Traffic Monitoring

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Purpose

Problem:

- Traffic congestion → wasteful and omnipresent problem that reduces efficiency

Solution:

- Increase Reliability of historical traffic data
- Locate areas that will form traffic and anticipate alternative routes using past traffic data
- Target Audience: New Jersey drivers facing traffic in their daily lives
- Innovation: GPS uses current time whereas we have more specific input and historical traffic data
- Main Factors regarding Traffic Congestion:
    1. Historical Traffic Patterns
    2. Weather Conditions
    3. Time of Day

Product Features

- Algorithm Accuracy → Algorithm utilizes variables that are not usually accounted for in other systems
- Sleek GUI → User-friendly experience
- Users Report → Include additional miscellaneous information
- Police Monitoring → Promote safe driving
- Frequent Updates → Increase accuracy of directions & reduce travel time

Product Features Continued

- Do Not Disturb feature → Keep drivers safe and focused on driving
- Social Media → Integrate with Facebook or Instagram and receive recommendations from Yelp, Twitter, Instagram
- Music → Personalized music based location, weather, traffic, and preference
- Scenic Route → Option to take scenic route with minimal traffic
- Voice Activation → Reduces distraction and instills safer driving through smartphone implementation

Database

- Data pulled from:
  - http://www.511nj.org/IncidentList.aspx?listType=IncidentsCongestion
  - http://rss.weather.com/weather/rss/local/07054
  - http://wxdata.weather.com/wxdata/weather/rss/local/08759
- Input:
  - Police User Report
  - Traffic
  - Weather

} Used to determine Severity Values

(Recent tables) ...

- information_schema
- jlsilang_DB
  - New
  - POLICE_USER_REPORTS
  - TRAFFIC
  - WEATHER
- New

Server: localhost » Database: jlsilang_DB » Table: TRAFFIC

Browse | Structure | SQL | Search | Insert | Export | Import | Operations

Current selection does not contain a unique column. Grid edit, checkbox, Edit, Copy and Delete features are not available.

Showing rows 0 - 24 (530 total, Query took 0.0011 sec) [CREATE_DATE: **2015-03-31 - 2015-03-31**]

```
SELECT * FROM `TRAFFIC` ORDER BY `CREATE_DATE` DESC
```

Profiling [Inline] [Edit] [Explain SQL] [Create PHP Code] [Refresh]

1 > >> | Number of rows: 25

+ Options

CREATE_DATE	CREATE_TIME	UPDATE_TIME	UPDATE_DATE	LONGITUDE	LATITUDE	INCIDENT_TYPE	ROAD_NAME
2015-03-31	11:51:02	*NULL*	*NULL*	-75.196161665	39.8389906176	Debris spill	I-295
2015-03-31	04:48:03	06:24:02	2015-03-31	-74.0586505779	40.7080215766	Delays	New Jersey Turnpike - Hudson County Extension
2015-03-31	04:42:02	04:45:11	2015-03-31	-75.0554951163	39.8753354699	Accident	I-295
2015-03-31	04:36:02	05:03:03	2015-03-31	-75.0319818301	39.8713384785	Disabled vehicle	I-295
2015-03-31	04:30:07	06:39:02	2015-03-31	-74.222864483	40.7143793759	Delays	I-78
2015-03-31	04:24:02	06:39:02	2015-03-31	-74.757188817	40.6506750042	Delays	I-78
2015-03-31	04:18:02	04:33:02	2015-03-31	-74.2995110384	40.6314043052	Accident	Garden State Parkway
2015-03-31	04:09:04	05:51:03	2015-03-31	-74.3067988271	40.6247089628	Delays	Garden State Parkway
2015-03-31	04:09:04	06:27:02	2015-03-31	-75.010130709	39.8806380215	Heavy traffic	I-295
2015-03-31	04:09:04	06:27:02	2015-03-31	-75.102030179	39.8672040026	Heavy traffic	I-295
2015-03-31	04:09:04	06:33:03	2015-03-31	-73.9819588235	40.8732927364	Delays	New Jersey Turnpike/I-95
2015-03-31	04:09:04	04:30:07	2015-03-31	-74.1550146672	40.7008469581	Disabled truck	New Jersey Turnpike

Web Application

- http://www.justincoding.com/trafficProject/index.php
- Front End:
  - HTML, CSS, JavaScript
- Back End:
  - PHP, Python
- Specifics:
  1. Localization of region by North, South, and Central Jersey
  2. Live traffic data available
  3. User Incident Reporting
  4. User Report Statistics
  5. Police Report Statistics
  6. Severity Value Data

Traffic History

North Region | Central Region | South Region | A Road: Select a main road

Time: | Day Selection: All Days | Weather: All | Display Live Traffic

View Statistics | User Report | Police Report | Submit Incident

Start Over

Low | Moderate Low | Moderate | Moderate High | Severe

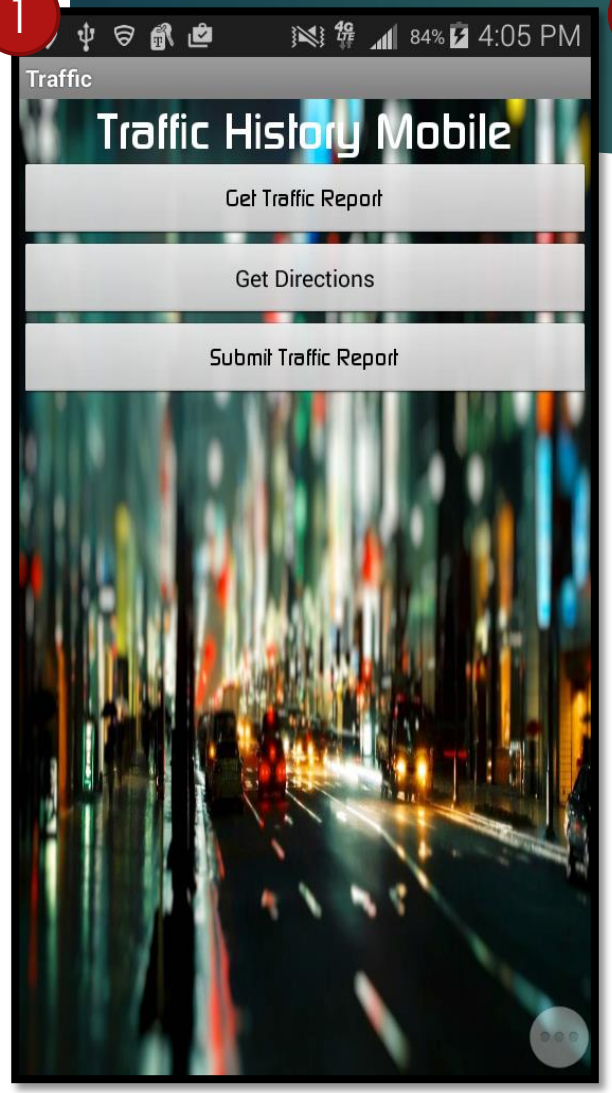
Help | About

Mobile Application

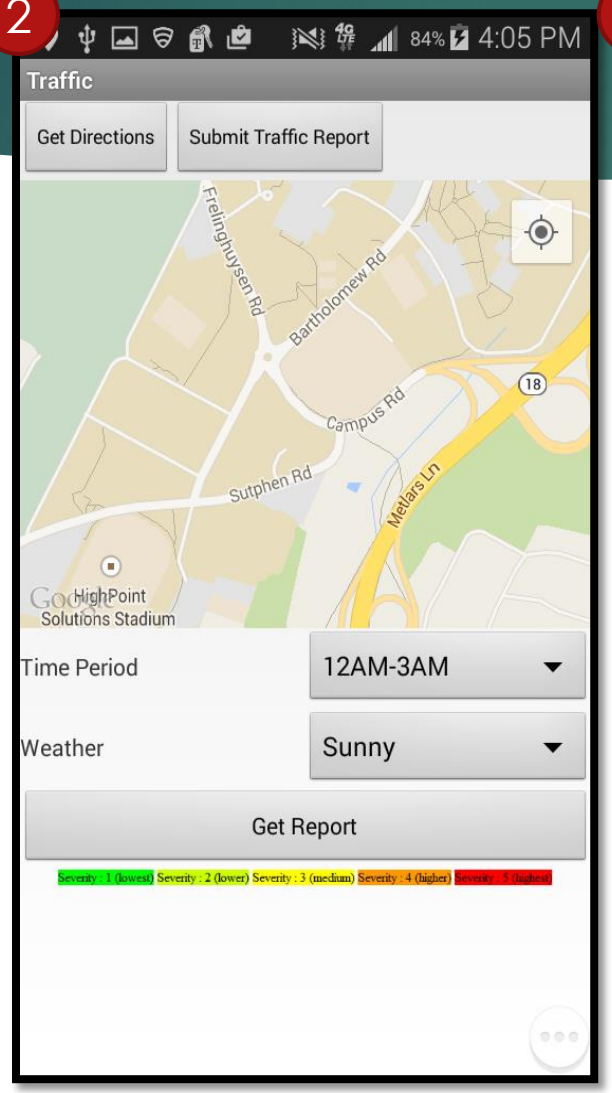
- Retains core functions of web application → mobile application increases portability
- Biggest change from web to mobile application will be GUI
- Application retains simplicity → Increase user safety while driving (Voice Activation)
- For Android devices (JAVA, XML)

Mobile Application Continued

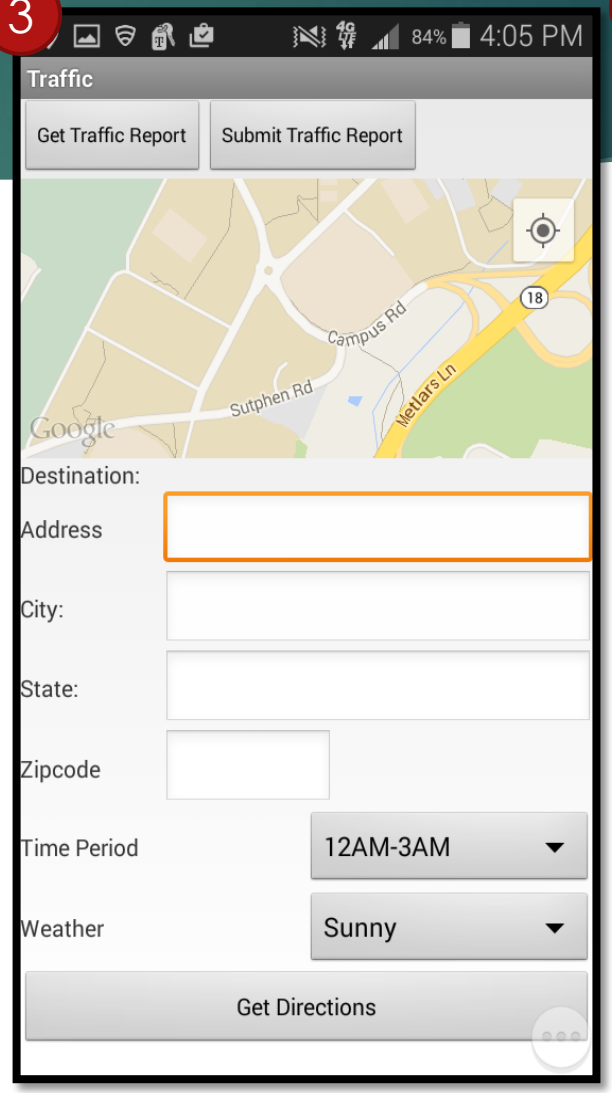
1



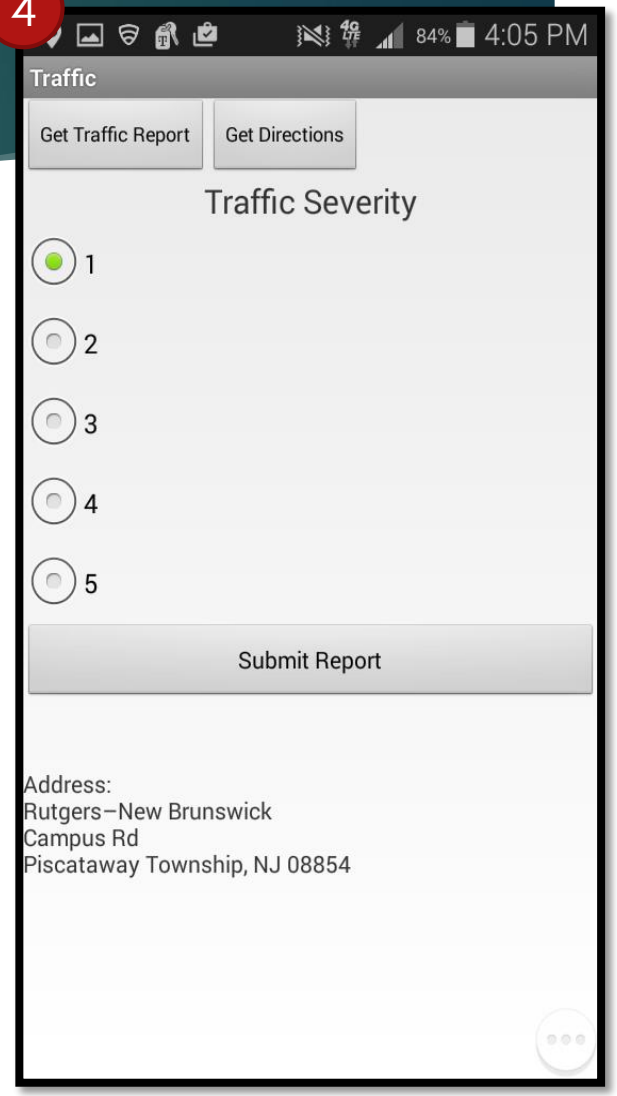
2



3



4



Plan of Work

- Implement the functions for Android that match web implementation
- Add a GetDirections() function that allows for shortest route based off of traffic
- Voice activation, Music, Scenic Route, Social Media, and Do Not Disturb

Questions?