DESIGN AND CONSTRUCTION OF GIS-BASED FOREST FIRE MONITORING SYSTEM USING ANDROID APPLICATION

Luthfi Luqmanul Hakim

Electrical Engineering Study Program, Faculty of Science & Technology
University of Technology Yogyakarta
Jl. Ringroad Utara Jombor Sleman Yogyakarta
E-mail : luthfiluqmanulhakim0@gmail.com

ABSTRACT

Forest and land fires (karhutla) are one of the problems that are often faced by Indonesia, especially in the dry season. The forest has a large area and it is difficult to pinpoint the source of the fire so most people notice a fire when it starts to grow and emits black smoke rising up into the sky. This research focuses on designing a map application design based on Geographic Information System (GIS) and Wireless Sensor Network (JSN) in processing temperature, humidity, smoke concentration, latitude, and longitude data in a realtime database. Research on forest fire monitoring systems aims to track and inform the location of forest fires through an application in the form of a map in the form of a marker. The calculation of the success rate was carried out on application testing using the BlackBox testing method, obtained a success rate of 92% and a Likert scale survey of 10 respondents got a percentage score of 83% which was included in the very good category.

Keywords: Forest fire, Geographic Information System (GIS), Wireless Sensor Network (JSN), application, realtime database