Abstract

Monitoring the rivers of Trinidad and Tobago has proven to be of great importance in the maintenance and preservation of these rivers. As a result the Center for Project Management and Civil Infrastructure Systems of the University of Trinidad and Tobago required an information system to track the state of the rivers in Trinidad and Tobago. The information system comprised of a web based application and an underlying database which stored the relevant river data.

The application had to be designed to present various levels of access to the data within the database as well as provide the option to update the contents of the database. In addition the application required web mapping technology to be incorporated in order to display maps depicting the rivers and their corresponding data.

The application was developed using an object oriented approach. Design patterns such as the façade pattern, the factory pattern, the strategy pattern and the adapter pattern were used to develop a scalable, easy to use application. Objects were also used to create different interfaces for the various user levels. The web mapping functionality was achieved by utilizing the PHP Google Map API within a map adapter object.

The application was accessible to a large audience since it was web based and provided easy to use interfaces. Users were able to view research data on the interactive Google Maps and were also able to navigate the site using the maps.