

ABSTRACT

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DEVELOPMENT OF A WEBSITE FOR FINDING THE SHORTEST ROUTE TO HOSPITALS AND FIRE STATIONS USING DIJKSTRA'S ALGORITHM

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(xiii + 62 + Appendix)

Time efficiency is a critical factor in handling emergency situations such as accidents or fires that require a quick response from medical services and firefighters. This study created a website-based system to find the shortest route to hospitals and firefighters that observed 12 hospitals and 3 firefighters spread across 4 sub-districts, namely Cibinong, Citeureup, Sukaraja and Bojong Gede. The research method uses the Dijkstra Algorithm which consists of data collection, needs analysis, distance calculation with Haversine Formula on graphs, shortest route search and design. The results of the study in the form of a website with the url address <https://pathwise.vercel.app/> show that the system has succeeded in helping the community in finding information and determining the shortest route to emergency facilities around the location. The system has also succeeded in developing a structured database to store and manage hospital and firefighter coordinate data, so that it can provide accurate and reliable information to users in emergency situations. The system is able to implement Next.js as a frontend and Express.js as a backend API and PostgreSQL as a database.

References (2018 - 2025)