

**Universiti Teknologi MARA**

**UNDERSTANDING HSRP USING  
AUGMENTED REALITY (AR)**

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## **ABSTRACT**

Augmented reality is technology that is based on virtual reality. It presents information generated by the computer on the real world using a camera. This technology has the potential to draw students' attention to visualize a layer of information on real objects using handheld mobile devices such as tablets and smartphones. The objective of this project is to design and develop the augmented reality application notes for Hot Standby Routing Protocol (HSRP). This application will be a tool for students to enhance their knowledge and motivation in learning about the HSRP protocol. The benefits of this AR application are the mobility of it as students can use the application anywhere and anytime, they wanted. Furthermore, this application prototype may lead to another prototype of AR application that may help students in learning more networking subjects.

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# CHAPTER 1

## INTRODUCTION

A brief explanation on the context of projects and other related materials and portion proposed for detailing the project will be discussed in this section.

### 1.1 Background of Study

The use of advanced technologies and techniques such as multimedia and virtual reality in education has been widely used tremendously and turn more common in this new era. The new technology, augmented reality (AR) even though has been well developed in overseas countries, it is still in its budding level in Malaysia. Therefore, the use of its applications in education need to be explored in depth to show the effectiveness of the technology in teaching and learning in Malaysian education.

AR is an essential social need for educational change by implementing innovative educational practice with the usage of computer technology (Ardito, C., 2006). It is also strongly suggested by using AR application, the learning environment are more attractive, stimulating and exciting for students. Students certainly enjoy the interactive learning manner as it encourages them to be more engage in the process of learning.

Thus, for students who are interested in networking, the routing and switching protocol is knowledge that is needed to know. In order to further enhance the understanding of networking protocol, the use of AR application is an option to comprehend the topic is an effective solution.

### 1.2 Problem Statement

As students transition from CCNA to CCNP syllabus, the subject is tougher and challenging as it tests the students' knowledge limits. Hot Standby Redundancy Protocol (HSRP) is a protocol that is all about path-control or how to engineer the traffic path to flow based on business needs. This topic tests the students' knowledge regarding the protocol, such as how all the available functions and features can work together to control the traffic flow. This topic is considered a burden to students since it requires a solid understanding of how the packets flow through a network from end-to-end and how to alter the flow when necessary. As CCNP Routing and Switching are about advanced routing and switching concepts, not all of them will be covered. Therefore, the students find out the topic of HSRP is a bit difficult to comprehend since they do