

Title

Title

**COMMUNITY FINANCIAL PORTFOLIO MANAGEMENT
SYSTEM**

By

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ABSTRACT

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The purpose of this project is to develop a Community Financial Portfolio Management System (CFPMS) which is a combination of two system and to present a new system. However the concepts and technology involves by the Community website and Financial Portfolio Management System are totally different technology.

The main purpose of community website is to provide a space that allow a group of people or member to share some content such as photo, webpages hyperlinks, group discussion topic and etc. The visibility of the contents in community website will only available for specific members. On the other hand, the Financial Portfolio Management System is a computer system that monitoring and manage the investor's personal assets such as Shares, Real Estates, Bonds and more other assets to achieve the investors' specific investment targets in a systematic solution to gain higher competitive advantage than other investor^[8]. In this modern century, the rise of Internet service has change the user behaviour ^[10], investors are prefer to share their own investments result to their friend or specific people through internet. Unfortunately, the existing community websites does not provide a standard format of the investment portfolio status, in the other word if user hope to share the status of investment portfolio to community website, user have to manually input the information from the Financial Portfolio Management System to the website.

This main problem have then inspired to design and develop a compound system to solve this problem. However some new challenges are notice and this challenges will affected the consistency and the privacy of information sharing issues. In order to understand the concepts of both systems and find out the solution to handle the challenges, it is essential to study of related work about the community website and financial portfolio management system. The development of the project will guide by using the Rapid Application Development model as the development methodology to ensure the project is construct in systematic way.

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LIST OF ABBREVIATIONS

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HTML	HyperText Markup Language
IT	Information Technology
CFPMS	Community Financial Portfolio Management System
RAD	Rapid Application Development
SWOT	Strength, Weaknesses, Threat, Opportunity
PDA	Personal Digital Assistant
GUI	Graphic User Interface
CASE	Computer-aided Software Engineering
ERD	Entity Relational Diagram
CSS	Cascading Style Sheets
AJAX	Asynchronous JavaScript and XML
XML	Extensible Markup Language
PHP	Hypertext Pre-processor

Chapter 1 INTRODUCTION

1.1 Introduction

The project is to develop a website system that combine of both features from web community features and also investment portfolio management system features. This proposed project is mainly focus for investor who want to have a special platform to interaction and communication with other people who are also interest in investment sector while using the investment portfolio management system.

1.2 Project Inspiration

The key motivation of develop a community web based financial portfolio management system is because some of the existing portfolio management systems are standalone system but the current software trend is more focus on flexibility and portability. The standalone system required specific platform such as Window Microsoft Operating System, Apple Macintosh Operating System or Linux Operating System to compatible with the software. In this project, by putting the portfolio management system online to community website based so that the investors will able to access to their investment portfolio account by any web browser that available in HTML 5 on any IT devices including smartphones and tablets.

On the other hand, by combine the features of investment portfolio management system to the community website based so the systems is online and connected by the internet users. Many of the individual investors may lack of the knowledge of investment skill or lack of the investment experience, theirs' investment portfolio status may in the messy status or not well panning condition, they can share their portfolio status to the community website to get the professional advice from the experienced investor in theirs' own community group.

1.3 Background Information

Arise of World Wide Web (WWW) yield the people in whole world have an easier and fast interaction and communication. Internet user hope to have a specific place to discuss specific topic, so the community website such as bulletin board website invented purposely to make some announcement to the community member. But the bulletin website have limited features

which only available to post some simple text and maybe low quality picture. The rapid improvement of technology make the website become famous and affordable to large amount of people. The user hope to have their own dedicated place to post their own idea and the topic. Thus, the forum and blog community website have replace the bulletin board website. The forum and blog have much more interactive function to let the more enjoyable when post new information to their own blog or forum, they can either post new photo, video, text and also website hyperlink and also share some RAR file or docs file. But arise of the Web 2.0, the social network website such as Facebook, Google +, Twitter and MySpace have influence the way of user use of internet. User can connect the people in the whole world who have same interest, same study field or work in same international company. The social network launch some new feature to group these people to a small community so the information shares within the community member will be the contents that is interest by all members. Example, user is interest in the investment so he will join the investment community group, in that community group he will get the information related to the investment. Hence, all member in community will discuss the topic which will related to the community interest.

On the other hand, except the community website features, the CFPMS also consist of Financial Portfolio Management System features. Before the Information System become popular to assist people do the daily task, in the investment field, investors have to record and track their investment manually in a paper or notebook. The calculation of the total profit and the dividend return, the brokerage fee calculation required some professional knowledge in order to have a good investment return. Hence, not everyone can become investor because of barrier of professional knowledge background is required. As time go by, the Information System improve, the computer device become cheaper and affordable, investor start rely on technology to track their investment record. They user the spreadsheet to record the history of the investment and use the spreadsheet generate the report and calculation part. Unfortunately, the data of the investment and the calculation formula require manually input by the investors. The problem of professional knowledge in investment still require and the human error may cause the inconsistency of the investment report.

Hence, to solve this type of problem, an Information System called Portfolio Management System have yield to allow more investors and normal user maximal the benefit in investment. The Portfolio Management System can reduce the time and complex calculation part in traditional way. The portfolio management system is a friendly-user system for investor, it have a nice graphic interface which user can perform a most all action by only click the button. The latest shares price will automatically update, the dividend of the share will automatically calculate for the investor by retrieve the record when investor buy the shares, the alert system help investors not miss up something important. Some advance system even help user analysis the trend of the shares when is the best timing to buy the shares.

The CFPMS project will combine the features from both community website and portfolio management system, so the investor can get both features while only require using one system.

1.4 Project Challenges

When the portfolio management system is online, it can share the portfolio's status to the community group such as friend, investors' mentor or family member easily without logging to the different community website and without manually input the portfolio's status.

However, when the information is publish on the community website, mean that all the member will able to access to the information, user may consider some of this problem before consider to use the system such as the visibility problem, the content of the information will show, the privacy problem of the information and also the add-ons features that can make the system more powerful.

1.4.1 Privacy

The main problem of online system is the privacy issues, in this project, the investment portfolio status will available to share to the other people in the community group. In order to show the status to other people and user will care about the way of the presentation of the status. The investment portfolio normally will show the investment status in monetary form which mean the other people will know the users' privacy information through the status that sharing by the users. The privacy information such as the total investment money, total profit

and total loss in real monetary form. In the worse feedback, this privacy issue could effected the personal safety problem of the user.

1.4.2 Content

The other issue that user may concern in this project will be the content issue. User may just hope to share a part of the investment status to the community group but not the full status. For instance, user is an investor who invest involve in Bonds, Shares, and Real Estate and he is using this system to management his investment portfolio, he may hope to only share the investment status of the Real Estate information to the community group who are concern in Real Estate investment only. The unnecessary content in the information may make the community user feeling frustrated.

1.4.3 Visibility

Most of the community websites are broadcast the information by the user to everyone in the community. However some user wish to share the information to specific people such as close friend, family member or their investment teacher in the community group only.

1.4.4 Interaction and Communication Tool

In this modern century, user may wish to have the all in one integration application to reduce the complexity work. The communication software of the all Community member may different such as WeChat Messenger, Yahoo Messenger, Google Talk Messenger, Skype Messenger and other more messenger, this will make the communication process within the member become more complex. If user use the other Instant Messenger to communicate with other community member, as a result, user may have to input the data from the investment portfolio again to start a topic in a chat, and wasting time to log in the other Instant Messenger account.

In order increase the stability and enhance the system, therefore the proposed project will mitigate the challenges list above as the challenges state above is possible to cause the system not reliability and consistency.

1.5 Project Scope

First and foremost, the scope of the proposed project is to develop a Community website based portfolio management system that user able to sharing the information about the investment portfolio status in the standard predesign format in the community group.

The system is make to allow user manage and track their investment in a more systematic way. This will help user save allow of time from the manually work. The main purpose combine of two system is to allow investor can have more interaction and communication with other investor. Some features are important to make the interaction and communication easier in the website.

The proposed project will create a public notice function with the notifications feature to let user able to make an announcement to the whole community group or to the specific group members. Besides that, the proposed project will include an online messenger which allow user communicate on the community website itself. These are some main functional module that will exist in the CPFMS.

1.5.1 Transaction Module

In this module, user can search a shares code or name to see the current price and buy the shares. User can also close or sell the shares they holding. After each transaction, the transaction will save in the either buy list or sell list respectively.

1.5.2 Reporting Module

User can view the overall performance of portfolios in chart report form or general accounting report form. The report can generate according to the time period and the time period can customize by user.

1.5.3 Alert Module

In this module, system will save the setting by the user at initial, when the requirement of the user in case of shares price reaches the point to buy or sell, or the transaction date is reaches, the alert system will notice the user.

1.5.4 Share Information Module

In this module, user are allow to share a new topic in text form, photo, video, website hyperlink or create an event for the community member.

1.5.5 Content Visibility Module

In this module, user can set the information to only seem by specific people they wish to share. Besides that, in this module, user also can set the visibility of the information to shares for all community member, friend only or even only allowed user himself.

1.5.6 Standard Portfolios' Performance Module

In this module, user can just select the content in the portfolio which they want to share with other and just click the share button to share the selected content to all community member.

1.5.7 Privacy Content Module

In this module, the website will use some algorithm to calculate the privacy of the user portfolios such as fund of investment in monetary form, total profit or loss in monetary form, or total dividend earn in monetary, and then convert this privacy data to the percentage form when user hope to share their result to the community member.

1.5.8 Notice Board Module

This module is special for the admin of the group which mean the organizer of the community group. The notice board will show in the top of the community webpage and it is use to announce the very important information.

1.5.9 Stock Quote search Module

This module allow user quick search the desire stock market detail in the project itself without the need of open another website to search the stock details.

1.6 Project Objective

The main objective of CPFMS is make the traditional financial portfolio management system to have an interaction within the user. Users are allow to share the portfolio status to the other member in the website. Besides that, the website able let user save time and reduce complex

input work to the spreadsheet to perform the calculation of the investment. By using the function that prepare in the CPFMS such as dividend management, report generating function and buy and sell list to monitor the shares status, user can easy track the investment.

1.6.1 To make the investment easy

The website support portfolio management feature such as dividend management, automatically calculate brokerage fee, track buy and sell record and reporting function to see overall investment performance.

1.6.2 To provide an interaction platform

The CPFMS add in the community website feature to let user share information and have a group chat with other member by messenger in the website.

1.6.3 To enhance the privacy

The website allow user set the people who are available to view the information, and hide some part of content of portfolio which will not show when user share the portfolio performance.

1.6.4 To increase the flexibility

User can use any device which have web browser that support HTML 5 to use our website. All the portfolio will save in cloud storage so user can access the use the website to track their investment any place any time.

1.6.5 To make the investment more interesting

The user can share their performance to the other group member, the other member will hope to make a higher achieve. The competition within the user will increase the interest of the user and even improve the investment skill. The group discussion and online group studies will also make investor willing to learn more.

1.6.6 To make the information more consistency

The website support standard format to show the portfolio status which only click and share to the community website without user manually type in the data. The human error also will be eliminated.

1.7 Project Impact and Contributions

As the financial portfolio management system is an efficiency tool to assist investor to manage their assets and investments probably. However, some of the investors may not confidence of the combination of their investment or the ratio of total investment pair are not effectively. Thus, the community webpage portfolio management system can let this type of investor share the status of their investment portfolio to the professional or experienced friend, mentor, family member or consultant in the community members to ask for the advices and recommendations.

Besides that, the proposed project can let user share the investment portfolio status to the own community website with a standard format which other community website have to manually input the information and cause the not consistency of information. This function can reduce the human error, and reduce the time taken for manually input of the information.

On the other hand, the manually calculation of the interest rate from the different bank can be eliminate as the system is integrate of this function. As a result the information show in the system will more reliability because if the investor use two different bank to invest a shares the brokerage fee may not same so the system will automatically get the accurate value and perform calculation for the user.

Lastly, the CFPMS can be the stage of the investor to prove and show their investment skills are mutual and successful and it can improve the other investor investment skill and confidence. As sharing of the investment result in the community group can motivate the other investor maximal the profit in future. This will practice the investment skill in more effectively and gain respect from the other members.

1.8 Chapter Summary

In this report consists of three chapters. Chapter one will be the introduction which discuss the project scope and objective, project impact and contribution, project inspiration, project challenges and also the background information of the project. In Chapter 2, we will discuss the strength and weaknesses for some existing system which related to the proposed project such as Facebook, Google+ for community website and JStock, Portfolio Manager and SigFig

for financial portfolio management system. In Chapter 3, we will discuss the proposed method, tool and technology to develop the project, requirement specification and the timeline of the project. The system design such as use case diagram, class diagram and data dictionary will discuss in Chapter 4. Finally, a conclusion is make on Chapter 5.

Chapter 2 LITERATURE REVIEW ON COMMUNITY FINANCIAL PORTFOLIO MANAGEMENT SYSTEM

2.1 Chapter Overview

The CFPMS project is a new idea that combine of community website features and investment portfolio management system features in one new system, and this area no other people study before. Therefore, the understanding of both existing system is necessary before the project is started. Thus, the study of this two systems is important to understand the necessary features and functions must be involve in the new system. Besides that, through study of the both different system, the existing problem that already found in the existing system can be eliminate to reduce the redundant work. In other word, we can carry out the opportunity through the existing problem. In section A, three type existing community websites has been study which are Facebook group, forum, Blog. In section B, three type of existing Finance portfolio Management System has been study which are JStock, Portfolio Manager.

2.2 Community Website

2.2.1 FACEBOOK GROUP



Figure 2:1 Facebook Group

Facebook Groups is an additional function from Facebook website. Groups is original create to allow user to have easy interaction and communication with specific set of people such as family, classmate, co-worker and etc. ^[12] The people who have same interest and who have same specific subject can use Facebook Groups to form a small community . ^[13]

Pros

- **Control the Visibility of Groups**

Facebook Group provide three types of privacy setting for the group. First is the **Public (Open) Group**, all Facebook member can see the Group, search from search engine and open to make post in the Group. The other option of privacy setting is the **Closed Groups**, similarly with the Open Group, everyone in Facebook can search and view the Group, but in this privacy setting only Groups' member are allow to see and make the commend and post. The last privacy setting of the Facebook Group is the **Secret Group** is the most secure group compare to the Public and Closed Group setting, only the groups' member itself are able to search the group and view the group and also make the post and comment in the group. [5]

- **Sharing Features**

Facebook Group prepare a dedicated spaces for group member to share the photo, post a new status, notice an new event for the group, share the file within the group member. ^[11]

- **Group Chat**

The group chat function allow all group members chat in a same time and get reply immediatly. This function can eliminated the doubt pick up the phone for individual conversation and back-and-fourth email to the member. [5]

- **Notifications**

Facebook Group let user choose whether want to get a notification or not then any member make a new post, event, group chat, or sharing a new photo in a group. Hence, user will not miss the latest update and what topic group member are discuss now.

Cons

- **Cannot share to only Specific People**

In Facebook Group, the post will share to everyone in the group. Users are not given option to hide the post from some member in the group. Example, if the group is a co-worker group, but the female member hope to make a new event about female party and they hope to hide this event update from male member, in Facebook Group user are no option to do that so.

- **Does not have standard format for Portfolio Status**

Facebook Group is not prepare a standard format to share a portfolio performance, in case a user have create an investment sharing group, if they want to share the portfolio status, they need to input manually in the group post.

Recommendation

- Facebook Group can add a feature that user can have an option to choose whether the post is available to all member in group, friend in group, or specific people in the group only.
- Facebook should add a special format to allow user just click and share the investment portfolio performance to group member without required investor manually key in.

2.2.2 Google+ Circle

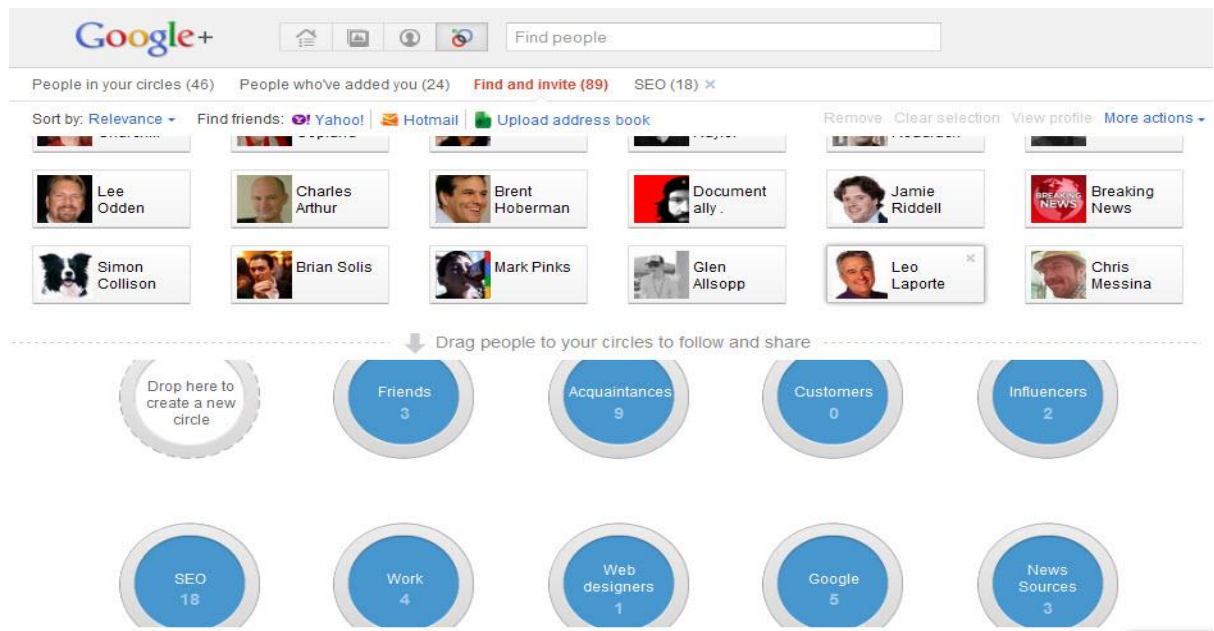


Figure 2:2 Google+ Circle

Google Plus is a social networking website launch by Google Company. In the Google+, it has a unit function which is Google+ Circle. This unit function is use to group the people that have some certain relation with the user example Family Circle, work colleagues Circle or other interest Circle. [14]

Pros

- **Share Selectively**

User can share the information for the people by Circle, so the information will delivery to the right people. Example, user can discuss for family trip plan inside the Family Circle, discuss for class graduation trip plan inside course mate Circle and discuss honeymoon trip with users' partner.

- **Notifications**

All the information update by the member inside the Circle will automatically sent a notification for all other members. Therefore, all member will not miss up the latest information that discuss in the Circle.

- **Hangout-Instant Chat Room**

Hangout is a chat room that allow the member use for interaction and communication with other member. User can use this features to discuss something that need quick reply and even more privacy issues to certain Circle member.

- **Sharing Features**

Circle can allow user share the photo, post, video, website links to the Circle member page. Only the member inside the Circle are authorised to see the content inside the Circle. ^[14]

- **Drag and Drop Feature**

If user want to add in a friend to certain Circle, they can just drag that friend and drop in to the Circle respectively. This feature can make the step to add in new member to the Circle more quickly if that is large number of member need to add in by the user. ^[16]

Cons

- **Cannot share to only Specific People in a Circle**

In Google+ Circle, the post will broadcast to everyone in the Circle. Users are not given option to hide the post from some member inside the Circle. Example, if the Circle is a co-worker group, but the female member hope to make a new event about female party and they hope to hide this event update from male member, Circle is not allowed to do that so.

- **Does not have standard format for Portfolio Status**

Google+ Circle is not prepare a standard format to share a portfolio performance, in case a user have create an investment sharing group, when they want to share the portfolio status, they need to manually input the portfolio content in the group post.

Recommendation

- Google+ Circle can add a feature that user can have an option to choose whether the post is available to all member in group, friend in group, or specific people in the group only.

- Google+ Circle should add a special format to allow user just click and share the investment portfolio performance to group member without required investor manually key in.

2.2.3 Comparison between Two Community Website

- Visibility

In Facebook Group, there are three type of group which are Public Group, everyone can search and see the content in the group, Closed Group, everyone can see the group but only member can see the contents, Secret Group, appear only when member invite the user join the group. Google+ Circle only show the content for the Circle member.

- Privacy of Contents

The investment portfolio result have to manually key in by investor, investor need to do calculation to convert the privacy data to the percentage form before post to Facebook Group or Google+ Circle.

- Group Chat, Sharing type

Both system have its own chat application and the sharing type such as photo sharing, video sharing, website hyperlink sharing and text posting. But Facebook can create a new events to the group member.

- Portfolio Format

Both community website does not have its own portfolio format to let investor skip the manually input step in order to share portfolio performance result.

- Share Selectively

Both Facebook Group and Google+ Circle does not have option to let user choose to limited the visibility of the content to some of the member.

2.3 Financial Portfolio Management System

2.3.1 JStock

JStock is a standalone and free investment portfolio management system. It provide various feature to make the investment easier to track and manage. These features are important to study to implement to the proposed project. ^[17]

Pros

- **Multiple Watch List**

Watchlist is a very important feature in an investment portfolio management system to monitor and check the latest stock price. JStock's watchlist support multiple countries stock markets up to 26 countries in the world. Besides that, JStock use Yahoo! Finance and Google Finance to get the latest price stock market price. User also can use group the stocks in different watchlist to make the observation of price easier by category. Example, REIT category watchlist, Construction Share category watchlist and long term Dividend category watchlist. ^[17]

- **Multiple Portfolio Management**

JStock can calculate the total net worth of the total investment by user either loss or profit. This features help user know their investment performance immediately and make further decision whether close or continue hold that share. Similarly, user can create multiple portfolios to category their investment to reduce the complexity compare to put everything in a portfolio. The other feature of portfolio management is dividend management, JStock can let user manually input the dividend information of the share, or automatically generate by JStock. User will know how much and when they get dividend and the pass history by Dividend Management. On the other hand, the Cash Management system also help user know how much the cost to start an investment and how much was withdraw out. ^[17]

- **Alert System**

User can set the alert system what price to notice the user when the desires shares' price if reaches it buying point or selling point. The way to get the notification will via email or SMS if the user are far away from the system. But if user are in-front of the screen, JStock will pop

out a notification bar from the desktop. This feature can help user track the price and will not miss the chance to buy a shares at the price they feel is right. ^[17]

- **Indicator Filter**

Investor need smart tool to assist them to make right decision and predict the good target price to buy a share. JStock support several of indicators such as RSI, MACD, Alligator, CCI, SMA ,EMA and other more indicators as an advance tool by just simply install to the JStock.

On the other hand, user also can use their own strategy and convert it to its own indicator by using Indicator Editor supported by the JStock. User does not required IT background as the Editor is use drag and drop to design the indicator. ^[17]

- **Charting**

The charting feature use to show the overall performances of the user. The investment flow summary can let user view the investment result immediately through a line chart with some comparison of the day and total return. The Dividend Summary Chart let use direct know whether the dividend is in an increased order or decreasing in return. Lastly the portfolio Summary Chart show the result of the investment portfolio of which stock have bring the most benefit to user and which one make most losses. ^[17]

- **Cloud Storage**

The portfolio account can be upload to the JStock Cloud storage so when the user use the JStock software in other machine, they can just get their own account from the cloud storage and open it at any machine. The other benefit is the user can upload the backup to the cloud storage to prevent loss of data if any emergency happen.

Cons

- **Information Not Shareable**

JStock does not provide a dedicated space to let other JStock user share their performances, and does not have a private platform for the investor to interact and communicate to discuss or share some experienced or latest news about the shares.

- **Not Flexible**

The JStock required specific platforms to install to the computer such as Microsoft Window OS, Macintosh OS, and Android OS. User have to install in other device if they are using the other computer.

- **No Category for Broker**

JStock does not help user automatically calculate the official brokerage and category which shares are buy by which broker account. User need to manually input the brokerage fee and also need to manually put a note to the shares to know the shares belong to which broker.

Recommendation

- JStock should make a standard format to share the investment portfolio performance to the community website such as Facebook Group and Google+ Circle, so investor can share the portfolio result immediately through one click without manually input.
- JStock should develop a website based system to allow investor use the JStock in any device that support HTML5's browser to track the investment.
- JStock should add a feature to categories the broker type when investor buy the shares using the different broker, it make investor easy track the investment.

2.3.2 Portfolio Manager

Portfolio Manager is another standalone portfolio management system by Reliksoftware. Some of the features are available benefit the investor save the time for manually input the investment information in a spreadsheet and reduce the human error. Portfolio Manager System is target to be an investor personal stock trading diary. ^[18]

Pros

- **Multiple Portfolios**

User can create multiple portfolios in the Portfolio Manager System. Some user may need to categories the investment, example investor may have 3 broker, so he can create 3 portfolio to separate the investment by different broker.

- **Calculator**

One of the most attractive feature of the Portfolio Manager is the Stock Calculator function, user can use this Calculator manually input the price, total quantity and brokerage fee to calculate the net profit of the desire transactions. If the user is satisfice with the profit, they can buy the shares using the data that use for calculator directly without input again in the open trade interface.

- **Multiple Reports**

Report is an important aspect in a portfolio management system which allow user easier know the profit or loss of their investment for a particular period of time. Portfolio Manager able to generate the several of this report such as Dividend report which focus only the dividend revenue, trade list report which is a report of the stock that investor still hold, profit and loss report which is the general report that show the transaction which already close and the general ledger report that show the report in account ledger style to let user easier use for the accounting purpose.

- **Trading Plan**

Trading Plan is a feature of Portfolio Manager System that allow user set the target price of the shares , the target date to close the transaction, and the stop loss price to prevent further losses. This feature let user minimize the time to manage and track the share price in front of the screen.

- **Multiple Account**

Portfolio Manager System support user create multiple account in a portfolio to allocate the fund wisely.

- **History Trades**

After the investor close the transaction of particular share, the transaction will save in the trade list. User can view the history trade list to know the pass transaction record from the list.

Cons

- **Information Not Shareable**

Portfolio Manager does not provide a dedicated space to let other Portfolio Manager's user share their performances, and does not have a private platform for the investor to interact and communicate to discuss or share some experienced or latest news about the shares.

- **Not Flexible**

Portfolio Manager required specific platforms to install to the computer such as Microsoft Window OS, Macintosh OS, and Android OS. User have to install in other device if they are using the other computer.

- **No Category for Broker**

Portfolio Manager does not help user automatically calculate the official brokerage and category which shares are buy by which broker account. User need to manually input the brokerage fee and also need to manually put a note to the shares to know the shares belong to which broker.

- **No Charting**

Portfolio Manager does not support the chart reporting and also the share market chart. User hard to track the price and the trend of the shares price and also need time to know the overall performance of the investment.

Recommendation

- Portfolio Manager should make a standard format to share the investment portfolio performance to the community website such as Facebook Group and Google+ Circle, so investor can share the portfolio result immediately through one click without manually input.
- Portfolio Manager should develop a website based system to allow investor use the Portfolio Manager in any device that support HTML5's browser to track the investment without need specific OS platforms.
- Portfolio Manager should add a feature to categories the broker type when investor buy the shares using the different broker, it make investor easy track the investment.
- Portfolio Manager should add more easy understand report format such as pie chart that can directly show the overall investment performance.

2.3.3 SigFig Portfolio Management System

SigFig is a website-based portfolio management system. It have many powerful features to assist investor maximal the investment return.

Pros

- **Multiple Account**

SigFig support multiple account in portfolio to allow investor track all the investment once in a single portfolio account.

- **Advanced Dashboard View**

SigFig will automatically integrate all the investment into one dashboard, investor can easy know the performance of all the investment easily without looking at many charts.

- **Stock Advisor**

SigFig have an interesting feature to all the investor which is the Stock Advisor function. The system will check all the performance of investment and notice investor whether the investment is underperforming or well performance. Besides that, the system also check the

hidden brokerage fee for the investor and compare the financial consultant fee for the investor. [19][20]

- **Own Blog and Social Network Page**

SigFig have their own social network page for Facebook and Twitter, and even have own blog. They will update the latest market news at those website, so investor can know the latest news and information about SigFig.

- **Flexible Website-Based System**

The SigFig is a website-based system, user can use this system using any devices that have web browser which support HTML5.

- **Weekly Report**

Every week, SigFig will conclude the weekly investment performance and sent to the investor to let investor plan the future investment strategies.

Cons

- **Not Allow Interaction within Investor**

Although SigFig have their official blog and social network page, but the communication way is SigFig to investor. Investor could not have a communication and communication directly by SigFig blog or social network page.

- **Information Not Shareable**

The portfolio performance of SigFig cannot just easy share by just click share button in the system. User need to manually input to the community website if they want to share the portfolio performance result to the investment community member.

- **No Categories for Broker**

The investment does not category according to the broker, investor need remember the shares are buying by which broker account.

Recommendation

- SigFig should prepare a dedicated place to let the investor have a direct interaction to let them easy to communicate and share the portfolio result to other investors.
- SigFig should have a feature to allow investor choose what contents in the portfolio to share in the community website without manually input.
- SigFig should allow user categories the broker in the open trade list to easy track the holding shares are buy from which broker.

2.3.4 Comparison between Three Existing Financial Portfolio Management System

	Multiple Account/Portfolio	Report	Indicator	Flexible	Trading Plan	Dashboard
JSTOCK	YES	Weak	YES	No	No	No
Portfolio Manager	YES	Medium	No	No	YES	No
SigFig	YES	Strong	No	YES	No	Yes

Table 2.3.4-1 Comparison of Portfolio Management System

	Information Shareable	Standard Format in Website	Stock Calculator	Stock Advisor	Stock Watch List	Alert System
JSTOCK	No	No	No	Indicator	YES	Yes
Portfolio Manager	No	No	Yes	No	YES	No
SigFig	No	No	No	System analysis	YES	No

Table 2.3.4-2 Comparison of Portfolio Management System 2

The SigFig and JStock have more features compare to the Portfolio Manager system. The JStock have indicator and alert system feature which not found in SigFig and Portfolio Manager.

For the SigFig, it is more flexible compare to the other two system and provide a dedicated dashboard to summary the overall performance for all account. However, although the Portfolio Manager have lesser feature than the other two system, it have some features which cannot found in the other two system. The trading plan to set the disaster stop loss and target price is a good tool to utilise by investor and stock calculator to know the final ROI while buy a share are found in Portfolio Manager.

After compare the features between three existing system, some basic features which can found in the three systems must to include in the CFPMS such as the multiple portfolios feature, multiple account feature, dividend management feature, report generator feature, the stock watchlist and other transaction function to buy or sell a share.

2.4 Chapter Summary

After the study for some existing system or both system, some important features will implement in the CFPMS project and the weaknesses that have been explore will solve in the CFMPS project. The basic function such as reporting, multiple portfolio and account, alert system, chart reporting function, cash management and also dividend management function from portfolio management system will utilise and include in the CFPMS system to assist the investor track the investment easier. However, to make the portfolio management part more interactive and attractive, some advance features such as indicator filter that allow investor use the advance way to predict the shares market trend, the stock advisor tool which use some financial formula to calculate the trend of the share and inform to investor automatically, alert system, the advanced dashboard view for all multiple account to show the performance directly for the investor, and also a trading plan function to let investor set the plan for investment in advance. These advanced features will try to include in the CFPMS project to make the system more intelligent and powerful.

The system is built in website based to increase the flexibility. The features from community website that have been investigate such as photo sharing, video sharing, event creating, group chat messenger, update notification features, group content visibility feature will been include in the CFPMS project.

The new feature use to solve the both system issues will be invent in the CFPMS project such as the share button in own portfolio page, investor will able to click the share button in their own portfolio management page and select the content their want to share to the other member. The system will automatically convert the contents which investor want to share to the percentage from to protect the privacy of investor. On other hand, the system will allow user choose who can view the post by using the visibility filter feature in CFPMS. Lastly CFPMS project will create one more column in the trade list to categories the broker so investor can track the investment easily.

Chapter 3 METHODOLOGY

3.1 Chapter Overview

In this chapter, the methodology to develop the proposed system and the hardware and software requirement will be listed and discuss. This chapter also will introduce some analysis of the proposed system in the diagram form.

3.2 System Development Model

In this proposed project, the Rapid Application Development (RAD) model is selected to be the development methodology of this project. According to the Ramesh Kumar state that the Rapid Application Development model is suitable to use when the development time of the system is limited. (Ramesh & Rajesh, 2014).

The RAD model will separate the functional modules and developed in parallel using prototype methodology. If the individual functional module is complete, they will integrated to make the complete system so it can save the time compare to build the functional module one then follow the other one. ^[11] The other advantage of RAD model is during the development process the development model can easier to make changes if developer want to add in additional requirement or withdraw the unnecessary requirement of the project. ^[11]

The RAD model can separate project to multiple functional modules and each module will consists of 5 phases in the whole development cycle. Those 5 phases are show as picture below.



Figure 3:1 Phases of Rapid Application

- **Requirement Planning**

First, the basic requirements of the CFPMS is collected thought study and observes the other existing system for community website such as Facebook Group and Google+ Circle and for financial portfolio management system such as JStock, Portfolio Manager and SigFig. The

problems explored when study the related system will be an opportunity for the project to develop a solution to solve the problem and implement in the CFPMS.

The SWOT analysis technique will use to interpret the Strength, Weakness, Opportunities and Threat of the basic requirement for CFPMS.

Prototype

After the requirement planning phases, the CFMPS project will separate in few functional module to start the prototype for each module such as Messenger Module, Messenger Module, Stock transaction Module and other more functional module.

- **User Design**

After the study of several existing systems, some analysis for the existing problem in the existing community websites and existing portfolio management system will be perform to produce a solution to solve the problem in the CFPMS.

The interface of the CFPMS will be design based on the requirement.

The logical description of the Messenger Module, Alert System Module will be design to let the flow of database and the system flow easy to view.

- **Construction**

After the logical description of all the requirements of CFMPS is designed, the code will generate by the CASE Tool.

The correction of the logical description will be perform if the CASE Tool found any logical problem of the logical description.

- **Testing Phase**

The prototype of CFPMS will let the supervisor, friend and random selected student to test and get feedback from them.

The feedback will use to evaluate the system.

3.3 System Analysis

3.3.1 Functional Requirements

User Registration

- The system shall let the non-member user to register themselves under registration pages.
- The system shall validate the username to avoid the existing username being use.
- The system shall ask user enter the information that necessary to provide to maintain the consistency of the system.
- The system shall save and update while the information is successful validated.

User Login

- The system shall let member login to the system.
- The system shall validate the password and username.

Reset Password Management

- The system shall let user link to “forgot password page” to do the reset password.
- The system shall ask user for the option to reset password.
- The system shall sent the new password to the user through the option of user.
- The system shall ask user change the password that provide by system to the password which belong to user.

Social Network Management

- The system shall let the user add new friend to their community.
- The system shall let the user start a personal chat or group chat.
- The system shall let the user share their portfolio or dashboard to their friend or to the wall post with privacy settings.
- The system shall let the user comment to the other friend’s post.

Notification

- The system shall send a notification to the all user while there are any updated.

Portfolio Management

- The system shall let the user add new portfolio and new account.
- The system shall let the user search the stock.
- The system shall let the user add the favourite stock to the watch list.

Trade Management

- The system shall let the user buy the stock manually by providing quantity and current price of stock and broker fee.
- The system shall let the user buy and sell a stock through trading plan feature.
- The system shall let the user sell the stock manually.
- The system shall add the on floating stock into the trade list.
- The system shall add the stock that already exit (sell) by the user into the history list.
- The system shall always update the deposit and profit of the account and show to user.

Portfolio Analysis

- The system shall automatically generate the latest portfolio information and show to the user in the portfolio page.
- The system shall summary the profit and loss, the total investment category and current available deposit in the dashboard form to let user easy tracking the current portfolio performance.

3.3.2 Non Functional Requirements

Operational Requirements

- The system should operate in Windows environment.
- The system should automatically back up at the end of each day.
- The system should use cache memory and session technology to reduce the waste of RAM memory.

Performance Requirements

- The system should retrieve the user information and portfolio information within 0.1 second.
- The system should show the webpage within 1 second.
- The system should analysis the portfolio performance in accuracy and fast response time.

Security Requirements

- The system should validate the username and password in order to login to the profile page.
- The system should ask for security code in order to prevent bot attack.
- The system should ask for password again while user wish to change the password.

Usability Requirement

- The system should have a friendly user interface to let user easy to remember the step to perform certain tasks.
- The system should let user easy to know the functionality of each modules.
- The system should make user satisfied to use.

Robustness Requirement

- The system shall not terminate while unexpected request coming, the system shall reject the request.
- The system shall not run too many application processes that could hit the maximum server process limit.
- The system shall pop out the error message to the user while the database connection failure.

3.3.3 Hardware Software Requirements

- **Hardware:**
 - Intel Pentium IV MHz and above.
 - At least 1 GB RAM memory.
 - At least 2 GB hard disk space for cache memory.
 - Touch Screen or Mouse or Keyboard or Gestures Control as input
 - Monitor Screen as output.
- **Software:**
 - Front End : Dreamweaver, Note++
 - Back End : MySQL Server, WampServer
 - Operating System : Window XP/Window 7/Window 8
 - Mark-up Language : HTML5,XML
 - Framework : CodeIgniter
 - Programming Language : PHP,JAVASCRIPT,AJAX
 - Style Sheets : CSS
 - Browser: Mozilla Firefox, Google Chrome, Internet Explorer

3.3.4 Use Case Diagram

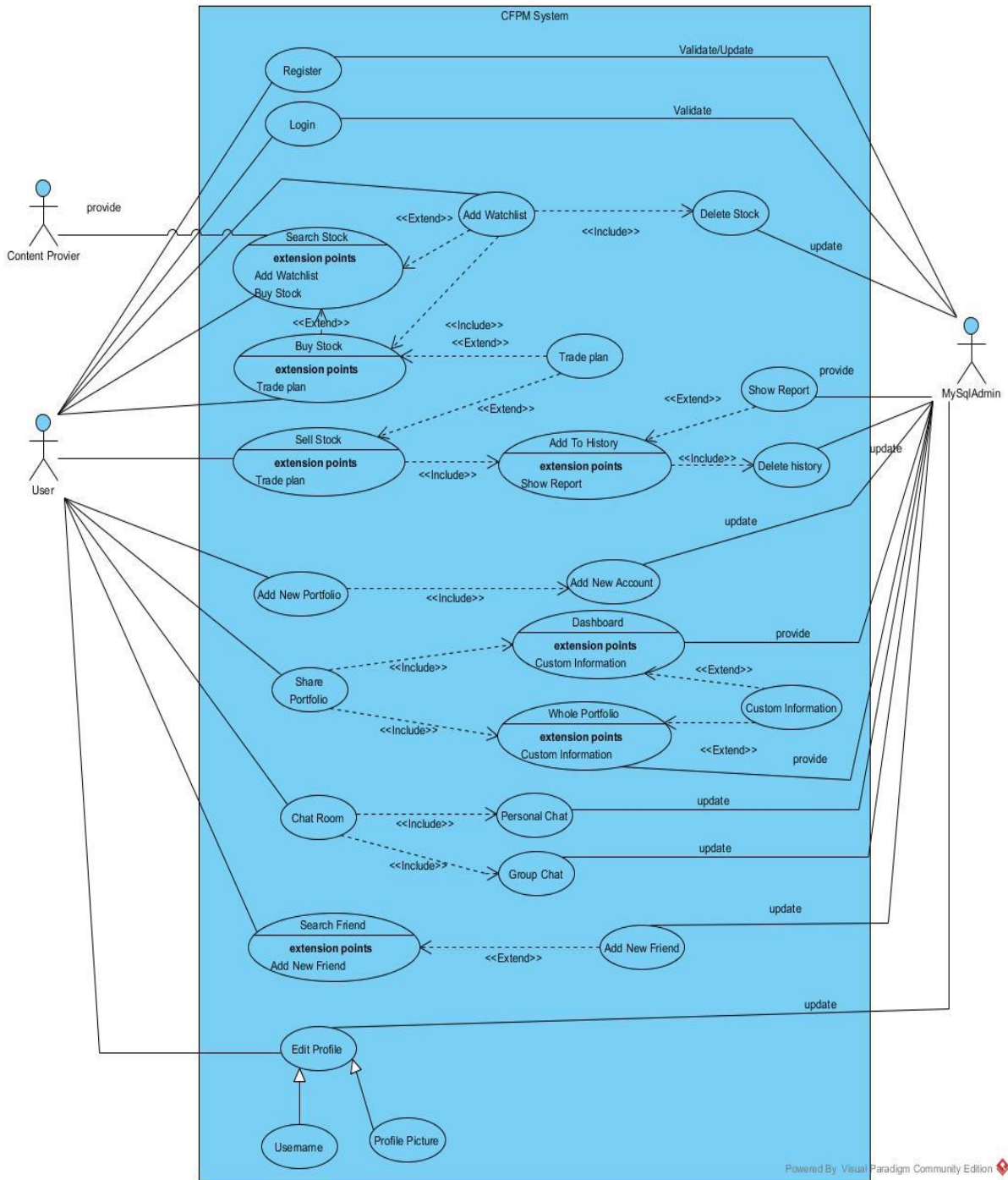


Figure 3:2 Use Case Diagram OF CFPMS

3.3.5 Class Diagram

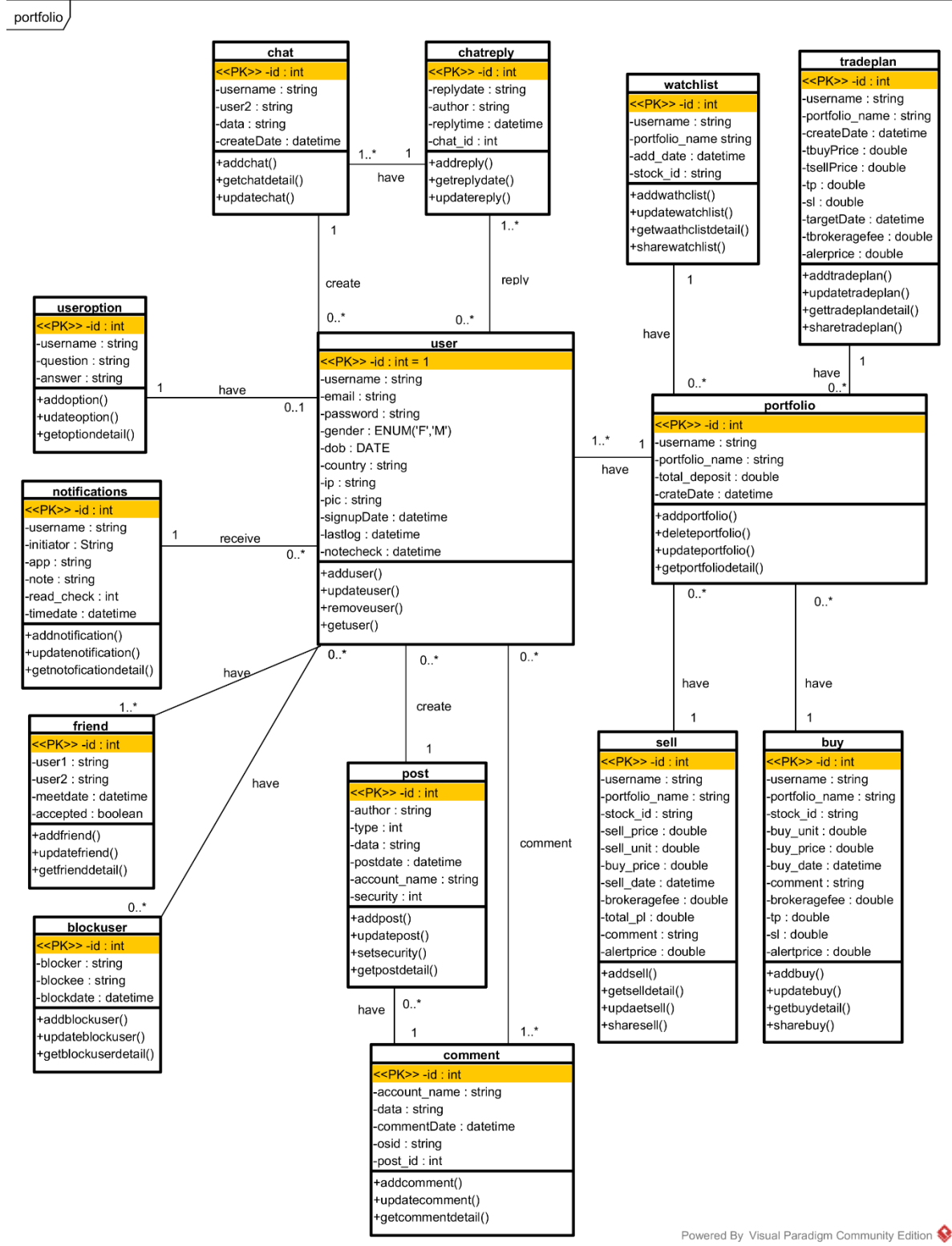


Figure 3:3 Class Diagram for CFPMS

3.3.6 Object Diagram

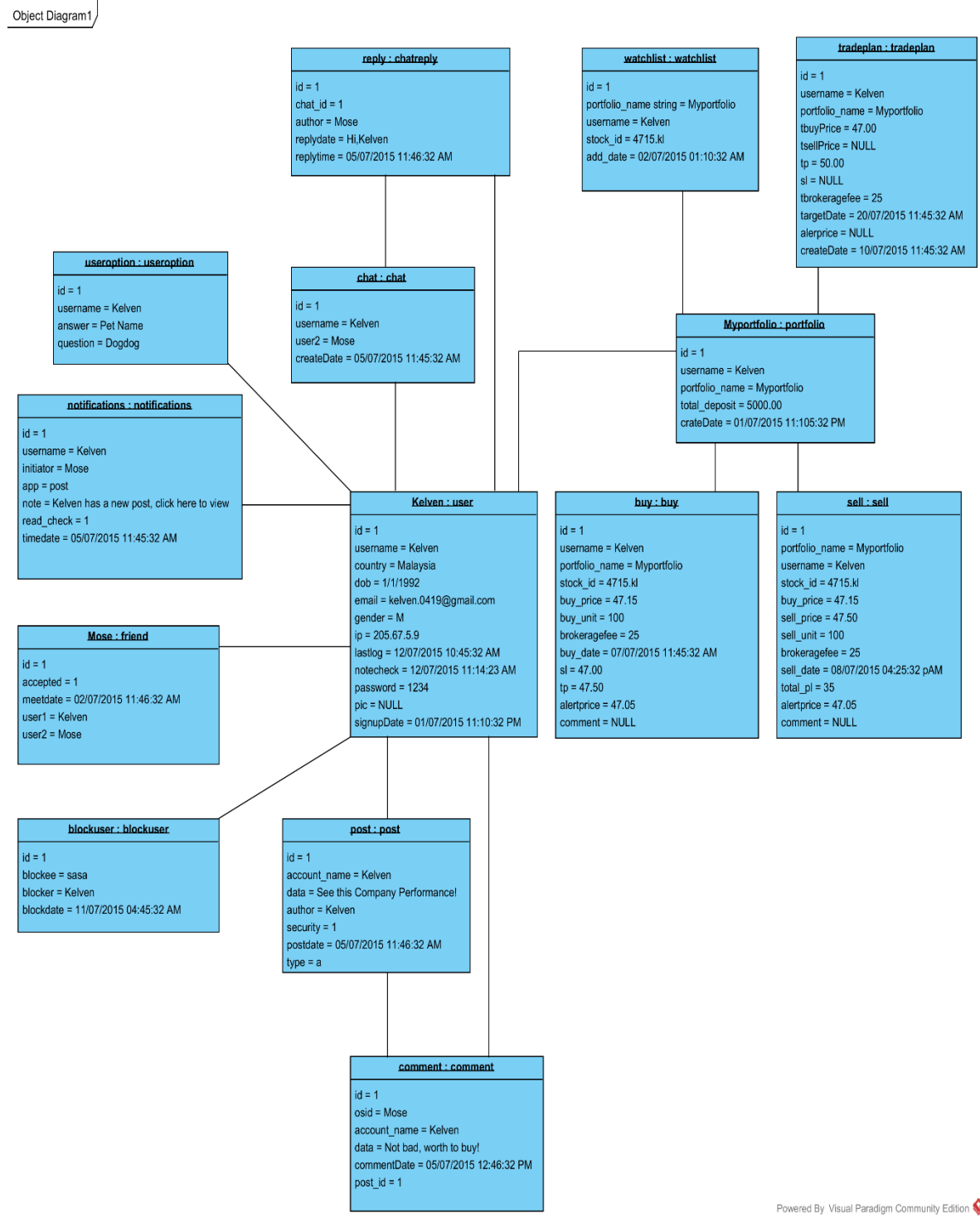


Figure 3:4 Object Diagram for CFPMS

3.4 System Planning

3.4.1 Project Timeline

At Risk	Task Name	Start Date	End Date	Q4												Q1			Q2			Q3			Q4			Q1		
				Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan
	Section 1 - Planning	11/03/14	11/25/14	Section 1 - Planning																										
	Select Title	11/03/14	11/03/14	Select Title																										
	Project Inspiration	11/11/14	11/12/14	Project Inspiration																										
	Project Background Information	11/12/14	11/13/14	Project Background Information																										
	Project Challenge	11/13/14	11/14/14	Project Challenge																										
	Project Scope	11/15/14	11/15/14	Project Scope																										
	Project Objective	11/16/14	11/17/14	Project Objective																										
	Project Impact and Contribution	11/18/14	11/23/14	Project Impact and Contribution																										
	Schedule & Budget Planning	11/24/14	11/25/14	Schedule & Budget Planning																										
	Section 2 - Analysis	11/25/14	11/30/14	Section 2 - Analysis																										
	Research For Existing System	11/25/14	11/28/14	Research For Existing System																										
	Community Website	11/25/14	11/26/14	Community Website																										
	Financial Portfolio Management System	11/26/14	11/28/14	Financial Portfolio Management System																										
	Summary And Comparison	11/28/14	11/29/14	Summary And Comparison																										
	Preparation & Submission of Preliminary Report	11/30/14	11/30/14	Preparation & Submission of Preliminary Report																										
	Section 3 - Design	11/20/14	02/02/15	Section 3 - Design																										
	Development Cycle Model	11/20/14	11/21/14	Development Cycle Model																										
	Conceptual Design	01/21/15	01/23/15	Conceptual Design																										
	Specification Design	01/24/15	01/26/15	Specification Design																										
	General Work Procedure	01/26/15	01/28/15	General Work Procedure																										
	Database Design	01/28/15	01/30/15	Database Design																										
	Interface Design	01/27/15	01/29/15	Interface Design																										
	Flow Chart	02/01/15	02/02/15	Flow Chart																										
	Summary	02/03/15	02/04/15	Summary																										
	Section 4 - Implementation	06/15/15	10/12/15	Section 4 - Implementation																										
	System Implementation	06/15/15	08/10/15	System Implementation																										
	Testing	08/11/15	08/25/15	Testing																										
	Unit Testing	08/11/15	08/17/15	Unit Testing																										
	User Acceptation Testing	08/18/15	08/25/15	User Acceptation Testing																										
	System Evaluation	08/25/15	08/30/15	System Evaluation																										
	System Completion	08/25/15	08/26/15	System Completion																										
	System Pros and Cons	08/27/15	08/28/15	System Pros and Cons																										
	System Future Enhancement	08/29/15	08/29/15	System Future Enhancement																										
	Section 4 - Conclusion	08/29/15	08/31/15	Section 4 - Conclusion																										
	Conclusion And Discussion	08/29/15	08/31/15	Conclusion And Discussion																										
	Project Submission	09/01/15	09/09/15	Project Submission																										
	Submit Project with Full Report	09/01/15	09/01/15	Submit Project with Full Report																										
	Submit Whole System	09/01/15	09/01/15	Submit Whole System																										
	Presentation	09/09/15	09/09/15	Presentation																										

Figure 3:5 Project TimeLine

The whole project will development within 6 month (2 semester period). In the initial of the project timeline, the project title was selected and determined. The basic planning, analysis of the project is required in the initial of project to gather the information and the objective, scope and problem of the project before the design the system.

After research and get the necessary data about the project, the system design phase will continue in the project timeline. Developer will design the database, interface, project work flow, procedure of the whole project before the implementation of the system.

After the design phase, the system will start developer and implement. The testing phase and evaluation of the project will perform after the implementation phase to ensure the quality of the whole project is excellent.

Chapter 4 SYSTEM DESIGN

4.1 Chapter Overview

In Chapter 4, the actual system user graphical interfaces and screen flow diagram will discuss to make the understanding and easier develop of the proposed system. Entity relationship modelling diagram (ERD) will use to design the database which use to allow the proposed system work fluently also will be design and discuss in this chapter. Lastly, the system architecture design will present in this chapter to show the actual work flow of the proposed system.

4.2 ERD Diagram

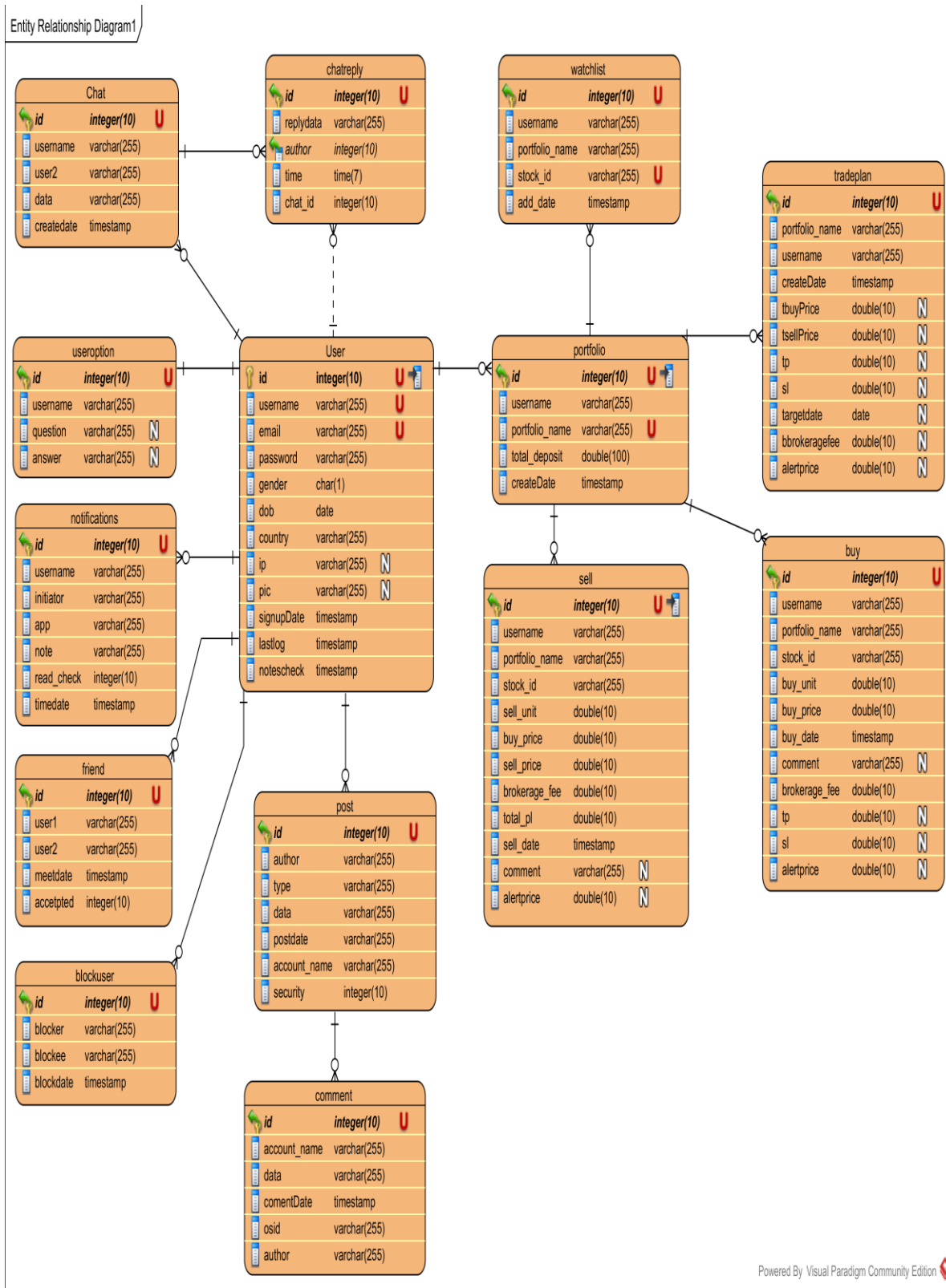


Figure 4:1 ERD Diagram of CFPMS

4.3 Screen Flow

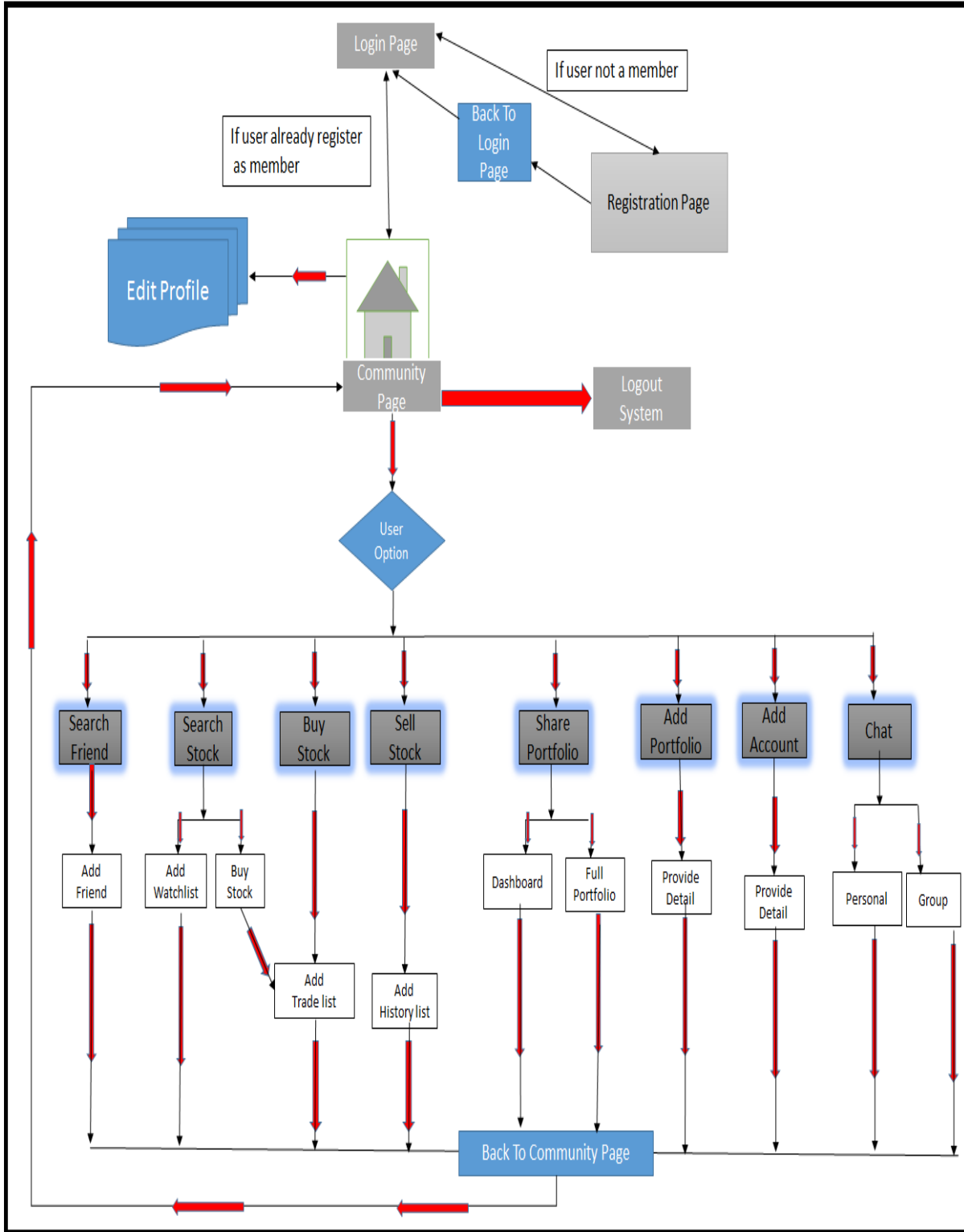


Figure 4:2 Screen Flow of CFPMS

First, the default home page of the system is login page, user need to login using username and password. If user are not a member, he need to go to the registration page to register himself.

If the user forget him/her password, he can go to the “forgot password” page and enter his/her email to reset the password.

When user success login, he can edit his/her profile in profile page. They can also logout the system when they finish using the system.

In the community page user can perform several task such as add new portfolio, new account, share the portfolio, buy a stock, sell a stock, start a chat with friend or group ,search friend or stock and they also can generate a report.

4.4 System Interface Design

4.4.1 Low Level GUI Design

HomePage

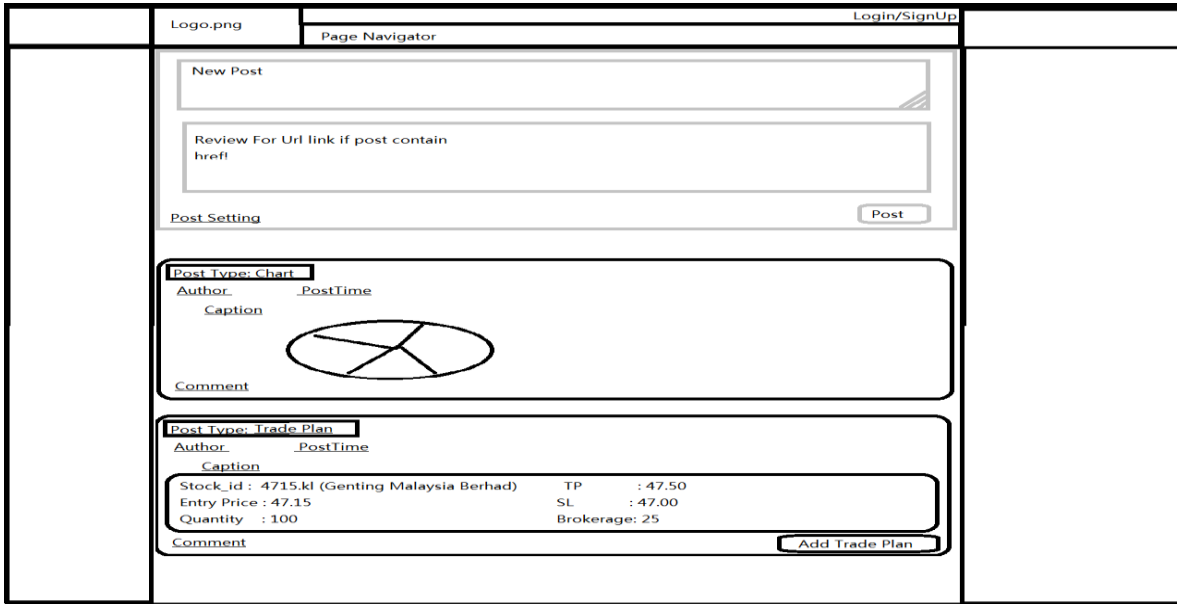


Figure 4:3HomePage

Homepage will get all the user and friend sharing content and show it in this page.

Portfolio Page – Transaction Tab

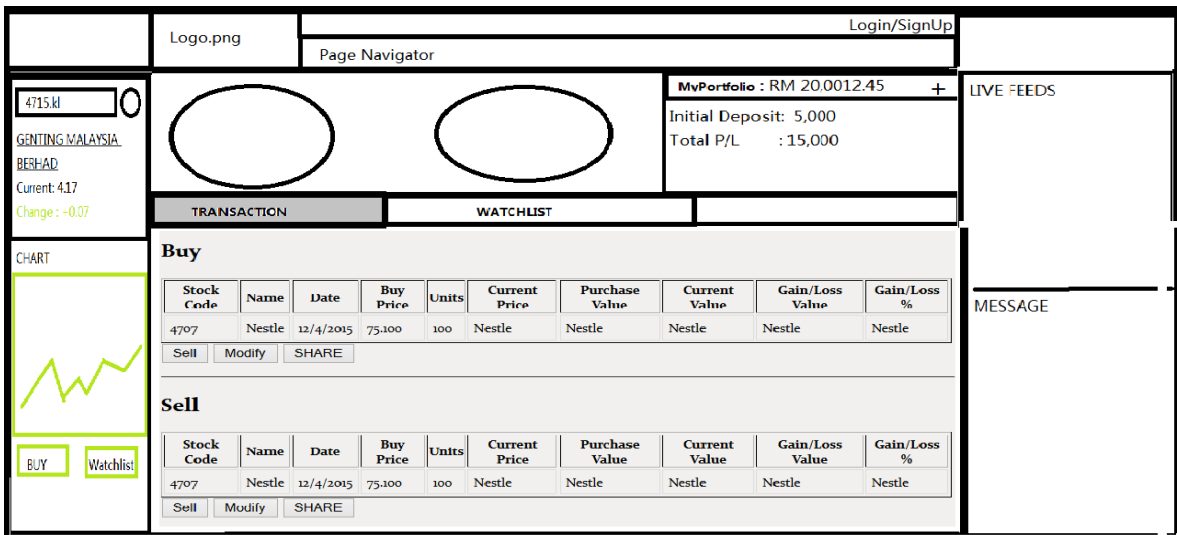


Figure 4:4 Portfolio Page-trade tab

Portfolio Page – Watchlist Tab

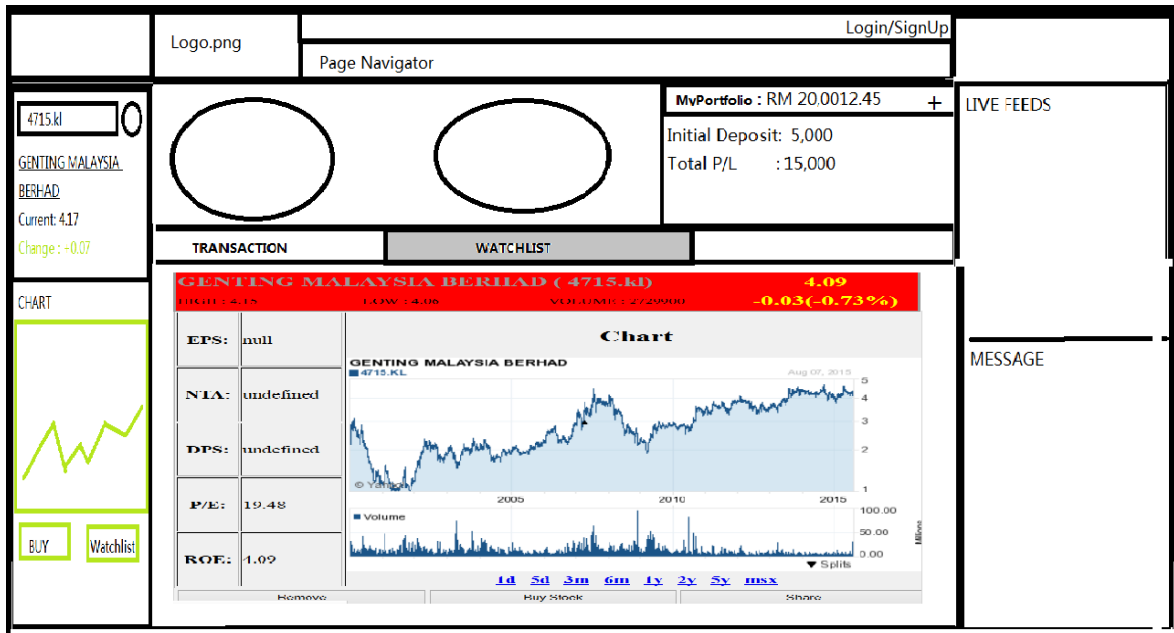


Figure 4:5 Portfolio Page-Watchlist tab

In portfolio page, it will consists of dashboard, transaction and watchlist tab, left side bar which using to search the stock information, and right side bar which show the live feed and message box.

Transaction Window

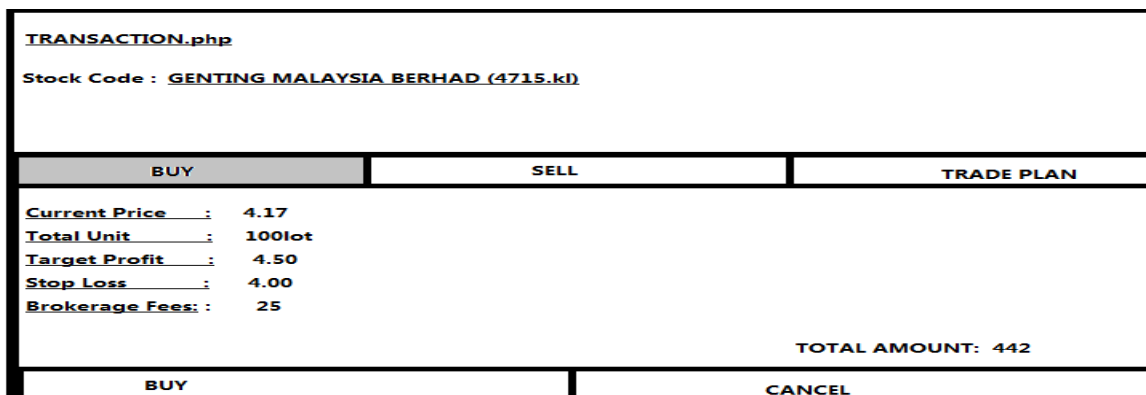


Figure 4:6 Transcation Window-Buy

TRANSACTION.php		
Stock Code : <u>GENTING MALAYSIA BERHAD (4715.kl)</u>		
BUY	SELL	TRADE PLAN
BUY PRICE : 4.17 Current Price : 4.42 Total Unit : 50 lot Target Profit : 4.50 Stop Loss : 4.00 Brokerage Fees : 25		TOTAL P/L : 219
SELL		CANCEL

Figure 4:7Transaction Window-Sell

TRANSACTION.php		
Stock Code : <u>GENTING MALAYSIA BERHAD (4715.kl)</u>		
BUY	SELL	TRADE PLAN
BUY STOP : 4.00 Total Unit : 50 lot Target Profit : 4.50 Stop Loss : 3.50 Brokerage Fees : 25		
ADD Plan	Share	CAncel

Figure 4:8Transaction Window-Trade plan

When user click on sell, buy button, a pop-up page will load, user can entry a buy of a stock, sell a current holding stock or add a trade plan for a stock.

4.4.2 GUI Screenshot

Homepage > Before Login



Figure 4:9 Homepage > Before Login

The homepage included a login form to allow user login from the homepage, and a hyperlink link user to the registration account page for the non-member user. User also can choose to select this two function by click on the login and signup link on the top banner of the webpage.

Create Account Page

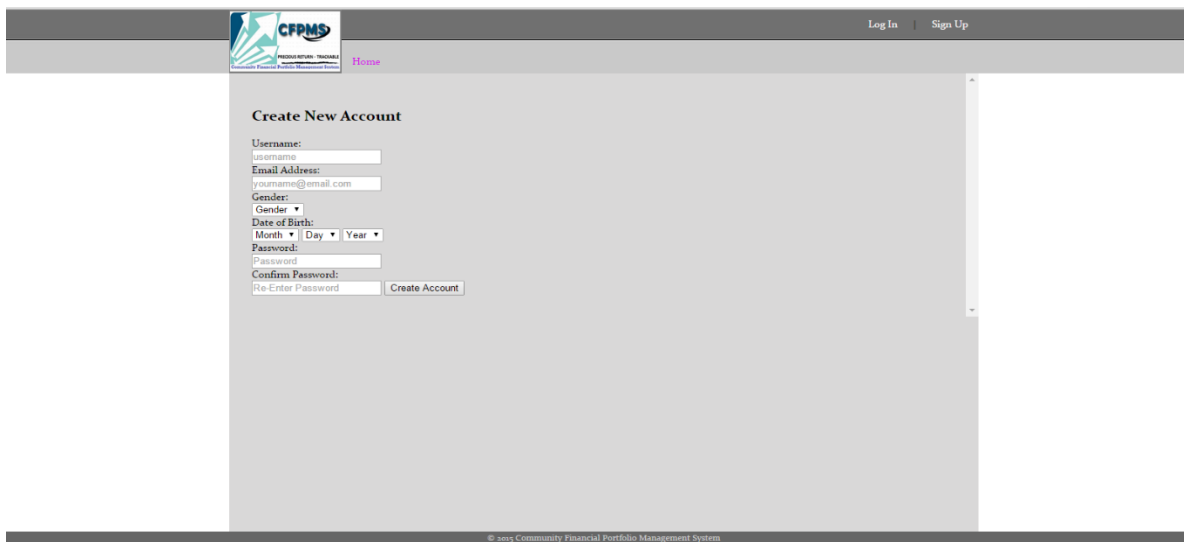


Figure 4:10 Create Account Page

In this page, user can fill in their personal detail to register an account.

Login page

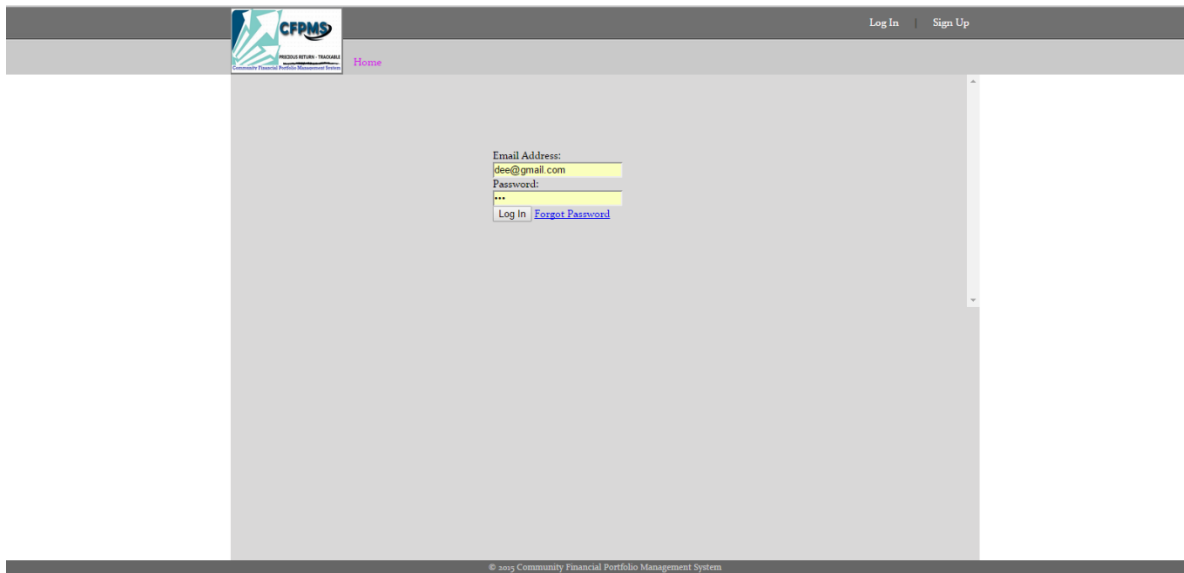


Figure 4:11 Login page

In this page, user have to fill the email field and password field in order to login as a member.

Portfolio Page

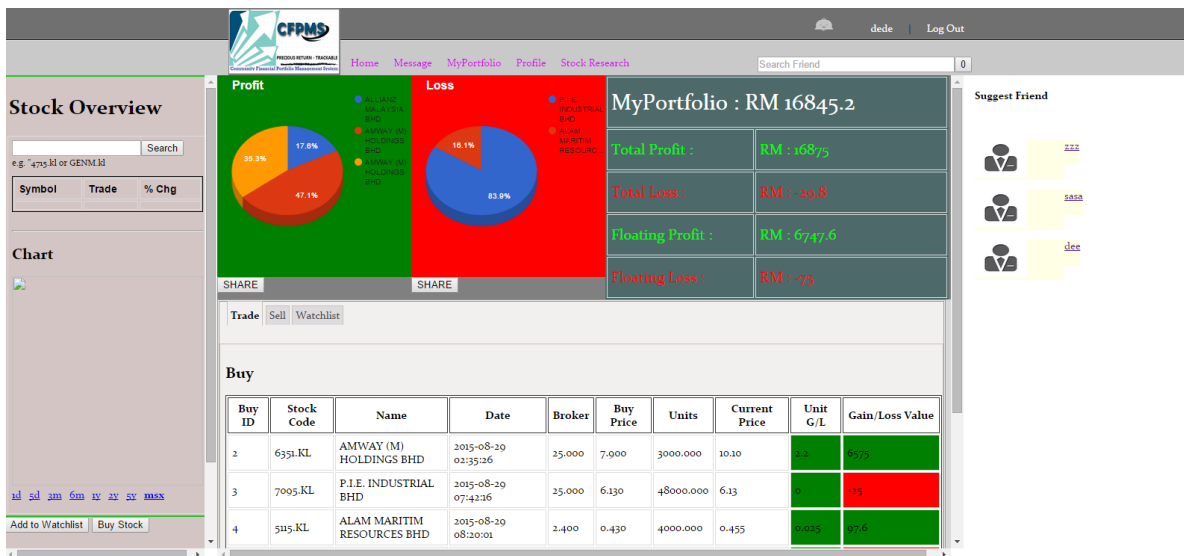


Figure 4:12 Portfolio Page

In this page, include side bar which use to search the stock information, dashboard and portfolio performance division, tabs for trade, sell and watch list, and right side bar for the friend recommended system. This page is forbidden for other friend.

Right Side Bar

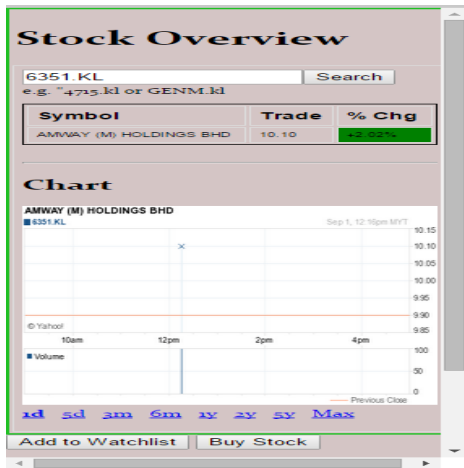


Figure 4:13 Right Side Bar

In this side bar, user can type the share/stock code to search the information of the stocks. Stock latest price, and price change in percent will show in green if increase, show in red if decrease. The bottom will show the stock chart.

Tabs-Trade

Trade Sell Watchlist

Buy

Buy ID	Stock Code	Name	Date	Broker	Buy Price	Units	Current Price	Unit G/L	Gain/Loss Value
2	6351.KL	AMWAY (M) HOLDINGS BHD	2015-08-29 02:35:26	25.000	7.900	3000.000	10.10	3.2	6575
3	7095.KL	P.I.E. INDUSTRIAL BHD	2015-08-29 07:42:16	25.000	6.130	48000.000	6.13	0	-25
4	5115.KL	ALAM MARITIM RESOURCES BHD	2015-08-29 08:20:01	2.400	0.430	4000.000	0.455	0.025	07.6
6	1163.KL	ALLIANZ MALAYSIA BHD	2015-08-30 00:48:44	25.000	10.600	4000.000	10.60	0	-25
7	7054.KL	ASTRAL ASIA BHD	2015-08-31 05:15:35	25.000	1.000	5000.000	1.00	0	-25
9	5139.KL	AEON CREDIT SERVICE (M) BHD	2015-09-01 09:26:49	25.000	12.180	5000.000	12.20	0.02	74.000000000000008

Sell Modify SHARE

Figure 4:14 Tabs-Trade

In trade tabs, the current holding stock will show in a table form, user can edit the stock, sell the stock and share the holding stock information to his profile.

Tabs-Sell

Sell ID	Stock Code	Name	Sell Date	Brokerage Fee	Buy Price	Sell Price	Sell Unit	Unit P/L	Total P/L
1	1163.KL	ALLIANZ MALAYSIA BHD	2015-08-30 01:03:15	10.600	5000.000	11.200	25.000	0.6	2975
2	7095.KL	P.I.E. INDUSTRIAL BHD	2015-08-30 03:39:31	6.130	2000.000	6.130	25.000	0	-25
3	5115.KL	ALAM MARITIM RESOURCES BHD	2015-08-30 03:47:12	0.430	1000.000	0.430	4.800	0	-4.8
6	6351.KL	AMWAY (M) HOLDINGS BHD	2015-08-31 04:58:31	7.900	4000.000	9.900	50.000	2	7950
7	6351.KL	AMWAY (M) HOLDINGS BHD	2015-08-31 05:27:42	7.900	3000.000	9.900	50.000	2	5950

Figure 4:15 Tabs-Sell

In this tabs will keep the sell history in table form, user can modify the detail of the sell history or share the performance to his profile.

Tabs-Watchlist

AMWAY (M) HOLDINGS BHD(6351.KL) 10.10

HIGH: 10.10 LOW: 10.10 VOLUME: 3100 +0.20 (+2.02%)

MarketCapitalization:	128.44M
YearRange:	9.90
PERatio:	10.00 - 12.14
EBITDA:	0.00
EarningsShare:	N/A

Remove Buy Stock Share

[View More About Stock](#)

AMANAHRAYA REITS(5127.KL) 0.845

HIGH: 0.830 LOW: 0.845 VOLUME: 43900 +0.020 (+2.424%)

AE MULTI HOLDINGS BHD(7146.KL) 0.12

Figure 4:16 Tabs-Watchlist

In this tabs will save the user favourite stock, and show more information about the stock. User can remove the stock from watchlist, or buy the stock.

Right side bar –Suggest Friend



Figure 4:17 Right side bar –Suggest Friend

In this side bar, system suggest friend to user. User can click on the image and link to the owner profile page.

Pop-up Page- Buy Stock

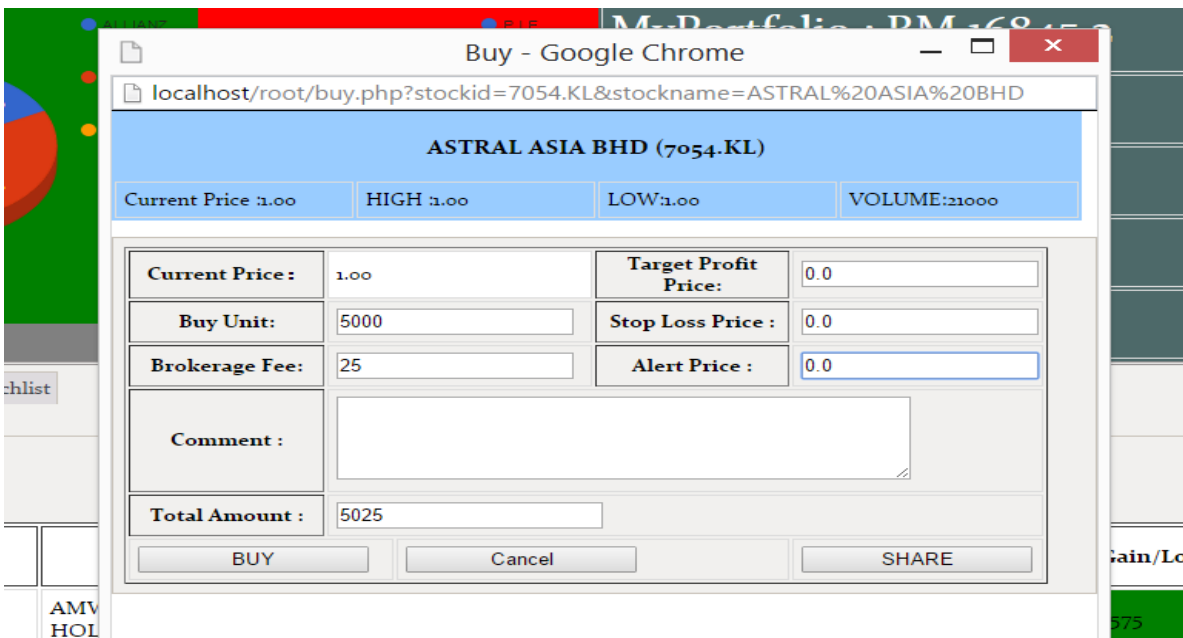


Figure 4:18 Pop-up Page- Buy Stock

In this pop-up page, user can enter the detail to buy a stock.

Pop-up Page- Sell stock

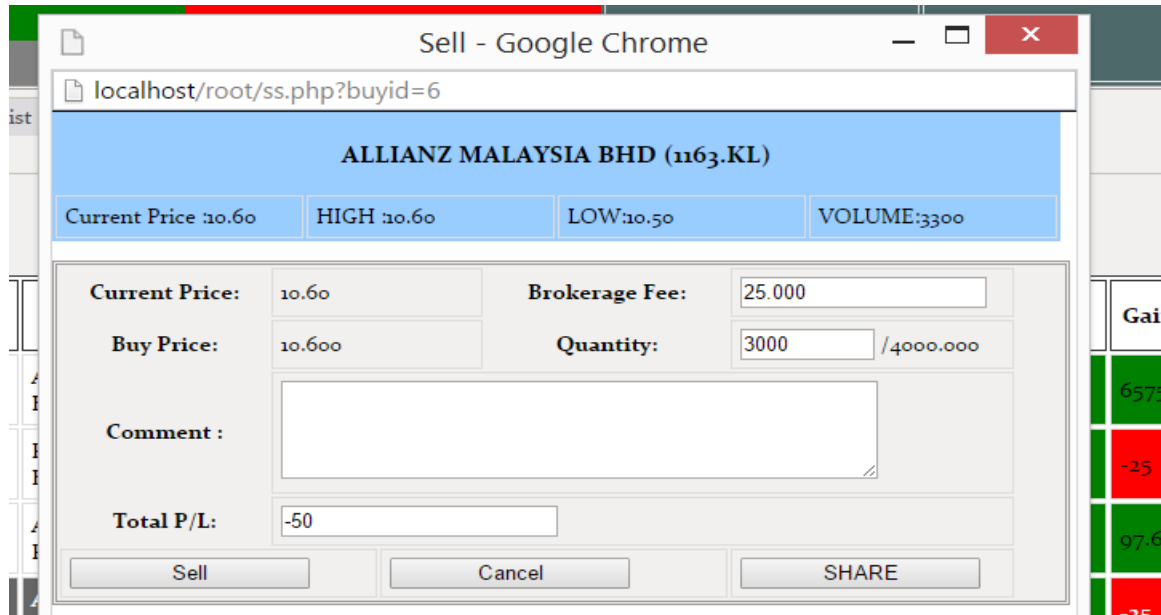


Figure 4:19 Pop-up Page- Sell stock

In this pop-up page, user can sell a stock by entry valid detail to the textfield.

Pop-up Page-Share Dashboard

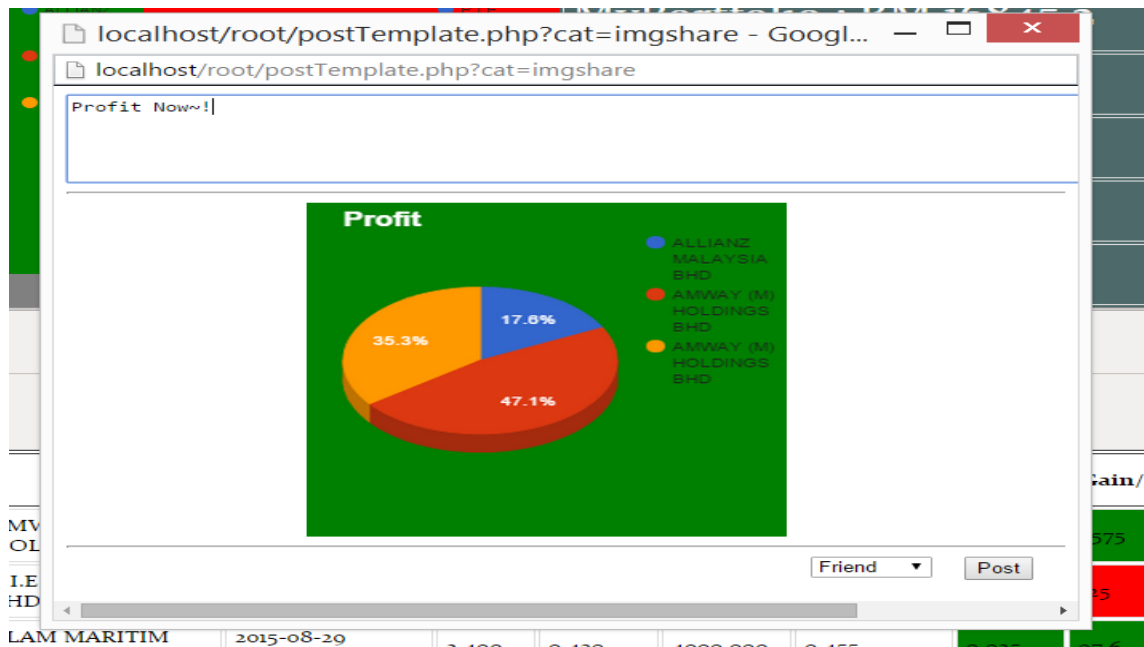


Figure 4:20 Pop-up Page-Share Dashboard

In this page, user can post a dashboard to their own profile.

Pop-up Page- Buy Sharing

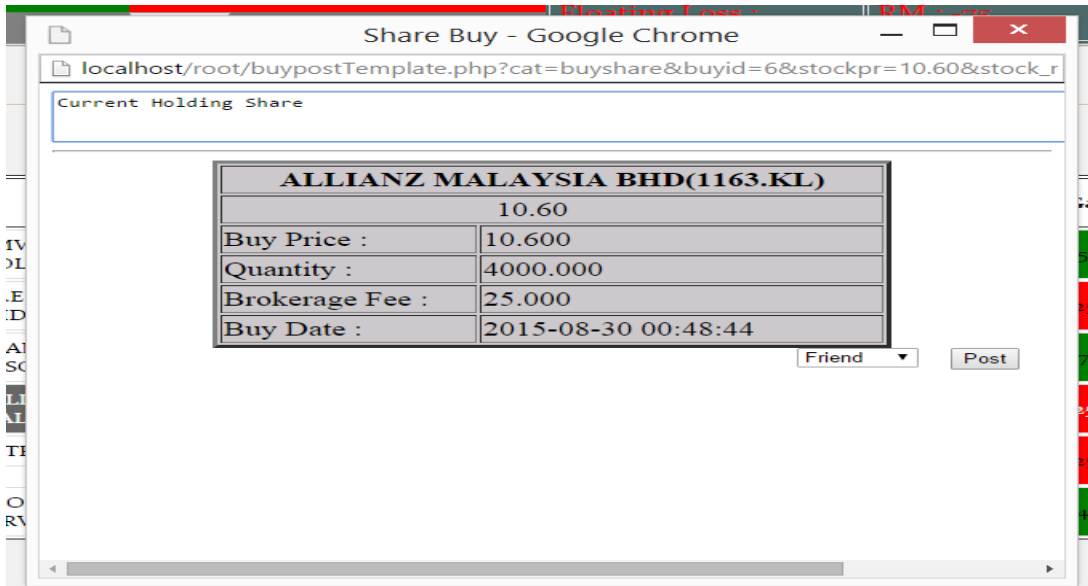


Figure 4:21 Pop-up Page- Buy Sharing

In this page, user can share the buy information to their own profile.

Pop-up Page- Sell Sharing

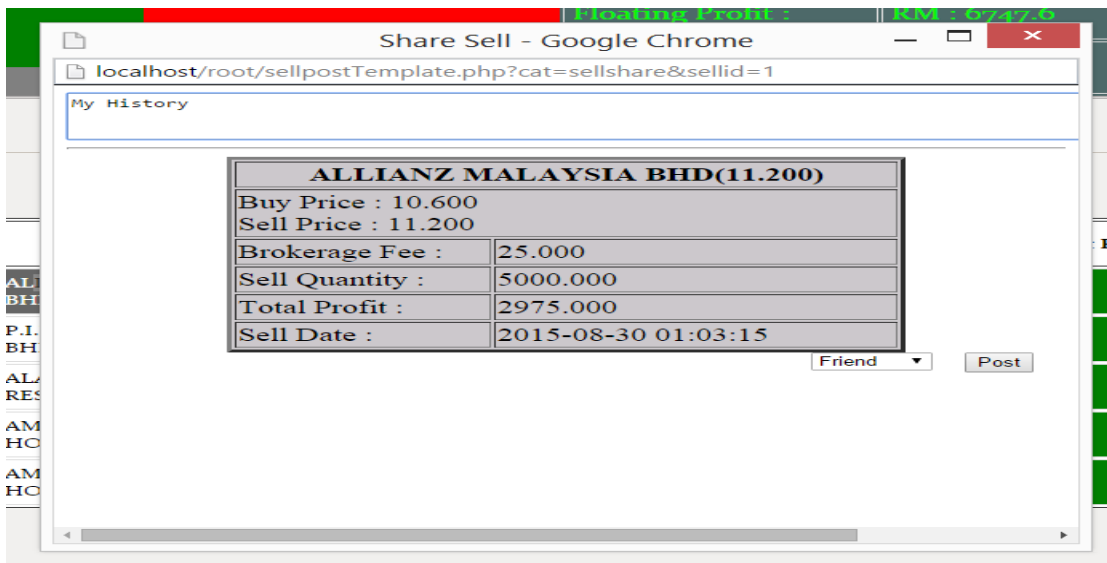


Figure 4:22 Pop-up Page- Sell Sharing

In this page, user can share the sell information to their own profile.

Profile page



Figure 4:23 Profile page

In profile page will include left and right side bar, and the dashboard performance of the portfolio. In the tabs will show the sharing history and also friend post history.

Profile tabs-Here



Figure 4:24 Profile tabs-Here

In this tabs, the user posting history will show here, member can have a discussion at the post.

Profile Tabs-Friend

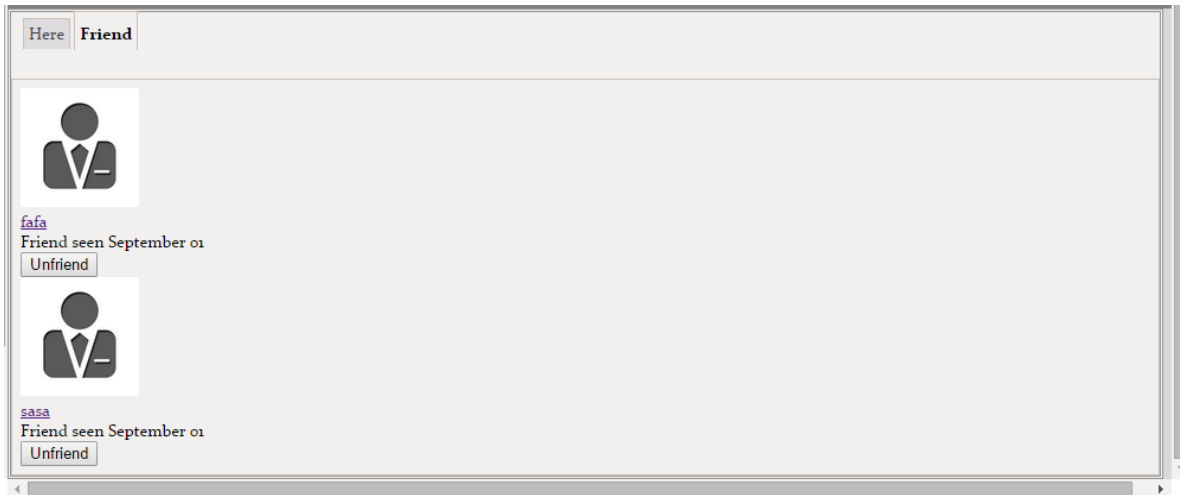


Figure 4:25 Profile Tabs-Friend

In this tabs will show all the friend of user and user can unfriend or link to the friend page by click on the friend name.

Stock Research

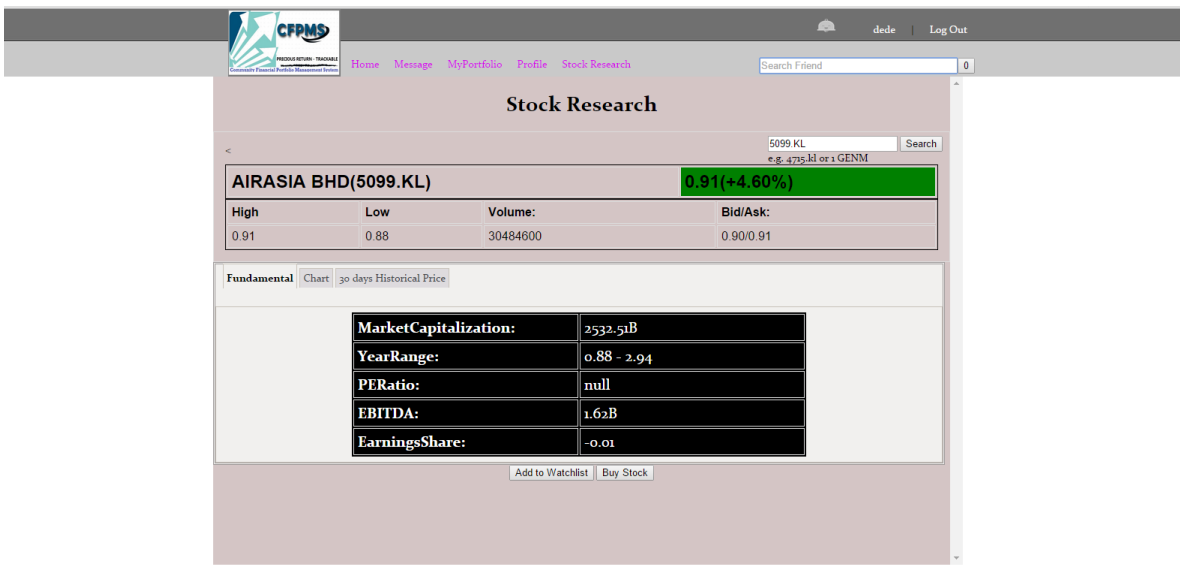


Figure 4:26 Stock Research

In this page, user do a more deep research about the stock. User can direct buy the stock or add to the watchlist. In Fundamental tab, user can get the company fundamental detail.

Chart Tab



Figure 4:27 Chart Tab

In chart tab, user can view the stock chart will multiple timeframe.

30 days historical price tab

Fundamental Chart 30 days Historical Price

Date	Open	High	Low	Close	Volume	AdjClose
2015-08-17	1.17	1.17	1.11	1.11	21608400	1.11
2015-08-14	1.21	1.21	1.15	1.17	28235400	1.17
2015-08-13	1.22	1.24	1.18	1.20	20895800	1.20
2015-08-12	1.25	1.26	1.20	1.22	15474100	1.22
2015-08-11	1.32	1.33	1.24	1.27	22497300	1.27
2015-08-10	1.34	1.34	1.29	1.30	7914800	1.30
2015-08-07	1.34	1.35	1.29	1.34	9669600	1.34
2015-08-06	1.37	1.38	1.34	1.34	7923300	1.34
2015-08-05	1.37	1.38	1.36	1.37	3697600	1.37
2015-08-04	1.37	1.40	1.36	1.37	11139100	1.37
2015-08-03	1.37	1.38	1.36	1.36	9347900	1.36

Add to Watchlist Buy Stock

Figure 4:28 30 days historical price tab

In this tab will show the last 30 day historical price of the stock.

Home Page –After Login

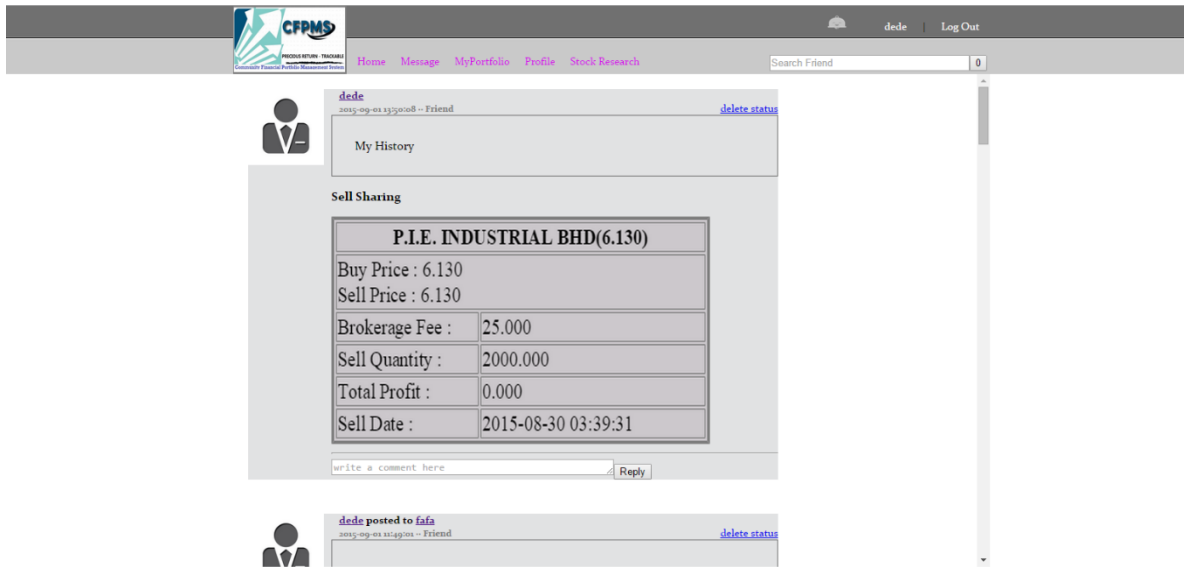


Figure 4:29 Home Page –After Login

In Homepage after login will show the share and posting of user and users friends.

4.5 System Architecture Design

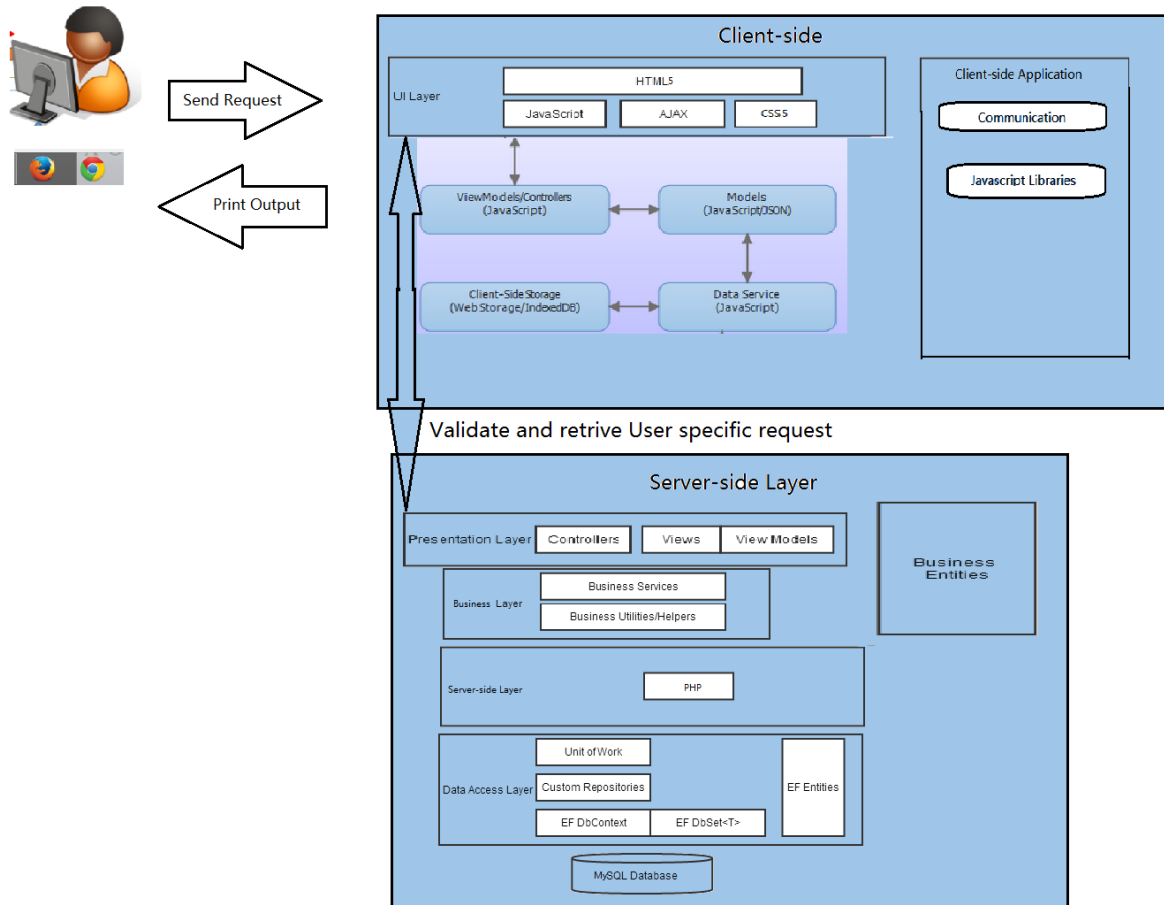


Figure 4:30 System Architecture Design

User ask for request using web browser, the web browser will show the user interface by using HTML5,CSS 5 and JavaScript which let user operate some function in the website. Ajax will sent the request to the PHP server-side language. The PHP will check the business entities to validate the data sent by Ajax. If the data is approve, database language MySQL will operate and perform the query to run CRUD from the database table.

If the process are fluent and smooth, the result will sent back to the Ajax .The JavaScript from client side will manage the result and show it to the user browser by using the HTML5 or JavaScript.

Chapter 5 PROJECT IMPLEMENTATION AND TESTING

5.1 Chapter Overview

In this chapter, the implementation issues and challenges that faces will be discuss. Besides that, the development tools that involves in the proposed system will be list out and discuss. The final phase of the project will include in several testing methods, and this testing plan and the test result of the proposed system will clearly define and discuss in this chapter.

5.2 Project Implementation Issues and Challenges

The implementation phase is the very important in the end of the project development process. The implementation phases will start involve of the real user to use the system, testing of the system so several challenges may face such as:

- **Database speed**

Due to the limitation of the server-side hardware may cause the connection and performance of the database have very slower. When there are huge number of user access the database in same time. The server may crash and cause server down.

- **Database capacity**

Similarly, the limitation of server may cause only a small amount user can use our system as the storage of the system is very limited.

- **User without background**

The existing user need to have basic investment knowledge in order to use the proposed system. We have difficulty to provide the training to the user as some data might need clear understanding what is actually happen in that stock ,but yet the information are easy to get online.

- **The screen size of different browser**

The screen size setting by the different web browser may cause the content and interface of the system not consistency. Besides that, the pixels and resolution of the screen nowadays is getting richer and richer which could make the presentation of the element different in the screen with different resolution.

- **The manual settings' right of the user**

The latest internet browser provide right to a user to have very flexible control and setting of the browser. The proposed system will involve of JAVASCRIPT technology, the user might disable the JavaScript on the browser and cause part of the functionality failed to operate.

5.3 Development tools and technology

5.3.1 Development Framework- CodeIgniter

The proposed system is choosing to use the open-source web-application framework, CodeIgniter as the development framework. It provide a rapid development process to the developer.

5.3.2 Web programming language

The proposed project is web development based, it need the web technology such as Apache server to support range of server side programming language such as PHP language that will use as the project programming language. ^[3]The HTML5, CSS, AJAX, XML, JavaScript and JQUERY also will be implement to build the proposed project.

5.3.3 Database Environment

The proposed project will need database technology in order to store large amount of user data. MySQL is the world's most popular open source database software. User choose it with its superior speed, reliability, and ease of use to create sophisticated solutions, extend data, and build database solutions. This Relational Database Management System used to store the data during the system development and implementation.

WampServer is a Windows web development environment. It allows you to create web applications with Apache2, PHP and a MySQL database. ^[21]

5.3.4 Platform

The project is a website based system that just require web browser in order to run and testing for the project. Various type of web browsers will be test to know the stability of the system on different type of browsers such as:

- Google Chrome Canary
- Mozilla Firefox
- Opera Browser
- Microsoft Internet Explorer and more other browsers.

5.3.5 Project Management Tool

Microsoft Project is a project management software program designed to assist a project manager in developing a plan. Microsoft Project provided a solution for assigning resources to tasks, tracking progress, managing the budget, and analysing workloads.

5.3.6 PHPSimpleChat

PHPSimpleChat is a 3rd party open source chat client using PHP and JavaScript coding. ^[2] This technology will be embedded in the project to make the website have the chat room feature for communication within the user.

5.3.7 Yahoo! Finance

Yahoo! Finance can provide the latest shares market price and it will use in the prosed project to let user get the current price and also other information about that company by using the CFPMS.

5.3.8 Visual Paradigm Community Edition

Visual Paradigm is a program that draw the diagram to visualize and communicate information clearly, concisely, and effectively and automates data visualization to provide up to date diagrams. This software is for document and organize ideas, processes and system purpose.

5.3.9 Code Editor-Dreamweaver

Dreamweaver is an IDE tool use to assist the programmer to manage the whole project file and folder. It is an editor to serve the web development programmer to program a website project with its integrated tool and template to make the development process quickly and more tidy.

5.4 Test Plan

5.4.1 Purpose

- To evaluate both the functional and non-functional requirement of the system in order to achieve the high quality of the system.
- To ensure the user are satisfied with the functionality of the system and the output of the system.
- To identified the resources and use to estimate the test efforts.

5.4.2 Unit Test

Module : Log in			
Objective – Ensure the user log in by valid email and password.			
No	Event	Expected Outcome	Result
1	Check Email Format	Alert invalid email format	Pass
2	Login button	Show waiting while request data from server	Pass
3	Check empty field	Alert empty field detected	Pass
4	Password & Email Validation	Alert for invalid email or password if password wrong	Pass
5	Forgot Password link	Link to Forgot Password Page	Failed

Table 5.4.2-1 Login UNIT TEST

Module : Create Account			
Objective – Ensure the user provide valid data in order to create new account.			
No	Event	Expected Outcome	Result
1	Check Email Format	Alert invalid email format	Pass
2	Create Account button	Show waiting while request data from server	Pass
3	Check empty field	Alert empty field detected	Pass
4	Username Validation	Alert for invalid username.	Pass
5	Check username Format	Auto replace the invalid character by null	Pass
6	Valid the confirmation Password	Alert unmatched password	Pass

Table 5.4.2-2 Create Account UNIT TEST

Module : Homepage Content			
Objective – Ensure the homepage.php check the login status and show the right content.			
No	Event	Expected Outcome	Result
1	Check member login status	Redirect unlogin member to login_page	Pass
2	Show valid content	Show friend shared post if login Show unlogin homepage if not login	Pass
3	Connect database	Invalid Database query if query wrong Valid and send back client requested data if connected	Pass
4	Forgot Password link	Link to Forgot Password Page	Failed

Table 5.4.2-3 HomePage UNIT TEST

Module : Database connect checking			
Objective – Ensure the database if connected			
No	Event	Expected Outcome	Result
1	Check connection of MySQL	Get data from database if success Display Error Message if failed	Pass

Table 5.4.2-4 Database Connect Checking UNIT TEST

Module : Top_template Content			
Objective – Ensure the top banner check the login status and show the right content.			
No	Event	Expected Outcome	Result
1	Check member login status	Redirect unlogin member to login_page	Pass
2	Show valid content	Show notification image, username and logout link and navigation link if login valid Show only home navigation link if login invalid	Pass
3	Connect database	Invalid Database query if query wrong Valid and send back client requested data if connected	Pass

Table 5.4.2-5 Top_template UNIT TEST

Module : Portfolio Content			
Objective – Ensure the portfolio page get data from database and generate the component and information according to the database data and check the login status and show the right content.			
No	Event	Expected Outcome	Result
1	Check member login status	Redirect unlogin member to login_page	Pass
2	Show valid content	Show the valid content to member	Pass
3	Connect database	Invalid Database query if query wrong Valid and send back client requested data if connected	Pass
4	Check owner	Stay and show content to the member if is owner. Redirect user to homepage.	Pass

Table 5.4.2-6 Portfolio UNIT TEST

Module : Dashboard			
Objective – Ensure the element in dashboard show valid data and button function			
No	Event	Expected Outcome	Result
1	Show valid content	Show the valid content to member	Pass
2	Get data from sell history database	Get data and calculate the profit and loss from database	Pass
3	Generating Dashboard	Generate the dashboard and show to users.	Pass
4	Share button	Pop out share window	Pass

Table 5.4.2-7 Dashboard UNIT TEST

Module : Trade tab			
Objective – Ensure the element in trade tabs show valid data and button function			
No	Event	Expected Outcome	Result
1	Show valid content	Show the valid content to member	Pass
2	Get data from buy record from database	Get data and calculate the profit and loss from database	Pass
3	Generate HTML table by the buy record	Generate the table that keep buy record to the user	Pass
4	Share button	Pop out share window	Pass
5	Sell button	Pop out Sell window	Pass
6	Modify button	Pop out modify window	Pass
7	Profit and loss field color	Show red if loss and green if profit	Pass

Table 5.4.2-8 trade tab UNIT TEST

Module : Sell tab			
Objective – Ensure the element in Sell tabs show valid data and button function			
No	Event	Expected Outcome	Result
1	Show valid content	Show the valid content to member	Pass
2	Get data from sell record from database	Get data and calculate the profit and loss from database	Pass
3	Generate HTML table by the sell record	Generate the table that keep sell record to the user	Pass
4	Share button	Pop out share window	Pass
5	Modify button	Pop out modify window	Pass
6	Profit and loss field color	Show red if loss and green if profit	Pass

Table 5.4.2-9 sell tab UNIT TEST

Module : Modify			
Objective – Ensure modify window is working			
No	Event	Expected Outcome	Result
1	Show valid content	Show the valid content to member	Pass
2	Get data from sell/buy record from database	Auto filled the data to the text field from the database record	Pass
3	Disabled not changeable record	Disabled textfield	Pass
4	Modify Button	Update new data to database	Pass
5	Cancel button	Close modify window	Pass
6	Auto Close when update success	Window close and parent side reload	Pass

Table 5.4.2-10 modify UNIT TEST

Module : Share			
Objective – Ensure share window is working			
No	Event	Expected Outcome	Result
1	Show valid content	Show the valid content to member	Pass
2	Get share content data from portfolio page	Auto generate standard format of share content	Pass
3	Visibility Filter	Show friend, only me and public list as visibility setting	Pass
4	Post Button	Insert new data to database	Pass
5	Cancel button	Close share window	Pass
6	Auto Close when share success	Window close	Pass

Table 5.4.2-11 share UNIT TEST

Module : Sell

Objective – Ensure sell window is working			
No	Event	Expected Outcome	Result
1	Show valid content	Show the valid content to member	Pass
2	Get buy id from table filed	Show Buy id in GET Method	Pass
3	Get latest price	Show latest price in Sell Window	Pass
4	Get buy record quantity and buy price	Show buy quantity and buy price from database	Pass
5	Validate Sell quantity	Alert user if sell quantity bigger than buy quantity	Pass
6	Auto Calculate the profit and loss	Show profit/loss in text field	Pass
7	Empty field checking	Alert user while empty field detect	Pass
8	Sell button	Insert new sell record to database and reload parent page	Pass
9	Cancel Button	Close window	Pass

Table 5.4.2-12 sell UNIT TEST

Module : Buy			
Objective – Ensure Buy window is working			
No	Event	Expected Outcome	Result
1	Show valid content	Show the valid content to member	Pass
2	Get stock code from watch list or symbol field	Show stock code in GET Method	Pass
3	Cancel Button	Close window	Pass

4	Get all information of stock code	Show necessary information in Buy Window	Pass
5	Auto Calculate the total fee require	Show total fee in textfield	Pass
6	Empty field checking	Alert user while empty field detect	Pass
7	Buy Button	Insert new buy record to database and reload parent page	Pass

Table 5.4.2-13 buy UNIT TEST

Module : Stock Quick Search			
Objective – Ensure stock quick search bar is working			
No	Event	Expected Outcome	Result
1	Show valid content	Show the valid content to member	Pass
2	Autocomplete	Auto Generate stock name or code	Pass
3	Get all information of stock code	Show stock information in table and show chart	Pass
4	Validate stockcode	Show null if stock information not found	Pass
5	Empty field checking	Alert user while empty field detect	Pass
6	Buy Button	Insert new buy record to database and reload parent page	Pass
7	Add watchlist Button	Insert stock information to watchlist database table	Pass
8	Chart timeline Button	Change chart timeframe	Pass

Table 5.4.2-14 stock quick search UNIT TEST

Module : Watchlist tab			
Objective – Ensure watchlist tab is working			
No	Event	Expected Outcome	Result
1	Show valid content	Show the valid content to member	Pass
2	Get all information of stock code	Show stock information in table	Pass
3	Validate stock price change	Show red if change decrease Show green if change increase	Pass
4	Expand and Collapse	Stock table expand	Pass
5	Buy Button	Pop out buy window	Pass
6	Remove Button	Remove watchlist from table	Pass
7	View more stock information link	Redirect user to the stock research page	Pass

Table 5.4.2-15 watchlist tab UNIT TEST

Module : friend recommended bar			
Objective – Ensure friend recommended is working			
No	Event	Expected Outcome	Result
1	Show valid content	Show the valid content to member	Pass
3	Get all user from database	Gather all user information in array	Pass
4	Check loginname and username	Show all username except loginname	Pass
5	Link to user profile	Redirect user to user profile	Pass

Table 5.4.2-16 friend recommended UNIT TEST

Module : profile page

Objective – Ensure profile page is working			
No	Event	Expected Outcome	Result
1	Show valid content	Show the valid content to member	Pass
3	Get all user from database	Gather all user information in array	Pass
4	Show user information	Show user information in profile page	Pass
5	Check user friend status	Get the friend list from friendsit.php	Pass
6	Friend add/unfriend button Display	If user not in friendlist, show add friend If user in friendlist show unfriend	Pass
7	Friend block/unblock button Display	If user not in blocklist, show block friend If user in blocklist show unblock	Pass
8	Dashboard Display	Get sell history and generate dashboard	Pass

Table 5.4.2-17 profile page UNIT TEST

Module : profile page –here tab			
Objective – Ensure here tab is working			
No	Event	Expected Outcome	Result
1	Show valid content	Show the valid content to member	Pass
3	Get all status data from database	Gather all status information	Pass
4	Show all status	Show all posted record and reply record	Pass

5	Check visibility	Show to all friend is visibility is friend Show to all user is visibility is public Show to loginuser is visibility in onlyme	Pass
6	Reply button	Add new reply to a posted	Pass
7	Delete button	Delete the selected status or reply	Pass
8	Post button	Post a new post and insert to database	Pass
9	Check empty text area	Alert user if text area if null	Pass

Table 5.4.2-18 here tab UNIT TEST

Module : friend list tab			
Objective – Ensure friend list is working			
No	Event	Expected Outcome	Result
1	Show valid content	Show the valid content to member	Pass
3	Get all user from database	Gather all user information in array	Pass
4	Check loginname and username	Show all username except loginname	Pass
5	Show friend in friend list	Show friend	Pass
6	Link to friend profile	Redirect to friend profile	Pass
7	Unfriend button	Remove friend record from friend database	Pass

Table 5.4.2-19 friendlist tab UNIT TEST

Module : Notification

Objective – Ensure notification is working			
No	Event	Expected Outcome	Result
1	Show valid content	Show the valid content to member	Pass
3	Show all friend request	Gather all friend information from database and output	Pass
4	Show all notification	Gather all notification from database and output	Pass
5	Post status and reply hyperlink	Redirect user to post c and reply	Pass
6	Friend hyperlink	Redirect to friend profile	Pass
7	Reject button	Remove friend record from friend database	Pass
8	Approve Button	Update accepted to 1	Pass

Table 5.4.2-20 notification UNIT TEST

Module : Logout			
Objective – Ensure logout is working			
No	Event	Expected Outcome	Result
1	Show valid content	Show the valid content to member	Pass
2	Check login status	If login is valid, redirect user to un login page	Pass

Table 5.4.2-21 logout UNIT TEST

Module : Research Stock Page

Objective – Ensure Research Stock Page is working			
No	Event	Expected Outcome	Result
1	Show valid content	Show the valid content to member	Pass
3	Get Method	Automatically search stock information if Get Method is set	Pass
4	Autocomplete	Auto generate a list of data to user	Pass
5	Search button	Get textfield value and search the stock information	Pass
6	Check Empty text field	Alert user for empty text field	Pass
7	Generate table with valid data	Search for stock information and show in table form	Pass
8	Historical price	Get 30 day history price from yahoo	Pass
9	Chart timeframe button	Change the chart timeframe	Pass
10	Add watchlist button	Add new stock to watchlist database	Pass
11	Buy Stock Button	Pop out Buy window	Pass

Table 5.4.2-22 Research stock UNIT TEST

5.5 Chapter Summary

The implementation phase include of modern web technology to assist development of the system process in fluent and smooth process. However the limited cost have turn developer to meet some problem during the project implementation such as the dataset process speed, the more precise stock information that provide by the paid API and the consideration of the user without background. The system have been test through unit test and the testing result are overall acceptance and meet the business process and project scope and objective.

Chapter 6 SYSTEM EVALUATION AND DISCUSSION

6.1 Proposed System Completion

In the introduction chapter, four major challenges and problem had been define which consider will bring an opportunity to the project to intent a new solution for the problem or create new idea from the problem and use in the proposed system. The final outcome of the system successfully use the problem and challenges create some new idea and avoid the same problem in the system. There are four major problem state in the introduction.

The first problem is the content sharing issue. In the final outcome user can choose the content they want to share to the community without showing the whole investment portfolio status in the community page. The problem have been solve by allowing user share only 1 of the field from the buy or sell table but not the whole table record. Besides that, user can also choose to share the dashboard as their portfolio performance without sharing the table record.

The second problem encounter was the privacy problem. The problem inspired developer to use the dashboard to show the investor portfolio performance to the other investor. So that other investor will only know the limited information of each other. The privacy of the user can hide safety from other.

The third problem was the visibility problem that found in the existing portfolio management system. The proposed project use the filtering system to filter the user visibility right. User can choose to share to viewable only himself, all community member, or only can view by his/her friend.

The fourth problem was the interaction and communication problem found in the existing portfolio management system. The proposed system was include the comment and reply system for the every post by the user. Friend and discuss on the shared post and hence communicate with each other to learn together.

The final outcome of the proposed system fulfilled the transaction module in which user can entry a buy or sell a holding stock. User can view the report from sell history to know their profit and loss. The alert and notification will sent to the user if the member reply or make a post to the profile. The system automatically generate the standard format of every sharing of the content , and require user set the visibility setting of the post, and finally user can post it

to the profile. The search stock information module also fulfilled which user search information of the stock without can require using the search engine website.

6.2 System Pros & Cons

The final outcome of the system is analysis using the SQOT analysis method which interpret and find out the various pros, cons, threat and opportunity of the system. The pros and cons will be focus and discuss on this section.

6.2.1 Pros

Interactive-Performance Sharing

The system is community based web system, investors can interacting with each other. The portfolio performance can be discuss together and learn from each other through the discussion process.

Interactive-Friend Suggestion System

The system will automatically recommended new member to the user. User can meet new investor and add them as friend to share the investment knowledge with each other.

Eliminated complexity-Stock Research System

User can research a stock through the website itself without the need to open a new website and search for the stock information. This features help user reduce the complexity and saving the time of user to avoid complex work flow to get a same result.

Immediately Result Showing-Dashboard

The dashboard features help user know their portfolio performance immediately. User can save the time to manually calculate the profit and loss from individual stock sell history.

6.2.2 Cons

Page slow loading time

The system take a long time to gather the necessary information from external server storage and also from local server storage before the webpage showing to user.

No real time notification feature

The notifications feature in the system does not provide real time feedback to the user. User have to reload the website in order to get the notifications.

Lack real time stock information

The proposed system using the Yahoo YQL API to get the stock information, this free API does not provide much information compare to some paid API. The yahoo YQL API only provide some information about the stock and the information normally delay and slow updated.

User-Interface

The graphical user interface of the system can be improve and more attractive to user. The pairing of the colour of the webpage is not following the professional web design standard.

6.3 Future Enhancement

6.3.1 Sharing features enhancement

-User can have more specific option when sharing their portfolio

--eg. Share all stock which earn more than 50%

--eg. Share all stock under financial market category

This will increase the user satisfactions and also may increase the high quality of information that user want to share.

6.3.2 Category by broker

--the transaction can be category by broker to allow user manage their investments easier for some purposes. The brokerage fee will auto grad from the broker firm so the investor could get a more precise fee when using the proposed project system.

6.3.3 Indicator screener

--professional investor can directly use the indicator to analysis stock chart and make a more precise strategy without use third party software.

--Investor can use the screener to filter the stock information to reduce the complexity when searching for a stock.

--direct focus on the stock price action, because in market thing could happen in few second, user can avoid the time taken to operate two or more software and miss the chance to entry a buy or sell the stock.

6.3.4 Company Headline news

--this new function should search through the internet to get the latest information of the stock's company. Investor may get the information immediately and the information may increase the quality of the decision making of the investor

6.3.5 Export a formal report format

--this function will generate a more formal and nice GUI report format for the investor according to their setting, and it could output as some popular format document.

6.3.6 Master Account

--This feature can use by trader and client relationship users, client can log in as client account to view the information of master account, and by some function are disabled form client account. Client user can track and check their investment performance which operate by trader by using this feature.

6.3.7 Advance Messenger

--The system will build in a more interactive and more advance function of live chat messenger, the future messenger features will be the group chat system which allow more friend chat in a same chat box, real time camera chat to allow user discuss face to face and file sharing system that allow user beyond the chat only function, user can share photo, document to their friend through chat box.

Chapter 7 CONCLUSION

In a nutshell, nowadays the management system make thing efficiency is the fact. The portfolio investment system can easily replace the human task by only click on the functional module that user wish to perform. Investor can save a lot of time in order to manually calculate the data, save time to manually collect the data to generate report, get all information in real time and get the accuracy data in the portfolio management system. Obviously, the management system can increase the productivity of investor. But the rapidly improvement of technologic change the behaviour of the user. Arise of WEB 2.0, user wish have the management system which can communicate with each other who are also using the same management system. The communication can make the learning process quickly, make the target easy to achieved, allow user discuss the problem and etc. Interactive management system allow users motivated each other to archive the higher performance by comparison the result.

On the other hand, the technology allow the portability requirement easy to achieve. Nowadays, not only professional investor are involve in the stock market industry, the yield of the technology make the trade of the stock easily thru online trading system. The part time investors are also the target which will utilize the portfolio management system. The part time investors will not stay in front of the computer whole day as they may have other full time job or other task to do, so the management system should more portability to these type of users. They can use the mobility device such as smart phone, PDA, tablets or Ultra Book to use the management system. In order to fulfil these all requirement, our proposed method is combine the portfolio management system features into the social networking system in web-based form. The integration of both feature from social networking system and portfolio management system can develop a system that can let user communicate and tracking the investment in same time. The web-based system also allow the investor access the system in any Operating system that have the web browser. The information of the investor will retrieve from the cloud server which also increase the consistency of the user data to prevent any disaster loss of information.

BIBLIOGRAHY

Ramesh, K. and Rajesh, V. (2014). Contrastive Analysis of Software Development Methodologies. International journal of Information Technology & Knowledge Management, 8(1), 30-34.

[2] Open Source Version | PHPFreeChat. 2014 | Open Source Version. [ONLINE] Available at: http://www.phpfreechat.net/opensource-version?ticket=708d2b771e6d0b3992201a715b568e9a_1416924370. [Accessed 22 November 2014].

[3] Welcome! - The Apache HTTP Server Project. 2014. Welcome! - The Apache HTTP Server Project. [ONLINE] Available at: <http://httpd.apache.org/>. [Accessed 22 November 2014]

[5] How to Use Secret Facebook Groups to Enhance Your Business | Social Media Examiner. 2014. How to Use Secret Facebook Groups to Enhance Your Business | Social Media Examiner. [ONLINE] Available at: <http://www.socialmediaexaminer.com/how-to-use-secret-facebook-groups-to-enhance-your-business/>. [Accessed 21 November 2014].

[6] Facebook Help. 2014. Facebook Help. [ONLINE] Available at: <https://www.facebook.com/help/162866443847527/>. [Accessed 21 November 2014].

[7] DEVELOPMENT OF A TIA INVESTMENT AND PORTFOLIO MANAGEMENT (FUNDING) SYSTEM. [ONLINE] Available at:

<http://www.tia.org.za/download.php?a=closed-tenders&page=development-of-a-tia-investment-and-portfolio-management-%28funding-system%29&filename=idv-3474022-ed3dee174abe5a217cb8d9fbb4a21936.pdf> . [Accessed 23 November 2014].

[8] Financial Portfolio Management Software | SimCorp . 2014. Financial Portfolio Management Software | SimCorp . [ONLINE] Available at:

<http://www.simcorp.com/solutions/by-business-need/portfolio-management>. [Accessed 23 November 2014].

[9] SDLC RAD Model. 2014. SDLC RAD Model. [ONLINE] Available at:

http://www.tutorialspoint.com/sdlc/sdlc_rad_model.htm. [Accessed 25 November 2014].

[10] Study: Internet Changing Young People's Thinking, Behavior . 2014. Study: Internet Changing Young People's Thinking, Behavior . [ONLINE] Available at:

<http://www.shrm.org/hrdisciplines/technology/articles/pages/youngminds.aspx>. [Accessed 22 November 2014].

[11] Facebook Help.2014.Facebook Help. [ONLINE] Available at:

<https://www.facebook.com/help/265435626889287/> . [Accessed 21 November 2014].

[12] Facebook Help.2014.Facebook Help. [ONLINE] Available at:

<https://www.facebook.com/help/162866443847527/>. [Accessed 21 November 2014].

[13] Article: Facebook Groups | Social Media Statistics & Metrics | Socialbakers. 2014. Article: Facebook Groups | Social Media Statistics & Metrics | Socialbakers. [ONLINE]

Available at: <http://www.socialbakers.com/resource-center/802-article-facebook-groups>.
[Accessed 21 November 2014].

[14] What are 'Google Circles'? The Ultimate Guide! - Martin Shervington. 2014. What are 'Google Circles'? The Ultimate Guide! - Martin Shervington. [ONLINE] Available at:
<http://www.martinshervington.com/what-are-google-circles/>. [Accessed 21 November 2014].

[15] Share and receive updates from the right people - Google+ . 2014. Share and receive updates from the right people - Google+ . [ONLINE] Available at:
<http://www.google.com/+/learnmore/circles/#>. [Accessed 25 November 2014].

[16] Why Google Circles is better than Facebook | Hallam Internet. 2014. Why Google Circles is better than Facebook | Hallam Internet. [ONLINE] Available at:
<http://www.hallaminternet.com/2011/why-google-circles-is-better-than-facebook/>.
[Accessed 20 November 2014].

[17] Features - JStock. 2014. Features - JStock. [ONLINE] Available at:
<http://www.jstock.org/features2.html?four-header>. [Accessed 21 November 2014].

[18] Portfolio Manager. 2014. Portfolio Manager. [ONLINE] Available at:
<http://www.relliksoftware.com/portfoliomanager/help-v1/index.html?firstrun>. [Accessed 21 November 2014].

[19] Free portfolio management & investment advice software | Online investing app :: SigFig. 2014. Free portfolio management & investment advice software | Online investing app ::

SigFig. [ONLINE] Available at: <https://www.sigfig.com/l/features>. [Accessed 22 November 2014].

[20] SigFig Is a Powerful Investment Tracker and Portfolio Advisor (and We've Got Invites). 2014. SigFig Is a Powerful Investment Tracker and Portfolio Advisor (and We've Got Invites).

[ONLINE] Available at:

<http://lifehacker.com/5930793/sigfig-is-a-powerful-investment-tracker-and-portfolio-advisor-and-weve-got-invites>. [Accessed 22 November 2014].

[21] WampServer,. 'Wampserver'. N.p., 2015. Web. 11 Feb. 2015. [ONLINE] Available at:

<http://www.wampserver.com/en/> . [Accessed 02 March 2015].

Appendix A USE CASE DESCRIPTION

Register Use Case Description

Use Case Name: Register	ID: 1	Importance Level: High
Primary Actor: User	Use Case Type: Detail, Essential	
Stakeholders and Interests: User– wants to register a new account MySQL Admin – wants to validate the username and other detail, then save in the database		
Brief Description: This use case describes how user can register a new account in system		
Trigger: User does not have an account or he want to open a new account		
Type: External		
Relationships: Association: MySQL Admin, User Include: Extend: Generalization:		
Normal Flow of Events: <ol style="list-style-type: none"> 1. The user want to register a new account and click into the registration page. 2. The system show the registration page and ask user fill in the details. 3. The user fill in the necessary details such as password, username, email and etc. 4. The user submit the details by click on submit button. 5. The system validate the details provided by user. 6. If the username/email/phone number is existing in database <div style="margin-left: 40px;">The system Prompt: “The detail is existing in system, please fill in again!”</div> Else <div style="margin-left: 40px;">System save the detail into database and prompt: “Register Successfully!”</div> 7. Registration successfully. 		
Sub Flows:		

Alternate / Exceptional Flows: Not applicable

Login Use Case Description

Use Case Name: Login	ID: 2	Importance Level: High
Primary Actor: User	Use Case Type: Detail, Essential	
Stakeholders and Interests: User– wants to login to the system MySQL Admin – wants to validate the username and password		
Brief Description: This use case describes how user can login to system		
Trigger: User have an account and wish to login to the system		
Type: External		
Relationships: Association: MySQL Admin, User Include: Extend: Generalization:		
Normal Flow of Events: 1. The user want to login to the system in login page. 2. The user fill in the necessary details such as password, username. 3. The system validate the details provided by user. 4. If the username/password is matches in database The system prompt: “ Username or Password error! ” Else The system Prompt:” Login Successful! ” 5. Registration successfully.		
Sub Flows:		
Alternate / Exceptional Flows: Not applicable		

Search Stock Use Case Description

Use Case Name: Search Stock	ID: 3	Importance Level: High
Primary Actor: User	Use Case Type: Detail, Essential	
<p>Stakeholders and Interests:</p> <p>User– wants to search a stock detail</p> <p>Content Provider – provide the stock detail to user in real time</p> <p>MySql Admin - want to save the action of user such as buy a stock or add stock to watchlist</p>		
<p>Brief Description:</p> <p>This use case describes how user can search a stock detail</p>		
<p>Trigger: User click on the search feature</p>		
<p>Type: External</p>		
<p>Relationships:</p> <p>Association: MySql Admin, User, Content Provider</p> <p>Include:</p> <p>Extend: Buy Stock, Add Watchlist</p> <p>Generalization:</p>		
<p>Normal Flow of Events:</p> <ol style="list-style-type: none"> 1. The user click on the search stock feature. 2. The system provide an interface to allow user key in the code or name of stock. 3. The system get the stock detail from content provider. 4. The user can buy the stock by click on buy button. 5. The user can add the stock to watch list but add watchlist button. 6. The user can search again the other stock by key in other stock name or code. 		
<p>Sub Flows:</p>		
<p>Alternate / Exceptional Flows: Not applicable</p>		

Buy Stock Use Case Description

Use Case Name: Buy Stock	ID: 4	Importance Level: High
Primary Actor: User	Use Case Type: Detail, Essential	
<p>Stakeholders and Interests:</p> <p>User– wants to buy a stock</p> <p>Content Provider – provide the stock detail to user in real time</p> <p>MySql Admin - want to save the action of user</p>		
<p>Brief Description:</p> <p>This use case describes how user can buy a stock in the system</p>		
<p>Trigger: User click on the buy stock button</p> <p>Type: External</p>		
<p>Relationships:</p> <p>Association: MySql Admin, User, Content Provider</p> <p>Include:</p> <p>Extend: Trade Plan</p> <p>Generalization:</p>		
<p>Normal Flow of Events:</p> <ol style="list-style-type: none"> 1. The user click on the buy stock feature. 2. The system provide an interface to allow user key in the purchase information such as quantity, brokerage fee and comment on the stock. 3. The system get the stock current price and other details from content provider. 4. The user can buy the stock by click on buy button. 5. The system will check the available fund in the account. 6. The system will calculate the total amount of the transaction. 7. The system will prompt a message to ask the confirmation of the transaction. <p style="padding-left: 40px;">If user can confirm the transaction, and the system will save the user action into the database. The transaction will add to the trade list.</p> <p>Else</p> <p style="padding-left: 40px;">The user can choose cancel to cancel the transaction.</p>		

Sub Flows:
Alternate / Exceptional Flows: Not applicable

Sell Stock Use Case Description

Use Case Name: Sell Stock	ID: 5	Importance Level: High
Primary Actor: User	Use Case Type: Detail, Essential	
<p>Stakeholders and Interests:</p> <p>User– wants to sell a stock</p> <p>Content Provider – provide the stock detail to user in real time</p> <p>MySql Admin - want to save the action of user</p>		
<p>Brief Description:</p> <p>This use case describes how user can sell a stock in the system</p>		
<p>Trigger: User click on the sell stock button in trade list</p> <p>Type: External</p>		
<p>Relationships:</p> <p>Association: MySql Admin, User, Content Provider</p> <p>Include:</p> <p>Extend: Trade Plan</p> <p>Generalization:</p>		
<p>Normal Flow of Events:</p> <ol style="list-style-type: none"> 1. The user click on the sell stock feature in trade list. 2. The system provide an interface to allow user key in the sell stock information such as quantity, brokerage fee and comment on the stock. 3. The system get the stock current price and other details from content provider. 4. The user can sell the stock by click on sell button. 5. The system will calculate the total amount of the transaction. 6. The system will prompt a message to ask the confirmation of the transaction. <ul style="list-style-type: none"> If user can confirm the transaction, and the system will save the user action into the database. The transaction will add to the history list. <p>Else</p> <ul style="list-style-type: none"> The user can choose cancel to cancel the transaction. <ol style="list-style-type: none"> 7. The user can delete a sell stock history in history list. 		

8. The user can ask to generate the report.
Sub Flows:
Alternate / Exceptional Flows: Not applicable

Add Watchlist Use Case Description

Use Case Name: Add Watchlist	ID: 6	Importance Level: High
Primary Actor: User	Use Case Type: Detail, Essential	
Stakeholders and Interests: User– wants to add a stock to watchlist Content Provider – provide the stock detail to user in real time MySQL Admin - want to save the action of user		
Brief Description: This use case describes how user can add a stock to watchlist in the system		
Trigger: User click on the add watchlist button Type: External		
Relationships: Association: MySQL Admin, User, Content Provider Include: Buy Stock, Delete Stock Extend: Generalization:		
Normal Flow of Events: <ol style="list-style-type: none"> 1. The user click on the add watchlist feature. 2. The system provide an interface to allow user key in the stock information such as stock name or code. 3. The system get the stock current price and other details from content provider. 4. The user can add the stock by click on “Add Watchlist” button. 5. The system will update the update the stock detail in the watch list and save the stock ID in database. 6. The user can buy the stock in watchlist. 7. The system will link to the buy stock page. 8. The user can delete the stock from watchlist. 9. The system will delete the stock from watchlist and update the database. 		
Sub Flows:		

Alternate / Exceptional Flows: Not applicable

Add New Portfolio Use Case Description

Use Case Name: Add New Portfolio	ID: 7	Importance Level: High
Primary Actor: User	Use Case Type: Detail, Essential	
<p>Stakeholders and Interests:</p> <p>User– wants to add a new portfolio</p> <p>MySql Admin - want to save the action of user</p>		
<p>Brief Description:</p> <p>This use case describes how user can add a new portfolio in the system</p>		
<p>Trigger: User click on the add new portfolio feature</p> <p>Type: External</p>		
<p>Relationships:</p> <p>Association: MySql Admin, User</p> <p>Include: add new account</p> <p>Extend:</p> <p>Generalization:</p>		
<p>Normal Flow of Events:</p> <ol style="list-style-type: none"> 1. The user click on the “add new portfolio” feature. 2. The system provide an interface to allow user key in the portfolio information such as name, note, and setting. 3. The system check the portfolio name to prevent existing portfolio. 4. The system save the portfolio into database if not error. Else, it will ask user enter a new name. 5. The system prompt an interface to ask user add the account to the portfolio. 6. The system check the account name to prevent existing account in same portfolio. 7. The system save the account into database if not error. Else, it will ask user enter a new account name. 		

Sub Flows:
Alternate / Exceptional Flows: Not applicable

Share Portfolio Use Case Description

Use Case Name: Share Portfolio	ID: 8	Importance Level: High
Primary Actor: User	Use Case Type: Detail, Essential	
Stakeholders and Interests: User– wants to share portfolio MySql Admin - want to retrieve portfolio information and save the action of user		
Brief Description: This use case describes how user share the portfolio information to the community.		
Trigger: User click on share button.		
Type: External		
Relationships: Association: MySql Admin, User Include: Dashboard, WholePortfolio Extend: Generalization:		
Normal Flow of Events: <ol style="list-style-type: none"> 1. The user click on the Share feature in dashboard or portfolio. 2. The system will ask user for customize the information in dashboard or portfolio. 3. The system will ask user for sharing privacy option. 4. The system will retrieve the information from database to generate the latest portfolio performance. 5. The system will share the portfolio to the community according to the user setting. 6. The system will save the user action into the database. 		
Sub Flows:		
Alternate / Exceptional Flows: Not applicable		

Chat Room Use Case Description

Use Case Name: Chat Room	ID: 9	Importance Level: High
Primary Actor: User	Use Case Type: Detail, Essential	
Stakeholders and Interests: User– wants to start a chat MySql Admin - want to retrieve previous chat history and save latest chat content		
Brief Description: This use case describes how user can chat with other users.		
Trigger: User start a chat room Type: External		
Relationships: Association: MySql Admin, User Include: Personal Chat, Group Chat Extend: Generalization:		
Normal Flow of Events: <ol style="list-style-type: none"> 1. The user click on the chat feature in the friend page. 2. The system show a small chat box to each user. 3. The user can add in more friend to start a group chat. 4. The system check the database and retrieve the history chat content. 5. The user start the chat session. 6. The system will save the chat content to the database. 		
Sub Flows:		
Alternate / Exceptional Flows: Not applicable		

Search Friend Use Case Description

Use Case Name: Search Friend	ID: 10	Importance Level: High
Primary Actor: User	Use Case Type: Detail, Essential	
Stakeholders and Interests: User– wants to search a friend MySQL Admin - want to retrieve friend list information and save user action		
Brief Description: This use case describes how user search the friend and add new friend		
Trigger: User click on search feature. Type: External		
Relationships: Association: MySQL Admin, User Include: Extend: add New friend Generalization:		
Normal Flow of Events: <ol style="list-style-type: none"> 1. The user key in the user name and click on search feature. 2. The system will check the user name in database. 3. If the user name existing in database, the system will link the user to the friend page. 4. Else system will link user to Google search page. 5. The system will check the relationship between the user. 6. If the relationship is friend, the add friend button will not show. 7. Else if the relationship is not friend, the add friend button will show. 8. The user can add the other user as friend if they are not friend. 9. The system will save the user action into the database. 		
Sub Flows:		
Alternate / Exceptional Flows: Not applicable		

Edit Profile Use Case Description

Use Case Name: Edit Profile	ID: 11	Importance Level: High
Primary Actor: User	Use Case Type: Detail, Essential	
Stakeholders and Interests: User– wants to edit profile information MySQL Admin - want to retrieve user information and save user action		
Brief Description: This use case describes how user edit and update their profile detail		
Trigger: User click on edit profile feature. Type: External		
Relationships: Association: MySQL Admin, User Include: Extend: Generalization: username, profile picture		
Normal Flow of Events: <ol style="list-style-type: none"> 1. The user click on edit profile feature. 2. The system retrieve the user detail and show to the user. 3. The user edit the information they want to change. 4. The system check the information to prevent error happen. 5. The user click on submit button. 6. The system will update the latest profile detail in database. 		
Sub Flows:		
Alternate / Exceptional Flows: Not applicable		

Appendix B WEEKLY LOG

FINAL YEAR PROJECT WEEKLY REPORT

(Project I / Project II)

WEEKLY REPORT 1

Trimester, Year:	S1, Y3	Study week no.:	2
Student Name & ID:	Wong Hong Mun & 13ACB01489		
Supervisor:	Mr.Ku Chin Soon		
Project Title:	Community Financial	Portfolio Management System	

1. WORK DONE

[Please write the details of the work done in the last fortnight.]

Start do the correction of previous error in IIPSPW.

2. WORK TO BE DONE

Re study the object oriented system design to design the system.

3. PROBLEMS ENCOUNTERED

Poor time management

No concentrated on project

4. SELF EVALUATION OF THE PROGRESS

The progress slow down cause of poor time management.

Supervisor's signature

Student's signature

WEEKLY REPORT 2

Trimester, Year:	S1, Y3	Study week no.:	4
Student Name & ID:	Wong Hong Mun & 13ACB01489		
Supervisor:	Mr.Ku Chin Soon		
Project Title:	Community Financial	Portfolio Management System	

1. WORK DONE

[Please write the details of the work done in the last fortnight.]

Research on the ASP.net
 Research on the Wampserver
 Research on the PHP and java programing
 Finish design the use case diagram

2. WORK TO BE DONE

Tidy up the introduction.

Try to finish the system design such as class diagram,
 data dictionary.

3. PROBLEMS ENCOUNTERED

Lack of the time due to the

-Assignment Due date of other subject.

-Midterm and Quiz

4. SELF EVALUATION OF THE PROGRESS

Progress is ongoing as scheduled.

Supervisor's signature

Student's signature

WEEKLY REPORT 3

Trimester, Year:	S1, Y3	Study week no.:	6
Student Name & ID:	Wong Hong Mun & 13ACB01489		
Supervisor:	Mr.Ku Chin Soon		
Project Title:	Community Financial	Portfolio Management System	

1. WORK DONE

[Please write the details of the work done in the last fortnight.]

Finish the implementation issues and challenge.
Research on class diagram and data dictionary.

2. WORK TO BE DONE

Conclusion and requirement specification

3. PROBLEMS ENCOUNTERED

No concentrated due to the Chinese New Year.

Poor time management

4. SELF EVALUATION OF THE PROGRESS

Progress slow due to the poor time management.

Supervisor's signature

Student's signature

WEEKLY REPORT 4

Trimester, Year:	S1, Y3	Study week no.:	8
Student Name & ID:	Wong Hong Mun & 13ACB01489		
Supervisor:	Mr.Ku Chin Soon		
Project Title:	Community Financial	Portfolio Management System	

1. WORK DONE

[Please write the details of the work done in the last fortnight.]

Finish on requirement specification
Finish screen flow diagram
Finish tidy up the documentation

2. WORK TO BE DONE

Conclusion,data dictionary and class diagram

3. PROBLEMS ENCOUNTERED

Poor time management

Chinese New Year Hangover.

4. SELF EVALUATION OF THE PROGRESS

Progress is ongoing as scheduled.

Supervisor's signature

Student's signature

Appendix C ORIGINALITY REPORT

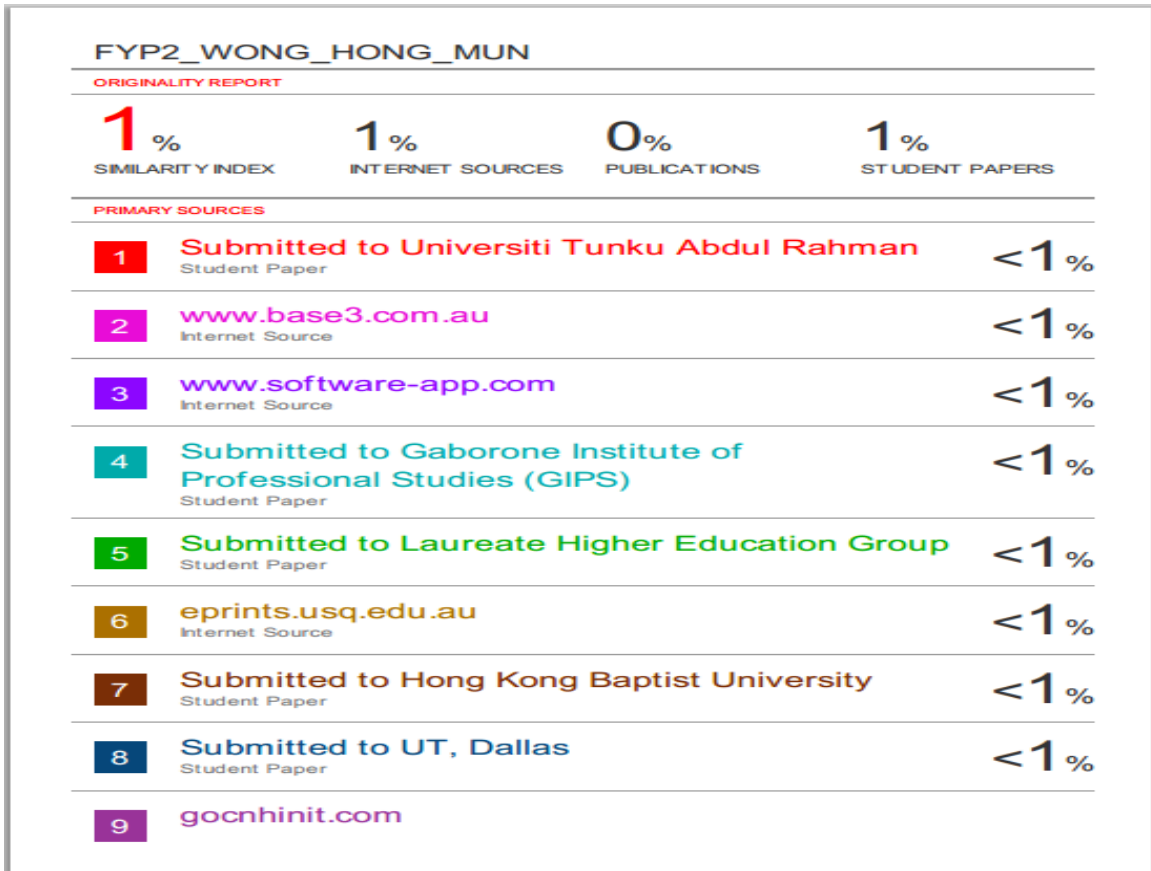


Figure Appendix C 1 Originality Report

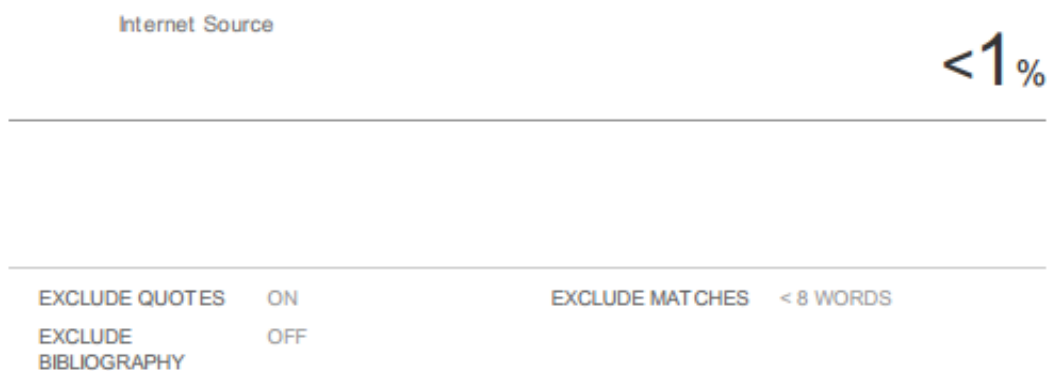


Figure Appendix C 2 Originality Report