

Universiti Teknologi MARA

**The Design and Development of Augmented Reality
for Japanese Learning Language**

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ABSTRACT

This document describes the process of The Design and Development of Augmented Reality for Japanese Learning Language. Using only a mobile phone camera, the student could view the superimposed 3D objects in a fun and interactive manner using the marker-based physical AR book as the interaction tool. The reason behind choosing the Japanese Learning Language as a final year project is current methods with learning the Japanese language in class can be boring, dull, and non-attractive. Students are mostly less interested to study using plain Japanese books and would rather play with their gadgets and with the technology they are surrounded by. The main aim of this research is to develop the Japanese Learning Language pop-up book to help students easy to understand the foreign language. The objectives of the study are to design the interactions of Japanese books by creating an interface AR user interface application on a mobile phone for the AR book, to design the interactions of Japanese books by creating an interface AR user interface application on a mobile phone for the AR book and to test the functionality of the AR application. This project focuses on the student's beginner level to learn the Japanese language that shows 3D images, animation, and audio. This project is using Augmented Reality which is developers are interested to make the learning process becoming interesting in order to attract student's interest to learn.

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CHAPTER 1

INTRODUCTION

This chapter provides the projects background and other related components for detailing project proposed will be explain.

1.1 Background of Study

Augmented Reality may be defined as “an actual time direct or oblique view of a bodily real-world environment that has been enhanced/augmented by adding digital computer-generated information to it” (J. Carmigniani, 2011). It is easy to use in education especially among youthful generations because this kind of display is transportable and widespread. Nowadays, the superposition of digital snapshots and media over a bodily object which is an image, object, or others equipped with cameras, applications, and the internet that allowed by mobile devices. The user is exposed to improve virtual layers positioned on top of the real object by viewing an object through a mobile device camera. The user’s camera points at the predefined trigger, namely an image or object that shows augmented media such as video, 3D, and animation are sent to the mobile device from an online database.

Augmented Reality as a system with three essential features which is a combination of real and virtual dimensions, interactions in actual time, and adoption of 3D (Azuma, 1997). To help student strategy facts and its visual perception,