Implementation Prototype

Introduction

The implementation of a geoportal for Western Cape Disaster Management is expected to improve the disaster evaluation, response and recovery departments by providing more detailed information about disaster sites and georeferenced data for analysis and research in these specific areas. A geoportal will provide a user interface that is easy to use and can handle queries for specified information about disasters in the Western Cape. A geoportal is especially useful for Disaster Management as the georeferenced data allows for easy disaster tracking, response and recovery route planning, vulnerability evaluation and the proximity of services from disaster sites. The implementation and the structure of the geoportal in handling these queries and processes and the communication between these structures is discussed below.

Discussion

The design E-R diagram describes the proposed system to be able to define routes and site analysis using the georeferenced data. However, route planning and analysis can only be conducted if a disaster incident has been reported or occurred. Unfortunately such information is dependent on data sets that are collected over a period of time and is reliant on a disaster actually happening. We have thus designed our geoportal to just handle queries on location relative to care centres and the service areas around the Western Cape.

The location of care centres and services coupled with street addresses and roads in the Western Cape form the basis for emergency route planning in the instance that a disaster occurs in these areas. Once a disaster occurs, it can be responded to via the determined emergency route and evacuated thereby. The collateral of these disasters can also be measured by defining affected area radiuses in the maps.

On the geoportal a search page and metadata site is also provided for to enable users to locate services and roads. The user can search the site and scroll to find metadata on the layers.

Conclusion

The designed geoportal as mentioned above requires data for tracking for higher order queries and this can only be developed over a period of time during which disasters occur. Currently, the geoportal serves as a useful interface for the user to locate the closest service centre and plan routes. This is only the basic level of functionality of the service and can be developed on provided the necessary information becomes available. This project showed how important metadata is for queries and how information can be used in combination to create new kinds of data.

Workload & Individual Contribution

The workload was evenly distributed between myself and Thobeka Gumede. We performed the analysis of each task together and then split the physical workload. We both contributed to the drawing of the diagrams. Thobeka built most of the website and I worked the Virtual Machine. We combined our efforts for the final website which can be found at:
http://thobekagumede.wixsite.com/website