

CHAPTER 1

INTRODUCTION

1.1. Background

Nowadays, mobile phone is very important for every human being. Almost everybody in this world has a mobile phone. It has become the most important item an individual can own. It serves as a communication tool used to make and receive calls as well as send text messages, listen to music, surf the internet and even play mobile games.[1] The technology for mobile phones has developed very fast. Many electronic companies develop handheld device such as Apple, Blackberry, Nokia, Sony, LG, Samsung, Motorola, etc. Some of them have created revolutionary mobile devices with many functionalities and features. Mobile phones have become more or less similar like mobile computers.

Apple has created iPhone, which is a revolutionary phone with multi touch and accelerometer. With the Multi-Touch interface on iPhone, we can control everything on iPhone with a tap, a flick, or a pinch of your fingers [2]. Accelerometer feature enables you to turn, tilt and rotate the iPhone and it will respond to those motion. It also recognizes and responds to breath. With these features we can make revolutionary and interactive applications, which are different with other usual phone, or mobile applications. iPhone might just be the most interesting new platform to date.[3]

I will make a music application because music has become an important part of humans' life. Music is a very colorful thread woven into the entire fabric of our lives. Many

people cannot live without music. They need it for daily life entertainment.[4]In order to make music, we need musical instruments. There are many kinds of music instruments in the world, such as piano, guitar, drums, violin, etc. In Indonesia, there are many kinds of nice, unique and harmonic traditional music instruments such as, angklung, suling, gamelan, etc. These traditional music instruments are not really preserved by the Indonesian people because of the lack of love and trust to their own country. There are only a few Indonesian citizens who care and preserve these music instruments. These problems could lead to culture loss and conflict between countries. Therefore, in this thesis I will try to preserve our traditional music instruments and acknowledge it to the world by making an application to play the traditional music instruments in an iPhone.

The goal of this thesis is to develop an interactive and innovative application in an iPhone and to preserve Indonesia's culture. I hope by making this application, it will increase the acknowledgement of Indonesian finest, unique and harmonic culture in music instruments to the whole world.

1.2. Scope

In developing this iPhone application, I have to understand how to make the iPhone application itself and how to make the application recognizes touch, breathe, and motion. iPhone OS SDK 3.0 is used to make the iPhone application.

The application will have interactive functionalities and features, which are:

- Choose among different music instruments, the users can choose what instruments they want to play.

- Playback the sounds that have been played
- Shake the iPhone to create sound.
- Tap on the iPhone to create sound.
- Blow the microphone to create sound.
- Multi touch for selecting sounds.
- Vibration when the sound is created.
- Users will know the history of each music instruments and how to play it.

Due to the limitation of time and resources of the thesis, there are some constraints in creating this application, which are:

- I will limit the music instruments into three instruments, which are suling, angklung and gambang.
- Unable to share the users' performances all over the world through internet
- Unable to play and mix the music instruments.
- There will only be one octave to play regarding the limited budget and time.

1.3. Aims and Benefits

The aim of this thesis is to develop an interactive mobile application in iPhone, which can recognize multi touch, blow, and motion.

The benefit of the successful development of this thesis will preserve the Indonesia's culture of traditional music instruments and acknowledge it to the whole world, which will prevent culture conflict and culture loss. It will also increase the loyalty of Indonesian citizens to love their own tradition and culture. This application will also make it easier for people to learn how to play the Indonesian traditional music instruments.

1.4. Structure

The thesis will be written in seven chapters as listed below:

- Chapter 1. Introduction
 - This chapter describes thesis' background and brief description of the iPhone application to be created, including scope and the goal to be achieved by the thesis.
- Chapter 2. Theoretical Foundations
 - This chapter explains the theories of tools to be used, in developing the iPhone application.
- Chapter 3. Analysis on Existing iPhone Application Implementation

- This chapter provides analysis on existing application for iPhone, such as the functionalities, benefits, etc.
- Chapter 4. Design of the iPhone Application
 - This chapter describes the design of the iPhone application, including the user interface, animation, and the algorithms used for making this application.
- Chapter 5. Application's Features Functionalities Implementation and Evaluation
 - This chapter explains the testing process in the thesis, systems specification and the test result.
- Chapter 6. Result Analysis
 - This chapter evaluates and analyzes implementation result to draw fundamental explanation and information necessary related to the description stated in the background.
- Chapter 7. Conclusion
 - This chapter concludes the thesis through explanations on each feature and also the result of the application development. It will also explain the future development of the application.