

CSL 2060 - Project

Software Requirements Specification

for

Click to Order

An Online Food Ordering System

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Software Requirement Specification (SRS) Document

0. Preface

This is a software requirements specification (SRS) document of an Online Food Ordering System "Click to Order". The purpose of this SRS is to list and prioritize all requirements set for the software being produced, and so work as an agreement between the project personnel and the customer. This document provides a basis for future enhancements and it also reduces the development effort. This document is intended for both users and administrators evaluating its potential use along with the upcoming new developers and maintenance teams to assist in maintaining and modifying this project.

The introduction of the Software Requirements Specification (SRS) provides an overview of the entire software with purpose, scope, definitions and references. This document aims to gather, analyze and give an in-depth insight into the complete 'Click to Order' website by defining the problem statement in detail. Nevertheless, it also concentrates on the capabilities required by stakeholders and their needs while defining high-level product features.

1. Introduction

1a. Context

The following section provides an overview of the SRS document for the Online Food Ordering Project: 'Click to Order'. To begin with, the purpose of the document is presented and its intended audience outlined. Subsequently, problem specifications and the scope of the project specified by the document are given with a particular focus on what the resultant app will do and the relevant benefits associated with it. To conclude, a complete document overview is provided to facilitate the increased reader comprehension and navigation.

1b. Problem Specification

The canteen service at our IITJ campus takes a lot of time in placing an order and delivering it thereby causing unnecessary wastage of time. People have to wait in long queues to place their order and get it delivered. Moreover, most of the time people do not get the food items of their choice despite being mentioned on the menu, and their order gets canceled at the last time. So, to ensure that everyone on the campus enjoys the benefits of canteen services we have come up with a solution of Online Food Ordering System - 'Click to Order'.

1c. Scope of the document

The Online Food Ordering System will help to manage and run the IITJ Canteen services systematically. We aim to provide a mobilized method for food ordering. In the current system of dining environments, a physical static menu is utilized to convey the available food choices to customers. However, these menus are generally based on the availability which has to be updated (by admin) from time to time. This document specifies the requirements for an online ordering system that aims to alleviate the problems associated with the current archaic method.

The major concepts encompassed by the general scope of the system are -:

- The ordering system pertains to the replacement of paper-based menus using an electronic format allowing the customers to order food that also updates the menu according to the availability.
- Provision of saving all the information about daily expenses and profit in the system along with the required information about the employees which can be only accessed by the system admin.

1d. Summary / Overview of the document and its Structure

The Click to Order is a web based application to facilitate the ordering from Canteen Services of IITJ. This specification will cover the customer and canteen registration-related portions. Detailed information about how customers will register for the application and various approvals will be

provided. The document describes how the customer can order food and how those orders will be managed and delivered (home delivery) by canteen services or picked up (self-service). The document also provides a detailed profile of the external interfaces, performance considerations and design constraints imposed on the subsequent implementation. It is the intention that the presented set of requirements possesses the following qualities, correctness, unambiguousness, completeness and consistency. Consequently, the document should act as a foundation for efficient and well-managed project completion and further serve as an accurate reference in the future. The primary audience of this SRS document will be the development team employed to implement the specified project 'Click to Order'. It will not only provide an extensive capacity for project planning and progress assessment but it will further assist with developer/Clients' interactions. The document also conveys and confirms the required functionality and represents a contractual agreement between the involved members.

2. General Description

2a. Workflow

1. User enters the web application: Whenever the user wants to order, the user opens the web application. The software provides various functionalities to order the food of their choice to their doorstep of their hostels.
2. Selecting the Items to be Ordered: All the available food items with the respective prices will be displayed online in the food ordering website itself. So, without any problem, the user can easily go through the online menu and can choose his/her favorite dish.
3. Placing the Order: Once the Item has been selected the customer can confirm his/her order. The canteen services will then receive notification of new order and will accordingly start preparing the ordered Items. Once the order is placed successfully the order success message will appear on the screen.

4. Payment: The application also provides the user an option to pay for their order during the time of delivery.
5. Food Preparation and Delivery: As soon as the order gets placed, the canteen services will be notified about the new order on the website in the admin panel. Accordingly they will start preparing the dishes on a priority basis without any difficulty. Once the food is prepared the food will be delivered to the location/ address which will be given by the user and accordingly the amount paid by the customer will be notified accordingly to the Canteen Services.

2b. Use-cases/ User-Scenarios

The intended stakeholders involved in the use case are Customers, IITJ Canteen Services, Delivery Partner (Delivery Boy), Suppliers, Customer Service / Helpdesk, System Architect and Software Developers.

Customers/ Users - They are the recipient of the goods and services obtained from the Canteen for a monetary consideration. They will also have the option to change the menu. The payment can be done by the user once they receive the order.

IITJ Canteen Services - They are responsible for the daily operations of the canteen as well as its overall direction, profitability, and reputation. Once the customer confirms the order, canteen services receive the order request. Canteen services check with order and confirm the availability and assign the order to the Delivery boy.

Staff - They are the employees who are mainly responsible to ensure that the work is done according to the prepared plan, policies, and standard quality to meet the standards that are set by the management. They also consist of a delivery boy who receives the customer's order details once the food is prepared and delivers it to them.

Suppliers - They provide the Canteen with raw materials like vegetables, meat, groceries and at the same time ensure their quality, delivery schedules, and rationale price.

Software developer - They analyze user's needs and then design, test, and develop the software to meet those needs.

IT Security - They are critical for various reasons like protecting the privacy and sensitive data of customers on the app, safeguarding the finances of the online system along with ensuring server security.

Customer Service/ Helpdesk - They serve as a customer contact platform for all the queries related to the system and help to improve the overall customer experience. They help in resolving issues related to order, payment, quality of food through phone or social media accounts.

2c. Overall Description of the Software Product

The software 'Click to Order' is an online food ordering system that allows the customer to avail the IITJ Canteen services from the comfort of their mobile phone without the hassle of waiting in long queues and wasting a lot of time.

The system helps to manage the working of the canteen more effectively and efficiently by computerizing meal ordering, billing and inventory control. It also allows the canteen to know about the details of the customer like number of people for a particular interval of time, their orders and accordingly the canteen can make arrangements to improve the customer experience. They can also calculate daily expenditure and profit.

The website will be built using HTML, CSS and PHP with MySQL as the database to manage the data. HTML is used to display the basic static pages, CSS is used for styling. For managing the back end we used PHP. MySQL database contains all the data that we show on our webpages upon users request.

Users can then check out the menu section to order the food of their choice. They can select items to be ordered and then place their order subsequently. Subsequently, they can pay for the items ordered once they receive it. On the other hand, the canteen services will be notified when a customer places an order and they will start preparing the order accordingly. Once the order is ready the delivery boy will then deliver the order accordingly. Customers are presented with an interactive and easy-to-use surface computer GUI with the option to choose from their menus.

The main benefit of the software is to simplify the ordering of food from canteen, ease of use along with a target of providing hot and fresh meals to the customers. Moreover, with the underlying software system taking responsibility for a customer's order throughout its lifecycle, not only is accuracy ensured, but all actions are logged in a database for analysis and accountability of the system.

3. Functional Requirements

This subsection presents the identified functional requirements for the Food Ordering App. Initially, general requirements that pertain to the whole system are given wherever possible, subsequent requirements have been demarcated based on their relevance to the users of the system.

General Functional Requirements are: -

- A server shall host the Click to Order App and provide system data processing and storage capability.
- An application that shall provide a User/Canteen with all User/Canteen system functionalities (according to access control).
- The customer shall be able to navigate through the menu and order food items of their choice.
- The app shall display a representation of the total amount of money that needs to be paid by the user for the item ordered.
- The Canteen services shall be able to CRUD items from the menu
- The Canteen services shall be able to receive/ view and be able to accept or cancel the order depending upon the order received and availability of the ordered item.
- The delivery partners shall be able to receive an incoming request from the Canteen, be able to acknowledge the request, receive customer details from the Canteen and be able to pick up and deliver the order along with acknowledging the payment done for the order.

4. Interface Requirements

The interface requirements for the Online Food Ordering System consists of the following requirements:

- **User Interface**
 - Screen representing the various food items which can be selected from.
 - After confirmation of the food order, admin shall receive the details of the ordered item.
 - The GUI should be user-friendly so that every kind of customers shall be able to place order easily
- **Hardware Interface**
 - The system on which application is running should have decent internet connectivity.
 - The application can run on any browser.
- **Software Interface**
 - The system shall communicate with the configurator to identify all the available components to configure the product.
 - The communication functions of the app with the server shall follow Internet protocol version 6 and at the same time also use the md5 hashing algorithm for encrypting the password.
- The system shall also provide various system features for both the users and admin respectively:
 - For User
 - **Food Menu and Categories** - Customers can order food from the food menu or go through individual categories available to select their food item they wish to order.
 - **Select Food Items** - Customers can select the desired food items from the menu on the basis of their choice or various categories available. They are also provided with the facility to search the food items from the menu.
 - **Order Food** - Customers can order the food they wish to order. After placing the if the order is confirmed the "Congrats! Your

Food Item is Ordered Successfully" message appears on the screen thereby confirming the order.

- Admin Panel

- **Log-in** - The admin can login into the admin panel using his/her unique Username and Password. In order to maintain privacy the password entered is encrypted using the md5 hashing algorithm.
- **Manage Admin** - The manage admin functionality allows the admin to add / delete admins thereby allowing the managing of more than one admin. They can also update their username along with the password as well.
- **Manage Dashboard** - Admin can keep track of the number of food categories and menu. They also have an option of keeping track of the number of orders made and the total revenue generated.
- **Manage Food Items** - Admin can add new food categories and food items as per the availability of the raw materials provided to them by the supplier. Moreover, they can also delete the existing categories and food items along with updating their details such as price, description or image.
- **Manage Order**: Admin can manage the order, change the status of the order as Ordered, On Delivery, Delivered and cancelled depending on the situation.

5. Performance Requirements

- The order placed by the customer should result in confirmation of Order within a minute.
- The system shall use the computing resources efficiently, i.e., should not consume more bandwidth and run efficiently on web interfaces
- There shall be different login databases for admin.
- The server shall be capable of supporting no less than 100 concurrent connections from any combination of various interfaces i.e. it should be capable of supporting 100 active orders at a time and no orders shall be lost under any circumstances.

- There shall not be a delay of more than 3 seconds upon navigating from one functionality to another like from add to cart to proceed to payment.

6. Design Constraints

The following design constraints in the software system are:

- The software only supports web-based applications and is currently unavailable as mobile applications.
- The system only supports touchpoints interaction, it does not support audio/video interactions.
- Online payment methods are not available.
- Software will support only English language for the work.
- System does not allow customers to track his/her orders in real time.

7. Non-Functional Requirements

7a. Measures

The non-functional requirements and their measures for a software system are:

1) Availability

- The system should be available at all times, meaning the user can access it using their browsers 24 X 7.

2) Security

- The system's back-end servers shall only be accessible to authenticated administrators.
- The system shall be able to do encryption and decryption of data for password which is given by admin for login. The system uses md5 hashing algorithm for encrypting the passwords.

3) Reliability

- The reliability of the overall system depends on the reliability of the separate components. The main pillar of reliability of the system is the backup of the database which is continuously maintained and updated to reflect the most recent changes.

4) Maintainability

- Commercial Databases are used for maintaining the database and the application server takes care of the site. Also, the software design is being done with modularity in mind so that maintainability can be done efficiently.

5) Correctness

- The system is designed such that it performs all the intended functions correctly and appropriately

6) Learnability

- Learnability of a software system is ensured by.
- The design of user interfaces
- The clarity and the simplicity of the user instructions

7) Readability

- Readability of a software system is ensured by:
 - Form of representation and readability of implementing Programming Language
 - Structuredness of the system and quality of the documentation

8) Extensibility

- Extensibility allows required modifications at the appropriate locations to be made without undesirable side effects. Extensibility of the system is ensured by:
 - Structuredness (modularity) of the software system along with the availability of comprehensible program documentation

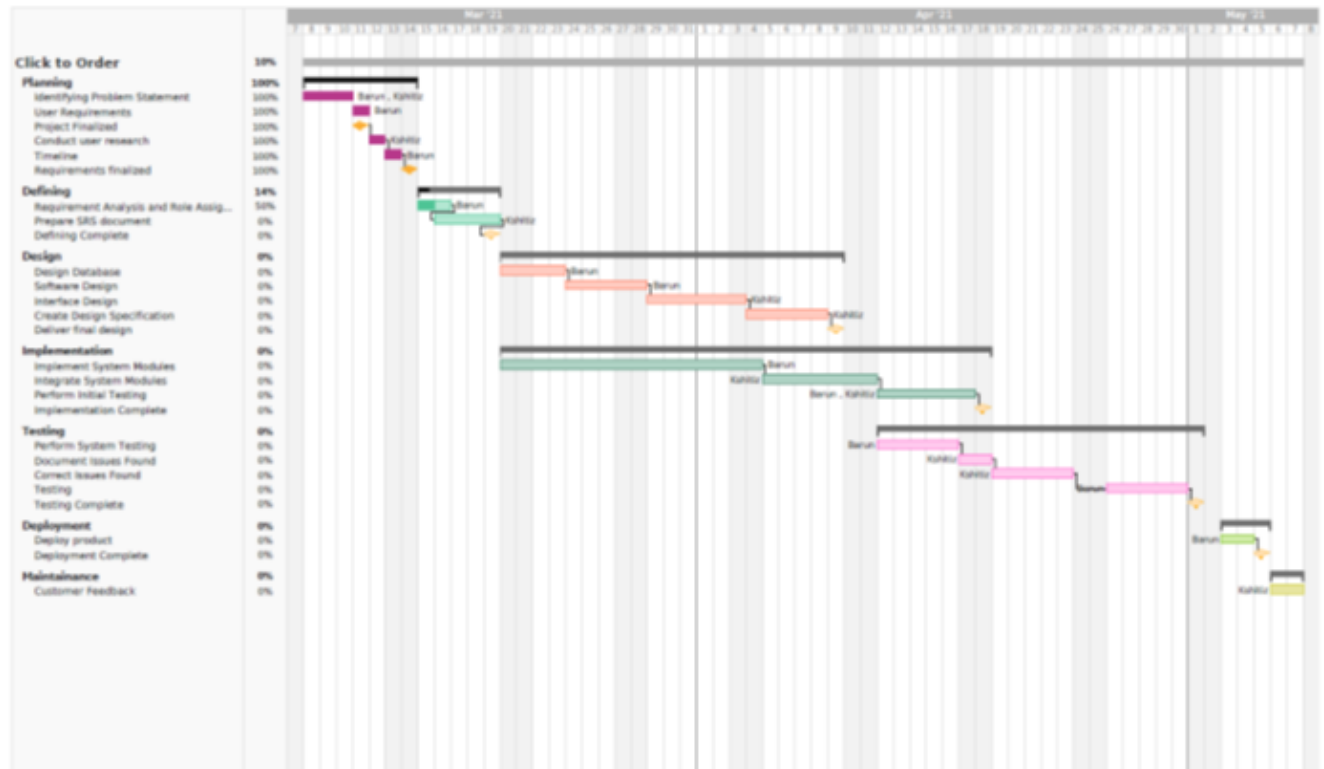
9) Testability

It refers to the suitability for allowing the programmer to follow program execution (runtime behavior under given conditions) and for debugging. The testability of system is ensured by-

- Modularity
- Structuredness

8. Schedule & Budget Estimates

- Schedule
 - **Gantt Chart**



• Budget Estimates

According to the Current Market Statistics the packages of various team members involved in project are as follows:

- Project Manager - 40 LPA
- Designer - 12 LPA
- Tester - 8 LPA
- Programmer - 15 LPA

The payments of various team members are as follows:

- Project Manager: Project Manager is required for 61 days; therefore, the payment of project manager is: $40 * (61 / 365) = 6.68$ Lakhs
- Designer: Designer is required for 21 days; therefore, the payment of designer is: $12 * (21 / 365) = 0.70$ Lakhs
- Tester: The tester is required for 20 days; therefore, the payment of tester is: $8 * (20 / 365) = 0.43$ Lakhs

- Programmer: The programmer is required for 40 days; therefore, the payment of programmer is: $15 * (40 / 365) = 1.64$ Lakhs

Total Budget = $(6.68 + 0.70 + 0.43 + 1.64) = 9.45$ Lakhs

9. Additional Material (Appendix)

- <https://iso25000.com/index.php/en/iso-25000-standards/iso-25010>
- <https://github.com/torvalds/linux>
- https://www.academia.edu/27192023/An_Online_Food_Ordering_System_Requirements_Specification
- <https://sandesh-deshmane.medium.com/architecture-and-design-principles-for-online-food-delivery-system-33bfda73785d>
- <https://uxdesign.cc/ui-ux-case-study-feedme-mobile-app-for-ordering-food-ef0e7f8c82ba?gi=85ec61d3111>