**Department of Electrical and Computer Engineering**
**North South University**

# Senior Design Project

# QR CODE BASED MODERN BUS COURIER SERVICE

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**Fall, 2018**

# AGREEMENT FORM

   We take great pleasure in submitting our senior design project report on "QR CODE BASED MODERN COURIER SERVICE". This report is prepared as a requirement of the Capstone Design Project CSE/EEE/ETE 499 A & B which is a two semester long senior design course. This course involves multidisciplinary teams of students who build and test custom designed systems, components or engineering processes. We would like to request you to accept this report as a partial fulfillment of Bachelor of Science degree under Electrical and Computer Engineering Department of North South University.

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# ACKNOWLEDGEMENT

# ABSTRACT

Every aspect of life has become more time consuming and technologically advanced in the last decade due to rapid growth of science and technology. The blasting extension of transportation system has made out transporting goods from here to there in absence of human individual which we know as courier service system. Out of all its beneficial records from the past, the regular courier service has a bunch of technical flaws that sometimes result in serious issues in human life. For example, our country's courier services take not less than 24 hours to deliver any goods which in case, delay of delivering life-saving medicine can be fatal and deadly. For this need of emergence, we proposed a whole new courier service system using the same old mechanics where user uses the empty bus cargo of a long route bus as a courier system. Here user takes a QR code from web service and uses it for goods delivery or receiving. Technically this system takes less than 24 hours to deliver a good as almost all the routes within the country require time span of less than 24 hours to travel. Emergency in-country situations are not considerable here

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# CHAPTER 1
# OVERVIEW

## 1.1 Introduction

The design and implementation of the system ensures better and confidential courier service inside the country with highest possible security. Available courier services that we have till now has lot of flaws. Like here the goods are switched from here to there where a lot of intermediary hands touch the goods which concerns us about security issues for expensive products. Also, regular courier services have filthy record of time dilation which caused serious damage to human life in the history. So, to solve all of these at highest possible solution, our service gives people an ensure of hundred percent security and time consuming, here user will deliver goods through usage of QR code and same goes for the receiver end to receive the product. Totally third-party free courier service system which is only using bus cargos instead of big lorries and trucks and that ensures a delivery within 24-hour time span.

## 1.2 Project Definition

The Without setting up any good at a courier service point for delivery, user will now log in to our system, selecting any available service at his/her preference user will be given a payment slip with respected QR code. This QR code of the service will be hidden from another user who will log in before the bus reaches at the destination point and receiver picks up the good. After receiving the code user will carry the good that he wants to deliver to his nearby bus station point. User will open the bunker that's allocated for our service through an app which is available on our website. This app will make device to read the QR code. Thus user will open the bunker and put his good. Bunker can be locked through the app as well. User will connect the app with the device through Bluetooth. Now to the point, after setting up the good for delivery, the QR code has to be sent to receiver end as well. The receiver, from bus destination point, will

now open the bunker in the same manner as user will receive the good after bus reaches the point.

## 1.3 Motivation

Since the beginning of the need of delivering goods from one place to another without human trafficking, the system of courier service has been developed and it's being updated until today. Aside from lots of other international highly successful courier services, our country still has some lacings and holes into the system that have a high negative impact on our day today life. From that very point of view and feeling the need of country people, we proposed a system that will cover up all the issues which existed before and at an efficient cost.

## 1.4 Project Goals

Main goal of our project is to carry out in country courier service system at a more proficient manner. Side goals that we considered are: -

• Cost effective.

• One day delivery/Receive

• No third-party interaction

• Different size of boxes for different products

# CHAPTER 2

# EXISTING SYSTEMS

# AND SOLUTIONS

## 2.1 Introduction

In this present time of innovation and advancement, courier service from all over the world and also in our country has done quite a lot in case of their services and time both. There are few works that have done before which has slight similarity with our works. This chapter emphasis on those related works, similarity with our system and what's new we're proposing here. It also demonstrates the problems, alternative solutions and best possible solution to face the problems

## 2.2 Existing Solution

About Urban Fast Courier, there are some existing slightly similar ideas.

### 2.2.1 My DHL and DHL package

These two are from the world wide highly recognized courier service system, DHL. In My DHL [4]user has to login, create and account and to set up just like our system. Here in My DHL, user can pick one of the three options available. All the options are great for user, but it has lot of complexities and good for high product delivery which is a lot in amount. Also, My DHL doesn't confirm full security and third parry touch free in their system mechanism. The DHL package [4]mobile application almost kind of similar which has a great option for product tracking but yet didn't cover the option for user friendliness which is ensured in our system. As in the option for user friendliness, user can put the product and close/open the bus bunker all by his own with the help of our mobile app that we're offering on our service's website.
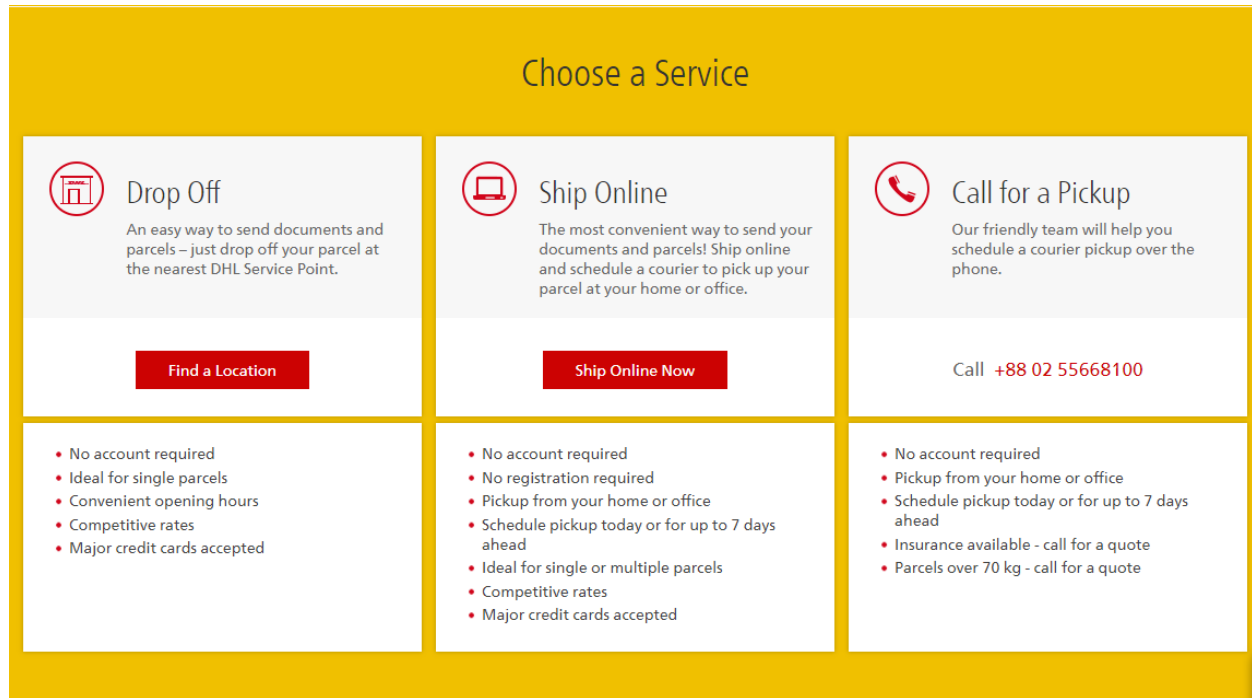
**Figure 1 - DHL**

## 2.2.2 Sundarban Courier Service (Pvt.) Ltd.

This courier service is one of the oldest and prominent in country courier services in Bangladesh. [3] The problems that this service has is almost like the DHL one which covers time dilation, complexity, costly and unfortunately has a history of damaging highly important products. Though an option called "Value Declared Service" they provide which has a feature for 24 hours in country product delivery, but not fully third-party touch free.

**(I) General Booking service:**
General Service General Service division is one of the most crucial divisions in comparative to other division. General Service division mainly consisted with-A) Document B) Non Documents like light parcel.

**(II) Special Service:**
Special Service is mainly deals with corporate customers. This service is under automation system.

**(III) Express Service :**
This is a special type of booking & delivery done with special care & we charge very reasonable rate.

**(IV) Super Express Service :**
This Service is extended for delivery within 8-24 hours in all District/Pourashova area.

**(V) Value Declared Service (V.D):**
Our value declaration section is the most influential division of **Sundarban Courier Service (Pvt.) Ltd**. We maintain money transfer from one individual to another, one family to another family within Bangladesh. We don't allow any commercial transaction regarding money transfer from one company to the other and one office to another. This department mainly provides two ways of service-A) Normal Service (Within 24 hours) B) Message Transfer (MTCN through Network).

**(VI) Foreign Service :**
This Service is extended for the Bangladeshi expatriates. This Section receives & delivers Bank drafts, Cheques, Documents, packages through our foreign agent. It is very easy to trace out any items by our Tracking system with our combination of "front and back" end expertise, integration capabilities and follow-on foreign services after deployment.

**(VII) Trade Marketing Section :**
This section consists of collecting & delivering the goods for many different Trading Companies under special terms & conditions.

**(VIII) Mobile Section :**
Our Mobile Service is extended for booking from our branches & agents all over Bangladesh and we deliver delicate Mobile packages very safely.

**(IX) Parcel Division :**

**Figure 2 – Sundarban Courier**

## 2.2.3 Pathao Parcel

Until recently, pathao parcel [1] has risen to a great extent and took a place in citizen's day to day need with its reliable delivery system. This is an in-city delivery system and works better for short distance delivery. Since its startup, pathao has been doing pretty good. It runs completely by mobile application. [2]

Documents, accessories, packages and even gifts!
Deliver them all within your city, in a jiffy!

**INSTANT ON DEMAND DELIVERY**

Sit back, relax and let Pathao do your legwork.

**ANYWHERE WITHIN YOUR CITY**

From one end to the other, we got it covered.

**SAFETY GUARANTEED**

Your deliveries are tracked via GPS. Losses and damages, all insured.

**MOBILE FRIENDLY USER INTERFACE**

User friendly layout, for your convenience.

**ENVIRONMENTALLY FRIENDLY**

Bicycle driven delivery, smaller carbon footprint.

**Figure 3 – Pathao Parcel**

But above it's in city service system and not very user friendly for large parcels. Also, not a self-service like our system which ensures the security of the product at a great percent.

## 2.3 Summary

The whole chapter gives an idea on previous works on in country urgent courier service system and about their pros and cons. The DHL express has a very similar kind of service they provide which goes with our system though not fully clone where we ensured more efficiency. The way of not using the mobile phone app has been addressed here. With the usage of the app, more cost efficiency and product security can be ensured which is described above.

# CHAPTER 3

# SYSTEM OVERVIEW

## 3.1 Introduction

The basic idea of QR Code based Modern Bus Courier Service named as Urban Fast Courier is to use empty space of bus compartment or luggage bunker by making 3 sizes of locker boxes as delivery service. In every road thousands of bus travel here to there over the Bangladesh, daily. In Bangladesh, we have some existing courier services who deliver parcels everyday here to there. But the process is not so smart or modern. Sometimes parcel get damaged, receivers get parcel after long time, it takes time to receive the parcel as it is so emergency. This project Urban Fast Courier will reduce and solve this problem in a very smart way. All the things will be managed by a website and locker will be opened and closed by a simple mobile app in a secured way. Urban Fast Courier Service- "www.urbanfastcourier.com" website will show empty lockers availability of bus services in every route, user can book a compartment to send parcel to his destination. Delivery will be in a secured locker box. Sender will get a QR code. S/he will pass it to its receiver. Only the receiver will be able to open the locker box of bus compartment or luggage bunkers by shared QR code of sender. People will be served with this online Courier service through Bus in a very short time in 24/7. For this service, whole system is divided in three panels or interfaces which have different work activities and merged in very secure way. They are-

1.    Developer and Admin Interface (DAI)

2.    Client Interface (CI)

3.    Customer and User Interface (CUI)

In the whole system of this Urban Fast Courier Service there are some work zones to develop. They are QR code generation, Payment System, Revenue Earning, Device, Android APP.

## 3.2 Developer and Admin Interface (DAI)

Developer and Admin Interface (DAI), is the power house of this project. It is only one profile for all the developers of this project or the admins of the Urban Fast Courier Service Company. It has the authentic control panel of maintaining the service. This interface deals with all the IT solution and network supports as well as dealing with Client Interface and Customer and User Interface. Basically, it has three major activities. Firstly, DAI can add, delete, block any bus companies from database directly. Secondly, DAI can insert, update or delete any buses as well as can provide authentic individual Bus ID, Bus name, Bus Location, Time of leaving, From, where to, Receive Location, Bunker Sizes, Amount of charges from every bus companies. It has option to display individual bus activity and has a search button to get bus information easily. DAI has download option to download individual bus information. Thirdly, DAI has Revenue page to see all the transactions. Revenue page directly works as accounts of company itself. In this page, DAI gets all the information of transactions for each bus of each company. It also shows monthly total earnings or profits of Urban Fast Courier Service as well as bus companies.

On the other side, DAI is the Right owner to make changes in the system. It can correct, update, change, re-change, modify for the service in every interface. It also deals with the rate of services, can provide offers and facilities
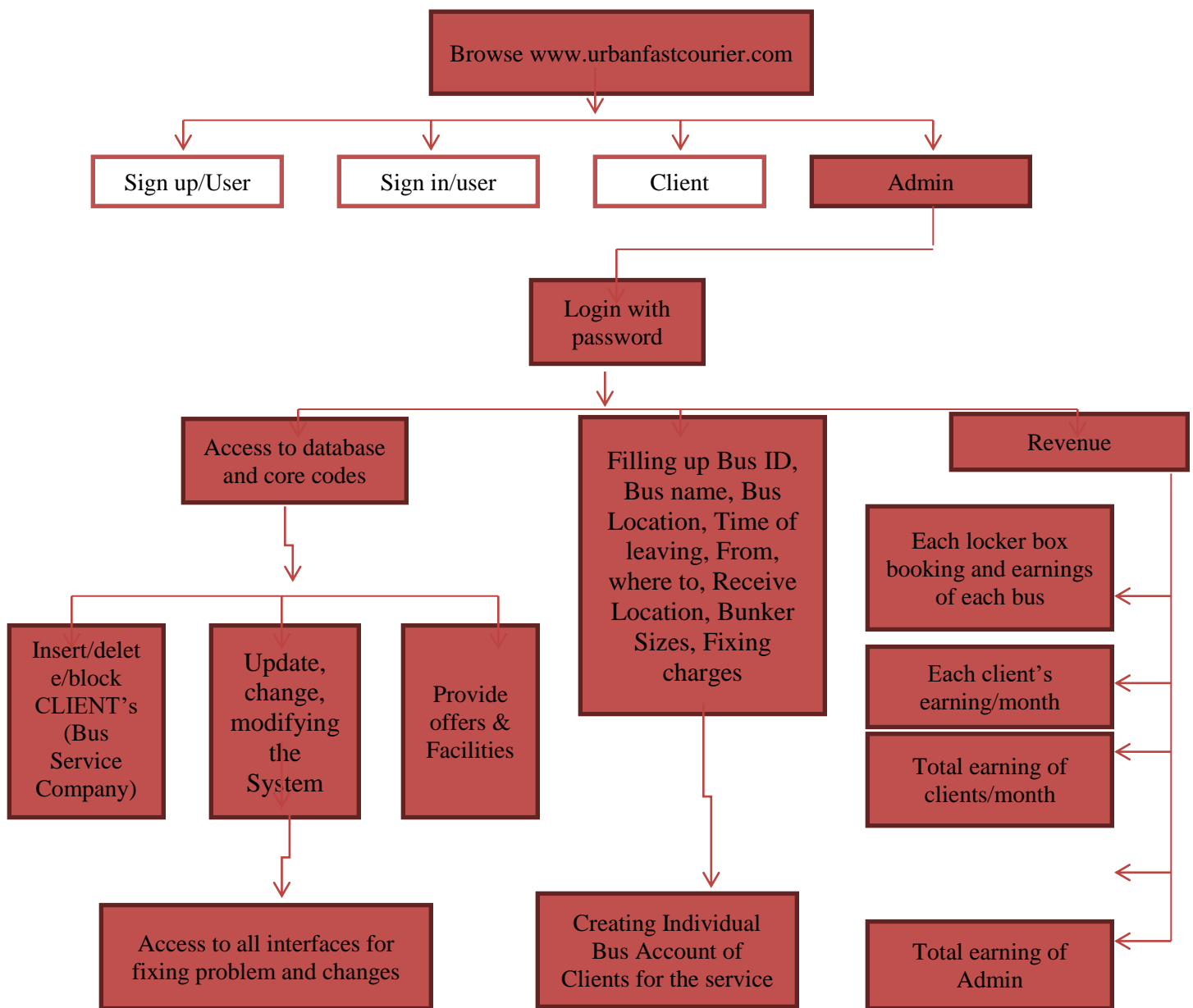
**Figure 4 Block Diagram of Developer and Admin Interface (DAI)**

## 3.3 Client Interface (CI)

 As it is called Client Interface (CI), it means here Project will deal with Clients. Project's clients

are various Bus Service Companies who are interested to associate with this service. But all the

buses cannot be associated with this service. They must be fitted by some terms and conditions

to attach with Urban Fast Courier Service.
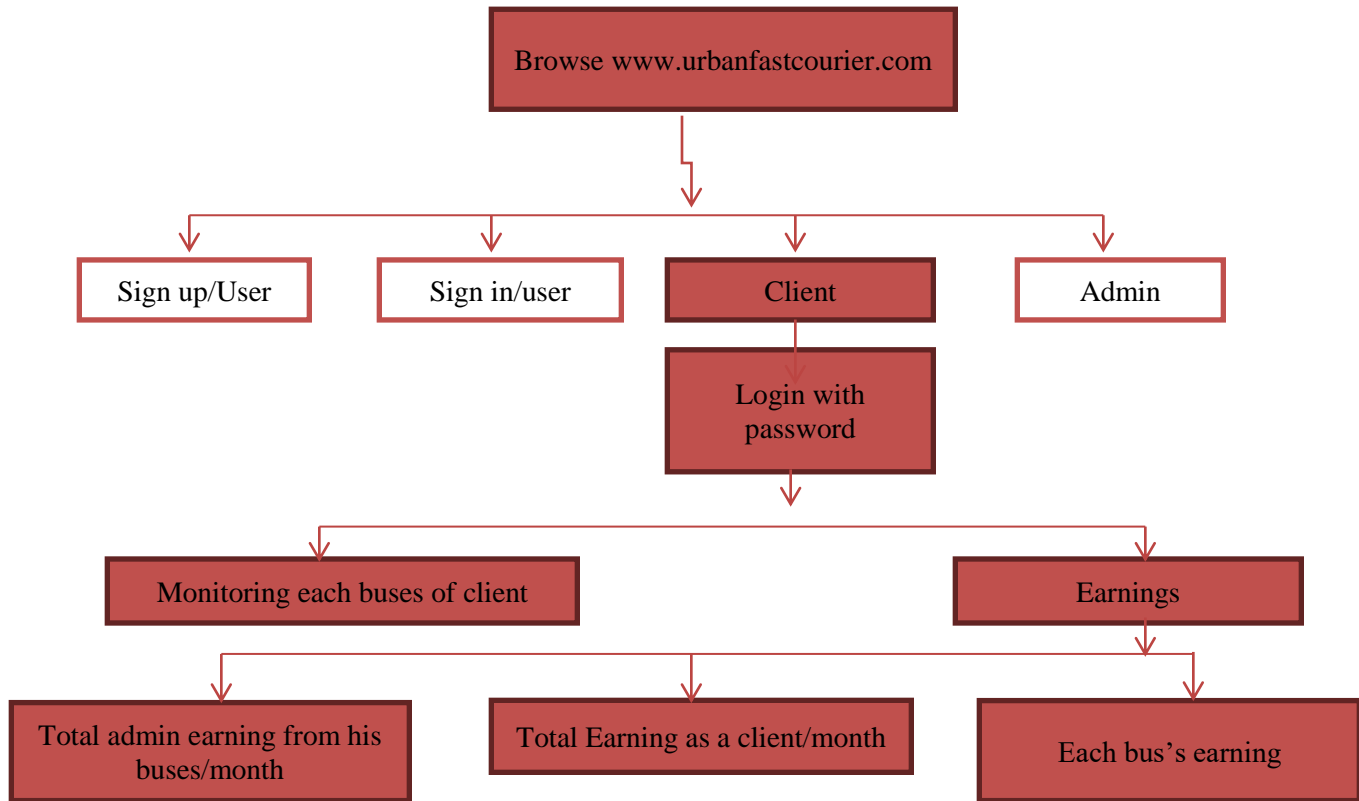


**Figure 5 Block Diagram of Client Interface (CI)**

## 3.3.1 Terms and Conditions

The Bus which has big bunkers or multiple bunkers for carrying luggage and bags are applicable for this service. After meeting their passenger's demand, empty spaces of bunker are used for this service by setting up locker box with QR code-based Bluetooth device. Every Bus Company or Bus Owner must register before involving the service. Each bus of a bus company must register individually under company registration. After individual registration bus will get

different sizes of locker box with connected device. Clients must pay set up cost for each locker boxes.

Every bus service companies who associated with Urban Fast Courier Service are clients. Every client has an authorized profile where they must sign in to get all information about their all bus's usages and transactions. They can see which buses of their company are used, booked and their authentic individual Bus ID, Company Name, Bus Location, From, To, Receiving Location, Capacity or locker box size what a user used, Money-total amount they take, Profit Admin- Admin percentages, Profit Bus Service Owner- what they earn. Client can see Total Earning what they earn so far from all buses of their bus service company and total Admin Earning what client must be charged by Urban Fast Courier Service.

## 3.4 Customer and User Interface (CUI)

Customer and User Interface (CUI) is meaning to the people who will take the facility of this service as user. CUI deals with how a user gets the service easily and entire system for them. User or sender of a parcel has to sign up at www.urbanfastcourier.com , after that s/he has to sign in and get the route line of buses what have available 3 different sizes of locker boxes with various time schedule leaving from different stations at different charges. S/he can get sorted route list by selecting Cities from and to. After choosing his/her locker box from any bus service, s/he has to click for the button PAY to book that locker box. Immediately, s/he gets the payment system to pay the bill. Card paying system is settled by default. After facing payment formalities, system screens him/her the payment slip where a QR code will be given with all details of his/her information. Payment slip is downloadable as well as printable. An android App is available in home page of www.urbanfastcourier.com which helps user to check locker box

when bus has multiple locker boxes in the bunkers, most importantly open up locker and close locker. After putting the parcel in the locker box and close locker box, user or sender has to send the payment slip or just QR code to its receiver to open up locker box and get the surprising parcel. Receiver goes the receiving location timely and has to install the app to open up and close the locker box.

## 3.4.1 Process

User has to browse online www.urbanfastcourier.com to send a parcel throughout the country. S/he has to sign up in Urban Fast Courier Service website to have an account as user. Sign into the site and download our connecting APP from our own site. Choose your city and destination city. Choose your nearest dropping station, very close destination station, bunker/locker box. Size, choose your bus service & then click to PAY. Fill your card information to pay. Get your booking, payment slip and QR code. Reach in dropping station timely. Open our APP near the accurate bus. Connect Bluetooth through our app. Press Check Locker to check his/her locker box (for multiple lockers availability). Scan given QR CODE to open the locker. Put the things in the locker. Press the lock button. Share the given QR code to the receiver through email, messenger or other sharing app to unlock the locker box and get the things in a very short time, securely.
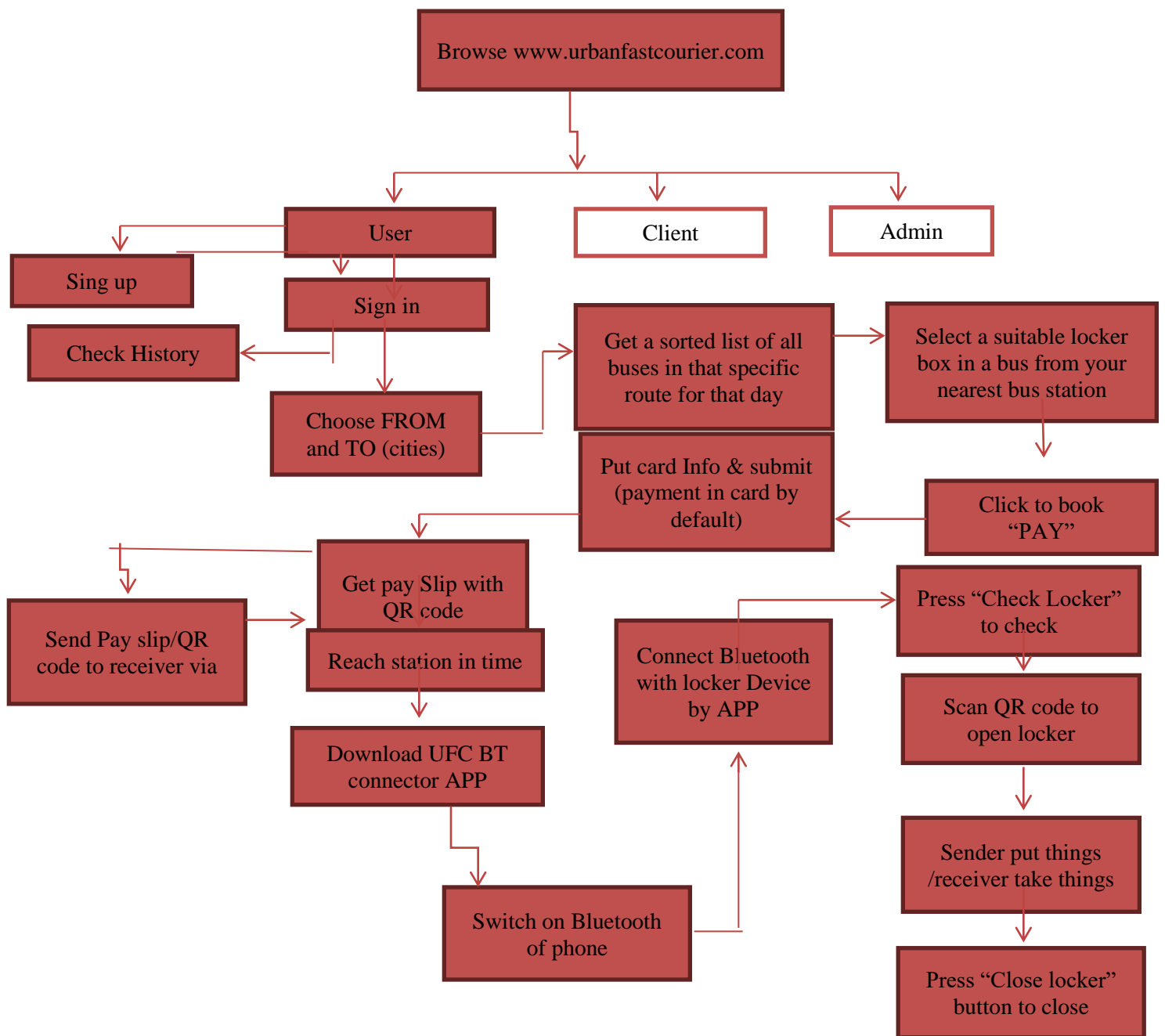
**Figure 6 Block Diagram of Customer and User Interface (CUI)**

## 3.5 QR code generation

Generating QR code in this courier service system is very unique idea in courier service industry over the world. [1] Narayanan said that "QR Code is a Matrix code; the QR codes were developed in Japan in 1994 by Toyota subsidiary, Denso Wave to help track automobile parts throughout production. This technology has been around for over a decade but has since become popular as a medium for marketers to reach smart phone users. Quick Response Codes, or QR Codes, are nothing new. In fact, in Japan and Europe they have been used in marketing as well as inventory control and manufacturing for the last 10 years." To identify objects or information this 2D printing is very useful. Any camera mobile can scan this QR code and also generate accurate information so fast.



**Figure 7 Picture of QR Code**

In this Urban Fast Courier: QR Code based Modern Bus Courier Service, System gives a Secret QR code to its user or sender to use bus's locker box. Initially developers of this service system make the device with 10 fixed QR code to scan for opening and closing up locker-boxes. All the QR code is generated to its sender randomly by shuffling. The main information of this fixed QR

codes are 2028, 1234, 1294, 4795, 5651, 7616, 5648, 1487, 7095, 2554. The converted QR codes of this 10 numbers or objects are generated randomly. This fixed 10 QR codes are burnt in Arduino Device which is maintaining open and close locker-box by checking as well as those are in the website to generate a QR code to senders. This modern bus courier service system is developed by focusing implementation of generating QR codes to introduce an easy, secured, fastest and smart courier service system.

## 3.6 Payment System

The transaction process and payment system of this QR Code based Modern Bus Courier Service System- Urban Fast Courier is based on Card by default. User or sender is asked to fill up card information to pay the bill. To making it easier, developers of this courier service system keep Card payment system.  So, sender faces ATM card or credit card information such as Card Holder's Name, Card number, Card Expiry Date, Card CVV then s/he must click pat now button to get informative pay slip.



**Figure 8 Picture of Card Information form**

Payment slip is the main document of transaction as well as the booking receipt for the locker box in the bunker. In this slip all the details of locker box information are provided. QR code is generated here too. All the information is coming up from the data base. Here sender gets to know all detail information with his/her own identification.

**Name :Majedish**

**Mobile No :1671300338**

**Transaction Date :2018-12-24**

**Print Date :2018-12-24**

| Bus_Id | Bus_Name | Bus_Location | Bus_Time | From_Lo | Where_Lo | Receive_Lo | Capacity | Money |
|--------|----------|--------------|----------|---------|----------|------------|----------|-------|
| EC13 | Hanif Enterprise Ltd | Arambagh, Dhaka | 06:00 | Dhaka | Chittagong | AK KHAN terminals, Chittagong | 1feet^3 | 509 |



*UrbanFastCourier*
*Main office: North South University, Block:B*
*Dhaka, Bangladesh*

(+880) 167-644-2372
qrcourierservice.ltd@gmail.com

**Figure 9 Picture of Payment Slip**

The payment slip generates information about Name of sender, Mobile number, Transaction Date, Printing date as well as it generates information about bus such as Bus_ID, Bus name, Bus Location (where will be the bus), Bus Time (Time of departing), From Location (City), To Location (City), Receive Location (Nearest Station of receiver), Capacity (Locker Box Size), Money (total Charge for having this service). After that sender gets to see QR code which is the

key to unlock the locker by scanning. This is private. Only sender can open up the locker box in bunker until s/he shares to its receiver or any other. Payment slip also provides Official information as well as the URL (from where it is downloaded). Payment slip will be downloaded and printing. This is surely said that payment slip plays a vital role in this QR Code based Modern Bus Courier Service System.

## 3.7 Revenue and Earnings

Earnings or gaining revenue is the core fact of any business or any service company. QR Code based Modern Bus Courier Service System- Urban Fast Courier has a specific system of gaining and sharing revenue. User pays the bill and the amount of bill is divided into 70% and 30%. 70% goes for Client Interface or the bus owner and rest of 30% goes for the DAI- Developer and Admin Interface.

```
┌─────────────────────────────────────┐
│      Customer and User Interface     │
└─────────────────────────────────────┘
                    │
                    ▼
        ┌───────────────────────┐
        │    Amount of Charge    │
        └───────────────────────┘
         │                       │
         ▼                       ▼
┌──────────────────────┐  ┌──────────────────────┐
│ 70% amount of charge │  │ 30% amount of charge │
│ gets Client          │  │ gets Developer and   │
│ Interface (CI)/bus   │  │ Admin Interface (DAI)│
│ owner                │  │                      │
└──────────────────────┘  └──────────────────────┘
```
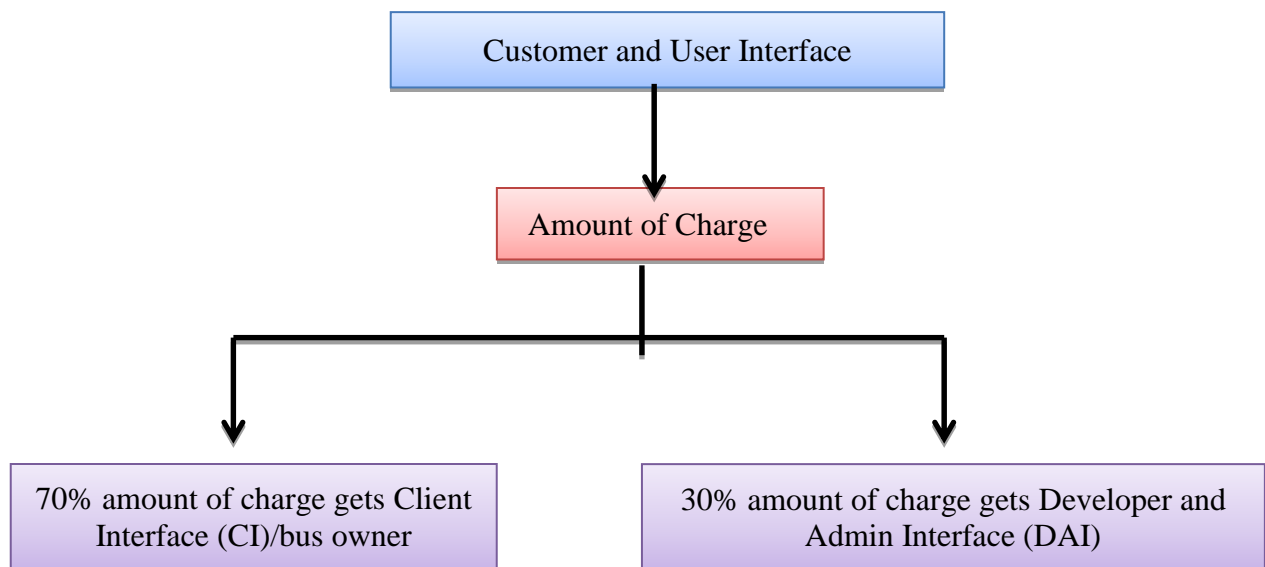
**Figure 10 Block Diagram of Revenue Sharing**

QR Code based Modern Bus Courier Service System – Urban Fast Courier is developed by doing a primary research on different types of Bus companies. Considering bus qualities, costing

the service is designed in 2 types. Premier Class Service (PC) and Economic Class Service (EC). The amount of charges is varied by these two classes. On the other hand, by considering bus bunker sizes, locker boxes sizes are available in 3 types they are 1 Cubic foot, 1.5 Cubic feet, 2 cubic feet. So amount of charges are dependent on locker boxes size as well as bus service pattern. For Premier Class (PC) it will be charged to a user 2.80 BDT/km for 1 cubic foot, 3.5 BDT/km for 1.5 cubic feet, 4.25 BDT /km for 2 cubic feet. For Economic Class (EC) it will be charged to a user 2.15 BDT/km for 1 cubic foot, 2.75 BDT/km for 1.5 cubic feet, 3.25 BDT /km for 2 cubic feet.

## 3.8 Device

Device what controls the system to open up and close the locker box by matching up QR codes through Bluetooth connection is made by the platform Arduino Mega. It is connected with Servo motors, Bluetooth Module, Buzzers, LED. Functional Code burnt here which was written by Programming language C.
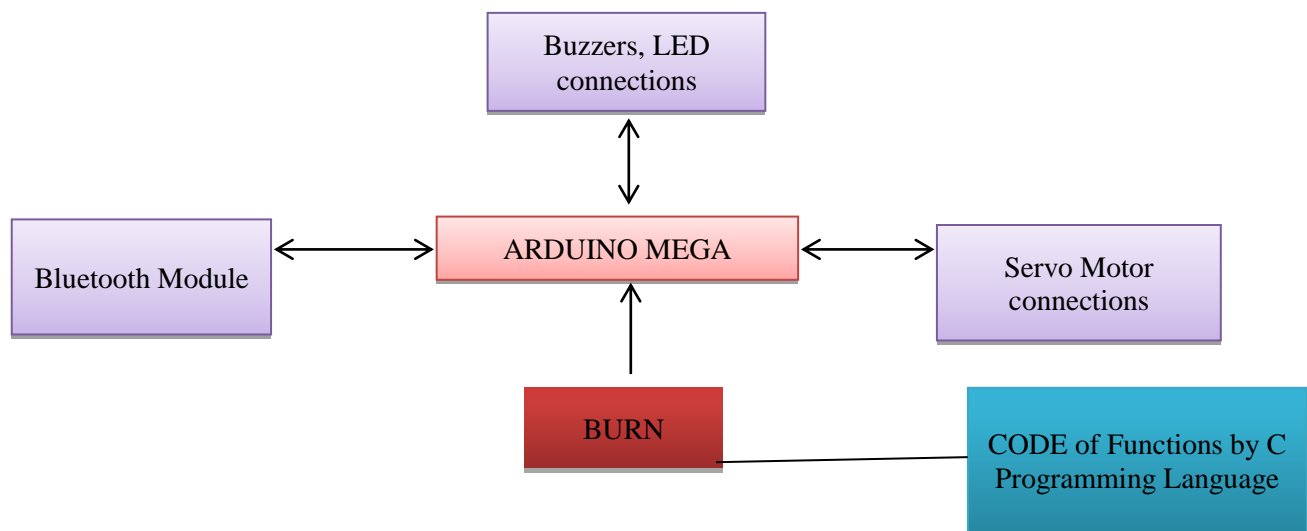


**Figure no 11 Block Diagram of Device**

## 3.9 Application

Mobile phone App is required to make the system easier and user friendly. Mobile Application "UFC Connector" works as the controller of the system. This simple APP is developed by MIT Inverter to connect with device Bluetooth as well as open, close and check the locker box.
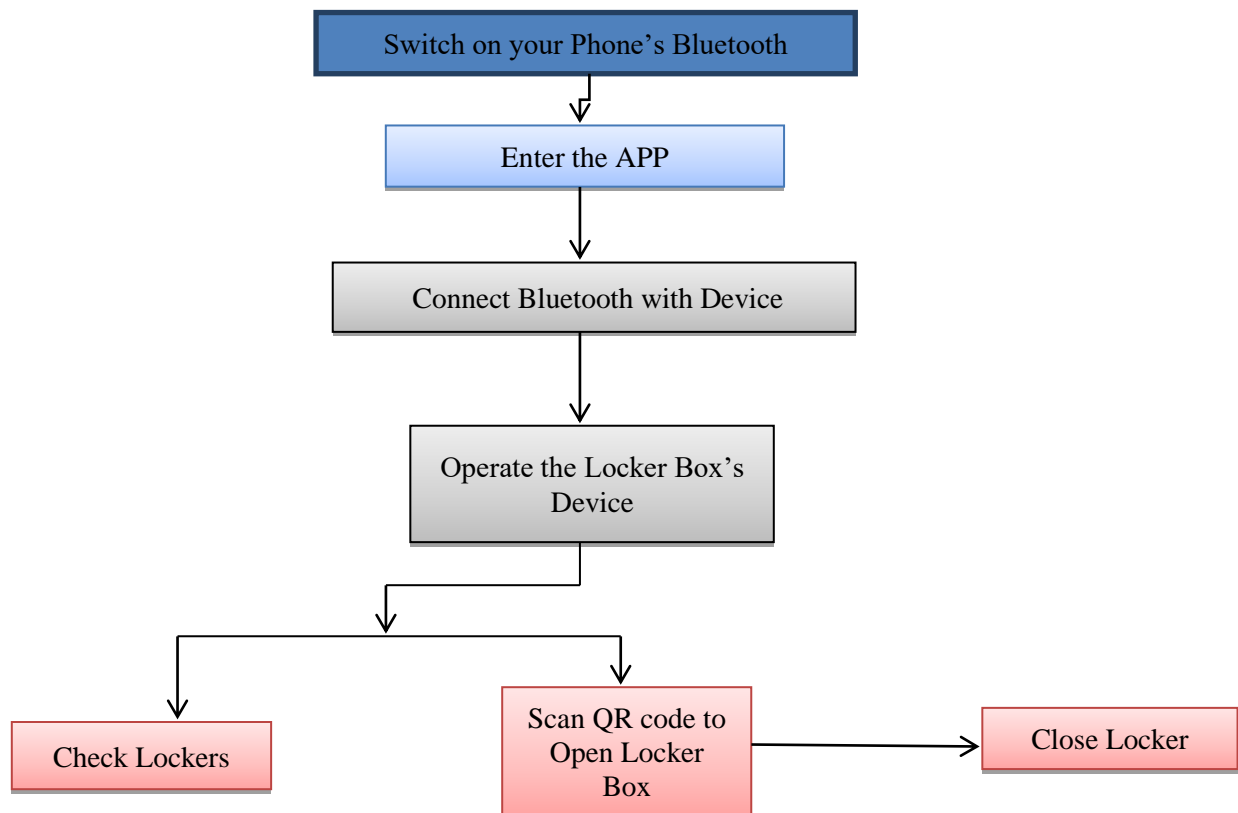


**Figure 12 Block Diagram of Android APP**

## 3.10 Summary

This QR Code based Modern Bus Courier Service named as Urban Fast Courier, basically this courier service system will change people life style in a positive way. By using this service bonding will be tighter by sharing goods here to there, now and then throughout the country. To make life style easier and reach to main goal of the system, this has some parts to develop.

# CHAPTER 4

# SYSTEM DESIGN

# 4.1 Introduction
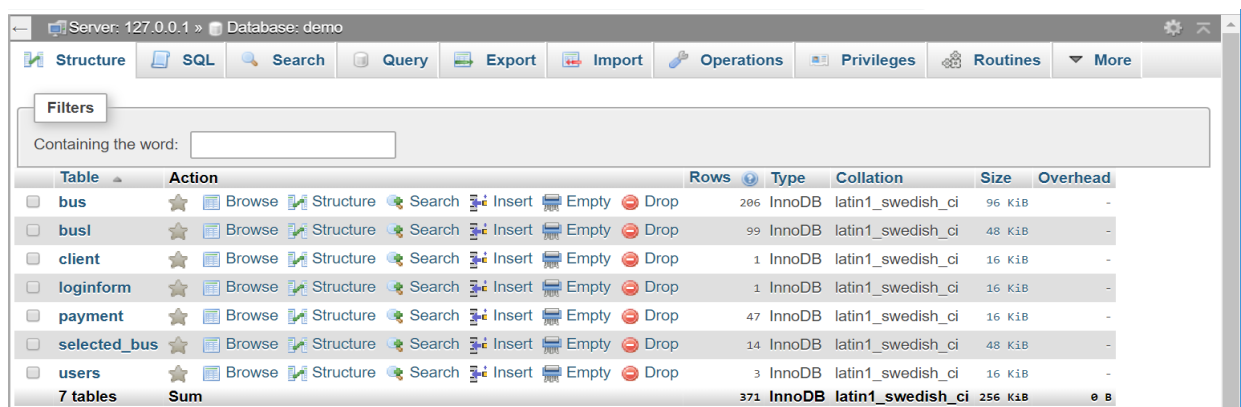
The QR code-based courier modern courier service is mixed and related with web, mobile and hardware implementation. It follows specific programming languages, mobile application and built in hardware architecture. The main task here is to implement web related work to hardware. This chapter gives us clear idea and view about the implementation and the steps we have taken. About hardware it can be said that it is mainly the Arduino based QR code lock system device. For the software part, we have used MIT App Inverter 2 for building the app. The whole procedure starting from making layouts to running codes and connecting the built-in hardware functionality has been done to a great extent and tested in making of this project.

# 4.2 Web architecture

The web architecture consists of: the database and different kind of programming language.

## 4.2.1 Database

The database consists of several tables, which stores records the data. Here we have used PHP MYSQL database.



**Figure 13 - Database Table**

This is very efficient and can store many records and requires a little configuration. MYSQL database store all data through php code. Php code need for connect with database and show the tables.

### 4.2.2 Programming Language

For web programming language using php and JavaScript is the programming language of our project. We also used Bootstrap for website design and used C program for our device implementation. We made small android mobile application for connect our device. For the mobile application we used MIT App Inverter 2.

## 4.3 Description of the Web Application

PHP (recursive acronym for PHP: Hypertext Preprocessor) is a widely-used open source general-purpose scripting language that is especially suited for web development and can be embedded into HTML. [6]



**Figure 14- Php Logo**

Bootstrap is an open source toolkit for developing with HTML, CSS, and JS. Quickly prototype your ideas or build your entire app with our Sass variables and mixings, responsive grid system, extensive prebuilt components, and powerful plugins built on jQuery. [7]

**Figure 15- Bootstrap Logo**

## 4.4 Hardware architecture

The basic requirement for device is Arduino mega, Buzzer, Bluetooth module and Servo motor. The device will open the lock after got the correct QR code through the servo motor. Bluetooth will connect to mobile app.

## 4.5 Description of the Hardware

For this project we use Arduino mega, Buzzer, Bluetooth module and Servo motor. [8]

The Arduino MEGA ADK is a microcontroller board based on the ATmega2560. It has a USB host interface to connect with Android based phones, based on the MAX3421e IC. It has 54 digital input/output pins (of which 15 can be used as PWM outputs), 16 analog inputs, 4 UARTs (hardware serial ports), a 16 MHz crystal oscillator, a USB connection, a power jack, an ICSP header, and a reset button. [8]

Servo motors [9] have three wires: power, ground, and signal. The power wire is typically red and should be connected to the 5V pin on the Arduino board. The ground wire is typically black or brown and should be connected to a ground pin on the Arduino board. The signal pin is typically yellow, orange or white and should be connected to a digital pin on the Arduino board. Note that servos draw considerable power, so if you need to drive more than one or two, you'll probably

need to power them from a separate supply (i.e. not the +5V pin on your Arduino). Be sure to connect the grounds of the Arduino and external power supply together.

The HC-05 module is a Bluetooth SPP (Serial port protocol) module[10] which means that it communicates with the Arduino through serial communication. This module is designed for wireless serial communication and it is fully qualified Bluetooth V2.0+EDR (Enhanced Data Rate) 3Mbps Modulation with complete 2.4GHz radio transceiver and baseband. The maximum range for wireless communication for this module is 10 meters. [10]



**Figure 16- Hardware**

## 4.6 Hardware implementation

For hardware implementation Bluetooth module, servo and buzzer will connect with Arduino according to the pin diagram. Device will work according to the code. The code will burn in the Arduino. Then Arduino will work according to the code instruction. For running device, we need to connect Arduino with pc/laptop or any other power source.

The Code are written in Arduino IDE. [11] The open-source Arduino Software (IDE) makes it easy to write code and upload it to the board. It runs on Windows, Mac OS X, and Linux. [11] The environment is written in Java and based on Processing and another open-source software.

This software can be used with any Arduino board.
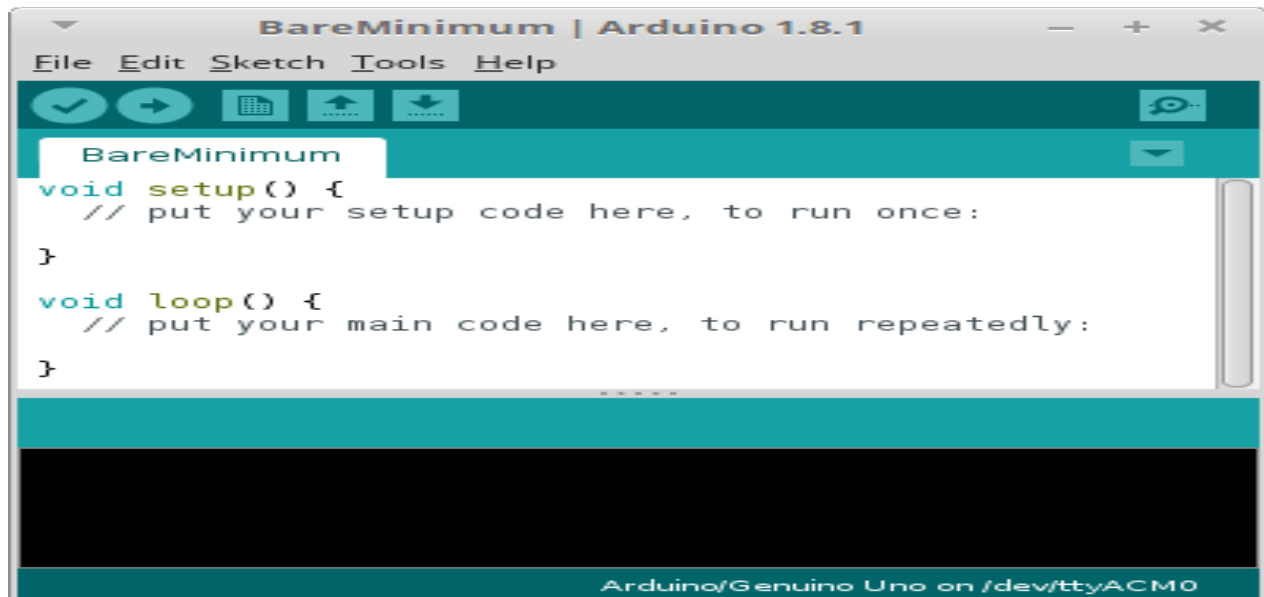


**Figure 17 – Arduino IDE**

## 4.7 Mobile Application

For mobile application we used MIT App Inverter 2. [13] We create three buttons on that. One is check locker and other two is close locker and scan the QR code. It also has an option to connect the Bluetooth module of device with the app.
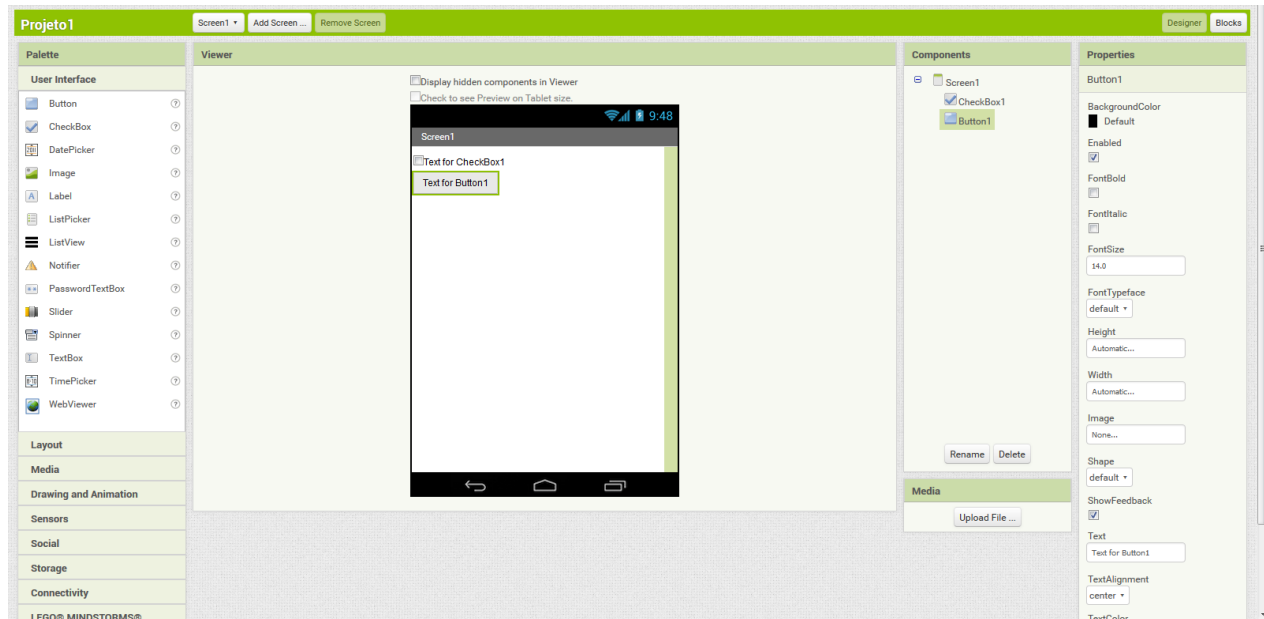
**Figure 18 – MIT Inverter 2**

## 4.8 Web Hosting

We host our project in live server. Our website name: urbanfastcourier.com
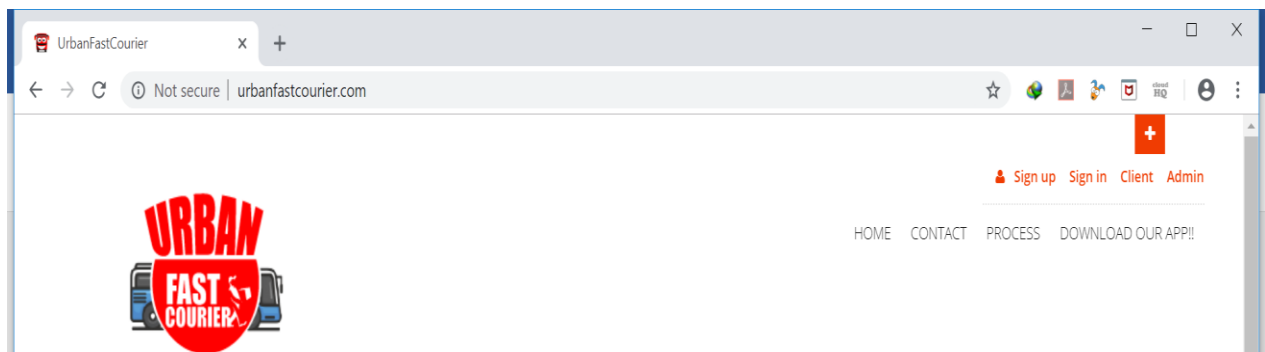


**Figure 19 – Web Hosting**

## 4.9 Summary

We want to make a connection between web application, mobile app and hardware to run our

project. All of this are depending on each other.

# CHAPTER 5

# METHODOLOGY

## 5.1 Introduction

The chapter gives us clear idea and view about the implementation and the steps we have taken for web application, mobile App and hardware implementation as well as our methodology in our project.

## 5.2 Project Layout

1. User Sign up and Sign in

2. User search bus location and payment option

3. Payment Information

4. Receive pdf receipt with QR code

5. Mobile app for scan QR code and lock the device

6. Device work

7. Forgot password and Reset password

8. Admin work

9. Transaction details

### 5.2.1 User Sign up and Sign in:

The user needs to sign up first to use the service. In website a sign up form given and also need give some personal information to sign up for the service. After successfully sign up user will able to sign in into the user page.
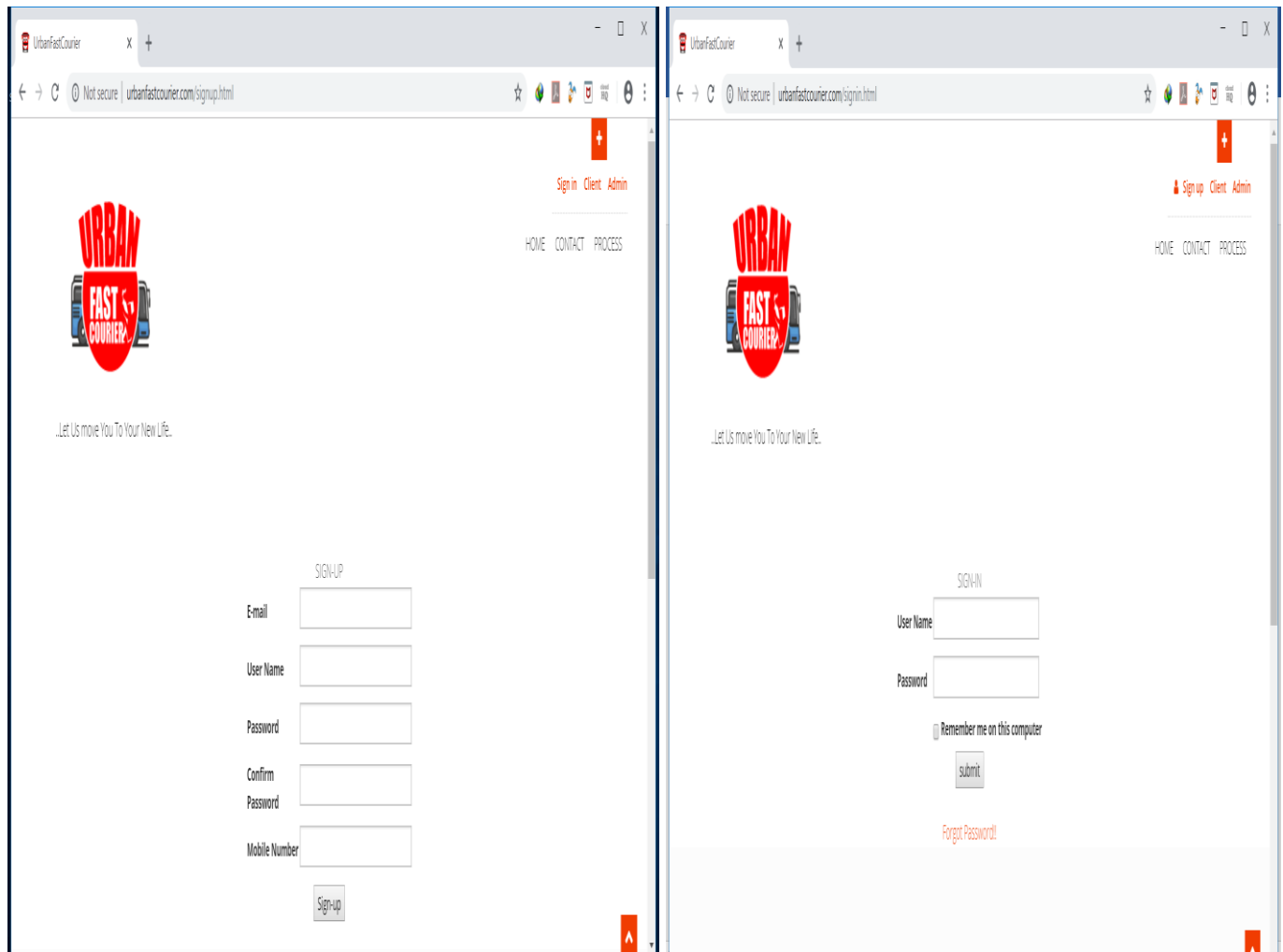
**Figure 20 - User Sign up & Sign in**

## 5.2.2 User search bus location and payment option:

After successfully sign in to the user account user will able to see the available bus for courier service. User can search the from – to location where user want to place the courier. In website till now three cities are given. Dhaka, Chittagong and Sylhet are the cities. There are lot of bus stop location are also available to choose from the cities. After choosing the desire location user can proceed next step to click the pay option.
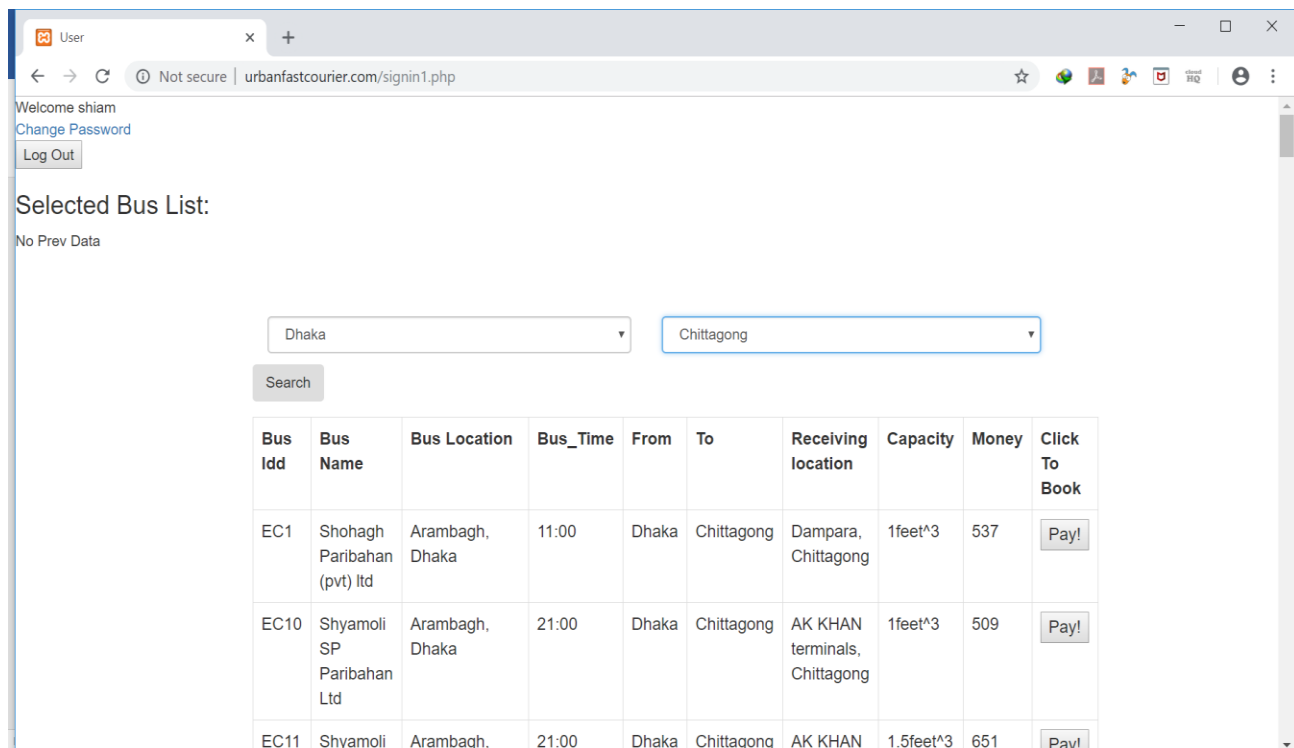
**Figure 21 – User Search Bus for Courier & Pay Option**

## 5.2.3 Payment Information:

After clicking the payment option, a payment page will show. In payment page user must give some information like card holders name, card number, card expire date, card cvv. User bus id and payment will show on this page. After fill-up all information user must click pay now button.

**Figure 22 – Payment Information**

## 5.2.4 Receive pdf receipt with QR code:

After clicking pay now button user will get a pdf receipt where user will find his all information along with bus id, location, time. User will find a QR code in the receipt. It is the password for user to unlock his bus bunker lock.
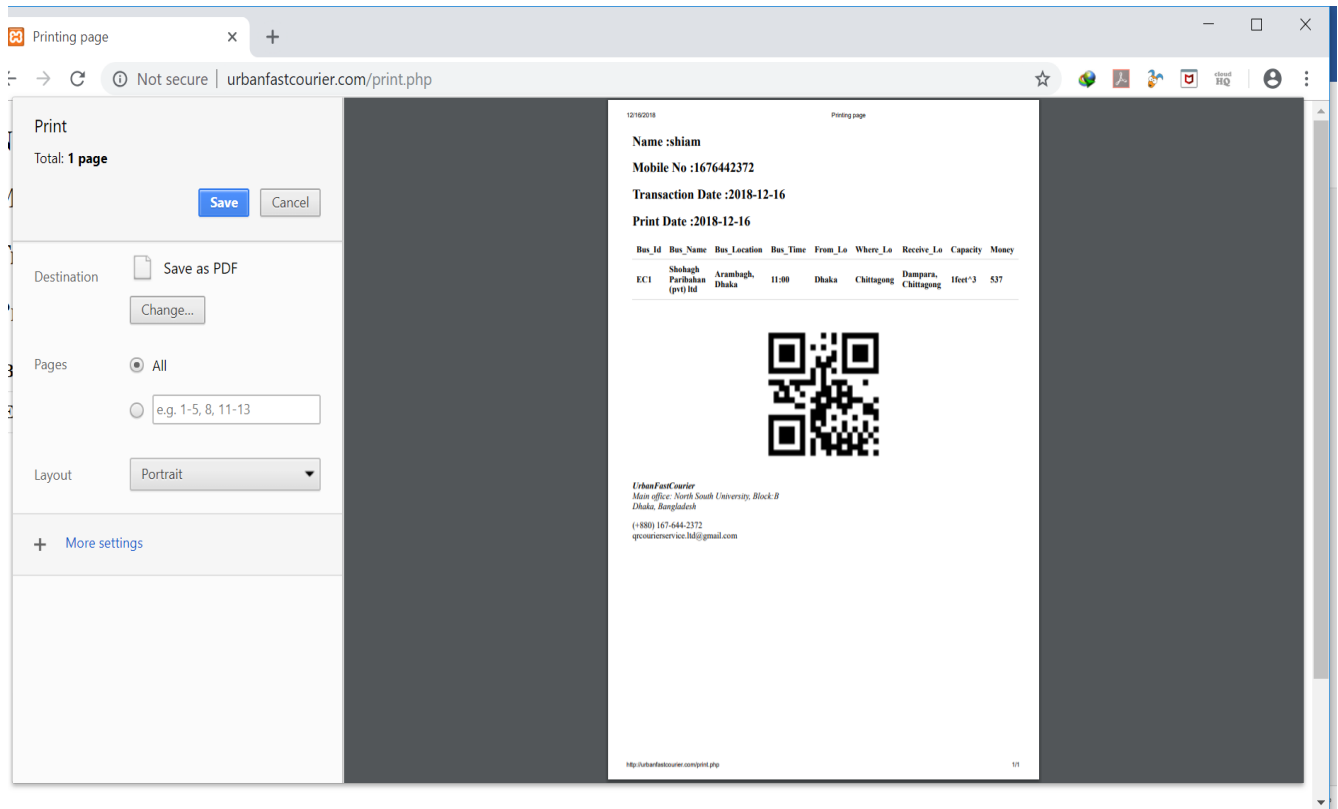
**Figure 23 - Receipt with QR code**

## 5.2.5 Mobile app for scan QR code and lock the device:

User will get an app from the website homepage. This app will connect with bus bunker device through the Bluetooth. There are some features on this app. User first connect to the device through the app. User can check the locker. There is option to scan the QR code, if user click on that will scan the QR code. After scan the QR code if this match with device QR code than the bunker lock will open. User can close the lock by pressing the close button.

**Figure 24 – Mobile App**

## 5.2.6 Device work:

Device is simple based on Arduino mega, Bluetooth module, buzzer and servo motor. It is basically a lock system. When user scan the code, the code pass to the Arduino through the Bluetooth module. If it matches with Arduino code, then the servo lock will open. User can close the lock by pressing lock button in the app. There is also some security system in the device. One QR code will valid in a time. In that time no other QR code will not work for the device.
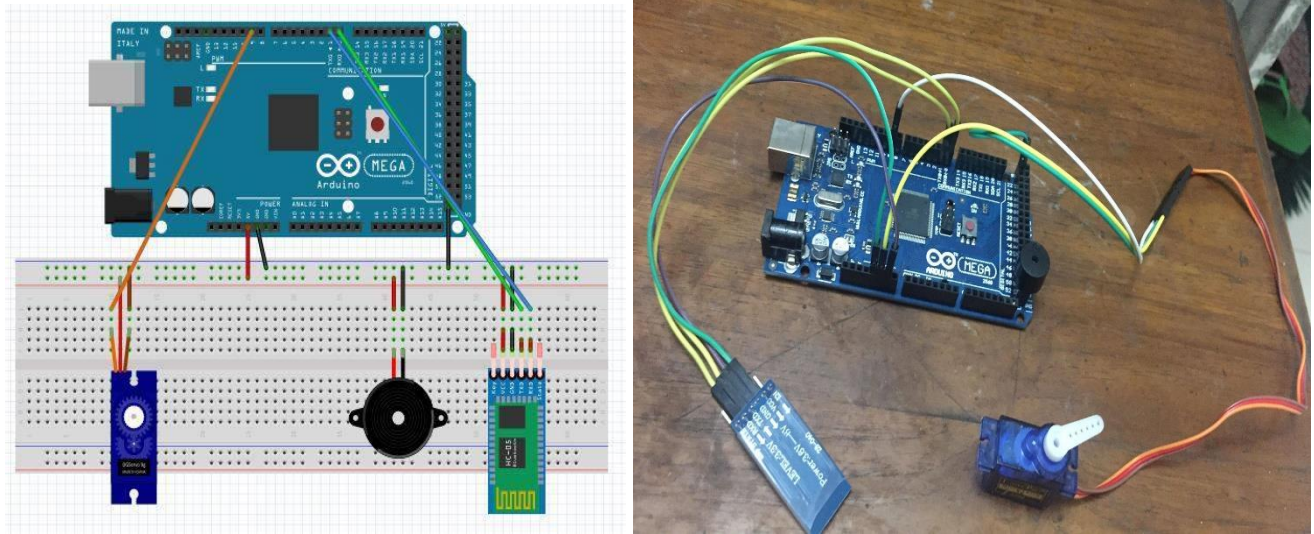
**Figure 25 - Device Work**

## 5.2.7 Forgot password and Reset password:

User can get his password if he forgot it. User just submit his email then the new password will send to the email. User can sign in with new password. In user homepage, there is an option to change password user can change his password from there.
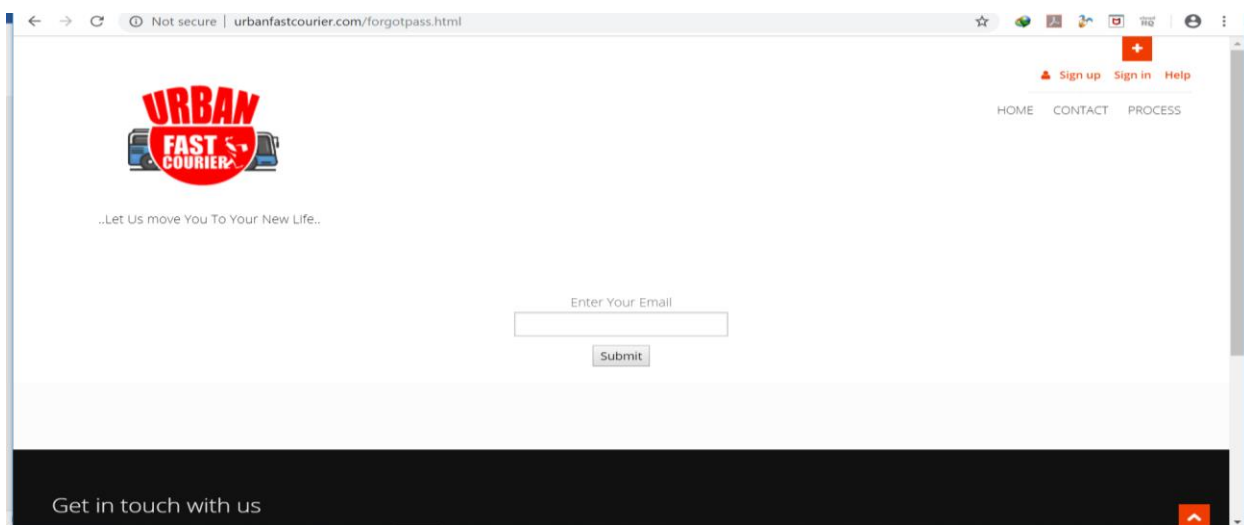


**Figure 26 – Forgot Password**
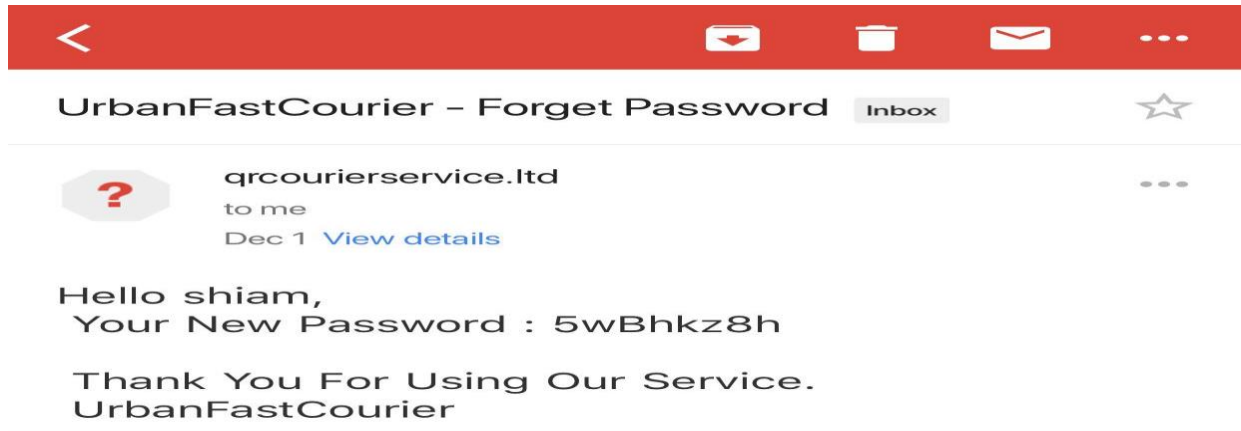
**Figure 27 – Password in Email**

## 5.2.8 Admin work:

Admin can sign in to his account. The service provider will give the username and password to admin to sign in. Admin has all kind of access. Admin can entry, update, search, delete and download bus information.



**Figure 28 – Admin Work**

## 5.2.9 Transaction details:

Admin can see all transaction details. Also, can see the money sharing between service and bus company. Admin can download data from here.
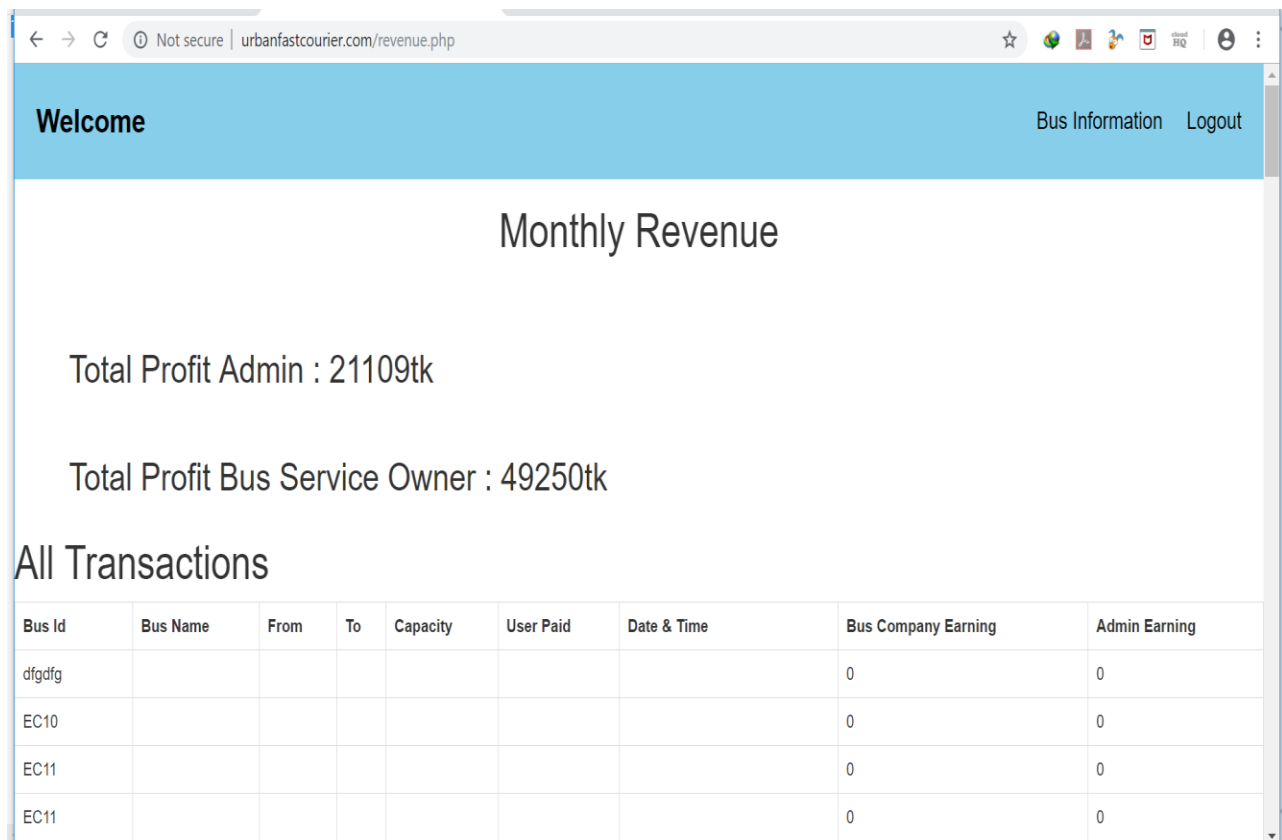


**Figure 29 – Transactions Details**

A bus client can also see his all transaction details from client sign in page. Service provider will give username and password to client and client can sign in to his account from his username and password. From there client can see all his transactions and money sharing details.

Welcome hanif

Log Out

Total Earning: 4700

Admin Earning: 2016

| Bus Id | Bus Name | Bus Location | From | To | Receiving location | Capacity | Money | Profit Admin | Profit Bus Service Owner |
|--------|----------|--------------|------|-----|-------------------|----------|-------|--------------|--------------------------|
| EC13 | Hanif Enterprise Ltd | Arambagh, Dhaka | Dhaka | Chittagong | AK KHAN terminals, Chittagong | 1feet^3 | 509 | 152.7 | 356.3 |
| EC14 | Hanif Enterprise Ltd | Arambagh, Dhaka | Dhaka | Chittagong | AK KHAN terminals, Chittagong | 2feet^3 | 770 | 231 | 539 |
| EC33 | Hanif Enterprise Ltd | Dampara, Chittagong | Chittagong | Dhaka | Sayedabad, Dhaka | 1feet^3 | 531 | 159.3 | 371.7 |
| EC34 | Hanif | Dampara | Chittagong | Dhaka | Sayedabad | 1.5feet^3 | 679 | 203.7 | 475.3 |

**Figure 30 - Client Transactions details**

## 5.3 Cost Analysis

In this section we discuss about the total cost of our project.

## 5.3.1 Introduction

When the idea of the project was set then the next target was to complete the project less costly. So that industry people get interest to implement this system broadly. At the very beginning the project cost nothing as the work was to make the website and all were the coding part. Then we needed to by a hosting page and we had to spend some money to by components to make the device. Finally, we spent some to make a demo bus to show our project in the demonstration day.

## 5.3.2 Cost Details

The cost of the project is given billow:

| Component/Material | Price |
|---|---|
| Arduino Mega 2560 R3 | 790 BDT |
| Bluetooth Module Breakout (HC-05) | 309 BDT |
| Servo Motor SG90 | 183 BDT |
| Wires | 50 BDT |
| Buzzer | 15 BDT |
| Web Hosting | 1500 BDT |
| Dummy Box and Bus | 800 BDT |

| Total | 3647 BDT |
|---|---|

**Arduino Mega 2560 R3:** This Arduino we needed cost 790 BDT. We needed this device to make

the box which will be locked until the QR code is given.
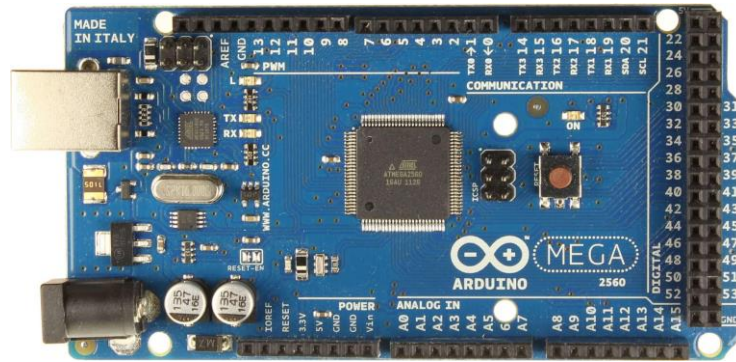


**Figure 31 – Arduino Mega**

**Bluetooth Module Breakout (HC-05):** We needed this Bluetooth device to connect the app

with the device by which we could scan the QR code. The Bluetooth module was cost 309 BDT.



**Figure 32 – Bluetooth Module Breakout (HC-05)**

**Servo Motor SG90:** A servo motor was bought which we used to lock the door of the box and it was cost 183 BDT.



**Figure 33 Servo Motor SG90**

**Wires:** We needed some wires which was cost 50 BDT.
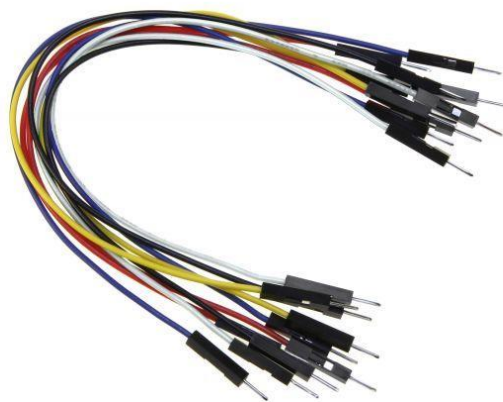


**Figure 34 Wires**

**Buzzer**: A buzzer was needed to give the signal which was cost 15 BDT.



**Figure 35 Buzzer**

**Web hosting**: We hosted our website in the internet for the demonstration. We bought the hosting for 3 months which cost 1500 BDT.
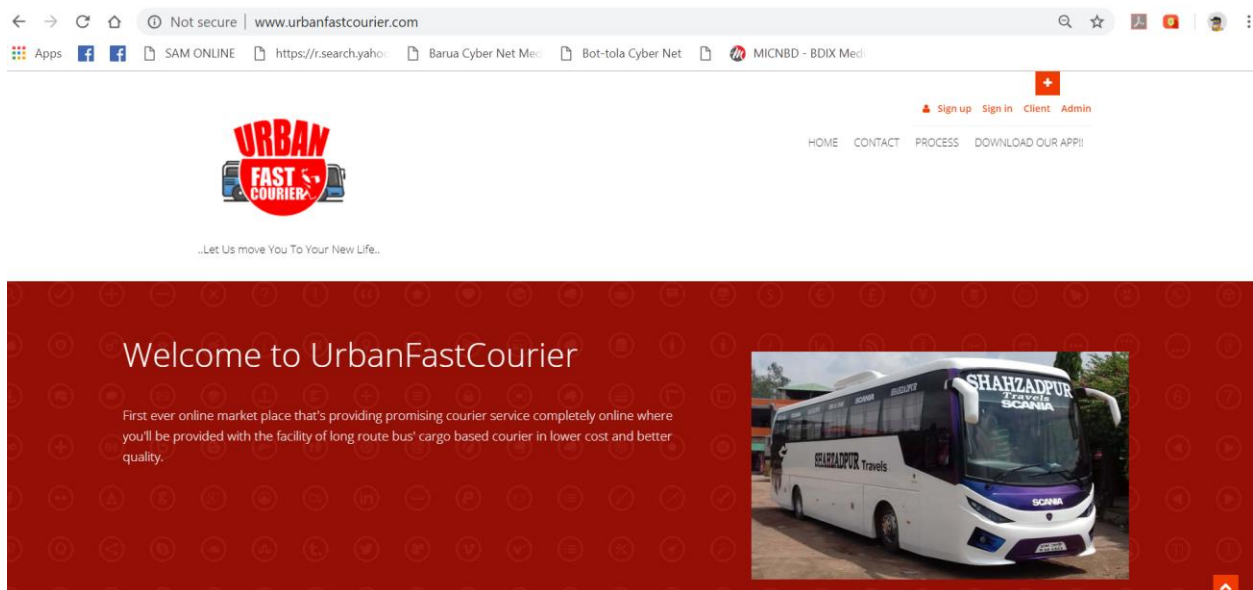


**Figure 36 Web Hoting Cost**

**Dummy Box and Bus:** A dummy bus and box was made to show the demonstration. We added the device with the box. The box and dummy bus were made of cocksheets. We needed 800 BDT to make these.



**Figure 37- Dummy Box and Bus**

## 5.4 Data Analysis

In this section we discuss our data analysis.

## 5.4.1 Introduction

To develop service system, it is needed to know market demand and analysis. Primary research is the core to do it where data can be easily analyzed. To develop QR Code based Modern Bus Courier Service System- Urban Fast Courier, developers did primary research-survey on different bus transportation service companies to analyze market demand as well as various scopes of development for this Modern Bus Courier Service System.

## 5.4.2 Background

In the QR Code based Modern Bus Courier Service System- Urban Fast Courier, basically there are three major 3 interfaces, DAI- Developer and Admin Interface, CI- Client Interface, CUI- Customer and User Interface. DAI deals with admin and its developer to develop this QR Code based Modern Bus Courier Service System- Urban Fast Courier. CUI works on the whole activities of user of this modern bus courier service. CI- Client Interface deals with all clients and the whole activities of clients. Clients of this QR Code based Modern Bus Courier Service System are various bus transportation service companies. Cause the main idea of this courier service system is fully dependent on various bus transportation service companies. Bus's unused empty spaces of bunker will generate revenue to bus companies by working as courier service's locker box. [1] In the Pathao Parcel, parcel service is available only in Dhaka city by bike or bi-cycle rider, connecting through mobile phone Application. [2] Bangladesh parcel offers 4 services to parcel sender from their branches to deliver parcels. Urban Fast Courier is smarter and has the capacities to deliver parcel in just bus travel time throughout the country by booking

different sizes of locker box in the bunker of buses in a very cost-effective way without any third man interferences. Every bus's route, time-schedule, bunker's capacity and quantity of usages are very important to develop this service system. As it is fully dependent on clients, it is very much required to do a primary research on Clients to develop system.

## 5.4.3 Research Area with Findings

In this research, we planned to find bus's proper information such as bus transportation service categories, routes, bunker spaces and sizes, stop at stoppages in travel time. After getting this information it was asked to write station's name in different cities where buses travel to.

## 5.4.4 Participants in Survey

For this primary research, I conducted a survey on 18 various classes of bus transportations service companies which go out of Dhaka city. Companies are given below:

1. London Express

2. Shohagh Paribahan (pvt) ltd

3. Nabil Paribahan

4. Saint Martin Paribahan

5. Arin Travels

6. Desh Travels

7. Asia Aircon

8. Green Line Paribahan Ltd

9. Silkline Paribahan

10. Hanif Enterprise Ltd

11. Ekota Paribahan

12. Nirala Super

13.    Ovi Enterprise

14.    Grameen Travels

15.    Pinky Enterprise

16.    Dipjol Enterprise

17.    Falguni Modhumoti Paribahan

18.    Shyamoli SP Paribahan Ltd

# 5.4.5 PRIMARY DATA COLLECTION (i)

1. **How many busses you have in total in your bus transportation service company (approximately)?**
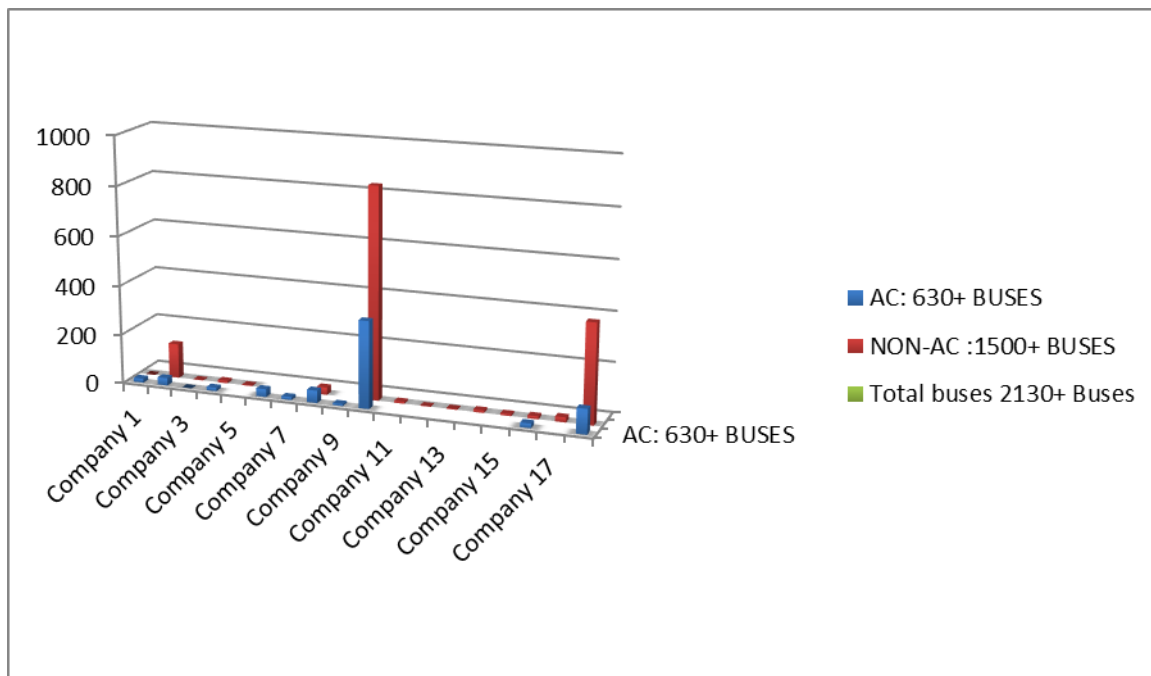


**Figure 38 Number of Buses of each Bus Transportation Service Company**

Question no 1 of our primary research was about total buses of each bus service company where we have got in total 2130+ buses. Among them company 2- Shohagh Paribahan (Pvt) LTD has 30 AC buses and 140 Non AC buses, Company 10- Hanif Enterprise Ltd has 350+ AC buses and 850+ Non AC buses, company 18- Shyamoli SP Paribahan Ltd has AC 100+ buses and Non AC 400+ buses.

**2.How many categories of service do you have?**
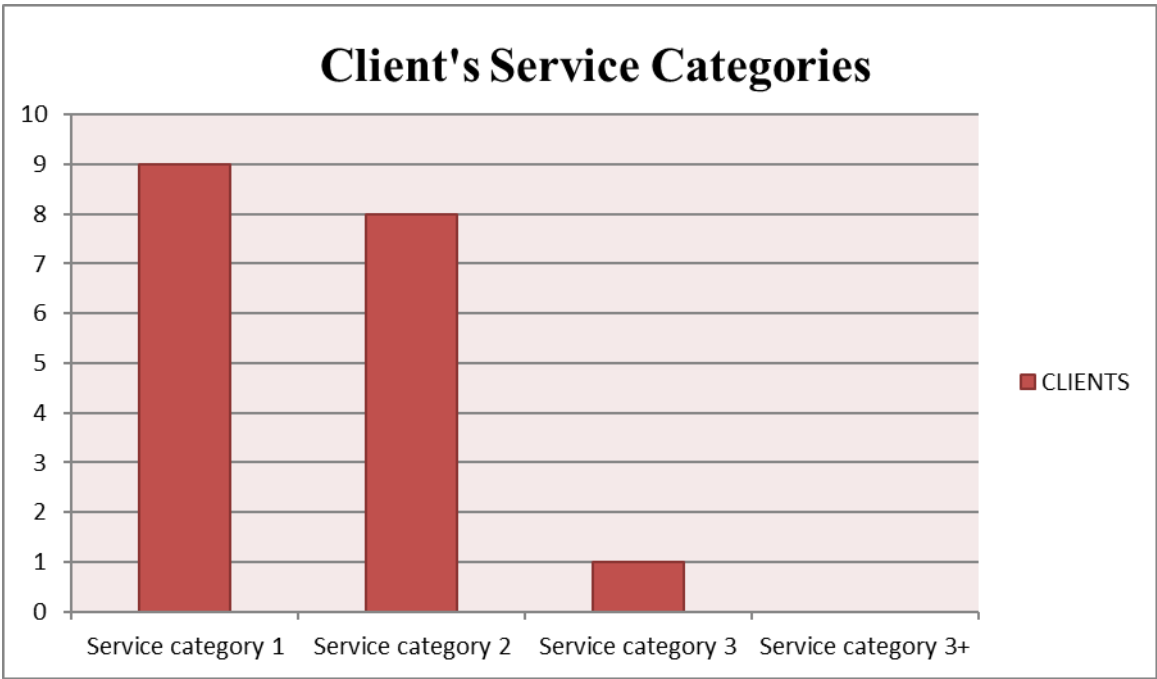


**Figure 39 Service Category of Bus Transportation Service Company**

Question 2 of this primary research was about categories of their service pattern, 8 bus companies have 2 service patterns, 1 has 3 categories, 9 companies have 1 service category. It helps to make to 2 service patterns. Premier Class (PC) for AC Bus service and Economic Class (EC) for Non AC Bus Service.

**3.How many divisions your services are available?**



CLIENTS

**Figure 40 Number of Divisions Clients Travel**

 Question 3 was about divisions they travel, 12 companies travel 2 divisions, 1 company travels 8 divisions, 1 travel 7 division, 1 travel 5 divisions, 3 companies travel 3 divisions. Initially system is developed for 3 divisions Dhaka, Chittagong, Sylhet.

**4. How many districts does your service travel?**
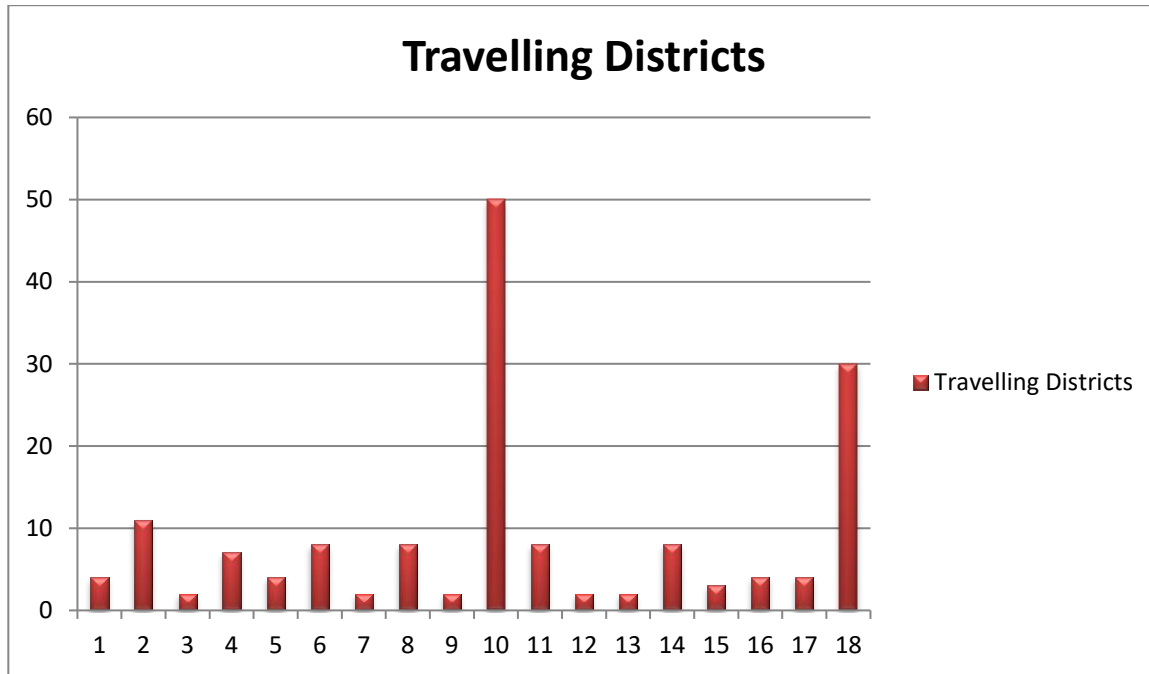


**Figure 41 Number of Districts Clients Travel**

Question 4 of this survey was to know about districts bus companies travel, the primary research showed that each bus transportation service companies visit multiple districts. Beside them, Hanif Paribahan has service route to 50 districts nearly and Shyamoli Paribahan travels more than 30 districts. Initially system is developed for 3 districts and they are Dhaka, Chittagong, Sylhet.

**5. Generally, how many compartments/bunkers/luggage cages do you have in each bus?**
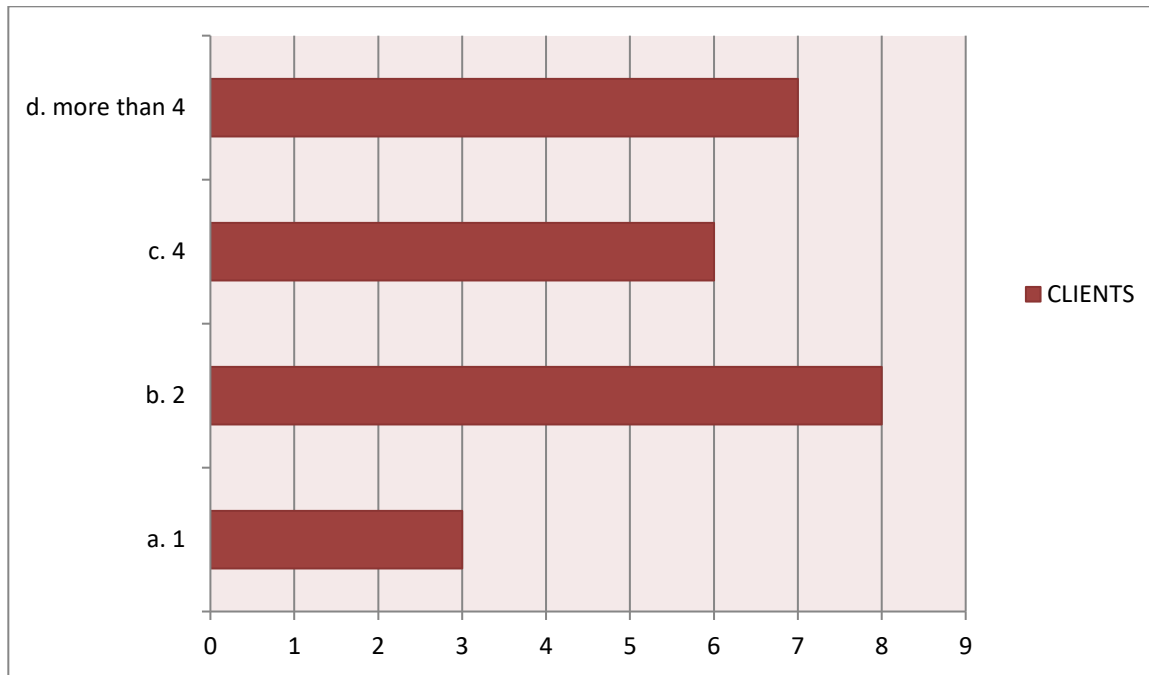


**Figure no 42 Number of Bunkers**

Question 5 was very important for our service system because here we got to know about bunkers or luggage cages of different buses. 3 clients have 1 big bunker to put luggage and bags, 8 service have 2 bunkers, 6 service have 3 bunkers, 7 service have 4 bunkers.

**6. Do all the compartments/luggage cages fill up with luggage when it travels?**
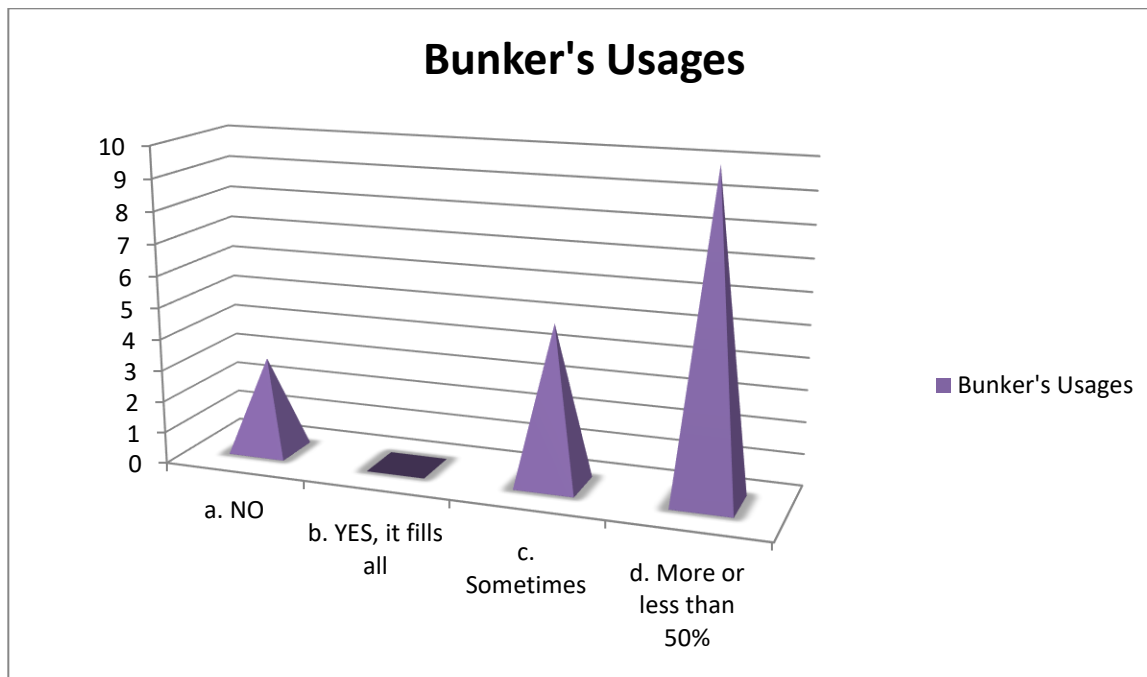


**Figure no 43 Usages of Bunkers**

Question 6 of our primary research was about usages of bunkers. Here we got to know 10 bus transportation service companies have 50% more or less usages of bunkers regularly, 5 companies said Sometime they got filled it up all, 3 companies said never filled it up all. It means unused spaces of bunker are available almost in every service. It is very positive information and green sign for QR Code based Modern Bus Courier Service System for setting up locker boxes in bus bunkers.

**7. What is the size of your each bus's compartment?**

Question 7 was about bunker's size. Here we got different information. It varies bus to bus. Some buses have 15'*10'*3.5', some have 3'*2'*3', some have 5'*3'*3', some have 3'*3'*2.5', some have 3'*4'*3', some have 2'*5'*2.5', some have 15'*10'*3.5', some have 2'*2'*2.5' etc. It would be better to make specific locker boxes with fixed sizes for all. That would be 2'*2'*2', 1.5'*1.5'*1.5', 1'*1'*1'. It would be capable for all services.

**8. Can your service reach the destination in tentative time? (Regularly)**

## Reach in Time



- a. YES- 77.7778%
- b. NO- 5.5556%
- c. Sometimes- 16.6667%
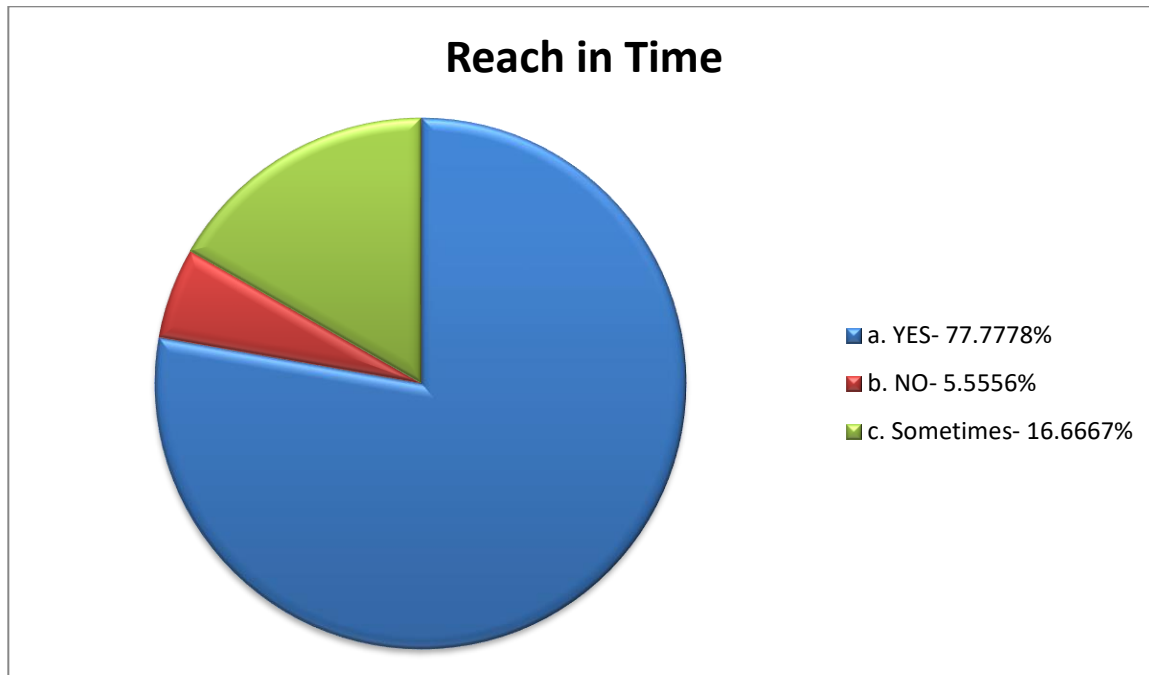
**Figure 44 Destination Reaching Perfection**

Question 8 of this survey was about to arrival time. Are they capable to reach destination timely or not. 14 bus transportation service companies said yes they are capable to reach timely, 3 companies said sometimes they can reach timely, 1 said no.It indicates a positive result for QR Code based Modern Bus Courier Service. It will be capable 77.7778% to deliver parcel in time.

**9. How many bus stoppages your service does stop in leaving city?**



**Figure 45 Stoppages in Leaving City**

Question 9 of this primary research was about how many stations bus touches to leave from departed city. 13 bus transportation service companies said 3 or 4 stations they touched to leave. 4 companies said no answer/no stoppages. One company said randomly they took passengers. It will help QR Code based Modern Bus Courier Service to deliver or receive parcel from different places in a city.

**10. How many bus stoppages your service does stop in arrival city?**



**Stoppages in Arrival City**
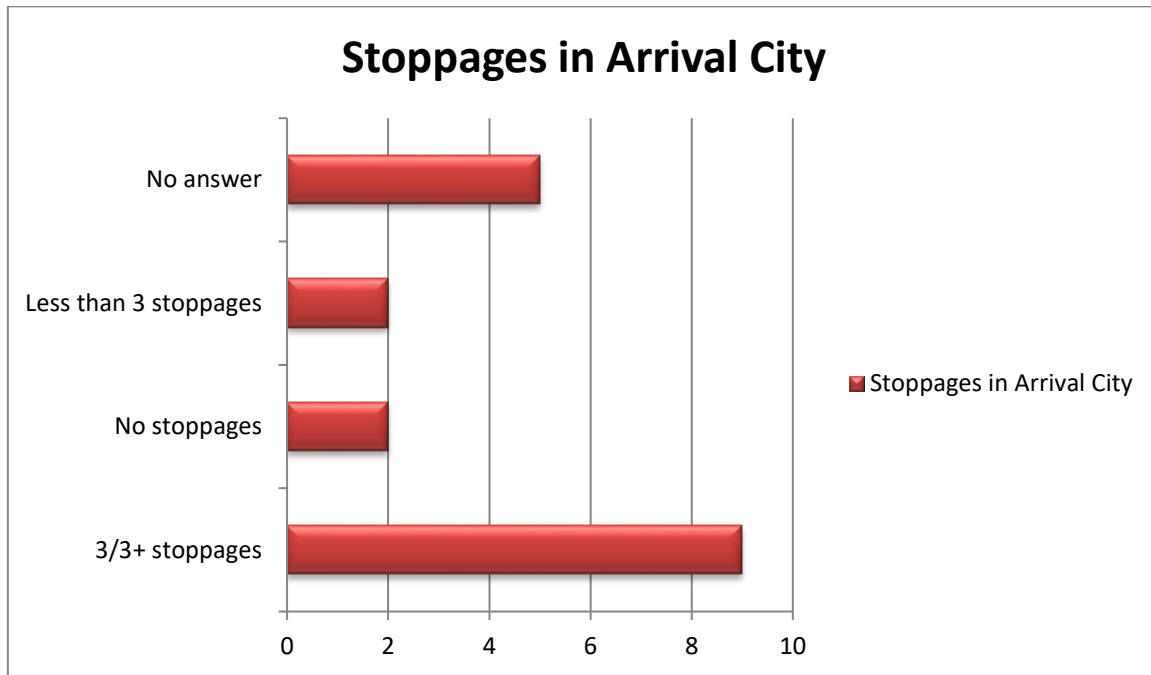
**Figure 46 Stoppages in Arrival City**

Question 10 was about how many bus stoppages, buses stop in the city of destination. 9 companies said 3 or more than 3 stoppages, 5 companies answered nothing, 2 companies said direct destination (no stoppage to stop), 2 said less than 3. It will help QR Code based Modern Bus Courier Service to deliver or receive parcel from different places in a city.

**11. Do you take passengers from various places in different district on road in long distance route?**



Taking passengers from different district to reach up in long distance destination

- a. YES
- b. NO
- c. Sometimes
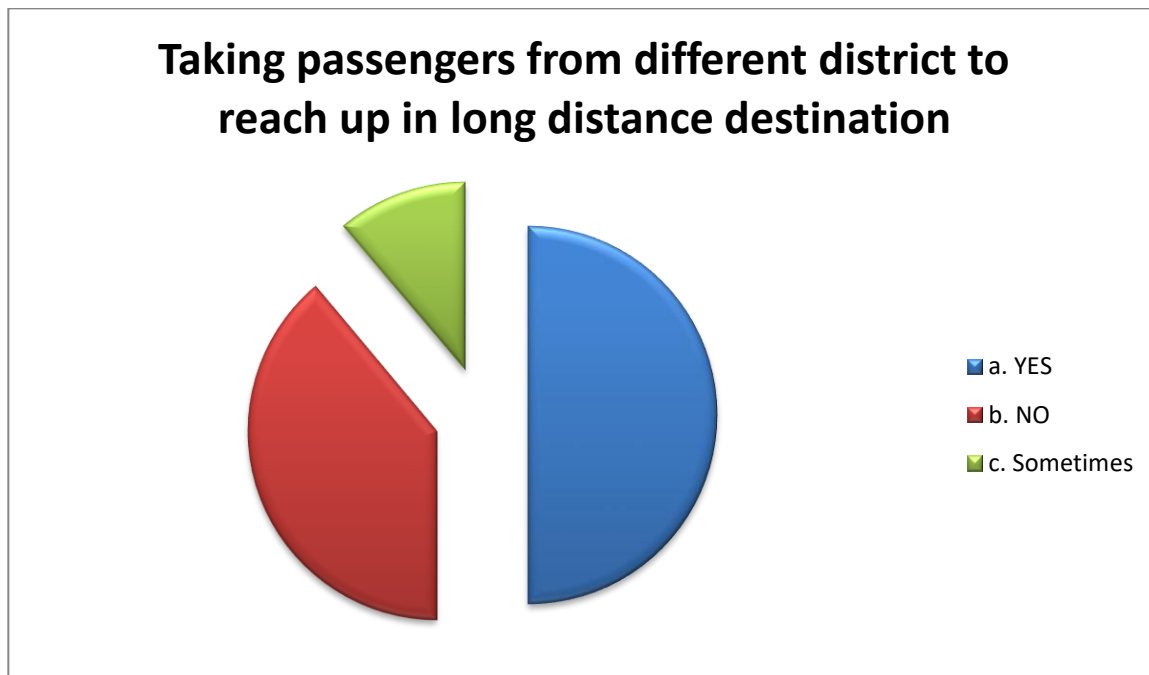
**Figure 47 Passengers Taking**

Question 11 of this primary research was about taking passengers from various places of different district to reach up long distance destination. 7 bus transportation service companies said No, 9 companies said YES (Especially in the cox's bazar route, they take passenger from Chittagong). 2 companies said sometimes.

## 5.4.6 PRIMARY DATA COLLECTION (ii)

Data of areas Bus Stations and Stoppages is collected from Clients- Bus Transportation Service Companies too. The name and serial of clients are given below:

1.   London Express

2.   Shohagh Paribahan (pvt) ltd

3.      Nabil Paribahan

4.      Saint Martin Paribahan

5.      Arin Travels

6.      Desh Travels

7.      Asia Aircon

8.      Green Line Paribahan Ltd

9.      Silkline Paribahan

10.     Hanif Enterprise Ltd

11.     Ekota Paribahan

12.     Nirala Super

13.     Ovi Enterprise

14.     Grameen Travels

15.     Pinky Enterprise

16.     Dipjol Enterprise

17.     Falguni Modhumoti Paribahan

18.     Shyamoli SP Paribahan Ltd

**Station and stoppage locations of different cities by divisions and Client's serial number are given below:**

Dhaka :   Fokirapool (1) , kollyanpur (4), Panthapath (5), Arambagh(10), Kolabagan (3), Maniknagar (2), Uttara (5), Chittagong road (6), Sayadabad (5),kamalapur (1),  malibagh (2), Rajarbagh (1), Motijheel (1),Gulistan (1), Gabtoli (2),Shyamoli (2), Asadgate (1), Savar (1), Nobinagar (1)

Narayangaonj-(1)

Bhoirab- (1)

Tangail-(1)

Shirajgonj –(3)

Chittagong : Dampara (8), A.k khan stoppage (7), Colonel hut (2)

Bandarban –(1)

Khagrachori-(1)

Ragamati-(1), Kaptai- (1)

Comilla- Daudkandi (1), Gouripur(1),Comilla town(1), Comilla Cantonment(1)

Cox's Bazaar- Dolphin Mor (2), Jhawtola (4), Kolatoly (6), Teknaf (1)

Sylhet : Humayun Roshid Chattar (3), Subhani Ghat (1), Dargah Gate (1), Kadamtoli (3)

Khulna:  Shibbari more (2), Royal more (3)

Gopalgonj- (2)

Shatkhira- (2)

Jessore-(3), Benapole-(2)

Rangpur:  RMCH(5)

Dinajpur- (2)

Panchaghar-(2)

Magura-(1)

Bagura-(3)

Gobindagoj- (2)

Kurigram-(2)

Nougaon-(1)

Rajshahi : Shibbari (3)

Natore-(3)

Chapainababgonj-(3)

Barishal : Notullah (2)

Primary research showed here the stations and stoppages of 28 districts and buses routes where Buses of clients travel and reach among 18 bus transportation service companies.

## 5.4.7 Result Implementation from Data Collection

**Service Category of QR Code based Modern Bus Courier Service System- Urban Fast Courier**

From the data collections of primary research, we conclude in 2 service patterns or categories by considering AC bus service and Non AC bus service. In AC bus, service category of QR Code based Modern Bus Courier Service System- Urban Fast Courier is Premier Class (PC). On the other side in Non AC bus, service category of Urban Fast Courier is Economic Class (EC). Categorized Bus Transportation Service Companies list is given below with short form PC and EC:

1.      London Express (PC)

2.      Shohagh Paribahan (pvt) ltd (PC, EC)

3.      Nabil Paribahan (EC, PC)

4.      Saint Martin Paribahan (PC)

5.      Arin Travels (EC)

6.      Desh Travels (PC)

7.      Asia Aircon (PC)

8.      Green Line Paribahan Ltd (PC, EC)

9.      Silkline Paribahan (PC)

10.     Hanif Enterprise Ltd (PC, EC)

11.  Ekota Paribahan (EC)

12.  Nirala Super (EC)

13.  Ovi Enterprise (EC)

14.  Grameen Travels (EC)

15.  Pinky Enterprise (EC)

16.  Dipjol Enterprise (PC, EC)

17.  Falguni Modhumoti Paribahan (EC)

18.  Shyamoli SP Paribahan Ltd (PC, EC)

**Locker Box and its Sizes in the Bunkers**

From the primary research, it is cleared that all the bus's bunkers are not same sizes. Some buses have 15'*10'*3.5', some have 3'*2'*3', some have 5'*3'*3', some have 3'*3'*2.5', some have 3'*4'*3', some have 2'*5'*2.5', some have 15'*10'*3.5', some have 2'*2'*2.5' etc. To make it standard 3 specific sizes are offering. They are 2 cubic feet or 2'*2'*2', 1.5 cubic feet or 1.5'*1.5'*1.5', 1 cubic foot or 1'*1'*1'. These 3 sizes would be suitable for any bunkers. Definitely rate of charges for these 3 locker boxes sizes will be varied. Clients can set up multiple locker boxes in bunkers cause every locker box have individual device to connect with its user.

**Rates Fixing**

Determining bus qualities, costing the QR Code based Modern Bus Courier Service System is designed in 2 types. Basically, AC buses have huge costing to travel here to there and have a high maintenances cost so AC buses are under Premier Class Service (PC) and Non AC buses have comparatively less travel and maintenances cost so they are under Economic Class Service (EC). The amount of charges is varied by these two classes as well as 3 sizes of locker boxes.

Equation of Rates= X /km; whereas X= unit rate of charge

For Premier Class (PC) unit rate of charge to a user 2.80 BDT/km for 1 cubic foot, 3.5 BDT/km for 1.5 cubic feet, 4.25 BDT /km for 2 cubic feet. For Economic Class (EC) unit rate of charge to a user 2.15 BDT/km for 1 cubic foot, 2.75 BDT/km for 1.5 cubic feet, 3.25 BDT /km for 2 cubic feet.

**Distance calculations**

Distance calculation is very important to develop the project QR Code based Modern Bus Courier Service System- Urban Fast Courier. By [3] Distance calculator, finding out accurate distance between two cities or are is possible by distance calculator as well as it generates approximate travel time. All the distance between two cities and travel time is taken by Distance calculator web site.

**Route and Rates**

Initially, QR Code based Modern Bus Courier Service System- Urban Fast Courier is developed for 3 Divisional cities. They are Dhaka-Chittagong (vice versa), Dhaka-Sylhet (vice versa). Determining Service Category, Distance, Stoppage, duration of travels the rate of services are given below what is implemented in the QR Code based Modern Bus Courier Service System- Urban Fast Courier service.

Dhaka – Chittagong

It will be vice versa when it is Chittagong to Dhaka.

Arambagh, Dhaka – Dampara, Chittagong

Bus Service:   London Express (PC),

Shohagh Paribahan (pvt) ltd (PC, EC),

Saint Martin Paribahan(PC),

Desh Travels (PC),

Green Line Paribahan Ltd (PC),

Silkline Paribahan (PC),

Hanif Enterprise Ltd (PC, EC),

Shyamoli SP Paribahan Ltd (PC, EC)

Distance: 250 Km          Time duration of travel (Approx.): 5h 30m+

For Premier Class PC (Charge for User)

• 1 feet^3 - 700tk

(2.80tk/km)

• 1.5 feet^3- 875 tk

(3.5tk/km)

• 2feet^3- 1062.5 tk

(4.25tk/km)

For Economic Class EC (Charge for User)

• 1 feet^3 - 537.5tk

(2.15tk/km)

• 1.5 feet^3-687 tk

(2.75tk/km)

• 2feet^3- 812.5 tk

(3.25tk/km)

 Arambagh, Dhaka – AK KHAN terminals, Chittagong

Bus Service:   London Express (PC),

Shohagh Paribahan (pvt) ltd (PC, EC),

Saint Martin Paribahan(PC),

Desh Travels (PC),

Green Line Paribahan Ltd (PC),

Hanif Enterprise Ltd (PC, EC),

Shyamoli SP Paribahan Ltd (PC, EC)

Distance: 237 Km          Time duration of travel (Approx.): 5h+

For Premier Class PC (Charge for User)

• 1 feet^3 - 663.6tk

(2.80tk/km)

• 1.5 feet^3- 829.5 tk

(3.5tk/km)

• 2feet^3- 1007.25 tk

(4.25tk/km)

For Economic Class EC (Charge for User)

• 1 feet^3 - 509.55 tk

(2.15tk/km)

• 1.5 feet^3-651.75tk

(2.75tk/km)

• 2feet^3- 770.25 tk

(3.25tk/km)

Arambagh, Dhaka – Colonel Hut terminals, Chittagong

Shyamoli SP Paribahan Ltd (PC, EC)

Silkline Paribahan(PC),

Distance: 238 Km          Time duration of travel (Approx.):4h 58m +

For Premier Class PC (Charge for User)

• 1 feet^3 - 666.4 tk

(2.80tk/km)

• 1.5 feet^3- 833tk

(3.5tk/km)

• 2feet^3- 1011.5 tk

(4.25tk/km)

For Economic Class EC (Charge for User)

• 1 feet^3 - 511.7 tk

(2.15tk/km)

• 1.5 feet^3-654.5tk

(2.75tk/km)

• 2feet^3- 773.25tk

(3.25tk/km)

PANTHAPATH, Dhaka – Dampara, Chittagong

Shyamoli SP Paribahan Ltd (PC, EC)

Silkline Paribahan(PC)

Saint Martin Paribahan (PC)

Desh Travels (PC)

Hanif Enterprise Ltd (PC, EC)

Distance: 255 Km                    Time duration of travel (Approx.):  5h 48m +

For Premier Class PC (Charge for User)

• 1 feet^3 - 714tk

(2.80tk/km)

• 1.5 feet^3- 892 tk

(3.5tk/km)

• 2feet^3- 1083.75 tk

(4.25tk/km)

For Economic Class EC (Charge for User)

• 1 feet^3 - 548.25 tk

(2.15tk/km)

• 1.5 feet^3-701.25 tk

(2.75tk/km)

• 2feet^3- 828.75 tk

(3.25tk/km)

PANTHAPATH, Dhaka – AK KHAN Terminals, Chittagong

Shyamoli SP Paribahan Ltd (PC, EC)

Desh Travels (PC)

Saint Martin Paribahan (PC)

Hanif Enterprise Ltd (PC, EC)

Distance: 242 Km                    Time duration of travel (Approx.): 5hour 20 mins +

For Premier Class PC (Charge for User)

• 1 feet^3 - 677.6 tk

(2.80tk/km)

• 1.5 feet^3- 847tk

(3.5tk/km)

• 2feet^3- 1028.5 tk

(4.25tk/km)

For Economic Class EC (Charge for User)

• 1 feet^3 - 520.3 tk

(2.15tk/km)

• 1.5 feet^3-665.5 tk

(2.75tk/km)

• 2feet^3- 786.5 tk

(3.25tk/km)

Sayedabad, Dhaka – Dampara, Chittagong

Shohagh Paribahan (pvt) ltd (PC, EC)

Desh Travels (PC)

Green Line Paribahan Ltd (PC)

Hanif Enterprise Ltd (PC, EC)

Shyamoli SP Paribahan Ltd (PC, EC)

Distance: 247 Km          Time duration of travel (Approx.): 5h 24m+

For Premier Class PC (Charge for User)

• 1 feet^3 - 691.6tk

(2.80tk/km)

• 1.5 feet^3- 875 tk

(3.5tk/km)

• 2feet^3- 1049.75 tk

(4.25tk/km)

For Economic Class EC (Charge for User)

• 1 feet^3 - 531.05

(2.15tk/km)

• 1.5 feet^3-679.25 tk

(2.75tk/km)

• 2feet^3- 802.75 tk

(3.25tk/km)

Dhaka – Sylhet

Arambagh, Dhaka – Humayun Rashid Chattar, Sylhet

(Vice versa)

Bus Service:

Green Line Paribahan Ltd (PC),

London Express (PC)

Hanif Enterprise Ltd (PC, EC),

Shyamoli SP Paribahan Ltd (PC, EC)

Distance: 237 Km        Time duration of travel (Approx.): 5h 40m+

 leaving time:  9:00, 10:15, 11:00, 11;30, 12:00

For Premier Class PC (Charge forUser)

• 1 feet^3 - 663.6tk

(2.80tk/km)

• 1.5 feet^3- 829.5 tk

(3.5tk/km)

• 2feet^3- 1007.25 tk

(4.25tk/km)

For Economic Class EC (Charge for User)

• 1 feet^3 - 509.55tk

(2.15tk/km)

- 1.5 feet^3-651.75tk

(2.75tk/km)

- 2feet^3- 770.25 tk

(3.25tk/km)

Arambagh, Dhaka – Kadamtoli, Sylhet

(Vice versa)

Bus Service:

Green Line Paribahan Ltd (PC)

Hanif Enterprise Ltd (PC, EC)

Shyamoli SP Paribahan Ltd (PC, EC)

Distance: 239 Km          Time duration of travel (Approx.): 5h 45m+

 leaving time:  9:00, 10:15, 11:00, 11;30, 12:00

For Premier Class PC (Charge for User)

- 1 feet^3 - 669.2 tk

(2.80tk/km)

- 1.5 feet^3- 836.5 tk

(3.5tk/km)

- 2feet^3- 1015.75 tk

(4.25tk/km)

For Economic Class EC (Charge for User)

- 1 feet^3 - 513.85tk

(2.15tk/km)

- 1.5 feet^3-657.25

(2.75tk/km)

• 2feet^3- 776.75 tk

(3.25tk/km)

Arambagh, Dhaka – Dargah Gate, Sylhet

(Vice versa)

Bus Service:

London Express (PC)

Distance: 240 Km          Time duration of travel (Approx.): 5h 49m+

 leaving time:  9:00 ,10:15, 11:00, 11;30, 12:00

For Premier Class PC (Charge for User)

• 1 feet^3 - 672 tk

(2.80tk/km)

• 1.5 feet^3- 840 tk

(3.5tk/km)

• 2feet^3- 1020 tk

(4.25tk/km)

For Economic Class EC (Charge for User)

• 1 feet^3 - 516 tk

(2.15tk/km)

• 1.5 feet^3-660 tk

(2.75tk/km)

• 2feet^3- 780 tk

(3.25tk/km)

Kallyanpur, Dhaka – Kadamtoli, Sylhet

(Vice versa)

Bus Service:

 Hanif Enterprise Ltd (PC, EC)

Shyamoli SP Paribahan Ltd (PC, EC)

Distance: 245Km          Time duration of travel (Approx.): 5h 55m+

 leaving time:  8:45, 10:00, 10:40, 11;00, 11:45

For Premier Class PC (Charge for User)

• 1 feet^3 - 686 tk

(2.80tk/km)

• 1.5 feet^3- 857. 5 tk

(3.5tk/km)

• 2feet^3- 1041.25 tk

(4.25tk/km)

For Economic Class EC (Charge for User)

• 1 feet^3 - 526.75 tk

(2.15tk/km)

• 1.5 feet^3-673.75 tk

(2.75tk/km)

• 2feet^3- 796.25 tk

(3.25tk/km)

Kallyanpur, Dhaka – Humayun Rashid Chattar, Sylhet

(Vice versa)

Bus Service:

Hanif Enterprise Ltd (PC, EC)

Shyamoli SP Paribahan Ltd (PC, EC)

Distance: 243Km          Time duration of travel (Approx.): 6h+

 leaving time:  8:45, 10:00, 10:40, 11;00, 11:45

For Premier Class PC (Charge for User)

• 1 feet^3 - 680.40 tk

(2.80tk/km)

• 1.5 feet^3- 850.5 tk

(3.5tk/km)

• 2feet^3- 1032.75 tk

(4.25tk/km)

For Economic Class EC (Charge for User)

• 1 feet^3 - 522.45tk

(2.15tk/km)

• 1.5 feet^3-668.25 tk

(2.75tk/km)

• 2feet^3- 789.75 tk

(3.25tk/km)

Kallyanpur, Dhaka – Dargah Gate, Sylhet

(Vice versa)

Bus Service:

London Express (PC)

Distance: 246 Km          Time duration of travel (Approx.): 5h 53m+

 leaving time:  9:00, 10:15, 11:00, 11;30, 12:00

For Premier Class PC (Charge for User)

• 1 feet^3 – 688.8tk

(2.80tk/km)

• 1.5 feet^3- 861 tk

(3.5tk/km)

• 2feet^3- 1045.5 tk

(4.25tk/km)

For Economic Class EC (Charge for User)

• 1 feet^3 - 528.9 tk

(2.15tk/km)

• 1.5 feet^3-676.5 tk

(2.75tk/km)

• 2feet^3- 799.5 tk

(3.25tk/km)

Rajarbagh, Dhaka –  Kadamtoli, Sylhet

(Vice versa)

Bus Service:

 Green Line Paribahan Ltd (PC, EC)

Distance: 239 Km          Time duration of travel (Approx.): 5h 45m+

 leaving time:  9:00, 10:15, 11:00, 11;30, 12:00

For Premier Class PC (Charge for User)

• 1 feet^3 - 669.2 tk

(2.80tk/km)

• 1.5 feet^3- 836.5 tk

(3.5tk/km)

• 2feet^3- 1015.75 tk

(4.25tk/km)

For Economic Class EC (Charge for User)

• 1 feet^3 - 513.85tk

(2.15tk/km)

• 1.5 feet^3-657.25

(2.75tk/km)

• 2feet^3- 776.75 tk

(3.25tk/km)

Panthapath, Dhaka – Kadamtoli, Sylhet

(Vice versa)

Bus Service:

Hanif Enterprise Ltd (PC, EC),

Shyamoli SP Paribahan Ltd (PC, EC)

Distance: 243Km          Time duration of travel (Approx.): 6h+

 leaving time:  8:45, 10:00, 10:40, 11;00, 11:45

For Premier Class PC (Charge for User)

• 1 feet^3 - 680.40 tk

(2.80tk/km)

• 1.5 feet^3- 850.5 tk

(3.5tk/km)

• 2feet^3- 1032.75 tk

(4.25tk/km)

For Economic Class EC (Charge for User)

• 1 feet^3 - 522.45tk

(2.15tk/km)

• 1.5 feet^3-668.25 tk

(2.75tk/km)

• 2feet^3- 789.75 tk

(3.25tk/km)

Panthapath, Dhaka – Humayun Rashid Chatttar, Sylhet

(Vice versa)

Bus Service:

Hanif Enterprise Ltd (PC, EC),

Shyamoli SP Paribahan Ltd (PC, EC)

Distance: 242Km          Time duration of travel (Approx.): 6h+

 leaving time:  8:45, 10:00, 10:40, 11;00, 11:45

For Premier Class PC (Charge for User)

• 1 feet^3 - 677.6 tk

(2.80tk/km)

• 1.5 feet^3- 847 tk

(3.5tk/km)

• 2feet^3- 1028.5 tk

(4.25tk/km)

For Economic Class EC (Charge for User)

• 1 feet^3 - 520.3 tk

(2.15tk/km)

• 1.5 feet^3-665.5 tk

(2.75tk/km)

• 2feet^3- 786.5tk

(3.25tk/km)

Sayedabad, Dhaka – Humayun Rashid Chatttar, Sylhet

(Vice versa)

Bus Service:

Hanif Enterprise Ltd (PC, EC),

Shyamoli SP Paribahan Ltd (PC, EC)

Distance: 234Km          Time duration of travel (Approx.): 6h+

 leaving time:  9:15, 10:30, 10:55, 11;30, 12:00

For Premier Class PC (Charge for User)

• 1 feet^3 - 655.2 tk

(2.80tk/km)

• 1.5 feet^3- 819 tk

(3.5tk/km)

• 2feet^3- 994.5 tk

(4.25tk/km)

For Economic Class EC (Charge for User)

• 1 feet^3 - 503.1 tk

(2.15tk/km)

• 1.5 feet^3-643.5 tk

(2.75tk/km)

• 2feet^3- 760.5 tk

(3.25tk/km)

Sayedabad, Dhaka – Kadamtoli, Sylhet

(Vice versa)

Bus Service:

 Hanif Enterprise Ltd (PC, EC),

Shyamoli SP Paribahan Ltd (PC, EC)

Distance: 235 Km          Time duration of travel (Approx.): 6h+

 leaving time:  9:15, 10:30, 10:55, 11;30, 12:00

For Premier Class PC (Charge for User)

• 1 feet^3 - 658 tk

(2.80tk/km)

• 1.5 feet^3 - 822.5 tk

(3.5tk/km)

• 2feet^3- 998.75 tk

(4.25tk/km)

For Economic Class EC (Charge for User)

• 1 feet^3 - 505.25 tk

(2.15tk/km)

• 1.5 feet^3-646.25 tk

(2.75tk/km)

• 2feet^3- 763.75 tk

(3.25tk/km)

## 5.4.8 Revenue

Earnings or gaining revenue is the core fact of any business or any service company. QR Code based Modern Bus Courier Service System- Urban Fast Courier has a specific system of gaining and sharing revenue. User pays the bill and the amount of bill is divided into 70% and 30%. 70% goes for Client Interface or the bus owner and rest of 30% goes for the DAI- Developer and Admin Interface.

## 5.4.9 Summary

Primary research of Urban Fast Courier- QR Code based Modern Bus Courier Service System on Clients gave valuable information to develop this courier service system. Route, rates, sizes of locker box, stoppages, pattern of service category, in a word whole system is developed by analyzing the data of primary research on Clients- Bus Transportation Service Company.

## 5.5 Database

As mentioned in the previous chapter 4 we have used PhpMyAdmin as our database. Database are

created on website cPanel. Our database name:  urbanfastcou_demo
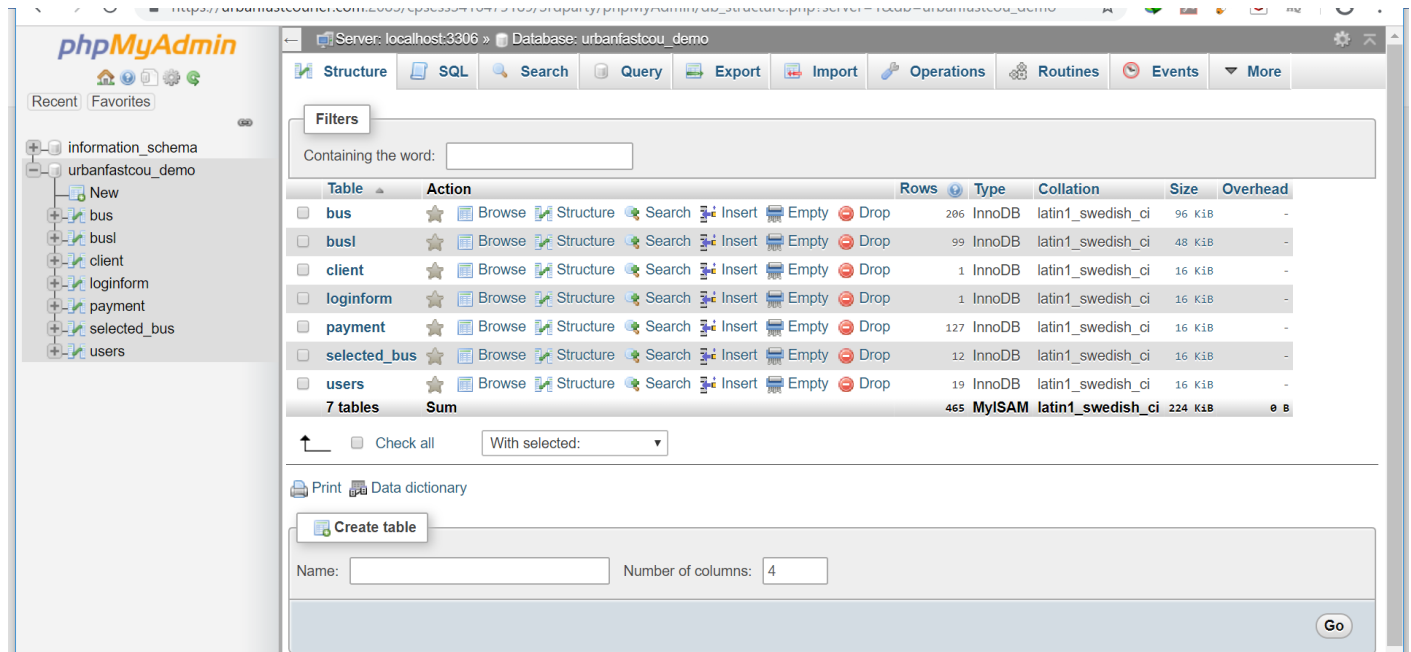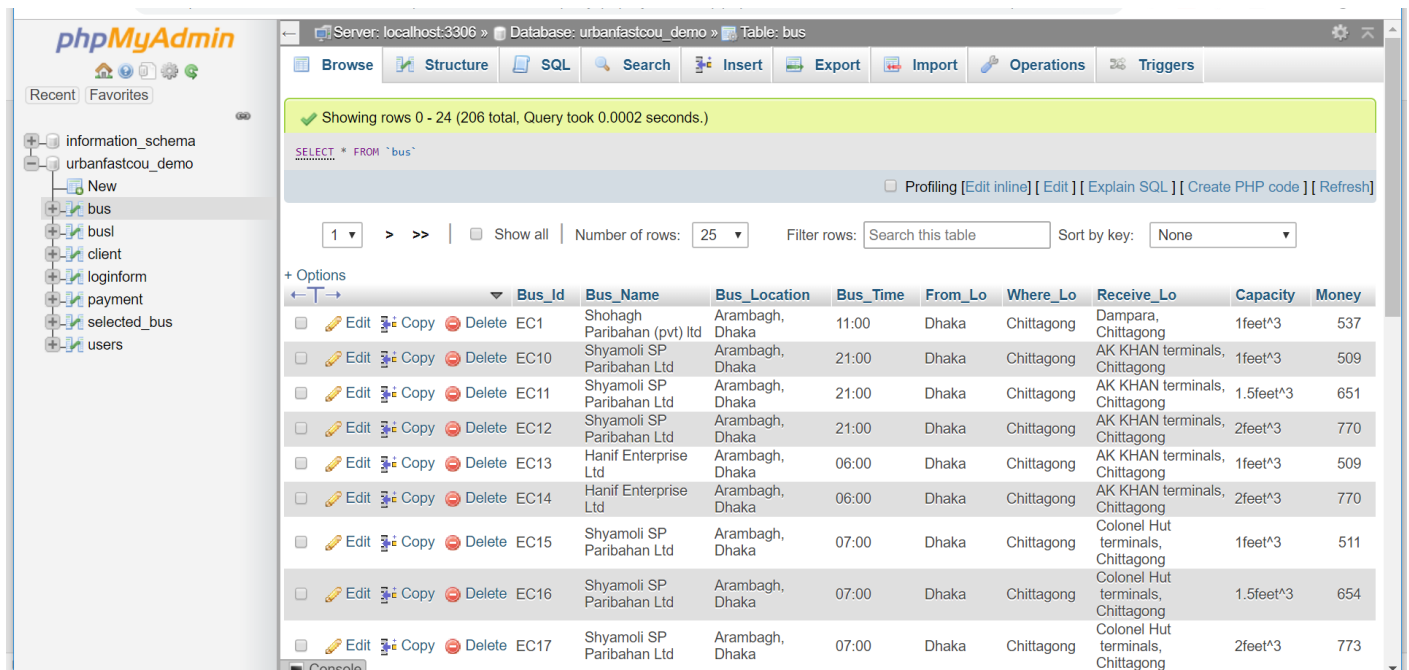


**Figure 48 - Project Database**

## 5.5.1 Bus Information



**Figure 49 – Bus Information Table**

In this table all bus information are stored. Like bus time, location, bus name, bus Id, Payment.
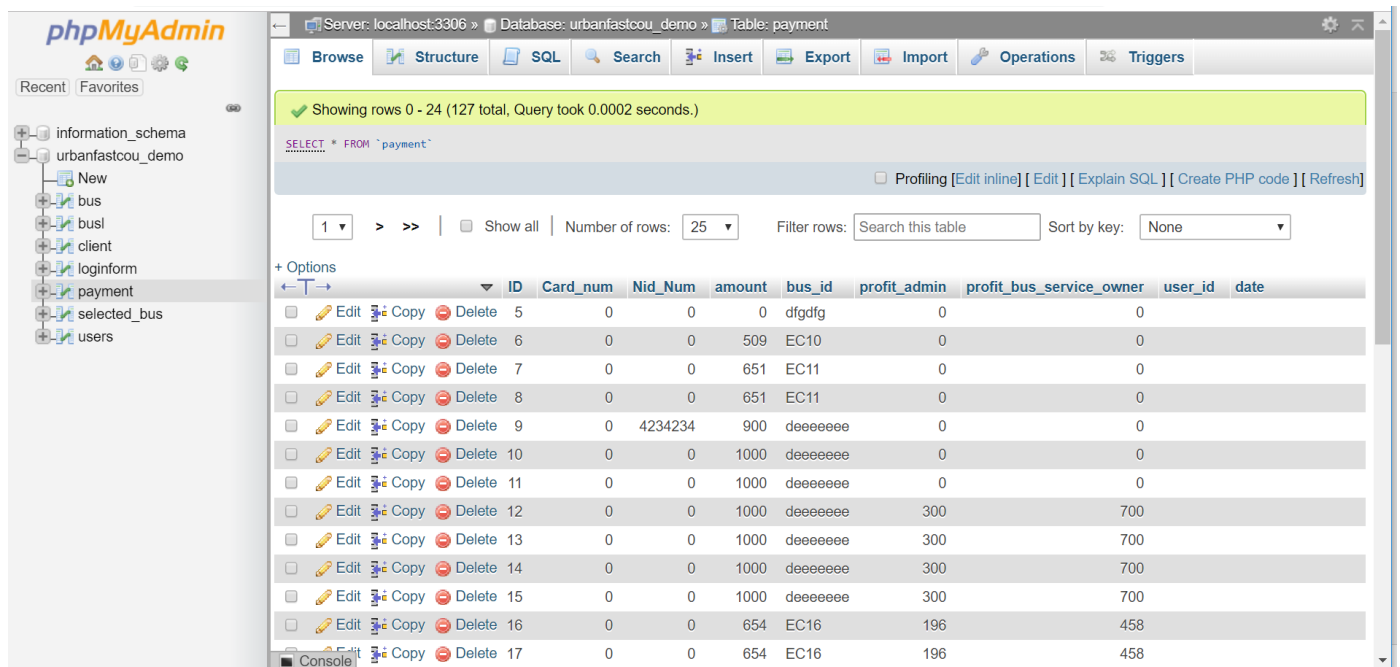
## 5.5.2 Client



**Figure 50 – Client Table**

This table for client. Client Sign in information store in this table.

### 5.5.3 Payment



**Figure 51 – Payment Information Table**

This table is for all payment information. From this table Admin can see all transition details, date, sharing revenue also bus information.

## 5.6 Summary

To summarize, this chapter gives us a clear idea about what is going in the front-end and the back-end of the project.

# CHAPTER 6
# FUTURE WORK

## 6.1 Introduction

In this section we will discuss about our future work.

## 6.2 App Based

For now, the system is now on website. It can be in an app form to become more user friendly. Always app is easier to use than a website. A smooth app with good UI design can attach more user with the system.

## 6.3 Online QR code setup

Due to the lack of the Wi-Fi system in the bus services in our country we set the QR code manually in the device. In future if the bus services start Wi-Fi facility all over the country routes the device QR can be updated directly online while a user generating a QR code from the website after the payment is done.

## 6.4 Device Update

Due to shortage of memory we initially introduced 10 QR code in the device but in future it can be more. We have used Arduino, it can be any other more updated device which can store more data.

## 6.5 More User Friendly

More user friendly means the UI design can be more attractive. Can be introducing the bus tracing system so that user can know where the bus is travelling in real time. In the payment system we gave card system to pay, but it can be bKash, rocket etc. mobile banking system so the the payment system gets more easier and user friendly.

# CHAPTER 7

# COMPLIANCE WITH STANDARDS

## 7.1 Introduction

In this chapter we will discuss about the consistence of our task with various standards. There are two distinct standards, amongst which the IEEE standards and US standards are very well known and we talked about in this part.

## 7.2. Compliance with IEEE standard

The goal of the Legal and Compliance department is to provide quality legal services in-house by professionals who are intimately familiar with the mission, activities, and business operations and opportunities of IEEE[16]. The majority of them however are not material for our framework. So that we did attempt to take after the IEEE 1233 standard and gave System Requirements. We have done our system work wirelessly which complies with the IEEE 802 rules by IEEE standards.

## 7.3. Compliance with US standard

Compliance in the USA generally means compliancy with laws and regulations. These laws can have criminal or civil penalties or can be regulations. The definition of what constitutes an effective compliance plan has been elusive [17]. Most authors, however, continue to cite the guidance provided by the United States Sentencing commission in Chapter 8 of the Federal Sentencing Guideline. Our application is simple android project. So, I don't harm any laws and regulation.

## 7.4 Summary

In this section we have examined that there are different standards that take after our project. These standards have been put without hesitation to control things. It is essential to maintain these standards to avoid harm and to guarantee products.

# CHAPTER 8

# DESIGN IMPACT

## 8.1 Introduction

Every invention or system or project has impact on different types of field. To develop a system or a service, developer must concern of the impact on economic aspects, environmental aspects, social aspects, safety aspects, manufacturability. Considering all, a project comes up to the local market as a system or a service.

## 8.2 Economic Impact

QR Code based Modern Bus Courier Service named as Urban Fast Courier has a great economic impact on society. By the chapter no 7, Data Analysis and Results, this is been cleared that empty spaces of bunker in a bus are available most of the time. Any bus company does not get any revenue from this empty space. Being a client of this Urban Fast Courier Service, every bus company will get 70% of revenue what will they get from this service user. Rest of 30% revenue will get the service company itself. On the other hand, users of this service will rent a locker box to send parcel from any bus of client in this service, for this user will get a rental cost to get this service. In the local courier service, they usually have their own vehicle to deliver things. For that huge amounts of money, they need to set up a courier service by buying own vehicles. They need at least few vehicles to cover up the country to serve people. Here, it is showed that a huge investment is needed to start up a courier service by buying own vehicles. Whereas this service or the system is not needed that. Here this is surely seen that economic impact of this QR Code based Modern Bus Courier Service is so high and positive.

## 8.3 Environmental Impact

Urban Fast Courier: QR Code based Modern Bus Courier Service have many good signs of environmental impact. In the local courier service, every company wraps up the parcel with plastic packets which are very harmful for the environment. For this secured modern bus courier

service does not need to wrap up things with any pack. They can directly put their parcels to the locker box without wrapped packet as it is very secured system and only the sender has the access to control over it. Basically, everything is managed by website, so this system will not hamper the environmental balance which is very positive sign of this system.

## 8.4 Social Impact

Social impact is basically participating in social welfare and improvement of the society. This QR Code based Modern Bus Courier Service has the huge impact on the society. The necessary important things can be shared throughout the country in a very short time as well as in a secured way. People can send goods to their kith and kin, friends and family member easily. System is also suitable for the emergency cases for example sending medicines, emergency productions, business papers and goods etc. This service system will deal all the purposes of sending things what will meet the society with a good impact. Life will be easier because this service system is very modern, secured and smart.

## 8.5 Safety Impact

Safety and security is an important concern of this QR Code based Modern Bus Courier Service. This service system gets to meet its senders in a very secure and safe locker box which is maintaining by Arduino Device and mobile app UFC connector. None can open locker box without having that secret QR code. So, things or parcel goods will be secured in that box. How a sender keeps his parcel, receiver will get that thing as it is kept there. In the website, three interfaces  DAI- Developer and Admin Interface, CI- Client Interface, CUI- Customer Interface are highly secured by sessions and different profiles. QR code generates randomly to the senders. It is quite impossible to find similar QR codes easily to open up locker box. Device has 2 functions blocking and timer, so that it is not easily open up without satisfying its conditions.

Urban Fast Courier service system is developed by considering security and safety. Surely the system has positive safety impact in every sector of it.

## 8.6 Manufacturability

Urban Fast Courier: QR Code based Modern Bus Courier Service system has some fields to manufacture. Website is the main platform to interact with every interface. A secured website with strong database is needed. Arduino device-based locker box in different sizes which are burnt with functional codes will be manufactured to set up in the bus bunkers is required. A simple mobile phone APPLICATION is required to connect with device Bluetooth and scan the QR codes. To fabricate a device through Arduino platform is cost effective.

# CHAPTER 9

# CONCLUSION

In this project we have managed to create the website we set out to do. We have learned basic software development and engineering and also implemented some of the principles of software development. As we have seen so far, we have integrated the database and tested our use case to solidify this part of our website, so we don't have to worry about it in the future.

We've also learnt database handling at a great consent. In this website we were able to create a connection between user and clients. The users can select whatever suitable service that the clients are offering and place an order very easily. Our website is also offering three types of bunker size which are generally offered by the respective clients.

In future we've a plan to develop a mobile application for our website where user can get all the facilities when outside of home without laptops/desktop computers.

By the developing this website we've learned about good and bad sides of website development. Specially optimization techniques when using large datasets. Also, we learned about website's visual alignment and front-end optimization techniques.

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# APPENDIX

# A.1 User Activity

```php
<?php
header('Cache-Control: no cache'); //no cache
session_cache_limiter('private_no_expire'); // works
session_start();
date_default_timezone_set('Asia/Dhaka'); //set default time zone to Dhaka

$day = date('Y-m-d');
$db = mysqli_connect('localhost:3306', 'urbanfastcou_use', 'v&CTfEKXtvCx', 'urbanfastcou_demo');

$g=isset($_POST['z']);


if(isset($_POST['user_name'])){
    $user_name=mysqli_real_escape_string($db, $_POST['user_name']);
    $password= md5(mysqli_real_escape_string($db, $_POST['password']));

    $sql="SELECT * FROM users WHERE user_name='$user_name' AND password='$password'";

    $result=mysqli_query($db,$sql);

    if ($result->num_rows > 0) {
      // output data of each row
      while($row = $result->fetch_assoc()) {
        $_SESSION['userID'] =  $row['ID'];
        $_SESSION['user_name'] = $user_name;
        $_SESSION['success'] = "You are now logged in";
      }
     //


    } else{
      echo "Wrong Password</br><button onclick=\"location.href='http://urbanfastcourier.com/signin.html'\">Go
back</button>";
        exit();

    }
}


if(isset($_SESSION['success'])){
echo "Welcome " . $_SESSION['user_name'];
echo "</br><a href='changePass.php'> Change Password </a>";
echo("<br/><button onclick=\"location.href='signin.html'\">Log Out</button>");
echo "<h3>Selected Bus List:</h>
$sql2="SELECT * FROM selected_bus WHERE user_id='".$_SESSION['userID']."' and date='".date('Y-m-d')."'";
$result2=mysqli_query($db,$sql2);
if ($result2->num_rows > 0) {

 ?>
<form method="post" action="print.php">
 <select name="bus_id">
        <?php
        while($row2 = $result2->fetch_assoc()) {
      echo $row2['bus_id'];

        echo  "<option value=".$row2["bus_id"].">".$row2['bus_id']."</option>";
     }
    ?>
      </select>
      <input type="submit" value="Print">
    </form>

      <?php
    } else { echo "No Prev Data \n";}
}
```

```php
/*if(isset($_POST['delete_records']))
{
    $box=$_POST['Bus_Id'];
    while(list ($key,$val) = @each($box) )
 {
  mysqli_query($db,"DELETE FROM `bus` WHERE Bus_Id=$Bus_Id");
 }


}
*/
 $selected_bus_list = array();
 $skipQ="SELECT bus_id,date FROM selected_bus WHERE date = '$day'";
 $skipResult=mysqli_query($db,$skipQ);
 while ($rowSkip = mysqli_fetch_array( $skipResult)){
     $selected_bus_list[$rowSkip['bus_id']] = $rowSkip['date'];
     $selected_bus_code [] = $rowSkip['bus_id'];
 }

if($g){
  $f=mysqli_real_escape_string($db, $_POST['search']);
    $t=mysqli_real_escape_string($db, $_POST['search2']);

        $show="SELECT * FROM `bus` WHERE From_Lo ='$f' AND Where_Lo = '$t'";
        $result=mysqli_query($db,$show);

  }else{

    $query5 = "SELECT * FROM bus
    WHERE Bus_Id NOT IN
    (   SELECT bus_id
        FROM selected_bus
        WHERE date = '$day'
    )";
    $result = mysqli_query($db, $query5);

  }
?>

<!DOCTYPE html>
<html lang="en">
<head>
  <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/css/bootstrap.min.css">
  <meta charset="UTF-8">
  <title>User</title>
  <script src="https://ajax.googleapis.com/ajax/libs/jquery/2.1.3/jquery.min.js"></script>
  <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/css/bootstrap.min.css" />
  <script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/js/bootstrap.min.js"></script>

  <script src="jquery.js"></script>
  <style>
   #box
   {
   width:600px;
   background:gray;
   color:white;
   margin:0 auto;
   padding:10px;
   text-align:center;
   }
  </style>
</head>
<body>
  <div class="table-responsive">
  <div class="container">
    <div class="row">
      <div class="col-md-8 col-md-offset-2" style="margin-top: 5%;">

        <div class="row">
```

```html
<form action="" method="POST">
  <div class="col-md-6">
    <p><select name="search" class='form-control' placeholder="From" value="From">
    <option>--From--</option>
    <option>Dhaka</option>
    <option>Chittagong</option>
      <option>Sylhet</option>
    </select></p>
  </div>

<div class="row">

  <div class="col-md-6">
    <p><select name="search2" class='form-control' placeholder="To" value="To">
    <option>--To--</option>
    <option>Dhaka</option>
    <option>Chittagong</option>
     <option>Sylhet</option>

    </select></p>
  </div>
   <div class="col-md-6 text-left">
    <button class="btn" id="Search" type="submit" name="z">Search</button>
   </div>
</form>

<br>
<br>
</div>
<table class="table table-bordered">
  <tr>
    <th>Bus Idd</th>
    <th>Bus Name</th>
    <th>Bus Location</th>
     <th>Bus_Time</th>
    <th>From</th>
    <th>To</th>
    <th>Receiving location</th>
    <th>Capacity</th>
    <th>Money</th>
     <th>Click To Book</th>
  </tr>
  <?php

  while ($row = mysqli_fetch_array($result)){
   $key = array_search ($row['Bus_Id'], $selected_bus_code);
                   echo "<tr>";
             echo "<td>" . $row['Bus_Id'] . "</td>";
             echo "<td>" . $row['Bus_Name'] . "</td>";
             echo "<td>" . $row['Bus_Location'] . "</td>";
             echo "<td>" . $row['Bus_Time'] . "</td>";
             echo "<td>" . $row['From_Lo'] . "</td>";
             echo "<td>" . $row['Where_Lo'] . "</td>";
             echo "<td>" . $row['Receive_Lo'] . "</td>";
             echo "<td>" . $row['Capacity'] . "</td>";
             echo "<td>" . $row['Money'] . "</td>";
           if ($key) {
           echo '<td><input type="hidden" name="User_id"  value="'.$_SESSION['user_name'].'"><input
type="hidden" name="id"   value="'.$row['Bus_Id'].'"><input type="hidden" name="money" value="'.$row['Money'].'"><input
type="hidden" name="capacity" value="'.$row['Capacity'].'"><input type="submit" value="Booked!"></td>';
                } else {
           echo '<td><form method="post" action="payment.php"><input type="hidden" name="User_id"
value="'.$_SESSION['user_name'].'"><input type="hidden" name="id"   value="'.$row['Bus_Id'].'"><input type="hidden"
name="money" value="'.$row['Money'].'"><input type="hidden" name="capacity" value="'.$row['Capacity'].'"><input
type="submit" value="Pay!"></td></form>';
                }
           echo "</tr>";

           }
```

```
                            ?>

        </table>

      </div>
    </div>
  </div>

</body>
</html>
```

## A.2 Payment

```php
<?php
$bus_id = $_POST['bus_id'];
$c_name = $_POST['c_name'];
$c_no = $_POST['c_no'];
$expiry_month = $_POST['expiry_month'];
$expiry_year = $_POST['expiry_year'];
$cvv = $_POST['cvv'];
$amount = $_POST['amount'];


    $datetime = date_create()->format('Y-m-d H:i:s');
    $host = "localhost:3306";
    $dbUsername = "urbanfastcou_use";
    $dbPassword = "v&CTfEKXtvCx";
    $dbname = "urbanfastcou_demo";
    $conn = new mysqli($host, $dbUsername, $dbPassword, $dbname);

if (!empty($bus_id) ) {


$profit_admin = (30 / 100) * $amount;
$profit_bso = (70 / 100) * $amount;




    if (mysqli_connect_error()) {

     die('Connect Error('. mysqli_connect_errno().')'. mysqli_connect_error());

    } else {
     mysqli_query($conn,"SELECT * FROM payment");
     mysqli_query($conn,"INSERT INTO payment (`Card_num`,`Nid_Num`,`amount`
        ,`bus_id`,`profit_admin`,`profit_bus_service_owner`, `date`)
     VALUES
('".$c_no."','".$c_name."','".$amount."','".$bus_id."','".$profit_admin."','".$profit_bso."','".$datetime."')");

    /*
$sql="SELECT sum(profit_admin) as total FROM payment";
$result = mysqli_query($conn,$sql);
while ($row = mysqli_fetch_assoc($result))
{
   echo $row['total'];
}

mysqli_close($conn);
*/
header('location: print.php?bus_id='.$bus_id);

    }
```

```php
    } else {

        echo "No Bus Selected";
    }


?>
```

## A.3 Admin Activity

```php
<?php
session_start();
?>

<?php

if($_SESSION['username'] == true){

  //if(isset($_SESSION['username'])){
?>


<?php
$link=mysqli_connect("localhost:3306","urbanfastcou_use","v&CTfEKXtvCx");
mysqli_select_db($link,"urbanfastcou_demo")

?>
```

```html
<!DOCTYPE html>
<html>
<head>
  <title>Admin User</title>
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <style>
   #table tr:not(:first-child){
                cursor: pointer;transition: all .25s ease-in-out;
            }
            #table tr:not(:first-child):hover{background-color: #ddd;}
  .header {
  overflow: hidden;
  background-color: skyblue;
  padding: 20px 10px;
}

.header a {
  float: left;
  color: black;
  text-align: center;
  padding: 12px;
  text-decoration: none;
  font-size: 18px;
  line-height: 25px;
  border-radius: 4px;
}

.header a.logo {
  font-size: 25px;
  font-weight: bold;
}

.header a:hover {
  background-color: #ddd;
  color: black;
}

.header a.active {
  background-color: dodgerblue;
```

```
    color: white;
}

.header-right {
  float: right;
}
}
#table{
    font-family: arial, sans-serif;
    border-collapse: collapse;
    width: 100%;

}

@media screen and (max-width: 500px) {
  .header a {
    float: none;
    display: block;
    text-align: left;
  }
  .header-right {
    float: none;
  }
}

</style>
</head>


<body>
<div class="header">
  <a   class="logo">Welcome</a>
  <div class="header-right">
    <a href="revenue.php">Revenue</a>



        <a href="admin.php">Logout</a>


  </div>
</div>

 <center> <form autocomplete="on" action="" method="post" >


      Enter Bus Id:<br>
       <input type="text" id="t1"  name="t1"><br>


      Enter Bus Name: <br>
       <input type="text" id="t2"  name="t2" ><br>


     Enter Bus Location:<br>
       <input type="text" id="t3"   name="t3"><br>


      Time:<br>
      <input type="time" id="t4" size="25" name="t4"><br>


      From:<br>
      <input type="text" id="t5" size="25" name="t5"><br>


      Where:<br>
       <input type="text" id="t6" size="25" name="t6"><br>
```

```
    Receive Location: <br>
    <input type="text" id="t7"   name="t7"><br>


     Bunker Size:<br>
     <select name="t8">



     <option value="1feet^3">1 feet</option>
      <option value="1.5feet^3">1.5 feet</option>
           <option value="2feet^3">2 feet</option>


     </select><br>


   Amount:<br>
   <input type="text"  placeholder="BDT" size="25" id="t9" name="t9"><br>

      <input type="submit" name="submit1" style ="background-color: grey" value="Insert">
       <input type="submit" name="submit2" style ="background-color: grey" value="Delete">
       <input type="submit" name="submit3" style ="background-color: grey" value="Update">
       <input type="submit" name="submit4" style ="background-color: grey" value="Display">
          <input type="submit" name="submit5" style ="background-color: grey"  value="Search">

<button onclick="exportTableToExcel('table')" style="background-color: grey">Download</button>



   </form></center>
<?php
 if(isset($_POST["submit1"]))
 {
  mysqli_query($link,"insert into bus
values('$_POST[t1]','$_POST[t2]','$_POST[t3]','$_POST[t4]','$_POST[t5]','$_POST[t6]','$_POST[t7]','$_POST[t8]','$_POST[
t9]')");
 }
 if(isset($_POST["submit2"]))
 {
  mysqli_query($link,"delete from bus Where Bus_Id='$_POST[t1]'");
 }
  if(isset($_POST["submit3"]))
 {
  mysqli_query($link,"update bus set Bus_Time='$_POST[t4]'
   Where Bus_Id='$_POST[t1]'");
 }
 if(isset($_POST["submit4"]))
 {
 $res= mysqli_query($link,"select * from bus");
 echo "<table id= table border=1 align=center >";
 echo "<tr>";

echo "<th>"; echo "Bus_Id"; echo "</th>";
echo "<th>"; echo " Bus_Name"; echo "</th>";
echo "<th>"; echo " Bus_Location"; echo "</th>";
echo "<th>"; echo " Bus_Time"; echo "</th>";
echo "<th>"; echo "From_Lo"; echo "</th>";
echo "<th>"; echo "Where_Lo"; echo "</th>";
echo "<th>"; echo "Receive_Lo"; echo "</th>";
echo "<th>"; echo "Capacity"; echo "</th>";
echo "<th>"; echo "Money"; echo "</th>";
echo "</tr>";
 while($row=mysqli_fetch_array($res))
 {

echo "<tr>";

echo "<td>"; echo $row["Bus_Id"]; echo "</td>";
echo "<td>"; echo $row["Bus_Name"]; echo "</td>";
```

```php
echo "<td>"; echo $row["Bus_Location"]; echo "</td>";
echo "<td>"; echo $row["Bus_Time"]; echo "</td>";
echo "<td>"; echo $row["From_Lo"]; echo "</td>";
echo "<td>"; echo $row["Where_Lo"]; echo "</td>";
echo "<td>"; echo $row["Receive_Lo"]; echo "</td>";
echo "<td>"; echo $row["Capacity"]; echo "</td>";
echo "<td>"; echo $row["Money"]; echo "</td>";
echo "</tr>";

}
echo "</table>";
}
if(isset($_POST["submit5"]))
{
$res= mysqli_query($link,"select * from bus where Bus_Name='$_POST[t2]'");
echo "<table id=table border=1 align=center bordercolor=blue height =50px  width=300px padding=30px>";
echo "<tr>";
echo "<th>"; echo "Bus_Id"; echo "</th>";
echo "<th>"; echo " Bus_Name"; echo "</th>";
echo "<th>"; echo " Bus_Location"; echo "</th>";
echo "<th>"; echo " Bus_Time"; echo "</th>";
echo "<th>"; echo "From_Lo"; echo "</th>";
echo "<th>"; echo "Where_Lo"; echo "</th>";
echo "<th>"; echo "Receive_Lo"; echo "</th>";
echo "<th>"; echo "Capacity"; echo "</th>";
echo "<th>"; echo "Money"; echo "</th>";


echo "</tr>";
while($row=mysqli_fetch_array($res))
{

echo "<tr>";
echo "<td>"; echo $row["Bus_Id"]; echo "</td>";
echo "<td>"; echo $row["Bus_Name"]; echo "</td>";
echo "<td>"; echo $row["Bus_Location"]; echo "</td>";
echo "<td>"; echo $row["Bus_Time"]; echo "</td>";
echo "<td>"; echo $row["From_Lo"]; echo "</td>";
echo "<td>"; echo $row["Where_Lo"]; echo "</td>";
echo "<td>"; echo $row["Receive_Lo"]; echo "</td>";
echo "<td>"; echo $row["Capacity"]; echo "</td>";
echo "<td>"; echo $row["Money"]; echo "</td>";

echo "</tr>";

}
echo "</table>";
}

?>
<script>

                var table1 = document.getElementById('table'),rIndex;

                for(var i = 1; i < table.rows.length; i++)
                {
                    table.rows[i].onclick = function()
                    {
                        rIndex = this.rowIndex;
                        document.getElementById("t1").value = this.cells[0].innerHTML;
                        document.getElementById("t2").value = this.cells[1].innerHTML;
                        document.getElementById("t3").value = this.cells[2].innerHTML;
                        document.getElementById("t4").value = this.cells[3].innerHTML;
                        document.getElementById("t5").value = this.cells[4].innerHTML;
                        document.getElementById("t6").value = this.cells[5].innerHTML;
                        document.getElementById("t7").value = this.cells[6].innerHTML;
                        document.getElementById("t8").value = this.cells[7].innerHTML;
                        document.getElementById("t9").value = this.cells[8].innerHTML;
                    };
                }
```

```
        </script>

  <script>
    function exportTableToExcel(table, filename = ''){
      var downloadLink;
      var dataType = 'application/vnd.ms-excel';
      var tableSelect = document.getElementById(table);
      var tableHTML = tableSelect.outerHTML.replace(/ /g, '%20');

      // Specify file name
        filename = filename?filename+'.xls':'excel_data.xls';


      // Create download link element
      downloadLink = document.createElement("a");

      document.body.appendChild(downloadLink);

      if(navigator.msSaveOrOpenBlob){
          var blob = new Blob(['\ufeff', tableHTML], {
              type: dataType
          });
          navigator.msSaveOrOpenBlob( blob, filename);
      }else{
          // Create a link to the file
          downloadLink.href = 'data:' + dataType + ', ' + tableHTML;

          // Setting the file name
          downloadLink.download = filename;

          //triggering the function
          downloadLink.click();
      }
}


 </script>
</body>
</html>

<?php } else{

  header("location:http://urbanfastcourier.com/admin.php");

  }
?>
```

## A.4 Revenue

```php
<?php
session_start();
?>
<?php

if($_SESSION['username'] == true){
?>

 <?php
 $connect = mysqli_connect("localhost:3306", "urbanfastcou_use", "v&CTfEKXtvCx", "urbanfastcou_demo");

  $sql="SELECT sum(profit_admin) as total FROM payment";
$result = mysqli_query( $connect,$sql);
while ($row = mysqli_fetch_assoc($result))
{
   $profit =  $row['total'];
```

```php
}

$profit_bso = "Select sum(profit_bus_service_owner) as total from payment";
$result2 = mysqli_query( $connect,$profit_bso);
while ($row = mysqli_fetch_assoc($result2))
{
    $profit_bso_final =  $row['total'];
}

$query = "SELECT * FROM `payment`";
$result_bus_details = mysqli_query($connect,$query);


 function fill_brand($connect)
 {
      $output = '';
      $sql = "SELECT * FROM brand";
      $result = mysqli_query($connect, $sql);
      while($row = mysqli_fetch_array($result))
      {
           $output .= '<option value="'.$row["month_id"].'">'.$row["month_name"].'</option>';
      }
      return $output;
 }
 function fill_product($connect)
 {
      $output = '';
      $sql = "SELECT * FROM product";
      $result = mysqli_query($connect, $sql);
      while($row = mysqli_fetch_array($result))
      {
           $output .= '<div class="col-md-3">';
           $output .= '<div style="border:solid #ccc;">'.$row["product_name"].'';
           $output .=      '</div>';
           $output .=      '</div>';
      }
      return $output;
 }
 ?>
 <!DOCTYPE html>
 <html>
      <head>
           <title>Revenue</title>
           <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/css/bootstrap.min.css" />
           <script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/js/bootstrap.min.js"></script>
           <script src="https://ajax.googleapis.com/ajax/libs/jquery/2.2.0/jquery.min.js"></script>

      <meta name="viewport" content="width=device-width, initial-scale=1">
 <style>
 .header {
 overflow: hidden;
 background-color: skyblue;

 padding: 20px 10px;
}

.header a {
  float: left;
  color: black;
  text-align: center;
  padding: 12px;
  text-decoration: none;
  font-size: 18px;
  line-height: 25px;
  border-radius: 4px;
}

.header a.logo {
  font-size: 25px;
```

```css
    font-weight: bold;
}

.header a:hover {
  background-color: #ddd;
  color: black;
}

.header a.active {
  background-color: dodgerblue;
  color: white;
}

.header-right {
  float: right;
}
#div{
  margin-top: 200px;
}

@media screen and (max-width: 500px) {
  .header a {
    float: none;
    display: block;
    text-align: left;
  }
  .header-right {
    float: none;
  }
}

</style>
</head>


<body>
<div class="header">
  <a  class="logo">Welcome</a>
  <div class="header-right">

    <a href="connect.php">Bus Information</a>
    <a href="admin.php">Logout</a>
  </div>
</div>
      <body>
      <h1 align="center">Monthly Revenue</h1>
          <br /><br />

          <div class="container">
        <h2> Total Profit Admin :  <?php echo  $profit;?>tk</h2><br/>
                    <h2> Total Profit Bus Service Owner :  <?php echo   $profit_bso_final;?>tk</h2>
          </div>

<h1>All Transactions </h1>
              <table class="table table-bordered">
        <tr>
          <th>Bus Id</th>
          <th>Bus Name</th>
          <th>From</th>
          <th>To</th>
          <th>Capacity</th>
          <th>User Paid</th>
          <th>Date & Time </th>
           <th>Bus Company Earning</th>
           <th>Admin Earning </th>

        </tr>
         <?php
        $connect = mysqli_connect("localhost", "root", "", "bus_demo");
```

```php
        while ($row = mysqli_fetch_array($result_bus_details)){
                    echo "<tr>";
                    echo "<td>" . $row['bus_id'] . "</td>";
            $query2 = "SELECT * FROM `bus` WHERE `Bus_Id` = '". $row["bus_id"] . "'";

            $result_tranj_details = mysqli_query($connect,$query2);
            $row2 = mysqli_fetch_array($result_tranj_details);
                    echo "<td>" . $row2['Bus_Name'] . "</td>";
                    echo "<td>" . $row2['From_Lo'] . "</td>";
                    echo "<td>" . $row2['Where_Lo'] . "</td>";
                    echo "<td>" . $row2['Capacity'] . "</td>";
                    echo "<td>" . $row2['Money'] . "</td>";
                    echo "<td>" . $row['date'] . "</td>";
                    echo "<td>" . $row['profit_bus_service_owner'] . "</td>";
                    echo "<td>" . $row['profit_admin'] . "</td>";
                }
                    echo "</tr>";



            ?>


        </table>
      </body>
 </html>


<?php
} ?>
```

## A.5 Print

```php
<?php
header('Cache-Control: no cache'); //no cache
session_cache_limiter('private_no_expire'); // works
 session_start();

date_default_timezone_set('Asia/Dhaka'); //set default time zone to Dhaka
include('phpqrcode/qrlib.php');

    function getAllData($qr){

        $uid =  $_SESSION['userID'];
        if(isset($_POST['bus_id'])){
            $bus_id = $_POST['bus_id'];
        } else {
            $bus_id = $_REQUEST['bus_id'];
        }
        $db = mysqli_connect('localhost:3306', 'urbanfastcou_use', 'v&CTfEKXtvCx', 'urbanfastcou_demo');
      $day = date('Y-m-d');
       $query = "SELECT * FROM bus
       WHERE Bus_Id IN
       (   SELECT bus_id
           FROM selected_bus
           WHERE user_id = '$uid' AND bus_id = '$bus_id' AND date = '$day'
       )";
        $user_details = "SELECT * FROM users
       WHERE ID = '$uid' ";
                $print_time = "SELECT * FROM selected_bus
       WHERE bus_id = '$bus_id' ";

        $result = mysqli_query($db, $query);
        $result2 = mysqli_query($db, $user_details);
                $result3 = mysqli_query($db, $print_time);
                $current_time = date("Y-m-d");
        while($row2 = $result2->fetch_assoc()) {
```

```php
                $user_phone = $row2['mobile_num'];
                $name_user = $row2['user_name'];
        }
                while($row3 = $result3->fetch_assoc()) {
                $invoice_time = $row3['date'];
        }

        if ($result->num_rows > 0) { ?>
        <h2>Name :<?php echo $name_user; ?></h2>
        <h2>Mobile No :<?php echo $user_phone; ?></h2>
                <h2>Transaction Date :<?php echo $invoice_time; ?></h2>
                <h2>Print Date :<?php echo $current_time; ?></h2>
            <table>
                <tr>
                    <th>Bus_Id</th>
                    <th>Bus_Name</th>
                    <th>Bus_Location</th>
                    <th>Bus_Time</th>
                    <th>From_Lo</th>
                    <th>Where_Lo</th>
                    <th>Receive_Lo</th>
                    <th>Capacity</th>
                    <th>Money</th>
                </tr> <?php
            while($row = $result->fetch_assoc()) {

                $busID = $row['Bus_Id'];
                $busName =  $row['Bus_Name'];
                $busLocation =  $row['Bus_Location'];
                $busTime =  $row['Bus_Time'];
                $fromLocation =  $row['From_Lo'];
                $whereLocation =  $row['Where_Lo'];
                $receiveLocation =  $row['Receive_Lo'];
                $busCapacity =  $row['Capacity'];
                $money =  $row['Money']; ?>
                <tr>
                    <th><?php echo $busID ?></th>
                    <th><?php echo $busName ?></th>
                    <th><?php echo $busLocation ?></th>
                    <th><?php echo $busTime ?></th>
                    <th><?php echo $fromLocation ?></th>
                    <th><?php echo $whereLocation ?></th>
                    <th><?php echo $receiveLocation ?></th>
                    <th><?php echo $busCapacity ?></th>
                    <th><?php echo $money ?></th>
                </tr> <?php

            }
            echo '</table><br/>';
            echo '<center><img src ="'.$qr.'" height="300px" width="300px"></center>';
        ?>
        <address>

                                <strong>UrbanFastCourier</strong><br>
                                 Main office: North South University, Block:B<br>
                                 Dhaka, Bangladesh
                            </address><p>
                    <i class="icon-phone"></i> (+880) 167-644-2372 <br>
                    <i class="icon-envelope-alt"></i> qrcourierservice.ltd@gmail.com
                </p>
                <?php
        }
        else{
            echo "NO DATA FOUND";
            die();


    }

?>
<!DOCTYPE html>
```

```html
<html>
<head>
    <meta charset="utf-8" />
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <title>Printing page</title>
    <style>
        table {
            border-collapse: collapse;
            width: 100%;
        }

        th, td {
            padding: 8px;
            text-align: left;
            border-bottom: 1px solid #ddd;
        }
        tr:hover {background-color:#f5f5f5;}
        #btn_print{ display:none; }
    </style>
</head>
<body>
    <?php


                        //QRcode::png($v);



                        $tempDir = 'qr';
  $numbers =  array('2028','1234','1294','4795','5651','7616','5648','1487','7095','2554');
        $k = array_rand($numbers);
                        $v = $numbers[$k];

$fileName = $_REQUEST['bus_id'].".png";

$pngAbsoluteFilePath = "qr/".$fileName;
QRcode::png($v, $pngAbsoluteFilePath);
getAllData($pngAbsoluteFilePath);
    ?>


    <button  type='button' id='btn_print' class='btn_print' onclick= 'window.print()'>Print</button>

</body>
<script>
    document.getElementById("btn_print").click();
</script>
</html>
```

## A.6 Mail

```php
<?php
$db = mysqli_connect('localhost:3306', 'urbanfastcou_use', 'v&CTfEKXtvCx', 'urbanfastcou_demo');

if ($_REQUEST["email"]) {

$email=$_REQUEST["email"];
$query=mysqli_query($db,"select * from users where email='".$email."'");

while($row = $query->fetch_assoc()) {
        $email2 =  $row['email'];
        $name = $row['user_name'];
      }

if ($email2) {
```

```php
$randomPass = randomPassword();
$final_password = md5($randomPass);
$sql = "UPDATE users SET password='$final_password' WHERE email='$email'";
mysqli_query($db,$sql);
$to = $email;
$subject = "UrbanFastCourier - Forget Password";
$headers = "From: qrcourierservice.ltd@gmail.com";
$mailBody = "Hello ".$name.",\n Your New Password : ".$randomPass. "\n\n Thank You For Using Our Service.\n
UrbanFastCourier";
echo "New Password Sent !! Check Email...";
mail($to,$subject,$mailBody,$headers);

} else {

  echo "No Email Found";

}

}

function randomPassword() {
    $alphabet = 'abcdefghijklmnopqrstuvwxyzABCDEFGHIJKLMNOPQRSTUVWXYZ1234567890';
    $pass = array(); //remember to declare $pass as an array
    $alphaLength = strlen($alphabet) - 1; //put the length -1 in cache
    for ($i = 0; $i < 8; $i++) {
        $n = rand(0, $alphaLength);
        $pass[] = $alphabet[$n];
    }
    return implode($pass); //turn the array into a string
}
  ?>
```

## A.7 Client Transaction

```php
<?php
session_start();
$db = mysqli_connect('localhost:3306', 'urbanfastcou_use', 'v&CTfEKXtvCx', 'urbanfastcou_demo');

$username = $_POST['username'];
$password = $_POST['password'];
$username=mysqli_real_escape_string($db, $_POST['username']);
$password=mysqli_real_escape_string($db, $_POST['password']);


 $sql = "SELECT * FROM client WHERE User = '$username' AND Pass = '$password' ";
$result=mysqli_query($db,$sql);

$sql2 = "SELECT * FROM `bus` WHERE Bus_Name LIKE'Hanif Enterprise Ltd'";
$result2 = mysqli_query($db,$sql2);


if ($result->num_rows > 0) {
    // output data of each row
    while($row = $result->fetch_assoc()) {
      $_SESSION['userID'] =  $row['ID'];
      $_SESSION['username'] = $username;
      $_SESSION['success'] = "You are now logged in";
    }
    echo "Welcome " . $_SESSION['username'];


    echo("</br><button onclick=\"location.href='client.php'\">Log Out</button>");
    }
    else{
```

```php
      echo "Wrong Password";
      die();
    }



?>
<!DOCTYPE html>
<html lang="en">
<head>
    <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/css/bootstrap.min.css">
    <meta charset="UTF-8">
    <title></title>
    <script src="https://ajax.googleapis.com/ajax/libs/jquery/2.1.3/jquery.min.js"></script>
    <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/css/bootstrap.min.css" />
    <script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/js/bootstrap.min.js"></script>

    <!-- <script src="jquery.js"></script> -->
    <style>
     #box
     {
      width:600px;
      background:gray;
      color:white;
      margin:0 auto;
      padding:10px;
      text-align:center;
     }
    </style>
</head>
<body>
    <div class="table-responsive">
    <div class="container">
      <div class="row">
        <div class="col-md-8 col-md-offset-2" style="margin-top: 5%;">
          <div class="row">

        <?php

$query5 = "SELECT * FROM payment
    WHERE bus_id IN
    (   SELECT Bus_id
        FROM bus
        WHERE Bus_Name LIKE'Hanif Enterprise Ltd'
    )";
    $result = mysqli_query($db, $query5);


    while ($row = mysqli_fetch_array($result)){

$sum=$sum+ $row['profit_bus_service_owner'] . "</br>";
$sum2=$sum2+ $row['profit_admin'] . "</br>";


              }
        echo "<h2>Total Earning: ".$sum."</h2>";
        echo "<h2>Admin Earning: ".$sum2 ."</h2>";
        ?>

        </div>
        <table class="table table-bordered">
          <tr>
            <th>Bus Id</th>
            <th>Bus Name</th>
            <th>Bus Location</th>
            <th>From</th>
            <th>To</th>
            <th>Receiving location</th>
            <th>Capacity</th>
            <th>Money</th>
            <th>Profit Admin</th>
```

```
                <th>Profit Bus Service Owner</th>
              </tr>

                  <?php  while ($row = mysqli_fetch_array($result2))
                       {
                         echo "<tr>";
                         echo "<td>" . $row['Bus_Id'] . "</td>";
                         echo "<td>" . $row['Bus_Name'] . "</td>";
                         echo "<td>" . $row['Bus_Location'] . "</td>";

                         echo "<td>" . $row['From_Lo'] . "</td>";
                         echo "<td>" . $row['Where_Lo'] . "</td>";
                         echo "<td>" . $row['Receive_Lo'] . "</td>";
                         echo "<td>" . $row['Capacity'] . "</td>";
                         echo "<td>" . $row['Money'] . "</td>";
                         echo "<td>" . (30 / 100) * $row['Money'] . "</td>";
                         echo "<td>" . (70 / 100) * $row['Money'] . "</td>";
                         echo "</tr>";

                       }
?>


        </table>

      </div>
    </div>
  </div>

</body>
</html>
```

## A.8 Reset Password

```php
<?php
session_start();

$db = mysqli_connect('localhost:3306', 'urbanfastcou_use', 'v&CTfEKXtvCx', 'urbanfastcou_demo');


if(isset($_SESSION['success'])){

    if(isset($_POST['password2'])){
    $user = $_SESSION['user_name'];
$final_password = md5($_POST['password2']);
$sql = "UPDATE users SET password='$final_password' WHERE user_name='$user'";
mysqli_query($db,$sql);
    header('location:signin1.php');
}

    ?>

<p class="text-center">Use the form below to change your password. Your password cannot be the same as your
username.</p>
<form method="post" action="changePass.php">
<input type="password"  name="password1"  placeholder="New Password" autocomplete="off">
<br/>
<input type="password"  name="password2"  placeholder="Repeat Password" autocomplete="off">
<br/>
<input type="submit"  value="Change Password">
</form>

    <?php
} else {
```

```
      header('location:index.html');
}


?>
```

## A.9 Arduino Code

```
#include <Servo.h>
Servo myservo;
int pos = 0;
int locker = 13;
const int buzzer = 49;
String readString;
uint32_t lastTime = 0;
String previousPassword = "";
bool doorOpened = false;

bool passwordIsActive(){
  uint32_t now = millis();
  if ( (now - lastTime) <=15000){
     return true;
    }
    else {
       return false;
       }
     }

void openDoor(){
digitalWrite(locker, HIGH);
      for (pos = 0; pos <= 100; pos += 1) {
      myservo.write(pos);
      delay(30);
      }
      delay(5000);
      digitalWrite(locker, LOW);
      }

 void closeDoor(){

        digitalWrite(locker, HIGH);
        for (pos = 180; pos >= 0; pos -= 1) {
        myservo.write(pos);
        delay(30);
        }
      digitalWrite(locker, LOW);


 }


void setup() {
  Serial.begin(9600);
  pinMode(locker, OUTPUT);
  pinMode(buzzer, OUTPUT);
  myservo.attach(9);
}

void loop() {

  while (Serial.available()) {
    delay(3);
    char c = Serial.read();
    readString += c;
```

```
    }
  if (readString.length() >0) {
    Serial.println(readString);

    if ((readString == "2028") || (readString =="1234") || (readString =="1294") || (readString =="4795") ||
(readString =="5651") || (readString =="7616") || (readString =="5648") || (readString =="1487") || (readString
=="7095") || (readString =="2554"))
    {
    if (doorOpened){
     Serial.println("The door is opened already");
     }
    else if( passwordIsActive() ){
       // one password is active, so don't do anything
       Serial.println("One password is active already");
       }
       else if(readString == previousPassword){
        // do nothing if the user enters the most recent password
        Serial.println("You can't use the most recent password");
        }

        else {

        doorOpened = true;
    // correct password has been detected
     lastTime = millis(); // store the current time
     previousPassword = readString; // store this password
     openDoor();
      readString="";
    }
    }


      if ((readString == "decline") && (doorOpened == true)) {
      //
        closeDoor();
        doorOpened = false;
        Serial.println("Door closed");
      readString="";
      }


    else {
     Serial.println("Nothing is done");
      tone(buzzer, 500);
      delay(1000);
      noTone(buzzer);
      delay(1000);
      readString="";
   }
  }
}
```