

DEVELOPMENT OF A WEB BASED GIS TOOL FOR BRIDGE MAINTENANCE MANAGEMENT.

A case study of mjini magharibi Zanzibar

By

AMANI MUSSA ALI, 2021

Abstract

Railway and highway bridges are an expensive and important part of the land transport infrastructure. They represent a major investment for society where an important of that investment goes to the inspection and maintenance. Safe and efficient mobility of goods and people require periodic monitoring and maintenance of all transportation infrastructure assets including bridge . Due to the high-level spatial data handling capabilities, GIS technology is considered being increasingly for the implementation in many infrastructure planning and management systems , particular in bridge management system. There has been an increasing need for geospatial information that is delivered through internet technologies.

The main objective of this research is to develop a web based GIS (WBDIS) tool that provides real time and accurate information for bridge maintenance management. This accomplished by integration of GIS, internet and database. The coordinates collected by GPS was transformed into shape file by using QGIS. The application was developed using open layers and geoExt, the Apache Tomcat and geoserverthe technology. It used as a web server and map serve respectively were configured with posgresql that consisted a bundle of postages for geospatial information.

The result found that a fill web based application is capable of providing map searching tool that displays map with a meaningful information and allow users to visualize, control , interact, evaluate, and manage bridges information . The study concluding that web based GIS application can provide map functions as those provided with des

Ktop GIS application, more value of being remotely accessible, General any computer can access the information gathered by GIS without having GIS software installed on it.

M.Eng (maintenance Management) dissertation Dar es Salaam institute of technology, 2021