Information System Design Sessional

Group No: 4

Student id: 1005099

1005105

1005110

1005112

1005114

Optimal Route

* ***Existing System analysis***
* System's operating mechanism in details
  + - Currently no system exists.
* Problems:
  + - The users face problem while travelling as they get stuck in traffic jam which kills their valuable time and they cannot reach their desired place in time.
    - If the users get traffic update whenever they want, they can avoid this traffic jam by choosing the least congested route and enjoy travelling.
* Automation status
  + - The DMP has a radio channel only to inform about traffic update.
    - The users get help from various media source i.e. ***radio traffic update***.
* ***Discovering Scopes***
  + The portion of the system implementing
    - * Our project includes this system through which the users can know about the condition of each route while they are travelling.
      * Seeing the road’s condition, they can choose their desired route while travelling which will lessen their harassment due to never-ending traffic jam and save their time.
      * It’ll take the source and destination input from the user and then suggest the user routes based on:
* Shortest Time
* Shortest distance
  + - **Shortest time:**

This route will ensure that the user reaches the desired place as early as possible. This route suggestion will come to user based on the traffic volume in his path. We are using data capturing system while updating traffic volume as we cannot afford any device in the perspective of our country.

* + - **Shortest Distance:**

This route suggestion will be made based on the minimum possible distance the user has to cover for reaching the desired place.

* + The portion's not implementing

Our desired project included some features that required particular devices which we have now cut out. If we could have access to those devices, we could implement certain things in our project.

* + - * If we had a ***vehicle number plate reading device*** at each crossing point of the roads, the following features could be implemented:
    - **Calculating Exact Traffic Volume:**

At the time of each use of the device, with the vehicle number’s entry, the counter would increase and depending on the path covered by the device, an approximate time would have been listed and after that time the counter would decrease and depending on vehicle’s entry and exit, the exact traffic volume of a particular road could be calculated.

* + - **Tracing a vehicle:**

It would’ve been easier for the traffic police to trace a car. He can search the vehicle number in the enlisted vehicle list of any road and can find out if the vehicle has passed through the road or not. If the search result is positive, then he can trace it easily.

* + - **Checking an unfit Vehicle:**

If a traffic police has any doubt about any vehicle’s fitness, he can instantly match the vehicle number with the enlisted unfit vehicle numbers without harassing the user. If the number matches, he can take necessary steps against that vehicle.

* + - * If we had ***speedometer*** at some points of road, it would be useful for the maintenance of traffic rule.
    - **Control Reckless Driving:**

If any violation of speed is detected from the device, the traffic police can instantly know about it and take immediate actions against the driver.

* ***Assessment of project’s worthiness***
  + Is the system worth implementing
    - The implementation of our system will develop our country’s traffic condition and people can get relief from the never-ending traffic jam to some extent.
  + What will be its contribution/benefits?
    - This system will help the users to a great extent and make their journey harassment-free.
* ***Possible Roadblocks for our proposed system***
  + Problems our implemented system may face
    - We are using a source to calculate traffic volume manually. If there’s any problem while updating traffic volume, the system will fail.
    - Most people of our country use mobile frequently. If this system can be introduced to the users by mobile service, they will be benefitted but to do this we need the interaction of the mobile companies.
    - If we make our system web-based, some users cannot get benefit from it as internet service is still not cheaply available in our country.
  + How to counter those
    - **Co-operation of the mobile companies:**

If the mobile companies are interested about our project, then short message service will be better option for the users.

* + - **Cheap Mobile Internet Service:**

If our system is web-based, then it won’t need any third party’s interaction **(Mobile Companies)** and the users can connect to the system directly through internet.

Car & Driver Profiling

* ***Existing System analysis***
* Problems:
* Road accidents are very common in our country. Sometimes there occur road accidents and the driver’s runaway. The traffic police sometimes fail to trace the driver and find the owner of the vehicle if the number plate is missing.
  + - Traffic police sometimes need to check the details of the vehicle and then what they can do is to check the car license and driving license. Nowadays traffic police needs to check the license paper manually, this is really a time consuming issue. If there exists a system that traffic police can find details by only knowing the vehicle number plate it would help a lot in our traffic system.
* In our present circumstances traffic police are not able to know that if there are any cases against some vehicles or not. If it was possible, it would help a lot.
* Traffic police need to check the validity of the car and the driving license of the driver.



* It’s a common scenario that the driver may not take the driving license/car license with him.
* Sometimes it is necessary to find the maker’s name and the maker’s country because there may cause road accident because of faulty mechanism of the vehicles. In that case it is our responsibility to inform the maker.
* When road accidents occur, it is our responsibility to inform injured people nearest relatives urgently. Because of insufficient information sometimes it becomes impossible for our traffic police to carry on this task.
* Automation status:
* DMP has only a mobile service that can only check the status if the vehicle license is valid or not. It does not supply the details information of the owner or the vehicle.
* ***Discovering Scopes***
* The portion of the system implementing
* Vehicle profile Entry:

This entry contains two parts:

* Owner information
* Vehicle information

Owner Information Table

|  |
| --- |
| * *Passport size photo of the owner* |

|  |  |
| --- | --- |
| *Name of owner* |  |
| *Date of birth* |  |
| *Father/Husband* |  |
| *Nationality* |  |
| *Sex* |  |
| *Guardian’s name* |  |
| *Owner’s Address (One only)* |  |
| *Phone No.(if any)* |  |
| *Credit card no* |  |
| *PO/Bank* |  |
| *Joint owner* |  |
| *Owner type* |  |
| *Hire* |  |
| *Hire purchase* |  |

*Vehicle information Table*

|  |  |
| --- | --- |
| *License number* |  |
| *Registration No.* |  |
| *Model No.* |  |
| *Class of Vehicle* |  |
| *Maker’s name* |  |
| *Maker’s Country* |  |
| *Year of manufacture* |  |
| *Color* |  |
| *Seats* |  |
| *Chasses No.* |  |
| *Engine Number* |  |
| *Number of Cylinder* |  |
| *Horse Power* |  |
| *RPM* |  |
| *Wheel Base* |  |
| *Unlade weight (kg)* |  |

Driver Profile

|  |
| --- |
| * *Passport size photo of the driver* |

|  |  |
| --- | --- |
| *Name* |  |
| *Permanent address (Proof to be enclosed)* |  |
| *Date of birth (Proof to be enclosed)* |  |
| *Education Qualification* |  |
| *Identification marks* |  |
| *Blood Group* |  |
| *Contact number* |  |
| *Driving license number* |  |
| *License no. of the vehicle you drive* |  |
| *Nationality* |  |
| *Religion* |  |
| *Color blind/not* |  |
| *Power of eyes* |  |

* ***Assessment of project’s worthiness***
  + Is the system worth implementing
    - The implementation of our system will develop our country’s traffic condition and traffic police can get necessary information of the respective vehicle and the owner very easily within a short time .Thus they will be able to maintain the overall traffic system more smoothly and efficiently. This system will also help people while driving in many aspects which we mentioned in the problem specification part.
    - Illegal vehicles and drivers could be found very easily.
    - In a nutshell, it will bring unimaginative progress in our present traffic system.
  + What will be its contribution/benefits?
* This will keep both cars owner’s and driver’s profile, which will help chasing the driver / the owner of the car easily.
* Traffic police will be able to chase the owner of the car as well as the driver if road accidents occur.
* Car profiling will provide some other (1/2) nearest relatives’ cell phone number of the car owner which will help inform them in case of road accident.
* In that case traffic police can easily find necessary information from the profile of the driver and the car. This will help traffic police to save time and maintain traffic system more efficiently.
* If the driver violates the traffic rules, traffic police can check the car profile whether the car is registered or unregistered. In case of unregistered car or any discrepancy traffic police can take initiative actions against the owner of the respective vehicle.
* Car profile should have the owner’s photo, this will help recognize the real owner of the car, there may be one or multiple owners of the car, in that case there have to be multiple legal owner in vehicle profile.



***Possible Roadblocks for our proposed system***

* Problems our implemented system may face
* We need to access the detail information of the owner of the vehicle, for this reason we need to have coordination with BRTA and DMP.
* Our system will have license number, registration number each and every detail of the vehicle and owner and driver so we need the help of BRTA as well as DMP.
* To check the information in the road side there must be some traffic police booth which will contain some computer from where traffic police can check the details information and access the system features easily.
* How to counter those
* We need to have co –operation with the BRTA and DMP.
* We need help to build traffic police booth in every important route.

Case-filing By Traffic Police for Violation of Law

* ***Existing System Analysis:***
* System's operating mechanism in details

At present, all the steps taken by DMP for violation of traffic rules such as- case-filing, sending back seized driving licenses and other papers to their owners are done manually which is very time consuming and old fashioned.

* Problems:
  + In our country, we see that drivers behave like the owner of the roads. They drive recklessly. Most of the drivers don't care about the traffic rules. Even in some cases, they know nothing much about the traffic rules and various traffic signs. There is also no respect to each other while driving. They change their lane frequently while driving. It seems very much difficult for a person to drive on the road of our country.



* People park their vehicles here and there, wherever they wish without bothering about the rules.



* Moreover, our road is not pedestrian friendly. People passing by the roads don't follow the traffic rules. They are careless of using footpath, over bridge, zebra crossing etc and maintaining other rules.
* As a result, accidents take place almost daily. Almost every day we get news about accident in our newspaper which is very pathetic.



* Automation Status:
* Manually automated system such as for sending any documents they still use courier service or post office.
* ***Discovering Scopes:***
* The Portion of the system implementing:
  + - In our system, we have a feature called driver profiling. As a result, whoever breaks the rules, will be detected and a complaint will be filed against him which will be no more manual.
    - In our system, the traffic police as well as the user will be able to see the list of the people who have violated the traffic rules.
* The Portion’s not implementing:
* **Reconstruction Of Our Road System:**

In our Dhaka city 11 lakhs vehicle run on the roads daily whereas the capacity of our road is only 3 lakhs. To accommodate this huge no of vehicles, roads must be extended and more flyovers have to be constructed.

* **Proper Training And Education On Following Traffic Rules For People:**

Government can arrange frequent training systems for our people and drivers so that they can become fully aware of the traffic rules.

* **Protection for Women, Children And Physically Disabled People:**

There should be proper system for women, children and physically disabled people to cross roads safely.

* **Community Policing:**

Along with DMP, Ansar and VDP members are to be appointed to control the traffic system smoothly.

* **Easy Access To Police Services:**

It is necessary for the police members to behave friendly with people so that they can have any legal helps and queries easily.

* **Organizing Various Workshops For Citizens:**

DMP can organize certain workshops for general people to make them aware of traffic system.

* + - **Increasing Manpower:**

More sergeants and traffic inspectors should be appointed on the busy roads on the basis of importance.

* ***Assessment of Project's worthiness:***
* Is the system worth implementing:

If our system is implemented, people will try to be more conscious about traffic rules and will be able to pay their fines easily for breaking traffic rules.

* What will be its contribution/benefits?

In this crucial situation, we want to lessen these problems, so that we can get a happy and most importantly a safe journey. The Government will also get benefit to a large extent.

* ***Possible roadblocks for our proposed system:***
* Problems our implemented system may face :
* If we make our system web-based, some users cannot get benefit from it as internet service is still not cheaply available in our country.
* Most people of our country use mobile frequently. If this system can be introduced to the users by mobile service, they will be benefitted but to do this we need the interaction of the mobile companies.
* How to counter those:
* **Co-operation of the mobile companies:**

If the mobile companies are interested about our project, then sms service will be better option for the users.

* **Cheap Mobile Internet Service:**

If our system is web-based, then it won’t need any third party’s interaction **(Mobile Companies)** and the users can connect to the system directly through internet.

# Complaint filing by users:

* ***Existing System Analysis:***
* System's operating mechanism in details

At present, if there is any complaint to be filed against vehicles, CNG or police, people have to make compliant first to DC or Joint Commissioner or nearest police station. This process is very time- consuming and annoying.

* Problems:
* In road people can face many problems, they meet many accidents. Most of the time they don’t know what to do or where should they go.
* Because of some incidents in road a huge traffic jam is created.
* Most of the time the user’s complaints are unheard or ignored.
* As many traffic police takes bribe from accountable side, most of the time the sufferer doesn’t get justice.
* Automation Status:
* All work includes paperwork.
* ***Discovering Scopes:***
* The Portion of the system implementing:
  + - Our system includes feature where user can file complaints regardless of the fact that where they are and the complaint filed will be sent to the authority for proper action.
      * In our system, to register a complaint, the user must give information about -
* Car no. (victim)
* Car no. (other car)
* Owner of the car (victim)
* Driver/owner of the other car (If possible)
* The area the user is in

In our system, the complaints user can file,

* Can be by one vehicle driver against another
* Can be pedestrian against vehicle
* Can be user complaining against CNG
* These points are described below –

**One vehicle against another:**

While driving in streets, it is not a rare case that two cars collide. If this happens, the owner or the driver of the victim car can file a complaint against the other car. If the user includes the place he is at that moment, authority can send someone to handle that situation.

**Pedestrian against vehicle:**

Sometimes road aren’t safe for pedestrians. Due to overtaking tendency and urgency to reach somewhere, some drivers take shortcut to drive car, motorcycle, cycle in pedestals which puts the safety of pedestrians at risk. If some people face such situation he is free to file a complaint about that specific car. Not only the person who has suffered for this but also other persons who see such thing happening can also make a compliant in our system. User can complain about wrong parking also.

**User complaining about a CNG**

Neglecting the meter fare, CNG drivers take advantages of people’s urgency and take fare as they wish. Thus they violate the meter fare and increase the rate of fare which also made people helpless. If someone faces this, they can also report to this system .Necessary steps will be taken. If someone notices the matter they can also make a complaint against the CNG.

* The Portion’s not implementing:

Our system doesn’t include fine or tax collection, as it is a complex process to handle.

* ***Assessment of Project's worthiness:***
* Is the system worth implementing:
* If our system is implemented, people will be benefitted as Traffic jams created by collision of cars will be reduced a lot.
* People harassments will be lessened.
* This will help Government to develop Traffic System.
* What will be its contribution/benefits?

It will help the traffic police to handle the unwanted incidents in road. It will raise awareness in people to maintain the traffic rules properly.

* ***Possible roadblocks for our proposed system:***
* Problems our implemented system may face :
* If we make our system web-based, some users cannot get benefit from it as internet service is still not cheaply available in our country.
* Unwillingness of people to follow our system.
* Devoid of morality to help peoples in trouble can be blockade in our system.
* How to counter those:
* Mass awareness should be raised to develop morality.
* Popularize our system through media among mass people.

Manually Controlled Signal System

* ***Existing System Analysis:***
* System's operating mechanism in details
* At present, all the traffic signals are controlled automatically from a central control unit. The signal lights change after a certain time regardless of the current condition of the roads.
* Problems:
* With the huge flow of vehicles on limited road space, it is hardly possible to follow the automated signal system. 
* Moreover, Traffic signals are operated from the control room at Shahbagh where it is not possible to visualize the traffic situation on the city roads.
* All main intersections in the city–no matter with or without automated signals–are controlled manually at present because of excessive traffic regardless of traffic signal.
* And in the control are untrained traffic constables and ansar members as sergeants mostly remain busy with filing cases against vehicles that break laws and collecting fines from them.
* Automation Status:
* Automated system handled from a distant source being unaware of the current condition of the road.
* ***Discovering Scopes:***
* The Portion of the system implementing:
  + - In our system, we have a feature including traffic volume update. From this the traffic police can know the condition of the roads without being actually present there. Seeing the road’s current condition now traffic signal can be decided.
* The Portion’s not implementing:
* In this section modern device can be used but we are not permitted to use any.
* If there were cc cameras in each crossing points ,then it would be easier to controlling signal to lessen traffic jam.
* ***Assessment of Project's worthiness:***
* Is the system worth implementing:
* If our system is implemented, people will be benefitted as they won’t have to wait unnecessarily because of the traffic signal.
* It’ll be beneficial to handle the traffic signal.
* What will be its contribution/benefits?

It will help the traffic police to a great extent to control traffic system.

* ***Possible roadblocks for our proposed system:***
* Problems our implemented system may face :
* If there is any error in traffic volume update as we are handling it manually, wrong signal may occur.
* How to counter those:
* Provide sufficient manpower.