

Development of an effective road management system using web-GIS software

ABSTRACT

Recently, there has been rapid development of road transportation networks. This situation arises due to the number of vehicles on the road that keeps increasing year by year. Thus, this will increase the possibility of dangerous situations to road users if the roads are not being maintained appropriately. Therefore, in order to keep the roads in safe condition, road management activities should be improved. A complete system for road management has been applied in developed countries for the past decades. However, the usage of application programming interface (API) from commercial geographical information systems (GIS) software has limitations in making modifications in terms of interactivity of the system. In this paper, open source software (OSS) is proposed as a way to assist in reducing the costs in developing a web-GIS road management system. The system can be used by administrators of road networks to update the road information. At the same time, it can be used by road users to view information regarding road-related incidents.

Keyword: Road management system; Web-GIS; Open source software (OSS); Three tier architecture; OpenLayers