

## **ABSTRACT**

### ***DESIGN AND IMPLEMENTATION OF INFRARED UNIVERSAL REMOTE BASED ON INTERNET USING SMARTPHONE***

*Remote is one of the electronic devices that are widely used in everyday life. Remote usage on electronic devices is generally still less efficient, because on one Remote hardware can only be used for one electronic device only at close range. There are several cases that often occur in a house is damaged Remote because of falling or crushed and apparently human itself put the Remote carelessly, so that electronic devices must be controlled manually.*

*In this final project designed a system that combines between mobile Remote with universal Remote. The implementation of the system in this final project using infrared universal Internet-based Remote with smartphone. This system uses applications on smartphones connected to the internet via Node MCU ESP6288 and Firebase as a signal transmission medium from smartphone to infrared transmitter found in Arduino Mega to control electronic devices (Television, Air conditioner and DVD Player). So this system will be able to reduce the amount of excess Remote usage for different electronic device controllers.*

*From the results of tests conducted, it was found that the Universal IR Remote system can work well. The system can control electronic devices (Television, Air Conditioner, and DVD Player) with a maximum distance of 1273 cm and maximum degree of  $45^{\circ}$  from the Infra Red center point. Based on survey results, the satisfaction level of Remote usage reaches 83,3% from 10 correspondents.*

*Keyword: infrared, Remote, electronic devices, wireless.*