



**UNIVERSITI TEKNIKAL MALAYSIA MELAKA**

**DEVELOPMENT OF AUDIO SHARING APPLICATION**

**USING ANDROID DEVELOPER**

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

by

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TECHNOLOGY

2019

**BORANG PENGESAHAN STATUS LAPORAN PROJEK SARJANA MUDA**

Tajuk: DEVELOPMENT OF AUDIO SHARING APPLICATION USING  
ANDROID DEVELOPER

Sesi Pengajian: 2019

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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 Computer Engineering Technology (Computer Systems) with Honours. The member of the supervisory is as follow:

Signature: .....

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## ABSTRAK

*Inovasi telah menjadi sebahagian dari hidup kita. Pendidikan dengan inovasi adalah kombinasi yang boleh merevolusikan masyarakat kita. Kini, dengan kemajuan teknologi, banyak aplikasi yang telah menggunakan platform android telah muncul dalam pasaran. Penggunaan telefon pintar yang menyediakan servis kepada pembentang dan audien di dalam pembentangan atau majlis di dalam kelas atau dewan boleh menjadi alat yang berkuasa pada pembentang untuk menyampaikan mesej dengan berkesan. Aplikasi telefon pintar yang direka dengan teliti yang menawarkan transmisi audio dari pembentang kepada audien dalam masa nyata untuk meningkatkan pengalaman peribadi kepada audien. Kertas ini membangunkan aplikasi perkongsian audio untuk melaksanakan penyebaran audio dalam cara yang paling efisien dan dipercayai. Pendekatan yang digunakan adalah dengan menggunakan pelayan untuk menghubungkan audien yang menyertai dengan pembentang mereka. Tambahan lagi, aplikasi ini cuba untuk mencipta pengalaman peribadi yang dikongsi dengan semua audien. Aplikasi yang dibentangkan ini adalah percubaan pertama dalam membangunkan aplikasi telefon pintar yang akan menyokong penyebaran bukan sahaja audio bahkan video dan slaid pembentangan kepada audien. Ini akan menyokong pembentang untuk mencapai pembentangan yang efisien dan pertambahan pengalaman peribadi kepada audien.*

## **ABSTRACT**

Innovation has turned into an essential piece of our life to always make improvement. Teaching with innovation is an effective blend which can alter our general public. Nowadays, with advancement of our technology, many application which utilizes the Android platform has emerged in the market. The utilization of cell phone application contributes utility to the presenter and their audience in a presentation or event at class or hall could be a capable apparatus to the hands of the presenter to disseminate the message in the most effective way. A painstakingly composed cell phone application that offers transmission of audio from presenter to their audience in real-time enhance the personal experience to the audience. This paper develops an audio sharing application that tries to implement dissemination of audio in a trustworthy and efficient way. The approach is to use a server to connect the participating audience with their presenter. Moreover, the application attempts to create a personal experience that shares with the rest of the audience. The presented application is the primary endeavors towards a cell phone system that will support audio, video and slides dissemination to the audience that supports the presenter to accomplish efficiently and an enhanced presentation experience.

## **DEDICATION**

Alhamdulillah, all praise to the Almighty Allah SWT.

To my beloved parents who always there for me.

Sahariah Binti Sulaiman

Khalizaki Bin Hairan

To my siblings.

Muhammad Muizudin Bin Khalizaki

Muafiqah Binti Khalizaki

To my lecturer and supervisor, for their guidance and encouragement.

Encik Ahmad Fairuz Bin Muhammad Amin

To my friends, for everything that they do to help me to complete this final year project.

Kak Ika DC, Muni, Shida, Cath, Ang, Yea, Pijea, Kak Ira, Kak Ina, Ain, Izzati,  
and everyone that I'm not able to mention their names here.

Thank you!



## ACKNOWLEDGEMENTS

*Bismillahirrahmaanirrahim,*

*In the name of Allah SWT, the most compassionate and the most merciful.*

Firstly, thanks to Allah SWT because giving me a good health and huge courage and strength to do this final project.

Moreover, I would like to deeply express my gratitude and appreciation to my supervisor, Mr. Ahmad Fairuz Bin Muhammad Amin for his guidance, support, encouragement and helping to finish my final year project.

In addition, I would like to extend my gratitude to all open source community for always creating a solution for technological problems free of charge.

Lastly, my deepest gratitude goes to my beloved mother who is so worried of my health during the final week of submission of final year project report. Also to my father and my siblings for their blessings and prayers.

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## LIST OF ABBREVIATIONS

<b>PC</b>	Personal Computer
<b>IDE</b>	Integrated Development Environment
<b>ADT</b>	Android Development Tools
<b>JVM</b>	Java Virtual Machine
<b>GUI</b>	Graphical User Interface
<b>CLI</b>	Command Line Interface
<b>MPD</b>	Music Player Daemon
<b>GMPC</b>	Gnome Music Player Client
<b>ISP</b>	Internet Service Provider
<b>HTTP</b>	Hyper Text Transfer Protocol
<b>PAN</b>	Personal Area Network
<b>PD</b>	Public Display
<b>UX</b>	User Experience
<b>UI</b>	User Interface
<b>APK</b>	Android Package
<b>OS</b>	Operating System
<b>IP</b>	Internet Protocol
<b>TCP</b>	Transmission Control Protocol
<b>URL</b>	Uniform Resource Locator
<b>API</b>	Application Programming Interface

# CHAPTER 1

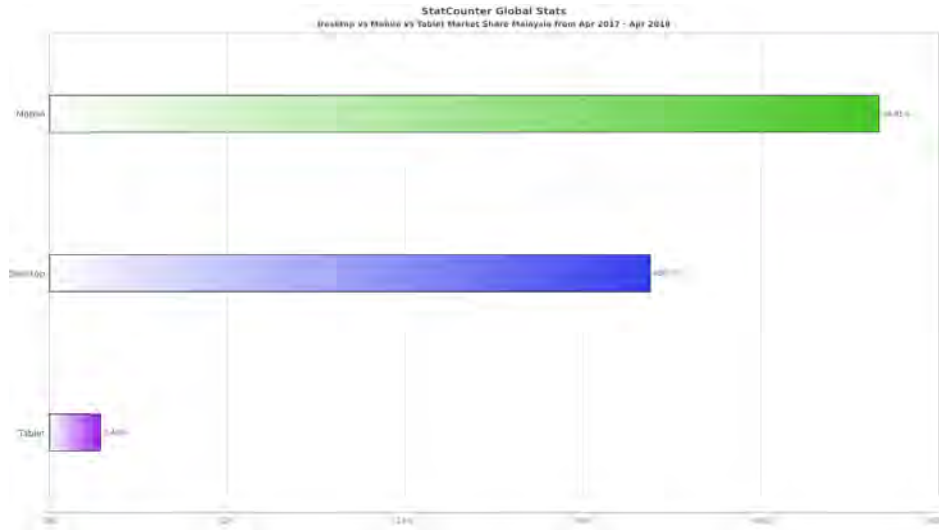
## INTRODUCTION

### 1.1 Introduction

This part explains the general viewpoint of research where it focuses on the development of Android apps to transmit audio between Android smartphone devices. This section gives brief clarification about the project which covers the background, problem statement, goal and scope of the project. This clarification depicted the thought and idea of the project and how it will be applied in the real circumstance.

These days, with the advancement of data innovation, people tend to carry their cell phone wherever they go, as it has apparently become very important in their everyday activities. Figure 1.1 shows a Desktop vs Mobile vs Tablet market share in Malaysia by StatCounter from April 2017 until April 2018. It stated that cell phones surpass desktop by 56.01%. While desktop market share is 40.53% and tablet market share lags behind by 3.46%.

The stats rely upon total information gathered by StatCounter on a sample surpassing 10billion site visit for each month, accumulated from over the StatCounter system of more than 2 million sites. Stats are updated and made accessible every day, however, are liable to quality affirmation testing & modification for 45 days from distribution. The individual sample size in Malaysia is 172 million. While the sample size of the cell phone in Malaysia is 77 million.



**Figure 1.1: Bar chart of Desktop vs Mobile vs Tablet Market Share in Malaysia from April 2017 - April 2018**

When looking at cell phones market share by their operating system in figure 1.2. Android penetration is highest which is 82.61%. While IOS only 13.71% and the rest totalled up 3.68%. Making Android operating system nearly ubiquitous among these segments.



**Figure 1.2: Bar chart of Mobile Operating System Market Share in Malaysia from April 2017 - April 2018**

The utilization of cell phones for basic day to day computing tasks is exceptionally preferred by the general dominant society (who owns a cell phone) as they have numerous points of interest over a Personal Computer (PC) or laptop. Portability is a noteworthy one. With cell phones, users can perform relatively every errand that they could do with their laptop or workstation. The current technology in smartphones enables users to transfer various data which includes an image, video, and sound to anyone.

By using Android in cell phones as a platform to develop the audio sharing apps, it is expected that it will provide a low cost and user-friendly application to users. This project will focus on the capabilities of Android in cell phones to share audio between smartphone devices.

## 1.2 Problem Statement

Modernization has push such a tremendous extent in the previous decade or two that it has made lives more adept and comfortable. The amenity of having the holding power to hold domination of smartphones audio in distinction to other smartphone device has become imperative as it saves a lot of time and effort. Hence surface a demand to do so in an organized approach to implement this system. Alongside the advancement and breakthroughs in modernization over the years, the lives of people have turned out to be further convoluted and hence they have become busier than before. With the adoption of this system, to gain authority over the audio system of participating smartphone devices from another smartphone device.

The problem scenario is during presentation or lectures in a large hall or class, the presenter or lecturer wants the audience to listen to audio on their mobile phone. But the audience at the end of the hall or class cannot hear it. So it would become problematic especially when there are no speakers available. Another scenario is during listening exam in a hall where there's no speakers available. It would be troublesome for the teacher to make sure that the student at the back of the hall to hear the sound at the front of the hall.

Therefore, such mobile application needs to be developed in order for the presenter to convey the message clearly to the audience. This development will ultimately help a presenter to transmit audio from their server to their audience smartphones when there is lacking speakers so that all the audience can hear the audio even if they are at the end of the hall.