CHAPTER 1

INTRODUCTION

In this chapter, the overview of the project will be discussed. First section of this chapter explains the project’s background. The following section will explain problem statement of the project. The third section of this chapter deliberates on the objective of the project, followed by the forth section which emphasize on the project scope. Last section of this chapter will briefly explains the sequences of each chapter.

1.1 Background of the Project

Cardiopulmonary resuscitation (CPR) is one type of first aid technique. It is a lifesaving technique which is useful in many emergencies, such as heart attack ("Cardiopulmonary resuscitation (CPR): First aid", 2015). CPR is consider as one type of technique or skill which is very useful and should be learn by everyone. It can help in preserving life. For example, we can help to performing Cardiopulmonary resuscitation (CPR) to the victim, while waiting for the arrival of ambulance. This can increase the chance of the victim to survive.
In order to help people to easily remember the order of CPR's step, acronym of CAB is
being used, which refer to Compressions, Airway and Breathing ("Cardiopulmonary
resuscitation (CPR): First aid", 2015). The detailed process inside this step may be vary,
if the victims is different, such as adult, children and infant. For example during the
compression stage, the compression depth for children is smaller than that for adult
(Andrew H. Travers, 2010). Just performing CPR actually is unable to restart the heart.
The main purpose of CPR is to restore the partial flow of oxygenated blood to brain and
heart ("CPR (cardiopulmonary resuscitation)"). Brain damage can happen if there is lack
of oxygenated blood. It also will kill an individual in just eight to ten minutes. By
performing CPR, it can buying time until the professional medical team arrive.

This project with title Mobile Application on Learning Cardiopulmonary
Resuscitation (L-CPR) is to create a mobile application to teach the proper technique of
CPR. The application can be install inside the mobile phone, where user can view the
content inside the application to learn the technique of CPR. The application consists of
4 functions which are traditional notes, video tutorials, quizzes and also implemented
with Augmented Reality (AR), which help user to easier understand the steps of CPR.
With this application, user can easily refer to the step of CPR when an emergency occur.

1.2 Problem Statement

There might be some emergency cases suddenly happen around us in which an
individual life is in danger. For example, if someone stand beside us suddenly
experienced a heart attack, we might need to immediately performing CPR to the
victim's while waiting for ambulance. At that moment, we don't have enough time to
search online for the correct CPR technique. The life of that person might be threaten
even we hesitate for a short moment.

CPR consist of many details steps. The steps may vary, depending on the actual
situation and the victim's condition. If the technique is not apply correctly, it might even
cause the victim's condition to become more serious. Nowadays, there are some mobile
application available which teach the knowledge of CPR. However, these application
still have some flaws. Some of screen design is complex. There is too many tab inside one screen with make to layout become too complicated. Some of the application does not provide search function. This make user hard to search a specific content inside the application. Furthermore, there is also some application which need to pay and access to internet. Besides that, some of these application only use word and simple pictures to explain the CPR steps. User may not prefer to read plenty of words on the explanation of CPR steps.

CPR consist of many steps. There is also some difference in steps when performing CPR to different people such as adult, children or infant. If a person is not doing revision from time to time. They might forget some important steps in CPR. In actual emergency cases, even a small mistake in the steps may cause the victim's life in danger. There should be some quiz or simple test available for them to easily access when they are free.

1.3 Objectives

The objectives of the project are listed as below:

i. To develop Mobile Application on L-CPR to teach the technique of CPR.

ii. To implement Augmented Reality in Mobile Application on L-CPR to enhance the understanding of the CPR techniques.

iii. To develop the CPR quiz, video tutorial, notes and Augmented Reality for measure the user knowledge on CPR.