**Grocery Shopping Application**



**Team members:**

1. Manish Jawage

2. Satyam Kumar

3. Sonali Deshmukh

4. Rannvijay Kumar

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**1 Introduction**

This document outlines a case study for sprint 2 project. The project is to develop a Grocery Shopping Application as integration of all independent microservices. This document contains the work flow of the system and gives guidelines on how to build the functionality gradually in each of the course modules.

## Setup Checklist for Sprint 2 Project

Minimum System Requirements

* Intel Pentium 90 or higher (P166 recommended)
* Microsoft Windows 95, 98, or NT 4.0, 2k, XP, Windows 7 or higher
* Memory: 4GB of RAM (8GB or more recommended)
* Internet Explorer 6.0 or higher or Chrome 55 or above

**Software System Requirements**

* JDK 1.8
* STS 3.9
* MAVEN
* Apache Tomcat
* Postman Master
* MySQL or H2 Database
* Visual Studio

**2 Problem Statement**

## 2.1 Objective

Development of Grocery Shopping Application (GSA)

## 2.2 Abstract of the project

This project is aimed at developing an online Grocery Shopping Application (GSA)for employees and Warehouse administrator. GSA can be used to search for products based on search condition, add products, modify an existing products details like price or availability status and display all products’ menu. Customers can view and search for products and add the selected products to cart. After adding it to the cart he can view his cart and modify it if he wants and then proceed for billing.

The model followed was an agile model. Agile SDLC model is a combination of iterative and incremental process models with focus on process adaptability and customer satisfaction by rapid delivery of working software product. Agile Methods break the product into small incremental builds. These builds are provided in iterations.

## 2.3 Functional components of the project

Following is a list of functionalities of the system.

There are two types of users who would access the system viz. Warehouse Administrator(Retailer) and Customers. Each one of them would have some exclusive privileges as follows.

1. Administrator

A set of administrators are assigned for managing the system. An admin has been assigned a set of privileges to manage the system. An admin can perform the following functionalities:

* + Login to the system using his/her credentials.
  + Add individual product details by providing all the field values and inject the values into database table if data are valid else display an appropriate error messages.
  + Modify product details according to rise or fall in in prices or stock of a particular product.
  + Display the products menu.

1. Customers
   * Login to the system using his/her credentials.
   * Search a product based on any of the fields – Category or Name.
   * Add products to cart
   * Modify his personal cart
   * Navigate to the billing page

**3 Implementation**

## 3.1 Summary of the functionality to be built

The participants need to develop an online Grocery Shopping Application by integrating different micro-services in the backend and Angular in frontend.

## 3.2 Guidelines on the functionality to be built

The functionality and components to be built are provided below:

1. Databases to be created:
   1. Create the following database tables:
      1. User: This will contain details of the Customers.
      2. Products: This will contain details of all products added by the administrator such as price, category, and availability, etc.
      3. Cart: This will contain all the customer's personal cart details.
   2. The structure of the above listed tables is as follows
      1. **Cutomer :**  …
      2. **Product:** …
      3. **Cart**: …
2. Course: OOP & UML **:**
   1. Develop relevant Use case and Class diagrams for the GSA application.
3. Angular 6, Web Basics

**1.Login / Sign In**: Where the Customer/Admin will enter his/her credentials, if valid, will be redirected to the Homepage, else appropriate error message will be displayed in the same page.

**2.Home Page**:

On successful user authentication the homepage must be displayed according to the type of user. For the admin, the Homepage would display the product table with the following links

* + - * Home
      * Search for products
      * Add products to cart
      * Update products in cart

**3**.**My Cart page:**

This page is used by Customers to either modify the quantity of products in his/her cart, or move forward with the existing items to the billing page.

**5. \_\_\_\_\_\_\_**

* + - * \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**For the Warehouse Admin following pages must be provided**

**1.Add new product link:**

* This page must accept product ID, category, product name, product price, availability, and quantity.
* Update details of products like stock, changes in price, etc.

**4. JPA WITH HIBERNATE + SPRING BOOT + MICROSERVICES**

**Product Module:** This micro-service is used to perform all the CRUD operations related to the products which will be managed by the Admin. The respective operations will store the corresponding data in the Products database.

* Following is the list of all the functionalities in this module:

1. Add Products
2. Delete Products
3. Update Products
4. Search Products
5. View all Products' details

**User Module:** This micro-service is used by customers to login or register themselves. If done they can view the products' menu. The Admin can approve / reject a customer.

* Following is the list of all the functionalities in this module:

1. Login

2. Register

3. Approve / Reject customers' registration

**Cart Module:** This micro-service is used to allow the customers to view their personal cart and modify it if they want or move ahead with billing.

* Following is the list of all the functionalities in this module:

1. Modify quantity

2. Go to Billing page