

ABSTRACT

The use of drones has grown rapidly from military applications to commercial and personal purposes. Drones are a potential solution to reduce risks to personnel and cargo. This study aims to design an effective drone navigation system for frontline supply delivery missions using the Grid Map method. This method was chosen to improve route accuracy and avoid obstacles during delivery. The integrated drone control system includes position sensors, compasses, and optical flow sensors, to support optimal delivery operations. Identification of the best route is the main focus to ensure safe and efficient delivery. The results of the study showed that the use of the Grid Map method and the integration of a reliable control system with a total system accuracy of 63.22%. This study is expected to contribute to improving drone operational capabilities.

Keywords: (Delivery Drone, MAP Grid Method, Quadrotor)