

ABSTRACT

Technological advances in the telecommunications sector have become a hot topic in society. This will have a positive impact on the wider community in supporting their daily activities, including fish cultivators. Therefore, this research was carried out in line with the development of techniques to help advance the development of aquaculture in fish ponds. In a study entitled Autonomous Fish Feeder Swarm Boat, it is easier for fish cultivators to provide fish food depending on the size of the portion of fish feed in the fish pond. The Autonomous Boat design system is made by considering how the communication system works and the implementation of the Autonomous Boat makes the tool easier to use.

Based on these problems, this final project designed an Autonomous Boat Communication System and Ground Control Station to Support Autonomous Fish Feeder Swarm Boat Research at the INACOS Laboratory of Telkom University. The tool used in this research is the built-in WiFi communication module of the ESP32 and Raspberry Zero W microcontrollers. In this Autonomous Boat communication system, the transmitted data is displayed on the Dashboard-based Ground Control Station.

Keywords: *Communication System, WiFi module, ESP32, Raspberry Zero W, and Dashboard*