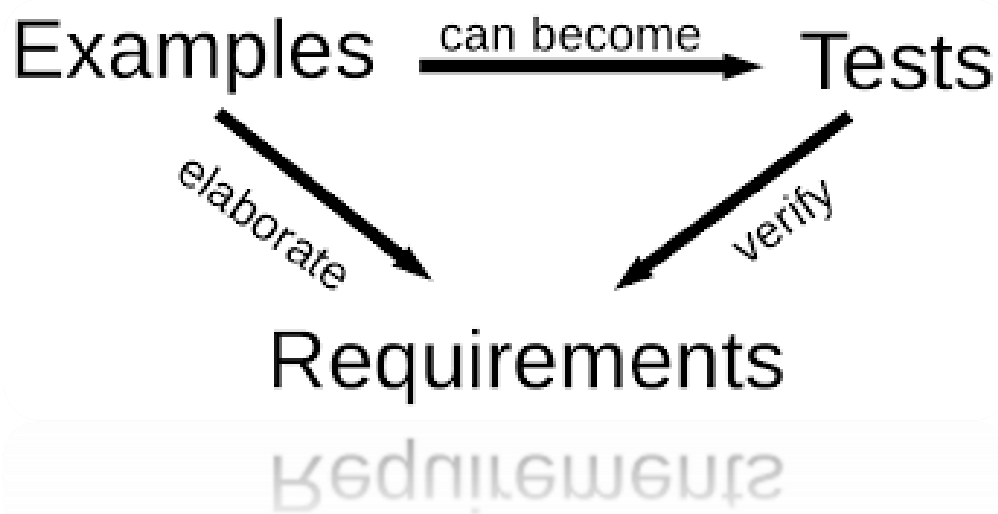


Smart Shopping App

Functional Specification

9/4/2015

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1 Introduction

This document contains the information on what kinds of function will my application does, and what will it look like. The specification document will provide the example of the smart shopping app in a layout. Each screen of the application will explain on what it does and how to use it. These types of screens can be create account, login, add items, add shop list, selecting item, start shopping etc...

2 Project Plan

2.1 First Iterative

1. Design an example of the smart shopping app layout. **05/10/2014**
2. Research the technology and platform for the project. **10/10/2014**
3. Decide the platform for the project. **15/10/2014**
4. Test out a few technology by coding a short example. **21/10/2014**
5. Test the technology on devices. **10/11/2014**
6. Decide the right technology. **27/11/2014**
7. Update documentations. **30/11/2014**
8. Prepare for Presentation. **5/12/2014**
9. Planning for next iterative. **10/12/2014**

2.2 Second Iterative

1. Analyst the Design smart shopping app layout and reforge the design to fit the technology. **7/12/2014**
2. Start coding on the project. **10/1/2015**
 - a. Main Screen. **10/1/2015**
 - b. Add Grocery Items. **13/1/2015**
 - c. Add Shop List. **20/1/2015**
 - d. CRUD Account. **5/2/2015**
3. Show Prototype GUI and get feedback for the design. **14/2/2015**
4. Update documentation. **16/2/2015**
5. Research technology database. **18/2/2015**
6. Test database technology. **23/2/2015**
7. Decide technology database. **1/3/2015**
8. Prepare for Presentation. **2/3/2015**

2.3 Last Iterative

1. Connect CRUD Account to Cloud-Server. **8/3/2015**
2. Start coding on Shop Layout **15/3/2015**
3. Fix all GUI. **24/3/2015**
4. Update documentation. **30/3/2015**
5. Prepare for demonstration/Presentation. **3/4/2015**

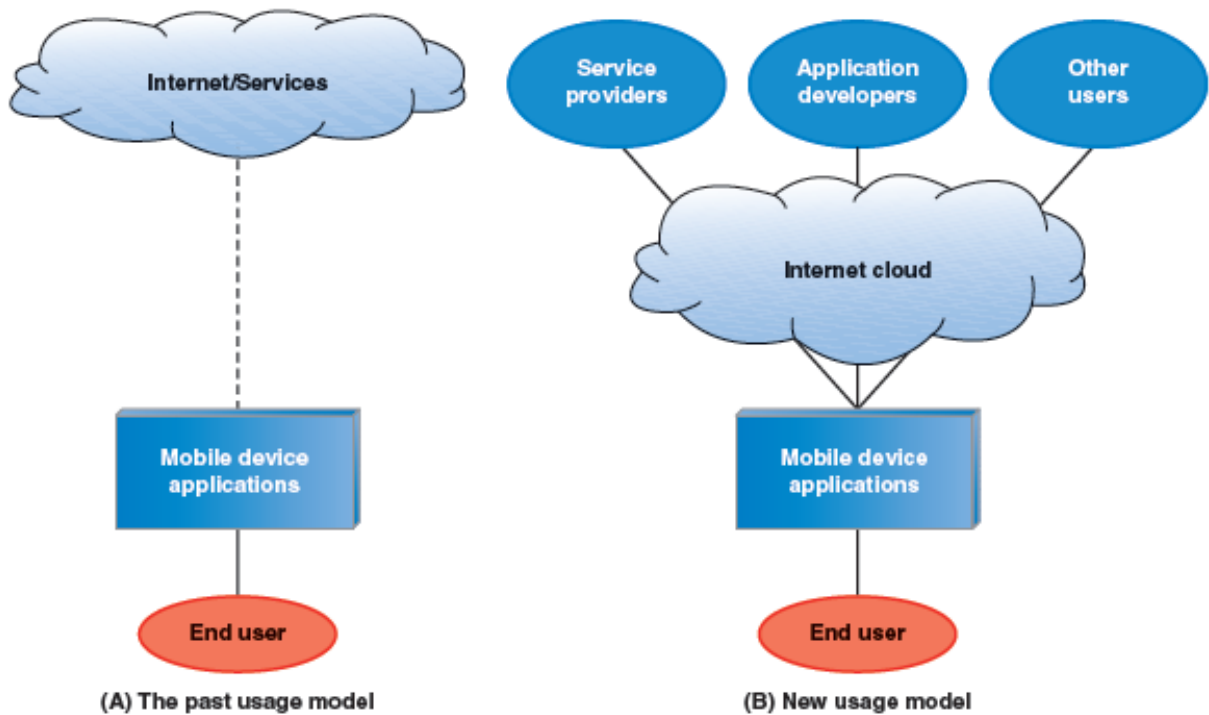
2.4 Issue May Encounter:

- Users create Account.
- Connect to Database.
- Create Shop Layout Map.
- Create Shop Lists.
- Database technology Client.
- Database technology server.
- Cloud server.
- How will user decide which shop layout?
- Get applications working on device?

3 Architecture

3.1 Cloud Interact Diagram

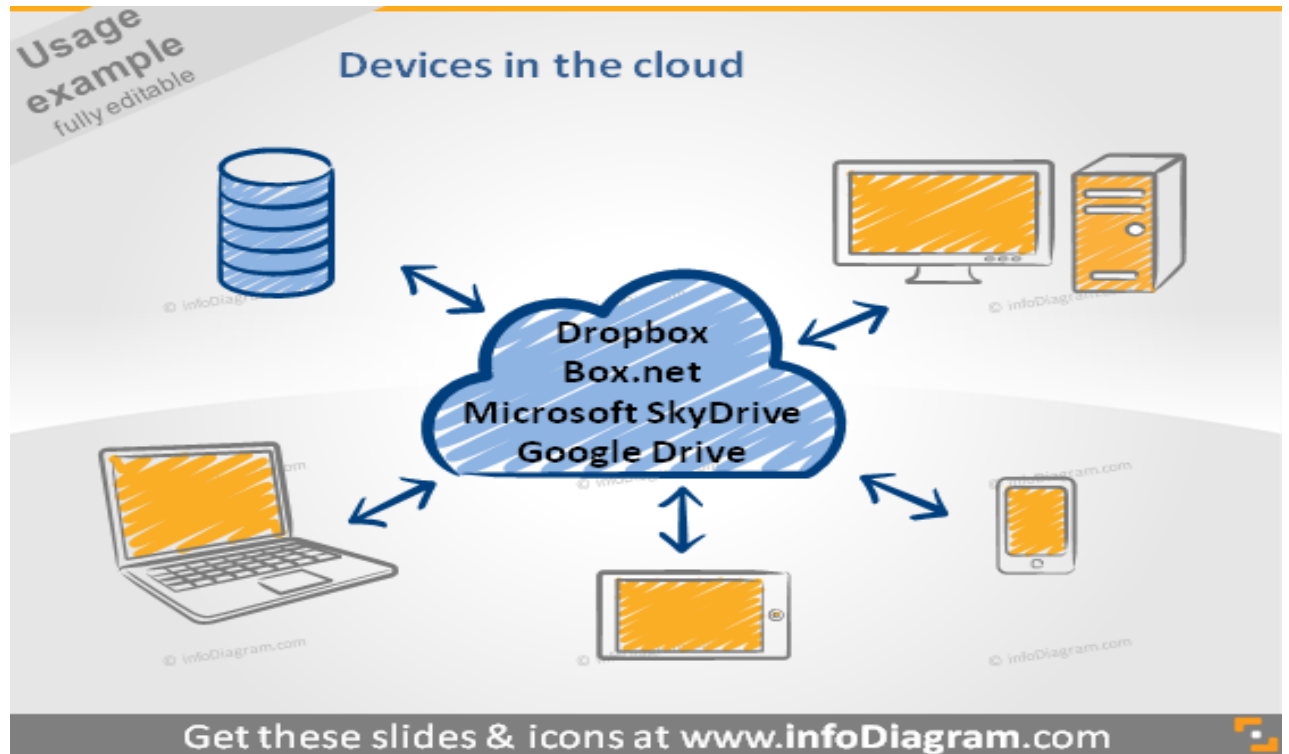
In this diagram it shows us that the users use their device and the device will use the application to communicated with the cloud to retrieve or send from the database (Service providers), for the device to communicate with the cloud they need some way or kind of software/program like a middle person to do the processing interpret, these software maybe Json or Google App Engine etc... This software is built for the purpose to convert the information into data and send to the cloud, then from the cloud back into the application.



[Figure 2.1]

3.2 Cloud Datastore

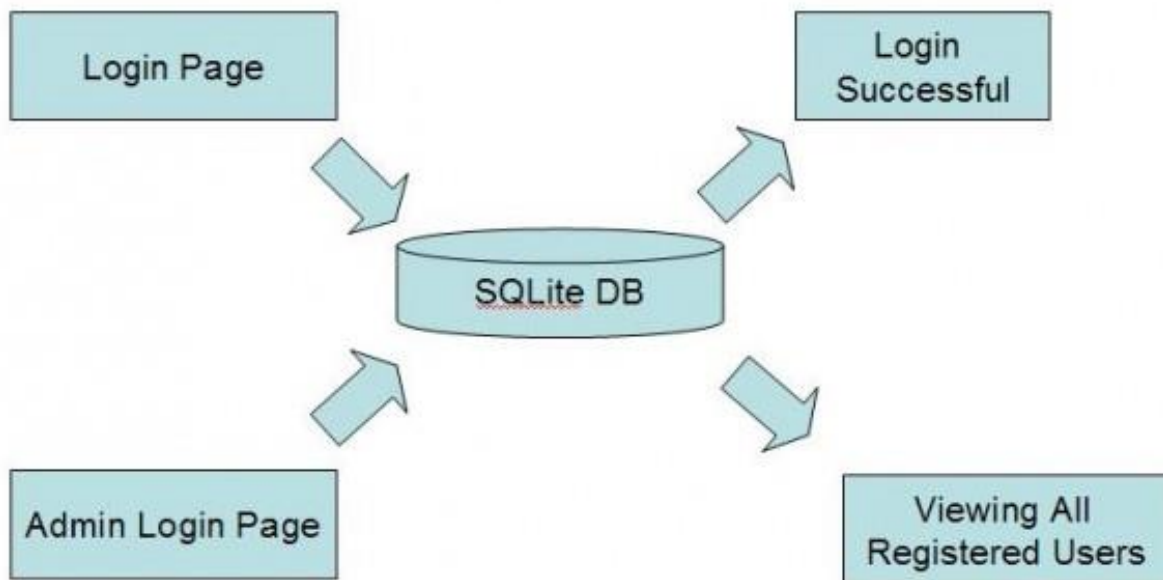
In this diagram it shows us that the android have many different type of cloud that can store data. That Cloud storage can connect to any other devices showing from the diagram above and more. This device can connect to the cloud by using some type of software to manipulate it. Each cloud may require different kind of software for each cloud use.



[Figure 2.3]

3.3 Connecting To Database

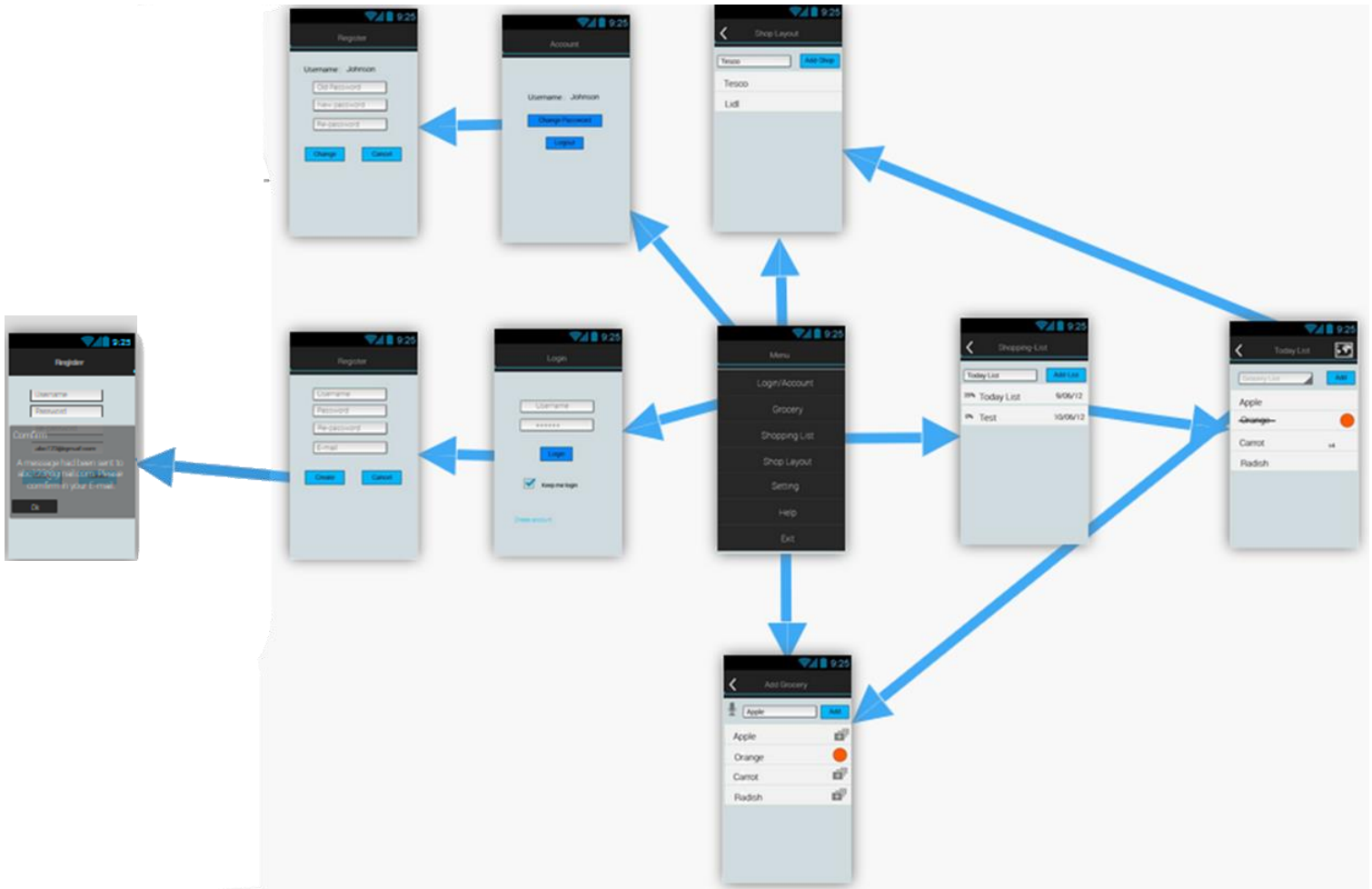
User can use the application, but if the users want to use shop Layout then the user must register and require to login. When the user type in their username and password, the information is send into the database then check if the user exists, if he/she does exist, then return the information to let the user know that he/she is now login and then allow the user to use other screens/feature. Also when the user connecting to the database, the user will also contain which type of user are login such as if they are and admin, trusty (allow user to do more function) or he/she are just a normal users.



[Figure 2.4]

3.4 User Interface Layout

This is an example layout design of the Smart Shopping App, I had created this layout to give myself and other to have a quick understanding of what the application is about. These screens had been created by online software called Fluid UI. Those screens are only an example so not a complete and fully design layout of the Smart Shopping App. The purpose of this screen is also to give me a quick review on what need to be done, what the connection between those screens.



4 User Interface Screens

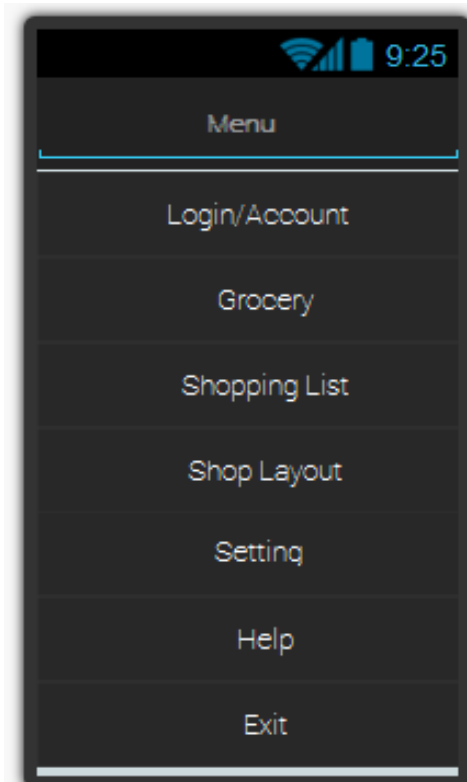
4.1 Menu

Screen Name: Main Screen

Input: None

Output: None

Function: When the user open the Smart Shopping App, this screen will pop up and it will be known as Main/Menu screen. The main purpose of this screen is to allow user to have a choice to pick whatever option that they are looking for in the screen. In this screen no input/output are require. The application is free to use but unfortunately if the user want to use this app fully, they are require to create an account in order to use some features because this app is relate to Database and shop layout sharing to prevent malicious user and it's require reliable user.



4.2 Login

Screen Name: Login Screen

Input: username and password

Output: User now can access more features on the application

Function: In the Login screen, user may login their account to use more features of the application. The Login screen take in the username and password that the user had already register and the application will response to the user that Login is successful or it may denied if the account does not exist. If the user forgot to enter his/her username or password then the alert pop up will let the user know that they had forgot to input some requirement data. If the user doesn't have an account then user can click [Create Account](#) and go to the register screen and create his/her account.



4.3 Register

Screen Name: Register Screen

Input: username, password that are greater 6, re-password and an email address.

Output: require account verify in email

Function: The user will get to this screen if he/she clicked on [Sign up](#) in the login screen. In this screen if user want to create an account he/she must enter a username that is not already exist (user get a response if the username already exist), user will also require to enter a password that must be greater than 6 (for security reason), user must require to re-type the password to make sure that the user type the right password that he/she wanted. Finally the user requires inputting an email address. When all information is fills and if the user clicks the button confirm, if the user received and alert that said 'confirm your account at email', then the account is create in the pending table. If the user didn't received this alert then other alert might pop up and the user need to fix their information in order continue to create the account. If the user received the confirm email, all he/she need to do is login that email and click on a link to confirm that he/she is the right user. Now the user can login that account after the account is verify.



4.4 Account

Screen Name: Account Screen

Input: None

Output: None

Function: When the user is already login and he/she clicked login/account once more they will get to this screen. The purpose of this screen is to show that the user is already login, who is the user and the user are allow to logout or he/she can select change password which he/she will go into Password Change Screen.



4.5 Change Password

Screen Name: Change Password Screen

Input: new password, re-password

Output: email receive a message confirm change password.

Function: In order for the user to change their password he/she require to enter a new password and re-type that password. The user will receive an alert saying that confirm change password if it success. The users then require login their email and clicking on the link in order to complete the password change. The use alert saying that confirm change password if it success. The users then require login their email and clicking on the link in order to complete the password change. The user must logout if he/she has changed the password.



The screenshot displays a mobile application interface for changing a password. At the top, there is a status bar with a Wi-Fi icon, signal strength bars, a battery icon, and the time 9:25. Below the status bar is a dark header with the word "Change" in white. The main content area has a light blue background and contains the text "Username : Johnson". Below this are three input fields: "Old Password", "New password", and "Re-New password". At the bottom of the form are two buttons: "Change" and "Cancel".

4.6 Grocery Items

Screen Name: Add Grocery Screen

Input: Grocery Item

Output: Add grocery item into the grocery List

Function: You can get to this screen from the Main/Menu screen. In this screen the user can add in as many grocery item as he/she want, but it must be a unique grocery item. The users just need to input the grocery item into the textbox and click Add button, then the grocery item will add into the grocery list if it is unique. When the users click on one of the grocery item, he/she can then rename it or delete it from the list.



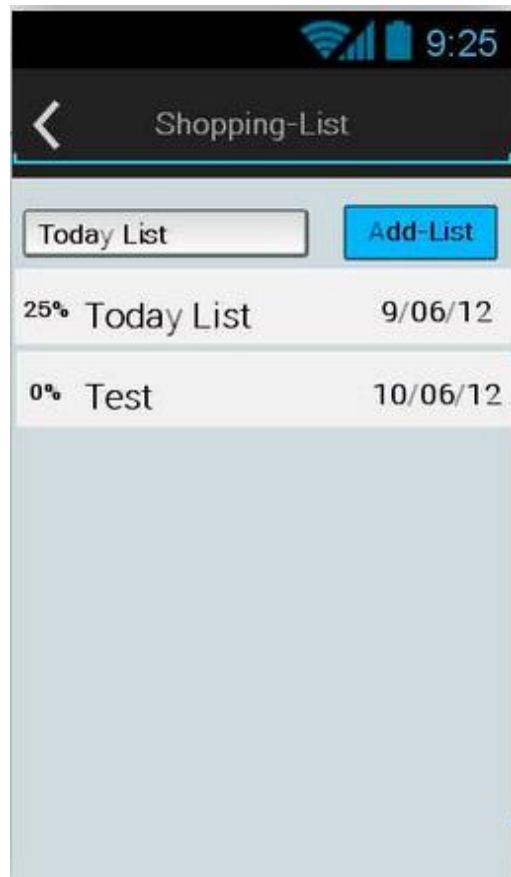
4.7 Grocery Shopping Lists

Screen Name: Add Shopping List Screen

Input: Shopping list name

Output: generate a shopping list table

Function: You can get to this screen from the Main/Menu screen. In this screen the user input a shopping list name and they click the add button to generate the shopping List table. When the shopping list tables are generated the user then can select one of the shopping list and an option menu will pop up and that will allow the user to Start Shopping, Edit, Rename and Delete.



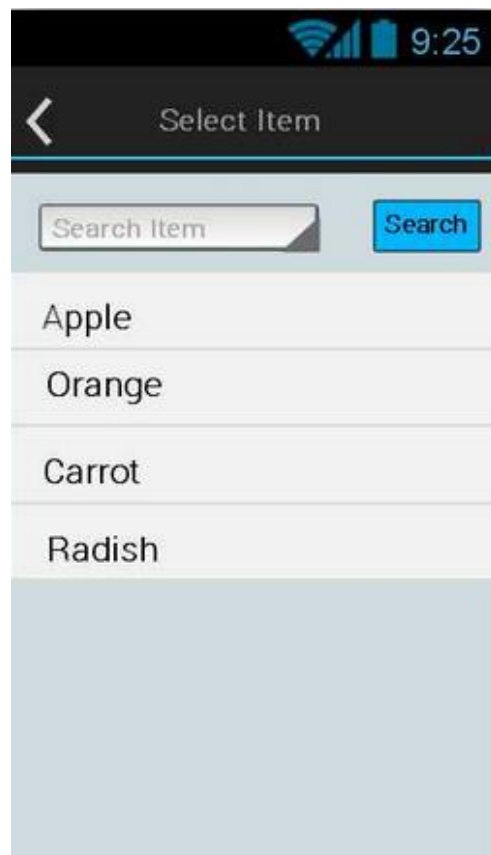
4.8 Select Items

Screen Name: Start Shopping Screen

Input: None

Output: None

Function: The user can get to his screen if he/she click the edit option in the Add Shopping List or if he/she clicks start shopping option and the list is empty. In this screen there will be a list of grocery item from the Grocery Item Screen, the user can select any grocery item and when the user select the grocery item, a pop up option will display where the user can add detail for that item such as quantity and price. The purpose of this select items screen is the users prepare the entire necessary item before start shopping. The can then input a string into the text box which will instantly find the item he/she is looking for by shorting it down. When the user finish selecting all the items, he/she must save items before finishing.



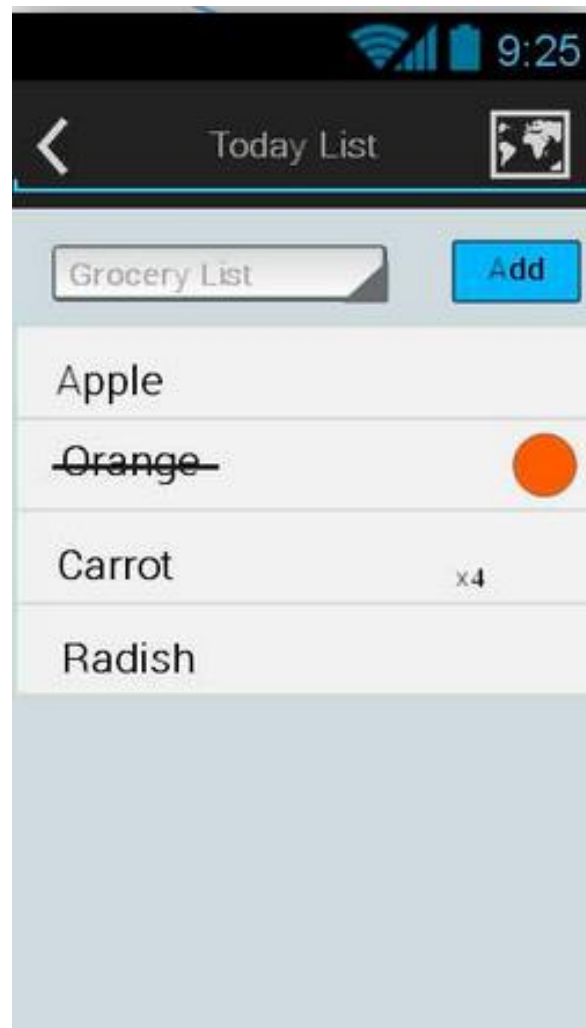
4.9 Start Shopping

Screen Name: Start Shopping Screen

Input: None

Output: None

Function: When the user finish selecting the entire item that he/she wanted to go for shopping. When the users start shopping in the pop up option, the user will get to this screen and in this screen it contains all the selecting items and the information that the user had filled in the item. When the user selects one of the item in the shopping List they will be highlight red indicate that the item has already been bought. The item will be automatic save into the shopping table list so he user doesn't have to click a save button. The user may user deselect the item if they wanted too. There will be a select button which allows the user to select the shop layout. The purpose of the shop layout is to show the location of the grocery so the user knows where to find them.



4.10 Shop Layout

Screen Name: Shop Layout Screen

Input: Shop name and Location

Output: Create the Shop Layout in the database

Function: The user can access this screen from the start shopping by clicking on the select button or from the main menu. The user can create a Shop Layout by inputting the information such as shop name and then location, the user then click on the button to create the shop layout. The user then can select the shop and create the Aisle/location of any item within the Grocery List. The user must login and must be trust/Admin in order to create Shop Layout.



5 References

[Figure 2.1, Access 6/10/2014] <https://software.intel.com/en-us/forums/topic/356813/comments-feed>

[Figure 2.3, Access 6/10/2014] <http://www.infodiagram.com/diagrams/handwritten-scribble-mobile-tablet-computer-cloud-devices-ppt-clipart-icons.html>

[Figure 3.1, Access 5/10/2014] <http://www.opensourceforu.com/2010/12/android-application-development-playing-with-sqlite-database/>