ABSTRACT

Indonesia has many natural resources, one of which is the sea. With this wealth, some Indonesians become fishermen and one of them is a floating fish catch fisherman. However, only monitor and good communication between fishermen and fishermen on the other hand often happens. The purpose of this research is to make it easier for fishermen to get closer and communicate with fishermen on the other side of the chart so that they can increase fishing with the construction of a LoRa-based communication system.

The implementation in this research is in the form of a prototype that sends data from the LoRa sender to the LoRa gateway so that the information data can be sent back to the Firebase database. In this final project, it is explained that the design of the tool used and the solution to the problem so that the expected result is the design of a tool from several sensors such as GPS Neo6M, DHT11 and pushbuttons as the sender of SOS data (Save Our Soul) and the data transmission is successful.

The results obtained in the form of receiving sensor data from LoRa sender are the difference in the latitude and longtitude coordinates of the Neo6M GPS sensor and GPS smartphone of 0.35563 meters, the difference in temperature and humidity error values from the DHT11 sensor and thermometer the difference between 0% to 1.38% for each test carried out and the results of the humidity error value from 2% to 7%, receiving SOS data and red LEDs and buzzers on the LoRa gateway and sending data for all sensors to the Firebase database.

Keywords*: Arduino Uno, Firebase, GPS, LoRa, Notification, SOS.*