



**DAFFODIL INTERNATIONAL UNIVERSITY
DHAKA, BANGLADESH**

FINAL YEAR INTERNSHIP REPORT ON SOFTWARE DEVELOPER

BY

TAIMOON HASAN

ID No: 153-15-6417

This Report Presented in Partial Fulfillment of the Requirements for the
Degree of Bachelor of Science in Computer Science and Engineering

Supervised by

Md. Sazzadur Ahamed
Senior Lecturer
Department of CSE
Daffodil International University

Co-Supervised by

Mr. Saiful Islam
Senior Lecturer
Department of CSE
Daffodil International University

APPROVAL

This Internship titled “**Software Development**”, submitted by “**Taimoon Hasan**”, ID No: 153-15-6417 to the Department of Computer Science and Engineering, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on December 6, 2019.

BOARD OF EXAMINERS



Dr. Syed Akhter Hossain
Professor and Head

Chairman

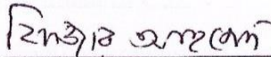
Department of Computer Science and Engineering
Faculty of Science & Information Technology
Daffodil International University



Nazmun Nessa Moon
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Internal Examiner

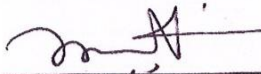
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Faculty of Science & Information Technology
Daffodil International University



Dr. Fizar Ahmed
Assistant Professor

Internal Examiner

Department of Computer Science and Engineering
Faculty of Science & Information Technology
Daffodil International University



Dr. Mohammad Shorif Uddin
Professor

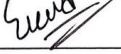
External Examiner

Department of Computer Science and Engineering
Jahangirnagar University

DECLARATION

We hereby declare that, this internship has been done by us under the supervision of **Taimoon Hasan, Software Development, Department of CSE** at Daffodil International University. We also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

Supervised by:



Mr. Md. Sazzadur Ahamed

Senior Lecturer

Department of CSE

Daffodil International University

Co-Supervised by:




Mr. Saiful Islam

Senior Lecturer

Department of CSE

Daffodil International University

Submitted by:



Taimoon Hasan

Id Number: 153-15-6417

Department of CSE

Daffodil International University

ACKNOWLEDGEMENT

At first, I want to thank Daffodil International University, for arranging the internship program for their student so that they can get understand about real life working process. I am also grateful to CloudWell Limited. They recruit me as an intern and help me to work with them and teach me lot of thing

I want to take the opportunity to express my profound gratitude and deep regards to my Team Leader Mr. Faiz Shirazi Doller for his exemplary guidance, monitoring and constant encouragement throughout the course of this internship. The blessing, help and guidance given by him time to time shall carry me a long way in the journey of life on which I am about to embark.

I would like to express my heartfelt gratefulness to Mr. Md. Sazzadur Ahamed, Senior Lecturer, Daffodil International University for his kind backing, guidance and encouragement which has extremely strengthened my confidence during my internship program.

I would like to thank Mr. Md. Fahim Uddin and Mr. Md. Mostafizur Rahman from CloudWell Limited. They both are senior software engineer. They help me and teach me how to develop my career as a software engineer. They teach me how to improve my coding pattern

I would like to express my sincere gratitude to the Almighty Allah my Head of the department, Department of CSE, for his kind help to finish my internship and also to other faculty member and the staff of CSE department of Daffodil International University.

ABSTRACT

This internship report, I am trying to highlights the major works that I have done. In internship as software developer my main focus or objective was to learn software development lifecycle, improve my coding pattern, and know about new technology.

Now a day, there are lots of software engineer working on new technology. Software can make our daily life become easier. In future software engineer as a career will have good opportunity. For become a good software developer I would need to learn about real life project. I need to learn how a real life project will manage. That is why I choose the internship as a "**Software developer**".

Working in **CloudWell Limited** added huge experiences in my future or upcoming careers. Working with real life problems of client, was another key point to gain experiences. This report takes us through all the details of real-life project and experience gathered during this 4 months' internship period.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

Internship is the process of on-the-job training, which particularly beneficial for students with major in technical courses. It can help us to know about real life work. It also can help us to know about corporate culture, relationship between co-worker, how to manage a big project in real life.

Daffodil International University always emphasize on industry orientation in academic study. For these purpose industry people are invited to DIU to talk about their companies and experiences, often some technical courses are entirely organized by them. The four-month internship program is another, possibly most effective, way of achieving industry orientation. Internship helps the students to link-up their academic experience with industry practices. I have tried my best to combine the both together.

The company I was sent for internship is CloudWell Limited. It is one of the leading Fintech companies in Bangladesh.

1.2 Objective

This report has been prepared as a requirement of the internship program of the degree BSc. The report is intended to reflect my achievements, project involvements and professional growth during the intern period. What I have done in this internship period, that is described in here.

1.3 Scope

This report gives an insight of the experience that I faced in my workplace at CloudWell Limited. As well as it also provides a brief description of CloudWell Limited for students who are interested about CloudWell Limited for their professional growth.

1.4 Motivation

Working with CloudWell Limited, I learn about how to develop a real-life project, how can manage the system. I learned about good practice of coding pattern. They motivate me how to develop my career in software engineer and learn about new technology. The opportunity to train with them and work with them was fantastic experience. As I worked there, I learned a lot of new things about software analysis, best practices of coding pattern.

1.5 Report Layout

In this report, I describe basic concepts of some project that I learn and work through this 4month period of time. In “chapter 1” I discuss about introduction of internship, objective, scope, motivation.

In “chapter 2” I provide a short description about my interned company. In “chapter 3” I briefly describe about my project Involvement in period of internship. Every works that I have done I write on it and given an example of that I done.

CHAPTER 2

COMPANY'S PROFILE

2.1 About CloudWell Limited

CloudWell is an Application Service provider, working for multiple verticals with a special concentration in payments sector. Its focus is to bring efficiency in payment systems so that cost of funds gets lowered for business houses whilst utilizing all available channels for collection of funds [1].

The company is established in 2012, its leadership team members are renowned professionals in banking, FMCG and ICT ecommerce businesses of Bangladesh for over 12 years [1].

CloudWell is service focused and built around that formula where existing infrastructure are best utilized to enable enterprises with services and solutions. It is currently aggregating a large portfolio of banks and business houses in single umbrella and is provisioning platforms to merchants on a PaaS (Platform as a Service) model. CloudWell made a software called PayWell. PayWell acts as a one-stop solution for various payments through a large network of outlets, providing users the most convenient way to pay. The retail outlets are available throughout the country and operate long hours to make it easier for users to pay and organizations to sell. Everyone can visit nearby PayWell outlet to recharge their mobile phone, pay utility bills and fees, buy tickets and online products [1].

2.2 Service

In today's world, every organization depends heavily on technology to keep business operations connected, drive revenue and support ever growing customer demands [2]. CloudWell made a software called PayWell [2]. PayWell acts as a one-stop solution for various payments through a large network of outlets, providing users the most convenient way to pay. PayWell have some services for their customer and retailer [2]

- ❖ **Paying Mobile Bills:** A customer can visit any PayWell outlet and recharge his mobile phone for any operator. PayWell is appointed as national distributor by all mobile network operators in Bangladesh for alternative channel. We are authorized by Bangladesh Telecom Regulatory Commission (BTRC) to sell domestic and international recharge.
- ❖ **Electricity Bill:** A customer doesn't need to be worried about electricity bill payment anymore. He can visit any PayWell outlet anytime and pay DESCO, DPDC, West Zone & Polli Biddut bill.
- ❖ **Water Bill:** A customer can visit any PayWell outlet in Dhaka and can pay his monthly WASA bill through PayWell agents.
- ❖ **Visa Fee:** A customer need to pay visa application processing fee before you submit application to any Indian Visa Application Center (IVAC) in Bangladesh. PayWell makes it more convenient for the customer as he can now pay this fee visiting any PayWell agent point
- ❖ **Mobile Financial Services:** PayWell provides mobile financial services as a national distributor. All MYCash services including Cash-in, Cash-out and customer registration are available in PayWell outlets which are registered as MYCash agent.
- ❖ **E-commerce:** If a customer wants to buy online products offline he can Visit any PayWell outlet and buy his desired products from a basket of millions of online products.
- ❖ **Internet & DTH bill:** Customer can pay his Wi-Max Internet bill and DTH TV subscription fee through PayWell outlets

- ❖ **E-ticket:** PayWell have air and bus ticketing system. If a customer wants to buy any air and bus ticket he can easily purchase the ticket from Paywell

2.3 Software Development

CloudWell Limited is a fin-tech company [1]. They have a strong retailer network. They make financial service system software for their retailer and consumer. CloudWell Limited help their retailer and consumer to build software which can useable from web, mobile and POS. Retailer and consumer can use their software for business and personal uses.

2.4 Office Schedule

- ❖ Office starts at 09:00 am and ends at 6:00 am, from Sunday to Thursday.

Chapter 3

OVERALL CONTRIBUTION

3.1 Reporting Panel

Cloudwell Limited have a report panel call PayWell report panel for monitor their system [3]. In this panel, they can follow there all transaction and retailer and consumer activates. They can monitor their inventory, sales and profit [3].

3.1.1 Overview

PayWell report is an internal panel of CloudWell Limited. It is maintained by PayWell IT team who keep the server and database up-to-dated. The main user of this system is Management, Accounts team, sales and marketing team, IT team.

When I joined CloudWell Limited, all of the features were complete and the system is in live. But it need update regularly when a new service or feature have deployed. They need to update their dashboard for one of their vendor call UNCDF and also need to create two new report option for all retailer information and their transaction details. I was assigned to create a dashboard. I was not involved with this for a long time. My involvement was for about 4 days.

3.1.2 Team

I was assigned with Md. Fahim Uddin and Md. Mustafizur Rahman for the project. They gave me instructions so that I could understand about this system in short time and also assigned me the task for this panel. Without their helpful mentoring, I could not be involved with the task successfully.

3.1.3 Technologies

When I was told that I need to work on this project, I asked Mustafizur Bhai which technologies I need to learn to work on this task. He gave me a list of technologies and I learned them.

- ❖ HTML
- ❖ CSS
- ❖ Bootstrap
- ❖ JQuery
- ❖ MYSQL

I had basic concept about all of this. These why, it was easy for me to complete this task

3.1.4 Tools

- ❖ SQLyog
- ❖ FileZilla
- ❖ Browser
- ❖ Sublime Text

3.1.5 Update Dashboard and Two Report in Report Panel

CloudWell made a software called PayWell. It has a database where store all user information and also their daily transaction data. This task basically bases on this data. I was assign to create a dashboard which will be visible only for UNCDF. UNCDF is a partner of CloudWell limited.

3.1.5.1 Dashboard

This dashboard will contain summary of “Overall Progress”, “Coverage Status”, “District-wise Performance” and line chart for “Daily Revenue Trend”, “Daily Transaction Trend” [3]. I collect this data from database. It has user information table where I can get user who are On-board under

UNCDF. I need to count the user using MYSQL select query. For that query got total number of current user for active and on-boarding user. Database has another table for target.

From this table I got total number of target user for active and on-boarding using MYSQL select query. Comparing these two data I got remaining and active percentage.

From user information table I got “Coverage Status” and “District-wise Performance”.

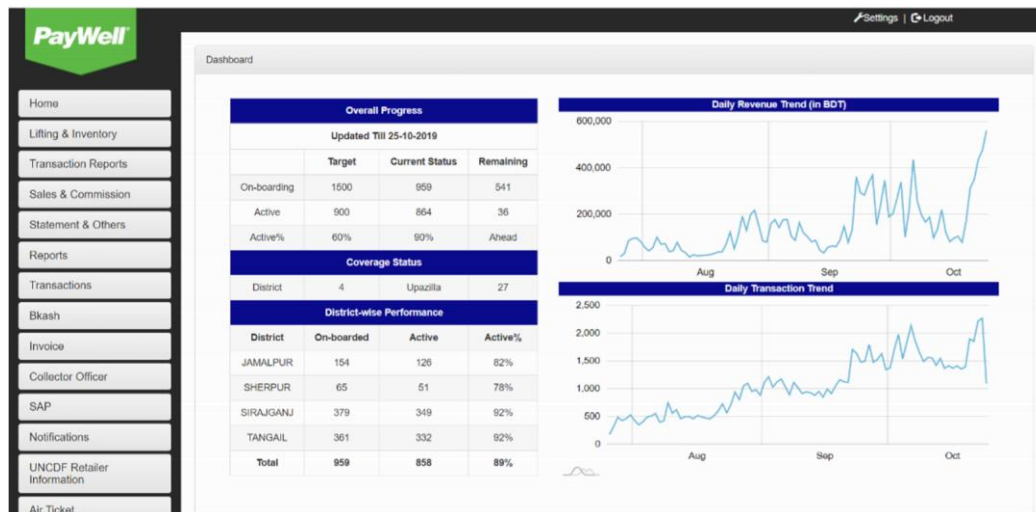


Fig 3.1: Dashboard design

3.1.5.2 UNCDF Retailer Information and Retailer's Sales & Commission

This is a report where user can search the report with select option. For UNCDF Retailer Information report user first need to select a District or All, after select district user will able to select SDA under the selected District, if user select a SDA then user can able to select a retailer

Whose information user want to see. Then user must need to select “Registration from” and “Registration To” date then need to click the search button to get the report table. After click the search button a table will visible based on user selected option. User can download an excel file for this report

The screenshot displays the 'UNCDF Retailer Information' report interface. At the top, there are dropdown menus for 'Select District' and 'Select SDA', both currently set to '-Please Select-'. Below these are 'Select Retailer' (also '-Please Select-') and date pickers for 'Registration From' (2019-10-01) and 'Registration To' (2019-10-25). A 'Search' button is positioned below the date fields. The search results are presented in a table with the following data:

Sl.	Retailer Code	Outlet Name	Mobile Number	District	Thana	Post Code	Registration Datetime	SDA	Status
1	S19800039257	JANNAT STORE	01916782910	TANGAIL	GHATAIL	1980	2019-10-01 10:39:40	S. M ENTERPRISE	Active
2	S19800039267	AZAD PHARMACY	01671287295	TANGAIL	GHATAIL	1980	2019-10-01 11:39:12	S. M ENTERPRISE	Active
3	S20000039268	MA VARIETY STORE	01685551717	JAMALPUR	JAMALPUR	2000	2019-10-01 11:52:36	JANNAT SMART ZONE	Active
4	S19800039272	ABDULLA STORE	01712245686	TANGAIL	GHATAIL	1980	2019-10-01 12:08:38	S. M ENTERPRISE	Active
5	S20010039273	MILTON STORE	01714418251	JAMALPUR	JAMALPUR	2001	2019-10-01 12:20:02	JANNAT SMART ZONE	Active
6	S19800039275	MITO STORE	01811756724	TANGAIL	GHATAIL	1980	2019-10-01 12:27:00	S. M ENTERPRISE	Active
7	S19600039276	RIPON COSMETICS & VARIETIES STORE	01396046157	TANGAIL	BHUAPUR	1960	2019-10-01 12:29:00	S. M ENTERPRISE	Active

Fig 3.2: UNCDF Retailer Information Report

For UNCDF Retailer's Sales & Commission report user first need to select a District or All, after select district user will able to select SDA under the selected District, if user select a SDA then user can able to select a retailer Whose information user want to see. It has another searching option like “Duration Type” where user can declare that he wants to see the report as “Daily”, “Monthly” or “Yearly”. User must need to select “Registration from” and “Registration To” date then need to click the search button to get the report table. After click the search button a table will visible based on user selected option. User can download an excel file for this report

Retailer's Sales & Commission

Select District: Select SDA:

Select Retailer: Duration Type: Daily Monthly Yearly

Date From: Date To:

Select Operators: All Air Ticket AT BL B.Lion Brilliant Bus DESCO-DPDC GP IVAC KGDCL Poli RB GP ST TT WASA WZPDCL

Search

Search Result: 4

Date	Retailer Name	RID	Air Ticket	AT	BL	B.Lion	Brilliant	Bus	DESCO-DPDC	GP	IVAC	KGDCL	
			Transaction/Amount	Transaction/Amount	Transaction/Amount	Transaction/Amount	Transaction/Amount	Transaction/Amount	Transaction/Amount	Transaction/Amount	Transaction/Amount	Transaction/Amount	
2019-10-24	to	VAI TRADERS	S19410040164	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
2019-10-24	to	A ONE STORE	S20410039084	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
2019-10-24	to	A R QNFRAJ											

Fig 3.3: UNCDF Retailer's Sales & Commission

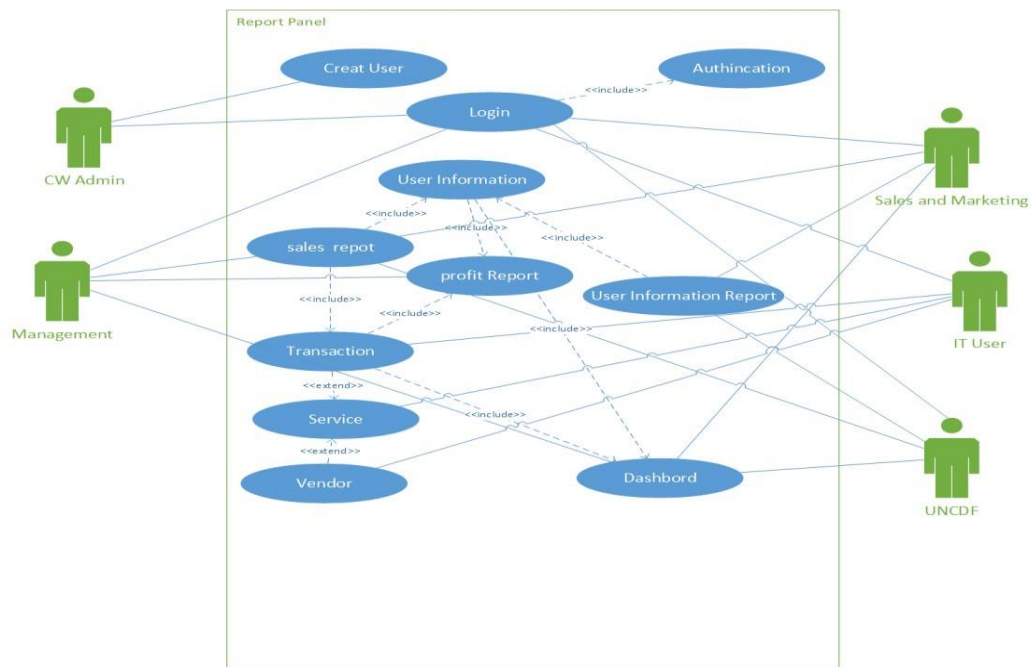


Fig 3.4: Use Case Diagram

3.2 Retailer Opening-Closing Balance Store System

PayWell retailer can purchase amount from PayWell. Retailer can be using this amount for paying mobile bill, utility bill, purchase Bus and Airplane ticket. CloudWell must need to store every user balance statement for every day. This statement will have generated based on retailer today's opening balance, today's purchase amount, today's sales and commission. For this report opening-closing balance is very important.

3.2.1 Overview

Before create opening-closing balance store system retailer opening balance was generated calculatedly by his transaction, this system was take too much time. For this reason, IT team decide that they will stored all retailer opening-closing balance on every day. It will help to generate balance statement. I was assigned for this task. My involvement for this task was for 2 days.

3.2.2 Team

I was assigned for this task. Md. Mustafizur Rahman was help me a lot. For store openingclosing balance I need to make “Stored Procedure” script. Database will run this script automatically. My deadline was 2 days. I was totally unknown about “Stored Procedure”.

Mustafizur bhai help me to learn “Stored Procedure”. He gave me instructions so that I could learn this. Without his helpful mentoring, I could not be involved with the task successfully. He gives me some reference script so that I can learn and create a new script for store retailer opening-closing balance. He also gives me proper understanding about database.

3.2.3 Technologies

- ❖ MYSQL
- ❖ Stored Procedure
- ❖ MYSQL Event Scheduler

3.2.4 Tools

- ❖ SQLyog

3.2.5 Stored Procedure script to store retailer opening-closing balance

MySQL server takes some advantage of caching as like prepared statements [6]. The main speed gain comes from reduction of network traffic [6]. If we have a repetitive task that requires checking, looping, multiple statements, and no user interaction, do it with a single call to a procedure that's stored on the server. Stored procedures are portable. It will run on every platform [6].

PayWell database have a table where all user balance information is stored. This table is updated in real time when retailer do any transaction or purchase balance. Our "Stored Procedure" will run every day at 00:01 hour and collect retailer current balance amount on that time. This balance will consider as opening balance and insert a new row for that day in opening-closing balance where opening balance will be this balance and closing balance will be 0. This balance will also consider as closing balance on previous day and update previous day row where closing balance will be this balance.

Process flow diagram is given in figure 3.2.1. Its show the process flow for this task. 3.2.1 is a ER diagram where we can see the opening-closing table, user information and credential table with their relation. This procedure will call by events scheduler which is a feature of MYSQL.

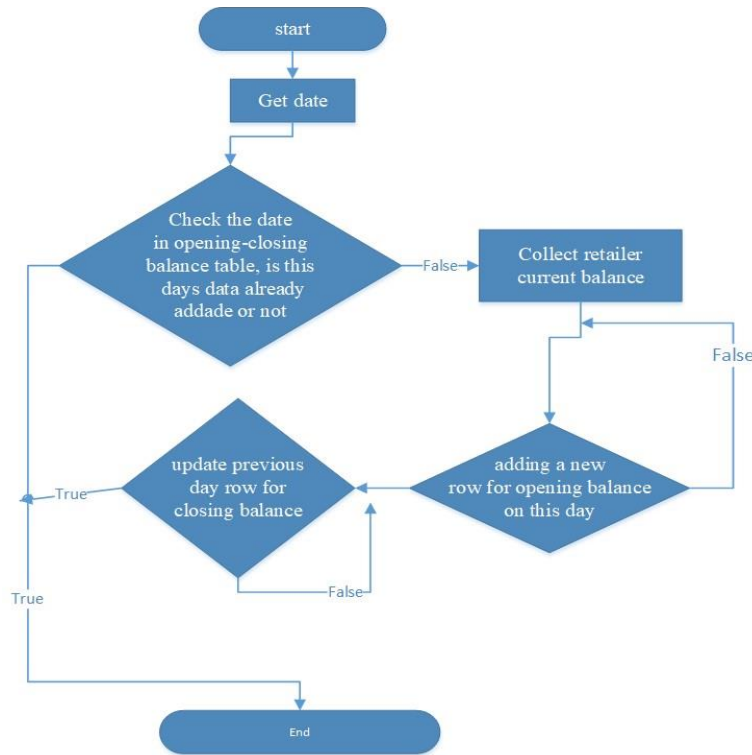


Fig 3.5: Process Flow Diagram

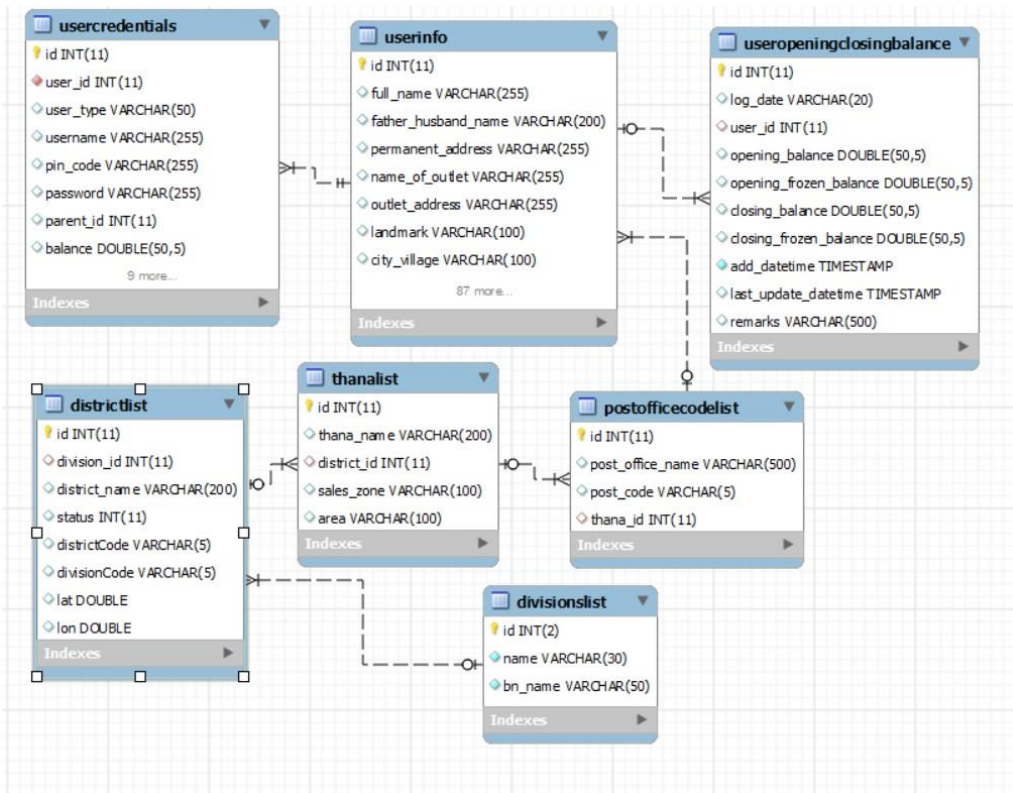


Fig 3.6: ER Diagram

3.3 Mobile Top-up for MNP Number

PayWell have mobile Top-Up service. PayWell retailer can recharge any amount in any mobile operator number by this service. This is one of the main service of PayWell. This is a live system, but after launching the MNP service by mobile operator all retailers are facing huge problem. They can't recharge properly.

3.3.1 Overview

Mobile Top-Up service is one of the high traffic service in PayWell system. This service was developed by core PHP. IT team want to redevelop this service in framework. After launching the MNP service by mobile operator redevelopment become mandatory. After complete my previous task successfully I was assign for this. My main task was developing a API using PHP framework and flow MVC pattern. My involvement was for about 15 days.

3.3.2 Team

In this project I have been directly supervised by my team member, Md Fahim Uddin. He is an experienced senior software engineer and I have learned many things from him. From designing software architecture to using software tools effectively, he has taught me everything. I consider myself very lucky to get such a mentor and supervisor. we had one senior android developer in our team.

I develop the API and provide this to android team, they were creating user interface in APP for mobile top-up service.

3.3.3 Technologies

- ❖ CodeIgniter PHP framework
- ❖ MYSQL Database server
- ❖ Apache server

3.3.4 Tools

- ❖ Sublime Text
- ❖ FileZilla
- ❖ SQLyog
- ❖ Postman
- ❖ Sublime Text

3.3.5 Sub Task

In this project there have some sub. I don't need to create database because we already had a database for this project. Fahim bhai give me proper understanding. Sub task was

- ❖ API for Top-Up service
- ❖ Mobile recharge Interface in Android app and web portal

My main task of this project was develop an API for mobile recharge

3.3.6 API for Top-Up service

I was using CodeIgniter PHP framework for this project. CodeIgniter is based on the ModelView-Controller (MVC) development pattern [5]. Figure 3.3.1 show the architecture of Codeigniter base on MVC pattern [5].

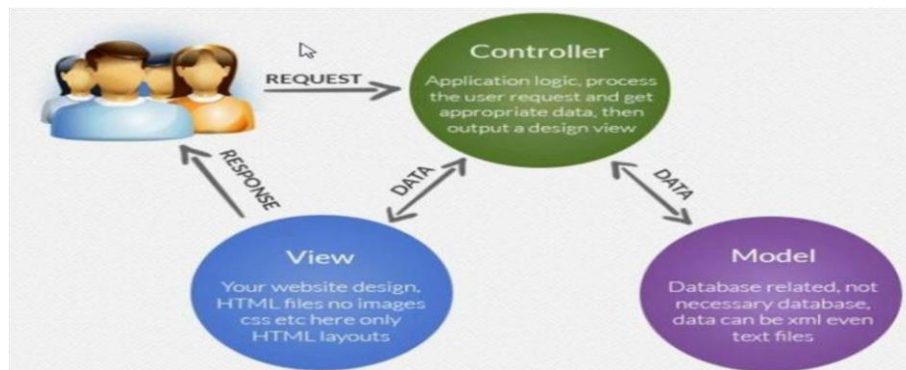


Fig 3.7: Architecture of Codeigniter

For this project I need to install Codeigniter project in our server. I create controller file for receive user HTTP request, model for check authentication, check service permission, check user balance,

check PayWell inventory. Process flow is show in figure 3.3.2 and figure 3.3.3 will show the ER diagram of this service

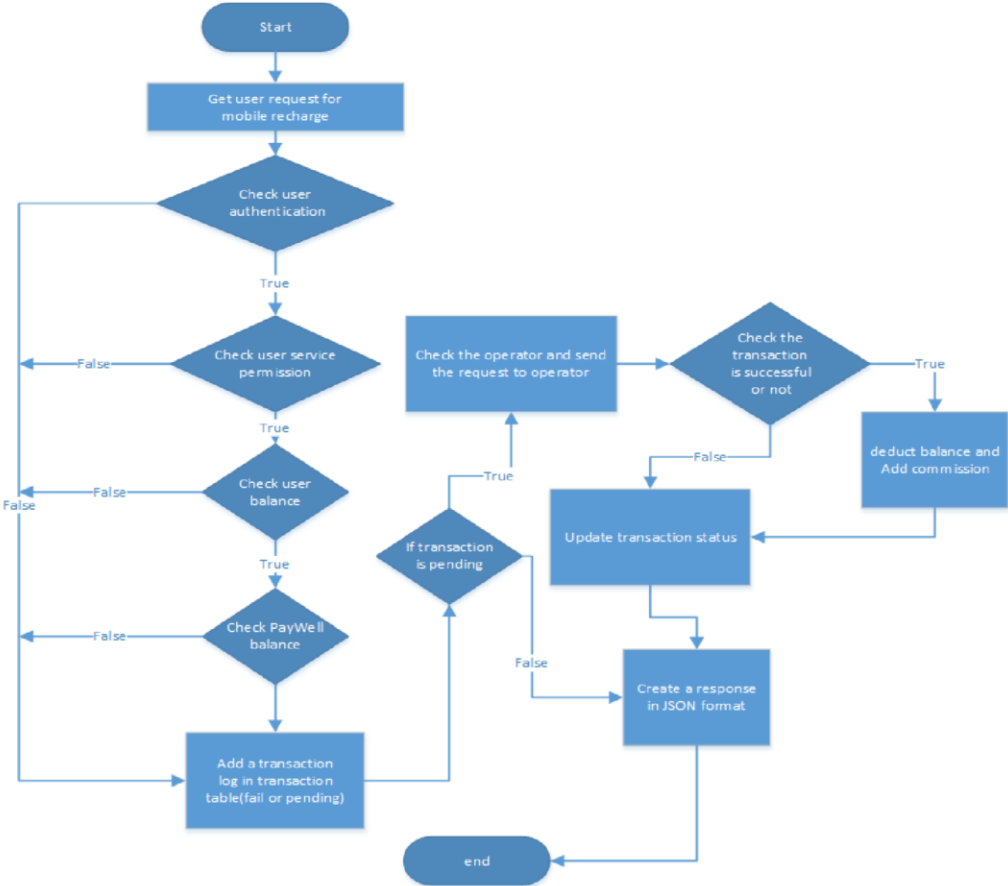


Fig 3.8: Process flow diagram for Top-Up

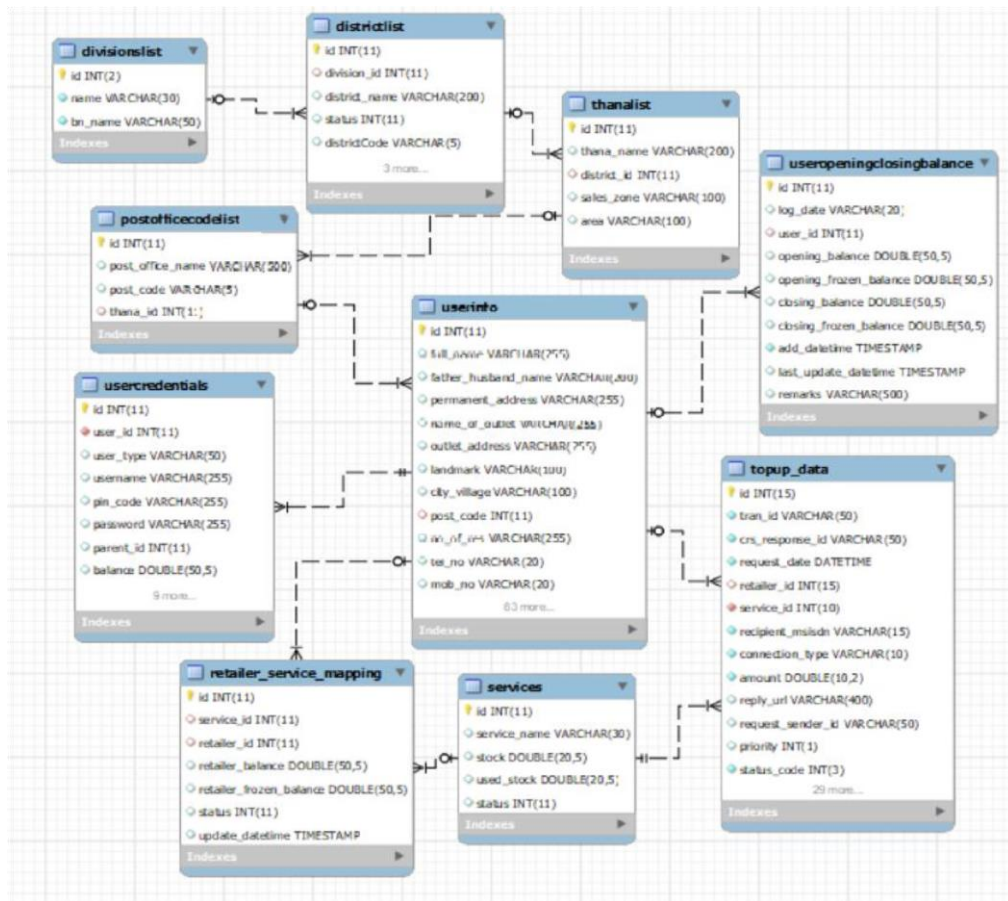


Fig 3.9: ER diagram for Top-Up service

3.3.7 Process flow

- ❖ API will receive retailer username and password, requesting IP, recharge mobile number, amount and operator name to APP and web portal by post method. Post data will be JSON format
- ❖ Check post data validation.
- ❖ If data is valid then check retailer authentication using retailer username, password and requesting IP
- ❖ If retailer is not authorized, then API will add this transaction in transaction table as authentication error and generate an error message.
- ❖ If retailer is authorized, then checked retailer service mapping

- ❖ If retailer is not allowed for this service, then API will add this transaction in transaction table as service is not available error and generate an error message.
- ❖ If retailer is allowed for this service, then API will have checked retailer balance if balance will less than recharge amount API will add this transaction in transaction table as not enough balance and generate an error message.
- ❖ If retailer have sufficient balance, then API will add this transaction in transaction table as to be process.
- ❖ If the transaction status is to be process, then API will call operator API for recharge.
- ❖ If operator API response is successful, then API will deduct retailer balance and Add commission

3.3.8 Top-Up Interface

My main task of this project was create an API. It will have received data by https request using post method. After process the received data API will provide response in JSON format. Figure

3.3.6.1 will show Postman screenshot. Postman is a API tester. We use Postman for test our API.

Figure 3.3.6.2 and 3.3.6.3 will show the web interface for Top-Up service.

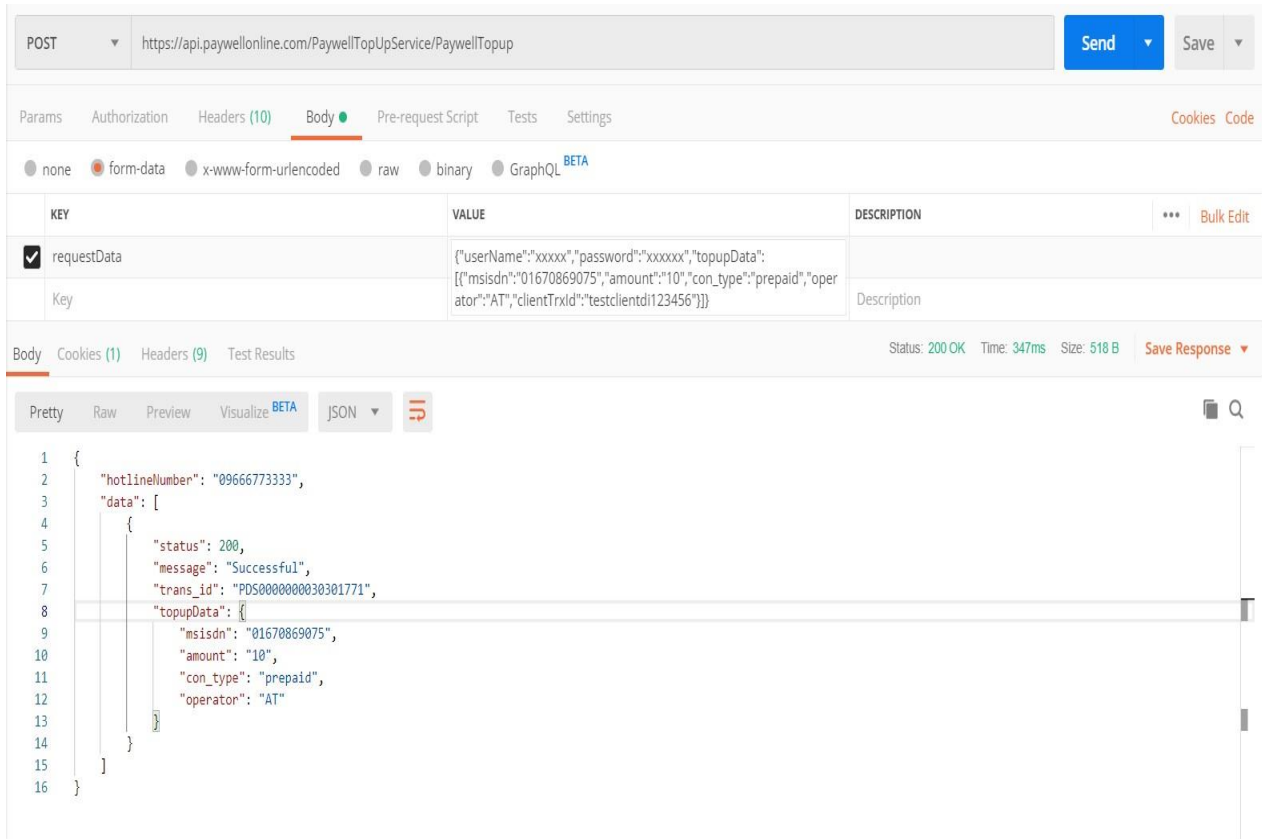


Fig 3.10: Top-Up API request and response using Postman

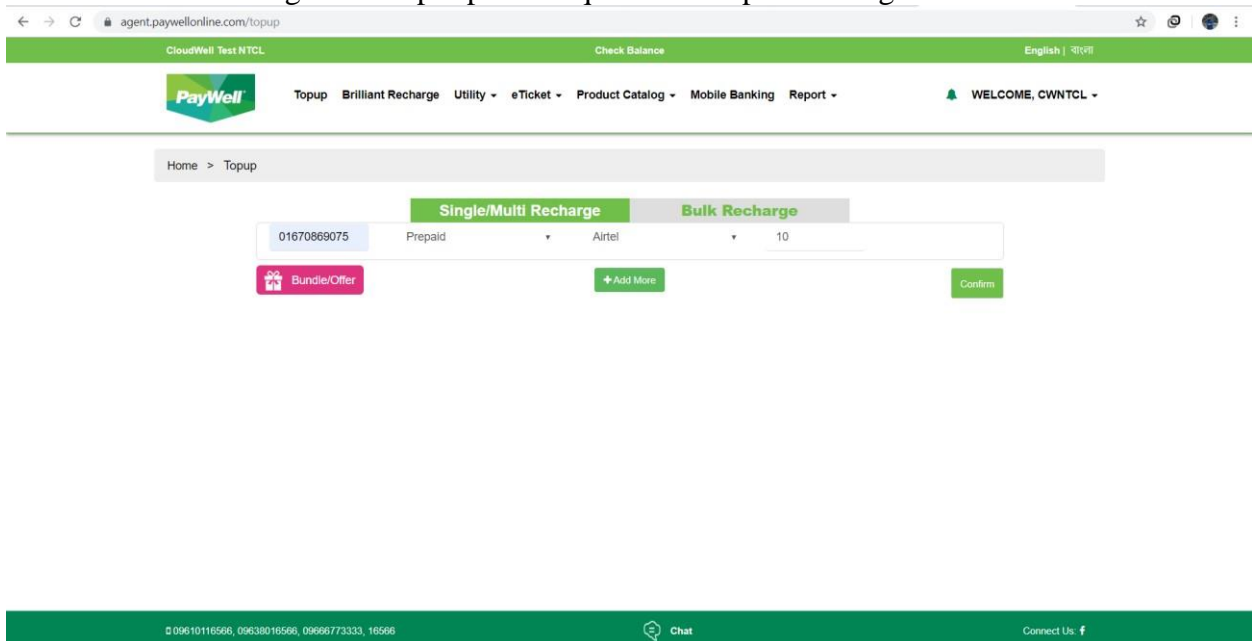


Fig 3.3.8.2: Top-Up Interface (step 1)

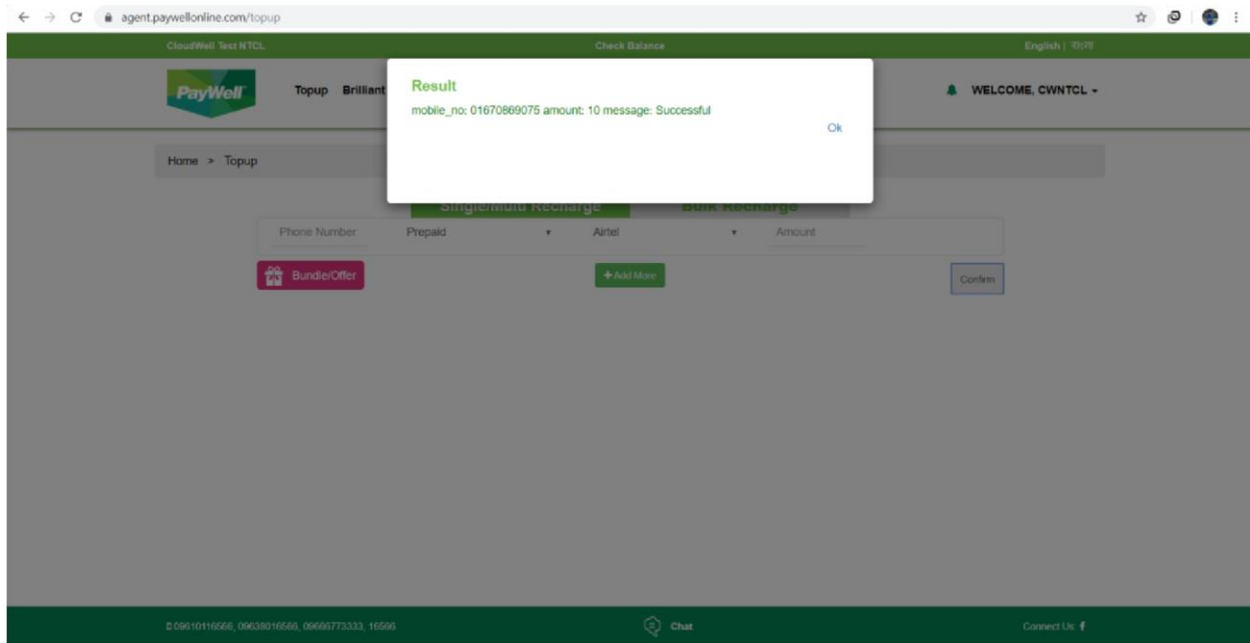


Fig 3.11: Top-Up Interface (step 2)

3.4 Bus Ticketing System

Bus ticketing system is a new service in PayWell system. Retailer can purchase bus ticket from this service. It will increase his business. This service is now in underdevelopment.

3.4.1 Overview

Bus ticketing system is an important project for me. After finish my mobile recharging project I was assign for this project. I play leading role in this project. I create workflow and database for this project. I also developed the API's for this project. Retailer can purchase bus ticket from this service. It will increase his business. This service is now in underdevelopment. I use PHP framework and flow MVC pattern. My involvement was for about 20 days. This in an under development project. It will realis soon.

3.4.2 Team

I play leading role in this project. In my team I have an android developer and a web developer, Android developer is developing an interface in PayWell APP and web developer is developing the web interface for this service. Mr. Fahim bhai and Mr. Mostifizur both are help me a lot.

3.4.3 Technologies

- ❖ CodeIgniter PHP framework
- ❖ MYSQL
- ❖ Apache
- ❖ PHP 7
- ❖ GWT token
- ❖ RESTful Web services
- ❖ Linux server

3.4.4 Tools

- ❖ Sublime Text
- ❖ FileZilla
- ❖ SQLyog
- ❖ Postman
- ❖ Sublime Text

3.4.5 Sub Task

In this project there have some sub. Most of the task was mad by me

- ❖ Database design
- ❖ Vendor API connectivity
- ❖ API's for bus ticket purchasing
- ❖ Android app and web portal Interface

❖ Store Procedure for bus ticket service summary sales

This service is now in QA department. Development is almost done. QA team are doing test of this service and finding bug. if they find any bug they will send to us for bug fixing. We will fix the bug and send this to QA team again. After QA confirmation It will send to UAT testing.

After passing the UAT this service will be go in live.

3.4.6 ER Diagram

This project is a sub service of PayWell. I use PayWell main database for this service. I need to add some table in database. Figure 3.4.6.1 have a ER diagram of this service. Its show the basic relationship between bus ticketing service and PayWell retailer.

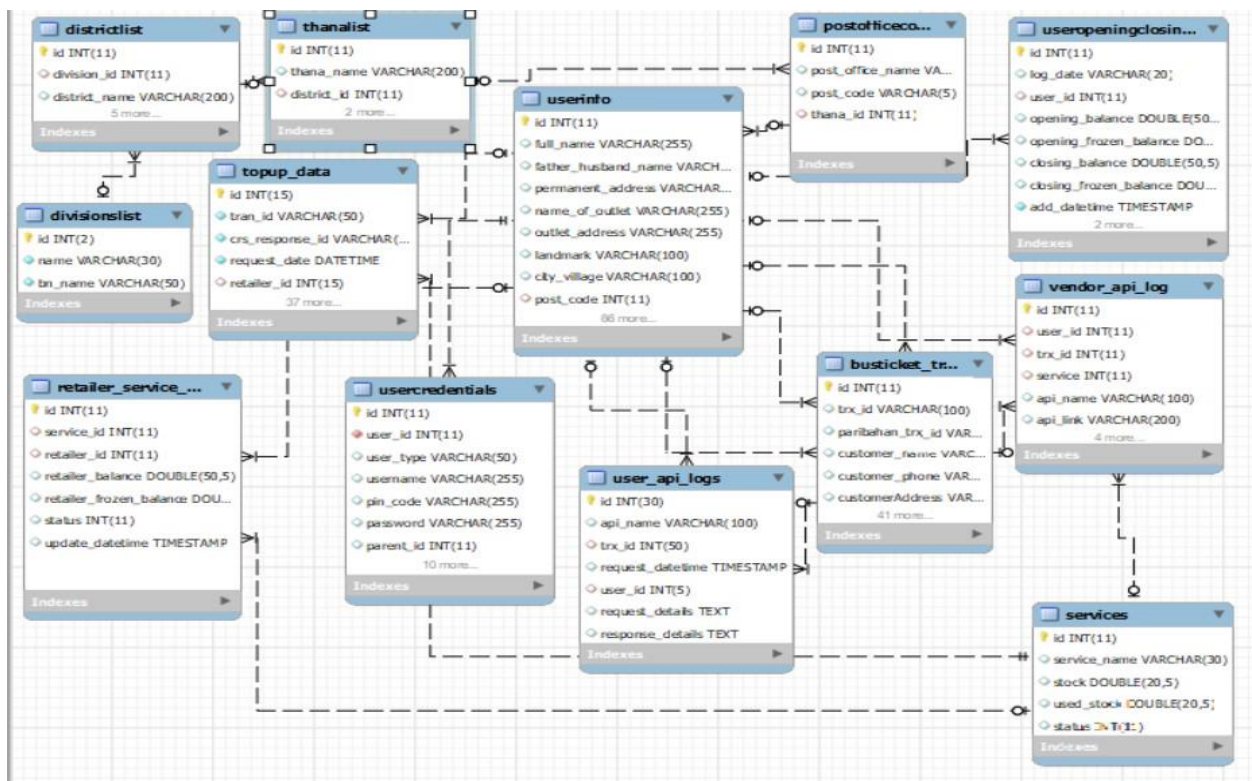


Fig 3.12: ER diagram of bus ticket service

http://agentapi.paywellonline.com/PaywellParibahanService/getBusListData

POST https://agentapi.paywellonline.com/PaywellParibahanService/getBusListData

Params Authorization Headers (11) Body Pre-request Script Tests Settings

none form-data x-www-form-urlencoded raw binary GraphQL BETA

KEY	VALUE	DESCRIPTION
<input checked="" type="checkbox"/> username	xxxxxx	
<input checked="" type="checkbox"/> skey	tUDaYHLQkH0XE5iwFeNRY3LGaC96VuNEYQdt6jE7V7DGxX3Bf0Pfw...	
Key	Value	Description

Body Cookies (1) Headers (10) Test Results Status: 200 OK Time: 2.21s Size: 556 B Save Response

Pretty Raw Preview Visualize BETA JSON

```

1 {
2   "status": 200,
3   "message": "Successful",
4   "accessKey": "N0P5X3wPRYnIvM6E1nTwmFUbpmZx69tqpmxzyVg",
5   "data": {
6     "status": 1,
7     "data": [
8       {
9         "busid": "37",
10        "busname": "Green Line",
11        "extraCharge": "20"
12      }
13    ]
14  }
15 }

```

Fig 3.14: Bus List API

http://agentapi.paywellonline.com/PaywellParibahanService/getBusSchedule

POST https://agentapi.paywellonline.com/PaywellParibahanService/getBusSchedule

Params Authorization Headers (11) Body Pre-request Script Tests Settings

none form-data x-www-form-urlencoded raw binary GraphQL BETA

KEY	VALUE	DESCRIPTION
<input checked="" type="checkbox"/> transport_id	37	
<input checked="" type="checkbox"/> skey	tUDaYHLQkH0XE5iwFeNRY3LGaC96VuNEYQdt6jE7V7DGxX3Bf0Pfw...	
<input checked="" type="checkbox"/> accessKey	7NcBYtL4kJMgbrjWNoG1iK5j5gNvQpXrj5IHijrC	
<input checked="" type="checkbox"/> username	cwntcl	
Key	Value	Description

Body Cookies (1) Headers (10) Test Results Status: 200 OK Time: 8.49s Size: 77.79 KB Save Response

Pretty Raw Preview Visualize BETA JSON

```

1 {
2   "status": 200,
3   "message": "Successful",
4   "data": {
5     "bus_info": { ...
286   },
287   "schedule_info": { ...
6274  },
6275   "transport_info": { ...
6278  }
6279  }
6280 }

```

Fig 3.15: Bus schedule API

CHAPTER 4

PROFESSIONAL GROWTH

4.1 Technologies and Tools I Learned

The team I had been assigned for internship they are works in windows platform for their development. Therefore, most of the things that I have been learned are Microsoft technologies or Microsoft supported technology.

In Bangladesh, pirated culture has been very popular for everyone. Most of us are used pirated or limited versions of Microsoft software and technologies and other software as well.

4.2 Tool

Using Programing tools make a development easier and fister. In my internship at CloudWell Limited, I have used the following tools in my daily works.

- ❖ SQLyog
- ❖ FileZilla
- ❖ cPanel
- ❖ Sublime Text
- ❖ Postman

4.3 Technology

I have learned the following technology in my internship period.

- ❖ PHP
- ❖ MYSQL
- ❖ MVC Pattern
- ❖ Codeigniter framework

- ❖ GWT token

4.4 Professional Learning

The internship program has increased my knowledge about software development and good practice of coding. I learn some new think by this internship

- ❖ PHP
- ❖ MYSQL
- ❖ MVC Pattern
- ❖ Codeigniter framework
- ❖ GWT token
- ❖ Basic concept of LINUX server

4.5 No bullying and blaming

As we know that software development is always a team work. When there is a teamwork, misunderstanding is very natural on there. This is also true for Cloudwell Limited too. However, I have always seen that, everyone on their working under the supervision of their team leaders and their project managers.

Personally, I had make a lot of mistakes on my assigned task in last four months. But my project manager had never been harsh with me.

As doing internship here I observed that this practice is really effective. It is effective to keep the work environment healthy. Blaming others for their mistakes is not a good practice. It cannot be solving the problem. It can only make the situation worse. It also makes the relationship between coworkers worse.

CHAPTER 5

CONCLUSION

At last I can say that this internship program helped me a lot to gain important knowledge on software industry. I learned about software industry culture and their work environment also. I learned about software development life cycle and good practice of coding pattern.

I got opportunity to participate in weekly team meeting without CTO, project manager and other team. They did discuss on the threats of the projects and how to solve their problem. This discussion always helped me to learning about real life threats and their solution in a software.

At the same time, it helped me learning the software life cycle used in software industry.

I learn and adapt lot of thing by doing this internship program. It has increased my teamwork capabilities. It also helps me to respect to the teammates ideas and suggestions. CloudWell team do brainstorming sessions every day. It helped me to identify and solve problem issues which would have been impossible to solve otherwise.

Overall I can say that, I increased my programming knowledge and also I become confident that I can work on this field now.

REFERENCE

- [1] CloudWell Limited information, Available at: <https://www.paywellonline.com>, Last Access Date: September 24, 2019
- [2] CloudWell Limited and PayWell service information, Available at: <http://www.cloudwell.co/>, Last Access Date: September 30 2019
- [3] Report Panel, Available at: <https://report.paywellonline.com/login.php>, Last Access Date: September 25, 2019
- [4] RESTful API concept, Available at: <https://www.restapitutorial.com/>, Last Access Date: October 28, 2019
- [5] Codeigniter, Available at: <https://codeigniter.com/>, Last Access Date: October 28 2019
- [6] MYSQL Stored Procedure, Available at: <http://www.mysqltutorial.org/mysql-stored-proceduretutorial.aspx>, Last Access Date: October 28 2019

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