ABSTRACT

IoTAR is a technology that combines the Internet of Things with Augmented Reality. Internet of Things as a means for devices created by involving Sensors, Connectivity, and Data Communication. Augmented Reality as a means to display information and control the logic of data communication whose interface is a 3D Virtual object that is combined into the human world and can be viewed through a smartphone screen. This Final Project was created on the basis of the problem of IoT users who cannot directly see the controlled device so that the interaction between machine to machine is only limited the control of the IoT control menu. The construction of this Final Project aims to examine how Augmented Reality can communicate with the Internet of Things. In this Final Project, it emphasizes the software side of UI / UX design in Augmented Reality and also emphasizes the communication system between IoT and AR. The communication system uses an API, which is Blynk's HTTP RESTful API. The communication logic that will be applied is ON/OFF/GET logic, and to prove this logic this Final Project will display the interface to the user in the form of a 3D control menu Augmented Reality Object. From the results of this study, the data measured was the tracking marker time, and the communication response time from IoT and AR, and from the tests carried out on this tool, it was found that the time for the tracking marker was 1 - 2 seconds, and the IoTAR communication response time was 1 - 2 seconds.

Keywords: *IoTAR, Unity3D, Vuforia Engine, HTTP RESTful Blynk API*