Increment 1 Report

Plan Your Shopping

Project Group 18

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Introduction

Shopping on the go without any previous planning or shopping for all your needs at the nearest store to you no matter what the prices are is not a very good option. Some prior planning and willingness to travel few more miles may save your money every time you shop and eventually a large sum of money over a period of time.

Our project is a web application that helps you find out the best places to buy your stuff from and also provides you an estimate about what it is going to cost you when you head to the shop.

We have mostly stuck to the details and ideas provided in the Project Proposal. In addition, we have made use of speech recognition to allow users to give their requests through voice input. This adds to the user friendliness of the application. In order to aid nonnative speakers, inputs will be accepted in the form of text also. This eliminates any concerns which might arise with the pronunciation of the nonnative speakers not being recognized by the application for being slightly different from native speakers.

Project Goal and Objectives

Motivation

A lot of new international students come into the country and start a living with limited expenses. It is important for them to figure out what works out according to their budget and what doesn't. The students wish to manage their expenses within a limited frame of finances. They also tend to share food expenses with their roommates. This is done to make it affordable. Students always tend to shop at the grocery stores closer to their area of residence. But they do not take into account the other options which might be even cheaper. They shop on the go without having a proper plan about where to go or how much to spend.

Our project is primarily concerned with planning the shopping trip well in advance. The user has an estimate of what is the total amount he is going to spend even before he goes to the shop.

Secondly he gets to know the place where he would get the best price for a particular item rather than picking up everything from only one place as done in the conventional approach.

Significance

Sometimes, shoppers tend to just go by the ideas of other people which may not actually fit to their needs. Every individual has different needs. Our application helps shoppers by making their shopping as affordable as possible and also to plan effectively by giving them a comparison of the prices and also the distance of the store from their place. This can make their shopping experience more enjoyable and fruitful.

Overall Goal and Objectives

Our primary objective is to help shoppers make wise decisions in shopping. We wish to know the priorities of each person. This application will be able to store some of the user information to keep a track of their purchasing patterns. We wish to update people with good deals and shopping events with the help of flash screens.

Project Background and Related Work

Similar work done by others

- **Non-GMO project shopping guide:**

The application of this project provides user to know about the items that have been verified through Non-GMO product verification program. It provides the user to search for items that are verified through Non-GMO product verification program by reading the product name, brand name and keyword from the user. It also helps the user to know get aware of the stores in which these items are available.

Similarities:

Our project is similar with this project in the aspect of searching for the items required. In both these projects the user is prompted to enter the items required and then the appropriate results containing the items details are returned. The other similarity is that both projects provide user the details of the stores and supermarkets in which these items are available.

Differences:

In Non-GMO project, only the items which are approved by the Non-GMO product verification program are returned in the search results whereas in our project all the items (which are not approved) are also returned. There is no issues of approval in our project. In our project even the price listing of the items searched is returned.

Another difference between two projects is that in Non-GMO project only details of the stores is displayed, but in our project along with details, the distance and directions of the stores is displayed.

On the whole even though both the projects are performing product search, supermarket search, Non-GMO project has its emphasis more on helping the user

to get only the Non-GMO verified products whereas our project has more of its emphasis on helping the user to make his shopping optimally with in the minimum cost by considering the price of items and cost of travelling to stores.

Proposed System

1. Requirements Specification

Functional Requirements

Items and Stores listing

The system is expected to give the user a comparison of the prices of items by listing all of the items along with details of the stores offering them.

Distance and Directions providing

The system provides the user distance to be travelled for reaching the desired stores. It also provides directions to the user for travelling using the Google Map service API.

Organized list in Cart

The system also allows the user to add items chosen after comparing the prices and distances to his cart and finally gives a price quote on the amount of money he has to spend if he shop for the items he has chosen so far.

Speech recognition

Speech recognition feature helps the user in his search by accepting the search request through his voice. The system is expected to accept this voice input and start searching for this item in various stores.

Login

The user expects our application to log him into the system once he successfully provides his user id and password.

Registration

If the user is new and does not already have an account he will be redirected to the registration page where he will be asked to fill out the details and gets registered.

Non Functional Requirements

Interoperability

The application has to be interoperable and should be accessible from any computer irrespective of the operating system running in it.

Portability

A mobile version of the application would further simplify this planning as logging into computer and doing so is tiresome and accessing a mobile is far easier compared to a computer.

Quality

Highly interactive user interface makes the users have a good experience planning their shopping. The usage of features like voice recognition and shopping cart makes the entire experience pleasant.

Response time

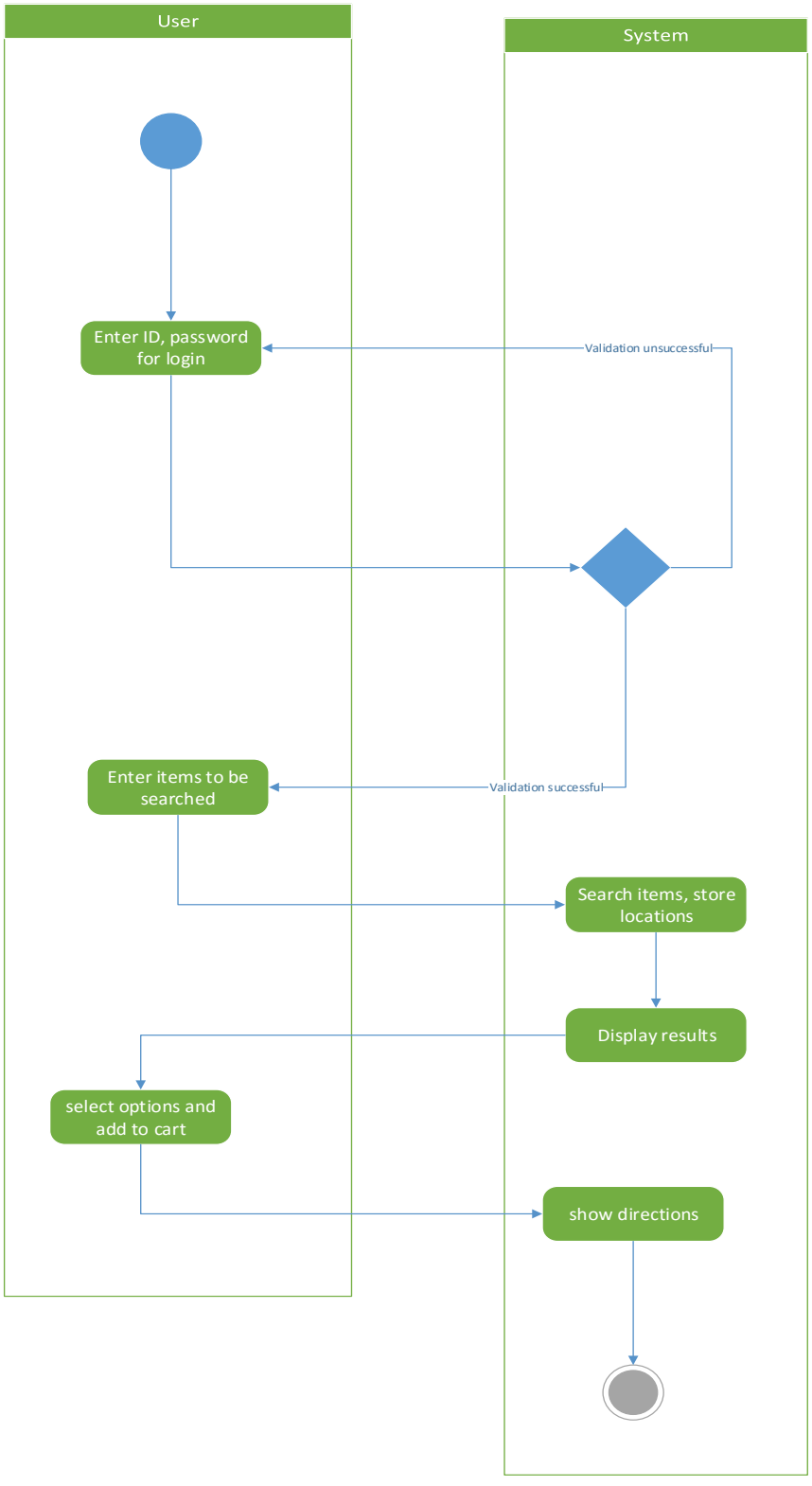
The system is expected to have a very quick response time. The time for displaying the search results of a voice input based search or even normal text based input search has to be minimal.

The time gap between adding an item to the cart and getting back to the page with the search results has to be very small.

Testability

The system can be tested using various test cases involving login attempts, searches and final cart results.

Workflow Analysis/ UML Activity Diagram



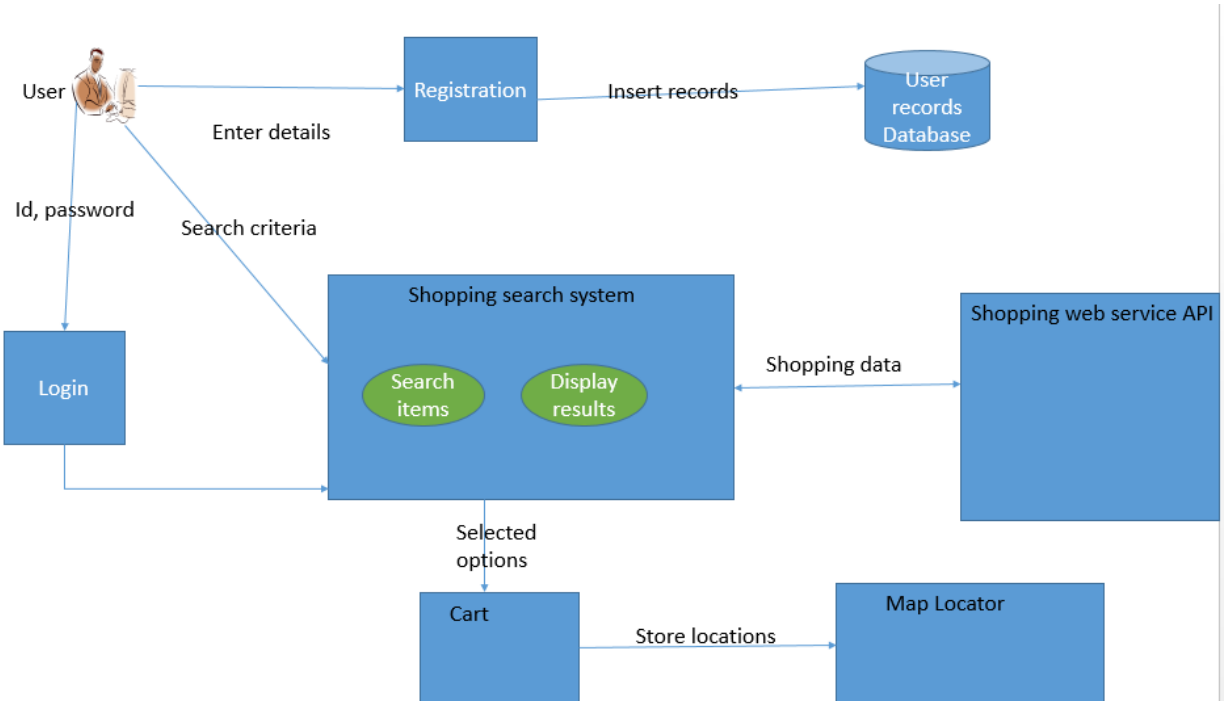
2. Framework Specification

Assumptions and principles

The system provides the details of the items and the details of the store based on the information provided by a web service API. So the basic assumption in this project is that all the details provided by the Web service API are correct. When the user requests the system for directions and distance for the store, for this we are using another Web service API for getting this details.

The main principle guiding this project is the user will be mostly interested in getting the price comparison between similar items in different stores, know the distances for the store and then plan his shopping journey accordingly.

System Architecture Diagram



3. System specification: Identify primary services

Existing Services

Student Budget calculator

Use this student budget calculator to help analyze a budget as a full-time student. This student budget calculator is specifically designed to help students understand their expenses such as clothing , groceries ,entertainment and travel expenses and so on and income while attending a university, college or other full-time educational institution. This student budget calculator allows for input of expenses and income for an eight-month school year running from September through April.

URL: http://www.bankrate.com/calculators/smart-spending/college-student-budget-calculator.aspx

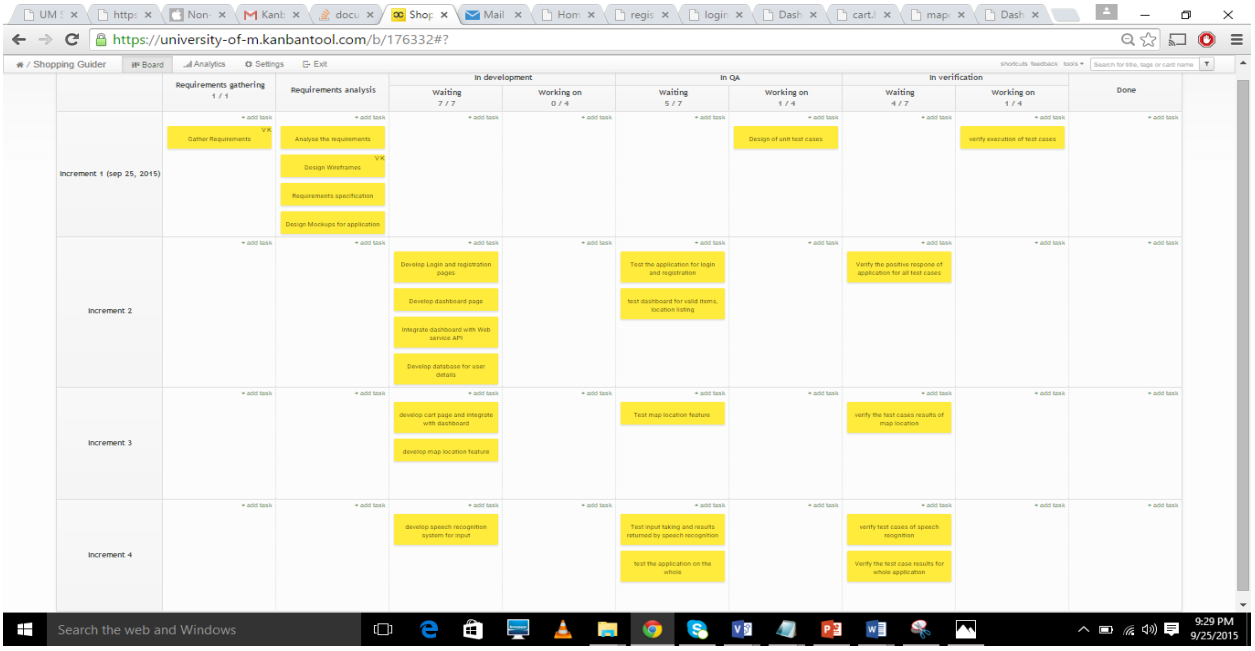
New Service

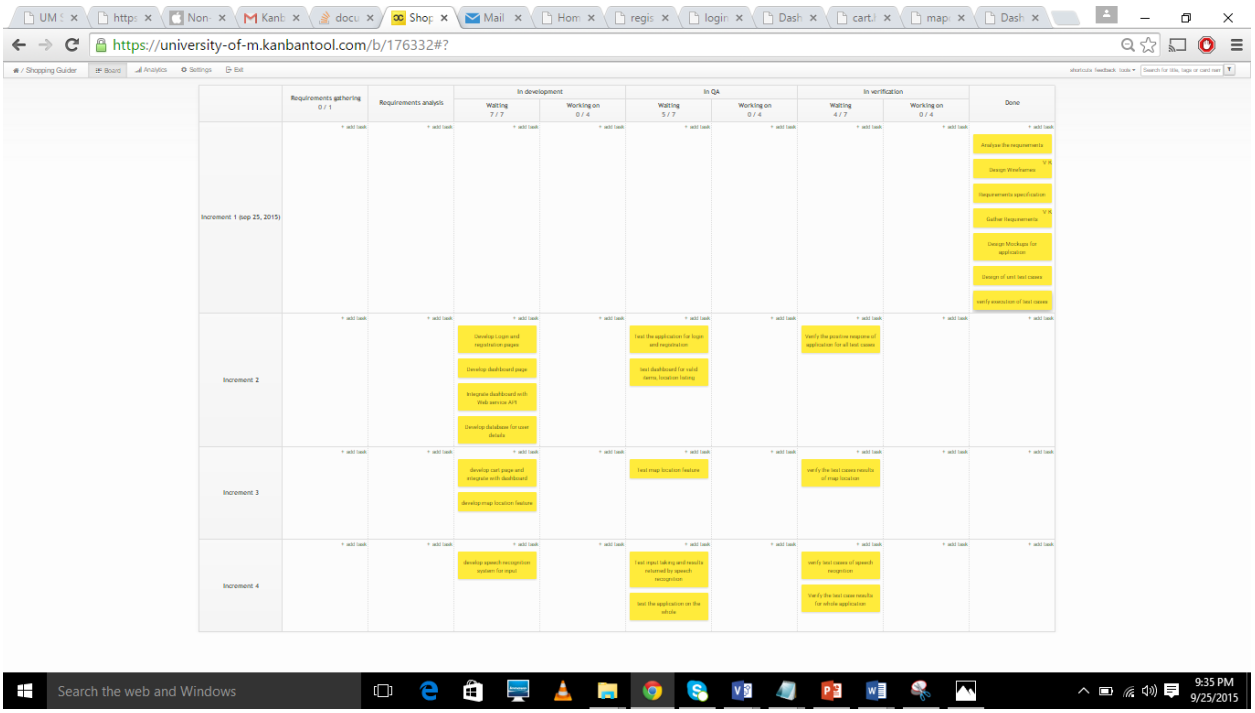
The proposed system is for the people who want to plan their shopping budget optimally with minimum budget. Initially it would be difficult to get basic requirement for anyone with limited amount of budget so, it important to take wise decision in allocating budget. New service overcome problem above problem by providing basic information about nearby groceries store and also displays prices on item provide by store. The difficult part of service is that price of item must be updated periodically for this it need to retrieve data from commercial stores in additional to this system shows nearest stores to student by help of google maps so that save their money and time. Challenge part of system is to generate pdf page for give webpage so that it would be easy to user get item when individual visit to store.

In this system user has provides what item does he/she to purchase base on the input provide by user system display list of item in particular stores and distance of stores from his/her location. System facilities to add item to cart which user prefer to purchase once it complete it sum up prices of commodity and display to person. Total price of item exceed to budget then individual able to drop item from cart so that it come into budget. Unlike traditional website input of system is restrict to text data but present service is enable with speech recognition.

Project Plan

Screenshots of Kanban tool





Unit Test design

Test Case	Pre-requisites	Success Scenario
Login	1. The user has to be a registered user. 2. He needs a valid username. 3. He also needs a valid password.	The user successfully logs into the system.
Registration	1. The user needs to have all the details he is asked for. 2. He needs to have a valid email id. 3. He needs to confirm the password he chose to set up. 4. He has to hit the submit button after giving the details 5. The user can hit the reset submit to clear all the fields.	The user is registered successfully The user is redirected to the login page All the fields in the form become empty.
Speech Input	1. The user has to a voice input in English.	The voice input gets converted to a search request.
Displaying Results	1. The user has to give a request in the form of either voice or text	A table with prices of the product from various stores and their distances is displayed Only the item which the user has requested is displayed.
Cart	1. The user has to add element to his cart. 2. User hits the back button 3. User adds a new item to the cart.	The user is redirected to his cart. The user gets to the search page. The amount in the cart gets updated

Project Timelines, Members, Task Responsibility

Increment 1 (September 25, 2015)

- Discussion on the topic for project
- Submission of initial proposal
- Revising the proposal
- Requirements analysis
- Designing WireFrames and Mockups
- Designing test cases.

Increment 2(October 16, 2015)

- Developing the login and registration pages.
- Developing the dashboard and integrating it with the WebServices API
- Designing the database to store user details.
- Testing the login and registration pages and also dashboard and location display.
- Verifying the results of the test cases.

Increment 3(November 6, 2015)

- Developing cart and integrating it with the web page.
- Including map in the search results.
- Test and verify the cart and map features.

Increment 4 (December 4, 2015)

- Developing speech recognition module to take input.
- Test the speech recognition module.
- Performing integration testing.
- Testing the entire application as a whole.
- Presentation and final execution for evaluation.

Project Members and Responsibilities

Vikas Kondapalli

Requirements gathering and analysis, Project proposal, Architecture Design, Coding, Webservices integration

Swatvik Gunnamaneni

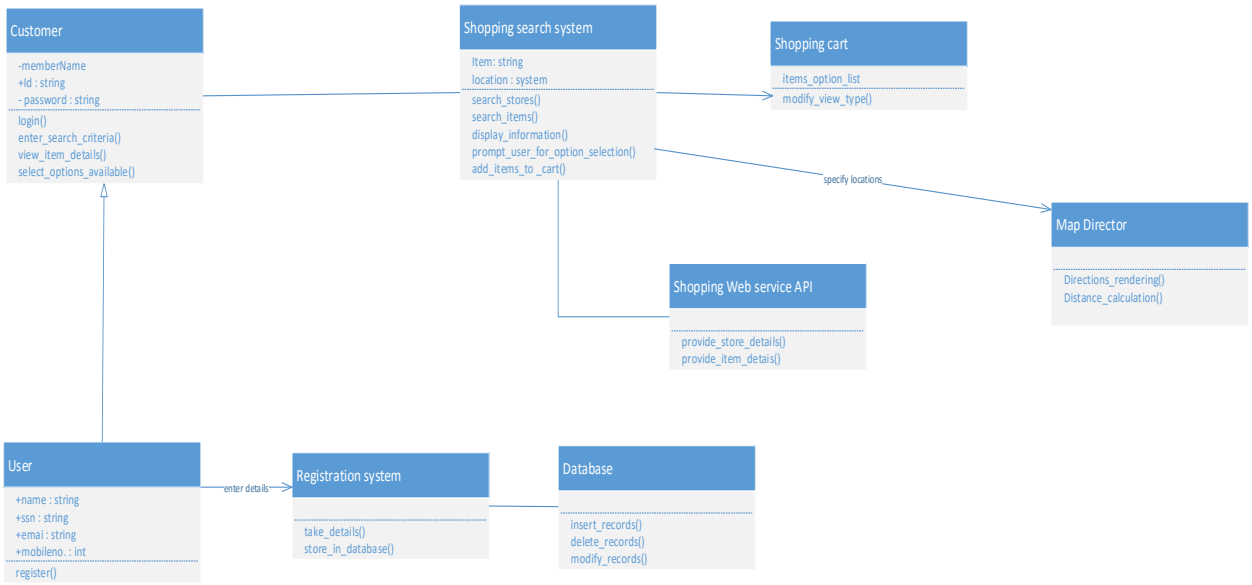
Requirements gathering and analysis, Documentation, Mockups, Integration, Modelling

Gopi Krishna Bodapati

Requirements gathering and analysis, Unit Testing, Integration Testing, Planning, Final Presentation

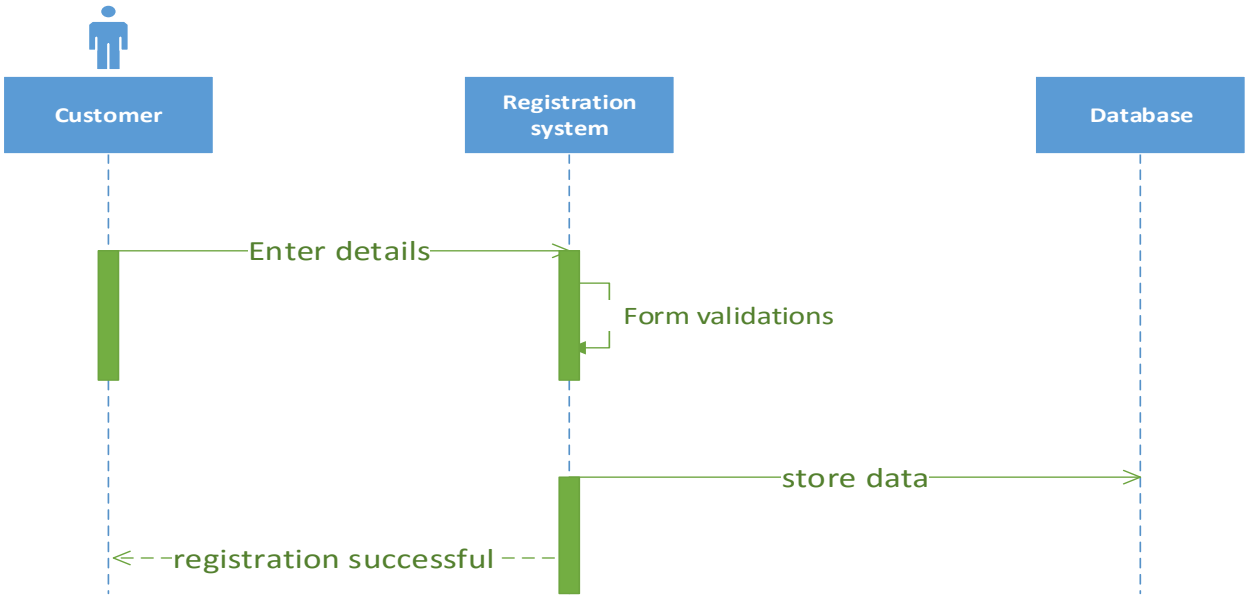
First Increment report

Class Diagram

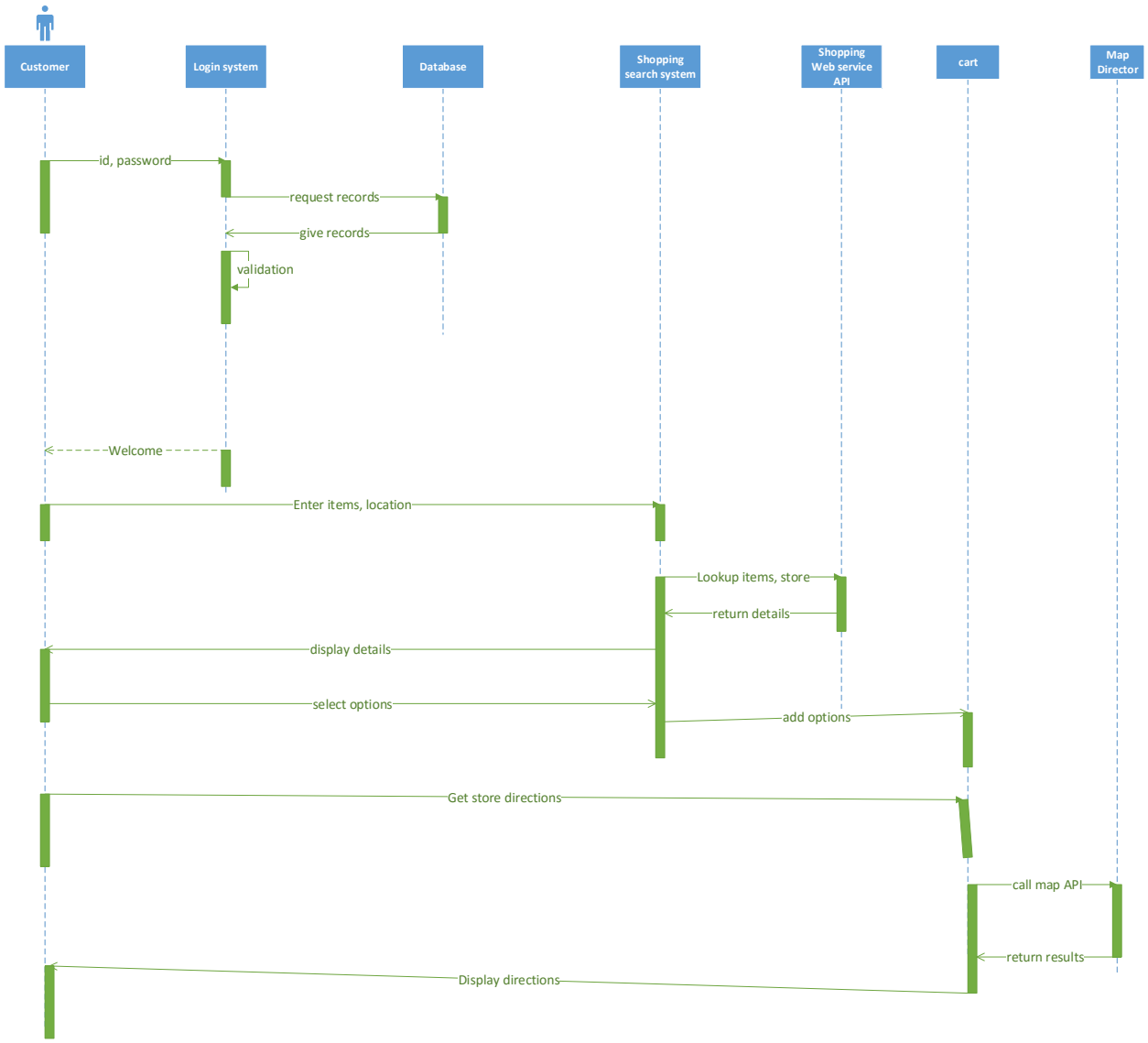


Sequence Diagram

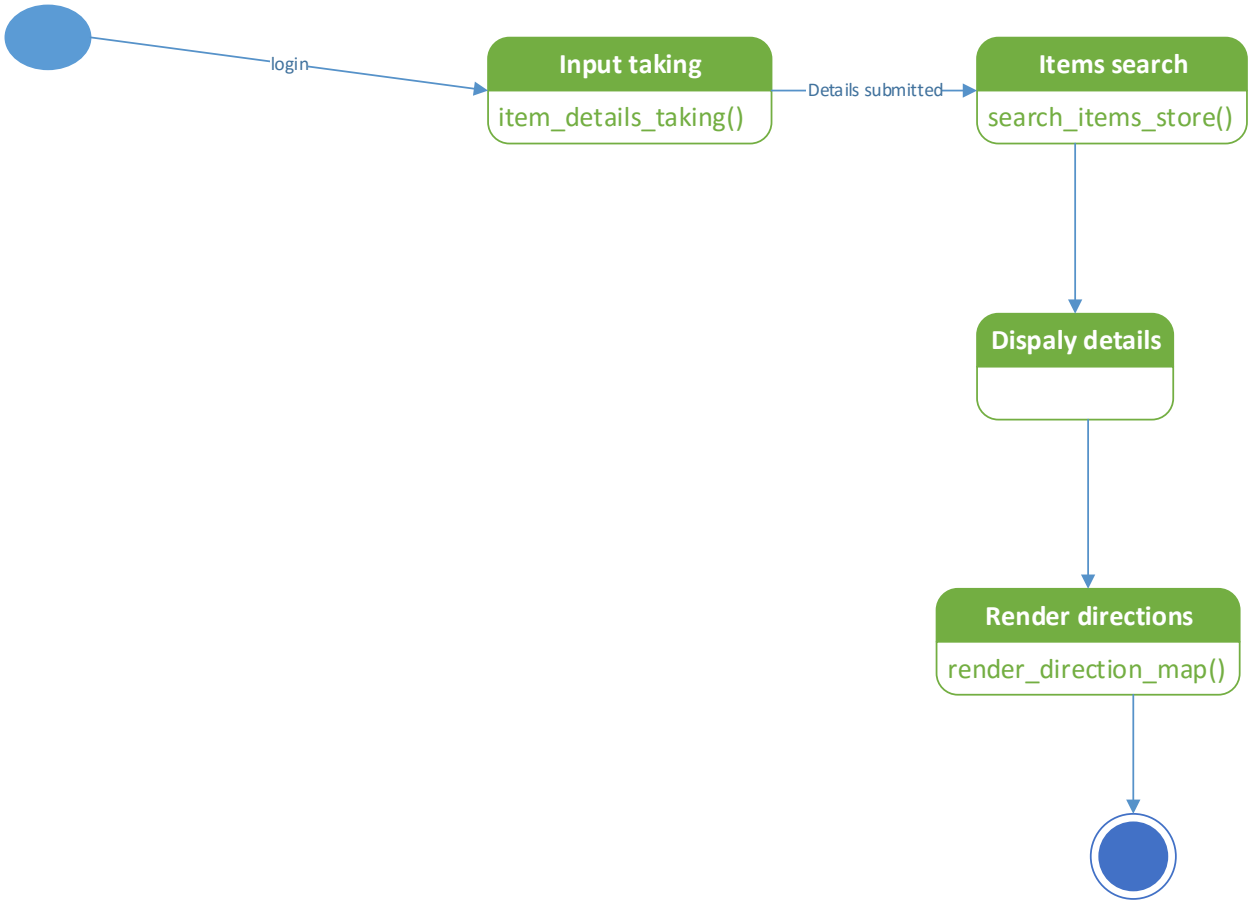
For registration



For Search and display service



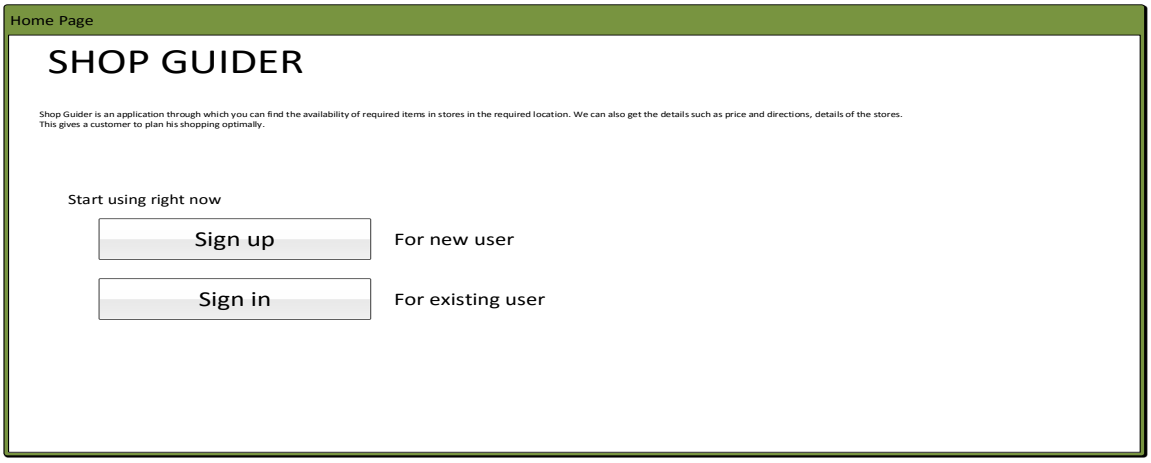
State Diagram



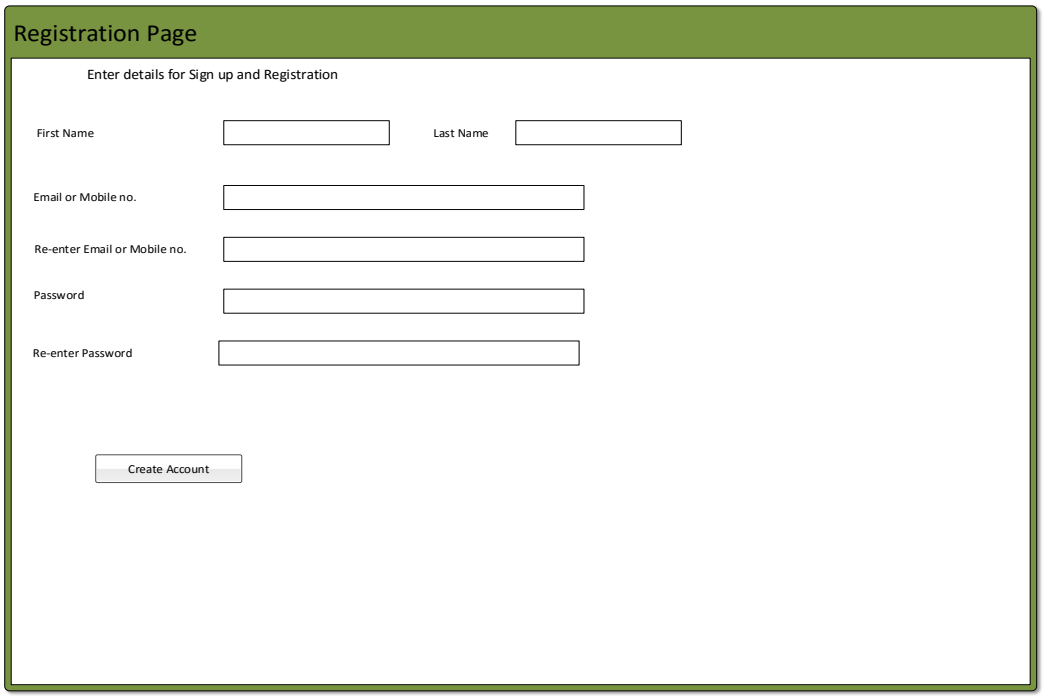
Design of Mobile Client

Wireframes

Home page



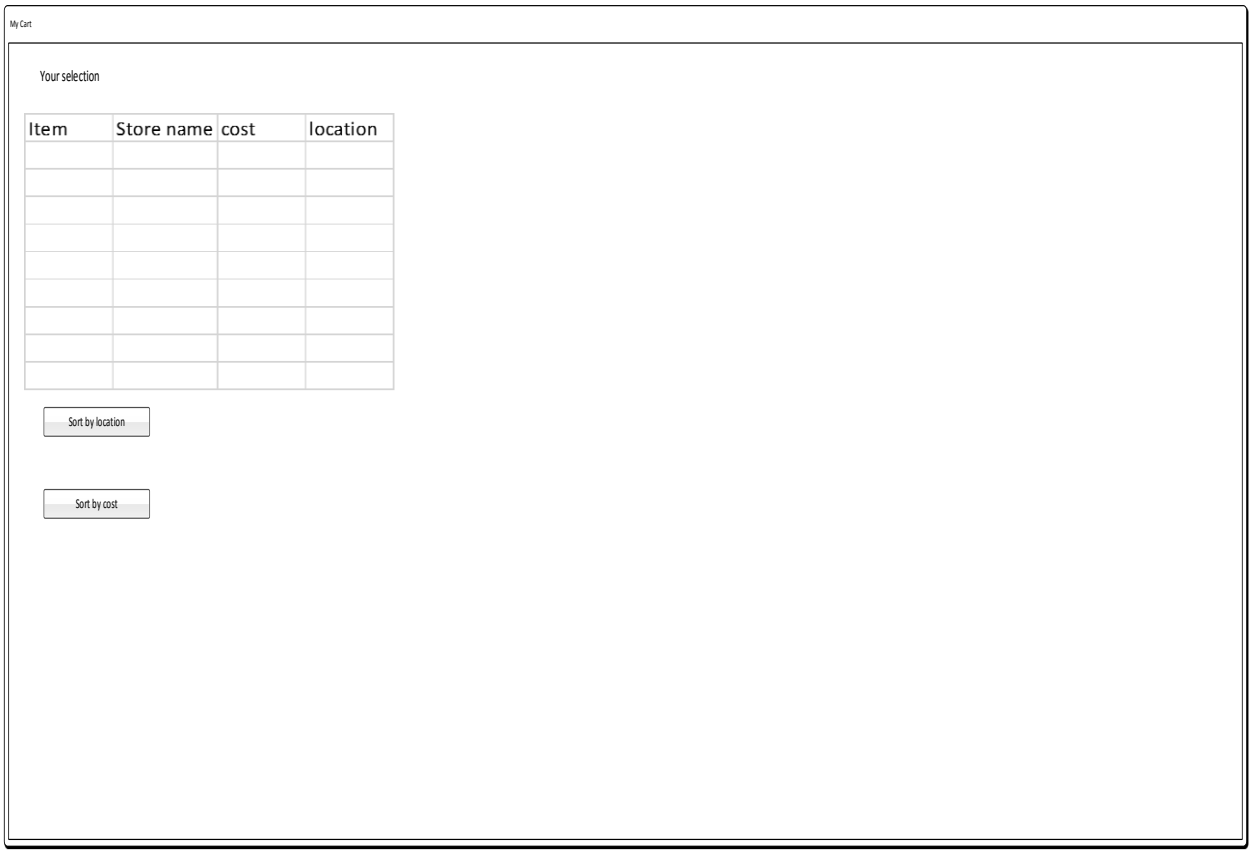
Registration Page



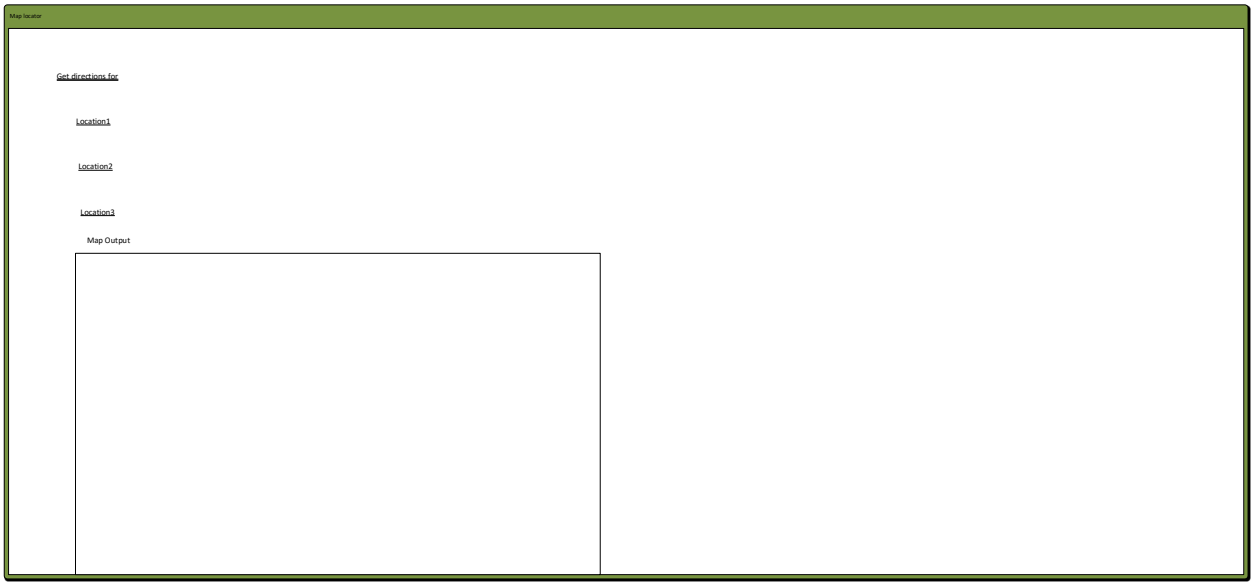
Login Page

Dashboard

Cart Page

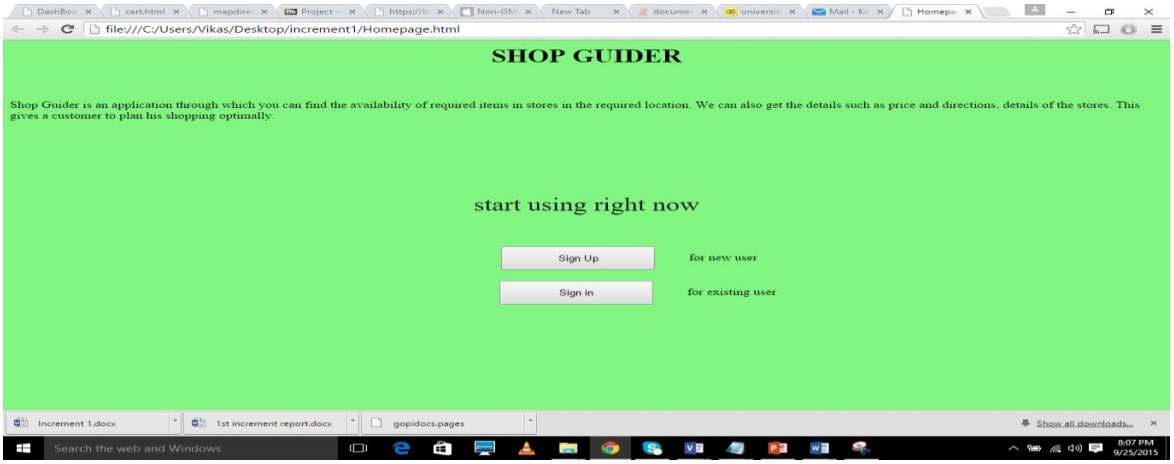


Map Locator Page

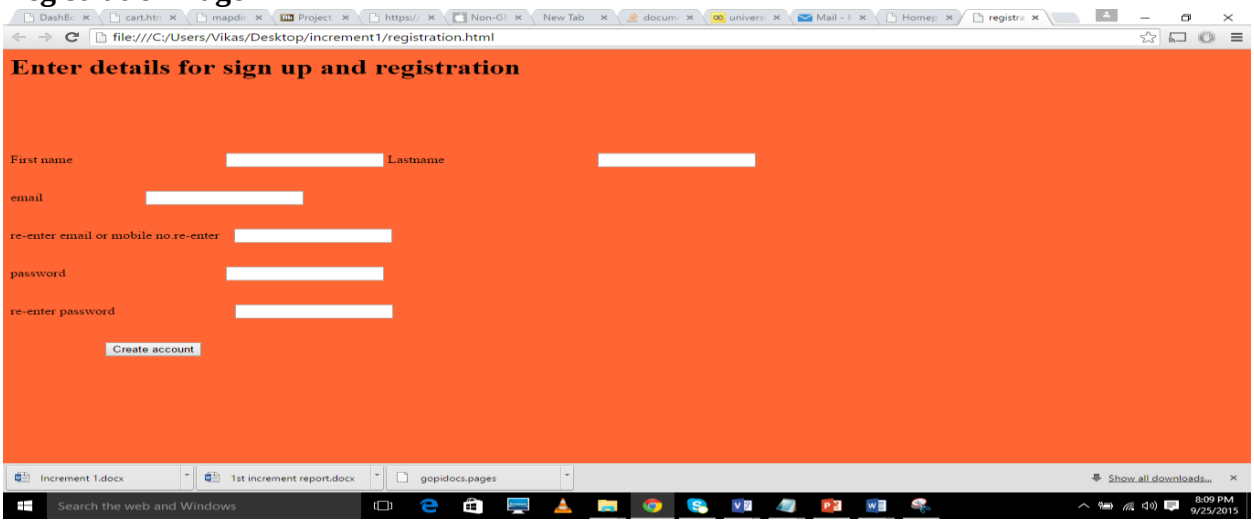


Mockups

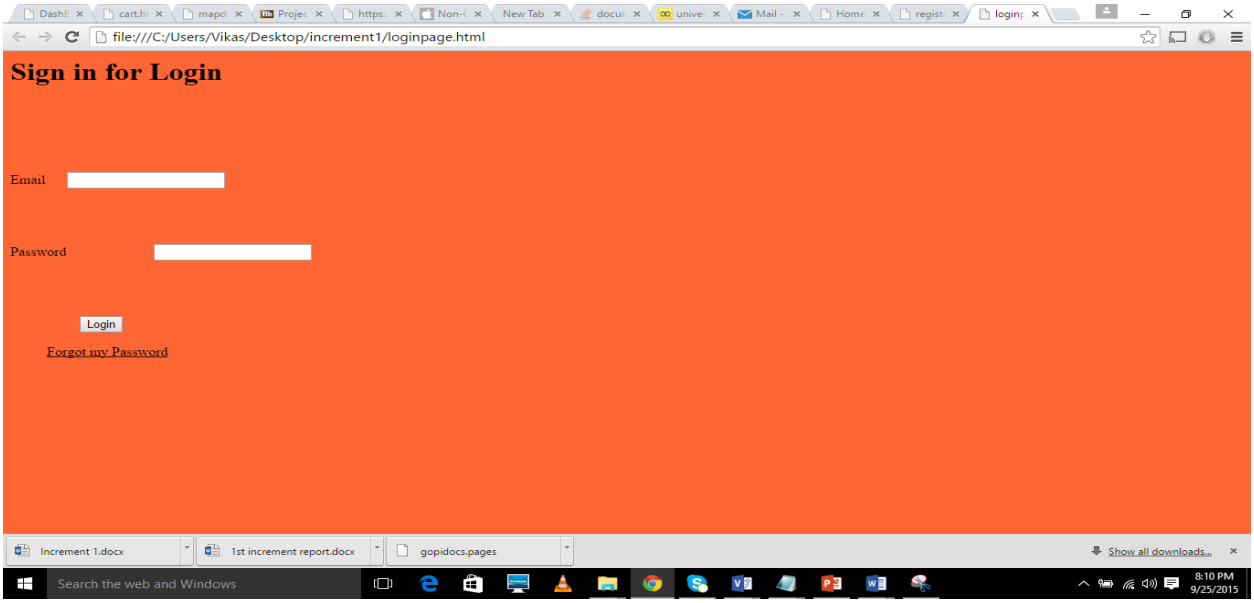
Home page



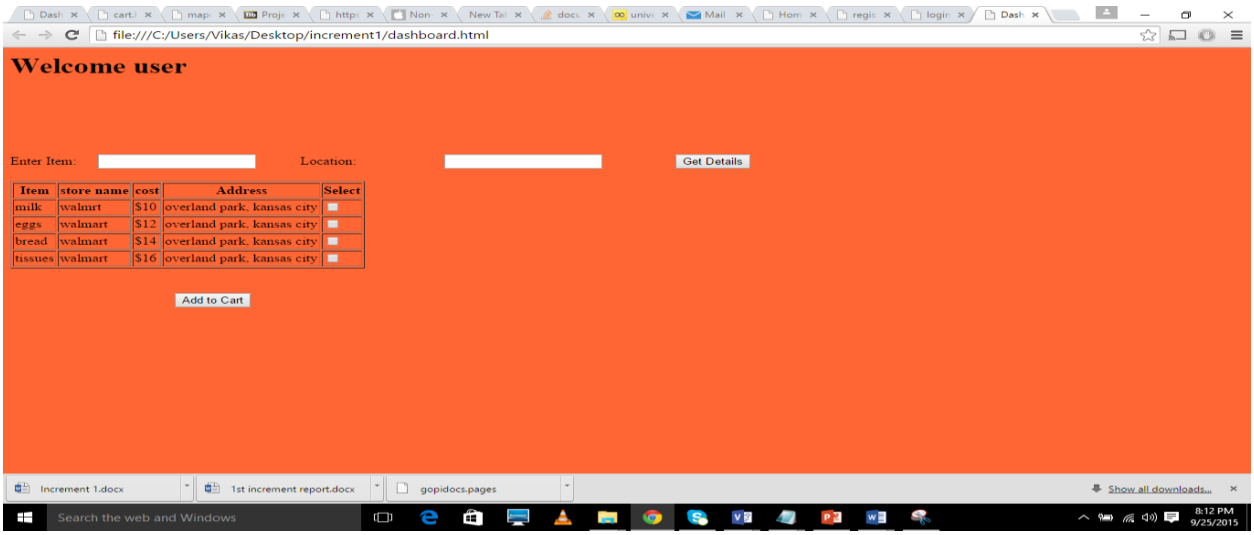
Registration Page



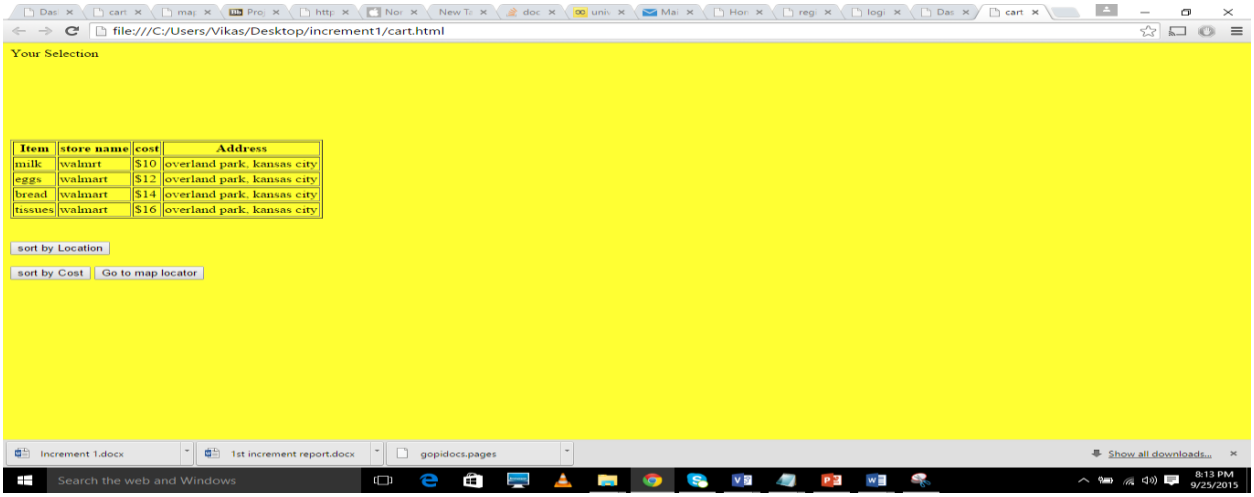
Login Page



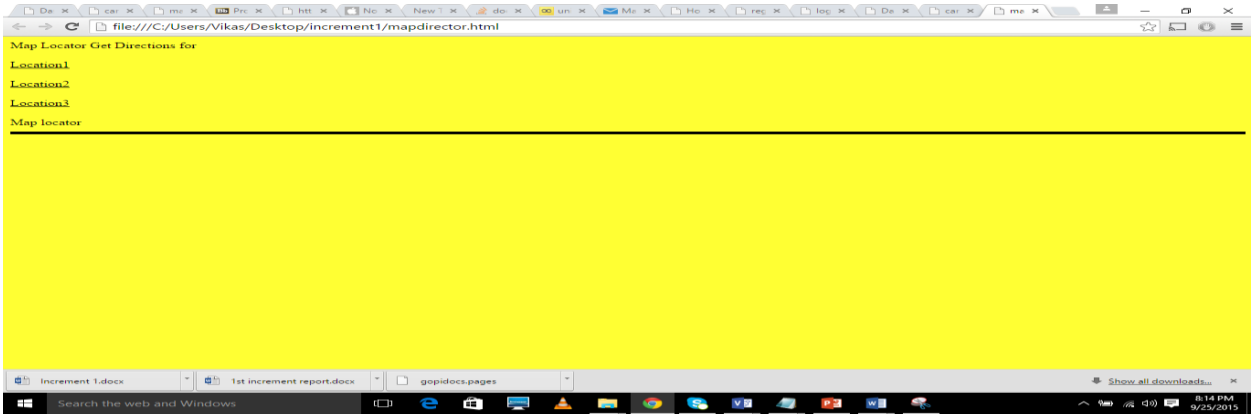
Dashboard page



Cart Page



Map Locator Page



Bibliography

Non-GMO project shopping guide

URL: https://itunes.apple.com/us/app/non-gmo-project-shopping-guide/id359782606?mt=8

Student Budget Planner

URL: http://www.bankrate.com/calculators/smart-spending/college-student-budget-calculator.aspx