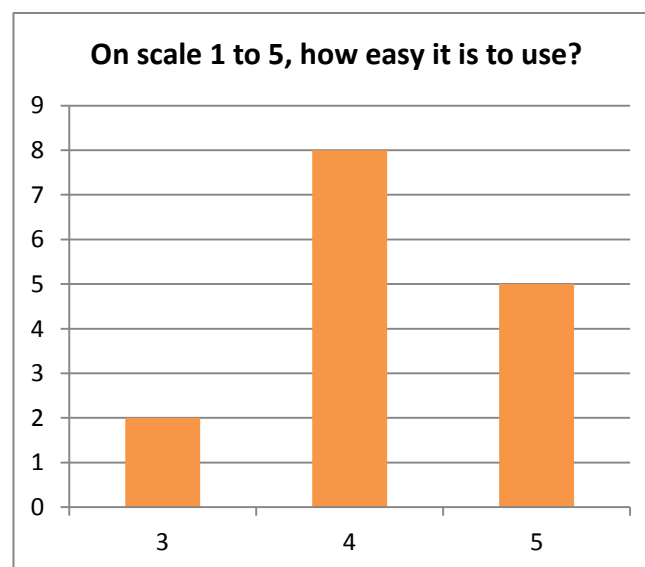
4.3.2 Result for website testing (admin)

Question 1



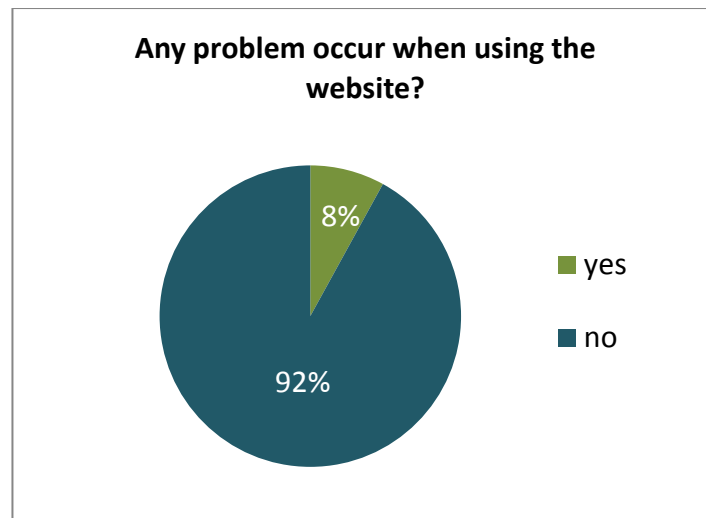
This question is design to found out whether admin and lecturers are having difficulties when using the website and the result shows that most of them found that the website is easy to use.

Question 2



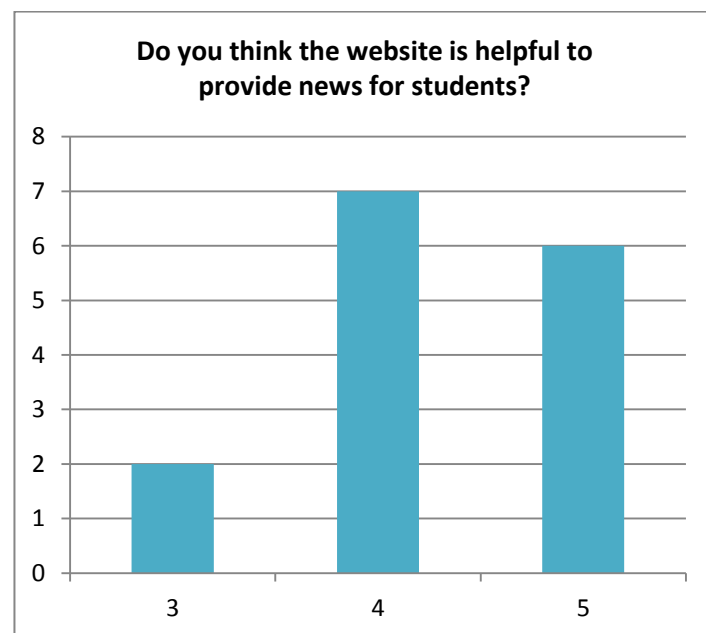
The admin and lecturers were being asked whether the website is easy to use and rate the website based on the scale 1 (very hard) to 5 (very easy) and most of them respond within the scale 3 to 5 which indicates that the website is easy to use and administer.

Question 3



The question is design to check whether the admin and lecturers are facing any difficulties when using the website and most of them are not having problem when using the website. Hence, the website is user-friendly and easy to use.

Question 4



The admin and lecturers were being asked the level of usefulness of the website based on the scales 1 (not helpful) to 5 (extremely helpful) and 7 of them respond with very helpful (4), this shows that the website is very useful for them to deliver news to students.

4.4 Future Enhancement

This mobile application has a lot of improvements that can be done. There are few suggestions for future enhancement. In terms of extracting information from different sources of information, this application currently will use admin as the extractor and the person in charge for managing the news and updates. As for future enhancement, this application can use an algorithm such as web crawler to get specific information from specified source of information. Using certain keywords for extraction, the application will automatically get the updates without having admin to post all of the update. Besides, instead of having the lecturers to update and post information using website, an application can also be developed for lecturers to post the update from their smartphones.

A far more complex and interesting features such that the students can comment on the news and even having discussion in the academic section is one of example for future enhancement. Through this feature, it does not only enhance students understanding about that particular course but also can build bond and relationship between students and lecturers which I think this is could definitely be one of the most powerful sharing and knowledge application as well.

CHAPTER 5

CONCLUSION

As a conclusion, information is very essential in accordance with technological changes. With the emergence of smartphone, the students nowadays have the power of having information right at their fingertips and able to perform multitasking which allowed it to perform a wide variety of functions. They are most likely to adapt fast with the current technology thus, through the uses of smartphone, it will increase their awareness about campus news.

With the information regarding UTP news are on different sources, a mobile application that combines all of these sources will be a useful application. The usefulness of smartphone has increased greatly in past years and has allowed the students to be more alert with their campus environment and at the same time involved in the campus community indirectly by supporting the events and develop awareness on campus issues.

In fact, the result from the online survey for this project is positively contributed to a right direction. The problem statement can be solved by the development of this mobile application on campus news. The project objectives are also met with this mobile application. A simple and proper planning from the Gantt chart and key milestone on the time frame to accomplish the project can be achieved in two semesters of final year project one and final year project two.

Therefore through developing this mobile application that centralized information will be an advantage and increase the efficiency of the students as it will be able to keep the students updated with current issues and events.

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Appendix

Appendix 1: Online Survey Questionnaires

FYP Survey: On Campus News Apps

* Required

Gender *

- ☐ Male
- ☐ Female

Age *

- ☐ 18-21
- ☐ 22-29
- ☐ 30-45
- ☐ 45 and above

Current year of study *

- ☐ Foundation
- ☐ First Year
- ☐ Second Year
- ☐ Third Year
- ☐ Final Year
- ☐ Postgraduate

*Do you have a smartphone? **

☐ Yes

☐ No

☐ Other:

*What operating platform do you use for your smartphone? **

(ex: Android, iOS)

☐ Android

☐ iOS

☐ Windows

☐ Other:

*Do you aware about on campus news? Are you always up to date about campus issues? **

(campus issues, utp events, academic related- briefing/talk by department)

☐ Yes

☐ No

*How do you get latest UTP news? **

(UTP website, e-learning)

☐ UTP Website

☐ E-learning

☐ UTP Facebook Page

☐ SRC Facebook Page

☐ Googlegroups

☐ RCSU Page

☐ Other:

*How frequent do you check for latest UTP news? **

- ☐ once per daily
- ☐ twice per daily
- ☐ more than two times daily
- ☐ weekly
- ☐ always keep updated (24 hours)
- ☐ Other:

*Do you prefer to read news on web or using mobile apps? **

- ☐ Web
- ☐ Mobile apps

Why do you prefer to read using web or mobile apps?

*If there is a mobile apps that combine all of sources of UTP news, will you use it? **

(all UTP news in one apps)

- ☐ Yes
- ☐ No

Appendix 2: User Testing Feedback Form

User Testing Survey Form (Mobile Application)

1. Do you think the application is easy to use?

- ☐ Yes
- ☐ No

2. On scale 1 to 5, how easy it is to use?

1 2 3 4 5

Very Hard ☐ ☐ ☐ ☐ ☐ Very Easy

3. Did you experience any problem when using the application? If yes, please specify

- ☐ Yes
- ☐ No

4. Does the application helpful for students?

- ☐ Extremely Helpful
- ☐ Very Helpful
- ☐ Somewhat Helpful
- ☐ Slightly Helpful
- ☐ Not at all helpful

User Testing Survey Form (Website)

1. Do you think the website is easy to use?

☐ Yes

☐ No

2. On scale 1-5, how easy it is to use?

1 2 3 4 5

Very Hard ☐ ☐ ☐ ☐ ☐ Very Easy

3. Did you experience any problem when using the website? If yes, please specify

☐ Yes

☐ No

4. Do you think the website is helpful to provide news for students?

1 2 3 4 5

Not Helpful ☐ ☐ ☐ ☐ ☐ Extremely Helpful

Appendix 3: Pre-Sedex poster of UTP News.

MOBILE APP ON CAMPUS NEWS FOR UTP STUDENTS (UTP NEWS)

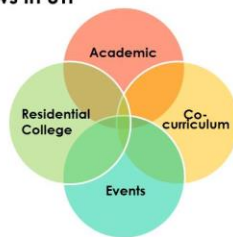


PROBLEM STATEMENT

No centralized sources of information for UTP students
- each news are having different sources or web pages

OBJECTIVE

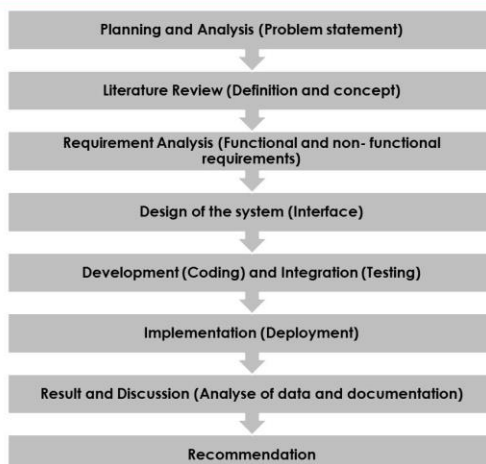
Develop mobile application that combine different sources of news in UTP



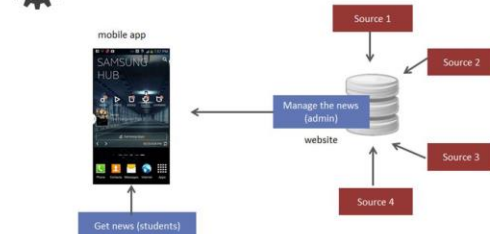
BACKGROUND

WHAT	A mobile application- provide quick access to campus news
WHO	UTP Students and Lecturers, Admin
WHY	Students have to browse through different sources of news to get latest news update
HOW	Centralize different sources of campus news- admin will administer using website and students will read through app

METHODOLOGY



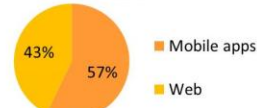
SYSTEM DIAGRAM & ARCHITECTURE



RESULT & DISCUSSION

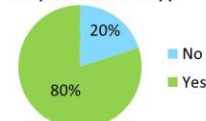
MOBILE APPLICATION RESULT & SCREENSHOTS

Reading news on smartphone and website



A growing number of students read news through app

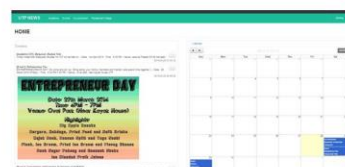
Helpfulness of the app



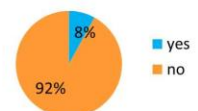
Majority of students find that the application is very helpful



WEBSITE (FOR ADMIN) RESULT & SCREENSHOTS



Any problem occur when using the website?



CONCLUSION & RECOMMENDATION

Campus news mobile application combine various sources of UTP news. It provides an easy access to the campus news.

It allows the students to develop awareness on campus issues and be a part of the campus community.

This application is extracting information from different sources of information through admin. For future enhancement, this application can use an algorithm such as web crawler to get the automatic information from specified source of information.

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