

*DEVELOPMENT OF AN ANDROID-BASED DELIVERY ROUTE SELECTION
APPLICATION USING THE HELD-KARP ALGORITHM*

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ABSTRACT

Delivery of goods has become part of society's economic growth today. In the digital era and the advancement of e-commerce, the need for goods delivery services is increasing. However, the process of selecting efficient and optimal delivery routes is still a complex challenge. Currently, some couriers and delivery service providers still rely on manual methods or inaccurate estimates, resulting in inefficient deliveries and higher costs. Based on previous research, the Held-Karp algorithm provides better results than the Iterative Deepening Search algorithm in finding optimal delivery routes. Therefore, in this research, an Android application was developed using the Google Maps service and integrating the Held-Karp algorithm. The Held-Karp algorithm is used to optimize delivery routes by considering the most efficient distance and delivery sequence. The results will be displayed in an interactive map, making it easier for couriers to carry out their delivery tasks. By using this application it is hoped that it can increase the efficiency of delivering goods, reduce delivery time, and optimize the utilization of courier resources. Developing this application requires knowledge of the Held-Karp algorithm, Android-based programming, and integration with map services such as the Google Maps API.

Keywords: Algorithm, Held-Karp, Android, Google Maps API.