Software Requirements Specification

for

Canteen Management system

Version 1.0

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1 Introduction

The title of our project is CANTEEN MANAGEMENT SYSTEM. As we know a canteen is common for Offices, Factories, Call Centres, Hostels, Schools, Clubs and Hospitals to operate their own cafeterias for their employees and students. However, managing the cafeteria menu, attendance and consumption is a challenging process. Manual and paper based processes are cumbersome and error-prone, leading to inaccuracies and wastage of time and material. A canteen management system is essential for keeping track of food consumption. Our project will offer a canteen management software that tracks item-wise food consumption and also for a group of users. Different menus can be planned for breakfast, lunch, dinner, special days and different occasions. This software allows tracking menu items, speedy transactions and prevents accounting errors. It will also allow users to select menu items from any android device.

1.1 Document Purpose

This SRS describes the functional and non-functional requirements for release 1.0 of the project Canteen management system. To implement and verify the functionality required by the user this document is prepared. This document can be referred by project team members working on this particular project to help get a vision regarding how to system will work.
This document presents a detailed explanation of the objectives, features, product scope ,design and implementation constraints of canteen management system. It will also describe how the system will perform and how it will behave under certain circumstances.
Also the required information about customers will be saved in the system which can be accessed by the system admin.

1.2 Product Scope

This system will help to manage and run the canteen business systematically. In this system customers can easily order their food. Feedback feature is also implemented so that customers can share their feedback through which the owner of the canteen can evaluate and make required changes to the system. All the information about daily expenses and profit will be saved in the system.

1.3 Intended Audience and Document Overview

This document is intended for different types of readers such as canteen owner i.e. client, system design, system developer as well as tester. By reading this document a reader can learn about what the project is, methodology for the same.
This document has a sequential overview of the whole project starting from introduction which includes sub parts such as purpose of the document, scope of the product being implemented, intended audience and many such related sub parts. The document further describes the overall description of the product which covers sub topics such as perspective and functionality of the product, operating system characteristics supported by the system and includes some design and implementation constraints. The flow of the document then covers some functional and non-functional requirements of the system.

1.4 Definitions, Acronyms and Abbreviations

We will use bold letters to emphasis main topics and for all major functions of the system. Underlines will represent hyperlinks. Italic will represent acronyms and useful notes. We have used some acronyms in this document. Abbreviations and definitions of some useful terms used by us are given below.

TERM	DEFINITION
CI	Communication Interfaces
CMS	Canteen Management System
SI	Software Interfaces
SR	Security Requirements
SRS	Software Requirement Specification is a document that completely describes all of the functions of a proposed system and the constraints under which it must operate. Example: This Document
POS	Point of Sale system is either a stand-alone machine or a network of input and output devices used by canteen employees to accomplish their daily activities including food and beverage orders, transmission of tasks to kitchen and other remote areas, guest-check settlement, credit card transaction processing, and charge posting folios
PR	Performance Requirements
UI	User Interface

1.5 Document Conventions

We have used bold letters to emphasize the main topics of the document. The document follows Arial font with size 14 for main heading,size 12 for sub heading and Arial font with size 11 for content. Italic will represent useful notes and comments.

1.6 References and Acknowledgments

- https://www.scribd.com/document/343606719/Synopsis-of-Canteen-Management-System
- https://www.matrixaccesscontrol.com/cafeteria-management.html

2 Overall Description

2.1 Product Perspective

The Canteen Management System helps the canteen manager to manage the canteen more efficiently and effectively, by computerizing meal ordering, billing and inventory controls.
The system processes transactions and stores the resulting data that will help the manager generate reports in order to make appropriate business decisions for the canteen. For example, knowing the number of customers for a particular time interval, the manager can decide whether more chefs or waiters are required. Moreover, he can easily calculate the daily expenditure and profit.
The whole management system is designed for a general Computerized, Digital Canteen. So that any canteen owner can start an automated process in his canteen.
Implementing this system will lead to hiring less waiters and creating an opportunity to appoint more chefs and better kitchen places to serve food faster. Customers can also make payment through debit and credit cards

2.2 Product Functionality

All of the functions will be performed in the order given below,

- Food order via app
- Confirm order
- Online Payment
- Serve food
- Available goods

- Required goods
- Customer information
- Customer review

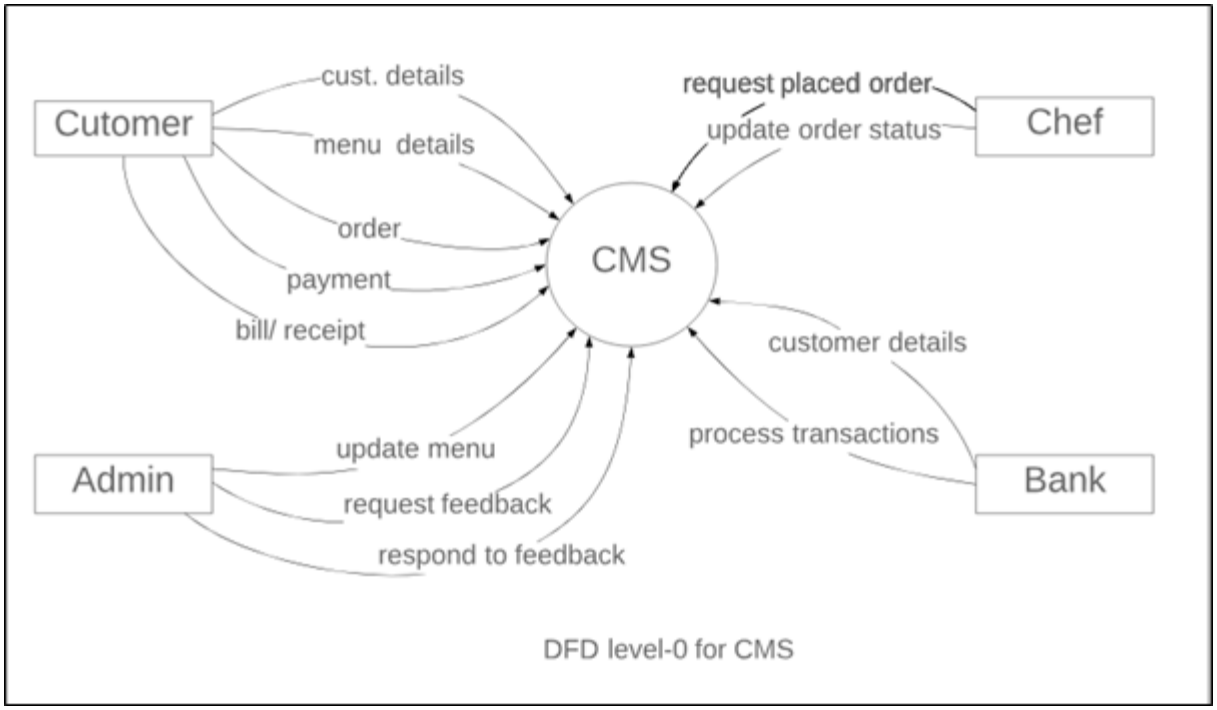

fig.1. DFD Level 0

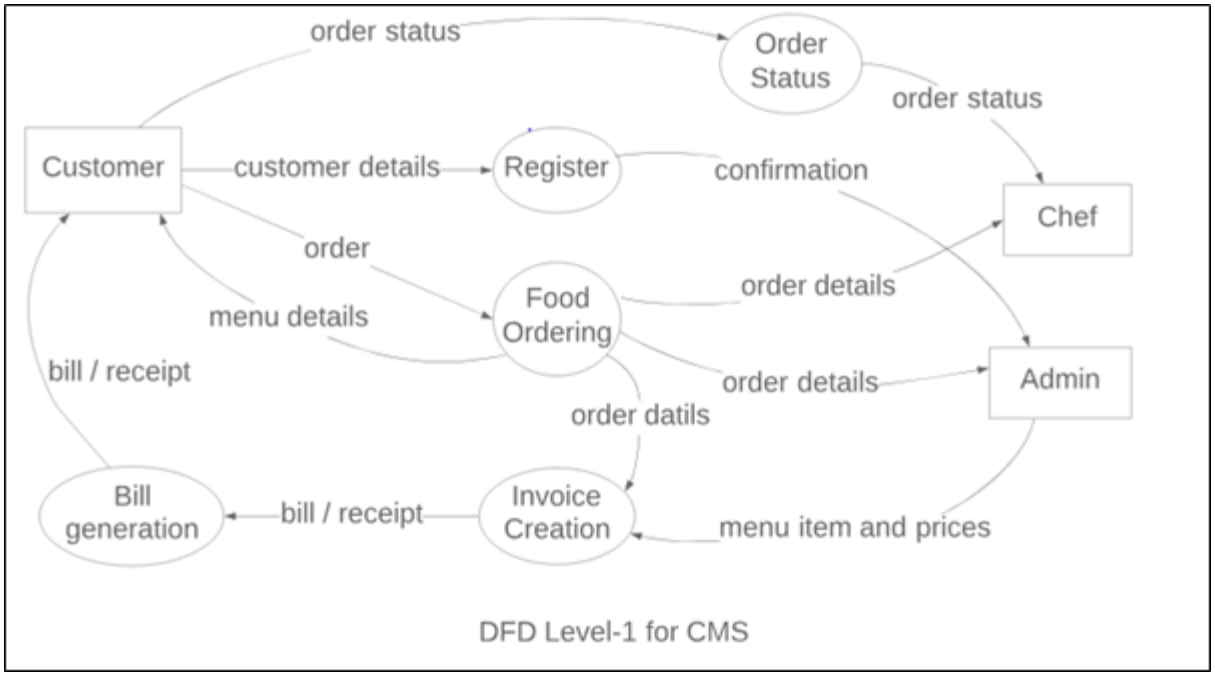

fig.2. DFD Level 1

2.3 Users and Characteristics

The *CMS* has three active actors and one cooperating system. The customers can access the system using their smartphones to order food. The online payment portal is accessed by the customer to complete the payment transactions. The chef checks the order, and sends a confirmation once the customer has paid for his order. After this the chef starts preparing the food and tells the system if it's ready. The customer can then go and collect the food from the collection counter. The admin can add or delete contents from the menu, edit the price, count total earnings and expenditure, and take feedback from the customer .

2.4 Operating Environment

OE-1: The CMS shall operate with the following Web browsers: Microsoft Internet Explorer versions 5.0 and 6.0, Netscape Communicator version 4.7, and Netscape versions 6 and 7.
OE-2: The CMS shall operate on a server running the current corporate approved versions of RedHat Linux and Apache WebServer.
OE-3: The CMS shall permit user access from the corporate Intranet and, if a user is authorized for outside access through the corporate firewall, from an Internet connection at the user's home.

2.5 Design and Implementation Constraints

CO-1: There are some constraints that cost the system a-lot. A barrier that once crossed can optimize the system to its best. Few such barriers are:

1. IOS App, Android and Windows App
2. Information flow or data flow can be controlled to be more effective
3. Faster servers such as Linux can be used
4. English language can be used for India
5. C# can be used for more security.

2.6 User Documentation

UD-1: It will provide specific guidelines to a user for using the *CMS*. A video will be provided to demonstrate the functioning of the entire system.

2.7 Assumptions and Dependencies

AS-1: The canteen is open for breakfast, lunch, and dinner every working business day in
which employees are expected to be on site.
DE-1: The operation of the CMS depends on changes being made in System to accept payment requests for meals ordered with the CMS.
DE-2: The operation of the CMS depends on changes being made in the Canteen Inventory System to update the availability of food items as CMS orders are accepted.

3 Specific Requirements

3.1 External Interface Requirements

3.1.1 User Interfaces

UI-1: The *CMS* screen displays shall conform to the Process Impact Internet Application User Interface Standard, Version 1.0 [4].
UI-2: The system shall provide a help link from each displayed HTML page to explain how to use that page.
UI-3: The Web pages shall permit complete navigation and food item selection using the keyboard alone, in addition to using mouse and keyboard combinations.

3.1.2 Hardware Interfaces

No hardware interfaces have been identified.

3.1.3 Software Interfaces

SI-1: Canteen Management System
SI-1.1: The *CMS* shall transmit the quantities of food items ordered to the *CMS* through a programmatic interface.
SI-1.2: The *CMS* shall poll the *CMS* to determine whether a requested food item is available.
SI-1.3: When the *CMS* notifies the *CMS* that a specific food item is no longer available, the *CMS* shall remove that food item from the menu for the current date.

3.1.4 Communications Interfaces

CI-1: The *CMS* shall send an message to the customer to confirm acceptance of an order, price, and delivery instructions.
CI-2: The *CMS* shall send an message to the admin to report any problems with the meal order or delivery after the order is accepted.

3.2 Functional Requirements

1. Registration and Login System	a. Enable a new user to register to the system. b. Authenticate and allow user to login on the web app. c. Enable a registered user to change his password if forgotten.
2. Menu and Ordering System	a. Enable the customers to go through the menu and add his choices to the cart. b. Enable him/her to edit his choices before proceeding to place the order.
3. Payment System	a. Display the payment bill to the customer. b. Enable the customer to pay for the placed order by credit/debit card, GooglePay or Paytm. c. Enable the system to notify the admin of the successful transaction.
4. Chef's Portal System	a. Enable the Chef to check all placed orders. b. Enable him/her to display the status of each order either "Preparing order" or "Ready to pick up".
5. Feedback System	a. Enable a registered user to submit a Feedback on the CMS, which contains a detailed explanation to his problem if any. b. Enable the admin to view, open and closed the submitted Feedback. c. Enable the admin to post a reply to the Feedback given.

3.3 Behavior Requirements

3.3.1 Use Case View

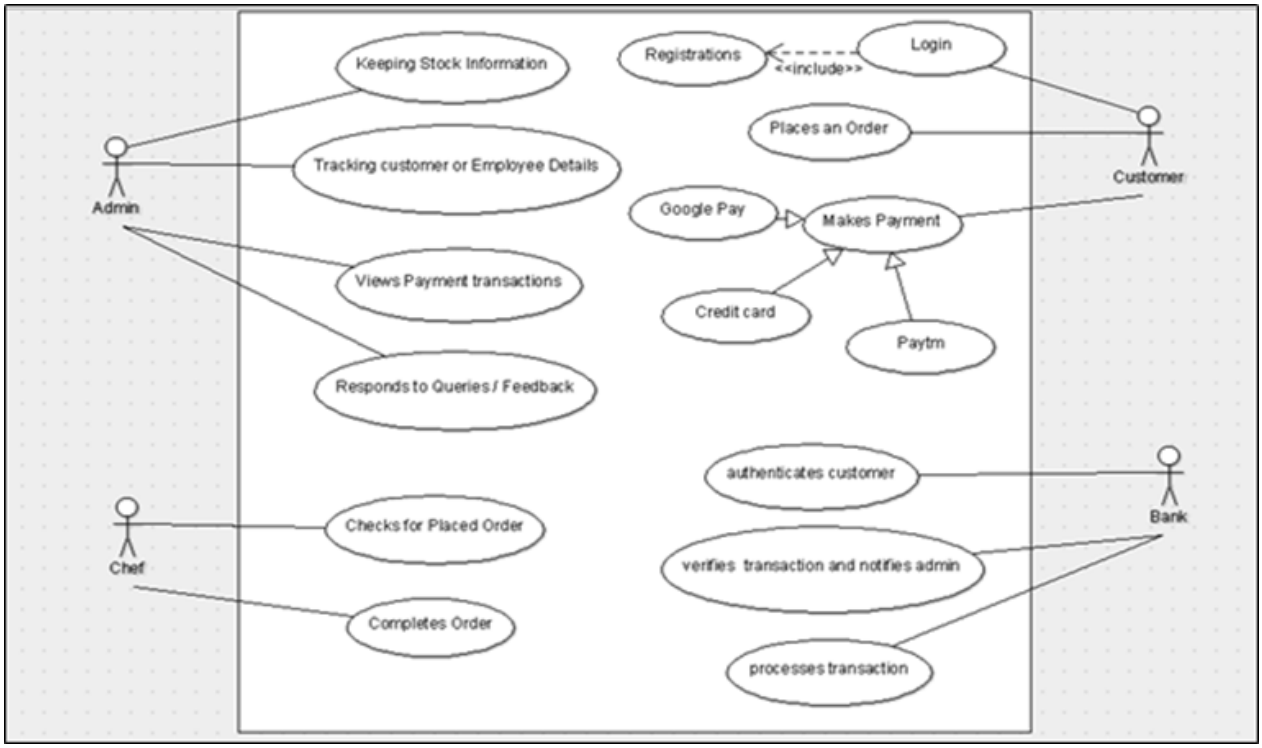

fig.3. Use Case Diagram

4 Other Non-functional Requirements

4.1 Performance Requirements

PR-1: The system shall accommodate 400 users during the peak usage time window of 8:00am to 10:00 am local time, with an estimated average session duration of 8 minutes.
PR-2: All the pages generated by the system shall be fully downloadable in no more than 10 seconds over a 40KBps modem connection.
PR-3: Responses to queries shall take no longer than 7 seconds to load onto the screen after the user submits the query.
PR-4: The system shall display confirmation messages to users within 4 seconds after the user submits information to the system.

4.2 Safety and Security Requirements

The source code developed for this system shall be maintained in configuration management tools.
Payment information and card details will be secured using encryption algorithms for security purposes.

SR-1: All network transactions that involve financial information or personally identifiable information shall be encrypted per BR-33.
SR-2: Users shall be required to log in to the *CMS* for all operations except viewing a menu.
SR-3: Admin shall log in according to the restricted computer system access policy per BR-35.
SR-4: The system shall permit only canteen staff members who are on the list of authorized Menu Managers to create or edit menus, per BR-24.
SR-5: Only users who have been authorized for home access to the corporate Intranet may use the *CMS* from non-company locations.
SR -6: The system shall permit customers to view only their own previously placed orders, not orders placed by other customers.

4.3 Software Quality Attributes

4.3.1. Availability-1: The *CMS* shall be available to users on the corporate Intranet and to dial-in users 99.9% of the time between 5:00 am and midnight local time and 95% of the time between midnight and 5:00 am local time.
4.3.2. Robustness-1: If the connection between the user and the system is broken prior to an order being either confirmed or canceled, the *CMS* shall enable the user to recover an incomplete order.