

UNIVERSITI TEKNOLOGI MARA

**ShoesFit - Augmented Reality Mobile
Commerce Application for Shoes Fitting**

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ABSTRACT

Online shopping has been a key part of our shopping activity. It makes shopping more time-saving and gives customers more choices. The most obvious disadvantage of online shopping, however, is that the customer cannot be face-to-face with the products while selecting them. Augmented Reality (AR) is a technology that combines the virtual world with the real world. Users are able to have an "immersive" shopping experience with the assist of augmented reality technology. Users and the environment have clear natural interactions. Thus, this project's purpose is to provide a new unique and innovative way to improve customer's shopping experience specifically in shopping for shoes online by combining mobile commerce and augmented reality technology. ShoesFit is a 3D Augmented Reality app that allows users to virtually try on shoes before deciding to buy the shoes. This app enables the users to fit the shoes on their feet virtually with the implementation of Marker-based Augmented Reality. This project aims at identifying user requirements for ShoesFit's mobile commerce application, designing the ShoesFit mobile commerce application, and development of the ShoesFit mobile commerce application. This project will be using the android platform. The target user of this project would be the people in Shah Alam who uses a mobile application for online shopping and also online local retailers that utilized mobile commerce platform to advertise their products. Mobile Application Development Lifecycle (MADLC) is the approach employed to complete this task. The augmented reality technique utilized in this project is the marker-based augmented reality. Combined with 3-Dimensional object recognition, this project emphasizes virtualized shoes on the user's feet by pointing the smartphone's camera to the feet of the user. In the future, this project is recommended to include the mobile payment gateway instead of online banking so that the purchasing transaction will become more hassle-free. In a nutshell, ShoesFit mobile commerce application able the enrich the shopping experience of the users with the emergence of advanced technology.

Keywords: Online shopping, Mobile commerce, Android, Marker-based Augmented Reality, Mobile Application Development Lifecycle, Virtual Try-On

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CHAPTER 1

INTRODUCTION

An outline of this project is given in this section. This chapter includes background information, problem statements, project priorities, scope and project significance.

1.1 Project Background

Mobile shopping or mobile commerce is expected to emerge as a fresh form of shopping as the Asia-Pacific region moves towards the digital era. It is essential to know the variables affecting clients' plans for this new shopping channel, especially in emerging countries such as Malaysia, where the rate of mobile penetration is growing rapidly (Ghazali, Mutum, Chong, & Nguyen, 2018). Mobile Commerce concerns wireless electronic commerce used for commercial or corporate purposes by means of useful devices such as mobile phones or personal digital assistants (PDAs), smartphones or other evolving mobile devices. Mobile commerce is also generally referred to as mobile commerce in which users can make any kind of transaction, including purchasing and distribution of goods, application for any services, exchange and transfer of cash by accessing the wireless Internet network on the mobile phone itself (Sandhu, 2012).

In the early 2000s, distributors in both their physical and online stores were increasingly using sophisticated technology to improve their shopping environment and their shopping experience (Pantano, 2015). Retailers nowadays have refined their retail environments with advanced technologies. These technologies include augmented reality and virtual reality (Javornik, 2016). Augmented reality is a promising and increasingly popular emerging technology on mobile devices (Technavio, 2017). AR mixes digital and actual environments (Huang and Liao, 2015)