INTERACTIVE BROCHURE FOR UNIVERSITI TEKNIKAL MALAYSIA MELAKA (UTeM)

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Interactive Brochure For Universiti Teknikal Malaysia Melaka (UTeM)

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This report is submitted in partial fulfillment of the requirements for the Bachelor of Computer Science (Media Interactive)

FAKULTI TEKNOLOGI MAKLUMAT DAN KOMUNIKASI
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JUDUL: **INTERACTIVE BROCHURE FOR UNIVERSITI TEKNIKAL MALAYSIA MELAKA (UTeM)**

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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 without citations.

STUDENT : _____ Date : 28.8.2017
(AQILUL NA'IM FITRI BIN ABD KADER)

I hereby declare that I have read this project report and found this project report is sufficient in term of the scope and quality for the award of Bachelor of Computer Science (Media Interactive) With Honours.

SUPERVISOR : _____ Date : 28.8.2017
(EN SHAHRIL BIN PARUMO)

DEDICATION

To my beloved family, a million thanks for take me to this highest level in my life. The support from you all makes me more excited to success in the future.

To my supervisor, En Shahril Bin Parumo, and my evaluator, Dr. Ahmad Naim Bin Che Pee @ Che Hanapi, thank you for guiding me to make this project into completeness.

To all my friends who lend their hand to me for all the time whenever helps is needed.

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I would like to thank all of those who concern and giving out efforts to accomplish this my final year project in Degree.

First of all, I would like to thank my family. They give support to me to complete this project.

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Besides, I would like to thank all my friends. Thank you for being with me when I completed this project.

Last but not least, I would like to thank my evaluator, Dr. Ahmad Naim Bin Che Pee @ Che Hanapi for evaluate my project.

ABSTRACT

i-Brochure application using Augmented reality is a application to give an information about program offered in Universiti Teknikal Malaysia Melaka (UTeM) to prospect students. This i-Brochure is for prospect students will continue their studies for future. This is one of idea for improving the brochure to more interactive. In this i-Brochure have environment video of faculties for attract the users. This is the way to renew the previous brochure. Users also get the knowledge about Augmented Reality application and get information about UTeM. This project will use smartphone to view the application.

ABSTRAK

Aplikasi i-Brosur menggunakan 'Augmented Realiti' adalah untuk memberi maklumat tentang program yang ditawarkan di Universiti Teknikal Malaysia Melaka (UTeM) kepada pelajar prospek. i-Brosur ini untuk pelajar prospek yang akan meneruskan pengajian mereka untuk masa hadapan. Ini adalah salah satu idea untuk meningkatkan brosur lebih interaktif. Dalam i-Brosur ini mempunyai video persekitaran fakulti untuk menarik pengguna. Inilah cara untuk memperbaharui risalah sebelumnya. Pengguna juga mendapat pengetahuan mengenai aplikasi 'Augmented Realiti' dan mendapat maklumat mengenai UTeM. Projek ini akan menggunakan telefon pintar untuk melihat aplikasi itu.

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CHAPTER I

INTRODUCTION

1.1 Introduction

In this modern world, technology has been the most frequent information medium used by anyone. In the case of the brochure, it is the most widely used approach. Brochure is an informative paper document and it will be folded into a template or pamphlet. It is common marketing tool used to advertising.

According to Jorge Martin Gutierrez (2015), the utilization of Augmented Reality (AR) technology has demonstrated an incredible open door for our work gathering to investigate more attractive and proper instruments for dispersing data about our work and research ventures. Brochure can be simplified as an interactive media that can provide information for user. It is also helps deliver information more efficiently and quickly. Nowadays, the use of brochure in spreading information is still relevant but current style of brochure have less of interactive element. Interactive brochure (i-Brochure) is new platform to transform old version brochure in terms of design and shape of brochure, and use the AR technology.

This main purpose of this brochure is to introduce the faculties in UTeM for prospect student by based on AR techniques and to provide the prospect students with complete information about the program offered in each faculties in university

by using i-Brochure as one of the promotional media. This i-Brochure will have an information about offers undergraduates program.

1.2 Problem Statement

Brochure for promotion or advertising is still relevant and useful, but we need to make an improvement to the brochure in a pleasant way. By using the AR application, the students will be able to access information in the form of virtual contents which cannot be acquired from a typical paper brochure.

For the problem statement is current style of brochure have less of interactive element and prospect students did not know information about the program offered in each faculties in UTeM. By using i-Brochure, it will improve existing brochure at this time, and it will make more attractive to user with use AR technology.

1.3 Objective

The objectives in this project are :

1 - To study the requirement of an Augmented Reality application.

2 - To design and develop i-Brochure with use Augmented Reality.

3 - To evaluate the effectiveness of i-Brochure for prospect students.

1.4 Scope

Augmented Reality as a modern way of advertisement is believed to be a perfect option to support in achieving the aims of advertising. This project for introducing video environment faculties in UTeM and to provide the prospect students with complete information about the program offered in each faculties in university by using i-Brochure. But, three faculties only for the sample. It is for prospect students.

1.5 Project Significance

The significance of this projects is that it supports knowledge process through an interesting and interactive way differ from the brochure before this, which is through AR technology. This project also has few user experience factors that attracts prospect students when using it. This is because this AR applications is engaging, easy to use and it is desirable. Prospect students easily to find information and about program and course offered in each only three faculties in UTeM with use interactive brochure .

1.6 Conclusion

This is one way to help prospect students to know about program and course offered in each faculties in UTeM campus by using an interactive multimedia platform. In the brochure, there will be an introduction and overview of UTeM background and faculties. User can scan the faculties image and its will display the program and course offered. It will improve the current style of brochure.

CHAPTER II

LITERATURE REVIEW AND PROJECT METHODOLOGY

2.1 Introduction

Augmented Reality (AR) is considered as a variation of Virtual Reality. In AR, the user can see the real world, with virtual objects superimposed upon or composited with the real world. Additionally, AR generates a coalition which brings closer the virtual elements and real elements simultaneously on the screen with additional multimedia elements such as audio, video, and graphics based on the real world perception.

According to Jorge Martin Gutierrez (2015), Augmented Reality (AR) includes creating a mix of pictures in a gadget, for example, a smartphone, tablet, or match of glasses, that has a camera. Applying AR through said gadget permits the client to simultaneously see this present reality condition and corresponding virtual elements continuously.

To imagine the AR, it is important to have a medium that will actuate the application, that is, something that will make the visual components show up on screen. This brochure has some exceptionally concise data in composing a couple sections.

Augmented reality (AR) refers to a wide spectrum of technologies that project computer generated materials, such as text, images, and video, onto users' perceptions of the real world. Initially, researchers defined AR in terms of specific facilitating devices, such as head mounted displays (HMDs) (Yuen, 2011).

According to Abdul Nasir Zulkifli (2010), through this application, they can see more information through interactive shows provide using i-Brochure application. This chapter is to discuss about the literature review of the domain augmented reality. The literature review of this chapter is to study the related augmented reality application with the existing system. Then, this part will discuss about interactive brochure with use augmented reality technology.

2.2 Domain

Current style of brochure now are lack of interactive and not interesting for user. Steps for improve interactive brochure not only with the design of the brochure but we can use current technology that use augmented reality technology. Augmented reality is the integration of digital information with the user's environment in real time.

Through AR framework, user will see the real-world environment whose elements are augmented (or supplemented) by computer-generated sensory input such as sound, video, or graphics.

2.3 Existing System

According to Abdul Nasir Zulkifli (2010), this article shows the interactive brochure, an application based on Mobile Augmented Reality (MAR) which aims to simplify and give information to students.

2.3.1 UUM Mobile Augmented Reality (MAR) Brochure

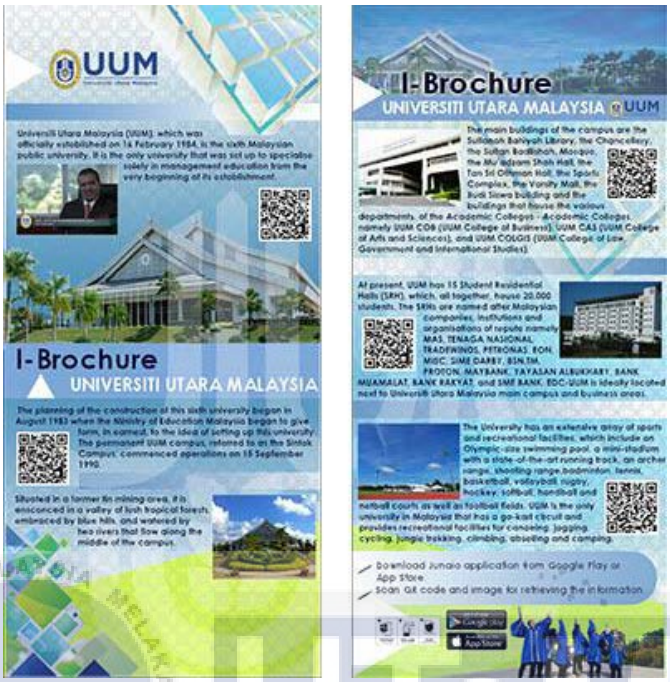

Figure 2.1 : UUM Mobile Augmented Reality (MAR) Brochure

In the picture above shown the mobile augmented reality brochure developed by Abdul Nasir Zulkifli (2010). The contents required for the i-Brochure application consist of videos, images, text, and icons. It was used QR Code in that brochure for scanning the mobile augmented reality. A formal process was carried out to identify risks and alternative actions in developing applications. It was decided that the application i-Brochure able to reached by any prospective students regardless of their location at any time as long as they have a brochure MAR.

There are other applications that are not quite the same but quite similar available on Apps Store on iOS and Play Store on Android, and they are.

2.3.2 Brochure for the Temple of Debod Augmented Reality Application

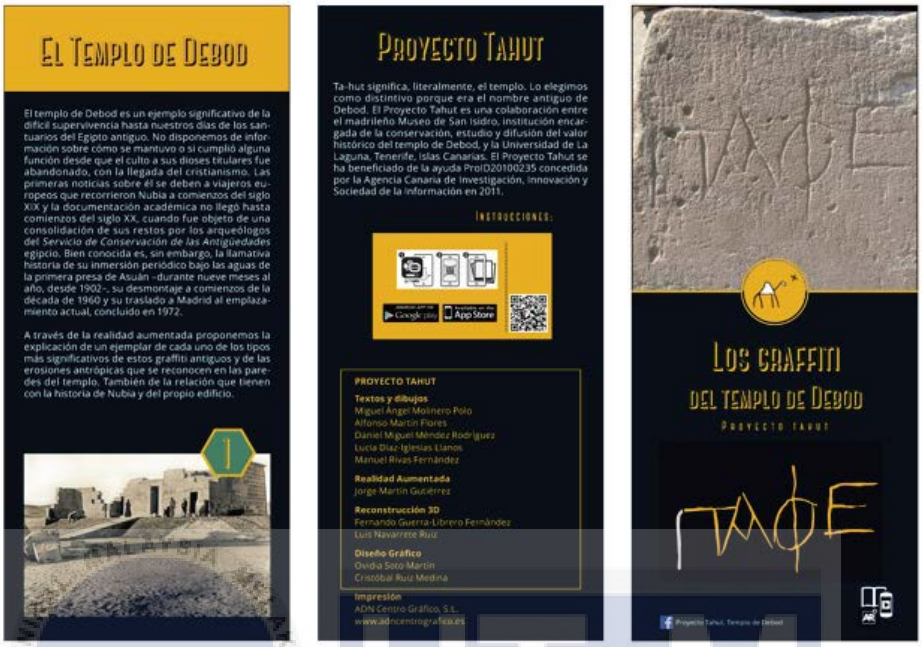

Figure 2.2 : Brochure for the Temple of Debod.

The brochure is about cultural heritage and museum at Temple of Debod. It was divided two blocks. Block 1 is about the construction of the Temple of Debod and block 2 is to 8 feature seven types of graffiti. User or visitors must have mobile device and data connection to use this brochure.

2.3.3 Interactive Floor Plans Brochure

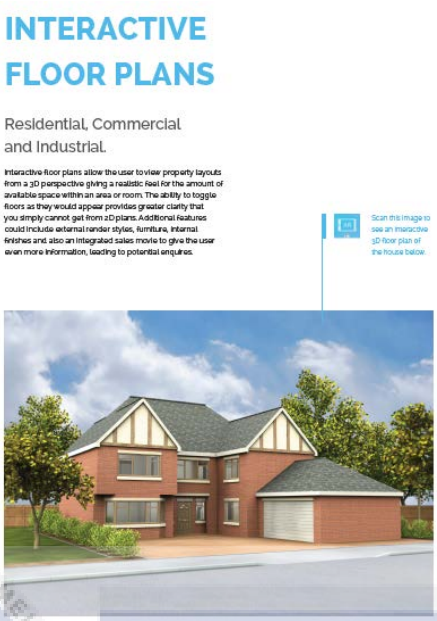

Figure 2.3 : Interactive Floor Plans Brochure

This is an augmented reality application for interactive floor plan of the house. The floor plan was created by 3D. User must scan mobile device to the image and will be display interactive 3D floor plan of the house.

2.3.4 Dewata AR

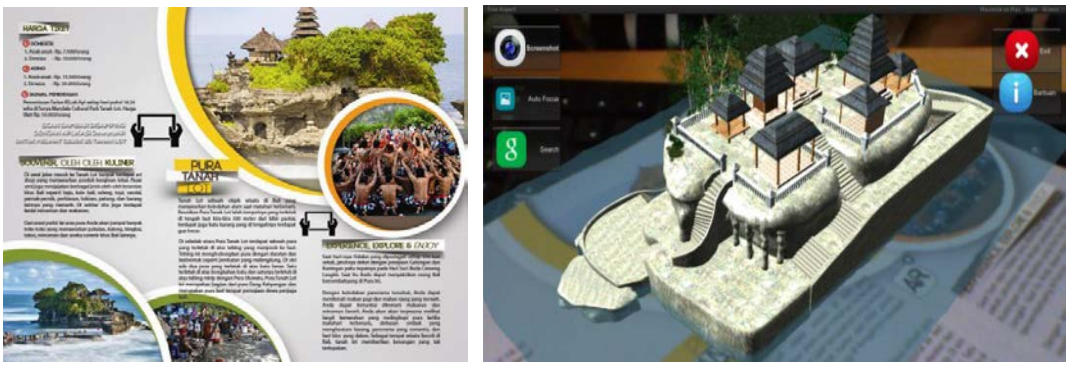

Figure 2.4 : Augmented Reality Mobile Application Brochure of Balinese Hindu Temples: Dewata AR

The above figures shown is a brochure of Balinese Hindu Temples. The image target (marker) is created using the brochure design that will be the marker.

The Temple is designed by using 3D modeling software. It use vuforia and unity software for develop the augmented reality.

2.4 Comparison of Existing System

The purpose of the comparison between existing systems is to analyze the difference of those systems on the term of usefulness, interactivity, and the multimedia elements that used in each augmented reality application. Table 2.1 shows the comparison of existing system and is explained with details below.

Table 2.1 : The Comparison of Existing System

ELEMENTS	UUM i-Brochure	Brochure Temple of Debod	Floor Plans Brochure	Dewata AR
Audio	No	Yes	No	Yes
Video	Yes	Yes	No	Yes
Animation	No	No	Yes	Yes
Text	Yes	Yes	Yes	Yes
Image	Yes	Yes	Yes	Yes

Table above shows a comparison which is the elements available or not available in each interactive brochure. There are few similar factors or properties that in every software or applications developed, which are cognitively stimulating and engaging. UUM i-Brochure and Temple of Debod Brochure was used same software to developed AR, that used Metaio Creator software. While, Dewata AR was used Vuforia SDK (Software Development Kit).

2.5 Project Methodology

The methodology of the project is very important in any development system. Either software, tool, or application, the method of the project is one thing to have to ensure that the development is progressing accordingly to the plan. The methodology for this study is inspired by System Development Life Cycle method.