

DESIGN AND CONSTRUCTION OF A GATE DOOR PORTAL OPEN CLOSING SYSTEM WITH AN INTERNET OF THINGS BASED AUGMENTED REALITY INTERFACE

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ABSTRACT

Advances in Android smartphone technology that can be combined with the Internet of Things and Augmented Reality. This technology can open gate portals just by using the Augmented Reality application on an Android that has an internet connection and directing the camera at a special mark taken from the Vuforia license code to display a virtual button. The method used is to look for problem formulations and study previous research. Housing generally uses conventional energy to open door portals which is carried out by housing guards. This will later be processed in the design of the Internet of Things-based Augmented Reality interface. The application designed will be used by housing residents and is created with Unity which has been configured with the Blynk cloud. The virtual button can be seen when the Augmented Reality interface is pointed at the mark. There are three buttons, including two main buttons for opening or closing and one exit button. Pressing the open button where an object is in the ultrasonic sensor area produces an open servo motor output with the LED indicator light on. The open button will not work when the ultrasonic sensor does not detect the object. The door portal system will close automatically when the object is outside the range of the ultrasonic sensor.

Keywords: *Augmented Reality, Internet of Things, Android, Virtual buttons.*