Abstract

The development of infrastructure, especially road infrastructure carried out by the government is to overcome congestion due to the development of the increasing number of motorized vehicles that encourage the government to build new road infrastructure. Development without regular maintenance can have an impact on the damage to infrastructure that has been built. Maintenance of roads manually by checking is done by humans, takes time and large resources so it is inefficient. So to overcome this problem in this thesis make an application that displays road damage based on displacement data and GPS that has been recorded with an accelerometer sensor on a smartphone. This gis web application utilizes Google Maps as a means to visualize road damage. Fuzzy logic is used for the classification of hole colors on the Google map based on the data displacement (depth and length) of the hole. So the application displays the level of road damage information. Visualization is done by interpolating gps data with length and visualization without interpolating gps data with length. The results of visualization with GPS data interpolation are more in line with hole length compared to visualization without interpolation.

Keywords: web gis, fuzzy logic, accelerometer.