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

## Senior Design Project

# SIP: A Productive & Mobile Friendly Asset Management Web Application

**Rabbani Rasha** **ID # 1310972042**

**K.M. Ehtesamuddin** **ID # 1321741043**

**Marjana Binte Mazid** **ID # 1420791042**

Faculty Advisor:

Dr. Mohammad Monirujjaman Khan

Assistant Professor

ECE Department

Fall, 2018

# LETTER OF TRANSMITTAL

January, 2019

To

Dr. Shazzad Hosain

Chairman,

Department of Electrical and Computer Engineering

North South University, Dhaka

Subject: **Submission of Capstone Project on "SIP: A Productive & Mobile Friendly Asset Management Web Application"**

Dear Sir,

With due respect, we would like to submit our **Capstone Project Report** on **"SIP: A Productive & Mobile Friendly Asset Management Web Application"** as a part of our BSc program. The report deals with a web app implementation of a popular asset management scheme called Systematic Investment Plan. This project was very much valuable to us as it helped us gain experience from practical field and apply in real life. We tried to the maximum competence to meet all the dimensions required from this report.

We will be highly obliged if you kindly receive this report and provide your valuable judgment. It would be our immense pleasure if you find this report useful and informative to have an apparent perspective on the issue.

Sincerely Yours,

.....
Rabbani Rasha
ECE Department
North South University, Bangladesh

.....
K. M. Ehtesamuddin
ECE Department
North South University, Bangladesh

.....
Marzana Binte Mazid
ECE Department
North South University, Bangladesh

# APPROVAL

Rabbani Rasha (ID # 1310972042), K.M. Ehtesamuddin (ID # 1321741043) and Marzana Binte Mazid (ID # 1420791042) from Electrical and Computer Engineering Department of North South University, have worked on the Senior Design Project titled "SIP: A Productive & Mobile Friendly Asset Management Web Application" under the supervision of Dr. Mohammad Monirujjaman Khan for the partial fulfillment of requirement for the degree of Bachelors of Science in Engineering and has been accepted as satisfactory.

**Supervisor's Signature**

…….

**Dr. Mohammad Monirujjaman Khan**

**Assistant Professor**

Department of Electrical Engineering & Computer Science

North South University

Dhaka, Bangladesh.

**Chairman's Signature**

…….

**Dr. Shazzad Hosain**

**Associate Professor**

Department of Electrical Engineering & Computer Science

North South University

Dhaka, Bangladesh.

# DECLARATION

This is to certify that this Project is our original work. No part of this work has been submitted elsewhere partially or fully for the award of any other degree or diploma. Any material reproduced in this project has been properly acknowledged.

Students' names & Signatures

**1. Rabbani Rasha**

_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

**2. K. M. Ehtesamuddin**

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**3. Marzana Binte Mazid**

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# ACKNOWLEDGEMENT

By kindness of the Almighty we have successfully completed our senior design project entitled "SIP: A Productive & Mobile Friendly Asset Management Web Application"

Our deep gratitude goes first to my faculty advisor Dr. Mohammad Monirujjaman Khan, who expertly guided us in our senior design project throughout the whole CSE499A and CSE499B. His guidance helped us in all type of research, writings and completing the project.

Our sincere thanks to North South University, Dhaka, Bangladesh for giving us such a platform where we can have an industrial level experience as a part of our academics.

We would also like to thank our contributors, supporters, well-wishers and respondents of survey for helping us in this project.

Last but not the least, we would like to thank our family as their inspiration and guidance kept us focused and motivated.

# Abstract

In the investment market, Systematic Investment Plan, or SIP in short, is a method for investing in mutual funds. This paper describes an online, mobile-friendly web application we developed which is a modern approach to simplify the process of investing in a mutual fund through SIP via an asset management or hedge fund company that allows users to conveniently engage with and know more of their precious investments and have more control over them. On the application, a user can register as investor by inputting relevant personal and monetary information to sign-up for an account and then sign into user dashboard where all the required information is shown and the user can interact to make actions like carrying out transactions, reviewing plan, and editing profile, to name a few.

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# Chapter 1
# Overview

## 1.1 Introduction

A mutual fund is a trust that pools the savings of a number of investors who share common financial goal. The money thus collected is then invested in sectors like financial institutions and the capital market such as bank deposits, shares, debentures and other securities. The income earned through these investments and the capital appreciation realized is shared by its unit holders in proportion to the number of units owned by them [1]. Each unit has a price called Net Asset Value (NAV), which is the current market value of a fund's holdings, usually expressed as a per-share amount [2]. The plan of investing the same amount of money every month over an extended period of time regardless of whether the market is up or down is known as Systematic Investment Plan (SIP), which is quickly becoming a common term in the investment market. For many investors, SIP is the best way to invest in mutual funds. Compared to other methods like lump sum, which is a one-time investment, SIP, which is a recurring investment, that is, investment is regularly made (like every month or year) offers the following benefits, even if the amounts to be invested are small:

- There is no need to time the markets as investment is done at predetermined intervals. This saves from investing a lump sum amount at peak prices.
- Since fixed sums at regular intervals are invested, more units are picked up when the prices are low and less units when the prices are high. This brings down the average cost of units.
- A Systematic Investment Plan renders the power of compounding, especially if SIP is adopted early in life.
- SIPs inculcate the savings habit in investors. On a regular basis, affordable sums of money are put aside and without realizing it, over the long run, great wealth can be amassed.

- It is a hassle-free mode of investment since standing instructions for the regular transfers of money into SIP can be issued.
- SIP serves as a great financial tool to counter inflation [3].

## 1.2 Project Description

We developed a cloud-based mobile friendly and responsive web application solution that can be used by an Asset Management Company to simplify the process of registering and managing portfolio of Systematic Investment Plan so that investors will be able to conveniently carry out all the essential activities related to Systematic Investment Plan, anywhere as long as they are connected online.

## 1.3 Purpose Of The Project

Despite the advantages, SIP is still not well-known in our country Bangladesh and therefore most people here tend to deposit money in saving accounts of banks, which gives lower return rates. Interest rates on all types of deposit schemes in state banks are between 3 and 6 percent [4], while SIP return rates vary between 10 and 23 percent [5]. Even if people choose to invest through SIP, they need to initially fill up form to register, and go to bank to write a check and hand it to asset manager at regular intervals, which is troublesome.

Michael Larson, a businessman, is the asset manager and Chief Investment Officer of Bill Gates [6]. Gates has been included in the Forbes The World's Billionaires list and was the wealthiest from 1995 to 1996, 1998 to 2007, 2009, and has been since 2014 [7]. This means Larson was responsible for all the fortune made by Gates. Taking inspiration from this, if people in our country can conveniently get their asset managed, they will not need to be tensed about their investment.

## 1.4 Project Goal

There is an increasing number of people wanting to make lots of money with less investment. More and more people are asking on social media about where to invest their precious money. Besides, with the advent of e-commerce, people want services to be as trouble-free as possible.

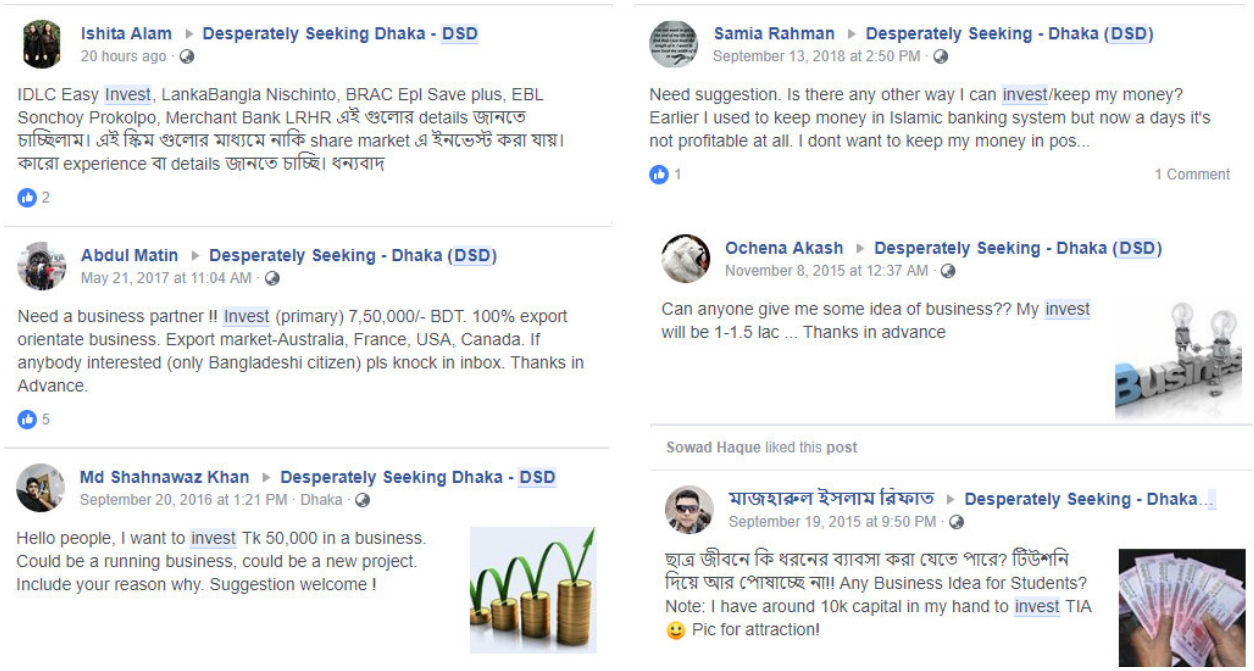



Fig. 1.1. People flooding Facebook, a social media, for investment ideas

Therefore, we have few goals set initially which we achieved success upon completing the project. We tried our hard best to achieve the goals while upgrading the system when needed. We came up with new and more improved plans for the betterment of the system. Goals are mentioned below,

- Interface as simple, minimalistic, fast and fluid as possible.
- Omitting paperwork as much as possible.

- Registration as a customer should be easy.
- Interface should adapt to any device that accesses it, be it smartphone, tablet or desktop.
- Learning curve of the software application as users should be as less as possible.
- The software application should incorporate latest trend and technologies.
- Carrying out all tasks should be a breeze.
- Asset manager should easily administrate all the actions.

## 1.5 Summary

In this chapter, we discussed the importance and the goals of our project. In our society, people want to make more money in less time by investing small amount of money. By registering to Systematic Investment Plan, people should be able to reach that objective. Added to that, if there is a software application that can help them to do it, people will very well get benefitted from it. Especially in developing countries and for professions that gives monthly salaries, SIP web app is amazingly beneficial to grow investors' money exponentially and return immense wealth compared to other methods.

# Chapter 2
# Existing Systems

## 2.1 Introduction

The proposed system consists of a Progressive Web App (PWA) for users and an admin panel for asset manager, backed by same central database. PWAs leverage the latest web capabilities to deliver experience that combines the features of traditional native mobile apps with the advantages of the web. PWA has distinctive advantages over native app:

- Connection-independent availability: The interface is always available no matter whether the host is connected to the internet.
- Fast load times: PWA can be launched and perform faster than even native app regardless of the speed of the connection.
- Push Notifications: PWA can send notifications that are shown on notification panel of device just like a native app [19]
- More secure: PWA are not in control of all the hardware of device unlike native app.
- Easier development: Native apps are designed especially for one platform, like iOS or Android. Sometimes these apps even cannot maintain compatibility to all the target devices. On the other hand, PWAs can be developed easily for all platforms at once [20].

The web app is account based so that interested people can register their own account and log in to add a SIP scheme, or more schemes (by clicking the '+' button on the interface). Information of corresponding mutual fund, like number of units, NAV, total value, etc. of every scheme added, and also other important information, like aggregate units and value of all schemes, is shown on the home page. The profile page shows all the personal information of the user that was entered during registration. The expected amount to be redeemed after a given time (in years) can be predicted on

the return predictor page. Every scheme added is assigned a registration number and added to the user's portfolio where detailed information of corresponding mutual fund can be viewed.

## 2.2 Similar Existing Systems

There are research papers that studied Systematic Investment Plan but there are no web apps that are related to it, although there are mobile apps based on Android Operating System.

*A. The Scenario of Investment in Systematic Investment Plan (SIP) among the Retail Customers*

This related paper attempts to analyze the growth of mutual fund industry and aims to understand the concept of investment plan in mutual fund, study the benefits of SIP, find out the preference of the investors for Asset Management Companies, know why one has invested or not invested in mutual fund, and find out what should be done to boost the mutual fund industry [6].

*B. Mutual Funds and Systematic Investment Plans with their Best Performing Funds*

This related paper explains terms related to SIP such as mutual funds and its different types, and net asset value (NAV). It also concludes that the future of Mutual Funds in India has lot of positive things to offer to its investors [7].

*C. A study on awareness of investment opportunities in mutual funds - special Significance on SIP*

This related paper studies the level of awareness about SIP, source of information and factors influencing decision making. It recommends that investment should be started early & systematically [8].

*D. Mutual Fund Mobile Applications*

There are applications (apps) for Android and iOS that can make investment into Mutual Funds, SIP, buy/sell units, switch among various mutual fund schemes with various mutual fund

asset management companies, and view all the investments. Examples include MyCams, GoMF,KTrack, InvesTap, etc [9].

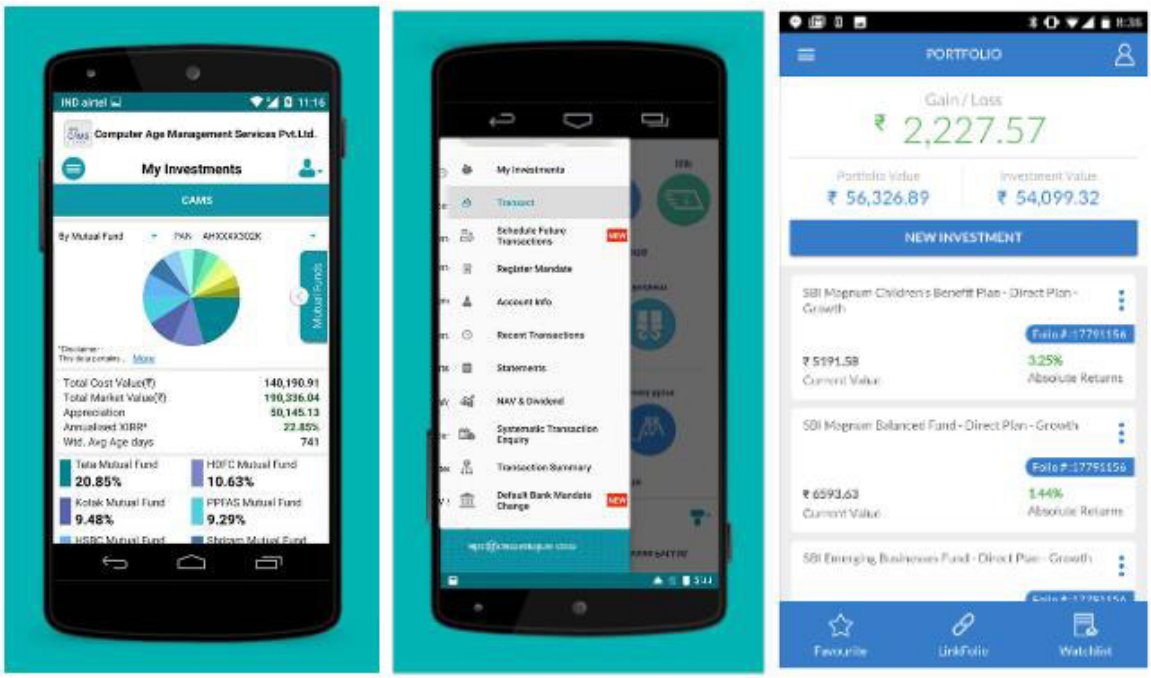



Fig. 2.1. Asset Management Android Apps available on Play Store

## 2.3 Summary

In this chapter, we discussed about the similar systems that are being studied before or that are already existing in the society. There are various kinds of apps for smartphones especially android phones, but they are available only for a certain region outside our country. Plus, there is no app that can also be displayed on other platforms and form factors like desktops and laptops. All the related works seen are mostly theoretical study about the prospect of Systematic Investment Plan.

# Chapter 3
# System Design

## 3.1 Introduction

This system is designed to make people easily and conveniently make money from anywhere anytime online via Systematic Investment Plan. People will be able to pay regular installments electronically for their schemes and monitor their investment and after a certain tenure, redeem the investment value. If the unit price (NAV) decreases, units are bought for them at a discounted price and given to them by the asset manager and when the unit price increases, units are taken from them and sold at regular price. In addition, dividends are awarded to them at the end of every year. Such features make the system the first of its type and purpose.

## 3.2 System description

The system is divided into two parts. They are the Customer Interface (web app) for investors and Admin Panel for asset manager. Both the parts are described in details below:

### 3.2.1 Customer Interface (Web app)

This part consists of a minimalistic and responsive interface. Here, customers can select the mutual fund they want to invest in, set the amount of installment they will to give per month and add the scheme to their portfolio. The interface is made up of navigation drawer, cards and buttons. Customers can view all important information of their schemes neatly, like return rate, units, unit price and resultant price of every mutual fund invested, the total value and number of all the schemes, deposit and investment amount, etc. They can view their profile page and also edit their profile to modify the credentials they entered during registration. Details of each scheme can be viewed in the portfolio page and expected investment value (redemption value) can be calculated by entering current balance, return rate and tenure as inputs by using the built-in return predictor.

### 3.2.2 Admin Panel

It consists of controls for selecting a mutual fund and carrying out operations for customers investing in that mutual fund, like buying or selling units for customers and update the unit price and face value at regular intervals, so buying and selling can be done when the unit price is suitable. It also consists of controls to select the registration number of a scheme of a customer and carry out operations like viewing the associated customer details, date the scheme was added, acknowledge (confirm) the installment paid electronically or manually by customer so that the amount is credited to the customer's scheme upon verification of relevant transaction number, and return annual dividend that gets added to capital gains.

## 3.3 System Design

In this section, total block diagram of the system including all the subsystems shown in fig. 3.1. We have designed the system in such a way that makes it the first-of-its-kind from all other available systems. Fig. 3.1. explains in brief how the system works at a complete level.

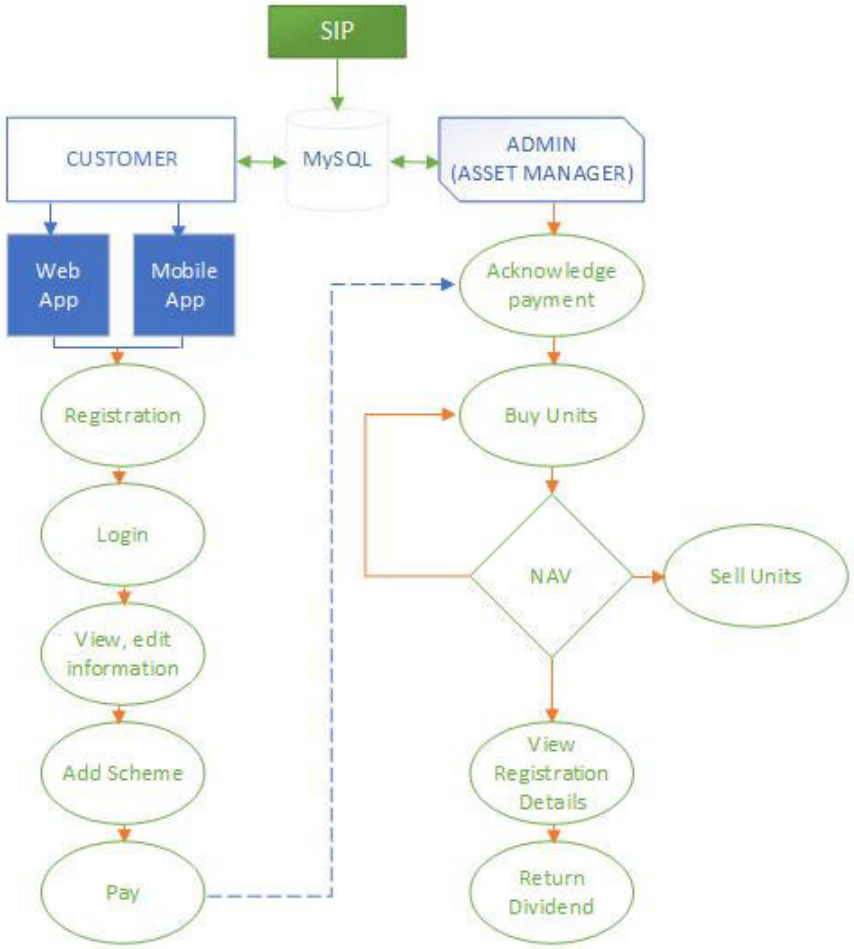
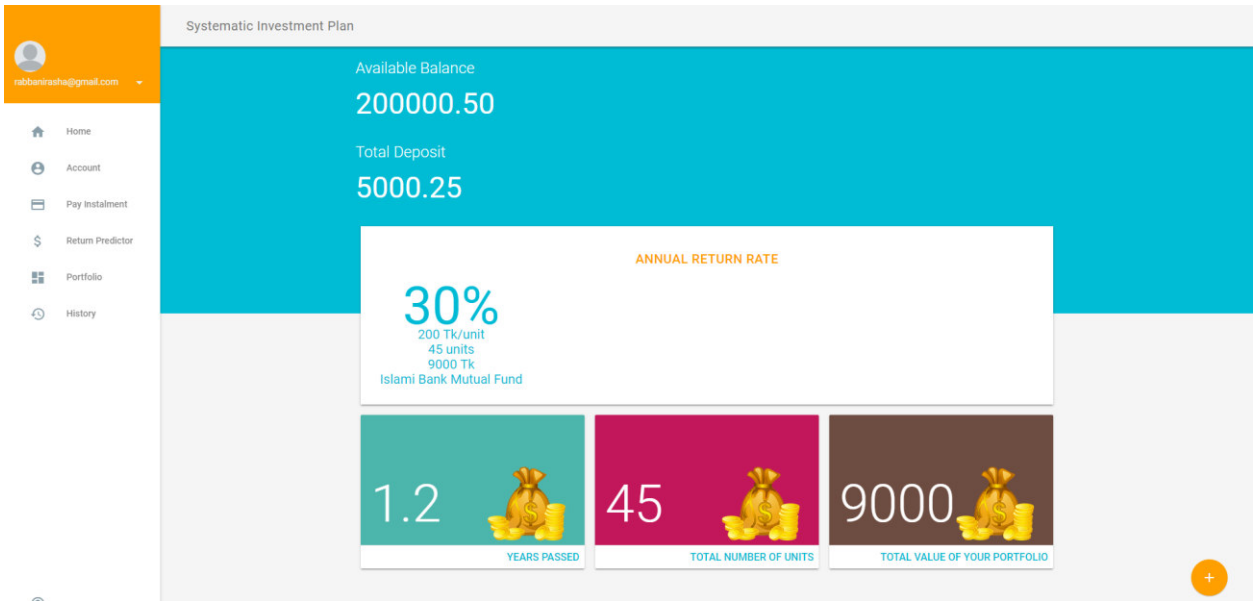


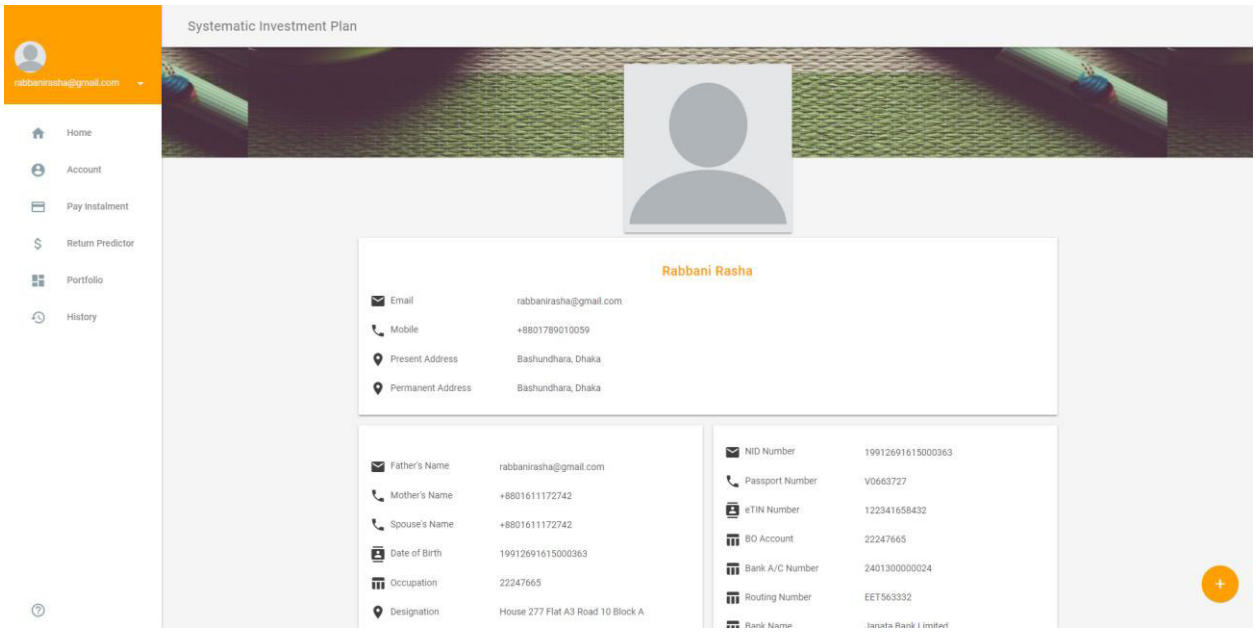

Fig. 3.1. Complete design of the system

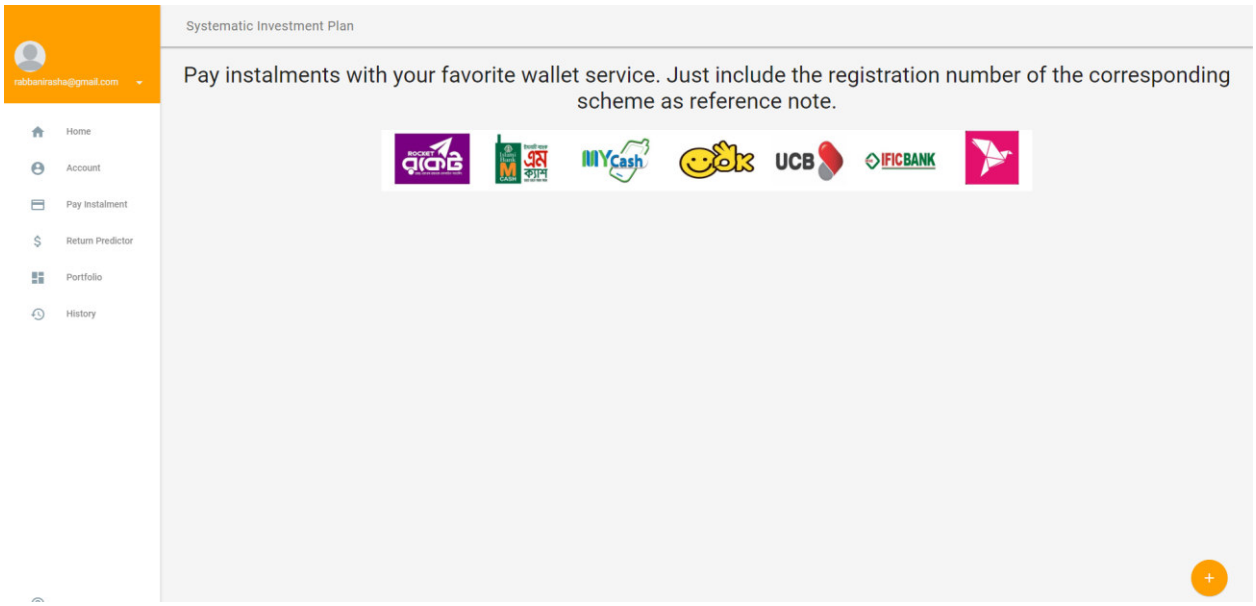
### 3.3.1 Customer Interface (Web App)

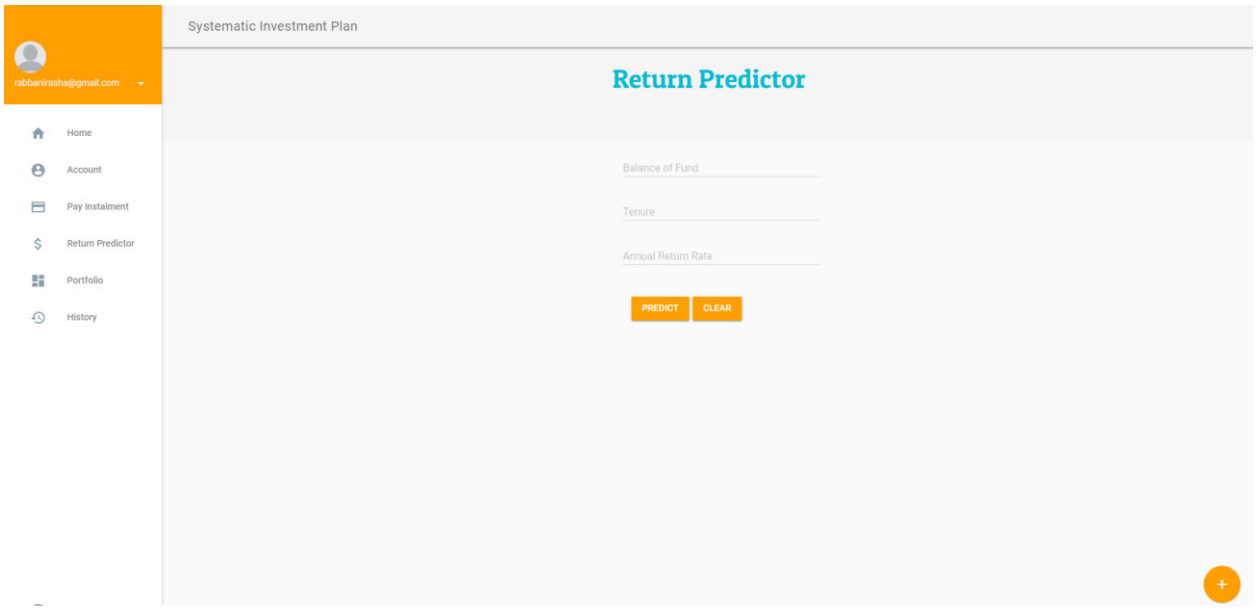
The Customer Interface contains Home page – where all useful information is seen at a glance, like details of every scheme invested; Profile page – where a customer can see her personal information, like telephone, address, bank account, etc.; Return Predictor page – where customer can calculate how much money is to be expected after a certain tenure as redemption; Installation Payment page – where customer can get information about how to pay installment; Portfolio page – where customer can see details of each scheme the customer invested in; and Transaction History page – where a row is logged with the name of fund, number of its units, and date of buy/sell every

time the asset manager buys or sells units for them. Adding scheme is done by pressing a floating '+' button that is always on top.




rabbanirasha@gmail.com
Home
Account
Pay Instalment
Return Predictor
Portfolio
History
Systematic Investment Plan
Pay instalments with your favorite wallet service. Just include the registration number of the corresponding scheme as reference note.
UCB
IFICBANK


rabbanirasha@gmail.com
Home
Account
Pay Instalment
Return Predictor
Portfolio
History
Systematic Investment Plan
Return Predictor
Balance of Fund
Tenure
Annual Return Rate
PREDICT
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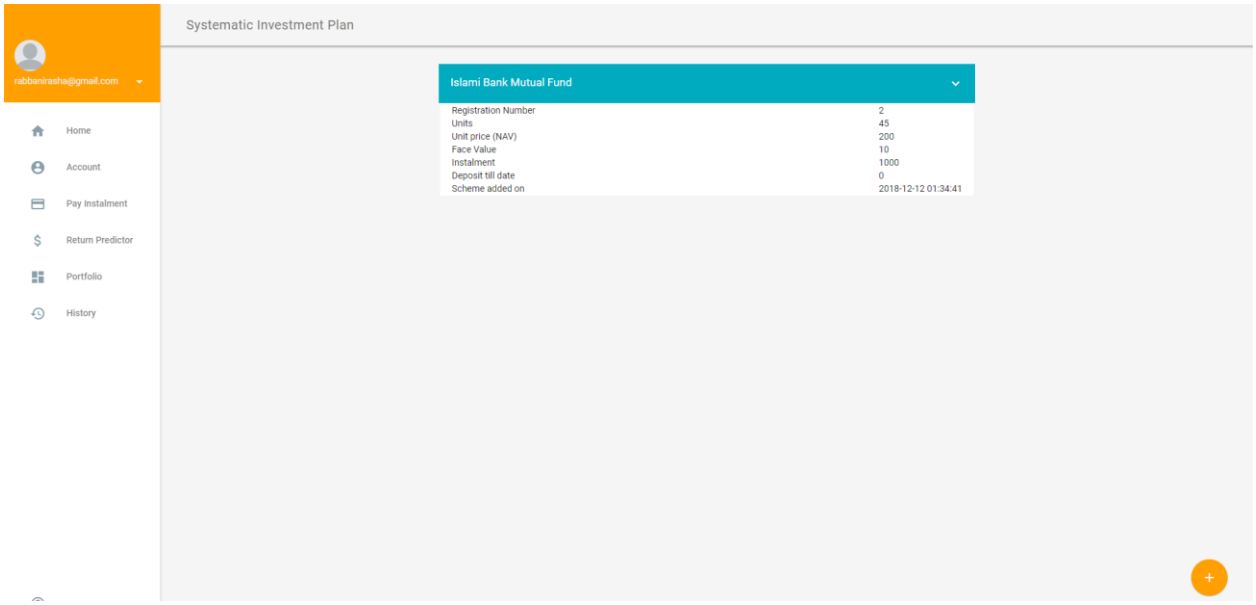


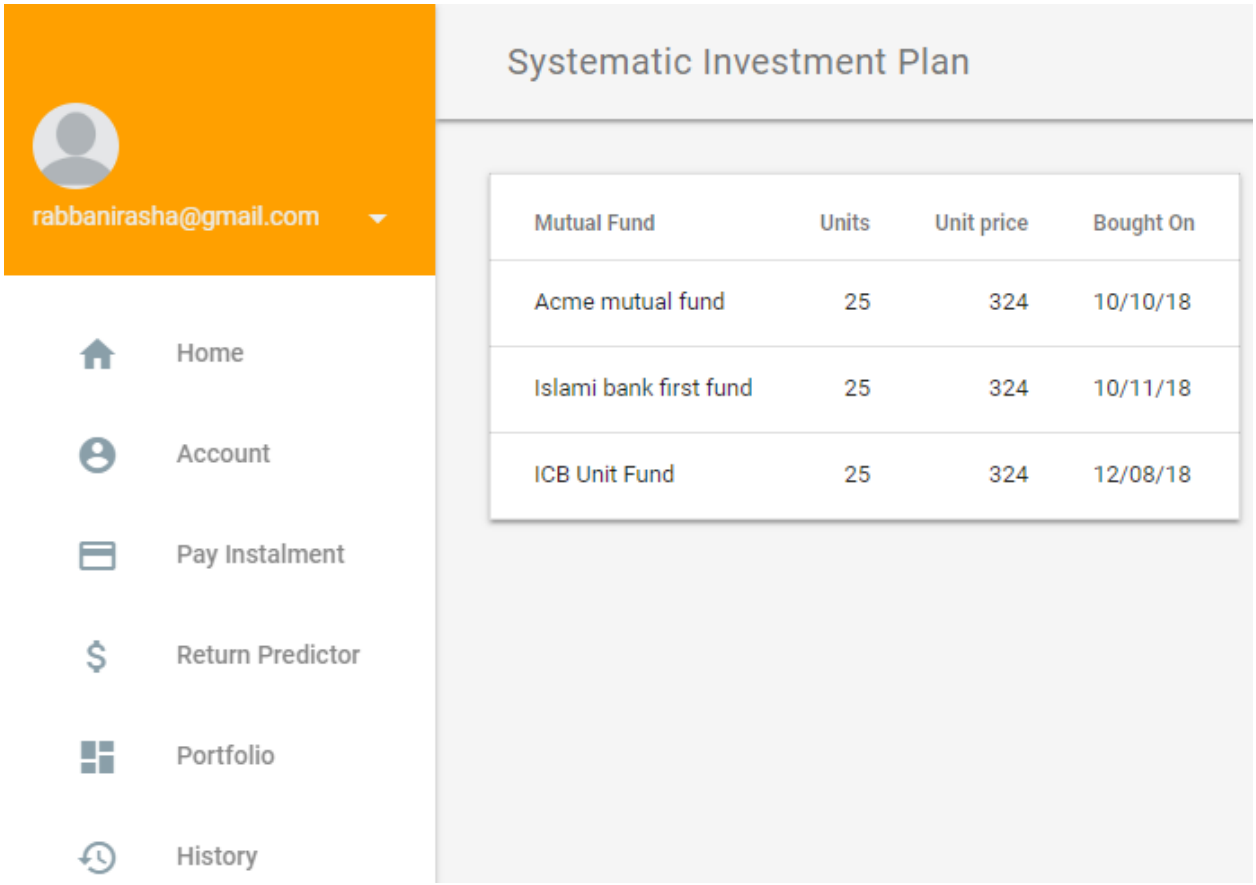




Fig 3.2 the Web App (Customer Interface)

### 3.3.2 Admin Panel

The admin panel (only accessible from the login page if system detects user is admin) contains a form of input boxes, combo box and buttons to input data and carry out administrative operations like buying or selling units for customers and update the unit price and face value at regular intervals, so buying and selling can be done when the unit price is suitable, select the registration number of a scheme of a customer and carry out operations like viewing the associated customer details, date the scheme was added, acknowledge (confirm) the installment paid electronically or manually by customer so that the amount is credited to the customer's scheme upon verification of relevant transaction number, and return annual dividend that gets added to capital gains. When the data is updated, the backend central database in the server also gets updated and the new values (e.g. unit price) are replaced with the old values on the customer interface, which results in the change of value of other parameters on the interface that are associated with it, like name of mutual fund, total value, resultant price, etc. If the asset manager needs to add/delete account and update other information and tasks not included in the Admin Panel then she can access the mySQL database with relevant credentials.

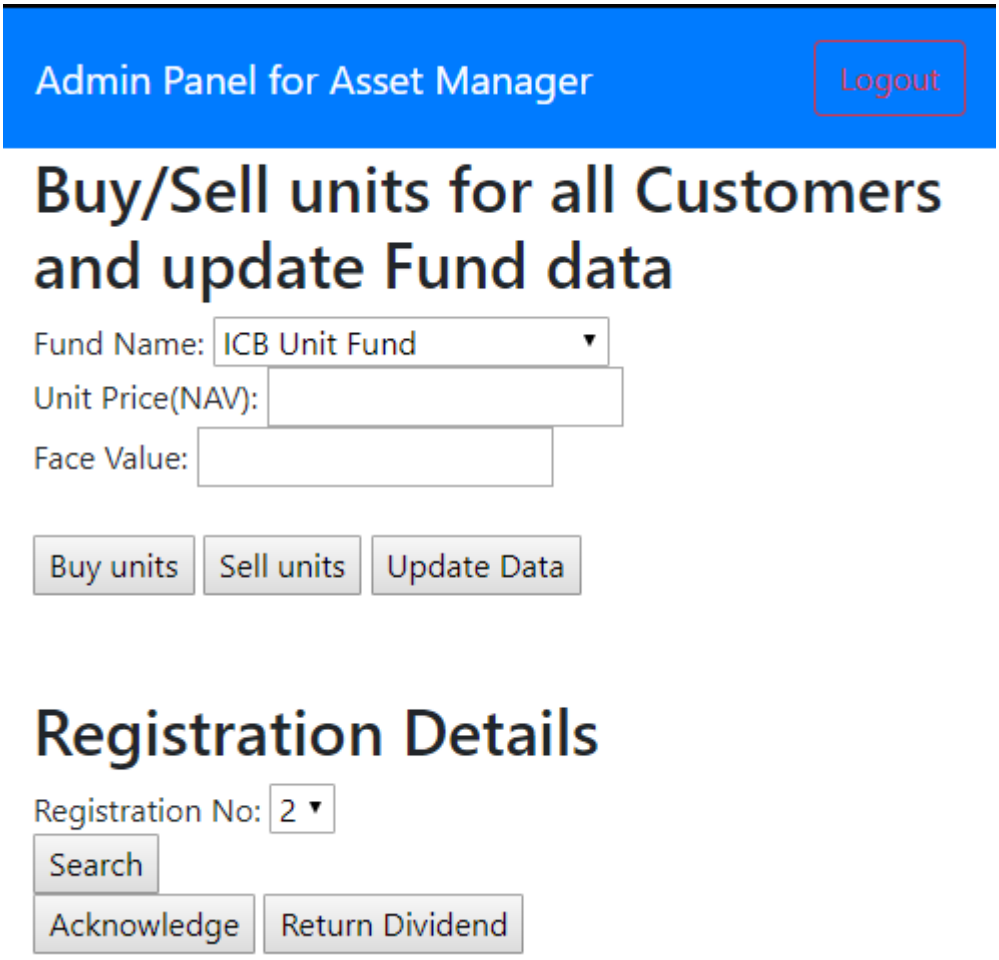
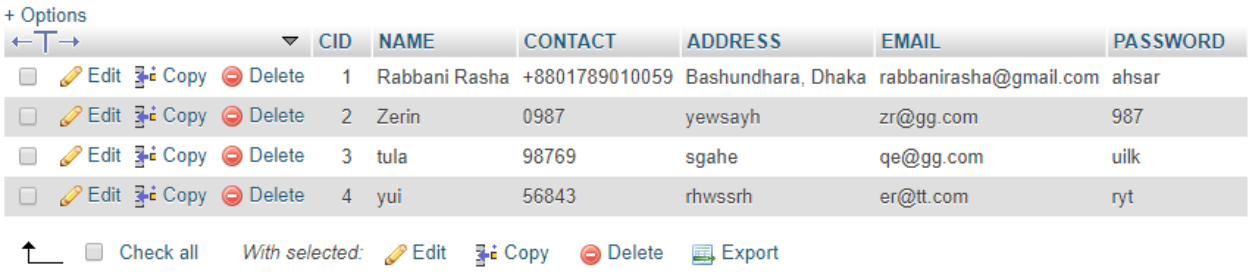
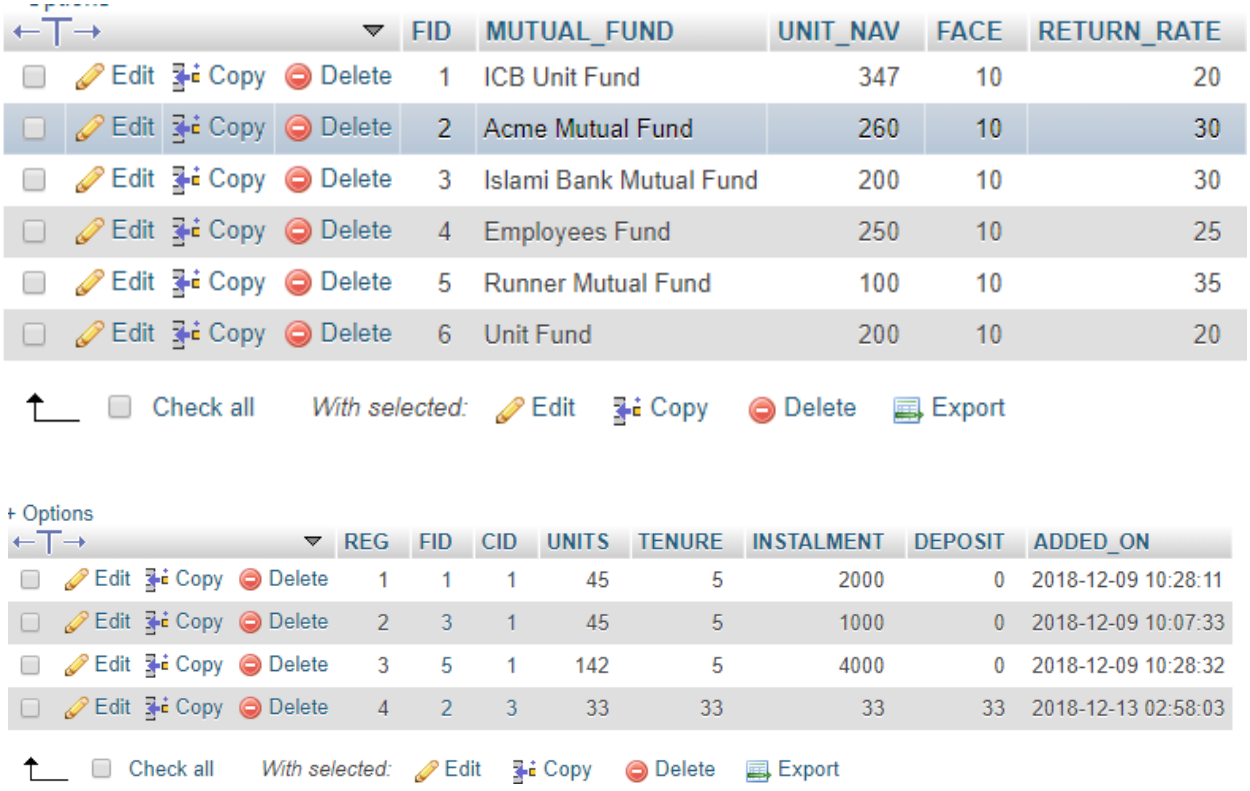



Fig. 3.3. The Admin Panel





| | FID | MUTUAL_FUND | UNIT_NAV | FACE | RETURN_RATE |
|---|---|---|---|---|---|
| Edit Copy Delete | 1 | ICB Unit Fund | 347 | 10 | 20 |
| Edit Copy Delete | 2 | Acme Mutual Fund | 260 | 10 | 30 |
| Edit Copy Delete | 3 | Islami Bank Mutual Fund | 200 | 10 | 30 |
| Edit Copy Delete | 4 | Employees Fund | 250 | 10 | 25 |
| Edit Copy Delete | 5 | Runner Mutual Fund | 100 | 10 | 35 |
| Edit Copy Delete | 6 | Unit Fund | 200 | 10 | 20 |

Check all *With selected:* Edit Copy Delete Export

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| Edit Copy Delete | 2 | 3 | 1 | 45 | 5 | 1000 | 0 | 2018-12-09 10:07:33 |
| Edit Copy Delete | 3 | 5 | 1 | 142 | 5 | 4000 | 0 | 2018-12-09 10:28:32 |
| Edit Copy Delete | 4 | 2 | 3 | 33 | 33 | 33 | 33 | 2018-12-13 02:58:03 |

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Fig. 3.4. The Customers, Available Mutual Funds, and All Portfolio tables of database

## 3.4 Summary

In this chapter, we have discussed how the main parts of the system works for a better understanding of the system. The system is designed into two main parts, the customer interface and Admin Panel. We have discussed both the parts of the system in this chapter. The customer panel should be able to interact very friendly with the customer on whatever device she is on. This internal part consists of few features, which enables the customer to get the maximum service from her investment. The Admin Panel is designed for Asset Manager. It contains all the controls needed to provided operations that are usually done by the asset manager. Whatever the asset manager does is updated on the customer interface via the backend MySQL database in the central server.

# Chapter 4
# Technical Description

## 4.1 Introduction

In this chapter, we will discuss about the components used for technical functions of this project. The technical description of our project will be discussed in this section. As our project comes with different types of features, we will discuss them one by one along with their roles in this project.

## 4.2 System Description

The entire multi-level system is developed by using several tools and technologies which supports the project to be useful in all aspects. The tools and technologies are described below for the better understanding of the project:

### 4.2.1 Hypertext Markup Language (HTML)

HTML can be viewed as a markup tool or language for crafting web pages or the means of presenting data on the same. The markup is carried out by means of tags. It is also the way for interacting with the Internet browser about how the data should be represented in the web page [10].

### 4.2.2 Cascading Style Sheets (CSS)

Cascading Style Sheets (CSS) is a language designed for describing the appearance of documents written in a markup language such as HTML. With CSS, for example, the color of text, the style of fonts, paragraph spacing, background images, etc. can be controlled [11].

### 4.2.3 Hypertext Preprocessor (PHP)

PHP is a widely-used open source general-purpose scripting language that is especially suited for web development and can be embedded into HTML. The PHP code is executed on the server, generating HTML which is then sent to the client [12].

### 4.2.4 JavaScript

JavaScript is a dynamic computer programming language. It is lightweight and most commonly used as a part of web pages, whose implementations allow client-side script to interact with the user and make dynamic pages. It is an interpreted programming language with object-oriented capabilities that allows to build interactivity into otherwise static HTML pages [13].

### 4.2.5 MySQL

MySQL is a relational database management system (RDBMS) based on Structured Query Language (SQL). The core of MySQL is MySQL server, which handles all of the database instructions [14].

### 4.2.6 jQuery

jQuery is a concise and fast JavaScript library that can be used to simplify event handling, HTML document traversing, and animation for faster website development. jQuery simplifies the HTML's client-side scripting, thus simplifying the development of web applications [15].

### 4.2.7 Asynchronous JavaScript and XML (AJAX)

AJAX is a technique for creating better, faster, and more interactive web applications with the help of XML, HTML, CSS, and Java Script [16].

### 4.2.8 Service Worker

A service worker is a script that the browser runs in the background, separate from a web page, supporting features that don't need a web page or user interaction, such as push notifications & allows support for offline experiences [17].

## 4.3 Summary

In this chapter, we have discussed the components, their features and how they have played vital roles respectively to make the project a perfect one. We have discussed every single component and their reasons for using. We have discussed about the tools and technologies used to implement and design the frontend customer interface, Admin Panel and backend database. We have used reasonable components and that is the most interesting part of the project.

# Chapter 5
# Design Implementation

## 5.1 Introduction

In this chapter, we will discuss about the design of the technical functions of the project. Implementation is the action that must follow any preliminary thinking in order for something to actually happen. Our project features required perfect design implementation in order to run in harmony with other features. We have discussed the entire design implementation in this part.

## 5.2 List of software & hardware requirements for the system

- HTML 5 compatible browser of the latest version. Google Chrome is preferred.
- Operating System: Any (Windows 7, 8, 10, MacOS Sierra, Mojave, Android, iOS etc.)
- Processor: Any processor from Intel, AMD, ARM like Snapdragon, Exynos, Kirin, etc.
- Memory: 1 GB (Minimum)
- Storage: 8 GB (Minimum)
- Internet Connection: Required (3G/4G Data, or Wi-Fi)
- Server for hosting application data and MySQL: any decent specifications, recommended are:
    - Processor: Intel Xeon
    - Operating System: Windows Server or Red Hat Linux
    - Memory: 128 GB
    - Storage: 5 TB
    - CPanel Server Management Software
    - XAMPP
    - Internet Connection: Required
    - Run-time: 24/7

## 5.3 Principle of operation

The system has some principles for working properly and they are described below:

When a user (investor) pays an installment through a mobile banking system, the user sends along the registration number of the respective scheme as reference note. Once the asset manager receives the payment, she acknowledges the installment on the admin panel which adds the installment to available balance. The asset manager usually updates the NAV of all the mutual funds on a regular basis, normally every week. At the time when the NAV decreases or the manager sees fit to purchase units for all the investors of a mutual fund, she selects the mutual fund and buys units at a discounted price [21] on the admin panel during which equivalent units of the fund to the available balance of respective user depending on the current NAV are added to user's account and available balance gets deducted. At the time when the NAV increases or the manager sees fit to sell units of all the investors of a mutual fund, she selects the mutual fund and sells units on the admin panel during which all the units of the fund of respective user are deducted from user's account and available balance gets increased. The equation for this process is:

$$X_N = X_P \pm (NAV \times Units)$$

Where $X_N$ is the new available balance and XP is the previous available balance. The capital gain occurred due to this increase in NAV is compounded every month because nearly all of the balance is used again to buy units every time. Besides, there is also a fixed dividend at the end of year which also gets compounded. Assumed that the dividend percentage (annual return rate) remains the same throughout the tenure, this process follows the compound interest equation:

$$A = P\left(1 + \frac{r}{n}\right)^{nt}$$

Where r is the dividend percentage, P is the value of the scheme (NAV×Units) and n is the number of times the dividend is offered per year, in this case, n = 1.

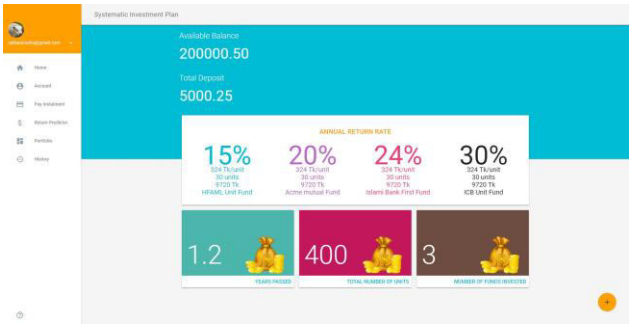


Fig. 5.1 The home page of web app on a Windows PC

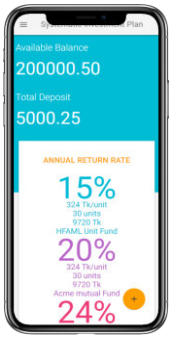


Fig. 5.2 The same home page of web app on an iPhone X

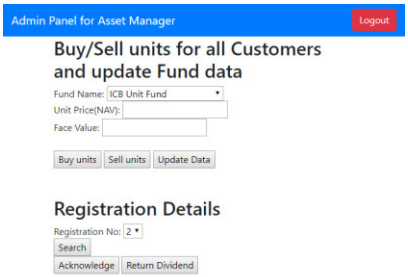


Fig. 5.3. The Admin Panel

To make the interface fluid and smooth like native app, a PHP file loads the contents from the server and a JavaScript file calls the AJAX engine using jQuery to display the loaded content only on the right side of the interface. This means whatever navigation link is clicked on the navigation drawer (the left sidebar), the drawer remains intact while only the content of right-side changes.

## 5.4 Product Features

There are many features of the proposed solution which includes:

- Account System: Customer can sign in to his personalized account and have a quick glance of useful information, like his schemes and its details, profile, etc.
- Return Predictor: Redemption value can be estimated after a given tenure with given return rate and balance (investment amount). This value includes both capital gain and dividend return.
- Adding Scheme: Since a customer can have multiple mutual funds, she can add schemes in her account. The aggregate of the value of each fund/scheme is subject to changes depending on the unit price (NAV) of the fund. Each scheme is identified by asset manager via registration key and is associated with respective customer.
- Admin Panel: This is the page for asset manager which is used to update the information of mutual funds, acknowledge payment, buy/sell units of a mutual fund, and view a user's information and the user's scheme.
- Payment on the go: For now, mobile banking system and Cheque can be used to pay flexible instalments with reference to the intended registration number of the scheme.

Notable features of the backend are:

- Session variables have been used so that most data can be accessed over multiple pages which starts a session (the moment while the user is logged in).

- Loops have been used to retrieve data like the portfolio contents and the data on the upper card of the home page so that less HTML code are required.
- SQL statements have been written to retrieve information from the MySQL database to the respective page. For example, the SQL statement to retrieve data for user portfolio is:

```
SELECT * FROM portfolio,funds WHERE
CID='".$_SESSION["cid"]."' AND
portfolio.FID=funds.FID
```

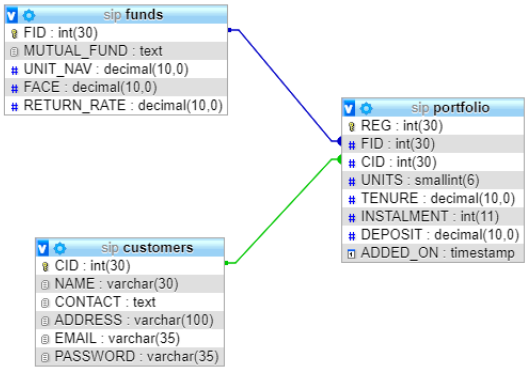


Fig. 5.3. Designer view of the database in MySQL

The tables in the MySQL database are self-explanatory so if needed, the asset manager can access MySQL to view database and update information.

## 5.5 Summary

In this chapter, we have discussed the design of our project and how we achieved it with proper implementation. This process helped us to achieve more than we expected. We have used all types and form factors of devices to run the system. We have merged both the systems for the betterment of the project and also to make it multi leveled system.

# Chapter 6
# Cost of Implementation

## 6.1 Introduction

The components used, their prices and the techniques involved in making the system work are the key factors in making a project work. Initially when we planned our system, we listed down the things which were needed initially and as time passed we added more components to it. Initially we made a costing list along with the components name but later on we could cut cost from our initial costing comparing with different shops where our components were available. We also got few components, which did not last long or were not perfect for the project.

## 6.2 Procurement and Budget

Here is our total cost for procurement and other actions, for the implementation of the project. We tried our best to reduce the cost as much as possible. We are successful to implement our planned system within a limited cost, which adds a great value to the system. Table 6.1 illustrates the name of the required components name, quantity, and the price.

| **Requirements** | **Cost** |
|---|---|
| Computers, Laptop, smartphones | 20000 |
| Consultancy on SRS | 10000 |
| Web App | 20000 |
| Domain Hosting | 10000 |
| Marketing | 100000 |

Table 6.1. Procurement

| | Item Description | Amount (Tk) |
|---|---|---|
| **1.** | SRS (System Requirement Specification) report | 10000 |
| **2.** | Computers, laptops, smart phones | 20000 |
| **3.** | Web based system design and development | 20000 |
| **4.** | Mobile app development for target users | 40000 |
| **5.** | Server procurement/rent | 10000 |
| **6.** | Marketing | 100000 |
| **7.** | Two seminars for awareness building | 10000 |
| **8.** | Final report on effectiveness of the project | 15000 |
| **9.** | Miscellaneous | 30000 |
| | **Total** | **255,000** |

Table 6.2 Budget

## 6.3 Summary

In this chapter we have discussed what was our costing regarding initial plan and the final plan, how we could reduce the costing after research in the local markets to keep a minimum costing for the system.

# Chapter 7
# Results & Analysis

## 7.1 Introduction

In this section, we will talk about the results we obtained, and its analysis. This shows how we obtained our results and what was our findings regarding the project. We will also discuss how we analyzed our project for the betterment of it.

## 7.2 Results & Analysis

After the analysis of our system individually, we have seen the project works perfectly. Which means, we have effectively implemented the prototype of the entire system, which we planned initially. The whole system has two main parts and we combined them to make the system more efficient. In the below figures, it is shown how the system works. Only the Asset Manager can access the Admin Panel with username and password.

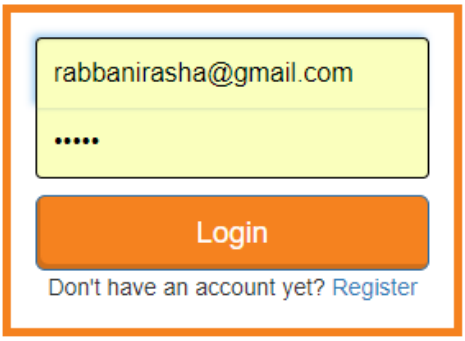


Fig. 7.1. The login page

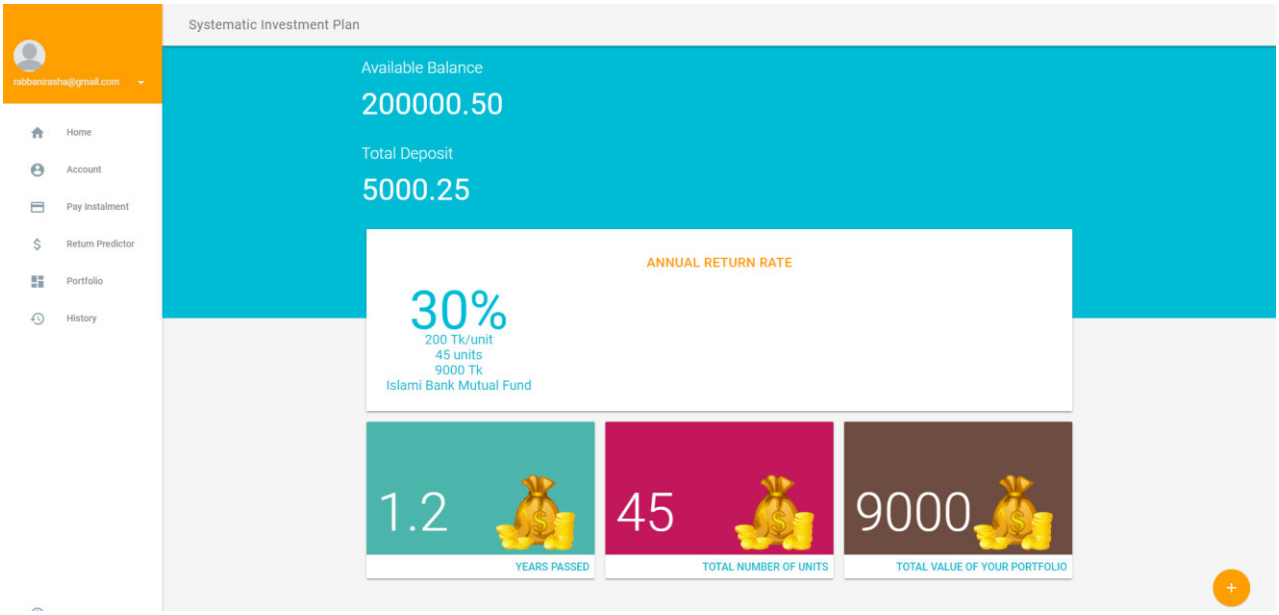


Fig. 7.2. Home page with one scheme added

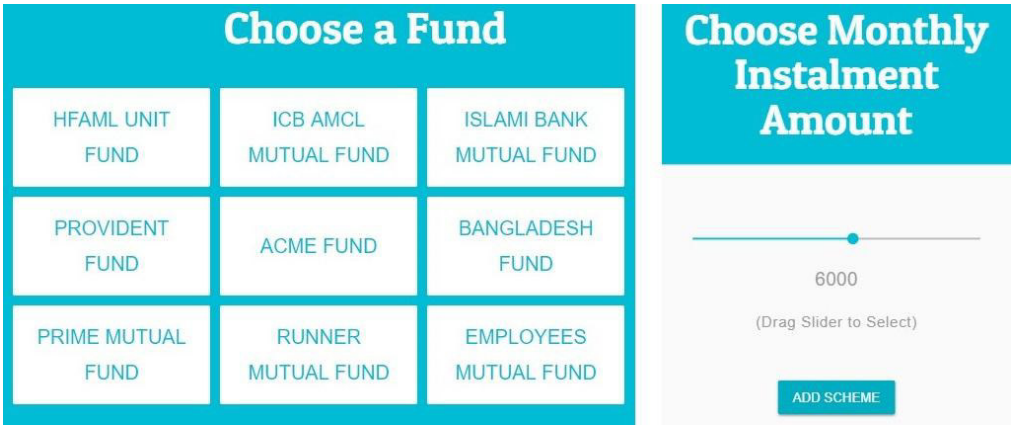


Fig. 7.3. Adding a scheme

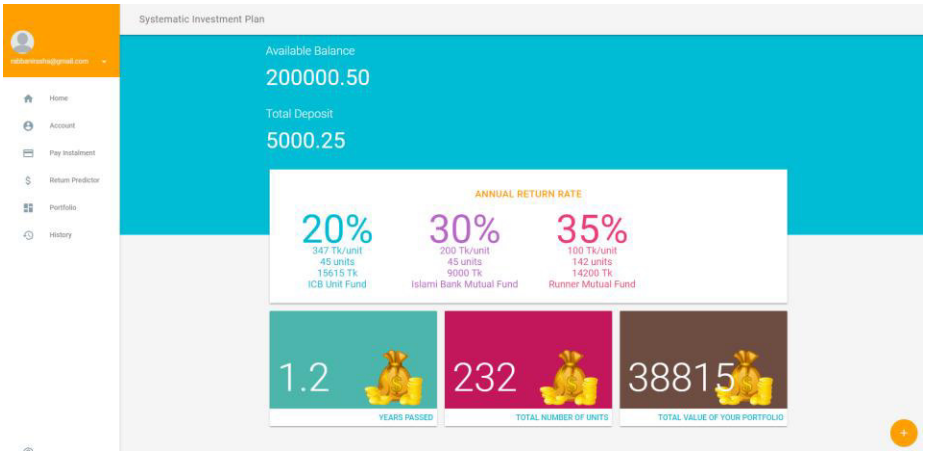


Fig. 7.4 Home page with three schemes added

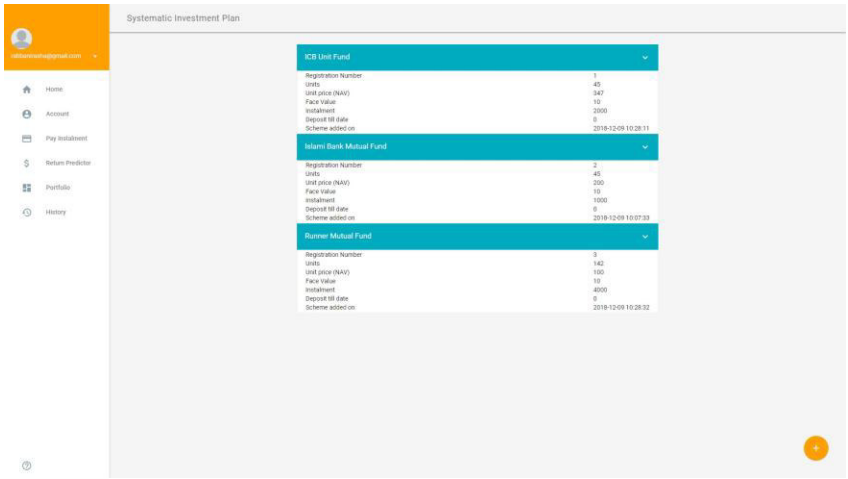


Fig. 7.5 Portfolio of an account with three schemes

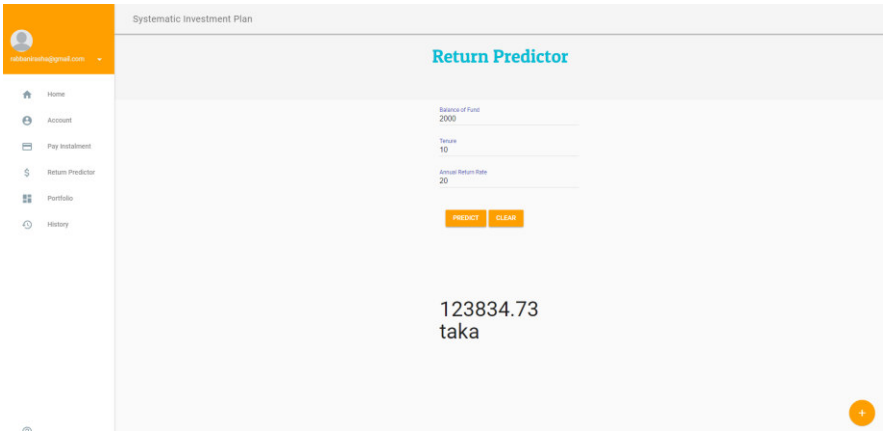


Fig. 7.6 Return predictor page

## 7.3 Experimental Results

As mentioned earlier, the investment (redemption) value of SIP increases exponentially every year due to the power of compounding, as illustrated below.

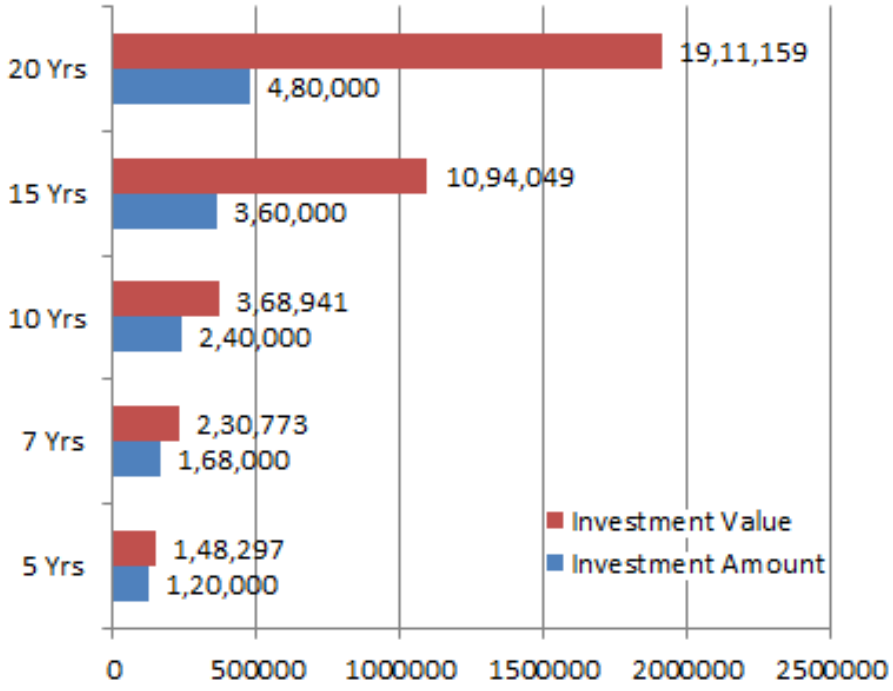


Fig. 7.7. Relation between redemption value & tenure [23]

Prior to the development of this proposed work, a collaboration was made with an asset management company to study the concept of Systematic Investment Plan (SIP) and the present state of its prevalence in our country. It was found out that:

- Only one company (IDLC Finance) started SIP service for its customers [24].

- Other companies already floated public offering of their mutual funds but, as of now, they are yet to start SIP. Some companies like the EDGE asset management [25] and HF asset management [26] documented that they would start the service in the future.

A survey was also conducted to know about the familiarity of mutual funds among different people. We found out that:

- Most of the people are unaware that investing in mutual fund can yield better returns than other modes of investment like fixed deposits in banks, etc.
- Nearly all of the people have no knowledge of the concept of SIP.
- Of those people who are SIP investors, a majority of them (14 out of 20) believes that the existing method of service is unsatisfactory.

When the 20 SIP investors were given a test trial of the web app, 19 of them responded that they would be very satisfied if the proposed new system is deployed. This is illustrated below.

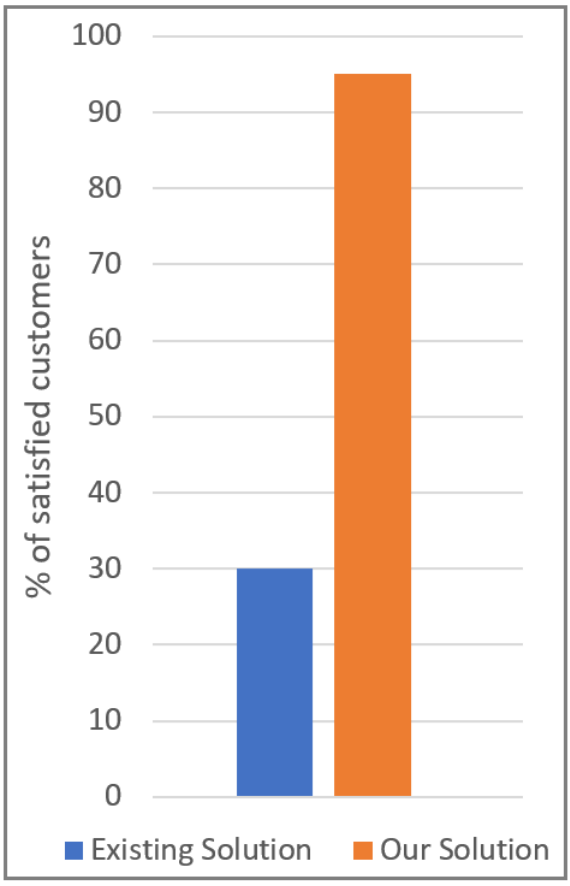


Fig. 7.8. Customer satisfaction of existing vs. proposed solution

## 7.4 Summary

In this chapter, we have discussed the result and analysis of our system. The results obtained are discussed in this chapter and we saw that our method improved the entire system. We have also discussed how the customer interface and the admin panel was working properly and gave perfect output better than we expected.

# Chapter 8
# Compliance with standards

## 8.1 Introduction

In this chapter we will discuss the various comparisons of standards with our system, such as IEEE standard, US standard and the European standard. In general, compliance means conforming to a rule, such as a specification, policy, standard or law. Regulatory compliance describes the goal that organizations aspire to achieve in their efforts to ensure that they are aware of and take steps to complywith relevant laws, polices, and regulations.

## 8.2 Compliance with IEEE standards

The establishment of electrical and hardware particular architects' guidelines companionship (IEEE-SA) is an association inside IEEE that develops worldwide principles for claiming industries, including: control systems, renewable energy, biomedical health care, data engineering. Furthermore robotics, telecommunication and also home automation, transportation, nanotechnology. Our project concerns asset management web application hence we look at standards that relate to the IEEE standards concerned with the same. Web Application is an Internet based solution to display information and carry out tasks for its users. Our system complies with the IEEE standard IEEE 829, IEEE 830, IEEE 1016, IEEE 1074, IEEE 1233, IEEE P1363 and IEEE 12207 which deals with Software test documentation (during testing), Software Requirement Specification (for the client ), Software Design Description (for the client), Software Development Life Cycle (for the maintenance of software), System Requirements Specification (from the client), Public Key Cryptography (for encrypting passwords) and Software Life Cycle Processes (during implementation, testing and deployment to clients) respectively. Our system manages to maintain the mentioned standards and meet with IEEE code.

## 8.3 Compliance with US standards

Our web application with all its technology used, complies with the California Department of Education and World Wide Web Consortium (W3C).

The ANSI/CEA-709.5 Implementation Guidelines define the application layer requirements for interoperable devices and how they share key information, status, and data across an open control network. Typically deployed on an ANSI/CEA-709.1 LonWorks® protocol network, these application elements define how to interact with disparate devices from multiple vendors in the same system. This significantly improves the system installation time and integration of typical Internet and computing systems by defining units, range and resolution, configuration, and enumeration requirements along with device self-documentation information within the standard. The new standard now enables other transports the option of adopting a common application layer element description library.

The ANSI/CEA-709.6 Application Elements build upon the ANSI/CEA-709.5 Implementation Guidelines by providing a catalog of more than 100 common device profiles, with more than 380 specific implementation options. These profiles define the mandatory and optional design requirements for standard data variables, standard configuration properties, enumeration types, and standard interface file requirements. Our system also complies with these standards.

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## 8.4 Compliance with European Standard

Our web application complies with the European Commission guideline for designing responsive web apps according to the EU Internet handbook. Even though progress on international standards is relatively slow, participation is important for the exchange of ideas among web developers world-wide. The specification of application models may promote product interoperability. This

may be more worthwhile than the current focus on protocols, which is encouraging protocol competition. Such competition is wasting resources, confusing potential market players, and delaying the asset management industry. The primary objective of companies and organizations in asset management should be to stimulate consumer interest, which will result in a flourishing industry.

## 8.5 Summary

In this chapter, we examined the different standards of rules regulations for transportation, and how it compared to our own Asset Management Web System. We have shown how our system follows all the standards, IEEE, USA standards and UK standards.

# Chapter 9
# Design Impact

## 9.1 Introduction

In this chapter we will discuss about the impact of our design on environment, politics, economic aspect and health issue that we could face. We will discuss the implications of our design on every aspect individually. We will discuss how it effects the economy and society and also the personal benefit. Our system does the followings: reduction in commute time, opportunity cost of police presence, increase in productivity and return, decrease in long-term health costs (due to the reduction in victim-hood and an increase in psychological well-being), reduction in the carbon cost due to transportation and paper usage. Major impacts are described below:

## 9.2 Economic Impact

Security measures intend to increase the level of security, deterring crime, and/or at least mitigating the negative economic impact of crime. In essence, they increase actual and/or perceived risk to the offender and his or her effort, changing the behavior of the criminal. Put differently, anti-crime security measures positively influence the costs of crime.

To make the concept of benefits of security measures more concrete, the following equation calculates the net benefit of a measures given estimates of its impact on crime and its costs as per this equation:

NB = [RISK] x [Reduction of $RISK_s$ ] - $C_s$ (1)

where:

- *NB* is the annual net benefit of a security measures
- *RISK* is the likelihood of an event realizing X Impact.

- *Reduction of* $RISK_s$ is the impact of the security measure in terms of percent risk reduction.
- $C_s$ are the estimated cost of the security measure (annually)

While paying a monthly monitoring fee may make little financial sense, finding a service that provides one peace of mind is invaluable.

## 9.3 Social Impact

The social impact that surveillance may have on human's lives is highly dependent upon existing social relations, identities and cultural traditions. Our system is designed in such a way that people will undergo a revolution in how they invest in mutual funds. They will conveniently make money and need not worry about that as everything is at their fingertips. At the same time, however, everyone from the society are not passive subjects of social structures and technological processes. By implementing our software solution, investors and asset managers can redefine the way how asset management works in novel and unanticipated ways.

## 9.4 Political Impact

If political leaders and politicians accept the idea and design implementation of our system, they have enough power to implement it in the society for the betterment of the nation. They can also create awareness for it and have a good vibe in the nation.

## 9.5 Health and Safety Impact

Our system is designed in such a way that it has no negative impact on a person's health. It has a very positive impact on a nation's safety. Our multi layered system provides security in every possible way to protect the person's valuable asset and information from destructive ways like

hacking, spoofing and other vandalisms. The measurements which were followed while making the system makes it strong and unique than any other system available in the market.

## 9.6 Environmental Impact

Each customer has her own devices and maintaining it is extremely important for getting the best living experience. As the owner one must realize about the environmental impacts of the devices or systems he or she is using. Our system does not in any way bring harm to the environment and proved to be effective against paper products which causes pollution and deforestation.

## 9.7 Ethical Impact

Regarding issues based on ethics, this product does not hamper any sort of ethical or moral codes as it is clearly based on positive outcomes; it does not, in any form, affect one's perspective but rather help a country achieve better asset management system.

## 9.8 Manufacturability

In order to produce our system in larger scale thinking of marketing we can reduce cost per system if we get proper support from the government and let asset managers and management companies buy and deploy our system commercially from us which is a good deal for both the nation and for us.

## 9.9 Sustainability

The time certainly is ripe for security-based businesses that are involved in sustainability. First movers are blazing a profitable path to the sustainable future and demonstrating the value of going green to companies that are preparing to dive into what will soon be the new normal. We need to identify the role smart asset management solutions that could play in supporting delivery of the

performance levels of the Code for productive investment. Smart asset management solution like SIP can be used to enhance the environment as well as nation.

## 9.10 Impact in Real Life

Our project is budget friendly and easy to use at the same time. Anyone who has less or very little knowledge about technology will be able to use this user-friendly project. Our web app applies to anybody of any profession, such as a teachers, students, workers, etc.

# Chapter 10
# Conclusion

It has been successfully proven through the prototype that this web application works perfectly. The customer interface allows customers to log into their account and monitor their investments and also perform actions like adding schemes, changing profile and calculating expected value. On the other hand, the Admin Panel allows asset manager to update data and perform administrative activities like acknowledging installments, viewing information of any scheme, etc.

The proposed work, consisting of PWA (Progressive Web App) and Admin Panel, makes it incredibly convenient for both the investors and fund manager to manage their mutual fund. This way, they are more connected than ever which can bring about a positive change in the way customers avail service from asset managers, or management companies. Given all these information, it can be inferred that:

- This is the first time in Bangladesh that an account-based PWA like this has been made for customers on Systematic Investment Plan.
- Systematic Investment Plan, albeit being so much effective, is mostly unknown in our country. We believe that by using our app, this method will gain much popularity, especially among middle-aged people like students, teachers and employees.
- Using the web app, customers can enjoy more convenience & satisfaction from asset management service as there are no more troubles.

# Chapter 11
# Future Work

## 11.1 Introduction

In this chapter, we will discuss about how we can add more features to our system to make it worth enough to use in asset management companies commercially for a better and richer society. Advancement in technology and emergence of asset management companies has created a demand for an effective way to indulge customers more with asset management companies.

## 11.2 Future Planning

The features we are planning to add in future if properly nourished by our government and clients are:

- Add Reminder system for installment payment on time through push notifications, e-mail and SMS.
- Integrate payment gateway and e-wallet API so that customers pay installments directly on the application via credit cards.
- Expand the application to be a full-fledged asset management solution for asset managers and also stock brokerage firms, covering all types of investment methods.
- Automate the process more so that there is less intervention from asset manager, like buying/selling units automatically using artificial intelligence, and automatically crediting dividend exactly one year after user adds the scheme, and the next year, and so on. Our ultimate goal is to diminish the Admin Panel.
- Detailed transaction history that will tabulate the name, quantity and price (NAV) of every units bought and sold and the time when the transaction occurred.

## 11.5 Summary

In this chapter, we have discussed how we can make our system more efficient by implementing few more ideas in the future if we get the proper support. Our system can add a great value to the society if properly nourished and implemented. We have also discussed how we can launch our project with proper support. Our asset management web system gives one the peace of mind and freedom that comes from the knowledge wherever people go and whatever they do, people's asset is always invested and protected. Designed to be technically advanced, simple to use and supported by unparalleled service, our asset management web system is individually formulated to suit one's unique investment needs.

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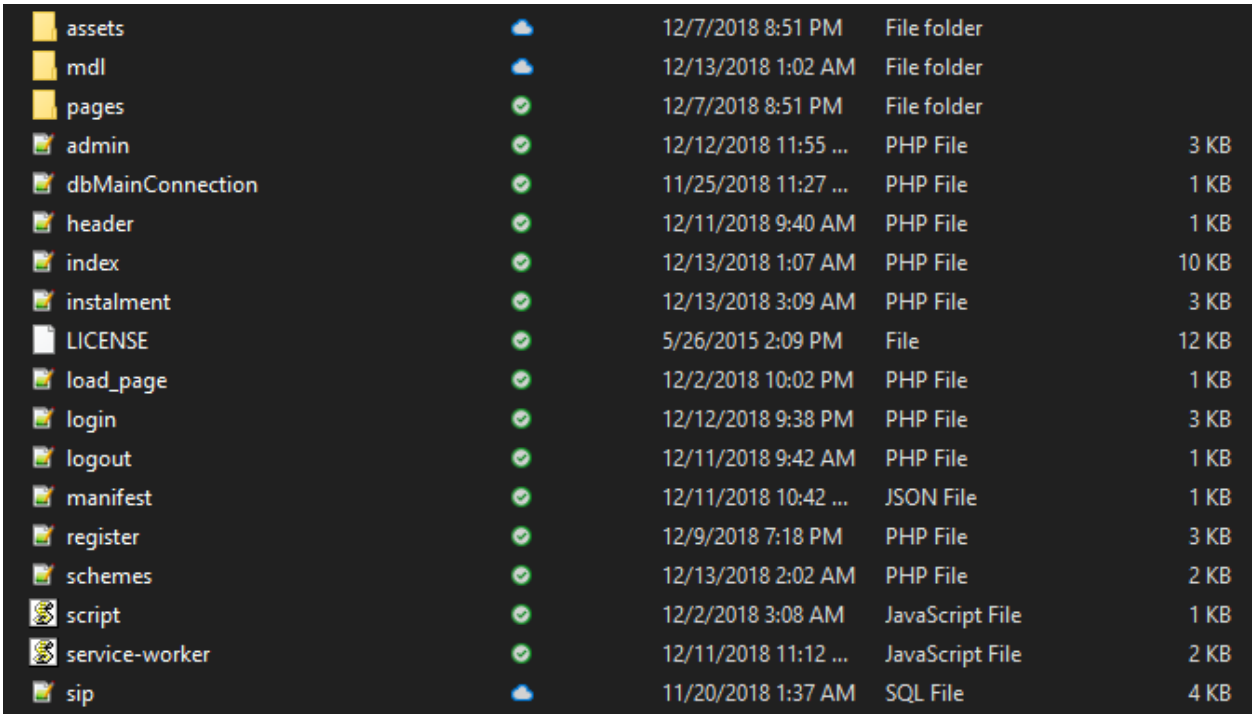
# Appendices

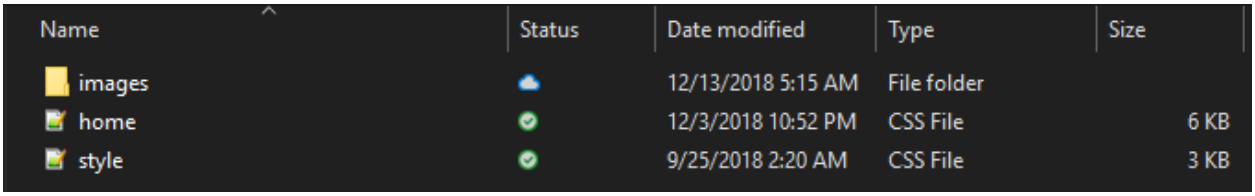
# Appendix A

# Organization of files



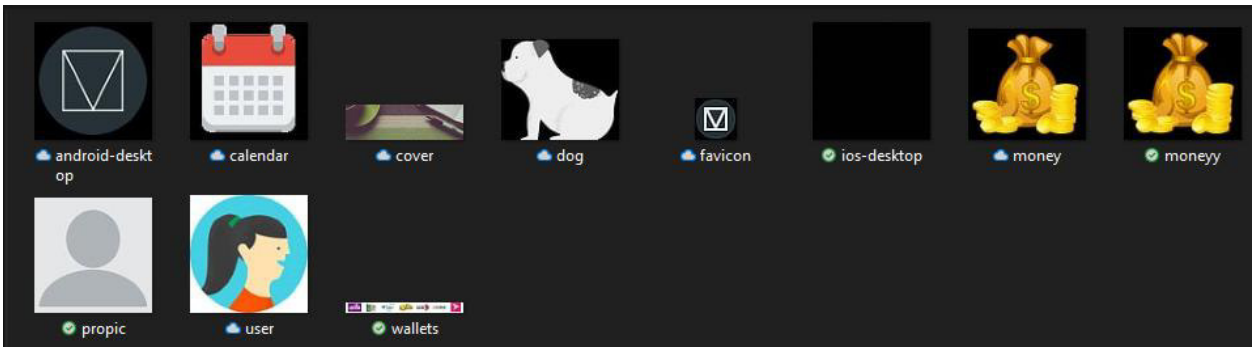
| | | | |
|---|---|---|---|
| assets | 12/7/2018 8:51 PM | File folder | |
| mdl | 12/13/2018 1:02 AM | File folder | |
| pages | 12/7/2018 8:51 PM | File folder | |
| admin | 12/12/2018 11:55 ... | PHP File | 3 KB |
| dbMainConnection | 11/25/2018 11:27 ... | PHP File | 1 KB |
| header | 12/11/2018 9:40 AM | PHP File | 1 KB |
| index | 12/13/2018 1:07 AM | PHP File | 10 KB |
| instalment | 12/13/2018 3:09 AM | PHP File | 3 KB |
| LICENSE | 5/26/2015 2:09 PM | File | 12 KB |
| load_page | 12/2/2018 10:02 PM | PHP File | 1 KB |
| login | 12/12/2018 9:38 PM | PHP File | 3 KB |
| logout | 12/11/2018 9:42 AM | PHP File | 1 KB |
| manifest | 12/11/2018 10:42 ... | JSON File | 1 KB |
| register | 12/9/2018 7:18 PM | PHP File | 3 KB |
| schemes | 12/13/2018 2:02 AM | PHP File | 2 KB |
| script | 12/2/2018 3:08 AM | JavaScript File | 1 KB |
| service-worker | 12/11/2018 11:12 ... | JavaScript File | 2 KB |
| sip | 11/20/2018 1:37 AM | SQL File | 4 KB |

Root directory



| Name | Status | Date modified | Type | Size |
|---|---|---|---|---|
| images | | 12/13/2018 5:15 AM | File folder | |
| home | | 12/3/2018 10:52 PM | CSS File | 6 KB |
| style | | 9/25/2018 2:20 AM | CSS File | 3 KB |

*Assets* folder




*images* folder

| Name | Status | Date modified | Type | Size |
|---|---|---|---|---|
| bower | | 12/21/2016 1:10 PM | JSON File | 1 KB |
| LICENSE | | 5/26/2015 2:09 PM | File | 12 KB |
| material | | 12/21/2016 1:18 PM | CSS File | 350 KB |
| material | | 12/21/2016 1:18 PM | JavaScript File | 143 KB |
| material.min | | 12/21/2016 1:18 PM | CSS File | 137 KB |
| material.min.css.map | | 12/21/2016 1:18 PM | MAP File | 658 KB |
| material.min | | 12/21/2016 1:18 PM | JavaScript File | 62 KB |
| material.min.js.map | | 12/21/2016 1:18 PM | MAP File | 204 KB |
| package | | 12/21/2016 1:17 PM | JSON File | 3 KB |

*mdl* folder (contains the material design framework)

| Name | Status | Date modified | Type | Size |
|---|---|---|---|---|
| page_1 | | 12/12/2018 10:15 ... | PHP File | 5 KB |
| page_2 | | 12/11/2018 9:38 AM | PHP File | 7 KB |
| page_3 | | 12/13/2018 5:25 AM | PHP File | 1 KB |
| page_4 | | 12/11/2018 9:38 AM | PHP File | 3 KB |
| page_5 | | 12/22/2018 12:09 ... | PHP File | 3 KB |
| page_6 | | 12/11/2018 9:39 AM | PHP File | 2 KB |

*pages* folder (contains the AJAX loadable pages – home page, profile page, etc.)

# Appendix B

# CSS code

HOME.CSS

```
html, body {
  font-family: 'Roboto', 'Helvetica', sans-serif;
}
.demo-avatar {
  width: 48px;
  height: 48px;
  border-radius: 24px;
}
.demo-layout .mdl-layout__header .mdl-layout__drawer-button {
  color: rgba(0, 0, 0, 0.54);
}
.mdl-layout__drawer .avatar {
  margin-bottom: 16px;
}
.demo-drawer {
  border: none;
}
/* iOS Safari specific workaround */
.demo-drawer .mdl-menu__container {
  z-index: -1;
}
.demo-drawer .demo-navigation {
  z-index: -2;
}
/* END iOS Safari specific workaround */
.demo-drawer .mdl-menu .mdl-menu__item {
  display: -webkit-flex;
  display: -ms-flexbox;
  display: flex;
  -webkit-align-items: center;
      -ms-flex-align: center;
          align-items: center;
}
.demo-drawer-header {
  box-sizing: border-box;
  display: -webkit-flex;
  display: -ms-flexbox;
  display: flex;
  -webkit-flex-direction: column;
      -ms-flex-direction: column;
```

```
          flex-direction: column;
  -webkit-justify-content: flex-end;
      -ms-flex-pack: end;
          justify-content: flex-end;
  padding: 16px;
  height: 151px;
}
.demo-avatar-dropdown {
  display: -webkit-flex;
  display: -ms-flexbox;
  display: flex;
  position: relative;
  -webkit-flex-direction: row;
      -ms-flex-direction: row;
          flex-direction: row;
  -webkit-align-items: center;
      -ms-flex-align: center;
          align-items: center;
  width: 100%;
}

.demo-navigation {
  -webkit-flex-grow: 1;
      -ms-flex-positive: 1;
          flex-grow: 1;
}
.demo-layout .demo-navigation .mdl-navigation__link {
  display: -webkit-flex !important;
  display: -ms-flexbox !important;
  display: flex !important;
  -webkit-flex-direction: row;
      -ms-flex-direction: row;
          flex-direction: row;
  -webkit-align-items: center;
      -ms-flex-align: center;
          align-items: center;
  font-weight: 500;
}
.demo-layout .demo-navigation .mdl-navigation__link:hover {
  background-color: #00BCD4;
  color: #37474F;
  text-decoration:none;
```

```
}
.demo-navigation .mdl-navigation__link .material-icons {
  font-size: 24px;
  color: rgba(255, 255, 255, 0.56);
  margin-right: 32px;
  text-decoration:none;
}

.demo-content {
  max-width: 1080px;
}

.demo-charts {
  -webkit-align-items: center;
      -ms-flex-align: center;
          align-items: center;
}
.demo-chart:nth-child(1) {
  color: #ACEC00;
}
.demo-chart:nth-child(2) {
  color: #00BBD6;
}
.demo-chart:nth-child(3) {
  color: #BA65C9;
}
.demo-chart:nth-child(4) {
  color: #EF3C79;
}
.demo-graphs {
  padding: 16px 32px;
  display: -webkit-flex;
  display: -ms-flexbox;
  display: flex;
  -webkit-flex-direction: column;
      -ms-flex-direction: column;
          flex-direction: column;
  -webkit-align-items: stretch;
      -ms-flex-align: stretch;
          align-items: stretch;
}
/* TODO: Find a proper solution to have the graphs
```

```
 * not float around outside their container in IE10/11.
 * Using a browserhacks.com solution for now.
 */
_:-ms-input-placeholder, :root .demo-graphs {
  min-height: 664px;
}
_:-ms-input-placeholder, :root .demo-graph {
  max-height: 300px;
}
/* TODO end */
.demo-graph:nth-child(1) {
  color: #00b9d8;
}
.demo-graph:nth-child(2) {
  color: #d9006e;
}

.demo-cards {
  -webkit-align-items: flex-start;
      -ms-flex-align: start;
          align-items: flex-start;
  -webkit-align-content: flex-start;
      -ms-flex-line-pack: start;
          align-content: flex-start;
}
.demo-cards .demo-separator {
  height: 32px;
}
.demo-cards .mdl-card__title.mdl-card__title {
  color: white;
  font-size: 24px;
  font-weight: 400;
}
.demo-cards ul {
  padding: 0;
}
.demo-cards h3 {
  font-size: 1em;
}
.demo-updates .mdl-card__title {
  min-height: 200px;
  background-image: url("images/moneyy.png");
```

```
  background-position: 90% 100%;
  background-repeat: no-repeat;
}
.demo-cards .mdl-card__actions a {
  color: #00BCD4;
  text-decoration: none;
}

.demo-options h3 {
  margin: 0;
}
.demo-options .mdl-checkbox__box-outline {
  border-color: rgba(255, 255, 255, 0.89);
}
.demo-options ul {
  margin: 0;
  list-style-type: none;
}
.demo-options li {
  margin: 4px 0;
}
.demo-options .material-icons {
  color: rgba(255, 255, 255, 0.89);
}
.demo-options .mdl-card__actions {
  height: 64px;
  display: -webkit-flex;
  display: -ms-flexbox;
  display: flex;
  box-sizing: border-box;
  -webkit-align-items: center;
      -ms-flex-align: center;
          align-items: center;
}
.strip {
     position: relative;
     background-color: #00BCD4;
     z-index: -1;
     margin-bottom: -150px;
     padding-top: 10px;
     height: 400px;
}
```

STYLE.CSS

```
body {
  padding-top: 120px;
  padding-bottom: 40px;
  background-color: #eee;

}
.btn
{
 outline:0;
 border:none;
 border-top:none;
 border-bottom:none;
 border-left:none;
 border-right:none;
 box-shadow:inset 2px -3px rgba(0,0,0,0.15);
}
.btn:focus
{
 outline:0;
 -webkit-outline:0;
 -moz-outline:0;
}
.fullscreen_bg {
  position: fixed;
  top: 0;
  right: 0;
  bottom: 0;
  left: 0;
  background-size: cover;
  background-position: 50% 50%;
  background-repeat:repeat;
}
.form-signin {
  max-width: 280px;
  padding: 15px;
  margin: 0 auto;
  margin-top:50px;
   border-style: solid;
  border-width: 5px;
  border-color: #f5821f;
```

```
}

.form-signup {
  max-width: 400px;
  padding: 15px;
  margin: 0 auto;
   border-style: solid;
  border-width: 5px;
  border-color: #f5821f;
   position: relative;
   font-size: 16px;
   box-sizing: border-box;
   height: auto;
}

.form-signin .form-signin-heading, .form-signin {
  margin-bottom: 10px;
}
.form-signin .form-control {
  position: relative;
  font-size: 16px;
  height: auto;
  padding: 10px;
  -webkit-box-sizing: border-box;
  -moz-box-sizing: border-box;
  box-sizing: border-box;
}
.form-signin .form-control:focus {
  z-index: 2;
}
.form-signin input[type="text"] {
  margin-bottom: -1px;
  border-bottom-left-radius: 0;
  border-bottom-right-radius: 0;
  border-top-style: solid;
  border-right-style: solid;
  border-bottom-style: none;
  border-left-style: solid;
  border-color: #000;
}
.form-signin input[type="password"] {
  margin-bottom: 10px;
```

```
  border-top-left-radius: 0;
  border-top-right-radius: 0;
  border-top-style: none;
  border-right-style: solid;
  border-bottom-style: solid;
  border-left-style: solid;
  border-color: rgb(0,0,0);
  border-top:1px solid rgba(0,0,0,0.08);
}
.form-signin-heading {
  color: #00418;
  text-align: center;
}
.container{
   margin-top: 25vh;
}
.direction{
   text-align: center;
}
```

# Appendix C

# HTML with PHP code

INDEX.PHP

```
<?php include 'header.php';?>
<!doctype html>

<html lang="en">
  <head>
    <meta charset="utf-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="description" content="A front-end template that
helps you build fast, modern mobile web apps.">
    <meta name="viewport" content="width=device-width, initial-
scale=1.0, minimum-scale=1.0">
    <title>SIP</title>

    <!-- Add to homescreen for Chrome on Android -->
    <meta name="mobile-web-app-capable" content="yes">
    <link rel="icon" sizes="512x512" href="assets/images/ios-
desktop.png">

    <!-- Add to homescreen for Safari on iOS -->
    <meta name="apple-mobile-web-app-capable" content="yes">
    <meta name="apple-mobile-web-app-status-bar-style"
content="black">
    <meta name="apple-mobile-web-app-title" content="SIP">
    <link rel="apple-touch-icon-precomposed"
href="assets/images/ios-desktop.png">

    <!-- Tile icon for Win8 (144x144 + tile color) -->
    <meta name="msapplication-TileImage"
content="assets/images/ios-desktop.png">
    <meta name="msapplication-TileColor" content="#3372DF">

    <link rel="shortcut icon" href="assets/images/ios-
desktop.png">

    <link rel="stylesheet"
href="https://fonts.googleapis.com/css?family=Roboto:regular,bold
,italic,thin,light,bolditalic,black,medium&amp;lang=en">
```

```
    <link rel="stylesheet"
href="https://fonts.googleapis.com/icon?family=Material+Icons">
    <link rel="stylesheet" href="mdl/material.min.css">
    <link rel="stylesheet" href="assets/home.css">

     <link rel="manifest" href="manifest.json">
    <style>
    #view-source {
      position: fixed;
      display: block;
      right: 0;
      bottom: 0;
      margin-right: 40px;
      margin-bottom: 40px;
      z-index: 900;
    }
    </style>
  </head>
  <body>
    <div class="demo-layout mdl-layout mdl-js-layout mdl-layout--
fixed-drawer mdl-layout--fixed-header">
      <header class="demo-header mdl-layout__header mdl-color--
grey-100 mdl-color-text--grey-600">
        <div class="mdl-layout__header-row">
          <span class="mdl-layout-title">Systematic Investment
Plan</span>
          <div class="mdl-layout-spacer"></div>
        </div>
      </header>
      <div class="demo-drawer mdl-layout__drawer mdl-color--
amber-700 mdl-color-text--blue-grey-50">
        <header class="demo-drawer-header">
          <img src="assets/images/propic.jpg" class="demo-
avatar">
          <div class="demo-avatar-dropdown">

            <span><?php echo $email; ?></span>

            <div class="mdl-layout-spacer"></div>
            <button id="accbtn" class="mdl-button mdl-js-button
mdl-js-ripple-effect mdl-button--icon">
```

```
              <i class="material-icons"
role="presentation">arrow_drop_down</i>
              <span class="visuallyhidden">Accounts</span>
            </button>
            <ul class="mdl-menu mdl-menu--bottom-right mdl-js-
menu mdl-js-ripple-effect" for="accbtn">
              <li class="mdl-menu__item"><a href="logout.php"
class="mdl-menu__item">   Logout</a></li>
            </ul>
          </div>
        </header>
        <nav class="demo-navigation mdl-navigation mdl-color--
white">
          <a class="mdl-navigation__link" href="#page1"><i
class="mdl-color-text--blue-grey-400 material-icons"
role="presentation">home</i>Home</a>
          <a class="mdl-navigation__link" href="#page2"><i
class="mdl-color-text--blue-grey-400 material-icons"
role="presentation">account_circle</i>Account</a>
          <a class="mdl-navigation__link" href="#page3"><i
class="mdl-color-text--blue-grey-400 material-icons"
role="presentation">payment</i>Pay Instalment</a>
          <a class="mdl-navigation__link" href="#page4"><i
class="mdl-color-text--blue-grey-400 material-icons"
role="presentation">attach_money</i>Return Predictor</a>
          <a class="mdl-navigation__link" href="#page5"><i
class="mdl-color-text--blue-grey-400 material-icons"
role="presentation">dashboard</i>Portfolio</a>
            <a class="mdl-navigation__link" href="#page6"><i
class="mdl-color-text--blue-grey-400 material-icons"
role="presentation">history</i>History</a>

          <div class="mdl-layout-spacer"></div>
          <a class="mdl-navigation__link" href=""><i class="mdl-
color-text--blue-grey-400 material-icons"
role="presentation">help_outline</i><span
class="visuallyhidden">Help</span></a>
        </nav>
      </div>
      <main id="pageContent" class="mdl-layout__content mdl-
color--grey-100">
          <div class ="strip">
```

```
                <h2 class="mdl-grid demo-content mdl-card__title-
text" style="color:white;">Available Balance</h2>
                <h2 class="mdl-grid demo-content"
style="color:white;">200000.50</h2><br>
                <h2 class="mdl-grid demo-content mdl-card__title-
text" style="color:white;">Total Deposit</h2>
                <h2 class="mdl-grid demo-content"
style="color:white;">5000.25</h2>


          </div>
        <div class="mdl-grid demo-content">
                <div class="demo-charts mdl-color--white mdl-
shadow--2dp mdl-cell mdl-cell--12-col mdl-grid">
                <div class="mdl-card__actions mdl-card--colored"
style="background-color: #FFF;">
                 <a class="mdl-js-ripple-effect mdl-color-text--
amber-700"><h5 style="text-align:center;padding-
bottom:20px;">ANNUAL RETURN RATE</h1> </a>
                      <text></text>
            </div>
                <?php
                require("dbMainConnection.php");
                $sip = database_connection();
                $result = mysqli_query($sip , "SELECT * FROM
portfolio,funds WHERE CID=".$_SESSION["cid"]." AND
portfolio.FID=funds.FID");

                $total=0;
                $tunits=0;


                if (!empty($result) && mysqli_num_rows($result) >
0){
                     while($item = mysqli_fetch_assoc($result)){
                ?>
                <div fill="currentColor" class="demo-chart mdl-
cell mdl-cell--4-col mdl-cell--3-col-desktop" style="padding-
bottom:10px; text-align:center;">
              <text font-family="Roboto" style="font-
size:80px;text-align:center;margin:10px 10px 10px 10px;"
```

```
fill="#888" text-anchor="middle"
dy="0.1"><?=$item['RETURN_RATE']?>%</tspan></text><br>
                <text font-family="Roboto" style="font-
size:20px;text-align:center;margin:10px 10px 10px 10px;"
fill="#888" text-anchor="middle" dy="0.1"><?=$item['UNIT_NAV']?>
Tk/unit</tspan></text><br>
                <text font-family="Roboto" style="font-
size:20px;text-align:center;margin:10px 10px 10px 10px;"
fill="#888" text-anchor="middle" dy="0.1"><?=$item['UNITS']?>
units</tspan></text><br>
                <text font-family="Roboto" style="font-
size:20px;text-align:center;margin:10px 10px 10px 10px;"
fill="#888" text-anchor="middle"
dy="0.1"><?=$item['UNITS']*$item['UNIT_NAV']?>
Tk</tspan></text><br>
                <text font-family="Roboto" style="font-
size:20px;text-align:center;margin:10px 10px 10px 10px;"
fill="#888" text-anchor="middle"
dy="0.1"><?=$item['MUTUAL_FUND']?></tspan></text><br>
            </div>
               <?php
               $tunits=$tunits+$item['UNITS'];
               $total=$total+($item['UNITS']*$item['UNIT_NAV']);
               }
               }else{
                    echo "<div style='text-align:center; font-
size: 20px; padding: 30px;'>No scheme Added. Please add from the
rounded button below</div>";
               }
               ?>

          </div>

            <div class="demo-cards mdl-cell mdl-cell--4-col mdl-
cell--8-col-tablet mdl-grid mdl-grid--no-spacing">
            <div class="demo-updates mdl-card mdl-shadow--2dp
mdl-cell mdl-cell--4-col mdl-cell--4-col-tablet mdl-cell--12-col-
desktop" >
              <div class="mdl-card__title mdl-card--expand mdl-
color--teal-300">
                <h2 class="mdl-card__title-text" style="font-
size:80px;">1.2</h2>
```

```
              </div>
                 <div class="mdl-card__actions mdl-card--border">
                <a class="mdl-js-ripple-effect"
style="float:right">YEARS PASSED </a>
              </div>
            </div>
            </div>
          <div class="demo-cards mdl-cell mdl-cell--4-col mdl-
cell--8-col-tablet mdl-grid mdl-grid--no-spacing">
            <div class="demo-updates mdl-card mdl-shadow--2dp
mdl-cell mdl-cell--4-col mdl-cell--4-col-tablet mdl-cell--12-col-
desktop">
              <div class="mdl-card__title mdl-card--expand mdl-
color--pink-700">
                <h2 class="mdl-card__title-text" style="font-
size:80px"><?=$tunits?></h2>
              </div>
                 <div class="mdl-card__actions mdl-card--border">
                <a class="mdl-js-ripple-effect"
style="float:right; ">TOTAL NUMBER OF UNITS</a>
              </div>
            </div>
            </div>
          <div class="demo-cards mdl-cell mdl-cell--4-col mdl-
cell--8-col-tablet mdl-grid mdl-grid--no-spacing">
            <div class="demo-updates mdl-card mdl-shadow--2dp
mdl-cell mdl-cell--4-col mdl-cell--4-col-tablet mdl-cell--12-col-
desktop">
              <div class="mdl-card__title mdl-card--expand mdl-
color--brown-600">
                <h2 class="mdl-card__title-text" style="font-
size:80px"><?=$total?></h2>
              </div>
                 <div class="mdl-card__actions mdl-card--border">
                <a class="mdl-js-ripple-effect"
style="float:right">TOTAL VALUE OF YOUR PORTFOLIO</a>
              </div>
            </div>
            </div>
        </div>
      </main>
    </div>
```

```
      <a href="schemes.php" id="view-source" class="mdl-button
mdl-js-button mdl-button--raised mdl-button--fab mdl-js-ripple-
effect mdl-button--colored mdl-color--amber-700"><i
class="material-icons">add</i></a>
       <div class="mdl-tooltip" data-mdl-for="view-source">
          <strong>Add scheme</strong>
       </div>
    <script defer src="mdl/material.min.js"></script>
     <script
src="https://ajax.googleapis.com/ajax/libs/jquery/3.3.1/jquery.mi
n.js"></script>
     <script type="text/javascript" src="script.js"></script>
     <script>
     if ('serviceWorker' in navigator) {
          navigator.serviceWorker.register('service-worker.js');
     }
     </script>
  </body>
</html>
```

LOGIN.PHP

```
<?php
session_start();
if(!empty($_SESSION)){
     header("Location: logout.php");
     die();
}
require("dbMainConnection.php");
            $connection = database_connection();
            $error = "";
            if (!empty($_POST['submit'])) {

                $email = $_POST['email'];
                $password = $_POST['password'];
                $check = "SELECT * FROM customers WHERE EMAIL =
'" . $email . "' AND PASSWORD = '" . $password . "'";
                $result = mysqli_query($connection, $check);
```

```
                if (!empty($result) && mysqli_num_rows($result) >
0){
                    $customers = mysqli_fetch_assoc($result);
                    $_SESSION["name"] = $customers['NAME'];
                    $_SESSION["email"] = $customers['EMAIL'];
                    $_SESSION["contact"] = $customers['CONTACT'];
                    $_SESSION["address"] = $customers['ADDRESS'];
                         $_SESSION["cid"] = $customers['CID'];
                    header("Location: index.php");
                    }
                    else if($email="admin" &&
$password="northsouth"){
                         header("Location: admin.php");
                    }
                    else $error = "Incorrect credentials";
            }
?>

<!DOCTYPE html>
<html>
    <head>
        <title>Login | SIP</title>
        <link href="https://fonts.googleapis.com/css?family=Acme"
rel="stylesheet">
        <link rel="stylesheet" type="text/css"
href="assets/style.css" />
        <link rel="stylesheet"
href="https://cdnjs.cloudflare.com/ajax/libs/font-
awesome/4.7.0/css/font-awesome.min.css">
          <meta charset="utf-8">
          <meta name="viewport" content="width=device-width,
initial-scale=1">
          <link rel="stylesheet"
href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/css/bootstr
ap.min.css">
          <script
src="https://ajax.googleapis.com/ajax/libs/jquery/3.3.1/jquery.mi
n.js"></script>
          <script
src="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/js/bootstrap
.min.js"></script>
    </head>
```

```
     <body>
          <div id="fullscreen_bg" class="fullscreen_bg"/>
          <div class="container">
               <form class="form-signin" action="" method="post">
                    <input type="text" class="form-control"
name="email" placeholder="Email address" required=""
autofocus="">
                    <input type="password" class="form-control"
name="password" placeholder="Password" required="">
                    <div style="color: red; font-size: 14px;text-
align:center;"><?php echo $error; ?></div>
                     <button class="btn btn-lg btn-primary btn-block"
type="submit" value="submit" name="submit" style="background-
color:#f5821f">Login</button>
                    <div class="direction">Don't have an account
yet? <a class="signup-login"
href="register.php">Register</a></div>
               </form>
          </div>
     </body>
</html>
```

LOGOUT.PHP

```
<?php
     session_start();
     session_destroy();
     header("Location: login.php");
?>
```

HEADER.PHP

```
<?php
session_start();
if (!empty($_SESSION["email"])){
     $email = $_SESSION["email"];
}
if(empty($_SESSION)){
     header("Location: logout.php");
     die();
}
?>
```

LOAD-PAGE.PHP (this is the AJAX page loader)

```
<?php
if(!$_POST['page']) die("0");

$page = (int)$_POST['page'];

if(file_exists('pages/page_'.$page.'.php')){
     //echo file_get_contents('pages/page_'.$page.'.php');
     include('pages/page_'.$page.'.php');
}
else echo 'There is no such page!';
?>
```

SCRIPT.JS (this is the AJAX script)

```
var default_content="";
var sessionid = "<?php echo $_SESSION['name']; ?>";

$(document).ready(function(){
     checkURL();
     $('nav div a').click(function (e){

          checkURL(this.hash);

     });
     default_content = $('#pageContent').html();


     setInterval("checkURL()",250);
});

var lasturl="";

function checkURL(hash)
{
     if(!hash) hash=window.location.hash;

     if(hash != lasturl)
     {
          lasturl=hash;
```

```
          if(hash=="")
          $('#pageContent').html(default_content);

          else
          //$('.mdl-layout__drawer').toggleClass('is-visible');
          loadPage(hash);
     }
}
function loadPage(url)
{
     url=url.replace('#page','');

     $.ajax({
          type: "POST",
          url: "load_page.php",
          data: 'page='+url + '&sessionid'+sessionid,
          dataType: "html",
          success: function(msg){
               if(parseInt(msg)!=0)
               {
                    $('#pageContent').html(msg);
               }
          }
     });
}
```

DBMAINCONNECTION.PHP

```
<?php
function database_connection()
{
     $host = "localhost";
     $username = "root";
     $password = "";
     $database = "sip";

     $sip = mysqli_connect($host, $username, $password,
$database);
     return $sip;
}
?>
```

INSTALMENT.PHP

```
<?php
include 'header.php';
require("dbMainConnection.php");
$connection = database_connection();

if (isset($_POST['submit'])){
     $address = $_POST['slider'];
     $sql = "INSERT INTO portfolio (REG, FID, CID, UNITS, TENURE,
INSTALMENT, DEPOSIT, ADDED_ON) VALUES (NULL,
'".$_GET["scheme"]."', '".$_SESSION["cid"]."', '32', NULL, NULL,
'10', CURRENT_TIMESTAMP) ";
     $done = mysqli_query($connection, $sql);
     if (!$done) {
          $error = "Connection error. Please try again";
     } else {
          header("Location: index.php");
     }
}
?>
<!DOCTYPE html>
<html>
    <head>
        <title>Instalment | SIP</title>
          <link
href="https://fonts.googleapis.com/css?family=Acme"
rel="stylesheet">
        <link rel="stylesheet" type="text/css"
href="assets/style.css" />
        <link rel="stylesheet"
href="https://cdnjs.cloudflare.com/ajax/libs/font-
awesome/4.7.0/css/font-awesome.min.css">
          <meta charset="utf-8">
          <meta name="viewport" content="width=device-width,
initial-scale=1">
          <script src="mdl/material.min.js"></script>
          <script type="text/javascript"
src="http://ajax.googleapis.com/ajax/libs/jquery/1.3.2/jquery.min
.js"></script>
          <link rel="stylesheet" href="mdl/material.min.css">
```

```
          <link
href="https://fonts.googleapis.com/css?family=Patua+One"
rel="stylesheet">

    </head>
     <body style="background:#00bcd4;">
          <div style="text-align: center;">
               <h2 style="color:white;font-family: 'Patua
One'">Choose Monthly Instalment Amount</h2>
          </div>
          <div style="background:#fafafa;min-height: 90vh;height:
auto !important;height: 90vh;">
          <div class="mdl-cell--4-col" style="padding-
top:70px;margin: 0 auto;">
               <input class="mdl-slider mdl-js-slider"
type="range" min="1000" max="10000" step="1000" tabindex="0"
name="slider" id="slider" oninput = "showMessage(this.value)"
onchange = "showMessage(this.value)">
               <h5 id="message" style="text-
align:center;color:#999999;">6000</h5>
               <h6 id="message" style="text-
align:center;color:#999999;">(Drag Slider to Select)</h5>
               <div style="text-align:center; margin-
top:50px;"><button type="submit" class="mdl-button mdl-js-button
mdl-button--raised mdl-js-ripple-effect mdl-button--accent mdl-
color--cyan-600 mdl-color-text--white">Add Scheme</button></div>
          </div>
          </div>
     <script>
         function showMessage(value) {
            document.getElementById("message").innerHTML  =
value;
         }
      </script>
     </script>
     </body>
</html>
```

SCHEMES.PHP

```
<?php
include 'header.php';
```

```
require("dbMainConnection.php");
$sip = database_connection();
$fund = mysqli_query($sip , "SELECT * FROM funds");
?>

<!DOCTYPE html>
<html>
    <head>
        <title>Schemes | SIP</title>
        <link href="https://fonts.googleapis.com/css?family=Acme"
rel="stylesheet">
        <link rel="stylesheet" type="text/css"
href="assets/style.css" />
        <link rel="stylesheet"
href="https://cdnjs.cloudflare.com/ajax/libs/font-
awesome/4.7.0/css/font-awesome.min.css">
          <meta charset="utf-8">
          <meta name="viewport" content="width=device-width,
initial-scale=1">
          <script src="mdl/material.min.js"></script>
          <script type="text/javascript"
src="http://ajax.googleapis.com/ajax/libs/jquery/1.3.2/jquery.min
.js"></script>
          <link rel="stylesheet" href="mdl/material.min.css">
          <link
href="https://fonts.googleapis.com/css?family=Patua+One"
rel="stylesheet">

    </head>
     <body style="background:#00bcd4;">
          <div style="text-align: center;">
               <h2 style="color:white;font-family: 'Patua
One'">Choose a Fund</h2>
          </div>
          <div class="mdl-grid demo-content mdl-cell--6-col"
style="margin-top:20px;">
          <?php
               while($item = mysqli_fetch_assoc($fund)){
               ?>
               <button class="mdl-button mdl-js-button mdl-
button--raised mdl-js-ripple-effect"
onclick="location.href='instalment.php?scheme=<?=$item['FID']?>'"
```

```
style="margin:5px 5px 5px 5px;width:200px;height:100px;border:
0;box-shadow: none;background:#fff;font-family:'roboto',sans-
serif;font-
size:20px;color:#00bcd4;"><?=$item['MUTUAL_FUND']?></button>
                <?php
                }
          ?>
          </div>

     </body>
</html>
```

SERVICE-WORKER.JS

```
const PRECACHE = 'precache-v1';
const RUNTIME = 'runtime';

// A list of local resources we always want to be cached.
const PRECACHE_URLS = [
  'index.php',
  'styles.css',
  'assets/home.css',
  'assets/style.css',
  'assets/images/'
];

// The install handler takes care of precaching the resources we
always need.
self.addEventListener('install', event => {
  event.waitUntil(
    caches.open(PRECACHE)
      .then(cache => cache.addAll(PRECACHE_URLS))
      .then(self.skipWaiting())
  );
});

// The activate handler takes care of cleaning up old caches.
self.addEventListener('activate', event => {
  const currentCaches = [PRECACHE, RUNTIME];
  event.waitUntil(
    caches.keys().then(cacheNames => {
```

```
      return cacheNames.filter(cacheName =>
!currentCaches.includes(cacheName));
    }).then(cachesToDelete => {
      return Promise.all(cachesToDelete.map(cacheToDelete => {
        return caches.delete(cacheToDelete);
      }));
    }).then(() => self.clients.claim())
  );
});

// The fetch handler serves responses for same-origin resources
from a cache.
// If no response is found, it populates the runtime cache with
the response
// from the network before returning it to the page.
self.addEventListener('fetch', event => {
  // Skip cross-origin requests, like those for Google Analytics.
  if (event.request.url.startsWith(self.location.origin)) {
    event.respondWith(
      caches.match(event.request).then(cachedResponse => {
        if (cachedResponse) {
          return cachedResponse;
        }

        return caches.open(RUNTIME).then(cache => {
          return fetch(event.request).then(response => {
            // Put a copy of the response in the runtime cache.
            return cache.put(event.request,
response.clone()).then(() => {
              return response;
            });
          });
        });
      })
    );
  }
});
```

MANIFEST.JSON

```
{
  "short_name": "SIP",
  "name": "SIP",
  "icons": [
    {
      "src": "assets/images/android-desktop.png",
      "type": "image/png",
      "sizes": "192x192"
    },
  ],
  "background_color": "#3367D6",
  "display": "standalone",
  "theme_color": "#3367D6"
}
```

REGISTER.PHP

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

<!DOCTYPE html>
<html>
    <head>
        <title>Register | SIP</title>
        <link href="https://fonts.googleapis.com/css?family=Acme"
rel="stylesheet">
        <link rel="stylesheet" type="text/css"
href="assets/style.css" />
        <link rel="stylesheet"
href="https://cdnjs.cloudflare.com/ajax/libs/font-
awesome/4.7.0/css/font-awesome.min.css">
          <meta charset="utf-8">
          <meta name="viewport" content="width=device-width,
initial-scale=1">
          <link rel="stylesheet"
href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/css/bootstr
ap.min.css">
```

```
          <script
src="https://ajax.googleapis.com/ajax/libs/jquery/3.3.1/jquery.mi
n.js"></script>
          <script
src="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/js/bootstrap
.min.js"></script>
    </head>
     <body>

          <?php
          if(!empty($_SESSION)){
                header("Location: logout.php");
                die();
           }

          require("dbMainConnection.php");
          $message = "";

          if (isset($_POST['submit']))
          {
               $connection = database_connection();
               $name = $_POST['name'];
               $mb = $_POST['mb'];
               $address = $_POST['address'];
               $email = $_POST['email'];
               $pass = $_POST['pass'];

               $sql = "INSERT INTO customers (NAME, CONTACT,
ADDRESS, EMAIL, PASSWORD) values('$name', '$mb', '$address',
'$email', '$pass')";

               $result = mysqli_query($connection , $sql);
               if (!$result) {
                    $message = 'Registration failed. Please try
again';
               }else {
                    $_SESSION["name"] = $name;
                $_SESSION["email"] = $email;
                $_SESSION["contact"] = $mb;
                $_SESSION["address"] = $address;
                    $_SESSION["cid"] = mysqli_insert_id($result);
                    header("Location: index.php#page1");
```

```
            }
        }
        ?>
        <div id="fullscreen_bg" class="fullscreen_bg"/>
        <div class="container">

            <form class="form-signup" action="" method="post">

                <div style="color: red; font-size: 14px;text-
align:center;"><?php echo $message; ?></div>

                <input type="text" class="form-control"
style="margin-bottom: 10px" placeholder="Name" name="name"
required="" autofocus="">
                <input type="text" class="form-control"
style="margin-bottom: 10px" placeholder="Mobile Number" name="mb"
required="" autofocus="">
                <input type="text" class="form-control"
style="margin-bottom: 10px" placeholder="Email" name="email"
required="" autofocus="">
                <input type="text" class="form-control"
style="margin-bottom: 10px" placeholder="Address" name="address"
required="" autofocus="">
                <input type="password" class="form-control"
style="margin-bottom: 10px" placeholder="Password" name="pass"
required="">
                <button class="btn btn-lg btn-primary btn-
block" style="max-width: 200px; margin: 0 auto;" name="submit"
type="submit">Register</button>
                <div class="direction"><a class="signup-
login" href="login.php">Login </a>Instead</div>

            </form>
        </div>
    </body>
</html>
```

SIP.SQL (the SQL file of backend database)

```
-- phpMyAdmin SQL Dump
-- version 4.8.0.1
-- https://www.phpmyadmin.net/
--
-- Host: 127.0.0.1
-- Generation Time: Nov 19, 2018 at 08:37 PM
-- Server version: 10.1.32-MariaDB
-- PHP Version: 7.2.5

SET SQL_MODE = "NO_AUTO_VALUE_ON_ZERO";
SET AUTOCOMMIT = 0;
START TRANSACTION;
SET time_zone = "+00:00";


/*!40101 SET @OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT */;
/*!40101 SET @OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESULTS
*/;
/*!40101 SET @OLD_COLLATION_CONNECTION=@@COLLATION_CONNECTION */;
/*!40101 SET NAMES utf8mb4 */;

--
-- Database: `sip`
--

-- --------------------------------------------------------

--
-- Table structure for table `customers`
--

CREATE TABLE `customers` (
  `CID` int(30) NOT NULL,
  `NAME` varchar(30) DEFAULT NULL,
  `CONTACT` text,
  `ADDRESS` varchar(100) DEFAULT NULL,
  `EMAIL` varchar(35) NOT NULL,
  `PASSWORD` varchar(35) NOT NULL,
  `PRO_PIC` text NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8;
```

```
--
-- Dumping data for table `customers`
--

INSERT INTO `customers` (`CID`, `NAME`, `CONTACT`, `ADDRESS`,
`EMAIL`, `PASSWORD`, `PRO_PIC`) VALUES
(1, 'Rabbani Rasha', '+8801789010059', 'Bashundhara, Dhaka',
'rabbanirasha@gmail.com', 'ahsar', '');

-- --------------------------------------------------------

--
-- Table structure for table `funds`
--

CREATE TABLE `funds` (
  `FID` int(30) NOT NULL,
  `MUTUAL_FUND` text NOT NULL,
  `UNIT_NAV` decimal(10,0) NOT NULL,
  `FACE` decimal(10,0) NOT NULL,
  `RETURN_RATE` decimal(10,0) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8;

--
-- Dumping data for table `funds`
--

INSERT INTO `funds` (`FID`, `MUTUAL_FUND`, `UNIT_NAV`, `FACE`,
`RETURN_RATE`) VALUES
(1, 'ICB Unit Fund', '347', '10', '20'),
(2, 'Acme Mutual Fund', '260', '10', '30');

-- --------------------------------------------------------

--
-- Table structure for table `portfolio`
--

CREATE TABLE `portfolio` (
  `REG` int(30) NOT NULL,
  `MUTUAL_FUND` text,
```

```
  `CID` int(30) DEFAULT NULL,
  `UNITS` smallint(6) DEFAULT NULL,
  `TENURE` decimal(10,0) DEFAULT NULL,
  `INSTALMENT` int(11) DEFAULT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8;

--
-- Dumping data for table `portfolio`
--

INSERT INTO `portfolio` (`REG`, `MUTUAL_FUND`, `CID`, `UNITS`,
`TENURE`, `INSTALMENT`) VALUES
(1, 'ICB Unit Fund', 2, 45, '5', 2000),
(2, 'ACME Mutual Fund', 1, 45, '5', 1000),
(3, 'HFAML Unit Fund', 2, 142, '5', 4000);

--
-- Indexes for dumped tables
--

--
-- Indexes for table `customers`
--
ALTER TABLE `customers`
  ADD PRIMARY KEY (`CID`);

--
-- Indexes for table `funds`
--
ALTER TABLE `funds`
  ADD PRIMARY KEY (`FID`);

--
-- Indexes for table `portfolio`
--
ALTER TABLE `portfolio`
  ADD PRIMARY KEY (`REG`);

--
-- AUTO_INCREMENT for dumped tables
--
```

```
--
-- AUTO_INCREMENT for table `customers`
--
ALTER TABLE `customers`
  MODIFY `CID` int(30) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=3;

--
-- AUTO_INCREMENT for table `funds`
--
ALTER TABLE `funds`
  MODIFY `FID` int(30) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=3;

--
-- AUTO_INCREMENT for table `portfolio`
--
ALTER TABLE `portfolio`
  MODIFY `REG` int(30) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=5;
COMMIT;

/*!40101 SET CHARACTER_SET_CLIENT=@OLD_CHARACTER_SET_CLIENT */;
/*!40101 SET CHARACTER_SET_RESULTS=@OLD_CHARACTER_SET_RESULTS */;
/*!40101 SET COLLATION_CONNECTION=@OLD_COLLATION_CONNECTION */;
```

PAGE-1.PHP (the home page, same as INDEX.PHP)

PAGE-2.PHP (the profile page)

```
<?php include 'header.php';?>
          <div class ="cover" style="z-index:-1;position:
relative;margin-bottom: -150px;padding-top: 10px;height:
400px;background-position: top;background-image:
url('https://cdn.shopify.com/s/files/1/0636/1167/files/LinkedIn-
cover-coffeepen.jpg');"></div>
        <div class="mdl-grid demo-content">
               <div class="demo-card-image mdl-card mdl-shadow--
2dp" style=" margin: auto auto auto; width: 256px; height:
256px;background: url('assets/images/propic.jpg') center /
cover;"></div>
               <div class="demo-charts mdl-color--white mdl-
shadow--2dp mdl-cell mdl-cell--12-col mdl-grid">
               <div class="mdl-card__actions mdl-card--colored"
style="background-color: #FFF;">
```

```
                <a class="mdl-js-ripple-effect mdl-color-text--
amber-700"><h5 style="text-align:center;"><?php echo
$_SESSION["name"];?></h1></a>
            </div>
               <br>
               <div style="margin-left: 10px;">
                    <text class="mdl-navigation__link"><i
class="mdl-color-text--grey-900 material-icons"
role="presentation">email</i>  Email</text><br><br>
                    <text class="mdl-navigation__link"><i
class="mdl-color-text--grey-900 material-icons"
role="presentation">phone</i>  Mobile</text><br><br>
                    <text class="mdl-navigation__link"><i
class="mdl-color-text--grey-900 material-icons"
role="presentation">location_on</i>  Present
Address</text><br><br>
                    <text class="mdl-navigation__link"><i
class="mdl-color-text--grey-900 material-icons"
role="presentation">location_on</i>  Permanent
Address</text><br><br>

               </div>
               <div style="margin-left: 70px;">
                    <text class="mdl-navigation__link"><?php echo
$_SESSION["email"];?></text><br><br>
                    <text class="mdl-navigation__link"><?php echo
$_SESSION["contact"];?></text><br><br>
                    <text class="mdl-navigation__link"><?php echo
$_SESSION["address"];?></text><br><br>
                    <text class="mdl-navigation__link"><?php echo
$_SESSION["address"];?></text><br><br>
               </div>
               </div>
            <div class="demo-charts mdl-color--white mdl-shadow--
2dp mdl-cell mdl-cell--6-col mdl-grid">
            <div style="margin-left: 10px;">
               <br>
                    <text class="mdl-navigation__link"><i
class="mdl-color-text--grey-900 material-icons"
role="presentation">email</i>  Father's
Name</text><br><br>
```

```
                    <text class="mdl-navigation__link"><i
class="mdl-color-text--grey-900 material-icons"
role="presentation">phone</i>  Mother's
Name</text><br><br>
                    <text class="mdl-navigation__link"><i
class="mdl-color-text--grey-900 material-icons"
role="presentation">phone</i>  Spouse's
Name</text><br><br>
                    <text class="mdl-navigation__link"><i
class="mdl-color-text--grey-900 material-icons"
role="presentation">contacts</i>  Date of
Birth</text><br><br>
                    <text class="mdl-navigation__link"><i
class="mdl-color-text--grey-900 material-icons"
role="presentation">table_chart</i>  Occupation</text><
br><br>
                    <text class="mdl-navigation__link"><i
class="mdl-color-text--grey-900 material-icons"
role="presentation">location_on</i>  Designation</text>
<br><br>
                    <text class="mdl-navigation__link"><i
class="mdl-color-text--grey-900 material-icons"
role="presentation">location_on</i>  Nationality</text>
<br><br>

               </div>
               <div style="margin-left: 70px;">
               <br>
                    <text class="mdl-
navigation__link">rabbanirasha@gmail.com</text><br><br>
                    <text class="mdl-
navigation__link">+8801611172742</text><br><br>
                    <text class="mdl-
navigation__link">+8801611172742</text><br><br>
                    <text class="mdl-
navigation__link">19912691615000363</text><br><br>
                    <text class="mdl-
navigation__link">22247665</text><br><br>
                    <text class="mdl-navigation__link">House 277
Flat A3 Road 10 Block A</text><br><br>
                    <text class="mdl-
navigation__link">Bangladeshi</text><br><br>
```

```
            </div>
          </div>
            <div class="demo-charts mdl-color--white mdl-shadow--
2dp mdl-cell mdl-cell--6-col mdl-grid">
            <div style="margin-left: 10px;">
               <br>
                    <text class="mdl-navigation__link"><i
class="mdl-color-text--grey-900 material-icons"
role="presentation">email</i>  NID
Number</text><br><br>
                    <text class="mdl-navigation__link"><i
class="mdl-color-text--grey-900 material-icons"
role="presentation">phone</i>  Passport
Number</text><br><br>
                    <text class="mdl-navigation__link"><i
class="mdl-color-text--grey-900 material-icons"
role="presentation">contacts</i>  eTIN
Number</text><br><br>
                    <text class="mdl-navigation__link"><i
class="mdl-color-text--grey-900 material-icons"
role="presentation">table_chart</i>  BO
Account</text><br><br>
                    <text class="mdl-navigation__link"><i
class="mdl-color-text--grey-900 material-icons"
role="presentation">table_chart</i>  Bank A/C
Number</text><br><br>
                    <text class="mdl-navigation__link"><i
class="mdl-color-text--grey-900 material-icons"
role="presentation">table_chart</i>  Routing
Number</text><br><br>
                    <text class="mdl-navigation__link"><i
class="mdl-color-text--grey-900 material-icons"
role="presentation">table_chart</i>  Bank
Name</text><br><br>
                    <text class="mdl-navigation__link"><i
class="mdl-color-text--grey-900 material-icons"
role="presentation">table_chart</i>  Branch</text><br><
br>

               </div>
               <div style="margin-left: 70px;">
               <br>
```

```
                    <text class="mdl-
navigation__link">19912691615000363</text><br><br>
                    <text class="mdl-
navigation__link">V0663727</text><br><br>
                    <text class="mdl-
navigation__link">122341658432</text><br><br>
                    <text class="mdl-
navigation__link">22247665</text><br><br>
                    <text class="mdl-
navigation__link">2401300000024</text><br><br>
                    <text class="mdl-
navigation__link">EET563332</text><br><br>
                    <text class="mdl-navigation__link">Janata
Bank Limited</text><br><br>
                    <text class="mdl-
navigation__link">Postogola</text><br><br>
                </div>
            </div>
          </div>
          <div style="text-align:center; margin-
bottom:15px;"><button class="mdl-button mdl-js-button mdl-button-
-raised mdl-js-ripple-effect mdl-button--accent mdl-color--amber-
700 mdl-color-text--white">EDIT PROFILE</button></div>
```

PAGE-3.PHP (the *pay instalment* page)

```
<?php include 'header.php';?>
<body>
     <h3 style="text-align:center;">Pay instalments with your
favorite wallet service. Just include the registration number of
the corresponding scheme as reference note.</h2>
     <img src="assets/images/wallets.jpg" alt="mobile wallets"
width="1000px" style="display: block; margin-left: auto; margin-
right: auto;">
```

PAGE-4.PHP (the return predictor page)

```
<?php include 'header.php';?>
     <link
href="https://fonts.googleapis.com/css?family=Patua+One"
rel="stylesheet">
     <style>
     #main-heading {
          text-align: center;
          font-size: 40px;

     }

     #append{
          margin-top: 2em;
     }

     .btn {
          margin-right:4rem;
     }
     </style>
     <body>
     <div class="container">
               <div class="row">
            <h2 style="color:#00bcd4;font-family: 'Patua One'"
id="main-heading">Return Predictor</h2>
            <div style="background:#fafafa;min-height:
90vh;height: auto !important;height: 90vh;">
                    <div class="mdl-grid mdl-cell--2-col"
style="margin-top: 5rem">

                         <form action="" method="">
                              <div class="form-group mdl-
textfield mdl-js-textfield mdl-textfield--floating-label">
                                   <label class="mdl-
textfield__label" for="principal">Balance of Fund</label>
                                   <input class="form-control
mdl-textfield__input" id="principal" type="text">
                              </div>
                              <br>
                              <div class="form-group mdl-
textfield mdl-js-textfield mdl-textfield--floating-label">
```

```
                                    <label class="mdl-
textfield__label" for="years">Tenure</label>
                                    <input class="form-control
mdl-textfield__input" id="years" type="text">
                                </div>
                                <br>
                                <div class="form-group mdl-
textfield mdl-js-textfield mdl-textfield--floating-label">
                                    <label class="mdl-
textfield__label" for="int-rate">Annual Return Rate</label>
                                    <input class="form-control
mdl-textfield__input" id="int-rate" type="text">
                                </div>
                            <br>
                            <br>
                                <div class="calc mdl-grid mdl-cell-
-12-col" style="text-align:center">
                                    <div id="button" style="text-
align:center; margin-bottom:15px;margin-left:5px;"><button
class="mdl-button mdl-js-button mdl-button--raised mdl-js-ripple-
effect mdl-button--accent mdl-color--amber-700 mdl-color-text--
white">Predict</button></div>
                                    <div id="clear"style="text-
align:center; margin-bottom:15px;margin-left:5px;"><button
class="mdl-button mdl-js-button mdl-button--raised mdl-js-ripple-
effect mdl-button--accent mdl-color--amber-700 mdl-color-text--
white">Clear</button></div>
                                </div>
                            <br>
                            <br>
                                <div>
                                <h2  id="append"></h2>
                                </div>
                            </form>
                        </div>
                </div>
                </div>
            </div>

    <script>
    $(document).ready(function(){
```

```
     $("#button").click(function(event){
               event.preventDefault();
               var $principal = parseInt($("#principal").val());
               var $years = parseInt($("#years").val());
               var $intrate = parseFloat(($("#int-
rate").val())/100);
               var $ansfinal = parseFloat(10*($principal *
(Math.pow((1 + $intrate),($years))))).toFixed(2);
               $("<div>").append($ansfinal).appendTo('#append');
               $("<div>").append("taka").appendTo('#append');
          });

     $("#clear").click(function(event){
               event.preventDefault();
               $("#append").empty();
     });

     });
     </script>
     </body>
```

PAGE-5 (the portfolio page)

```
<?php include 'header.php';?>

<meta name="viewport" content="width=device-width, initial-
scale=1">
<style>
.accordion {
    font-family: 'roboto',sans-serif;
     background-color: #00bcd4;
    color: #fff;
    cursor: pointer;
    padding: 18px;
    width: 100%;
    text-align: left;
    outline: none;
    font-size: 17px;
    transition: 0.4s;
     box-shadow: none;
     border: 0;
     box-shadow: none;
```

```
     border-radius: 0px;
}

.active, .accordion:hover {
    background-color: #00aabf;
}

.panel {
    padding: 0 18px;
    background-color: white;
    max-height: 0;
    overflow: hidden;
    transition: max-height 0.2s ease-out;
     width:100%;
}
</style>

<body>

<div class="mdl-grid demo-content mdl-cell--6-col" style="margin-
top:20px;">
     <?php
     require("dbMainConnection.php");
     $sip = database_connection();
     $result = mysqli_query($sip , "SELECT * FROM portfolio,funds
WHERE CID='".$_SESSION["cid"]."' AND portfolio.FID=funds.FID");


     if (!empty($result) && mysqli_num_rows($result) > 0){
          while($item = mysqli_fetch_assoc($result)){
     ?>
     <button class="accordion"><?=$item['MUTUAL_FUND']?><i
class="mdl-color-text--white material-icons" role="presentation"
style="float:right;">keyboard_arrow_down</i></button>
     <div class="panel" style="margin: 2px 2px 2px 2px;">

          <div style="float:left">
               Registration Number<br>
               Units<br>
               Unit price (NAV)<br>
               Face Value<br>
               Instalment<br>
```

```
                Deposit till date<br>
                Scheme added on<br>
            </div>
            <div style="float:right;">
                <?=$item['REG']?><br>
                <?=$item['UNITS']?><br>
                <?=$item['UNIT_NAV']?><br>
                <?=$item['FACE']?><br>
                <?=$item['INSTALMENT']?><br>
                <?=$item['DEPOSIT']?><br>
                <?=$item['ADDED_ON']?><br>
            </div>

        </div>
        <?php
                }
        }else{
                echo "<div style='text-align:center; font-size: 20px;
padding: 30px;'>No items found.</div>";
        }
        ?>


</div>

<script>
var acc = document.getElementsByClassName("accordion");
var i;

for (i = 0; i < acc.length; i++) {
  acc[i].addEventListener("click", function() {
    this.classList.toggle("active");
    var panel = this.nextElementSibling;
    if (panel.style.maxHeight){
      panel.style.maxHeight = null;
    } else {
      panel.style.maxHeight = panel.scrollHeight + "px";
    }
  });
}
</script>
</body>
```

PAGE-6 (the *transaction history* page)

```
<?php include 'header.php';?>

<div id="folio" class="container">
     <div class="col-md-6 col-sm-6" style="margin-top:
30px;margin-left:30px;">
          <table class="mdl-data-table mdl-js-data-table mdl-
shadow--2dp">
            <thead>
               <tr>
                 <th class="mdl-data-table__cell--non-
numeric">Mutual Fund</th>
                 <th>Units</th>
                 <th>Unit price</th>
                 <th class="mdl-data-table__cell--non-
numeric">Bought On</th>
               </tr>
            </thead>
            <tbody>
               <tr>
                 <td class="mdl-data-table__cell--non-
numeric">Acme mutual fund</td>
                 <td>25</td>
                 <td>324</td>
                 <td class="mdl-data-table__cell--non-
numeric">10/10/18</td>
               </tr>
               <tr>
                 <td class="mdl-data-table__cell--non-
numeric">Islami bank first fund</td>
                 <td>25</td>
                 <td>324</td>
                 <td class="mdl-data-table__cell--non-
numeric">10/11/18</td>
               </tr>
               <tr>
                 <td class="mdl-data-table__cell--non-
numeric">ICB Unit Fund</td>
                 <td>25</td>
                 <td>324</td>
```

```
                  <td class="mdl-data-table__cell--non-
numeric">12/08/18</td>
                </tr>
              </tbody>
            </table>
      </div>
</div>
```

----THE END----