

AN SMS AND WEB-BASED TRAFFIC CASE MANAGEMENT SYSTEM IN BANGLADESH

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DECLARATION

In accordance with the requirements of the degree of Bachelor of Computer Science and Engineering in the division of Computer Science and Engineering, I present the following thesis entitled '*An SMS and Web-based Traffic Case Management System in Bangladesh*'. This work was performed under the supervision of Dr. Sayeed Salam.

I hereby declare that the work submitted in this thesis is our own and based on the results found by ourselves. Materials of work found by other researcher are mentioned by reference. This thesis, neither in whole nor in part, has been previously submitted for any degree.

Signature of
Supervisor

Dr. Sayeed Salam

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ABSTRACT

The Traffic Police of Bangladesh has no database software where the cases can be stored. For this reason the Traffic Police update all the cases manually. They have a case record book. If any incident occurs and the police enter any cases against that vehicle or driver then it will be stored in that case book. This process costs much time and it is not an efficient process. We had studied about this and proposed an efficient Traffic case management system in Bangladesh. In our proposed system there will have an official web-based software, offline software and central database. In every police box there will have a computer where web-based software will be installed. If the traffic police want to enter a case against anybody then he can update it through the web-based software. It will be stored in the central database. Any police can see the updated information from any police box within a minute. So it is very time consuming. There will have also offline software, which will also be connected with the central database. If for any reason web-based software is damaged then offline software will work. In our proposed system there is an SMS system also. If any police wants to know the information about any car, driver or case then he/she will SMS the vehicle number to a particular number. After some moment the police will receive an SMS where all the information about the vehicle will be shown. This information will come from central database. So it will be more efficient process than any other existing system in Bangladesh.

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CHAPTER I: INTRODUCTION

1.1 Overview:

The traffic system of Bangladesh is not well organized and computerized. All the necessary information about any case stored in case record books. There is no software or database system to store the case records of traffic police. The traffic police stand at road all day long. They also bear the case record books. This is very panic for them. When they want to know any information about any vehicle they search it through the whole case record books. It is very difficult for them to find the information also. Everyday thousand incidents occur and it is recorded too. The traffic police have no efficient search way, so they have to look at the whole case record book. In our proposed system there are web-based and offline software. So the traffic police can easily entry and update case. They also can search the information of case record against any vehicle through the vehicle number. The traffic police can also know the whole information of vehicle or driver through SMS. If the traffic police use the SMS system then they can know is there any case exist against the particular vehicle.

1.2 History of Bangladesh Police:

The police in Bangladesh have a history of over 200 years starting from its launching during the British colonial period followed by the Pakistani era and the emergence of independent Bangladesh in 1971. The Constitution of the Republic, Rules of the government and various Acts of parliament such as the Police Act and Code of Criminal Evidence of the existence of structured police system in the ancient Maurya Empire of India is available from Kautilya's 'Arthoshashtra'. During the rule of Muslim Sultanate in Bengal between 14th and 16th century AD, the police system underwent some changes. But it was during the subsequent Mughal reign that it entered a new phase through expansion. Although there was no professional police force resembling the British during the Mughal era, an orderly force was in vogue to maintain law and order throughout the land. Radical changes were brought about in police administration by the British colonial rulers through the police reform of 1782. The 'sepoy mutiny' of 1857, however, demonstrated that the police administration was not very

effective. Sweeping reforms were therefore once again undertaken in 1861 on the basis of the Police Report of 1860. Its main objective was to establish a uniform and effective police administration in some provinces of Indian subcontinent including Bengal in line with the Royal Irish Constabulary system. A notable development was the creation of the post of Inspector General of Police as the head of police administration in the provinces. The first Inspector General of Police of British India was Lt. Colonel Bush of the British Army.

In 1869, some military officers were appointed to the police department for training police officers and improving discipline in their work. This caused public hatred towards the police. Under the circumstances, Lord Curzon formed a Police Commission in 1902. Among the many recommendations proposed by this commission, there were proposals for the establishment of a training college for newly appointed police officers and a training school for police employees. In the same year, a training college was established for police officers in India. In 1903, two police training schools were established in East Bengal, one at Rampur Boalia of Rajshahi and the other at Mill Barrack of Dhaka. After the establishment of Sardah Police Training College, Assistant and Deputy Superintendents of Police and Cadet Sub-inspectors were trained there.

The DIG of Dhaka range Sir Norton Jones was made the Inspector General of East Bengal province under Pakistan after the partition of the subcontinent in 1947. The Irish Constabulary system of police administration is still in vogue in Bangladesh as elsewhere in the subcontinent.

1.3 Objective:

Main objectives of our thesis are below:

- a. To know about current traffic case management system.
- b. To do the current case management system in an efficient way.
- c. To reduce the corruption from traffic police department.
- d. To use computer software everywhere.

1.4 Existing Traffic Case Management System:

Now the traffic police entry the case manually. They have no software to store the case records. If the police want to entry any case against any vehicle or driver then first they fill up a case form. They give one copy of case slip to the driver. They send another case slip to the police box. The police of that police box check the case and send it to the nearest Thana. In the Thana the case is stored in a case record book. When the record is stored the whole documents about the default vehicle is send to the traffic police via police box. This is a very lengthy process to update a case. Sometimes the traffic police found a case against any vehicle after 7-10 days. The traffic police also face many troubles to check the case against any vehicle. The traffic police have a case record book. Here the cases are not stored in sorted. For this reason if any police want to see the case record against any vehicle then they have to look the whole case book. The whole existing case entry process is showed below.

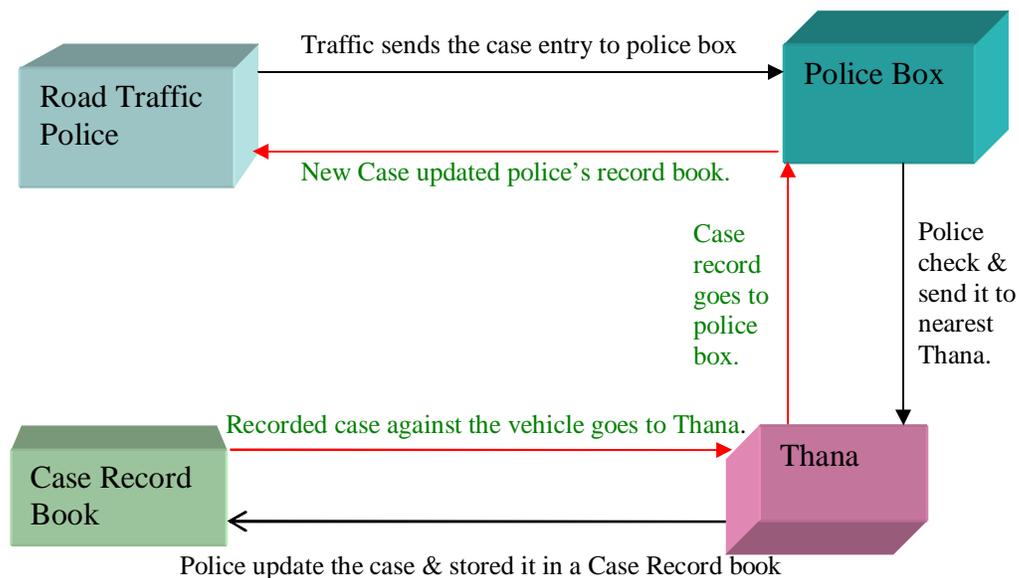


Figure 1: Existing system of case entry & updated to the police record book

1.5 Problems of Existing System:

1.5.1 Time consuming:

The existing case entry process is very lengthy process. There may take 7-10 days to entry a single case. Around 500 new cases update daily only in Dhaka city. So the police found the newly updated cases after 7-10 days. So many valuable times are wasted to entry a new case in our traffic police case management system.

1.5.2 Chance of missing the case entry:

There is a chance of missing the case entry also. The traffic police entry the case against any vehicle or driver and fill up the case slip. After that the traffic police send the case slip to the police box. If the case slip has lost then the traffic police can not find it because they have no alternative case records.

1.5.3 Difficult to search previous cases:

If the traffic police want to search a previous case then they will face many problems. In our traffic police case management system the case records are not sorted. The traffic police have to search the whole document for finding the previous case. If they want to search 10 years ago cases then it will be very difficult job for them. There are many case record books. They have to search all those things.

1.5.4 Vehicle owners face problems:

Vehicle owners also may face many problems. If any vehicle owner wants to drop the case against his/her vehicle then he/she has to go the Thana to pay the fine. The police of the Thana are not helpful. Sometimes they charge extra money for this job. The corruption has also increased in this reason. The vehicle owners harassed by the police sometimes also.

1.6 New proposed Traffic Case Management system:

In the new proposed traffic case management system there will have web-based software. There also will have a central database. The web-based software will be connected to the central database. In every police box there will have at least one computer where the web-based software will be installed. If any traffic wants to entry case against any vehicle then they can easily entry it from the police box. They do not need to record it manually. If the traffic wants to check the vehicle information then they can easily search it through the vehicle number. The traffic police can also see the previous case records from this software. They can see the driver information through the driving license number also.

In the proposed system there will have offline software also. It will also be connected with the central database. Actually the offline software is back-up software. All the fields are in both web-based and offline software. So for any reason if the web-based software damaged then the offline software will back up it. The traffic police can entry the case from offline software also. All the data will be stored in the central database.

In the proposed traffic case management there will be a connection between Bangladesh Traffic and BRTA. BRTA stored all the information about the vehicle and driver. So if the traffic police can access the vehicle and driver information then they do not need to record this information. For this reason in the new proposed system all the driver and vehicle license information are stored in the central database.

In the new proposed traffic case management system the traffic police can also check the case, vehicle and driver information through an SMS. If the traffic police type the vehicle number and send it to the central database then he will receive all the information about case against that particular vehicle through an SMS. The proposed system is showed below:

The new proposed Traffic Case management System is below in a diagram:

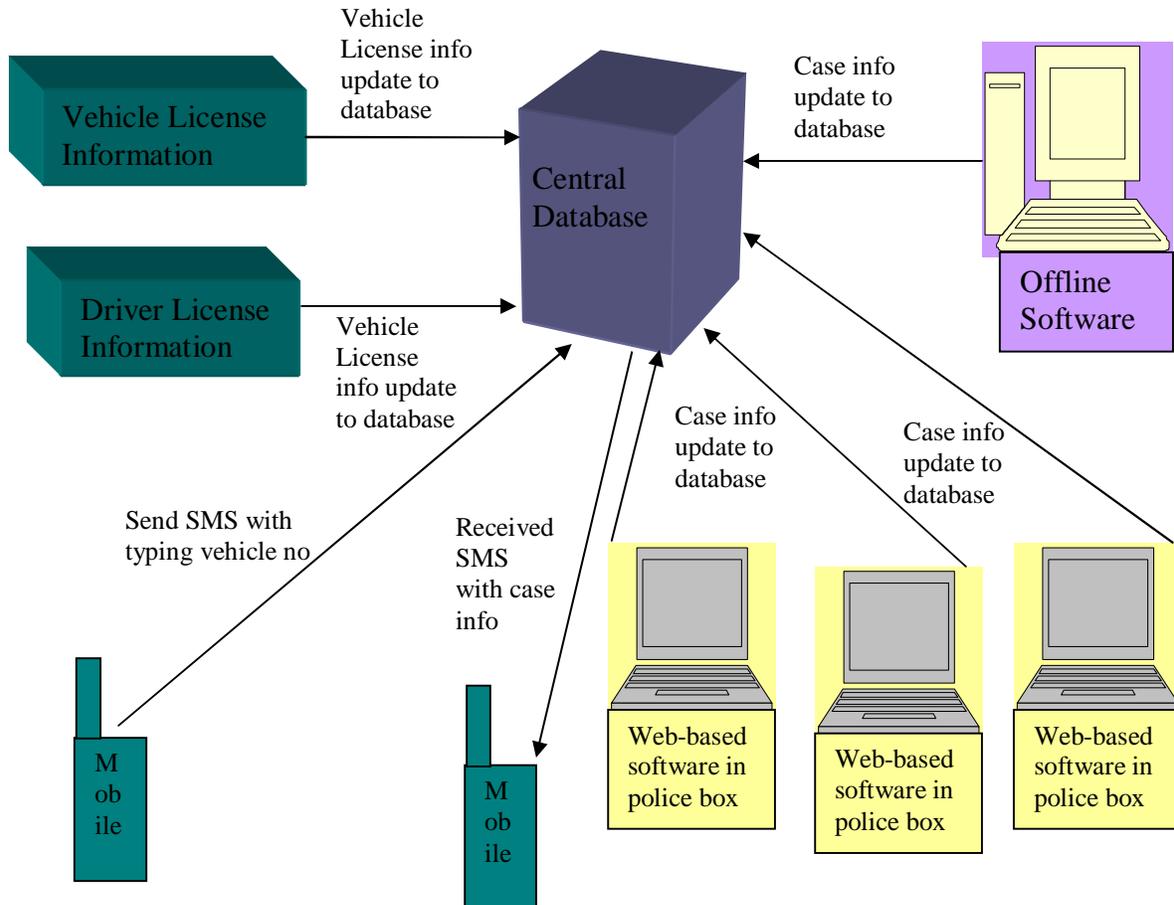


Figure 2: New proposed system of case entry & case view

1.7 Advantages of New Proposed System:

- The Traffic Police can easily update a case.
- The Traffic Police can easily track any vehicle.
- The Traffic Police can easily check the previous case against any vehicle.
- The Traffic Police do not need to keep all the case records with them.
- The proposed system will save much time and money.
- Corruption will be decreased.

CHAPTER II: SYSTEM DEVELOPMENT

SYSTEM DEVELOPMENT

2.1 Methodology:

We followed the SDLC process for system development.

2.1.1 Phase 1: Project Identification and Selection:

- a. Learn how the existing system works and how much of the system have been automated and current challenges and problems of existing system. For this reason we visited Mohammadpur Thana, talked with the Deputy Police Commissioner and their IT specialist.
- b. Review the system for solving prevailing drawbacks.
- c. Determine the requirements for the proposed system.
- d. Structure the system requirements using Context diagram, DFD's of different level.
- e. Build class diagram.

2.1.2 Phase 2: Project Initiation and Planning:

2.1.2.1 Project Initiation:

- a. Build up the project initiation team
- b. Establishing customer relationships
- c. Developing a plan to get the project started
- d. Setting management procedures

2.1.2.2 Project Planning:

- a. Defining clear, discrete activities and the work needed to complete each activity
- b. Outlines work needed to be performed
- c. High-level description of system
- d. Lists all work to be performed

2.1.3 Phase 3: Analysis:

We have analyzed whole the existing traffic case management system. There is no computer database system for traffic police. For this reason we have to do hard work. We have designed the whole system. We also analyzed their whole system. We observed their whole case management system for our best design.

2.1.4 Phase 4: System Design:

Design the logical database. Need to consider all inputs, outputs and every data element on the Class Diagram. Finalize the prototyping that meet all the requirements. Based on that prototype design the physical database, use the relational database model. Design the forms and reports. Finalize the Interfaces, Dialogues and design specification.

2.1.5 Phase 5: Implementation:

Code the system according to the design specification. Test the new system and after the successful testing install the system. Prepare the Documentation for the System.

CHAPTER III:

DATABASE DESIGN

DATABASE DESIGN

3.1 Description:

When the police will input the case on the web or offline software then all the data's will go to the input_case table. BRTA will input the driver or vehicle's information in the driver and car table. If the police needs any car's or driver's information then the SQL will run in those tables. When the offender will pay fine then the information of the offender in input_case will be deleted and that information will go to the store table. Both online and offline software will access

those tables. But the SMS system that is created can only access the input_case table.

3.2 Block Diagram:

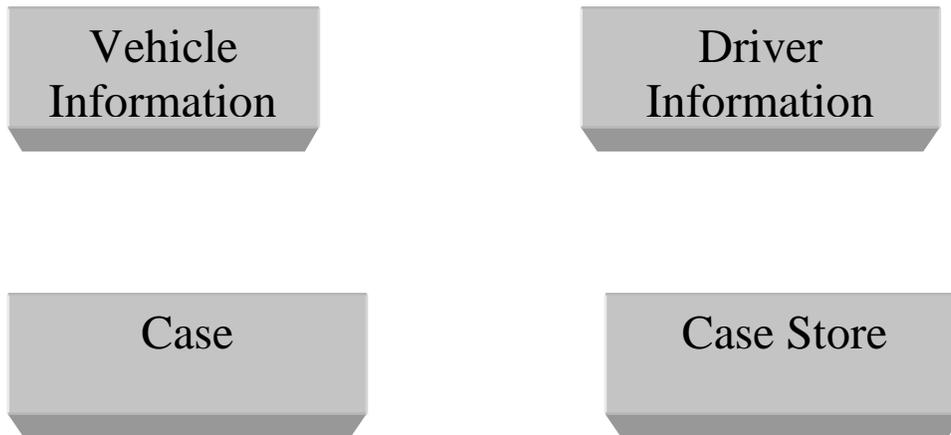


Figure 3: Block Diagram of Database

There are mainly four block diagrams in our system.

- a) **Vehicle Information:** It contains all the information of vehicle.
- b) **Driver Information:** It contains all the information of driver.
- c) **Case:** On that block all the required information for the case will be saved.
- d) **Case store:** When any case will release then the all previous information will stored in the case store block.

3.3 Context Diagram:

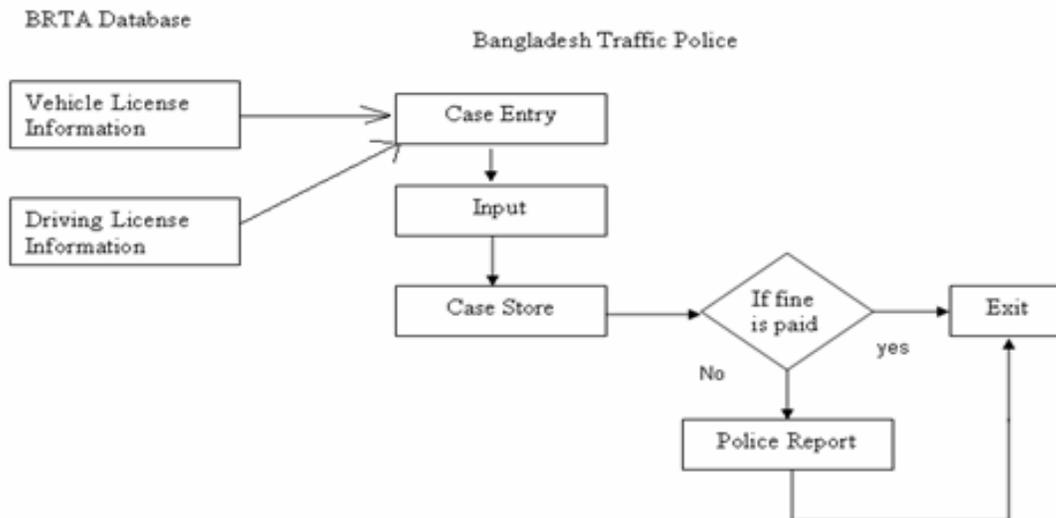


Figure 4: Context Diagram of database

This is the context diagram of our system. In this diagram, for case entry police will check the vehicle information and driver's information from the BRTA database. Case will automatically store in the case input table and case store table. If the fine is paid then data will removed but store in the store module. But if the fine is not paid then those case will go to the police report.

3.4 Class Diagram:

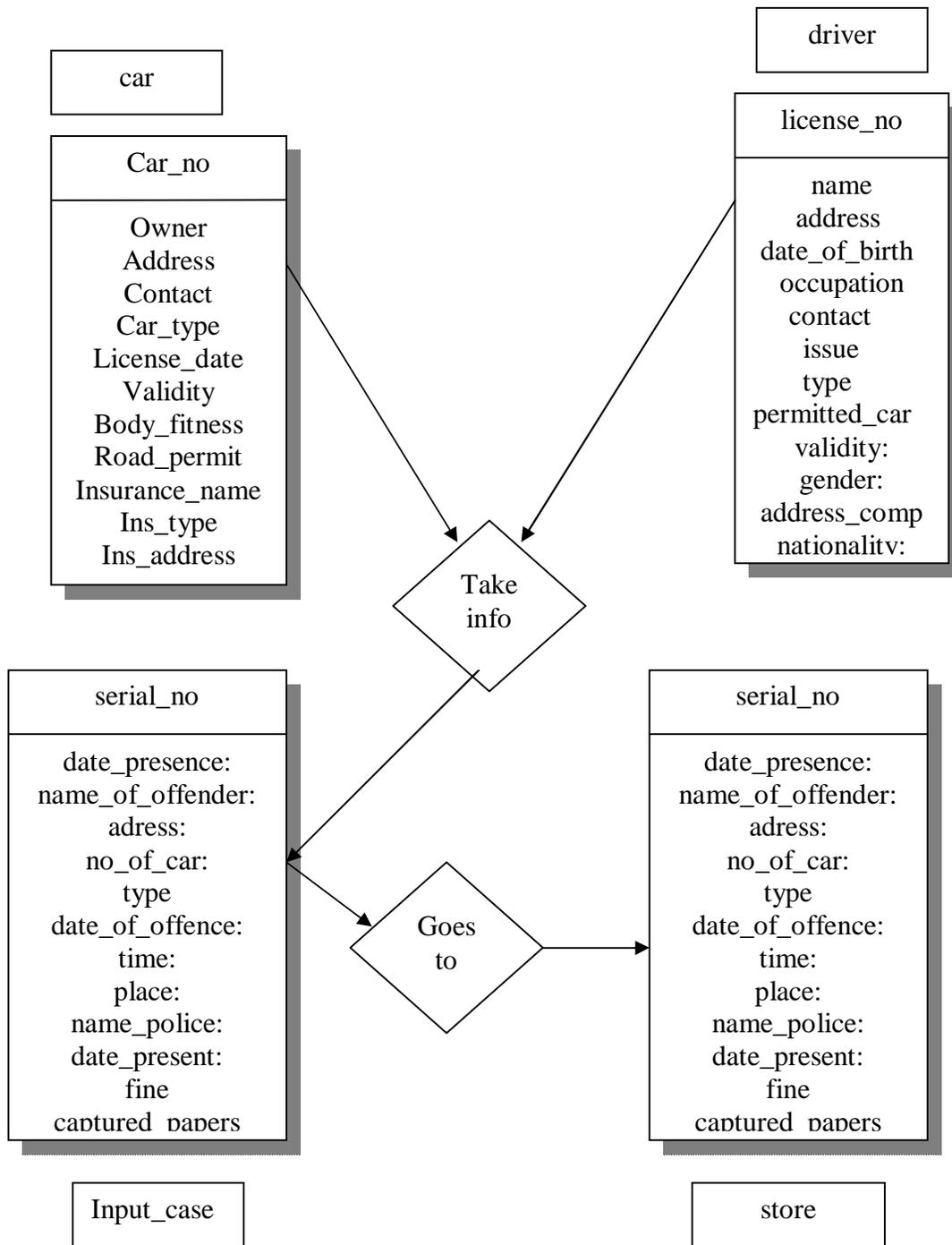


Figure 5: Class Diagram of Database

3.5 Database Design:

In the existing system there is no link between BRTA database and the Traffic Police database. Because of lack of information we customized those databases

almost similar to their database. The design of the databases such a way that's why BRTA and Traffic police both can share information in one database.

The design of the new database is given below:

3.5.1 Input case:

serial_no	date_of_presence	name_of_offender	adress	no_of_car	type	date_of_offence	time	place
10	23/07/2006	Mamun	Chitagong	ctgka765342	Accident	12/07/2006	10.00 AM	Chitagong
3	31/07/2006	Dr. Sayeed Salam	BRAC Un	dhkga124586	Accident	31/07/2006	9.00 AM	Motijheel
4	31/07/2006	Sangeet Saha	Tangail	dhkga243267	Accident	31/07/2006	12.00 PM	Mirpur
8	23/07/2006	Sarif Muktadir	Mogbazai	ctgka101010	Accident	12/07/2006	2:00 PM	Mirpur
9	15/07/2006	Murtoza	Sylhet	syka123456	Accident	12/07/2006	2:00 PM	Motijheel

Figure 6: Stored Input Cases in the database

Field Summery:

1. serial_no: It describes the case serial number.
2. date_presence: In which date the traffic police entry the case.
3. name_of_offender: Offender's name
4. adress: Address of the offender
5. no_of_car: Offender's vehicle's number
6. type: Type of offence
7. date_of_offence: The date when the vehicle made offence
8. time: The time when the vehicle made offence
9. place: The place where the vehicle made offence
- 10.name_police: The name of police who input the case
- 11.date_present: The offender has to pay his fine within in which date.
- 12.fine: Amount of fine
- 13.captured_papers: The papers that are captured by the police

Key point: In this table serial_no is the primary key.

3.5.2 Car:

car_no	owner	address	contact	car_type	license_date	validity	body_fitness	road_permit	insurance_name
ctgka734982	Shanta	Chitagong	0152375429	Micro Bus	21/02/2004	21/02/2010	yes	All Over Chitagong	Delta
ctgka101010	Sharif Muktadir	Mogbazar	01711105830	Car	21/02/2004	21/02/2010	yes	All Over Dhaka	Alicol
ctgka254138	Momota Raihan	Chitagong	0189243671	Zip	21/02/2004	21/02/2010	Yes	All Over Chitagong	Delta
ctgka765342	Mamun	Chitagong	01711739902	Car	21/02/2004	21/02/2010	Yes	All over Bangladesh	Alicol
dhkcha777666	Abu Rafi	Uttora	01716283074	Truck	01/02/2004	02/03/2009	Yes	All over Bangladesh	Nitol
dhkfa374972	Premankur Roy	Savar Dakshin	01712156770	Bus	02/03/2005	01/03/2009	Yes	All Over Dhaka	Nitol
dhkka124586	Dr. Saaved Salik	BRAC University	01711739902	Car	01/01/2004	01/05/2010	Yes	All over Bangladesh	Nitol

Figure 7: Stored Car Information in the database

Field Summary:

1. car_no: Vehicle's Number
2. owner: Name of the owner
3. address: Address of the owner
4. contact: Contact number of the owner
5. car_type: Type of the vehicle
6. license_date: The license issuing date
7. validity: The validity date of the license
8. body_fitness: It describe either the body of car is fit or not
9. road_permit: The area of the permitted road
10. insurance_name: The name of insurance company
11. ins_type: The vehicle owner has done its insurance in which criteria.
12. ins_address: The address of the insurance company
13. ins_validity: The validity time of the insurance

Key point: In this table car_no is the primary key.

3.5.3 Driver:

license_no	name	address	date_of_birth	occupation	contact	issue	type	permitted_car	valid
	Premankur Roy	Savar Dakshin F	07/11/1984	Student	01712156770	03/08/2006	Basic Driving	dhkfa374972	13/06/

Figure 8: Stored Driver Information in the database

Field summary:

1. license_no: License number of the driver
2. name: Name of the driver
3. address: Address of the driver
4. date_of_birth: The date of birth of the driver
5. Occupation: The occupation of the driver.
6. contact: Contact number of the driver
7. issue: The date of issuing the driving license
8. type: The license type of the driver
9. permitted_car: The car number that is permitted to drive by the driver
10. validity: The validity date of license
11. gender: Gender of the driver
12. address_comp: The address of the work place of the driver
13. nationality: The nationality of the driver

Key points: In this table primary key is driver's license

3.5.4 Store:

serial_no	date_entrty	name_offender	adress	no_of_car	type	date_of_offence	time	place	name
1	31/07/2006	Abu Rafi	Uttora	dhkcha777666	Accident	31/07/2006	12.00 PM	Mirpur	Kamrul
2	31/07/2006	Premankur Roy	address	dhkfa374972	Accident	31/07/2006	10.00 AM	Mohakhali	Rahat
3	31/07/2006	Dr. Sayeed Saki	BRAC Universit	dhkga124586	Accident	31/07/2006	9.00 AM	Motijheel	Kamrul
4	31/07/2006	Sangeet Saha	Tangail	dhkga243267	Accident	31/07/2006	12.00 PM	Mirpur	Sajjat
5	01/08/2006	Abu Rafi	Uttora	dhkcha777666	Accident	01/08/2006	12.00 PM	Dhaka	Salam
6	02/07/2006	Shanta	Chitagong	ctgga734982	Accident	01/06/2006	12.00 PM	Chitagong	Rohim

Figure 9: Stored Case History in the database

The fields are as same as the input_case

CHAPTER IV: INTERFACE DESIGN

INTERFACE DESIGN

4.1 Description:

In the interface design we have discussed about the software. There are two software in the proposed system. One is web-based software and another is offline software. Both the software is discussed here.

4.2 Web-based Software:

In web-based software there are two parts. One part is for BRTA authority and another part is for Bangladesh traffic Police. All kinds of license information is stored in the BRTA software. BRTA issue the license for the vehicle and driver. All kind of case information is stored in the Bangladesh Traffic Police software. The Traffic Police entry the cases from this section.

4.2.1 BRTA License Software:

Basically there is an existing web page for the BRTA. But to manage this new system that web should contain extra two dynamic pages. Those are for inserting driver information and car information on the central database.

Tools required:

1. PHP
2. MS Access
3. Dream weaver

4.2.1.1 BRTA Home Page:

Features:

Home: This link provides the page which contains the general information of BRTA.

About: This link for those who create this software.

Vehicle: Vehicle link will show the vehicle information form.

Driver: In this link Driver's information form will be open

Contact: To contact info of BRTA will be in this link.

The BRTA Home Page Interface Diagram is below:

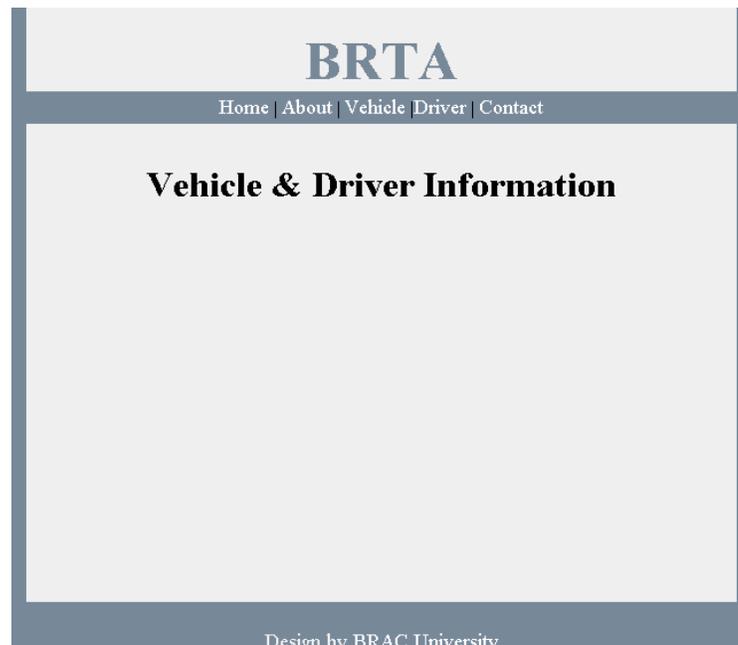


Figure 10: BRTA Home Page

4.2.1.2 Vehicle Information:

Features:

This page is only used for issuing new vehicle license. There are thirteen fields in this page. This information is essential to issue a car license. User is bound to fulfill all of thirteen fields. It is not possible to save this information without single field information. So user has to fulfill all thirteen field information.

Vehicle number: This is a unique number that is configured by both number and character. Since this is a unique number so this will help to search any particular vehicle.

Vehicle Owner: This field contains car holders or owners name.

Owner's address: This field contains car holders or owners address.

Contact number: Contact number is important to communicate with car holders that are contained by this field.

Vehicle type: This is a text box and it informs about car type like bus, track etc. User can easily select car type by this box.

Date Of issue: To put the issuing date of license.

Validity date: Every license is not valid forever. So there is valid date for every car license. User can select validity date by selecting date from the calendar.

Body fitness: This field is one kind of binary field. Yes or no is the selecting factor. This is most important because of body fitness of vehicle.

Road permit: All vehicles are not permitted in everywhere in Bangladesh. Sometimes Vehicles belong to government work are not permitted to use all over Bangladesh.

Insurance company: Every vehicle is related with insurance company. This field contains insurance company name.

Insurance type: This type of information is given in this field and user can select insurance type from this field easily.

Address of the company: This field contains address of insurance company.

Validity of Insurance: User can select insurance validity date from the given calendar on this page easily.

The vehicle information interface diagram is below:

Vehicle Information

Vehicle Number	<input type="text" value="dhkga124586"/>
Vehicle Owner	<input type="text" value="Premankur Roy"/>
Owner's Address	<input type="text" value="G. P. JA 66/2, 8nd Floor, Mohakhali,"/>
Contact Number	<input type="text" value="01712156770"/>
Vehicle Type	<input type="text" value="Car"/>
Date of Issue	<input type="text" value="12/01/2003"/>
Validity date	<input type="text" value="21/02/2010"/>
Body Fitness	<input type="text" value="Yes"/>
Road permit	<input type="text" value="All over Bangladesh"/>
Insurance Company	<input type="text" value="Alico"/>
Insurance Type	<input type="text" value="1 st person"/>
Address of Compnay	<input type="text" value="Mogbazar, Dhaka."/>
Validity of Insurance	<input type="text" value="31/07/2010"/>

4.2.1.3 Driver Information: **Figure 11: Vehicle Information**

Features:

This page is only used for issuing new driver license. There are fourteen fields in this page. This information is essential to issue a driver license. User is bound to

fulfill all of these fields. It is not possible to save this information without single field information. So user has to fulfill all these field information.

License number: This field is for the license number of the driver.

Driver's name: This field will contain the name of the driver.

Driver's address: This field will contain driver's address.

Date of birth: It is the field for driver's date of birth.

Driver's occupation: This field will contain occupation of the driver.

Driver's company name: The workplace's address of the driver will be in this box.

Contact number: Contact number of the driver will go in this box.

License issuing date: This is for the date of license issue.

License Type: It is for the type of license. There is several types of license.

Permitted car: The vehicles which could be permitted to drive for the driver will be written there.

Validity: Validity date of the license will go in this box.

Gender: Gender field will contain either the driver is male or female.

Driver's father's name: This is for driver's father's name.

National Status: This field is for national status.

The driver information interface diagram is below:

Driver Information

License Number	4672
Driver's Name	Premankur Roy
Driver's Address	G.P.JA 66/2, 2nd Floor, Mohakhali,
Date of Birth	07/11/1984
Occupation	Student
Company Address	BRAC University
Contact no	01712156770
License Issue	31/07/2006
License Type	1st Party
Permitted Car	dhkga243267
Validity	31/08/2010
Gender	Male
Father's Name	Prem Ranjan Roy
National Status	Bangladeshi
<input type="button" value="Submit"/>	

Figure 12: Driver Information

4.2.2 Bangladesh Traffic Police Case Management Software:

The traffic police of Bangladesh can entry case from this software. They can see the previous case history also from here.

4.2.2.1 Bangladesh Traffic Police Home page:

Features:

Home: This link provides the page which contains the general information of Bangladesh Traffic.

Case: This link will open the case entry form's page.

Search: Various searching options will be finding after clicking the page.

About us: In this link software makers' information page will be open.

Contact: To contact info of Bangladesh Traffic will be in this link.

Bangladesh Traffic Police Home Page Interface diagram is below:

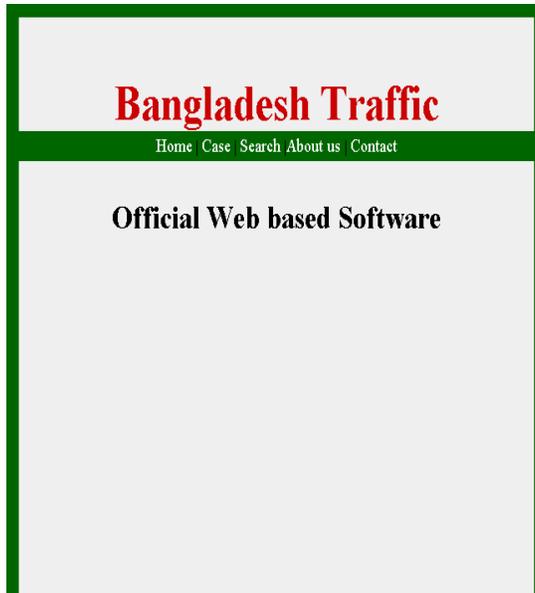


Figure 13: Bangladesh Traffic Police Home Page

4.2.2.2 Case Entry Form:

Features:

This is case entry form. If any driver broke any traffic rules and regulations then traffic police can store this offence type from this page. But it is important to say that traffic police has to fulfill all fields. Otherwise this case information will not be stored on database. There are thirteen fields and this field information is enough to store any case.

Case serial no: This field contains case serial number and that is unique.

Case Updating Date: This field contains date of entry of any offence or accident that can be selected from a given calendar by traffic police.

Name of offender: This field contains name of offender or defaulter.

Offender's Address: This field contains address of offender or defaulter.

Vehicle's number: This field contains car number that is a unique number.

Type of Offence: The offence type will go there. Here type is the rules.

Date of offence: This field contains date of offence or accident that can be selected from a given calendar by traffic police.

Time: This field contains time of offence or accident.

Place: This field contains place of offence or accident.

Name of police: Name of the traffic police is important to store also.

Amount of fine: If traffic police select any case from this page then related fine will be shown in this field.

Captured papers: Sometimes it may need to capture driving or car license in case of any accident or offence. So this page contains captured papers type.

After putting all the values the operator will press save button. Then all of the values will be stored in the input_case table and store table.

The CASE Input Form Interface diagram is below:



The image shows a web-based form titled "CASE Input Form" with a light blue background. The form contains several input fields with dark green headers. The fields and their values are as follows:

Field Name	Value
Case Serial No	11
Case Updating Date	25/07/2006
Name of Offender	Sarif Muktadir
Offender's Address	Mogbazar, Dhaka
Vehicle's Number	dhkcha777666
Type Of Offence	Accident
Date of Offence	12/07/2006
Time	10.00 AM
Place	Mirpur
Name of Police	Sajjat
Date of presence	25/08/2006
Amount of Fine	400
Captured papers	Car License

At the bottom of the form is a "Submit" button.

Figure 14: CASE Entry Form

4.2.2.3 Search Case Form:

Features:

Basically this page is for different queries. There are four queries option in this form. Description of the forms is given below:

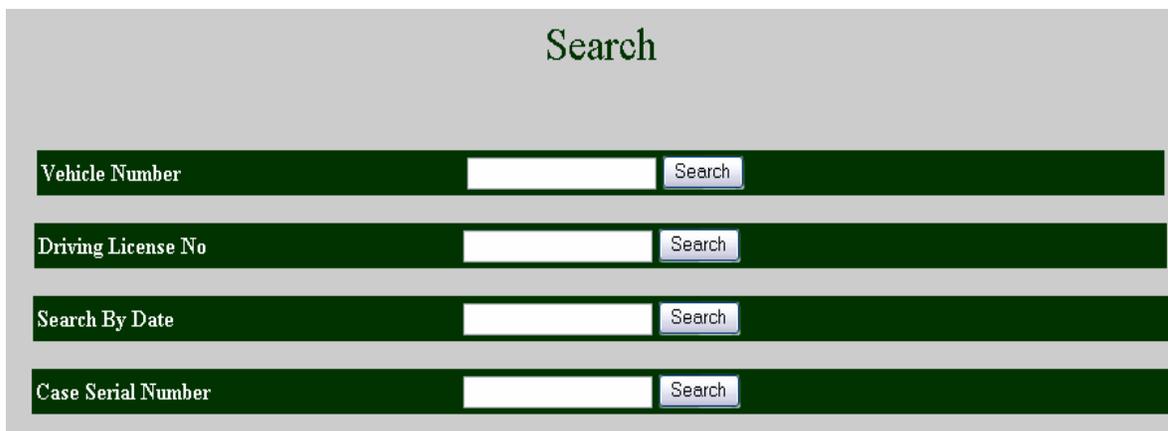
Vehicle Number: Using vehicle number operator can find various information of the vehicle.

Driver License No: This option is for find the driver’s information.

Search by Date: Putting date as input, traffic police can find which vehicles should present within on that day.

Case Serial No: To close the case, traffic police can find easily the offender car by this option.

The Search Case Interface diagram is below:



The image shows a web interface titled "Search" with a light gray background. Below the title, there are four horizontal search bars, each with a dark green background. Each bar contains a white input field and a "Search" button. The labels for the search bars are "Vehicle Number", "Driving License No", "Search By Date", and "Case Serial Number".

Figure 15: CASE Search Form

4.2.2.4 Search by vehicle number:

After searching by vehicle number these are the information will come. Vehicle’s information and its previous case result.

The search result Interface diagram is below:

The Results of Car

Vehicle Number	ctgka101010
Vehicle Holder	Sharif Muktedir
Address	Mogbazar
Contact	01711105830
Vehicle Type	Car
License Issue date	21/02/2004
License Validity	21/02/2010
Body Fitness	yes
Road Permit	All Over Dhaka
Insurance Company	Alico
Insurance Type	1 st person
Address of Company	Uttara
Validity of Insurance	31/07/2010

Previous Case Result

Case Serial No	8
Date	23/07/2006
Name Of Offender	Sarif Muktedir
Address	Mogbazar
Vehicle Number	ctgka101010
Type of Offence	Accident
Date Of Offence	12/07/2006
Time	2:00 PM
Place	Mirpur
Name Of Police	Sajjat
Date of Presence	25/08/2006
Fine	500
Captured Papers	Blue book

Figure 16: Case & Vehicle Information after searching with vehicle number

4.2.2.5 Search by Date:

Using search by date the police will find the entire vehicle's case information that will present on that day. If the traffic police click on the link of vehicle number than the result will be showed of the vehicle's information.

The search result interface diagram is below:

Case Serial No	8
Date	23/07/2006
Name Of Offender	Sarif Muktadir
Address	Mogbazar
Vehicle Number	ctgka101010
Type of Offence	Accident
Date Of Offence	12/07/2006
Time	2:00 PM
Place	Mirpur
Name Of Police	Sajjat
Date of Presence	25/08/2006
Fine	500
Captured Papers	Blue book

Case Serial No	9
Date	15/07/2006
Name Of Offender	Murtoza
Address	Sylhet
Vehicle Number	sylka123456
Type of Offence	Accident
Date Of Offence	12/07/2006
Time	2:00 PM

Figure 17: Case result in a particular date

4.2.2.6 Search by Case Number:

This page is for closing the case. After make the query by case serial, this page will open. If the operator clicks on "Case Closed" button then data of this offender vehicle will removed from the case table but it will be

stored in previous case history record. By clicking the link of the number of car, police can find the vehicle's information also.

The search result interface diagram is below:

Search Results

Case Serial No	10
Date Of Case	23/07/2006
Name Of Offender	Mamun
Address	Chitagong
Number Of Car	ctgka765342
Type Of Offence	Accident
Date Of Offence	12/07/2006
Time	10.00 AM
Place	Chitagong
Name of Police	Rahat
Date Of Presence	25/08/2006
Amount Of Fine	400
Captured Papers	Car License

Figure 17: Case result for a particular case number

4.3 Offline Software:

In the new proposed system there is offline software also. This is a back up software. If the web-based software damaged then it will work. It will connect with the same central database. In this section there is two parts also. One is for BRTA and another is for Bangladesh Traffic Police.

4.3.1 BRTA License Software:

This is BRTA license software. Information about vehicle and driver licenses will be stored in this software. In order to avoid crimes there is a strong security system that ensures public cannot access this software without BRTA authority. This page can only be accessed by BRTA authority.

Tools Required:

1. Visual Basic 6
2. MS Access

4.3.1.1 BRTA Login Page:

There is a password and a user name. After giving the appropriate password authority can enter into BRTA offline section.

The login page interface is below:



Figure 18: BRTA Login Page

4.3.1.2 New Vehicle License Information:

This page is only used for issuing new vehicle license. There are thirteen fields in this page. This information is essential to issue a vehicle license. User is bound to fulfill all the fields. It is not possible to save this page without fill up any information. So user has to fulfill information.

Field Summary:

Car number: This is a unique number that is configured by both number and character. Since this is a unique number so this will help to search any particular vehicle. There is a example of car number **Dhaka-Metro-ka-1230**

Car holders name: This field contains car holders or owners name.

Car holders address: Car holders or owners address are filling up here.

Car holders contact number: Contact number is important to communicate with car holders or owners that are contained by this field.

Car type: There is a combo box and it informs about car type like bus, track etc. User can easily select car type from this box.

License issuing date: There is a calendar in this page and this calendar begets date of issue on license issuing date field.

License validity date: Every license is not valid forever. So there is valid date for every car license. User can select validity date by selecting date from the calendar.

Body fitness: This field is one kind of binary field. Yes or no is the selecting factor. This is most important because of body fitness of vehicle.

Road permitted area: All vehicles are not permitted in everywhere in Bangladesh. Sometimes Vehicles belong to government work are not permitted to use all over Bangladesh.

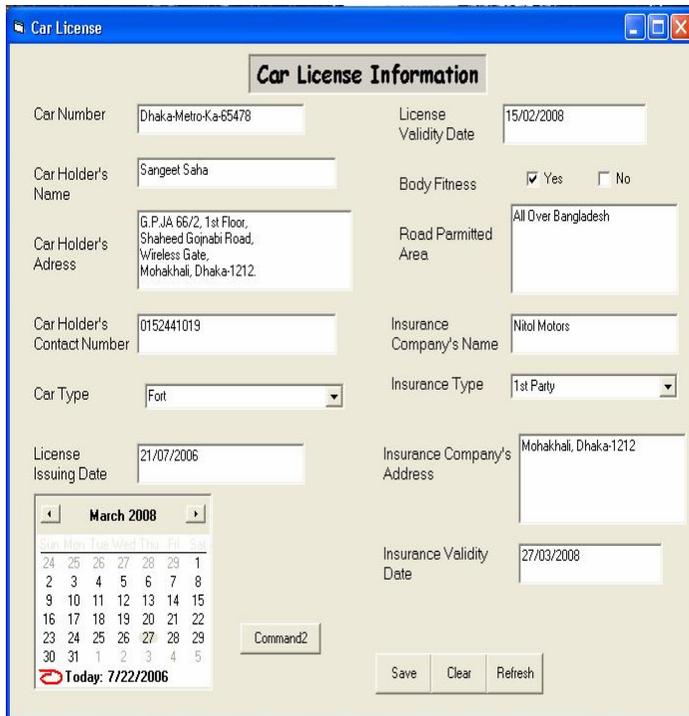
Insurance company's name: Every vehicle should be related with insurance company. This field contains insurance company name.

Insurance type: This type of information is given in this field and user can select insurance type from this field easily.

Insurance company address: This field contains address of insurance company.

Insurance validity date: User can select insurance validity date from the given calendar on this page easily.

The car information interface is below:



The screenshot shows a web browser window titled "Car License" with a form titled "Car License Information". The form contains the following fields and values:

- Car Number: DhakaMetro-Ka-65478
- License Validity Date: 15/02/2008
- Car Holder's Name: Sangeet Saha
- Body Fitness: Yes No
- Car Holder's Address: G.P.JA 66/2, 1st Floor, Shaheed Gopnabi Road, Wireless Gate, Mohakhali, Dhaka-1212.
- Road Permitted Area: All Over Bangladesh
- Car Holder's Contact Number: 0152441019
- Insurance Company's Name: Nikel Motors
- Car Type: Fort (dropdown menu)
- Insurance Type: 1st Party (dropdown menu)
- License Issuing Date: 21/07/2006
- Insurance Company's Address: Mohakhali, Dhaka-1212
- Insurance Validity Date: 27/03/2008 (selected from a calendar for March 2008)

At the bottom of the form, there is a "Command2" button and a "Today: 7/22/2006" indicator. At the bottom right, there are "Save", "Clear", and "Refresh" buttons.

Figure 19: Vehicle License Information

4.3.1.3 New Driver License Information:

When the BRTA authorities issue any driving license then they keep all the information about the driver in this page. The information is discussed below:

Field Summary:

Driving license number: This field is for the license number of the driver.

Driver's name: This field will contain the name of the driver.

Driver's father's name: This is for driver's father's name.

Driver's address: This field will contain driver's address.

Driver's occupation: This field will contain occupation of the driver.

Driver's company name: The workplace's address of the driver will be in this box.

Gender: Gender field will contain either the driver is male or female.

Date of birth: It is the field for driver's date of birth.

Contact number: Contact number of the driver will go in this box.

National Status: This field is for national status.

License issuing date: This is for the date of license issue.

Validity date: Validity date of the license will go in this box.

License Type: It is for the type of license. There are several types of license.

Permitted car: The vehicles which could be permitted to drive for the driver will be written there.

After fill all the fields user should press the save button. Then all the data will go to the database. If the user press the calendar it will automatically fill the fields of date sequentially.

The Driver License Information Interface is below:



The screenshot shows a web application window titled "Driver License" with a sub-header "Driver License Information". The form contains the following fields and values:

Driving License Number	Dhaka-237819	Gender	<input checked="" type="checkbox"/> Male <input type="checkbox"/> Female
Driver's Name	Premankur Roy	Date of Birth	07/11/1984
Driver's Father's Name	Prem Ranjan Roy	Contact Number	01712156770
Driver's Address	A-54/1, Savar Dakshin Para, Savar, Dhaka.	National Status	Bangladeshi
Driver's Occupation	Student	License Issuing Date	22/07/2006
Driver's Company's Address	BRAC University	License Validity Date	12/04/2006
		License Type	1st Party
		Permitted Car Number	Dhaka-Metro-ka-67843

At the bottom left, there is a calendar for April 2006. At the bottom right, there are three buttons: "Save", "Clear", and "Refresh".

Figure 20: Driver License Information

4.3.2 Bangladesh Traffic Police case Management Software:

This is a login page of Bangladesh traffic police case management software. Traffic police authority can store new case and check the case records from this software.

Tools Required:

1. Visual Basic 6
2. MS Access

4.3.2.1 Bangladesh Traffic Police Login Page:

Since this software is very important, it needs a strong security system. This page can only be accessed by traffic police authority. There is a password and a user name. After giving the correct password authority can enter into traffic police offline section.

The Interface is below:



Figure 21: Bangladesh Traffic Police Login Page

4.3.2.2 Case Entry Form:

If the traffic police want to entry a new case against any vehicle then he can put case from this page. To entry a case he must fill up the following fields:

Case serial no: This field contains case serial number which is unique.

Date: This field contains date of entry of any offence or accident that can be selected from a given calendar by traffic police.

Name of offender: This field contains name of offender or defaulter.

Address: This field contains address of offender or defaulter.

Name of the car: This field contains the default vehicle number.

Date of offence: This field contains date of offence or accident that can be selected from a given calendar by traffic police.

Time: This field contains time of offence or accident.

Place: This field contains place of offence or accident.

Name of police: Name of the traffic police is important to store also.

Captured papers: Sometimes it may need to capture driving or car license in case of any accident or offence. So this page contains captured papers type.

Amount of fine: If traffic police select any case from this page then related fine will be shown in this field.

The interface is below:

Case Serial No: 1

Date: 20/07/2006

Name Of Offender: Premankur Roy

Address: A-54/1, Savar Dakshin Para, Savar, Dhaka.

Number Of the CAR: Dhaka-Metro.KA-67534

July 2006

Sun	Mon	Tue	Wed	Thu	Fri	Sat
25	26	27	28	29	30	1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31	1	2	3	4	5

Today: 7/22/2006

137
 139
 140
 142
 146
 149
 150
 151
 152
 153
 154
 155
 156
 157
 158

General Punishment+Using car without Registration,permit or Fitness certificatePermitted agent or canvasarDriving car without Insurance

Date Of Offence: 19/07/2006 Time: 10:00 am Place: Mohakhali

Name Of Police: Sij. Rafiqur Rahman Date Of Presence: 19/07/2006

Captured Papers: Car License Amount Of Fine: 1500

Figure 21: Case Entry Form

4.3.2.3 Case search Form:

This is the case searching page. The police can check any vehicle from here. Suppose the police have doubt about a vehicle. Then he can put the vehicle number or case number. The details information will be showed here. Then the police can ensure about the vehicle very easily.

The interface is below:

Case Serial No

Vehicle No

Search Result

serial_no	date	name_of_offender	adress	no_of_car	type
1	12/07/2006	aminul	mirpur	dhaka1222	acc

Figure 21: Case Search Form

4.3.2.4 Close Case File:

The police can close a case from this page. If any suspected pay his or her fine then he or she should inform the police. After that police will close his case from the traffic police database. After inputting the case number all the information will be showed here. When the police close the case it will be stored in the previous case history records.

Serial no

Amount

Date

July 2006

serial_no	date	name_of_offender	adress	no_of_car
1	12/07/2006	aminul	mirpur	dhaka1222

Done

Figure 22: Case Close Form

4.4 An SMS used in the New Proposed System:

4.4.1 Overview:

Short Message Service (SMS) is a mobile data service that allows alphanumeric messaging between mobile phones and other equipment such as voice mail systems and email.

SMS is a store-and-forward system. Messages are sent to a Short Message Service Center (SMSC) from various devices such as another mobile phone or via email. The SMSC interacts with the mobile network to determine the availability of a user and the user's location to receive a short message.

Because SMS uses the control channel (rather than the voice channel), a unique feature of SMS is that the user can receive a SMS whether or not a call is in progress - the phone need only be turned on. If the phone is not turned on, the SMSC will wait until the phone is turned on to send the message. A "message received" is sent to the SMSC from the MSC upon delivery to the mobile device, allowing the SMSC to provide confirmation of receipt to the sender upon request.

One of the issues with SMS is interoperability between different technologies such as CDMA and GSM. To accomplish messaging between these different technologies, Inter-carrier Messaging technology must be deployed to provide for messaging between mobile operators with different technologies.

4.4.2 Benefits of an SMS:

- a) SMS increases the amount of voice calling by providing a mechanism for voice mail notification to the handset.
- b) SMS provides a convenient, low-cost mechanism for non-voice communication.
- c) SMS provides a mechanism for enabling various other applications such as prepaid.

4.4.3 SMS Enabled Applications:

SMS can be used for a variety of uses in conjunction with mobile prepay including notification of low balance and balance inquiry, short codes used in conjunction with prepaid roaming, and even SMS itself can be provided on a prepaid basis by the mobile network operator.

When used in conjunction with the SIM Toolkit, SMS can be used as the vehicle for a variety of secure transaction-oriented services such as mobile banking; news alerts, product alerts, updated sports information, job alerts, and SMS aided utility services and so on.

4.4.4 How will Traffic Police use an SMS service?

The Traffic Police can also use this SMS to know the case information, vehicle information and driver information. When the traffic police want to know this information then they will just send an SMS to a particular number. Then they will receive an SMS which contains all the information that they want to know. Thus this will help the traffic police in many ways. They can easily gather information through an SMS.

Tools Required:

Software:

1. ActiveXpart
2. Visual Basic
3. Nokia PC suite

Hardware:

1. PC
2. Nokia 6650
3. DKU -2 cables.

4.4.5 How will SMS work?



Figure 23: Sending & Receiving SMS

When the police send an SMS using this format than this SMS will go to the central database and run the query. After getting the result, server will return an SMS to the police about the information. If no result found that it will also return an SMS of no result. In this the SMS for traffic, the police will send only the car license number. And the result will contain it's case number, offender's name, date of offence, date of presence to the station and the papers name that are captured.

CHAPTER V: LIMITATIONS

Limitations of the Proposed System:

5.1 Lack of Actual Data:

To know about the current traffic case management system we went many Thana. We also talked with the traffic police. Sometimes they provide us data but maximum time they did not help us to provide us nay data. They are very happy with their system. Now they can earn extra money from vehicle owners. If our proposed system will start then the corruption will be very much decreased. They will not earn extra money also. Fro this reason they did not want to help us. So we could not collect enough data. So we proposed a new system where there may not all information be covered. Though we did not collect actual data we can not use them in the new system. To build any system it is very much essential to gather appropriate data. If we do not know the running procedure we can not build a good system. So to know actual data is very much essential. We got some information from the Mohammadpur Thana and BRAC Road Safety Department. But we did not collect sufficient data. If they want then they could provide us those data. But they did not.

5.2 Lack of Enough Information:

Like actual data we also failed to collect enough information. Traffic Police handle many things everyday. But we do not know everything. For this reason we can not implement those things. The traffic police are not helpful. They were very rude when we went to them. So we could not get enough information. We implement that information that is known by everybody and is covered in newspaper. But we did not collect much internal information that might help us.

5.3 Lack of Time:

We have prepared our thesis in short semester. We got only two months. But our thesis topic is very much huge. So we could not covered all things that we thought about. If we got another two month then we may prepare another section of traffic police.

CHAPTER VI: FUTURE DEVELOPMENTS

Future Development

6.1 Case Entry through an SMS:

In the new proposed system case can be entry through offline or online software. Traffic police can search case information

through SMS. SMS system ensures less time consumption. So it is essential to use SMS system for our better prospect. In future traffic police can entry about a case immediately by SMS. There is a problem. There is a limited character in SMS. But it is necessary to save all thirteen information about any case. So it is not possible to entry all information through SMS. So in this case it needs word mappings. A Word mapping helps us to store all information through SMS.

6.2 Official Traffic Police Website:

There is no official Traffic Police website. We use home server. So in future there is a website where public can access this web easily. But it is sure that every portion of our future website is not accessed by people. People can collect much information about traffic system, their work, their lifestyle, latest traffic information. People can also see any information about any vehicle from the web also. The web-based software will be connected with the website. So the traffic police can entry all types of case through this website. There is a central database that is connected with this website. Thus database will be updated by traffic police authority only. Here every traffic police authority with internal password can access this website as well as update this website.

6.3 Bengali SMS System:

In our country maximum traffic police are not much educated. In future our website and SMS system can be converted to Bengali. This will ensure 100% correct entry.

References

Books:

1. Jeffrey A. Hoffer, Joey F. George, Joshep S. Valacich, (2003). Modern System Analysis & Design, 482 F.I.E. Patparganj Delhi 110092: Pearson Education Pte. Ltd.

2. Joel On Software by JOEL SPOLSKY
3. Database System concepts, 4th edition, By Silberschatz, Korth, Sudarshan.
4. Microsoft Visual Basic 6.0 Professional Step-By- Step. (Paperback) by Michael Halvorson "
5. Php 4 Bible (Bible (Wiley)) (Paperback) by Tim Converse, Joyce Park "

Web sites:

1. www.php.net
2. www.zend.com
3. www.msclub.ce.cctpu.edu.ru
4. www.activxperts.com
5. www.mobilein.com/sms.htm
6. www.mha.gov.bd/DeptOfPolice.php