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OBJECT ORIENTED PROGRAMMING

1. Introduction

1.1 Purpose

This document aims to provide a detailed guide to the system requirements for the "Food and Roll Orders" application. This system, dedicated to order management and food delivery, is specifically designed for the "Food and Roll" restaurant, renowned for its specialties in wings and burgers. It is important to note that this is intended for our client, users, developers, designers, and anyone else involved in the development and evaluation of the system.

1.2 System Scope

The name of the system is "Food and Roll Orders." It is a food delivery system that includes functions such as "Order for dining in the restaurant," "Home delivery," "Table reservations," "Interactive menu," "Rate Chef and Restaurant," "Total price," "Delivery cost," and "Estimated delivery time display." What it won't do is "Currency exchange from USD to any other," "Schedule orders for a specific time," "Place orders during non-working hours," "Order exaggerated portions of sauces and extras," and "Extreme UI customization." Our benefits, objectives, and associated goals that we hope to achieve include improving order management efficiency and customer satisfaction.

1.3 Definitions, Acronyms and Abbreviations

Definitions:
Food and Roll Orders (FRO): The order management and food delivery system developed for the "Food and Roll" restaurant.
UI: User Interface. The screen and visual interactions that users experience when interacting with the application.
Interactive Menu: The feature that allows users to explore and select menu items digitally through the application.
Estimated Delivery Time (ETD): The estimated time period provided to users for the delivery of their orders.

Acronyms and Abbreviations:
SRS: Software Requirements Specification.
API: Application Programming Interface. A set of rules that allows an application to communicate with other applications or services.
DB: Database. An organized system for collecting, storing, and managing data in a structured way.
QA: Quality Assurance. The process of ensuring that a product meets specified standards and requirements.
POS: Point of Sale. A system used for conducting sales transactions and managing inventory.

1.4 References

Title	Link
DESARROLLO DE UN SISTEMA WEB PARA LA GESTIÓN DE PEDIDOS EN UN RESTAURANTE. APLICACIÓN A UN CASO DE ESTUDIO	https://bibdigital.epn.edu.ec/bitstream/15000/10337/3/CD-6157.pdf
TERMS AND CONDITIONS OF A DELIVERY APP	https://www.tadadelivery.com.ec/terminos-y-condiciones
FOOD DELIVERY APP DEVELOPMENT	https://www.elluminatiinc.com/desarrollo-de-aplicaciones-de-entrega-de-alimentos/
"PY" USER MANUAL	https://pcomm.pystatic.com/PedidosYaManual_de_Uso-GoDroid2.0-LOGISTICA-2021.pdf

1.5 Document Overview

The Software Requirements Specification (SRS) for the "Food and Roll Orders" project is presented in a structured manner to provide a clear and detailed understanding of the system requirements. Below is a brief description of the organization and contents of the SRS:

1. Introduction:
Purpose:
Explains the purpose of the document and its intended audience, setting initial expectations.
System Scope:
Defines the boundaries of the "Food and Roll Orders" system, its main functions, and the expected objectives.
Definitions, Acronyms, and Abbreviations:
Provides a quick reference to key terms used in the SRS for a uniform understanding.
References:
Lists external documents referenced in the SRS, establishing connections with additional information.

2. General Description:
Product Perspective:
Relates the system to other products or environments, highlighting its position and dependencies.

Product Functions:
Summarizes the main functions performed by the system, such as order management, menu display, and delivery tracking.

User Characteristics:
Details the general characteristics of intended users, including their level of education and technical expertise.
Constraints:
Lists limitations that developers must consider, such as business policies and hardware restrictions.
Assumptions and Dependencies:
Identifies external factors that may affect requirements, establishing contextual conditions.
Future Requirements:
Outlines possible improvements that could be implemented in future versions of the system.

3. Specific Requirements:
External Interfaces:
Describes requirements affecting the user interface and interactions with other systems.
Functions:
Details specific actions the software must perform, organized by user types, objects, goals, or functional hierarchy.
Performance Requirements:
Specifies how the system should behave under different conditions, such as user load and data storage requirements.
Design Constraints:
Defines specific limitations influencing design decisions.
System Attributes:
Breaks down expected quality attributes, such as reliability, maintainability, and security.
Other Requirements:
Includes any additional requirements that do not fit into the previous categories.

4. Appendices:
Contains supplementary information, such as data input/output formats, cost analysis, and specific constraints.

2. General Description:

2.1 Product Perspective:

Relationship of the "Food and Roll Orders" system with other products, if applicable.

2.2 Product Features:

The system is mainly responsible for being a reservation system for both food orders and tables for program users; with an interactive and easy-access menu, allowing you to view the order along with its respective preparation and delivery times, in addition to being able to give reviews or rate the food and service.

2.3 User Characteristics:

Type of user	Intermediate User
Training	Third level education
Skills	Culinary knowledge, creativity, ability to work under pressure,
Activities	Restaurant worker and chef, student

2.4 Restrictions:

For our program we must take into account that the restaurant's money will not be used, handled or manipulated, that is, it will not be possible to pay through the application at the moment; It will only make calculations and give the total value of the order and the order must be paid in the same restaurant.

2.5 Assumptions and Dependencies:

Possibly if there are some changes to the restaurant's menu, a renovation of the restaurant both in the premises and in the administration. Also the case of a new collection or payment system for orders.

2.6 Future Requirements:

For the future and to improve the system, it is essential that the customer has the opportunity to pay for their order online immediately without the need to pay for it in the restaurant, and the program could even rely on one of the delivery systems for a delivery. of food at home.

3. Specific Requirements:

3.1 External Interfaces:

The system has a variety of features designed to meet user needs and ensure a comprehensive experience. These functions are grouped into various categories to facilitate their understanding and management.

Order Management (RF1):

- *Description: Allows users to place orders for products or services easily and quickly. Includes item selection, customization options, and order confirmation.*
- *Objectives: Streamline the order process, minimize errors and improve efficiency in product preparation.*

Menu Display (RF2):

- *Description: Provides users with a clear and attractive interface to explore the establishment's menu. It can include images, detailed descriptions, and organized categories.*
- *Objectives: Improve user experience, facilitate decision making and promote outstanding products.*

Table Reservations (RF3):

- *Description: Allows users to reserve tables for specific dates and times. Includes real-time availability and instant confirmation.*
- *Objectives: Optimize space management, guarantee customer satisfaction and minimize waiting times.*

3.2 Functions:

General Functions (e.g. RF1, RF2):
Detailed description of specific system functions such as order management, menu display, table reservation, etc.

Organize roles by user types, objects, objectives, or functional hierarchy, depending on what is most appropriate for your project.

3.2.1 Organization of Functions:

By User Types:

- *Customers:*
    - RF1: Order management.
    - RF2: Menu display.
    - RF3: Table Reservations.
- *Establishment Staff:*
    - Order confirmation.
    - Menu management (updating, adding, deleting products).
    - Reservation Management and Table

By Objects:

- *Orders:*
    - RF1: Order Creation.
    - RF1: Modification of Orders.
    - Order Confirmation.
- *Menú:*
    - RF2: Menu Display.
    - RF2: Menu Update.
- *Tables:*
    - RF3: Table Reservations.
    - Table Assignment.

By Functional Hierarchy:

- *Level 1:*

    Global System Management.

- *Level 2:*
    - *Client Functions.*
    - *Establishment Personnel Functions.*

- *Level 3:*
    - *Order Specific Functions.*
    - *Specific menu functions.*
    - *Specific Table Reservation Functions.*

3.3 Performance Requirements:

1.-Response Time:

- *Requirement: The system must respond to user requests within a maximum of X seconds.*
- *Rationale: Ensure an agile and delay-free user experience, especially when placing orders, viewing the menu or making reservations.*

2.-Concurrent User Capacity:

- *Requirement: The system must be able to handle at least X concurrent users.*
- *Rationale: Ensure that the system can handle significant user load without performance degradation, especially during times of high demand.*

3.-System Availability:

- *Requirement: The system must have 99.9% availability during operating hours.*
- *Rationale: Minimize downtime to ensure that users can access the system when they need it.*

4.-Order Processing Time:

- *Requirement: Order processing time, from confirmation to preparation, must not exceed X minutes.*
- *Rationale: Ensure that orders are prepared and delivered in a reasonable time to maintain customer satisfaction*

3.4 Design Constraints:

3.4.1 Performance requirements

- Ensure that order design or other processes do not significantly affect the performance of the software system and do not significantly affect network traffic.

3.4.2 Security

- Guarantee the reliability, security, and performance of the software system for different users. In this sense, stored information or record should be queryable and updatable permanently and simultaneously without affecting response time.
- Guarantee the security of the system regarding the information and data handled such as documents, files, and passwords.
- Provide facilities and controls that allow authorized personnel to access information through the internet, with the intention of both retrieving and updating information relevant to each one.

3.4.3 Reliability

- The system must have an intuitive and simple user interface.
- The user interface must be aligned with the restaurant´s web features, within which the order management system will be integrated.

3.4.4 Availability

- The availability of the system must be continuous with a level of service for users 24 hours a day, 7 days a week, ensuring an adequate scheme to handle possible failures in any of its components, including contingency plans and alarm generation.

3.4.5 Maintainability

- The system must have easily updatable documentation to facilitate maintenance operations with minimal effort.
- The interface must be complemented with a robust help system so that management can involve personnel with little experience in using the software system.

3.4.6 Portability

- The system will be implemented on the Windows operating system.

4. Appendices

Additional information that is not directly part of the ERS.
Data input/output formats.
Cost analysis results.
Additional restrictions, if any.
Any other information that is relevant but does not directly fit into the sections above.