APPLYING PACKAGE SELECTION BASED ON DISTANCE USING THE ANDROID-BASED HAVERSINE METHOD

(Case Study: Lion Parcel Siliwangi Sleman)

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ABSTRACT

In the package delivery process, a courier's ability to organize and manage goods is crucial in enhancing the efficiency of delivery routes. The package sorting application is designed to minimize errors in grouping packages before they are placed in storage containers. Couriers use the application to prioritize packages destined for the farthest locations, ensuring they are loaded first, while packages with closer destinations are arranged at the top. The methods employed include scanning the receipt code on the proof of delivery and calculating the distance between the courier's location and the recipient's address using the Haversine formula. The application's functionality is assessed through a series of tests, ensuring its features operate according to the established specifications. The trial was conducted with a sample of five couriers and five delivery service managers, who were tasked with completing a form containing inquiries related to the package sorting application. The efficacy of the application was gauged by comparing the number of errors before and after its implementation, which exhibited a 96.88% decrease in package grouping errors. The findings substantiate the notion that the application has effectively mitigated errors in the sorting process, thereby expediting package arrangement. Consequently, delivery delays are reduced, customer satisfaction is enhanced, and the quality of service for delivery service companies is improved.