

# **Traffic Monitoring System**

## **User Documentation**

Group #7

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## **Website User Documentation**

The website-based application can be accessed through a variety of browsers. Open a browser of choice and enter the following URL: <http://traffichistory.org/>. Once the page is reached, the home page is shown with a variety of menu options for the user to choose from.

### **Home Page**

The Available options are "Home", "Services", "Project Progress", "Group Members", and "Login". Clicking the "Home" button brings the user back to the home page of the website. Hovering over "Services" will reveal a submenu of "Map" and "Directions". Clicking on "Map" brings the user to the traffic incident page. Clicking "Directions" brings the user to the directions page. The "Project Progress" button brings the user to a page showing the relevant documentation for the reports submitted so far. Finally, the "Group Members" button brings the user to a page that lists the members in Group #7. Clicking "Login" brings the user to the login page. When the user is logged in there is an addition "Recent Searches", which the user can hover over and hover again over the "Map" and "Directions". This brings up another submenu of recent searches the user can click on and automatically view that search.

### **Application**

The most substantial of these choices is the "Map" option under "Services", which brings the user to the website-based application. This application allows for the following options for the user to submit: one text box to submit the zip code desired, one dropdown menu to describe the time the user wishes to observe, one dropdown menu to describe the weather the user wishes to observe, and one button used to submit this information. The page will validate the inputs and let the user know if an input is required or input in a wrong format.

One example of data the user can submit is: "07016" in the zip code text box, "9am-12pm" in the Time dropdown menu", and "Sunny" in the Weather dropdown menu. Once the user clicks the submit button, the application will search for traffic points in that region, and it will attempt to display those points on an overlay of the map of the area. The image shows the points placed on roads of the user's desired zip code, and the points have colors marking various intensities of traffic. The list of colors is available for viewing above the output picture.

The image displayed is large (1280 x 1280 pixels), so the user may be unable to view the entire image on his or her screen. The webpage has scrollbars that the user can utilize to more fully view the output map.

After viewing the output picture, the user has several options. He or she may: enter another set of data to view the traffic severities, click any of the menu options to bring him or her to that page, or close the window to be finished with viewing the website application.

The second functionality of the website is the "Directions" page under "Services". This page allows the user to submit the following options: a text box for starting location, a textbox for destination, and a dropdown menu for the estimated leaving time. The purpose of these inputs is to display a list of

directions according to the User's inputs, as well as a map showing the route the User can follow. The page will validate the inputs and let the user know if an input is required or input in a wrong format.

One example of data the user can submit is: "Verona, NJ" in the starting location text box, "Montclair, NJ" in the destination text box, and "9am-12pm" in the time dropdown menu. Once the user clicks the submit button, the application will find a list of directions and a map showing the route. These items are displayed for the user on the "Directions" page. The route found is optimized to avoid all areas with a high traffic concentration.

The list of directions shown is in table form, with the list of maneuvers and distance the User must follow at each point. Below the table, the total distance and estimated travel time are listed. The map showing the route is displayed below the list of directions. A static map from the MapQuest API is used, and the route the User should follow is highlighted in purple.

At this point, the User may choose to input another set of directions, they may click any of the menu options to bring them to another page, or they may close the window to be finished with viewing the website application.

## **Mobile Application User Documentation**

When the user starts the Traffic mobile application by tapping on the icon, they are greeted with a screen containing two buttons. The top button is for getting a traffic report from the web service, and the bottom button is for sending a traffic report to update the database. In total, there are two total paths that the user can take to complete interaction with the application.

If the first option is chosen, the user can input a zip code, choose a time period from a dropdown menu, and choose weather from another dropdown menu. Afterwards, they press the Get Report button and this path is concluded.

If the second option is chosen, the user can input the traffic intensity they wish to report by selecting from the available choices. Then they press the button to submit the report and this path is concluded.

Another functionality is reporting a traffic incident. The user would click report a traffic incident and bring up a page with a severity value from 1-5 (one being the least severe, five being the most severe). After selecting a severity value, the user will click the submit button and the incident will be reported and the user notified if his submission was a success.