



UNIVERSITI TEKNIKAL MALAYSIA MELAKA

**DEVELOPMENT OF AN APPLICATION THAT COLLECT
EDUCATION MATERIALS (TRAINING, TALK) BY USING
ANDROID STUDIO. PROGRAMMING LANGUAGE: JAVA**

This report is submitted in accordance with the requirement of the Universiti Teknikal Malaysia Melaka (UTeM) for the Bachelor of Mechanical Engineering Technology (Telecommunications) with Honours.

by

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Tajuk: DEVELOPMENT OF AN APPLICATION THAT COLLECT EDUCATION MATERIALS (TRAINING, TALK) BY USING ANDROID STUDIO.
PROGRAMMING LANGUAGE: JAVA

Sesi Pengajian: 2019

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DECLARATION

I hereby, declared this report entitled DEVELOPMENT OF AN APPLICATION THAT COLLECT EDUCATION MATERIALS (TRAINING, TALK) BY USING ANDROID STUDIO. PROGRAMMING LANGUAGE: JAVA is the results of my own research except as cited in references.

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APPROVAL

This report is submitted to the Faculty of Mechanical and Manufacturing Engineering Technology of Universiti Teknikal Malaysia Melaka (UTeM) as a partial fulfilment of the requirements for the degree of Bachelor of Electronic Engineering Technology (Telecommunications) with Honours. The member of the supervisory is as follow:

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ABSTRAK

Aplikasi pengajaran ini diperkenalkan untuk memudahkan sesi pembelajaran pelajar yang kena menghadapi program latihan industri sebelum pengijazahan pelajaran. Aplikasi ini mengumpulkan maklumat seperti tarikh, gaji, teknik keperluan dan sebagainya yang tentang industri-industri yang mampu menerima pelajar-pelajar yang berjalan program latihan industri. Aplikasi ini juga memberikan maklumat dan notifikasi yang berkaitan taklimat pembelajaran seperti taklimat tentang latihan industri yang kena datang. Aplikasi ini mempunyai pelayan yang boleh memberikan auto dikemas kini bagi pengguna aplikasi ini dengan penggunaan Firebase sebagai pelayan. Pelajar perlu daftar nama dan kata laluan dalam pelayan yang ditetapkan sebelum penggunaan aplikasi ini. Kaedah ini dapat mengurangkan beban pelajar supaya pelajar boleh mendapatkan maklumat berkaitan latihan industri lebih mudah.

ABSTRACT

Educational application is introduced to facilitate students who are going to attend the internship program before finish their degree education. This application collects the data and information (date, salary, requirements and etc) about the industries or companies which are willing to accept the internship students. Besides, the users also can check the schedule and information of the incoming educational talks. The updated information will send to the users and will show notification. This application is built with a Firebase server which can undergo auto-updated for the users whenever there is new information coming. The users should register their username and password through the server before using it. This method can reduce the burden of the students by checking the information of internship program easily and convenience.

DEDICATION

This dedication is especially to my parent. My mom Teh Eng Boon always gives me support and encourage me to overcome the problems meet in this project.

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LIST OF ABBREVIATIONS

AVD	Android Virtual Device
SDK	Android Software Development Kit
ADT	Android Development Tools
API	Application Program Interfaces
APK	Android Package
NDK	Native Development Kit
JPL	Jet Propulsion Laboratory
UI	User Interface
UX	User Experience

CHAPTER 1

INTRODUCTION

1.0 Introduction

The purpose of this chapter is to introduce the ideas for this project which can briefly explain the development of application which can collect information of educational kits by using Android Studio. It stated on the problem statement, objectives, scope and the outcome for the project. Thus, the structure of the project can be seen clearly.

1.1 Background

A good mobile application will make a great success in the mobile market which can be downloaded in million or billion times. In 2003, Android is developed by Andy Rubin, Rich Miner, Nick Sears and Chris White in Palo Alto, California. Guiran Chang (2010). From the top leaders of mobile market, Android always performs well among of them. Android contains a high-tech operating system which is Linux as it produced by Open Handset Alliance (OHA). With the presence of Linux, Android is built with plenty of functionality. According to the research of Frank Ableson (2018), Android brought the impaction to the mobile application market with its starting version in 2008 although the market was covered by BlackBerry and iPhone in that time. The success of Android urged the BlackBerry to offer devices running in Android platform.

According to the Margaret Rouse, Android Studio is made as the official application on Android platform with Java language. Android Studio is developed and declared in May 2013 at Google I/O but the completed version is announced in December 2014. It took place Eclipse Android Development tools which is the software development tools commonly used in that time. In order to function, Android Studio Is required an operating system (Gradle-based), a compatible emulator, code templates and Github integration. APK format is usually produced and debugged when the software is developed successfully and upload to the Google play store which is also the global software that contains millions of Android application. Surprisingly, Android Studio can change the settings and coding into an application which is running in the process by just using an Instant Push. The convenience of the software gains a lot of attraction of the customers. For example, Android Studio contains the code editor which can assists the user which the user can check the functionality and the code editor will shows the possible coding of the following coding which is haven't completed.

1.2 Problem Statement

Most of the university students worry about the upcoming industry training program in order to complete their studies. There are a lot of consideration issues in choosing an industry or company for complete the industry training program. Places, salary, working environment, transport and benefits always become the priority consideration for the students. Commonly, students will do the survey and search the information before pass up the resume. Although the UTeM authorities will provide talks and some companies will even send out the agents to give talks and sign the qualified students for their internship program, but the programs did not give good

response from students. The lack of an information gathering platform leads to the unawareness and students miss out the program. The news, information and schedule basically spread in the Whatsapp group among the students and can be easily cover by the other conversation after a period of spamming. In order to overcome this, a platform should be provided to gather and collect the information and details of the internship program. Students can easily search the information of internship and aware to the schedule of the talks related to the internship program. Therefore, the introduction of application that collects the information and news of the talk and training is necessary and it will be a good solution to solve the issues.

1.3 Objectives

The main objectives of this project are:

- i. To design and develop an application that can collect the information for internship program using Android Studio\
- ii. To study the mechanism of development of application by using Programming Language JAVA
- iii. To collect the information and news for industry training program.

1.4 Scope of Works

This project is about to develop and design an application for gathering the information for the internship program. The project basically designs for the degree or diploma students who are going to attend the internship program. In the design of the application, the convenience, effectiveness and creative are the main structures to be concern. The top priority is the convenience where students can satisfy and feel

comfortable while using the apps to search the information. A sufficient database should be applied to the application where can store the information of internship program. Android Studio is used in the design for this application. Besides, Android ADT and Android SDT are also used in the design in order to perform a smooth interface and operations.

1.5 Thesis Structure

In chapter 1, it briefly explains the structure of the project. It consists of introduction of the project, background about the development of application, objectives to be achieved, the issues to be solved and the scope of the project.

In chapter 2, it will explain the idea of the project, hypothesis which is the possibility of the project and the equipment and application required for the project. Besides, this section also consists of the information and knowledge from the researchers which related to this project.

In chapter 3, this part consists of methodology. The procedure and the method will be explained in the flow chart and in words. The method taken will help to achieve the objectives of the project.

In chapter 4, the results and discussion will be explained in this part based on the data collection of the project. The expected outcome will be compared with the real outcome and show the differences.

In chapter 5, this session will consist of conclusion which based on the real outcome results. The future works and recommendation will also be discussed based on the weakness of the project

CHAPTER 2

LITERATURE REVIEW

2.0 Introduction

In this project, some related studies and researches had read and taken out in order to be the reference sources to complete the project successfully. The studies and journals were taken from the books, journals and websites. The studies and journals related to the project in certain field. The data, results and procedures took from the studies can be a guidance to complete the project in time.

In this section, most of the journals were taken from the website Scopus legally. In order to search the information easily, the keyword of JAVA language, Android, Android Studio and mobile software development been focused on in the searching engine. The information recorded in this section had been made sure to prevent plagiarism through checking in the Turnitin website. To be specific, the research was focused on the mechanism and procedures of mobile software development which can be a good guidance for this project. There were 10 articles about mobile software development and 5 articles about Android were chosen to be the guidance of this project.

2.1 Past Related Research

The journals and articles were recorded and written in a formal format with citation way. The selection of the journals and articles could relate to certain field of this project. The sources of information were taken from the authorized books, journals, articles and websites.

2.1.1 Developing of android mobile application using java and eclipse: an application

According to the Senay KOCAKAYUN (2017), the usages of mobile applications were increased dramatically in these recent years. The number of development mobile application being increased due to the free in charge by using the of application developer. For example, Eclipse and Android Studio can be downloaded from the website with free charges. Though, the field of development mobile application still required a lot of improvement and also the weakness of research method and the procedure of development mobile application should be discussed. The students who enrolled in the course in Department of Teaching Computer and Instructional Technology at Near East University were given the opportunity to learn the NEU-CEIT which is also belongs to the Android mobile application developmental process in their studies. It is very convenience and useful since the procedure described in step by step and the tools involved were explained in details. The mobile application development process required interface and operating system to proceed. In Android, there are three recommended platforms to fulfill the requirement which are Eclipse

platform, Android ADT (Android Development tools) and Android SDK (Software Development Kit). With the use of ADT plug-in, the tools used in the Eclipse IDE can accessed to the Android SDK. The programming language JAVA always becomes the priority choice on the Eclipse IDE for the process of software development. Furthermore, in order to test the functionality of the application in the developing process, a virtual device should be applied. According to the studies, one of the advantages of Android application is can adjust the visual properties of the program without giving any command in the programming code due to the related visual programing source code is kept in the res directory.



Figure 2.1: The example of NEU-CEIT Screen Views

2.1.2 Mobile application development process: a pratical experience

According to the Lizeth Chandi, Catarina Silva, Danilo Martinez and Tatiana Gualotuna, the interest towards the mobile application development is increasing dramatically in these recent years. The various selection of mobile application