

**THE USABILITY STUDY OF AR SMART CLOTHING APPLICATION IN  
ONLINE BUSINESS**



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**THE USABILITY STUDY OF AR SMART CLOTHING APPLICATION  
IN ONLINE BUSINESS**

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This report is submitted in partial fulfillment of the requirements for the Bachelor of [Computer Science (Interactive Media)] with Honours.

FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY  
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2021

## DECLARATION

I hereby declare that this project report entitled  
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is written by me and is my own effort and that no part has been plagiarized  
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## DEDICATION

This final project is dedicated to my beloved parents for their unstoppable support during my journey to complete this final project. They always give moral support and constant encouragement whenever and wherever I need it.

Next, to my supervisor Dr. Mohamad Lutfi B. Dolhalit who constant guidance I have completed this dissertation. Dr. Lutfi not only enlightened me with academic knowledge but also gave me valuable advice whenever I needed it the most.

To my evaluator Ts. Dr. Ibrahim Bin Ahmad who gives feedback and advice regarding this project.

To my all fellow friends who are always there by being supportive friends.





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First of all, I would like to thank Allah S.W.T for giving me the resources, power and courage to complete this project during the entire process. I can not complete this project according to what has been scheduled, without blessing from Him.

Throughout the journey of completing this final project, I have been touch with many people in various types and doing many researches through Internet and books. They contributed to my comprehension and to my learning. I am grateful to my supervisors Dr. Mohamad Lutfi B. Dolhalit for his continuous guidance advice effort, invertible suggestion throughout the research and always accept my updated progress every time I showed to him. I am also very grateful to my evaluator Ts Dr. Ibrahim Bin Ahmad critics, advices and inspiration for the guidance. The project would not have been the same as presented here without their continued support and involvement.

At last, I would like to extend my heartfelt thanks to my parents because without their help this project would not have been successful. Finally, I would like to thank my dear friends who have been with me at the time I needed the most

## ABSTRACT

Augmented Reality to Elevate the Online Business is an application which uses 'augmented reality' as a platform for customers as users to use it. It had been developed for all online customers of this Online Shopping. This project includes different forms of interactivity and interactive elements such as 3D models, interactive buttons, interactive sounds, link to social media platforms and 'augmented reality. Multimedia elements like these will attract users.

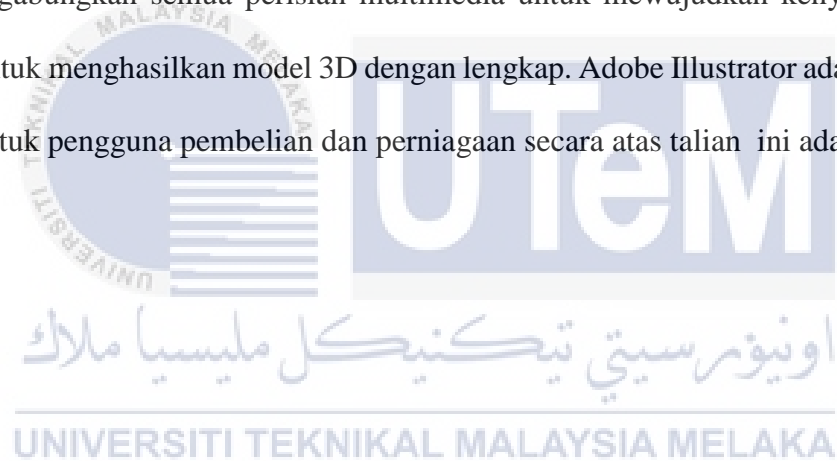
This project involves using a variety of software applications such as Unity, Blender and Adobe Illustrator. Unity is the structure in which all the interactive feature ware is combined to create an augmented reality. Blender is for creating 3D models completely. Adobe Illustrator is for designing textures for 3D models. This is a step forward for the users of online shopping and online business.



## ABSTRAK

“Augmented Reality to elevate Online Business” adalah aplikasi yang menggunakan 'augmented reality' sebagai platform untuk diketahui oleh pelanggan sebagai pengguna. Ia telah dikembangkan untuk semua pelanggan dalam talian untuk pembelian secara atas talian ini. Projek ini melibatkan pelbagai jenis interaktiviti dan komponen interaktif seperti model 3D, butang interaktif, bunyi interaktif, pautan ke platform media sosial dan 'augmented reality.' Elemen multimedia seperti ini akan menarik perhatian pengguna.

Projek ini menggunakan beberapa aplikasi perisian seperti Unity, Blender dan Adobe Illustrator. Unity adalah kerangka yang menggabungkan semua perisian multimedia untuk mewujudkan kenyataan yang bertambah. Blender digunakan untuk menghasilkan model 3D dengan lengkap. Adobe Illustrator adalah untuk menghasilkan tekstur model 3D. Untuk pengguna pembelian dan perniagaan secara atas talian ini adalah langkah lebih dekat.



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**LIST OF ABBREVIATIONS**

FYP - Final Year Project



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## CHAPTER 1 : INTRODUCTION

### 1.1 Introduction

Augmented Reality is an immersive technology which enhances the user's view of the real world by overlaying digital objects on top of the physical objects. In this project, the user is the customer. Users can use Augmented Reality to digitise the specific image given which has been displayed on social media Instagram and Jimdo website, two platforms for this online business. Digitalization is when the image is scanned using Augmented Reality app and it will show 3D models of seven clothes for sale. These seven clothes have the same image marker. User only need to scan once to make the AR clothes appear. The AR clothes for sale are in three different stripe colours to choose from. User can scale in and scale out the image of clothes, which means user can make the cloth bigger or smaller in size. Besides, user can move the image of clothes to the left or to the right according to position the AR models accurately on user's body. User can change the position of image marker upside or downside if they want to move the AR clothes to upside or downside. User can try out other design of clothes by clicking on Change button displayed. Furthermore, user can click on three different social media platforms such as Jimdo, LinkedIn and Instagram on the screen if they want to get the image marker or ask questions directly to the founder from those platforms.

### 1.2 Problem Statement

- i. Lack of online business platform in apparel and clothing that use Augmented Reality
- ii. Shoppers could not get idea of what to buy before going to store
- iii. Less of confidence in choosing clothes designs by virtual buying
- iv. Lack of time to come to store for trying the clothes

### 1.3 Objective

- i. To analyze the usability component of AR Application for smart clothing application
- ii. To apply the usability component AR features for smart clothing development
- iii. To develop AR smart clothing application based on the AR usability component
- iv. To evaluate the usability of the AR smart clothing application for online business

### 1.4 Scope

This project's target user will concentrate on Malaysian citizen online shopper for apparel and clothing. Android phone users only can deal with this application.

The information will consist of same design and different colours of clothes for users to choose. The 3D object of AR clothes will appear after users scanning specific image or paper from their Android phone. Users who use this AR application will have various advantages such as save time in choosing design and colours and users will have more confidence in choosing clothes that can catch their eyes without having them to go to store. Besides, users can click on three different platforms for them to visit for asking question directly or getting image marker.

Augmented Reality is chosen as an interactive technique, as well as digital media that will be used as an external feature for this project to improve the result's success rate. Using the application on the Android smartphone, they can scan the augmented reality on the specific paper based on the design of the clothes.

### 1.5 Project Significance

The significant thing about this project is that it provides three stripes with different colours of clothing and interesting and magnificent way that varies from before purchasing the items confidently. This project will give users a new experience in using AR for trying clothes without having to go to store.

The application's additional content would boost the attractiveness of the existing faculty. This is because this AR application is evolving, easy to use and it is sensible. It will provide the effective and impressive method of content for customers. The use of a smartphone can be fully utilized by the end user.

### 1.6 Expected Output

Expected output for this project is can develop a functional Augmented Reality application that can be used by users to try the product. Other than that, sellers who sell product can use this Augmented Reality for marketing. Augmented Reality is another way to boost sale immediately as it is attractive and interesting. Augmented Reality is high new level that will attract any user who uses it in any kind of industries.

### 1.7 Conclusion

As a conclusion, this is one way to help users to assist consumers in facilitating purchases about the application Augmented Reality by using interactive multimedia platform. This chapter explains about the project overview, problem statements, objectives, scope, project significance and project significance for 'The Usability Study Of AR Smart Clothing Application For Online Business'. This chapter has states the overall understanding of this project. The next chapter will discuss the Literature Review and Project Methodology for this application.

## CHAPTER 2 : LITERATURE REVIEW AND PROJECT METHODOLOGY

### 2.1 Introduction

The previous chapter was discussed such as this project's problem statement, objectives and scope. In this chapter, the literature review and the current project for the piece will be explained a bit. It also includes comparative figures and tables that were created based on a project that used the same product. Analysis of literature typically relies on many tools, such as journal articles, web pages, technical report and newspaper.

The writing survey and venture technique will be represented in this chapter. The data collected from manual, papers, and web source about this application idea will be based on the purpose for helping in the development of better application meet in each of the necessities. First, the purpose of this chapter was to review every prior project or product that had been created and generated. It is connected with this project. Comparison and observation are made between past projects, defining the issue and the issue that can be changed by a new project. The distinction is made on the basis of prior project variations.

This chapter will clarify the approach that has been introduced in the creation of this project. Much of the chapter centred on critical examination of the various methodologies used in this field to determine the best approach to the research questions.