Project Proposal

Traffic Flow Analysis Tool

Course: Software Project Lab – III

Course No: SE – 801

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Motivation

Traffic jam has always been and still is one of the biggest problems in Bangladesh. The flow and intensity of traffic in a specific area is very unpredictable in the case of our country. But there are definitely some patterns in which the traffic behaves in the streets. This project aims to provide a desktop tool which will provide analysis of traffic in a specific area of the city for a specific time. For a country like ours, there is no efficient tool which can analyze traffic data. Furthermore, there is not enough data which can be used to provide analytical result. Most of the data collection method in this case require expensive sensors. In foreign countries, there are some data collected from social media platforms like Instagram, Snapchat etc. But that is also not a viable option for us since the use of these are very low. However, one effective way of getting proper traffic data in our country is from Google Maps. The images collected from google maps contain the traffic flow information in specific areas at all times. These images can be processed to gather information about traffic flow. There are other maps available, but google maps provides the best coverage for our country.

A lot of people have to travel to specific areas for different purposes. If they knew about the traffic conditions well enough, they could plan ahead and decide the time and route.

Also, this tool would be able to show the areas with high traffic congestion, which would help to recognize real life road-related bottlenecks and might be helpful to renovate or build new infrastructure.

Project Description

This project aims to develop a system to provide analytical data on traffic flow in a specific area. For this reason, this system will begin with a data collection automation tool which will collect Image data of traffic flow from Google Maps. The image collected from google maps will have to be modified and changed in order to collect actual information from it. Then the image data will be processed into textual data based on colors which define different levels of traffic intensity on routes. Along with traffic flow information, there will also be time, day of the week, special institution in the area etc. information which will be used to provide analysis of the traffic in a specific area.
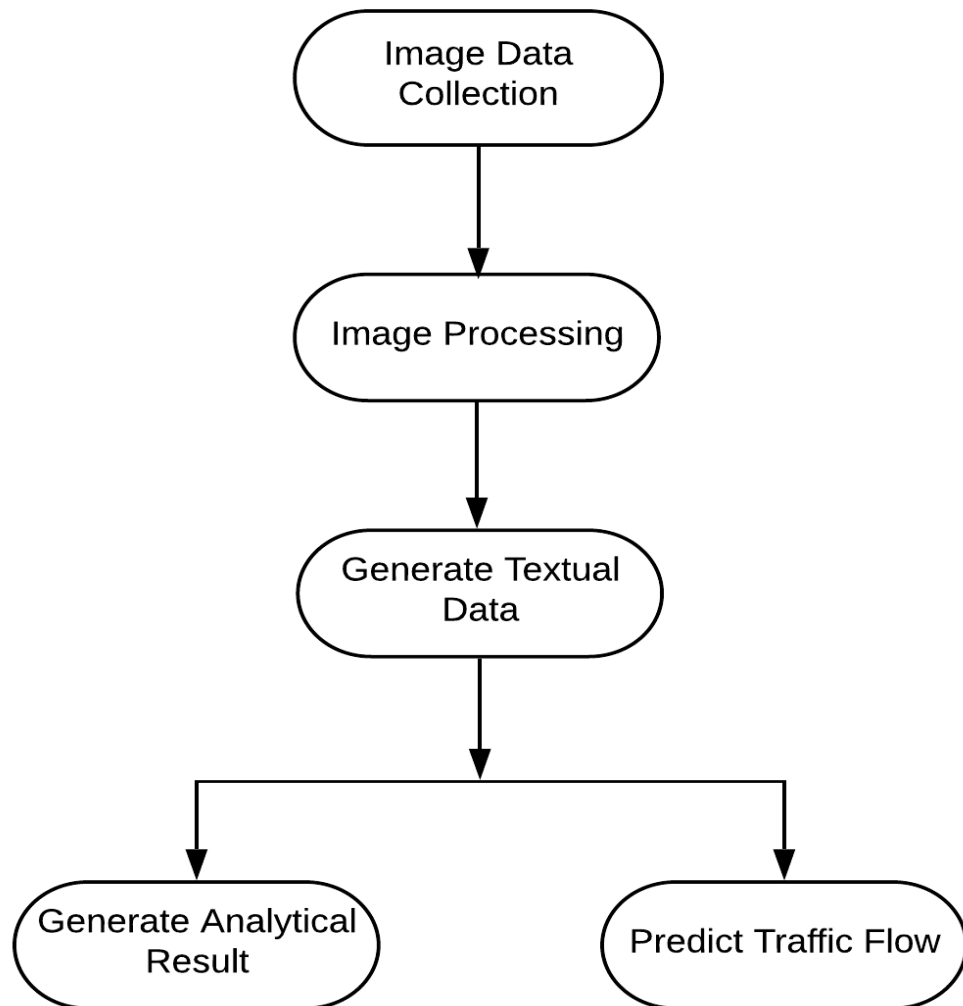
Work Flow

Figure 1 Project Work Flow

Quality Function Deployment

Normal Requirements
Normal requirements are those which must be included within the software.

- Generate analytical data of traffic flow in a specific area
- Graphical result of analysis

Expected Requirements
Expected requirements are those that are not explicitly mentioned but are required to fulfill the overall functionality.

- The system should be user friendly.
- Time to generate output should not be much.

Exciting Requirements
Exciting requirements are those which are not mandatory to implement but provide extra value to the software.

- Predict traffic flow in a specific area on a given date and time

Deliverables
- SRS Document
- Windows compatible Desktop application

Timeline

The proposed timeline of this project is given below.

Weeks	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th
Requirement Analysis	X	X										
Data Collection			X	X	X	X						
Implementation			X	X	X	X	X	X	X	X	X	
Testing and Bug-fixing								X	X	X	X	
Result Analysis								X	X	X	X	X
Documentation			X	X		X	X			X	X	X