

## **ABSTRACT**

*A charity box is a place to save money in the form of donations in a mosque which is provided in many places such as mosques and prayer rooms as well as public places that use security features such as locks in the form of padlocks. Many crime cases such as theft and burglary that often occur today are cases of theft and burglary of charity boxes committed by some people who do not have a sense of responsibility. This study designed a charity box security system using several electronic components such as ultrasonic sensors, MPU-6050 sensors and the Neo-6M GPS module using the Telegram application as reporting. The ESP-8266 nodemcu microcontroller control board plays an important role in processing commands so as to get information output on hardware and software that has been installed in the charity box security system. Another feature of this tool is equipped with a buzzer as a warning in the form of a sound if the activity process exceeds the specified one, it will sound loudly according to the conditions. The level of accuracy by the ultrasonic sensor by finding the error value is carried out with 3 examples of distances, namely 10 cm, 20 cm and 30 cm with an error percentage of 0.10% - 0.45%. The level of accuracy by the MPU-6050 sensor by finding the error value is done with 3 examples of slope values, namely 30°, 60° and 90° with an error percentage of 0.36% - 1.51%. Find the difference between the distance between the GPS module and Google maps with an average difference of 8.57 meters. The results of system testing show that the tool is functional so that it can provide warnings and send messages via Telegram.*

**Keywords:** *nodemcu ESP-8266, ultrasonic, MPU-6050, GPS Neo-6M, Telegram and buzzer*