

ABSTRACT

Indonesia's potential in the field of fisheries is very large because Indonesia is a mega diversity or has a diversity of fish in the sea and in fresh water. Large-scale fish farming activities in Indonesia are carried out in large ponds, for example tilapia cultivation, with large ponds usually cultivators only feed fish on the edge of the pond because it is constrained by the size of the pond. So, the Unmanned Surface Vehicle (USV) Fish Feeder is a solution for automatic feeding in large ponds, this tool will move to a point that is not reached by farmers in feeding using a predetermined waypoint, when it arrives at that point this tool will feed the fish according to a predetermined amount, this USV moves using GPS and IMU (EKF) in determining the position and direction of USV. Pixhawk controls this tool so that it runs according to the given mission, pixhawk programming uses the Mission Planner software, in this software the determination of waypoints, component calibration, PID control, and as a ground control station (GCS) for monitoring the motion and position of the tool using radio communication from 433MHz telemetry connected to device and pc/laptop.

Keywords: USV, waypoint, fish feeder, GPS, mission planner, GCS, pixhawk, telemetry, fish farming, latitude, longitude.