FINAL YEAR PROJECT

Traffic Congestion Tracking System

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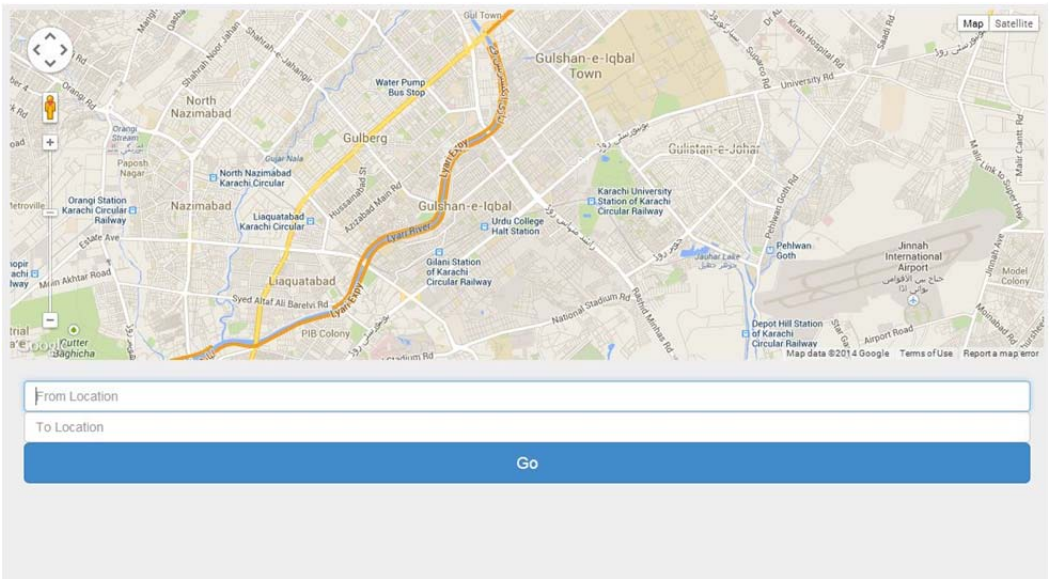
Introduction:

Due to larger number of cars and lesser number of neat roads, Pakistani roads often get congested. Therefore, it is likely that you would get stuck in a traffic jam somewhere around town. Other than this, it is also highly possible that you might run in to a blocked road due to VIP movement of a military general, minister or diplomat. Also due to the increased uncertainty of the political situation prevailing in the country, you might get stuck due to the blockage of the major roads because of rallies and political *'jalsas'*. Another reason of traffic congestion in our country is rain.

To some corporate people in our country, time is a very valuable resource and getting stuck in traffic due to the above mentioned reasons can be a pain for them. Therefore, as our final year project, we are working on making a mobile application, which will serve the customers of TPL-Trakker by providing them with useful information about the traffic on their route. Before leaving for some place, TPL-Trakker users can track the traffic congestion through the application, if the roads are blocked, they can wait for the roads to unblock before leaving or can take alternative routes.

TPL-Trakker is our partner in this project and is providing us with its valuable data. This system will track traffic congestion on the major roads of Karachi using the data of TPL-Trakker company. Only the relevant information can be viewed by the customers and this will be done by requiring the customer to enter the source and destination of his/her journey, which will be used to track the traffic on the major roads between the source and destination provided by the user. The notifications and useful information about traffic will be provided to customers in the form of text and colors on a map embedded in the application.

Furthermore, the application will provide the user with alternate routes so that if one route is congested, then the user will be notified of any alternative route if there exists any. This will enable the customers to choose the best suited route in case of traffic congestion. Also, if time permits, we will work on enhancing the features of the application by enabling the user to set his/her schedule so that the application automatically notifies him/her about the traffic situation right when he/she is leaving.


Map
Satellite
Gulshan-e-Iqbal Town
Water Pump Bus Stop
North Nazimabad
Gulberg
Nazimabad
Liaquatabad
Gulistan-e-Johar
Jinnah International Airport
Pehlwan Goth
Gilani Station of Karachi Circular Railway
Urdu College Halt Station
Karachi University Station of Karachi Circular Railway
Depot Hill Station of Karachi Circular Railway
Map data ©2014 Google
Terms of Use
Report a map error
From Location
To Location
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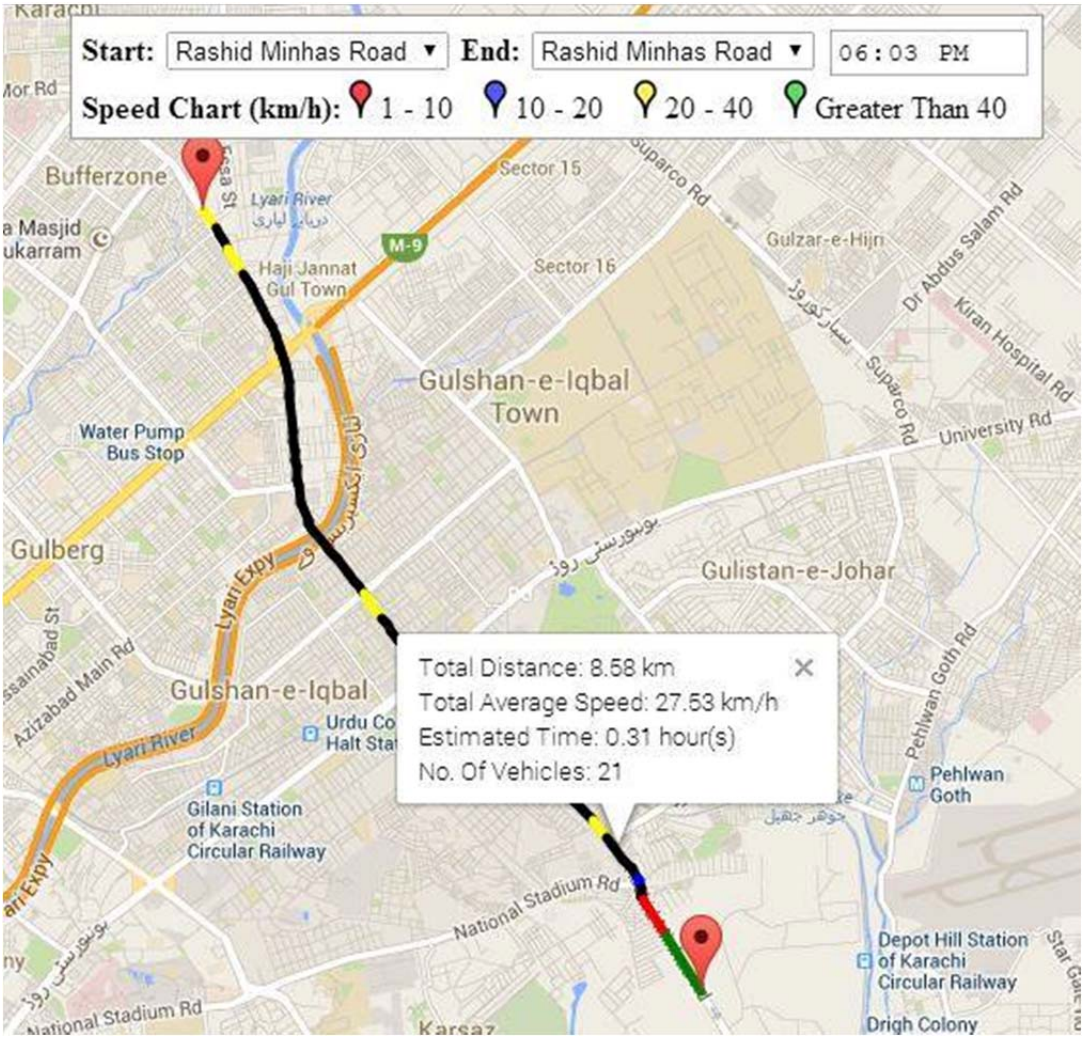

Start: Rashid Minhas Road
End: Rashid Minhas Road
06:03 PM
Speed Chart (km/h): 1 - 10 10 - 20 20 - 40 Greater Than 40
Bufferzone
Lyari River
Sector 15
Sector 16
Haji Jannat Gul Town
M-9
Gulzar-e-Hijri
Dr Abdus Salam Rd
Kiran Hospital Rd
Suparco Rd
University Rd
Gulshan-e-Iqbal Town
Water Pump Bus Stop
Gulberg
Gulistan-e-Johar
Lyari Expy
Azizabad Main Rd
Pehlwan Goth Rd
Pehlwan Goth
Gilani Station of Karachi Circular Railway
National Stadium Rd
Depot Hill Station of Karachi Circular Railway
Drigh Colony
Karsaz
Total Distance: 8.58 km
Total Average Speed: 27.53 km/h
Estimated Time: 0.31 hour(s)
No. Of Vehicles: 21

High Level Design:

1. Rationale and sources of your project idea
   Write here…
2. Logical structure
   Write here…
3. Background
   Write here [you can also show your math equations here]…
4. Hardware / Software tradeoffs
   Write here…
5. Relationship with available past projects or standards e,g. IEEE, ANSI, ISO and etc.
   Write here…
6. Patents, copyright and trademarks
   Write here…

Software / Hardware Design:

1. Overview
   Write here…
2. Program Details
   a. Overview
      Write here [Insert flowcharts, transition diagrams, use cases and etc. 8”x4.5”]…
   b. User interface
      [Insert output screens.8”x4.5”]
   c. Errors
      Write here…
   d. Trails and tests
      Write here …[Insert sample output screens, graphs, tables and etc.8”x4.5”]
3. Hardware Details
   a. Overview
      Write here [Insert block diagrams. 8”x4.5”]…
   b. User interface hardware
      Write here [You can also insert pictures. 8”x4.5”]…
   c. Things that did not work
      Write here…
   d. Trails and tests
      Write here [Insert hardware layout pictures, graphs, tables and etc.8”x4.5”]…

Results:

Write your results here e.g. speed of execution, usability, accuracy, safety, evidence and etc.

Conclusions:

Write your conclusions here e.g. results vs. expectations, conformance to existing designs, market value, user expectations and etc.

Appendix:

Appendix 1: Equations

Appendix 2: Code

Appendix 3: Schematic of your hardware

Appendix 4: Software/parts list

Appendix 5: Work distribution

Appendix 6: Project timeline

References:

Books:

Inspirations for code and designs:

Papers:

Datasheets:

Vendor:

Background sites:

Acknowledgements:

We would like to thank….

Appendix 5: Work Distribution

There are many responsibilities involved in this project and these include:

- Follow ups and meetings with our partner in this project, TPL-Trakker Company
- Designing the application (deciding on the interface design and icon of application)
- Checking data provided by TPL-Trakker Compnay for any inconsistencies
- Making and managing database
- Logic building
- Prototyping
- Coding the application
- Reporting and documentation

There are a lot of things in the project which we had to study about in order to execute the project. Many of these responsibilities are shared among the group members but some of them are performed by specific group members according to their expertise. The work distribution can be described as follows.

Aliza Ejaz

She mainly handles the communication, documentation and research part in the project. She researches about google APIs to use in the project and takes part in some of the coding task along with other group member, Mujtaba. She built the prototype of the project and helped the other group member in building the logic of the project. She also shares the rest of the responsibilities with other group members.

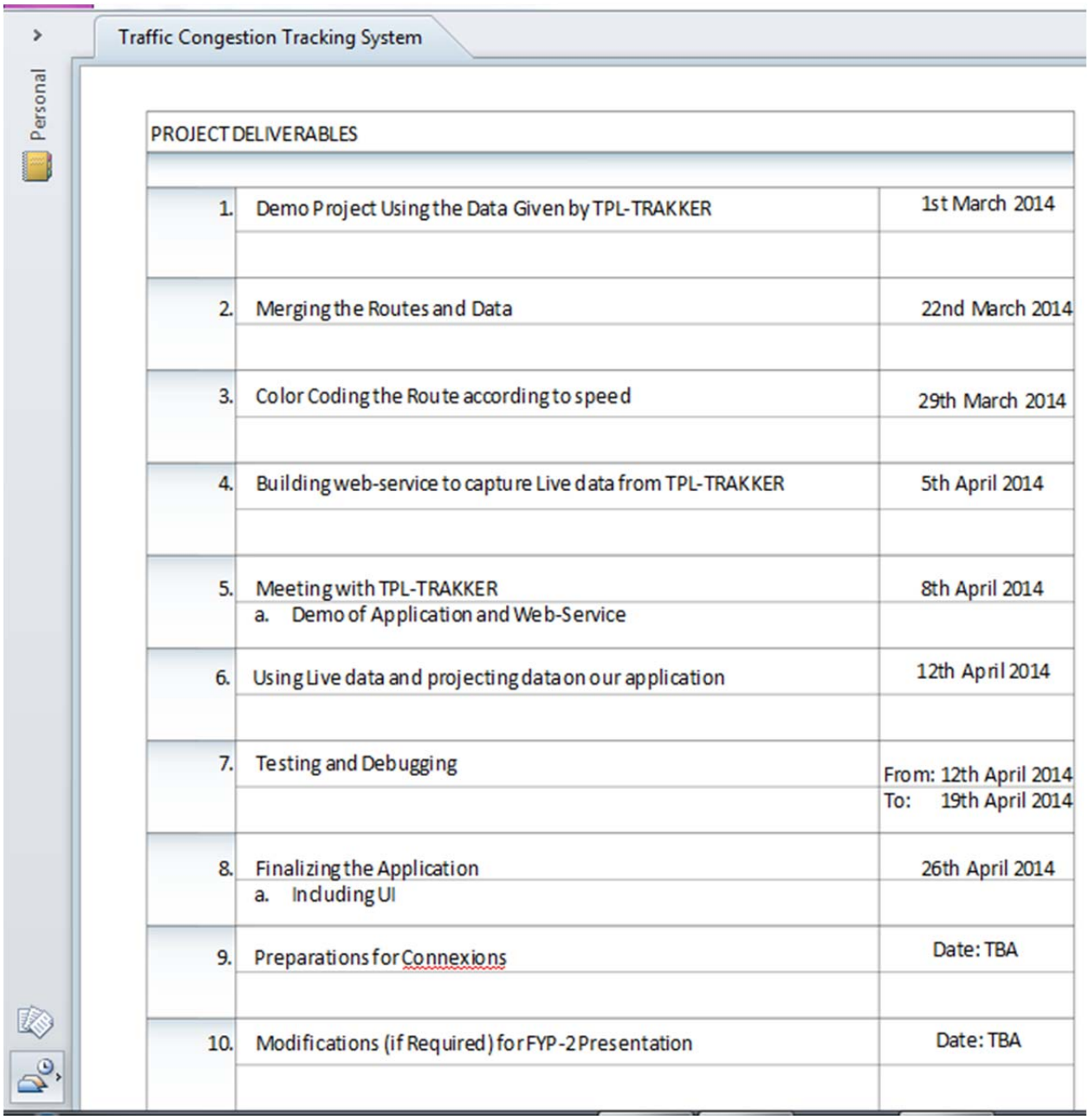
Amna Abaad

She helps other group members in the documentation part of the project and she is working on the designing of the icon and other designing tasks since she has Photoshop skills.

Mujtaba Asad Ali

He is mainly responsible for the coding part in the project. He along with other group members built the logic and is now focusing on the core programming part in the project. He also shares the rest of the responsibilities with other group members.

Appendix 6: Project Timeline



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Personal

PROJECT DELIVERABLES		
1.	Demo Project Using the Data Given by TPL-TRAKKER	1st March 2014
2.	Merging the Routes and Data	22nd March 2014
3.	Color Coding the Route according to speed	29th March 2014
4.	Building web-service to capture Live data from TPL-TRAKKER	5th April 2014
5.	Meeting with TPL-TRAKKER a. Demo of Application and Web-Service	8th April 2014
6.	Using Live data and projecting data on our application	12th April 2014
7.	Testing and Debugging	From: 12th April 2014 To: 19th April 2014
8.	Finalizing the Application a. Including UI	26th April 2014
9.	Preparations for Connexions	Date: TBA
10.	Modifications (if Required) for FYP-2 Presentation	Date: TBA