Bobcat Technology

Proposal for Web Application based on CTfastrak Data

Intended Use

This system will be used by patrons of the public transit system of CTfastrak. They will use this system to gain information about bus locations, bus stop locations, and bus arrival times. This will be useful for people to make better use of their time by planning their commute. Users will access this data through a web application. This application will show bus locations in real-time along with estimated arrival and departure times. Service alerts can show up as notifications in the application.

Functionality

The main component of this application's user interface will be an interactive and intuitive map. In the interest of ease-of-use, the functionality provided to navigate and manipulate this map will be familiar to users of Google Maps and other online map systems, so there will be no additional learning curve for this application. Users will be able to select types of data that will be layered on top of the map as icons, such as bus stops, real-time bus locations, and bus routes. Clicking on any of these icons will provide a pop-up of additional information. For example, clicking on a bus stop will display the next bus arrival time in addition to a list of future pickup times. Clicking on a bus icon on the map will show that vehicle's route and when it is expected to reach its next stop.

System Design Overview

The proposed foundation of the system will be an interactive map using the Google Maps JavaScript API. The system will also rely on real-time data feeds provided by CTTransit.

In addition to the process of querying the CTTransit data feeds to gather the necessary data. Another back-end process will be to format the data so that it is usable by whatever map platform we use. The CTfastrak real-time data is served in GTFS or JSON format. The real-time data is broken down into 3 sections which are trip updates, vehicle positions and service alerts.

The real-time data containing the vehicle locations and arrival and departure times will be obtained through the CTTransit real-time data feed in JSON format. JSON is JavaScript Object Notation and seems to be the most suitable for our application given that the Google Maps API has many examples that use data in JSON format. This data will be imported for use in our application using AJAX requests. AJAX stands for Asynchronous Javascript and XML and this is what will allow our web application to continuously query and update the CTtransit data without reloading the webpage every time a query is made.