AUTOMATED SHOPPING LIST GENERATOR

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I declare that this thesis entitle "Automated Shopping List Generator" is the result of my own research except as cited in the references. The thesis has not been accepted for any bachelor and is not concurrently submitted in candidature of any others bachelor.

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Date : 1 June 2015

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ABSTRAK

"Automated Shopping List Generator" adalah satu aplikasi yang boleh membantu semua orang terutamanya kepada suri rumah yang mahu mendapatkan barangan keperluan harian secara sistematik. Projek ini pada dasarnya menggunakan platform seperti telefon android, Telefon Windows dan android . System ini mudah digunakan digunakan, ia bukan seperti membeli-belah dalam talian kerana focus utama adalah kepada barangan keperluan yang terdapat dalam peti sejuk sahaja. Jadi, barangan tersebut tidak dijual dalam talian. System ini juga hanya boleh digunakan untuk mengemaskini keperluan makanan yang orang ramai selalu gunakan untuk memesak seperti sayur-sayuran, ikan, daging, ayam dan sebagainya. Individu yang sibuk kadang-kadang alpa dan tidak mengambil berat tentang keperluan hariannya. System ini dapat membantu mereka untuk menguruskan keperluan harian dengan bijak dan pesanan amaran akan dipaparkan pada telefon android sekiranya keperluan harian yang terdapat dalam peti sejuk sudah habis. Maklumat barangan yang sudah dibeli oleh pengguna akan disimpan dalam pangkalan data, kemudian data tersebut boleh dikongsikan kepada pengguna lain sekiranya pengguna tersebut mahu kongsikan kepada pengguna lain dengan memasang sejenis applikasi dalam telefon mereka.

ABSTRACT

Automated shopping list generator is an application that can give everyone especially for housewife to get the list of their needs systematically. This project is basically use platform like android Phone, Windows Phone and android. This system is easier to used, this system is not like an online shopping because I really focused on the items that is storage in freezer only. So, the foods are cannot be sell in online shopping. This system also only can be use for update the needs that people always use in cooking, like vegetable, fish, meat, chicken and others. Busy person sometimes cannot remember and they were not concern about their needs. This system will help them to be systematically in manage their work and warning message will be displayed if the food is finished. The items that users were brought will save in database, then the data can sync to other person that they want to sharing by install some application in their phone.

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CHAPTER 1

1.1 Introduction

Shopping is an intrinsic part of activity that we are doing everyday life to search for or buying goods or services. Mostly people especially women loved shopping. It is because, the best thing when they are going shopping downtown are surely the fast that the walk in the open and they can see monuments while going from one shop to another shop. Meanwhile generator is an apparatus that produces a vapor or gas, and also we call as freezer. That we know, this item we use for freeze our food.

Automated shopping list generator is an application that can give everyone especially for housewife to get the list of their needs systematically. For example, the system can display the list of foods like vegetable, fruits, fish, meat, chicken, eggs, beverages and others that were storage in the generator. This system are manually used, the housewife can update the list of food that have taken out from the generator when the food supplement is finished. In addition, the system also can display a warning message if the food is finished.

Based on my experience, women usually wasted during shopping. This system will help everyone especially housewife to manage their financial problem. Besides, it also can reduce time during shopping. They will buy their needs only.

1.2 Problem Statement

Nowadays, we can see that housewife cannot prepare their needs systematically. Some of them are busy with work and failed to prepare and manage household. If they buy too much kitchen items in one time, wasted will be occur. By using this system, the household in the freezer will be update automatically to android.

1.3 Objective

There are objectives for this research which is:

i. To create a Smartphone app that keeps track of items in the fridge.
ii. To sync with a remote database that keeps the inventory.
iii. To trigger alert when amount of inventory is low.

1.4 Scope Of Study

The scope of this project is to use for refrigerator only by using mobile phone.

i. Automated Shopping List Generator is manually use.
ii. The clients are housewife, people and workers that are busy on their work.
iii. The interface is easier to use, it will show the items that storage in freezer.

1.5 Project Significnt

i. Learn ability

The interface should be easier and intuitive for all users. The amount of functionality on a mobile app should be limited to exactly what the user will need to get their goal.

ii. Efficiency

The key task on mobile app should be as efficient as possible and make sure to limit the number of clicks that it takes for user to complete task. Efficiency to make input is easy to complete [2].

iii. Memo ability

Interface that shows in the system should become easier to use. The frequency of use in a main factor when increasing memo ability, make sure always update the mobile app to make it relevant for the user.

1.6 Conclusion

In conclusion, my project is basically use platform like android Phone, Windows Phone and android. This system is not like an online shopping because I really focused on the items that storage in freezer only. So, the items are cannot be sell in online shopping. This system also only can be use for update the needs that people always use in cooking, like vegetable, fish, meat, chicken and so on. Busy person sometimes cannot remember and they were not concern about their needs. This system will help them to be systematically in manage their work and warning message will be displayed if the food is finished.

CHAPTER 2

2.0 Literature Review

In this chapter, this project will focus on the literature review which consists of information that is related with the selected projects that were developed last year [1]. It describes literature review and project methodology. There also will be explanations about project requirement which include software requirement, hardware requirement and also other requirement.

2.1 Overview

Nowadays, android phones are great gadget that helping peoples to manage our busy lives. It also helps people to doing regular things like getting groceries and shopping for home goods is no exception. The android apps and iPhone (iOS) Apps are the examples of technologies that helped people make their life become easier. Out of Milk, Shopping List and Grocery IQ are the most popular app that people always use. It have a lot of benefit and helped people in reducing wasting time during shopping. In addition, it also help ensure you don't forget anything especially for busy peoples [4].

2.2 Existing system review

There are two types of technology that use in app applications:-

i. Android Apps
ii. iPhone (iOS) Apps

Android Apps

There is selected two most popular free shopping list apps available on Google PlayStore and evaluated them based on their principles and guidelines in the previous section. The apps are “Out of Milk” and “Shopping List” and the evaluation results are listed below.

a.) **Out of Milk**

"Another brightly-colour Android shopping list app, Out of Milk (free) is a little feature-sparse app. It allows adding items to shopping list by scanning the barcode, as well as text/voice entry. It can also share lists via text, email, and others but there are no syncing features. This app also features a to-do list, and a pantry section, to keep track of items already have in stock, but this means one has to keep that updated when one uses items, it does allow to move them to a shopping list from the pantry section"[1].

Figure 2.1: Demonstration to use Out of Milk application.

Figure 2.2: Demonstration to use Out of Milk application.

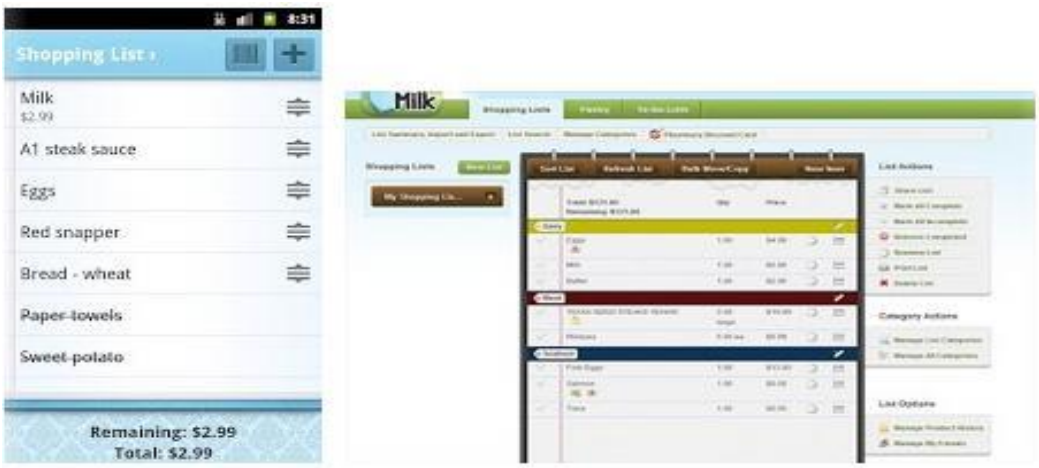


Figure 2.3: The output of Out of Milk application.

Table 2.1: The criteria Out of Milk android application.

Criteria	**Out of Milk**
Title of App	This application is not general in shopping.
Functionality	All other existing features are work properly and also the barcode reader and voice recognition work properly.
Navigation	The couple of screens and navigation is easy to use. But different if want to coming back to the main screen is rather tedious.
Collaboration & Connectedness	It can share via text, email, but not in syncing. The pro version had sync feature
Consistency of UI elements	Out of Milk is very clean and consistent UI, the global design layout.
Physicality & Realism	In term UI design, it is not similar to real work.

Graphics	The graphics is minimal and very neat. The design is appealing and beautiful app icon.
Orientation Changes	Good on multiple devices, but not handle orientation changes very well. The auto rotate feature is does not work and designed for vertical layout.
Intuitiveness	It is easy to use and very intuitive.
Gesture support	The gesture support is touch based app. It supports very well and voice support is also good.
Tutorials/ Help	This application provides simple tutorial at the start of the app for the first time.
Interactivity	The interactivity is quick to response and engages user.
Recovery from Failure	Gracefully in handles failure. It auto saves lists if app it is closed or phone switched off.
Advertisements	There are no advertisements in the free and Pro version. That's why it very popular as user's attention is not distracted.

b.) Shopping List

"The not very catchy titled app. Shopping List is another free shopping list app for Android that allows the user to share lists with BlackBerry and iPhones. This In terms of functionality, there is no specific recipe section, but it does feature reminders and a store directory, which allows user to phone stores directly from the app, although this is presumably intended for something a little more specialized than phoning one's local supermarket to see if they have any bread. This app doesn't allow list ordering, but it does have a built-in list of aisles (which one can add to or edit),

allowing categorizing the items and one can enter quantities and notes for each item, so there is no need to create a separate entry every time one needs a different quantity of an item. Below is the analysis in a tabular form".

Figure 2.4: Example of Shopping List android application.

Table 2.2: The criteria Shopping List android application.

Criteria	Shopping List
Title of App	Shopping List very pertinent to the task and not catchy.
Functionality of existing features	The voice recognition feature does not work properly. Barcode feature requires installing a separate barcode reader app.
Navigation	The navigation is very few screens, swift and clear navigation.
Collaboration &	Does not support the collaboration and connectedness.

Connectedness	
Consistency of UI elements	The consistency of UI elements is very good design and global layout.
Physicality & Realism	Physicality and realism is very pertinent to a real world notepad as the design. The layout is similar to a diary or notepad.
Graphics	The graphic is releasing to eye and very simple. It also no cluttering.
Orientation Changes	Handles very quickly, works with auto-rotate
Intuitiveness	Intuitive for the simple features, but exploring is needed for advanced features
Gesture support	Gesture is good but voice support is poor.
Tutorials/ Help	It available online and not on launch of app
Interactivity	The interactivity is very good, but it lacks deleted item go to bottom of list feature which would have made it more interactive.
Recovery from Failure	Gracefully in handles failure. It auto saves lists if app is closed or phone is switched off.
Advertisements	The advertisements in the free version are a distraction.

i. <u>iPhone (iOS) Apps</u>

In this categories ,the Shopping List and Grocery IQ was chosen for two popular shopping list applications that are available for the iOS platform and evaluated them against the guidelines: Grocery IQ and Shopping List.

a.) Shopping List

Shopping List application consists of auto complete mechanism and a predetermined list of items which users can choose. Shopping list is an application that helps user to organize, share and manage their shopping lists using their phone. By using Shopping list, users are easily add new items you need to buy, set quantity, and pick a category. When organizing the products, users can add prices, pictures and barcodes to items that's need to buy [1].

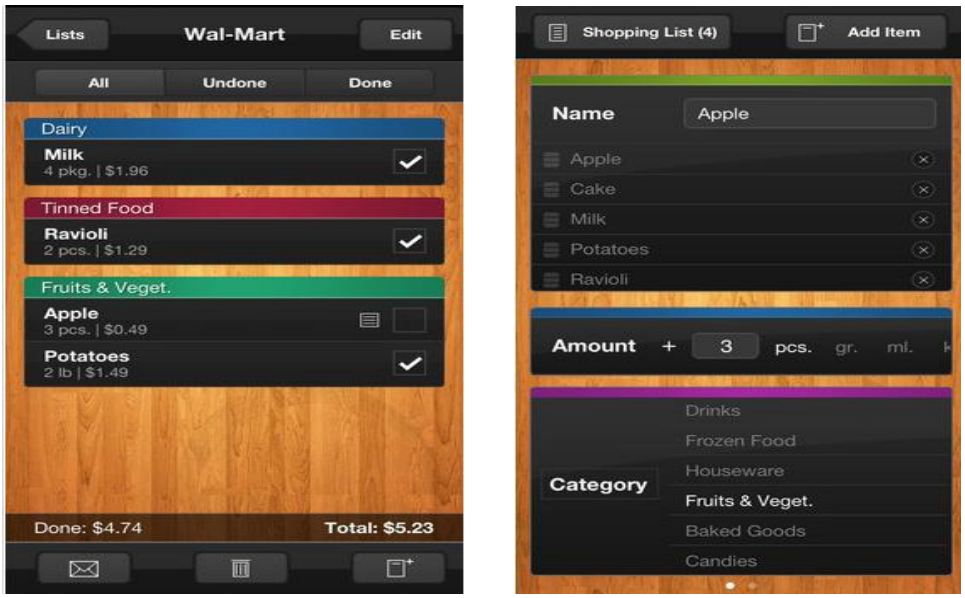


Figure 2.5: Example of Shopping List application.

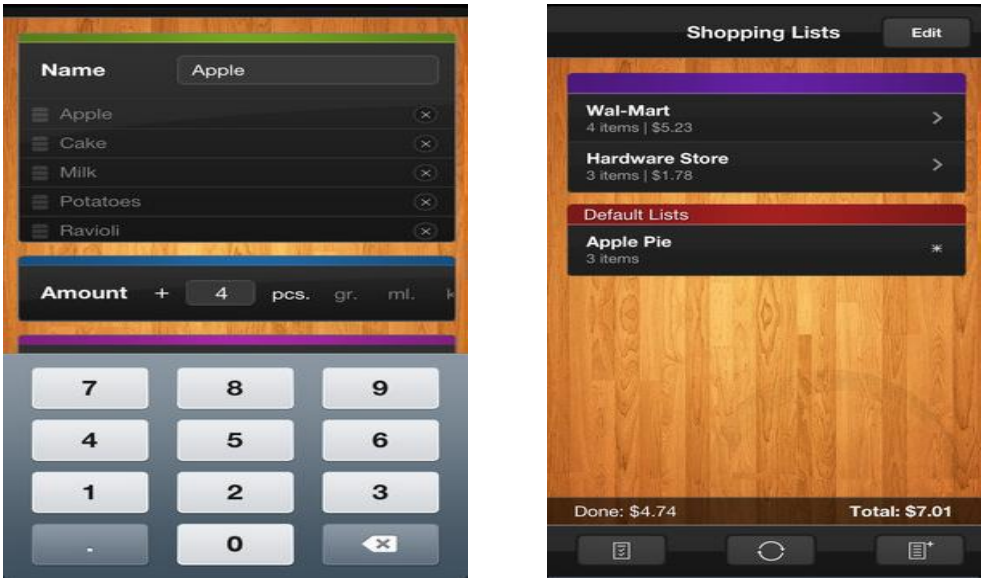


Figure 2.6: Example of Shopping List application.

Table 2.3: The criteria Shopping List iphone application.

Criteria	Shopping List
Title of App	Shopping List is very pertinent to the task yet not catchy.
Functionality of existing features	The functionality of existing features is well. Adding items is either via typing in full or choose from a predetermined list. It could help if there is an auto complete feature while typing and it could allow addition into the database of predetermined items.
Navigation	The navigation is not much of a problem. The deletion of items on touching added items is a bit deceiving. The pro version has excellent navigation and grouping of items.
Collaboration & Connectedness	It free version of the application that does not allow collaboration while the premium version does but only allows sharing via email.

Consistency of UI elements	The UI elements in the free version are inconsistent and the pro version does a good job with consistency of items.
Physicality & Realism	It is very pertinent to real world planner as the design and layout are very good.
Graphics	The pro version has good graphics and the background wood panelling, subtle colours and intuitive menu are all worth trying out.
Orientation Changes	The orientation changes can be locked or unlocked as this sometimes is a negative factor.
Intuitiveness	The pro version is highly intuitive with its automatic grouping of items in various lists.
Gesture support	None gesture support. The OS could possibly be blamed for this as there is no support for gestures in the iOS.
Tutorials or Help	The website has a good in manual and FAQ section.
Interactivity	The interface is good to interact and the navigation is precise.
Recovery from Failure	It saves list items automatically and the fetches they while coming back from an app crash.
Advertisements	The free version is relatively void of the advertisements, but asks to buy the pro version on various clicks.

b.) Grocery IQ

Groceries are a gorgeous shopping list app that's method of organization that's one of the most intuitive. Create as many lists as peoples like, sort items quickly by type, swipe to check things off. User don't even have to classify items either, Groceries handles all that for user and even auto-completes items that user typing as their enter for faster entry. The main list view shows a percentage complete as well for a quick overview. If user need to share lists, that is no problem. Groceries lets user do that too [1].

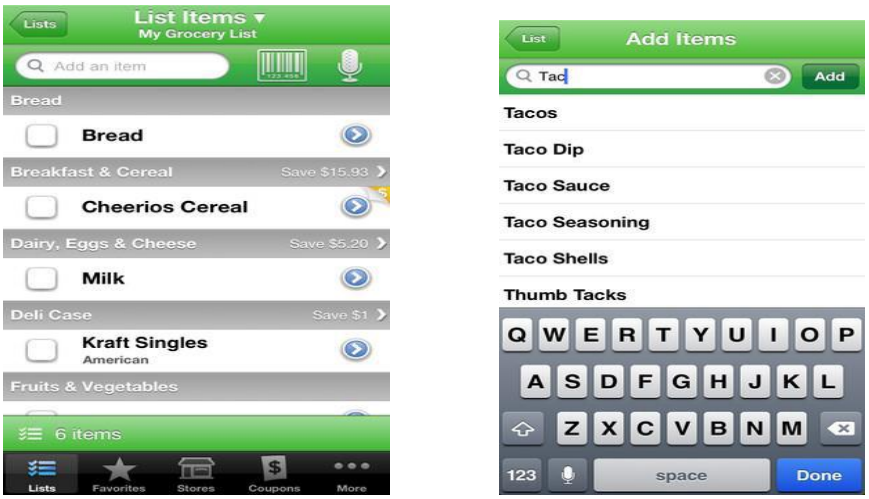


Figure 2.7: Example of Grocery IQ application.

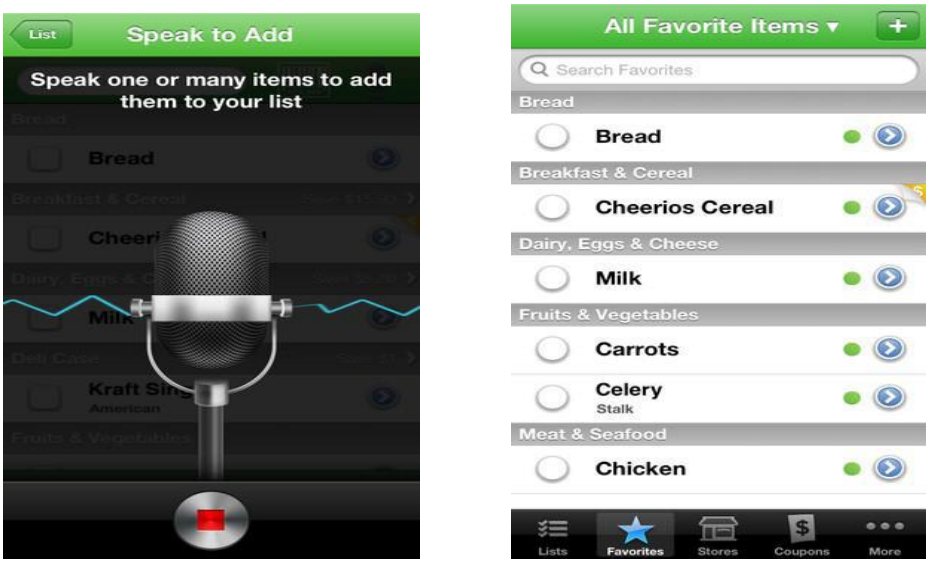


Figure 2.8: Example of Grocery IQ application.

Table 2.4: The criteria Grosery IQ iphone application.

Criteria	**Grocery IQ**
Title of App	The sound is good and conveys it has an IQ over grocery but does much more than that.
Functionality of existing features	Functionality of existing features is really well. The adding items are either via typing in full or choose from a predetermined list. There is also an auto complete feature based on items already added. The voice based actions is yet another good feature.
Navigation	The navigation across the application is very consistent and it has all items that is most familiar places so that finding them is never a problem.
Collaboration & Connectedness	It allows syncing across devices and platforms using a personalized account.
Consistency of UI elements	All the elements are placed where they are needed to be and convey what they have to.
Physicality & Realism	Physicality & Realism looks very familiar and easy to use.
Graphics	The main advantage of this app is its graphics. The best that any free application can provide.
Orientation Changes	The orientation changes can be locked or unlocked as this sometimes is a negative factor.

Intuitiveness	The whole application is very intuitive with its auto complete. The bar code and voice based addition of items.
Gesture support	None gesture support.
Tutorials or Help	The Grocery IQ website has good manual and FAQ section
Interactivity	The interface is good to interact with user and the navigation is precise.
Recovery from Failure	It saves list items automatically and fetches them while coming back from an app crash.
Advertisements	The free version is completely void of advertisements.

2.3 Discussion of comparison between Existing system and Automated Shopping List Generator.

Based on the previous system that is related with my system, there are have pro and cons in developed their system. But i want to shows that Automated Shopping List Generator have criteria that suitable to use nowadays, and it is more better than previous system.

Comparison between existing system and Automated Shopping List Generator:

Table 2.5: Comparison between existing system and Automated Shopping List Generator.

EXISTING SYSTEM (APP)	EXISTING SYSTEM (FUNCTIONALITY)	AUTOMATED SHOPPING LIST GENERATOR (FUNCTIONALITY)
Out of Milk (Android Apps)	a.) Not general use in shopping. b.) Share via text, email but no syncing. c.) Minimal in graphic. d.) Good on multiple devices but not handle orientation changes very well and auto rotate feature does not work. e.)	a.) The smart phone app can keeps track of items in the fridge b.) Using remote database that keeps the inventory. c.) The reminder is used when amount of inventory is low. d.) Allows syncing across devices. e.) The interface is good interacting with user. f.) Support collaboration & connectedness.
Shopping List (Android Apps)	a.) Does not support collaboration & connectedness. b.) Lacks deleted item go to bottom of list feature which would have made it more interactive.	
Shopping List (iPhone (iOS) Apps)	a.) The free version of the application does not allow collaboration while the premium version does but	

	only allows sharing via email. b.) None in gesture support. The OS could possibly intuitive with its automatic grouping of items in various lists.	
Grocery IQ (iPhone(iOS) Apps)	a.) None in gesture support.	

2.4 Development Tools

This system will be develop using selected tools to support the development system. This is tools that I use to develop this project.

Table 2.6: Tools that using to develop Automate Shopping List Generator.

Software	Macromedia Dreamweaver MX, Eclipse
Database Management System (DBMS)	MySQL & MySQLite
Programming Language	PHP, Java, Html
Server	XAMPP (Apache HTTP Server)

2.5 Conclusion

In this chapter I was do a research about the previous system that is provided same services with my system. I was classified the comparison between my system and the previous system. There were, the previous system have some function that user can't do. In my system, I was added the function to allow syncing across devices. The reminder is used when amount of inventory is low and the smart phone app can keeps track of items in the fridge

CHAPTER 3

METHODOLOGY

3.1 Introduction

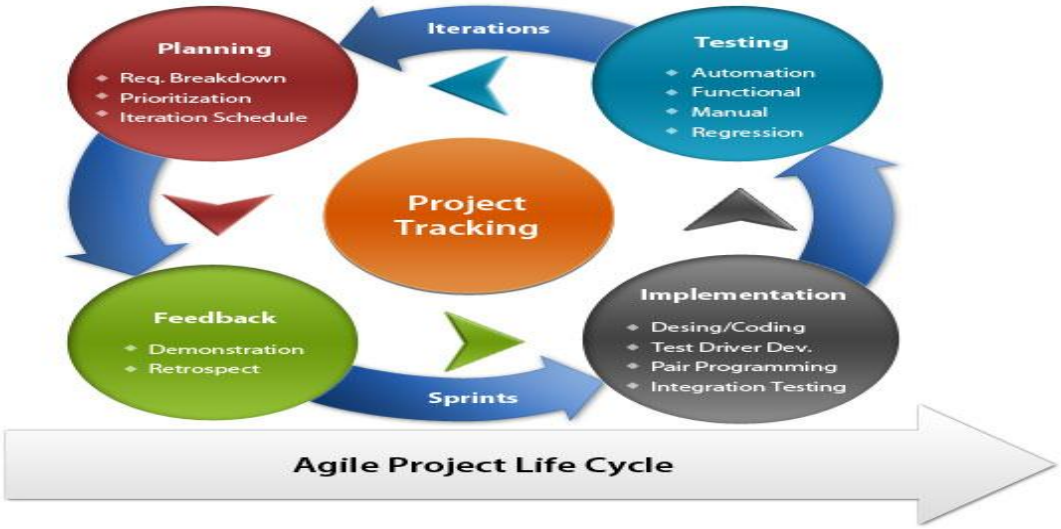


Figure 3.1: Agile Methodology

This chapter will discuss about process involved and methodology that were used to develop this system. Agile methodology is has been used during development of my project. Agile SDLC model are combination of two part that is iterative and incremental process models that focus on process adaptability and customer satisfaction by rapid delivery of working software product. This methodology has five steps and each of the steps have different outcomes.

In Agile Model, they were believed that every project needs to handle differently based on existing method and project requirement. The Agile Model tasks are divided to small time frames to deliver specific features for a release.

The iterative approach is taken and working software build is delivered after each iteration. Each build is incremental in terms of features the final build holds all the features required by the customer.

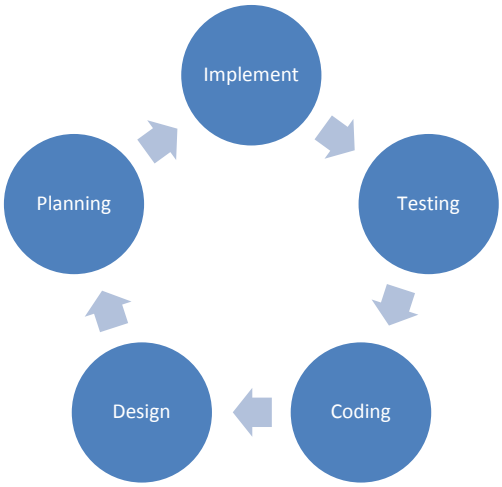


Figure 3.2: Stages involved in Agile Methodology.

These methodologies have four steps that have their own outcome. Agile Methods are being widely accepted in software world recently, but it is not suitable for all products.

i. Planning

In planning system, I was do some research about the existing systems to identify the problem that user have. This is important because if we want to develop system, developer must have a planning. Without planning, they can't do the project properly. Developer must classify the problem statement, and find the best solution to solved the problem with develop new product to achieve the human desire.

ii. Design

After planning, I was design the system with some criteria that require with my user. The scope of my system is for adult only, it is not suitable for children. The interface is more iterative and more detail, but user will use it manually.

iii. Coding

In this stage, the coding is developed with functions that have in my system. In this system, PHP: Hypertext Pre-processors is the source code to be implementing with the design to build a complete system design. Database design also will take part on this phase. The combination of PHP source code with MySQL will form complete system architecture with their functions.

iv. Testing

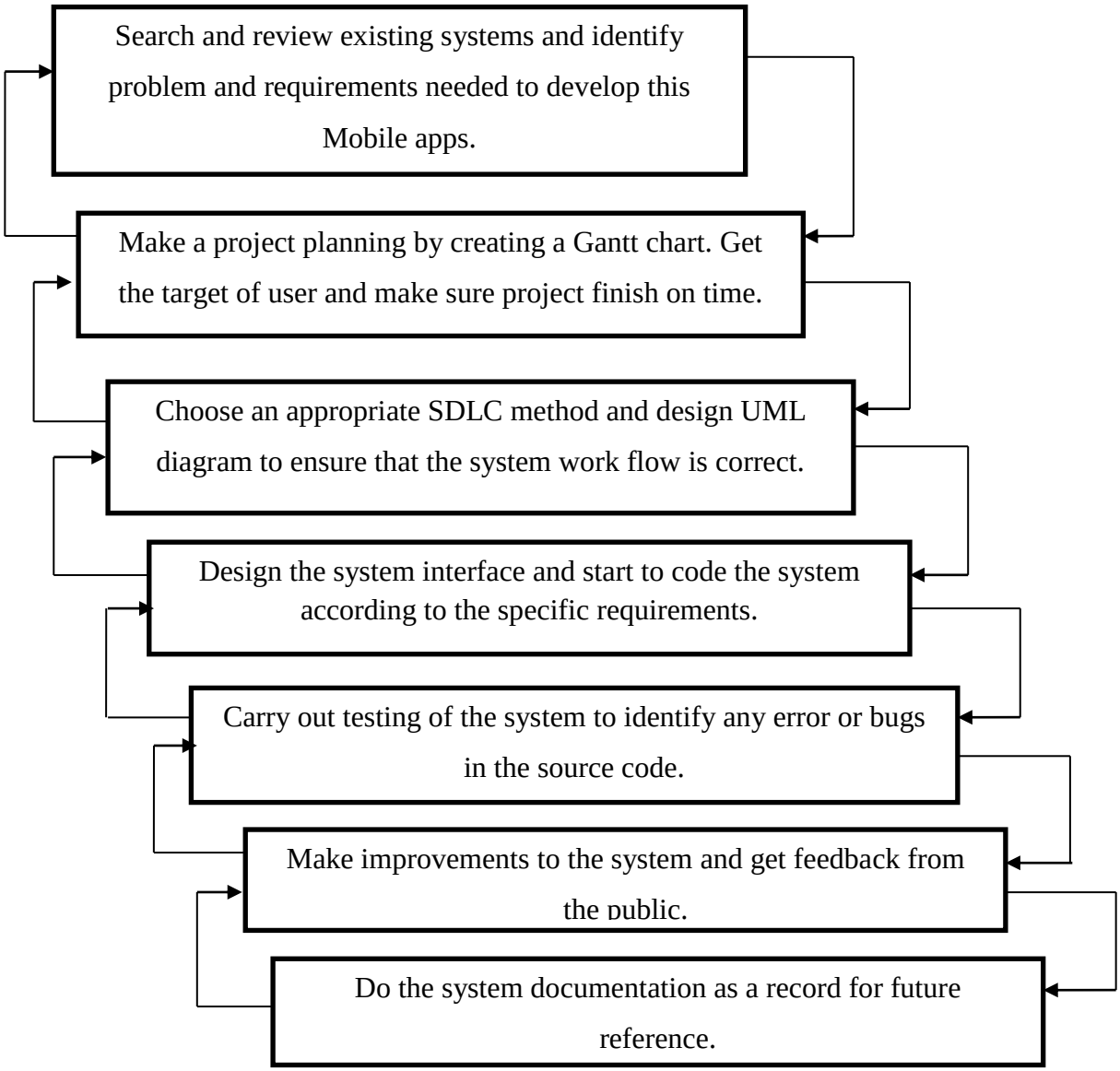
Testing is phase to test the system after process planning and design. If the system has a problem, I will repair it until it function properly. The advantages of using Agile Method are, developer can return back to any phase that needs to repair without go back to first stage.

v. Implementation

Implementation is the last phase in my system, if my system is good and not have any problem, I will proceed with my project.

There are a several steps should be use in this study to build the project successfully. Figure 3.2 shows the steps that using to complete this project:

Table 3.2: Project development flow chart



3.2 Flowchart

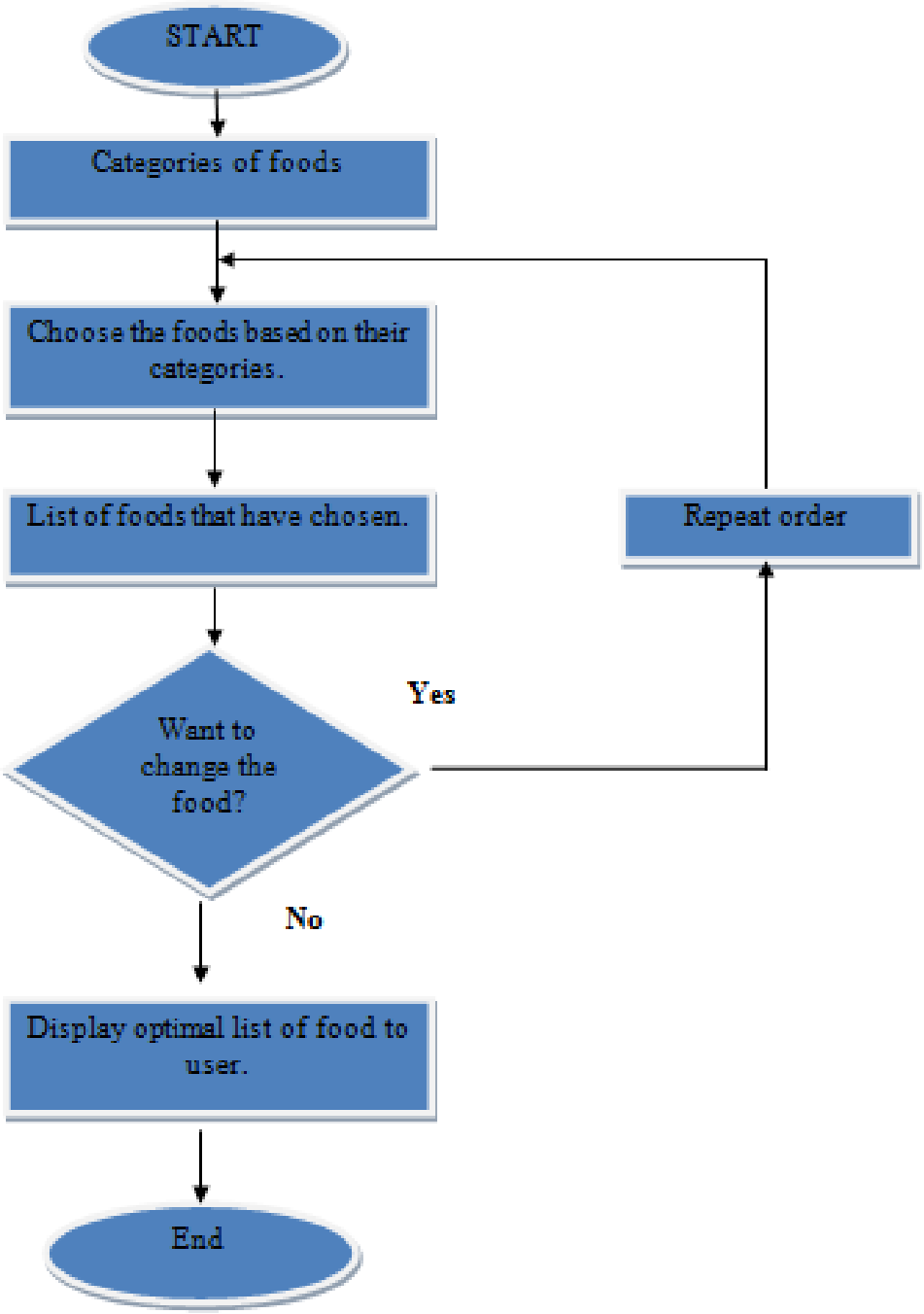


Figure 3.2.1: Flowchart.

3.3 Context Diagram (CD)

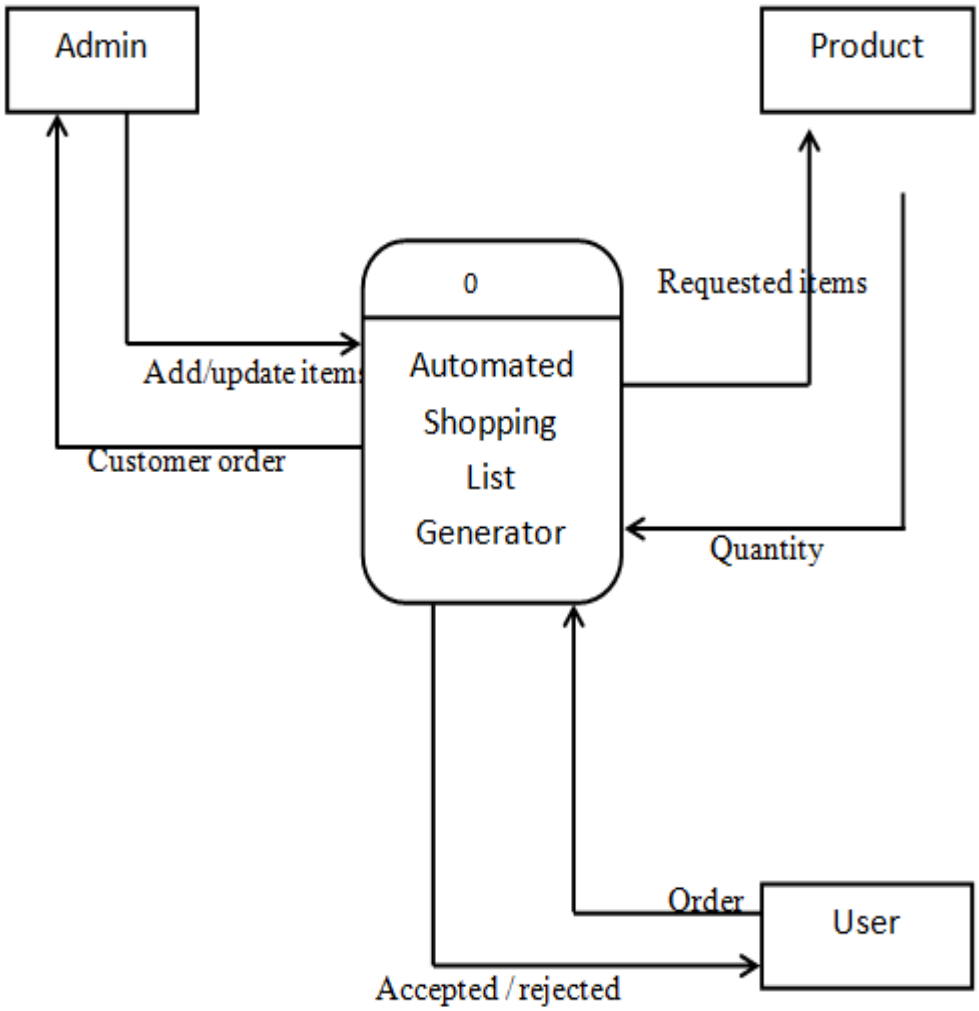


Figure 3.3.1 : Context diagram

Project Requirement

Hardware Requirement

Hardware is referring to component or physical items that constitute a computer system. It is refers to the physical parts or components of computer like printer, key board, mouse and others.

3.4 Project Requirement

3.4.1 Hardware Requirement

Hardware is referring to component or physical parts of computer. Without hardware, any work cannot be done properly.

There is hardware that is required in this system:

i. Computer or Laptop

Computer or laptop is item that's very important to develop my system. Especially in making the documentation and do some research. It also helps me searching information that I needed and also to save my project.

ii. External Hard Disk / USB Drives

External hard disk is used as a backup for my project. Sometimes we do not expect that an incident will occur. So, as preparation I was use external hard disk or USB devises to as backup.

iii. IPad

In develop my system ipad is gadget that I use to run my system. The gadget, I can borrow from my faculty during presentation.

3.42 Software Requirements

Software known as computer program that is non-tangible component of computer like executable files, libraries and scripts.

i. Microsoft Office 2010

Microsoft office is an office suite of desktop applications, servers and services for Microsoft Windows and Mac OS X operating systems, introduced by Microsoft on August 1989. Microsoft Office contained Microsoft Word, Microsoft PowerPoint and Microsoft Excel. For each Microsoft have their own function according to their specialties like Microsoft Word for documentation, Microsoft Project for planning the progress of the project and Microsoft Power point for preparing presentation slides.

ii. Drop Box

Drop Box is actually an online storing account that provides users with amount of free spaces on the net, to back up our important data. Drop Box is important for developers to back up, even though there are already USB Drivers and External Hard Disks. This hardware is sometimes hard to deal with, especially when they are corrupted and attacked by virus. Thus by keeping the data online, they are secure from any potential physical threats.

iii. Microsoft Visual Studio 2010

I was use the Microsoft Visual Studio 2010 to design my interfaces before I proceed to PSM 2. It just the beginning of my planning project, the real system I will show in PSM 2.

iv. Macromedia Dreamweaver MX

Macromedia Dreamweaver MX 2004 is a tool that quickly development websites and internet applications. It provided powerful CSS support and lets you work within the one environment. This software also easily to use because it use simple language that easier to understand like XHTML, XML, HTML, ASPNET, JAVA, PHP and others.

v. Microsoft Office Project 2007

To making a Gantt chart, Microsoft Office Project 2007 was used to show the general information about the time that I need to finish my project.

3.5 User Requirement

The enhancements in technology of mobile application development, many company are compete to develop the advance of mobile application. Nowadays, people are mostly use android apps and phone as their gadget. We can see that, peoples are followed the changes in technology. They were likely to the latest technologies that make their life easier. In process to develop my android application for Automate Shopping List Generator, I was doing a research and survey about the user requirement that people's needs.

There were the design principles based on user requirement:

i. Learn ability

The interface should be easier and interactive for all users. The amount of functionality on a mobile app should be limited, to exactly what the user will need to get their goal.

ii. Efficiency

The key task on mobile app should be efficient and make sure to limit the number of clicks that it takes for user to complete task. Efficiency to make input is easy to complete.

iii. Memo ability

Interface that is shows in the system should become easier to use. The frequency of use in a main factor when increasing memo ability. Besides, make sure always update the mobile app to make it relevant for the user.

3.6 Conclusion

In this chapter is explains about the methodology that used to fulfil this project. Agile Methodology have been used in developed this project, because this method are effective in developed system. Besides, in developing in system also must used some devised and software to help developer get the output of their system.

CHAPTER 4

DESIGN

4.1 Introduction

In design chapter, it tells about the functionality of this system for people that busy on their work. Developer must design the system that needs by user, this is important to make sure the system have functionality that needed by user and also to solve the problem that user have. This system have will help user to manage their time, and help them to remained items that the need to buy.

Automated Shopping List Generator is developed using software Adobe Dreamweaver Macromedia and also Eclipse. I have use Dreamweaver to design interface by using language HTML, PHP, JavaScript and also MySQL database. Another one, i were use Eclipse to developed android phone that can sync the database and trigger alert when inventory is low.

4.2 Story Board

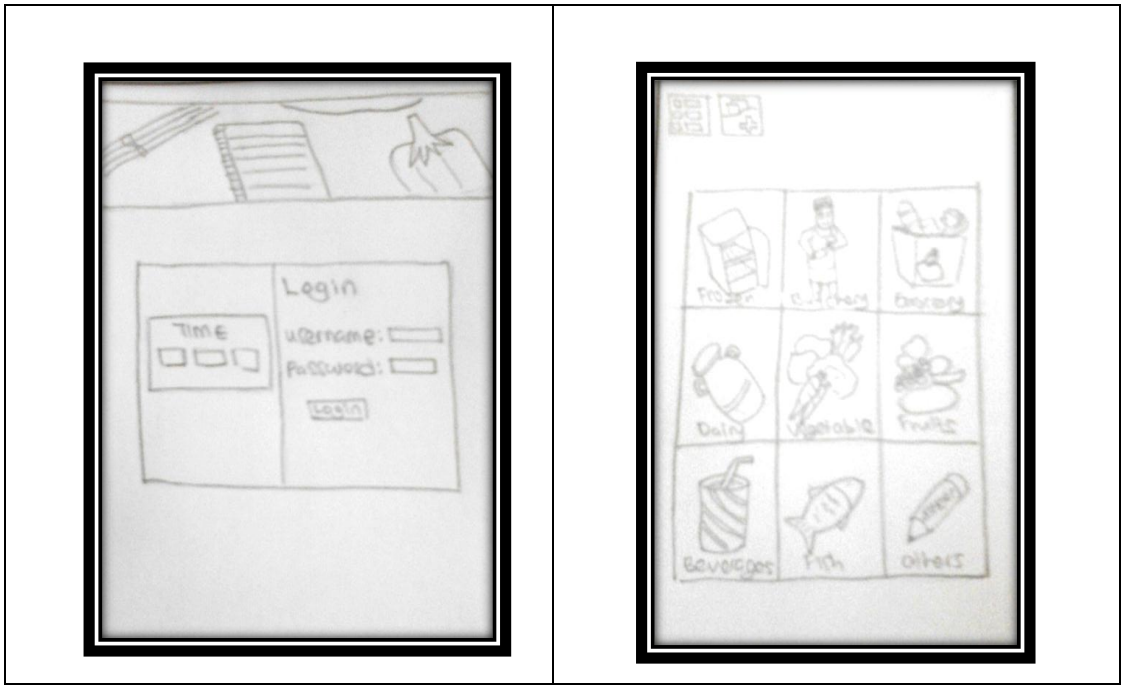


Figure 4.2.1: Login page of Automated Shopping List Generator applications.

Figure 4.2.2: The menu of items based on their category.

Figure 4.2.3: The grocery items that have in refrigerator.

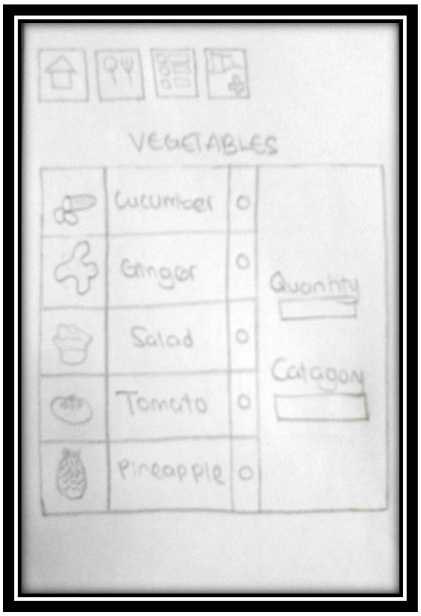


Figure 4.2.4: The vegetables items that have in refrigerator.

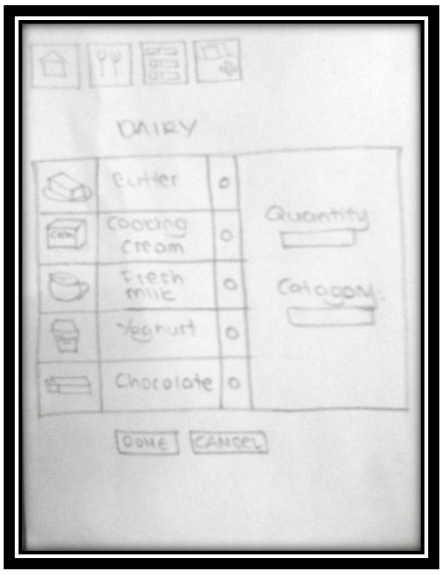


Figure 4.2.5: The dairy items that have in refrigerator.

Figure 4.2.6: The butchery items that have in refrigerator.

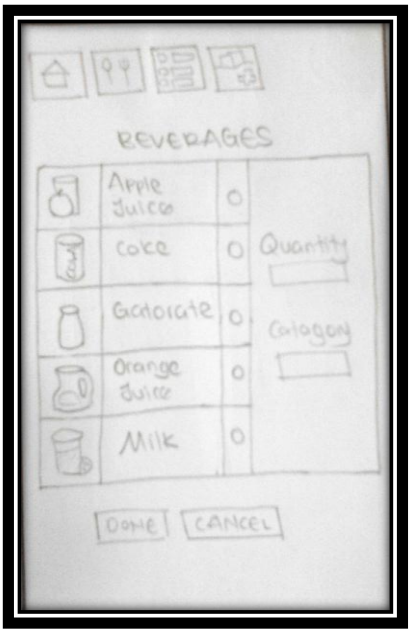


Figure 4.2.7: The beverages items that have in refrigerator.

Figure 4.2.8: The freezer items that have in refrigerator.

Figure 4.2.9: The fruits items that have in refrigerator.

Figure 4.2.10: The fish items that have in refrigerator.

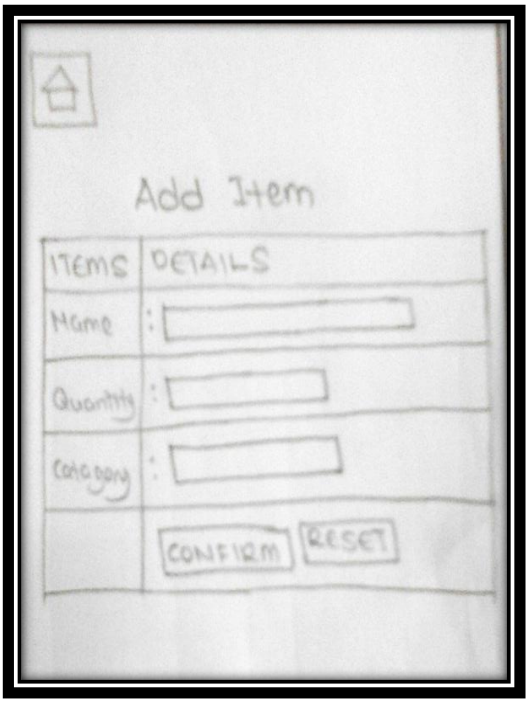


Figure 4.2.11: The add items page if user want to add items that does ‘not have in refrigerator.

4. 3 Conclusion

In design chapter, we are supposed to show detailing about this system and also the figure of interface about this system. This is the first steep that must do before design interface. Developer must design the interface match with user requirement that user want. Miscommunication should be ovoid, because if the system not follows the user requirement the system will not get the target that user want. It can take a long time to finish and wasted money to buy new items.

CHAPTER 5

IMPLEMENTATION & RESULT AND DISCUSSION

5.1 Introduction

This chapter covers the implementation phase and result of Automated Shopping List system. The implementation focused on the development of mobile app for user that need different in their shopping app. These implementation activities include the system coding, debugging and documentation. The coding is includes structure of coding system that is used to run the functions in this system. During implementation phase, developer must to ensure that they have fulfilled the system requirement before implement this system. If the systems have any error, developer must to find the problem and try to solve it until the system can run properly.

In this chapter also will explain about the result was obtained from the evaluation phase. Evaluation phase are very important to measure the functionality and reliability of this system.

5.2 Architecture of Automated Shopping List Generator.

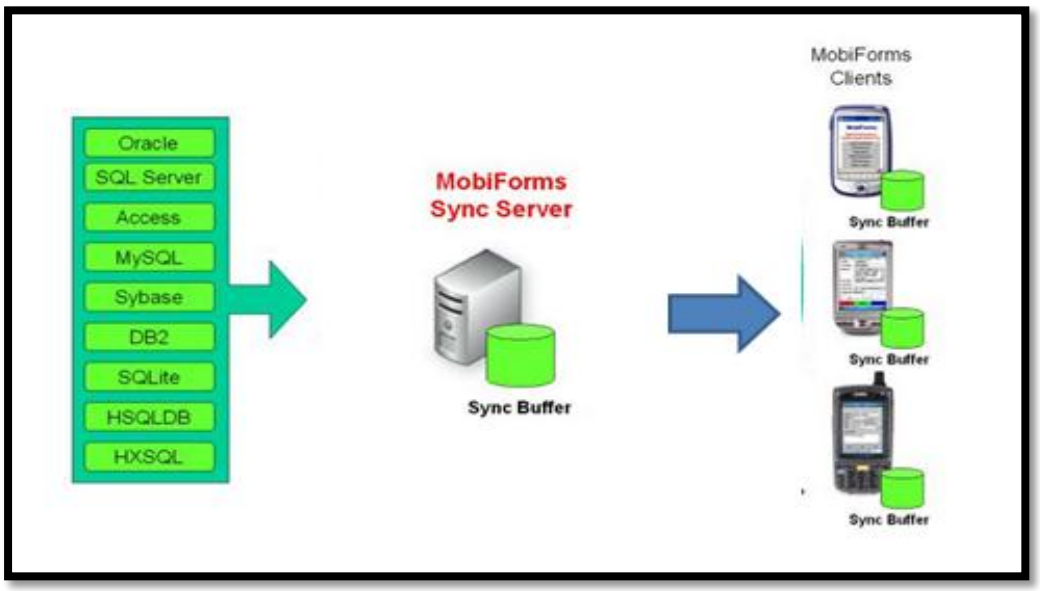


Figure 5.2.1: This system can sync database over the Network. When users use this application to add any items or update, it will sent the trigger alert message to others phone user. They will get the same information whether they use different devices.

5.3 Interface

This system is used for user that need sharing update by sync the data when they updated or use the refrigerator. This system can use in one family, because they share the same freezer. When one users updated the items or add the item, the others users will receive the trigger alert message. The functionality of this system are, to remind the user about the items in freezer, whether it still available or not. Besides, this system will help user to manage their time especially for busy people. When they go to shopping, they can refer the list that have on their system and no need to check the freezer before go out the shopping.

Figure 5.3.1: This is Home page of Automated Shopping List Generator app.

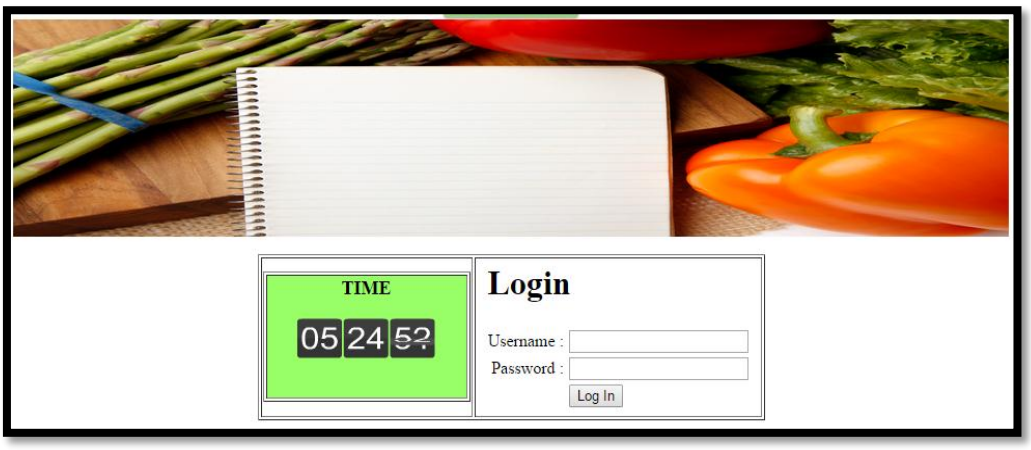


Figure 5.3.2: Show the log in page where user must log in before enter this systems. Users are register by admin, because this system is for personal used. Only user and admin can enter this system.

Figure 5.3.3: This interface shows the category of items that have in freezer. User can chose based on their item's category.

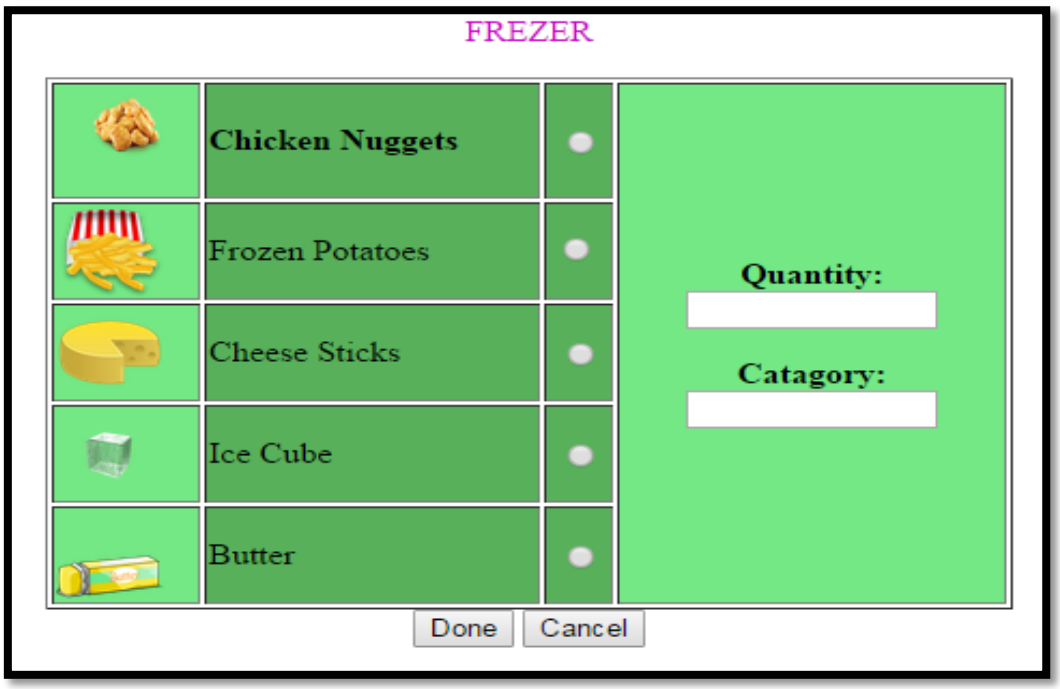


Figure 5.3.4: This is interface for grocery item.

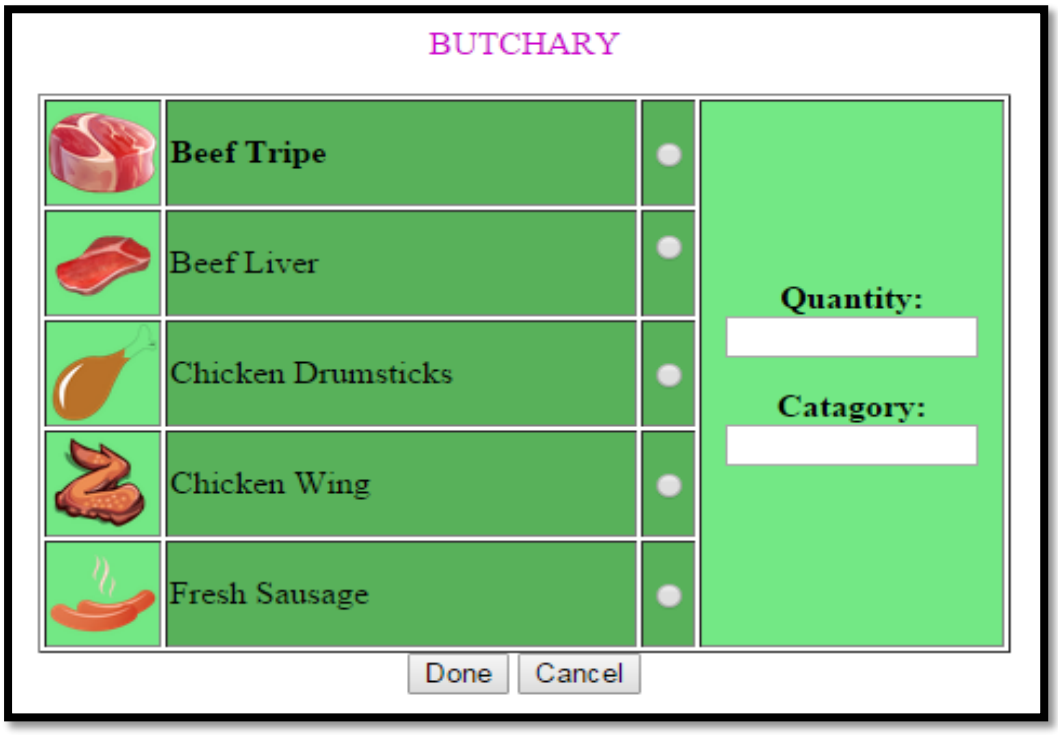


Figure 5.3.5: This is interface for butchery items.

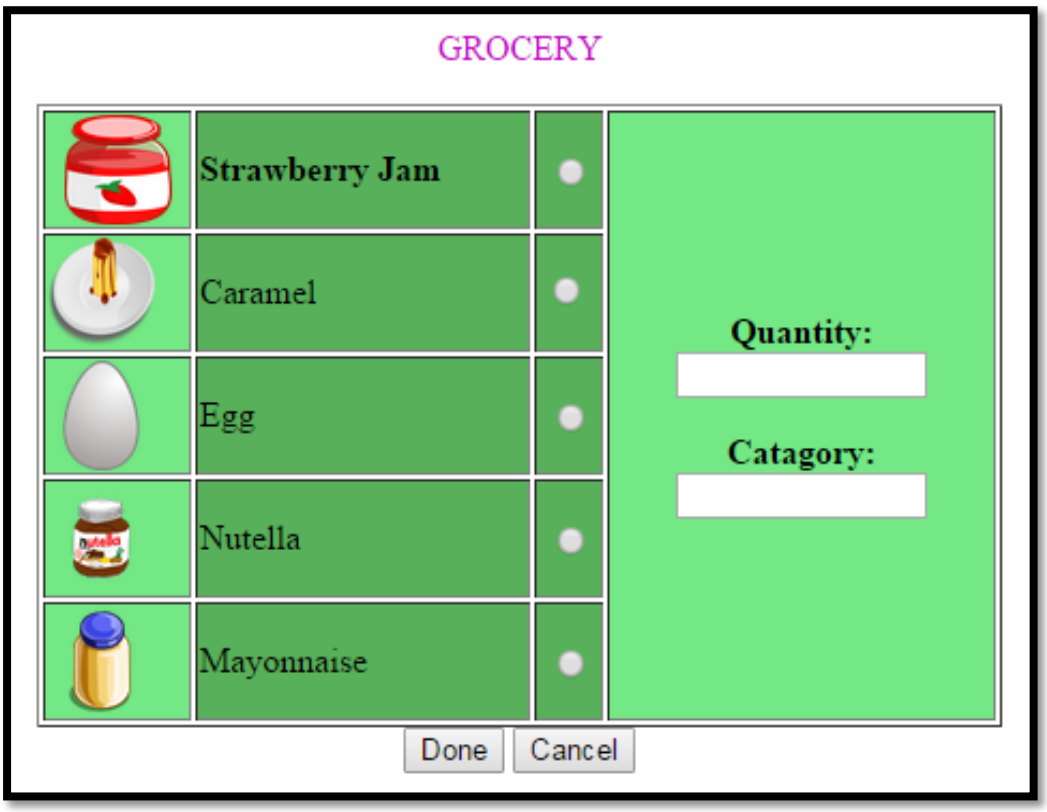


Figure 5.3.6: This is interface for grocery items.

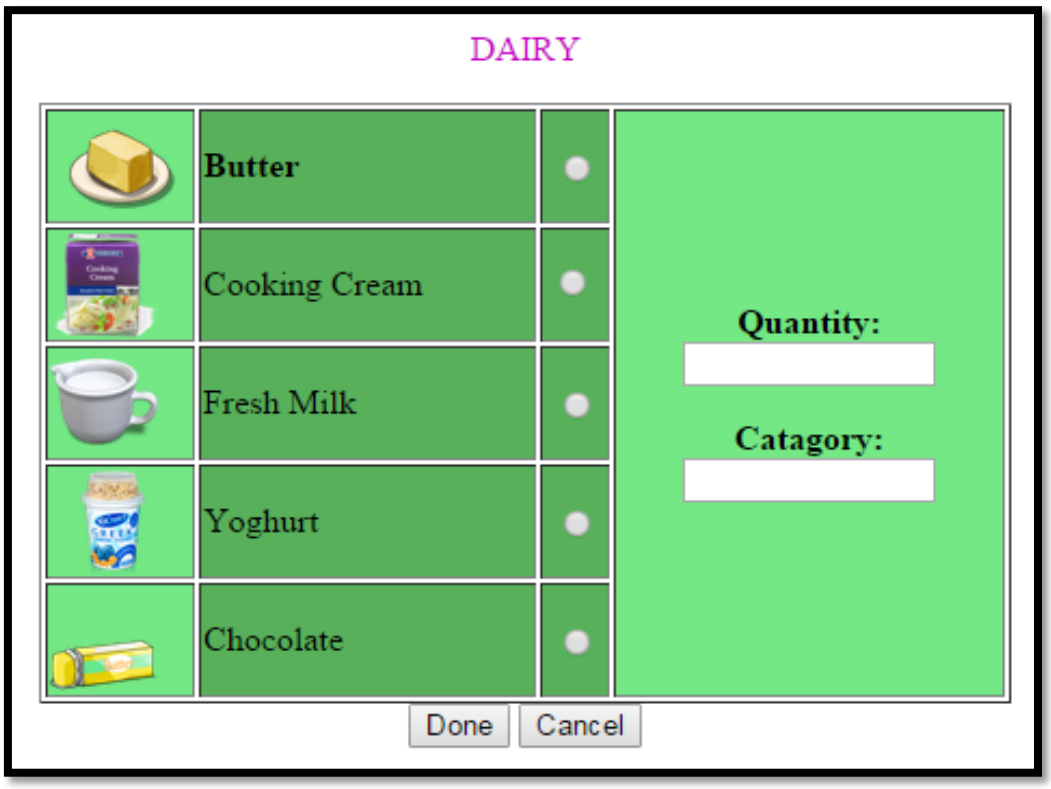


Figure 5.3.7: This is interface for dairy items.

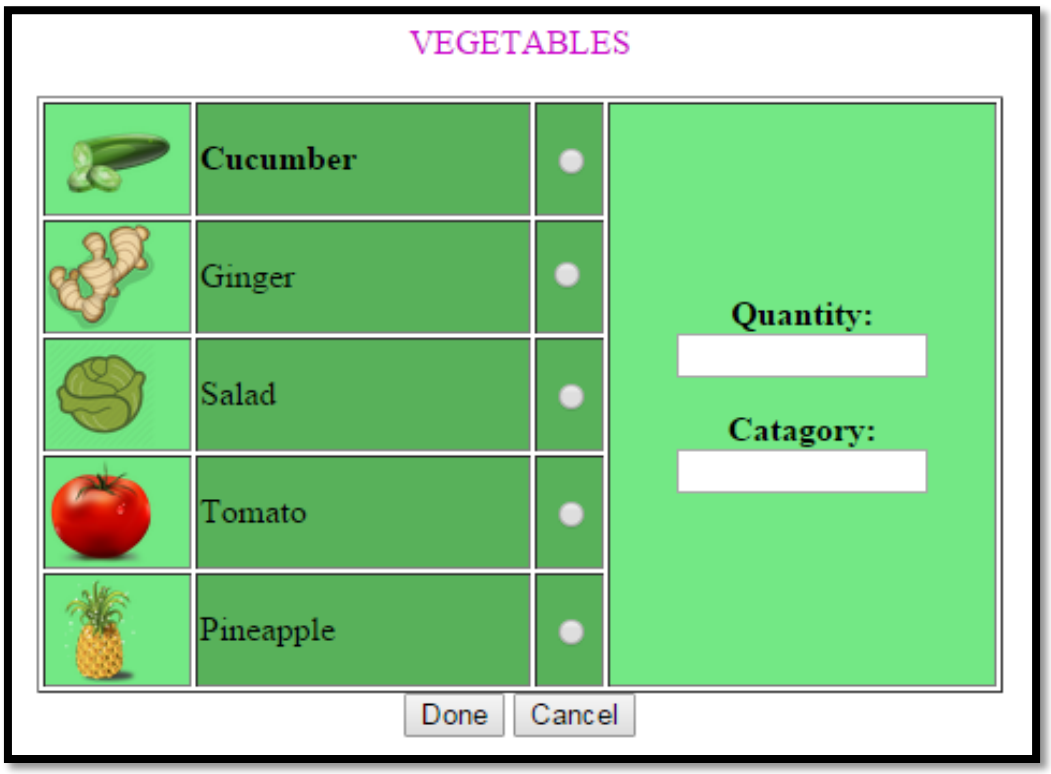


Figure 5.3.8: This is interface for vegetables items.

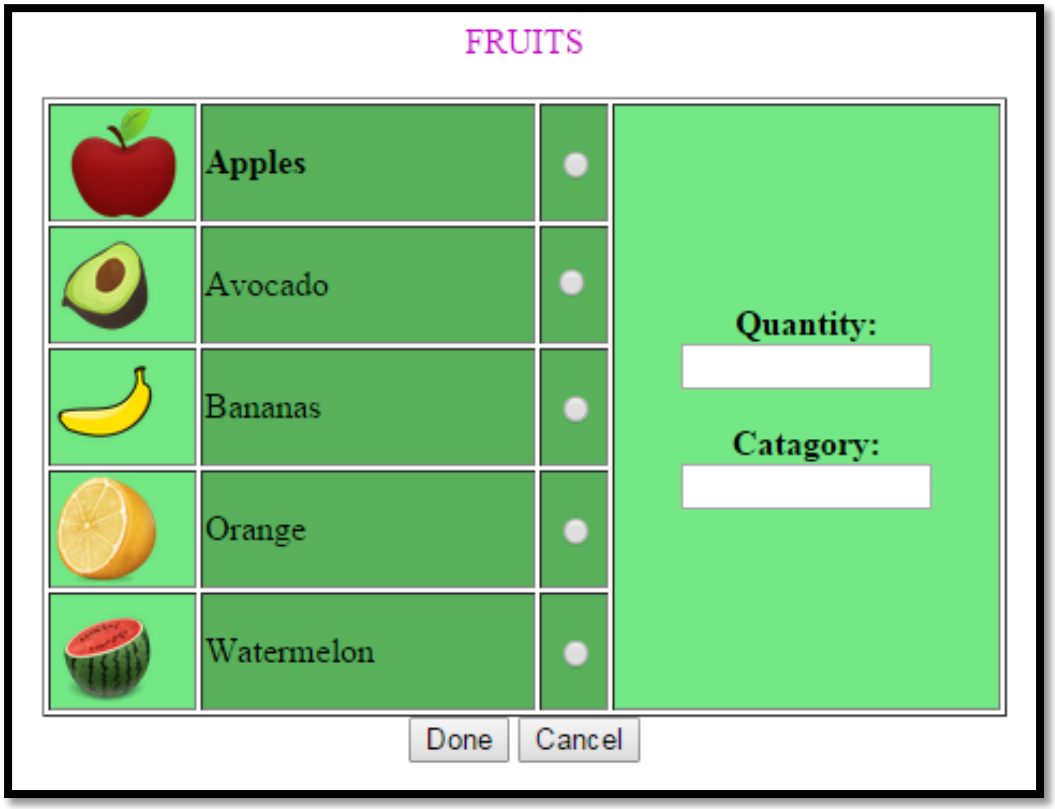


Figure 5.3.9: This is interface for fruits items.

Figure 5.3.10: This is interface for beverages items.

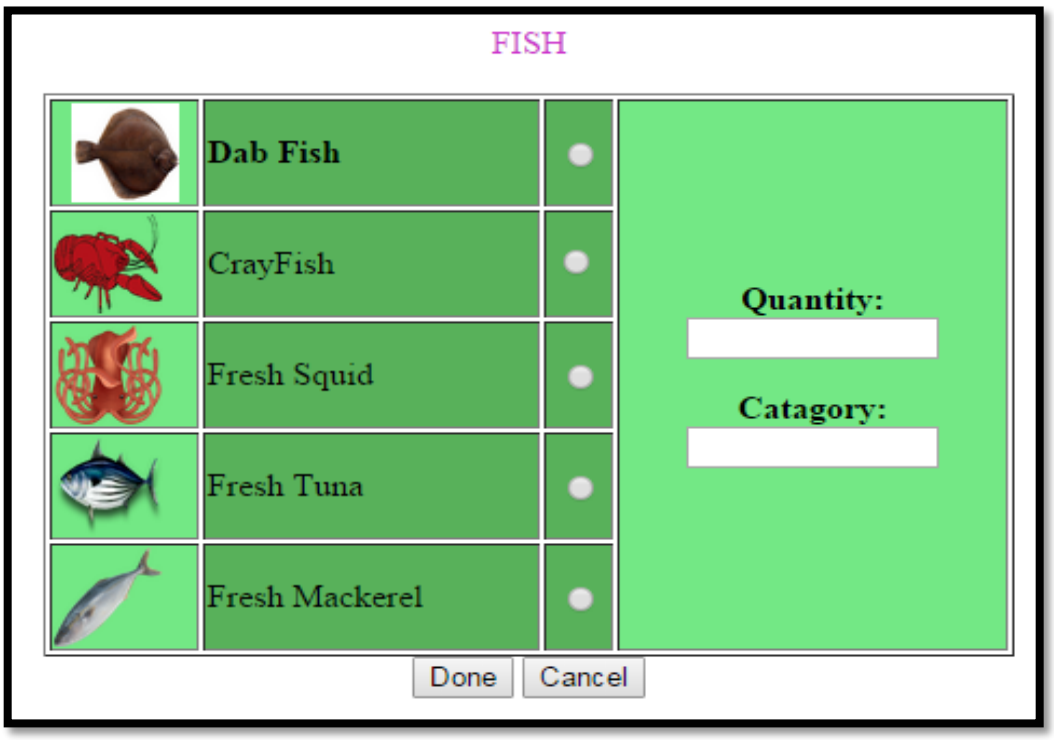


Figure 5.3.11: This is interface for fish items.

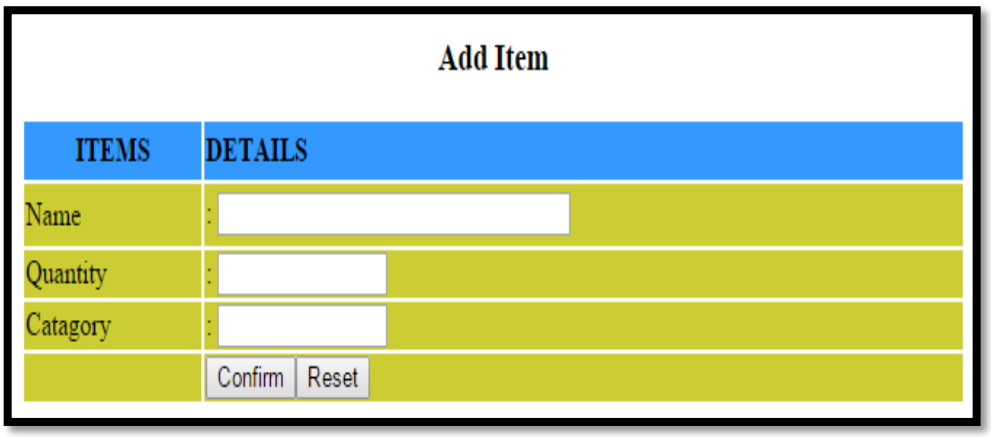


Figure 5.3.12: This is interface for add items.

Figure 5.3.13: Web view application.

Table 5.3.12: This is interface for edit and update items

List Item

No	Name	Quantity	Category	Action	
1	Chicken Drumsticks	4	BUTCHERY	DELETE	UPDATE
2	Chicken Wing	9	BUTCHERY	DELETE	UPDATE
3	Strawberry Jam	7	GROSERY	DELETE	UPDATE
4	Bananas	0	FRUITS	DELETE	UPDATE
5	Labu	2	VEGETABLES	DELETE	UPDATE
6	Tomato	2	VEGETABLES	DELETE	UPDATE

5.4 Development Environment

5.4.1 Initialization of Development

5.4.2 Test Login Page

User must login first to use this application. The for login page function properly, user can login the page by enter the password that have set by admin. If user enter wrong password, the alert message will popup “username and password wrong”.

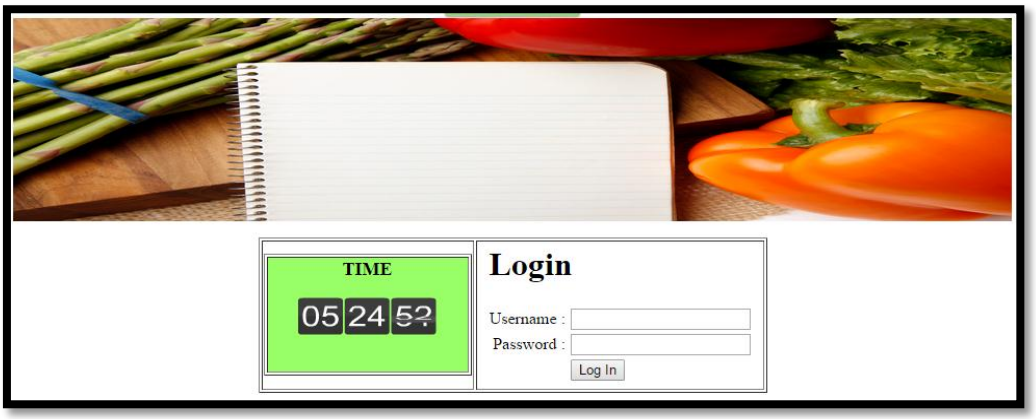


Figure 5.4.2.1: Login page.

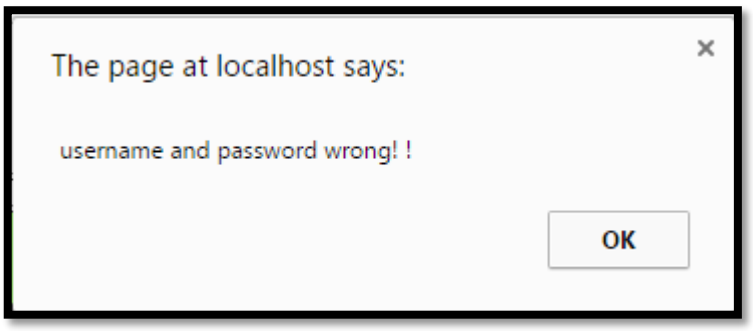


Figure 5.4.2.2: Alert message if use wrong password and username.

5.5 Coding Implementation

The Automated Shopping List Generator app is built up fully by utilizing HTML, CSS JavaScript, MySQL and JAVA. This system also use the Macromedia Dreamweaver MX and Eclipse as editor software, thus is preferable to edit and implement all the coding that use to developed this system. Dreamweaver automatically generate the suitable CSS files where developer can manipulate and edit to fit to their own ideas.

"There are three types of style sheet implementation for Dreamweaver, also to other editor, link, embed, inline and import. For this project, most of the style sheets are implemented using link and import to the project. Linking CSS file will allow developers to create another CSS file separately from HTLM files. This might reduce the size of the project and at the same time, will help reduce time for contents to be uploaded or streamed from user's device. Meanwhile, imported CSS are used in the *fluid.css* itself".

After finish design developed the system in Dreamweaver, the coding was being transfer to the eclipse software to developed android phone and run as mobile phone. Then, to make sure the data can sync to other user, the other android application was be created that call as "web view". This application can sync the data that have in other mobile phone, but all the user must use same network. They can edit, delete and update the same data and all user can view came information.

5.6 Result Analysis

Automated Shopping List Generator is expected to execute well with proper of error handling. All part should be function properly and error-free. Testing has been done to test the output of this system.

5.6.1 Project Outcomes

The outcomes of this project are an Automated Shopping List Generator that can help user to manage their time systematically when they shopping. The scopes of the items are only focused on items that have in refrigerator.

To using this application, user must log in first. Then they can choose the item that they want to buy, then the item will be store in freezer. When they already finish use the item, they can update and delete the items. This system are suitable for user that busy on their work and does not have more time to spend in shopping.

Figure 5.6.1.1: List of item based on their category.

When user clicks on the picture in Figure 5.6.1.1 , it will show the list of item that they want. They can choose by the category of the items, for example of butchery, fruits, vegetables, fish, beverages and so on.

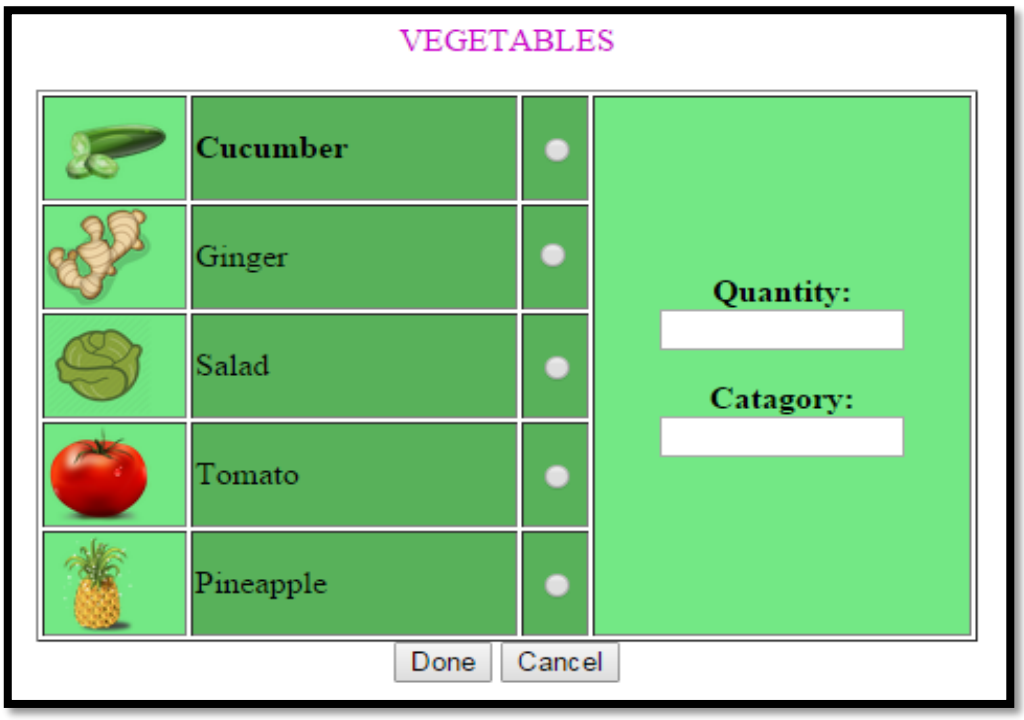


Figure 5.6.1.2: List of vegetables items.

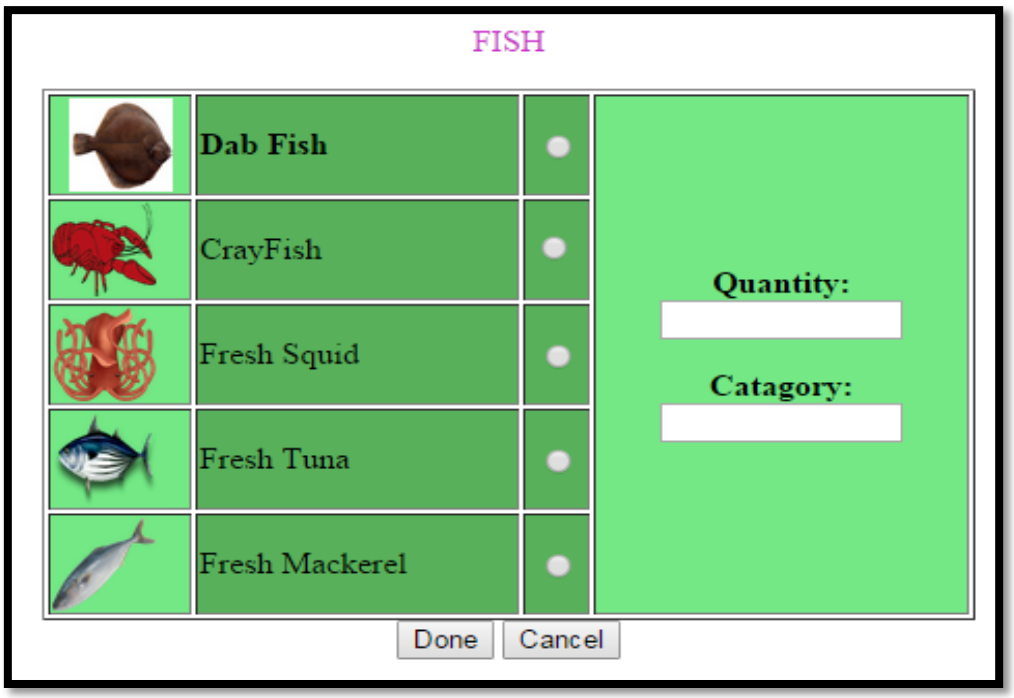


Figure 5.6.1.3: List of fish items.

Figure 5.6.1.3: List of beverages items.

When users have done to choose the items that they want, the item will be saved in database. They can see the list of items and they can edit, delete and update the data. The database rename as "shopping_list" there were contains data admin and all the items.

Table 5.6.1.1: This is interface for edit and update items

List Item

No	Name	Quantity	Category	Action	
1	Chicken Drumsticks	4	BUTCHERY	DELETE	UPDATE
2	Chicken Wing	9	BUTCHERY	DELETE	UPDATE
3	Strawberry Jam	7	GROSERY	DELETE	UPDATE
4	Bananas	0	FRUITS	DELETE	UPDATE
5	Labu	2	VEGETABLES	DELETE	UPDATE
6	Tomato	2	VEGETABLES	DELETE	UPDATE

If the items that user want but the item does not have on the list, user can go to page “Add Item” to enter the items that they want to buy. The just fill in the blank by put the name of items, quantity and their category. Then click button confirm if user confirm to buy the items and click button reset if they want to cancel. The items that have added will saved in same database “items”. If data successful saved, alert message will popup “SUCCESSFUL ADD DATA”

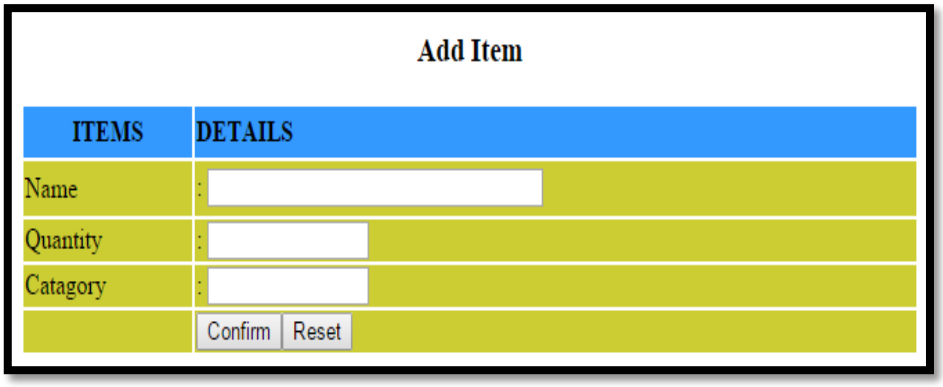


Figure 5.6.1.4: Page Add Items.

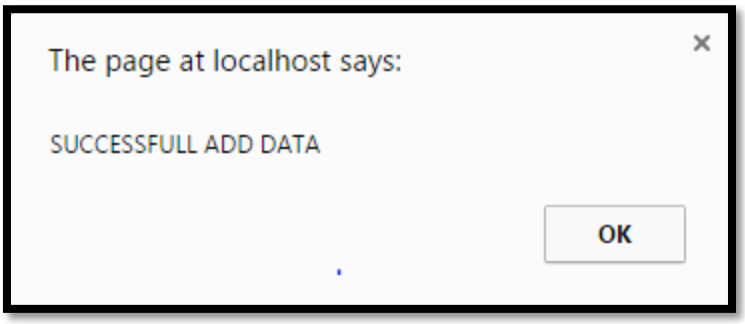


Figure 5.6.1.5: Alert Box

To sync the list to other user, the other android application was developed that call as “web view”. “A common scenario in which using Web View is helpful is when you want to provide information in your application that you might need to update, such as an end-user agreement or a user guide. Within your Android application, you can create an Activity t hat contains a Web View, then use that to display your document that's hosted online.” [7].

Figure 5.6.1.6: Web View application.

5.6.2 Observation Outcomes

The main point of this project are to create a Smartphone app that keeps track of items in the fridge, to sync with a remote database that keeps the inventory and to trigger alert when amount of inventory is low.

This system is developed for users that are productive on their life. They want to use the system that can help them to manage their systematically. Besides, the system can sync to other user that they want to share especially for husband and wife. They can share the same information about the items that they want to buy and update the items if the items were finished.

CHAPTER 6

6.0 Summary

To develop any application, developer must do a research to know about the problem and system that user want to help their daily life. Based on problems that have shown in chapter 1, I was do appointment with users to know about the requirement that they want to improve their previous applications. Thus, it was help me to find the best solution to solve their problems.

In chapter 2, I was do some research about the previous system that is provided same services with my system. I was classified the comparison between my system and the previous system. There were, the previous system have some function that user can't do. In this system, I was added the function to allow syncing across devices. The reminder is used when amount of inventory is low and the smart phone app can keeps track of items in the fridge.

In chapter 3 is explains about the methodology that used to fulfil this project. Agile Methodology have been used in developed this project, because this method are effective in developed system. Besides, in developing in system also must used some devised and software to help developer get the output of their system.

In design chapter, we are supposed to show detailing about this system and also the figure of interface about this system. This is the first steep that must do before design interface. Developer must design the interface match with user requirement that user want. Miscommunication should be ovoid, because if the system not follows the user requirement the system will not get the target that user want. It can take a long time to finish and wasted money to buy new items.

The main points of this project are to create a Smartphone app that keeps track of items in the fridge, to sync with a remote database that keeps the inventory and to t rigger alert when amount of inventory is low.

This system is developed for users that are productive on their life. They want to use the system that can help them to manage their systematically. Besides, the system can sync to other user that they want to share especially for husband and wife. They can share the same information about the items that they want to buy and update the items if the items were finished.

5.7 Limitation of Findings

The limitation of this system that were identified:

i. User cannot choose 2 or more items at one time.
ii. This application can sync with users that use same network.

5.8 Advantages of Findings

The limitation of this system that were identified:

i. Other user can sync, add, edit and delete the list of item.
ii. Can reduce time, users just refer the list items.

6.3 References

[1] Bhavana Malhotra, Ram Govinnd Krishnan, *Analysis of Shopping List Apps for Android & iphone,* Theory & Research in HCI – Symposium, 2012

[2] Lauren Darcey, Shane Conder, *Android Wireless Application Development Volume I: Android Essentials,* 2012.

[3] Kevin Smith, Fast *Review, Publishing & Printing InternationalJournal(US Published)* ,SEP. 9, 2013

[4] Louise, *How important are mobile apps for companies and how sustainable is this development, and where will it lead?,*Marketing and Communications Coordinator at CEMAS, University of South Wales, November 16, 2011.

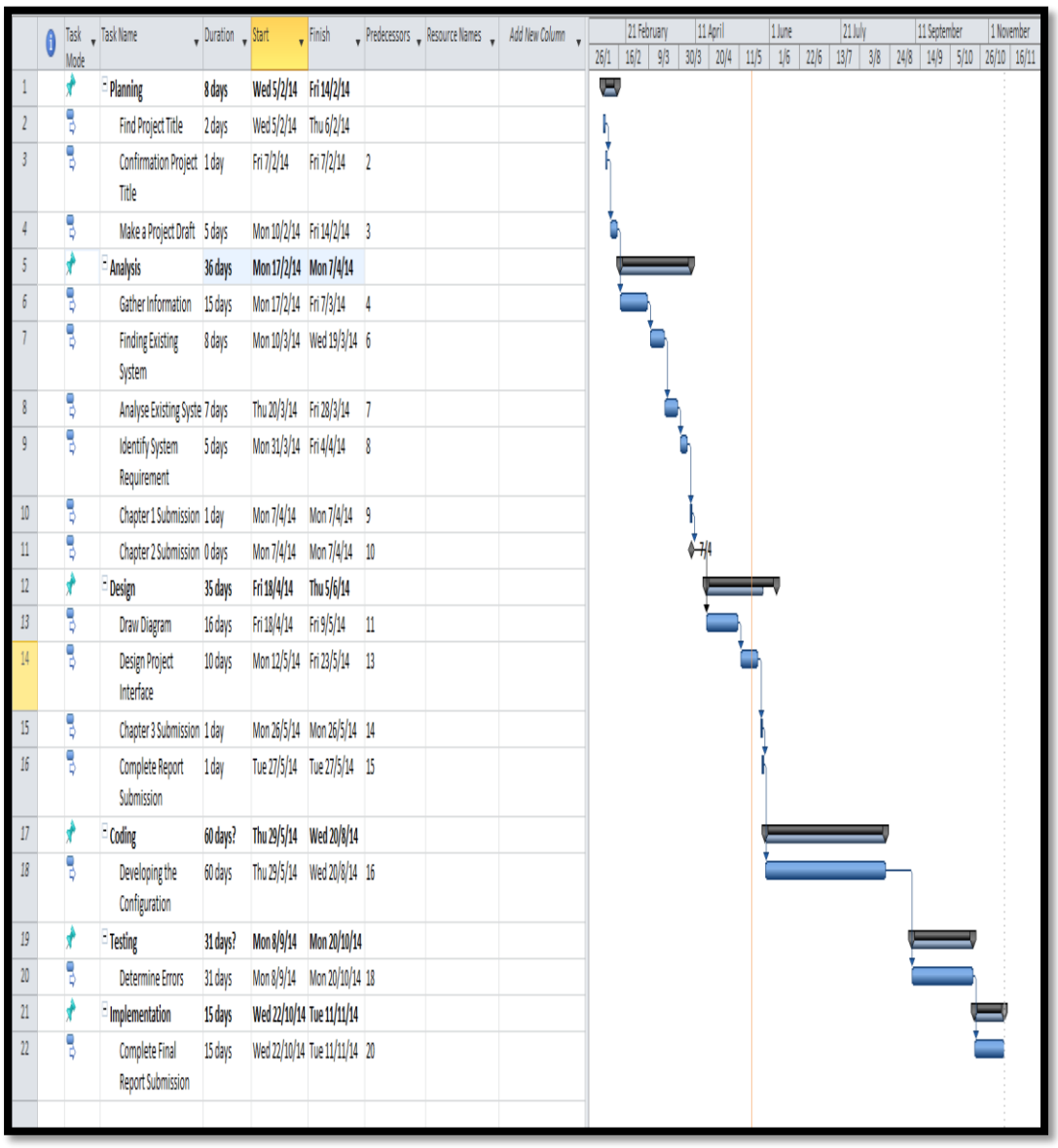
[5] Lauren Darcey , *Application Software-Development, 2. Android(Electronic Resources), 3. Mobile Computing*, 1.Conder, Shane, 1975-11, Title QA76.76.A65DZ58 20125 005.1-dc 23.

[6] Jeffrey A.Hoffer Mary B.Prescott Fred R.McFadden, *Modern Database Management*, 7 Edition, Upper Saddle River, New Jersey 07458.

[7] http://developer.android.com/guide/webapps/webview.html

Appendix B- Gantt Chart

PSM 1



	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Resource Names	Add New Column
1		**Planning**	**8 days**	**Wed 5/2/14**	**Fri 14/2/14**			
2		Find Project Title	2 days	Wed 5/2/14	Thu 6/2/14			
3		Confirmation Project Title	1 day	Fri 7/2/14	Fri 7/2/14	2		
4		Make a Project Draft	5 days	Mon 10/2/14	Fri 14/2/14	3		
5		**Analysis**	**36 days**	**Mon 17/2/14**	**Mon 7/4/14**			
6		Gather Information	15 days	Mon 17/2/14	Fri 7/3/14	4		
7		Finding Existing System	8 days	Mon 10/3/14	Wed 19/3/14	6		
8		Analyse Existing Syste	7 days	Thu 20/3/14	Fri 28/3/14	7		
9		Identify System Requirement	5 days	Mon 31/3/14	Fri 4/4/14	8		
10		Chapter 1 Submission	1 day	Mon 7/4/14	Mon 7/4/14	9		
11		Chapter 2 Submission	0 days	Mon 7/4/14	Mon 7/4/14	10		
12		**Design**	**35 days**	**Fri 18/4/14**	**Thu 5/6/14**			
13		Draw Diagram	16 days	Fri 18/4/14	Fri 9/5/14	11		
14		Design Project Interface	10 days	Mon 12/5/14	Fri 23/5/14	13		
15		Chapter 3 Submission	1 day	Mon 26/5/14	Mon 26/5/14	14		
16		Complete Report Submission	1 day	Tue 27/5/14	Tue 27/5/14	15		
17		**Coding**	**60 days?**	**Thu 29/5/14**	**Wed 20/8/14**			
18		Developing the Configuration	60 days	Thu 29/5/14	Wed 20/8/14	16		
19		**Testing**	**31 days?**	**Mon 8/9/14**	**Mon 20/10/14**			
20		Determine Errors	31 days	Mon 8/9/14	Mon 20/10/14	18		
21		**Implementation**	**15 days**	**Wed 22/10/14**	**Tue 11/11/14**			
22		Complete Final Report Submission	15 days	Wed 22/10/14	Tue 11/11/14	20		

PSM 2

	Task Mode	Task Name	Duration	Start	Finish	Predecesso
4		Title Confirmation	1 day	Tue 18-03-14	Tue 18-03-14	3
5		Meet SV	1 day	Wed 19-03-14	Wed 19-03-14	4
6		Make a draft	2 days	Thu 20-03-14	Fri 21-03-14	5
7		**ANALYSIS**	5 days	Mon 24-03-14	Fri 28-03-14	1
8		Requirements Gathering	1 day	Mon 24-03-14	Mon 24-03-14	6
9		Analyze Requirement	2 days	Tue 25-03-14	Wed 26-03-14	8
10		Submmission Chapter 1,2	1 day	Thu 27-03-14	Thu 27-03-14	9
11		Meet SV	1 day	Fri 28-03-14	Fri 28-03-14	10
12		**DESIGN**	38 days	Mon 31-03-14	Wed 21-05-14	11
13		Make an algorithm	3 days	Mon 31-03-14	Wed 02-04-14	7
14		Meet SV	1 day	Thu 03-04-14	Thu 03-04-14	13
15		Plotting Diagram	3 days	Fri 04-04-14	Tue 08-04-14	14
16		Design GUI interface	8 days	Wed 09-04-14	Fri 18-04-14	15
17		Meet SV	1 day	Mon 21-04-14	Mon 21-04-14	16
18		Load Data	3 days	Tue 22-04-14	Thu 24-04-14	17
19		Complete report submission	9 days	Fri 25-04-14	Wed 07-05-14	18
20		Submmission chapter 3	1 day	Mon 28-04-14	Mon 28-04-14	
21		Do executive summary	7 days	Tue 29-04-14	Wed 07-05-14	20
22		Complete the report all chapter	9 days	Thu 08-05-14	Tue 20-05-14	21
23		presentation PSM1	1 day	Wed 21-05-14	Wed 21-05-14	22
24		**DEVELOPMENT AND TESTING**	50 days	Wed 25-02-15	Tue 05-05-15	
25		Development the function in project	10 days	Wed 25-02-15	Tue 10-03-15	
26		Submmission again chapter 3	1 day	Wed 11-03-15	Wed 11-03-15	25
27		Progress the project	22 days	Thu 12-03-15	Fri 10-04-15	26
28		Development the coding	5 days	Mon 13-04-15	Fri 17-04-15	27
29		Determine errors	11 days	Mon 20-04-15	Mon 04-05-15	28
30		IMPLEMENTATION	13 days	Tue 05-05-15	Thu 21-05-15	29
31		Implement to user	5 days	Tue 05-05-15	Mon 11-05-15	
32		Implement to admin	8 days	Tue 12-05-15	Thu 21-05-15	31
33		Report Submission	1 day	Fri 22-05-15	Fri 22-05-15	
34		Present PSM2	1 day	Mon 25-05-15	Mon 25-05-15	33