ABSTRACT

The increasing demand for fast and reliable food and beverage delivery services has driven the need for innovative solutions to address various issues, such as traffic congestion, high operational costs, and limited access to remote areas. One proposed solution is the utilization of semi-autonomous drone as an efficient delivery method, capable of providing faster delivery times, reducing operational costs, and expanding service coverage. To support this solution, a mobile application was developed that integrates with a semi-autonomous drone system, enabling users to place orders and track them in real-time. In addition, the application is equipped with a face recognition feature for authentication to ensure security during the handover process.

This research adopts the iterative incremental method for development, which consists of stages such as problem identification, requirement planning, system design, implementation, testing, evaluation, and documentation. Each stage was developed gradually and refined based on user feedback. Usability testing using the System Usability Scale (SUS) yielded a score of 95, indicating a very high level of user satisfaction. The integration of live drone tracking and face recognition-based authentication demonstrates the system's potential to enhance security, speed, and user experience in food and beverage delivery services.

Keywords *— face recognition, iterative incremental, live tracking, mobile application, semi-autonomous drone*