**INFO263 PROJECT REPORT**

**Dev Group L**

**Group Members:** Bojian Huang,Gregory Murray, Ben Thomas, Weilin Yan

**Website Description**

The first requirement to be implemented into the prototype was to display the list of all available routes recorded in the database upon loading the web page. This was achieved by creating a function (getall()) within database.php. This connects to the database and executes the SQL code to display the available routes that are within the database ("SELECT \* FROM routes") the connection is then closed and the array of available routes is returned and updated to the web page. This is illustrated in Figure 1.1 below.

**Fig. 1.1**



Secondly, upon selection of a route in the table, it was required to display all vehicles currently on that specific route. This was achieved by creating another function within database.php (getTripsByRouteId($routeId)). This function uses the input of a bus route id to determine the buses on the route which is found using ""SELECT \* FROM trips where route\_id='$routeId'". After the SQL code is executed the connection to the database is closed and an array is returned by the function.

The third requirement was to make it so that on selection of a vehicle on the map, additional information about the vehicle is displayed. This was achieved by implementing a function created within map.js called addMarkersToMap(MarkerWithDetail) this acheived by getting the selected position and using google.maps.event.addListener() to recieve the latitude, longitude and vehicle id. The received data was used on the webpage as illustrated in Figure 1.2.

**Fig 1.2**



The fourth requirement was to add an auto resize capability to the map to show the additional information for the last item/items added. This was achieved by firstly identifying the global “bounds” variable. Then when using addMarkersToMap(), bounds.extend(position) is used to update bounds. map.fitBounds(bounds) and map.panToBounds(bounds) were then used to resize the map.

Lastly, a feature was to be added that updated the map every 30 seconds to reflect the updated vehicle positions. This was achieved by creating the function setInterval() within index.php to send ajax every 30 seconds to update the map.

**Server-side**

On the server side of the web page PHP is used as this scripting language allows for easy extraction of data from a SQL database. Doing so allows the data of the bus routes and busses to be found by implementing SQL statements (Using "select from \*").

**Client-side**

On the client-side of the web page Javascript functions were made to initialize the map and update the markers. This was decided to be used as writing the map on the JavaScript allows the website to update the map on the website quickly. CSS is also used on the client-side of the web page. CSS gives a better styling to the web page.

**Reflective Summary on Teamwork**

Overall the group was satisfied about how we collaborated to complete this project. In the early stages of the project, most of the communication was done via e-mail and text, as we looked to establish each members’ role and what task they were to complete. As it got closer to the due date, face to face meetings were held as this was the easiest way to share code as well as keep everyone in the group up to date on the progress of the application. In regards to assigning the tasks between group members, we decided that tasks 1, 3, 4, and 5 would be completed by one member each and that everyone would collaborate to complete task 2, as it had the highest marking value in the project. However, if anyone was unsure about any pieces of code or were stuck at any point, the group members would first consult with each other and if still unsure, look to the tutor for assistance. As far as what went well and what didn’t go well in the project, we would say that effective communication did not take place until closer to the due date of the project, which put a little time pressure on everyone, but once communication was established every group member was assured in their respective roles. Each group member was comfortable in looking to the others for assistance and as stated above we were all satisfied in the end about how we collaborated to complete the project. We all agree that next time around it would be better to establish communication sooner to put less time pressure completing the project.