ChowTown Corp.

ChowTown
Software Requirements Specification
For Online Restaurant System
Version 5.0

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Revision History

Date	Version	Description	Author
10/31/2019	1.0	SRS 1.0 - Added overall information	Sumaiya Mahin, Risa Morishima, Mahin Khan, Wei-Cheng Lin
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Software Requirements Specification

1. Introduction

The introduction of the Software Requirement Specification (SRS) provides an overview of the document by describing its purpose, the scope of the software system, any definitions, acronyms, abbreviations, and references mentioned throughout the SRS, and an overview of the rest of the SRS. The focus of this document is to provide a detailed understanding of the Online Restaurant System by establishing the requirements and features of the system.

1.1 Purpose

The purpose of this specification document is to outline an Online Restaurant System. The system involves a food ordering system for the customers as well as a management system for the restaurants. The SRS will explain the purpose and features of the system, the multiple interfaces for different users, as well as the different attributes depending on the constraint the users have. This document is intended for users, developers, and other stakeholders to assist in successfully delivering the system.

1.2 Scope

This software system will resemble an Online Restaurant System that enables customers to order different types of food from restaurants and managers to manage said restaurants. This system allows users to easily and effectively access the intended user features. The features of the system are constrained by the level of permission the user has. There are different types of users, and different interfaces that correspond to its respective users; each type of user has different levels of permission.

Specifically, the system allows customers to order food from different restaurants and rate its quality via food quality and delivery quality. It also allows the managers to run the restaurant through various actions through customer management and employee management. The system facilitates communication between the customers and managers as well as communication between the managers and the different employees such as cooks, delivery people, and salespeople.

This interaction is maintained through the use of multiple databases that store relevant information of the customers, employees, menus, ratings/reviews, delivery routes, and food supplies. This system also includes an API that reflects a map and allow certain users to view the map as well as the delivery routes.

1.3 Definitions, Acronyms, and Abbreviations

Term	Definition
API - Application Program Interface	A set of functions and procedures allowing the creation of applications that access the features of a service
Cook	A user that can set menu items and prices and rate supplies
Customer	A user that can order food from a restaurant and give ratings
Database	A collection of information monitored by the software system
Delivery Person	A user that can bid for delivery position and rate customers
Level of Permission	A defined set of features a user can access and execute
Manager	Also known as a Superuser; A user that has permission to administer and control most of the features of the restaurant
SRS - Software Requirement Specification	A document that fully describes the proposed software system to be developed
Sales Person	A user that can order and rate supplies for the restaurant
Stakeholder	A person who is interested in the project and is not the developer
User	A person who uses the proposed software system

1.4 References

● Project Requirement Document Fall 2019 provided by Professor Jie Wei

1.5 Overview

The remaining sections of the SRS include a more detailed description of the software system. It demonstrates an overall description of the attributes, characteristics of the users of the software system, the constraints, assumptions, and the functional features and requirements of the finalized system.

The second section of the document describes the general factors of the product. It provides a brief context and conditions of the product requirements and the relation between the multiple

users and the features. It also states the assumptions and the dependencies of the product.

The third section of the document explains the functionality of the system itself and its features in-depth. It also transcribes and exhausts all the perspectives of the software system through the use of a use-case model diagram.

2. Overall Description

This section of the document includes a brief and general description of the features and relationships between the users. It lists the users and their appropriate features of the proposed software system. This is provided as a background to exhaust all the perspectives of the software system in a use-case model diagram designed in the third section. The following SRS also describes the assumptions and dependencies present in the software system.

2.1 Use-Case Model Survey

The list below exhausts all the users and their pertaining features.

- **Customers**
  - Order food
  - Cancel their order
  - Rate
    - ➢ View the ratings of the food and delivery person
    - ➢ Give food and delivery ratings
    - ➢ Receive ratings from a delivery person
  - View their own information as a customer
    - ➢ Name
    - ➢ Address
    - ➢ Phone Number
    - ➢ Type: VIP, Registered, Visitor
    - ➢ Blacklisted Status
    - ➢ Order History
- **Managers**
  - View customer information and order
    - ➢ Decide whether or not to allow a customer to order from their restaurant
  - View employee information
  - View ratings
    - ➢ Ratings of customers, cooks, delivery people, and salespeople
  - Add customers to blacklist
    - ➢ Based on the customer's ratings

- ■ Give warnings to employees
  - ➢ Based on the employee's ratings
- ■ Set salaries of employees
  - ➢ Raise or reduce salaries and commissions based on the employee's ratings
- ■ Hire and Fire Employees
  - ➢ Based on the employee's ratings and performance
- ■ Decide delivery bids
- ● **Cooks**
  - ■ View their own information as an employee
  - ■ View customer's orders
  - ■ See if the customer canceled an order
  - ■ View their own ratings
  - ■ Give ratings of supplies
  - ■ Receive ratings from customers
    - ➢ About the food they cooked
  - ■ Set menu
    - ➢ Set the food items
    - ➢ Set the prices
- ● **Delivery People**
  - ■ View their own information as an employee
  - ■ View customer's information
    - ➢ See their addresses and phone numbers
  - ■ View customer's orders
  - ■ See if the customer canceled an order
  - ■ View their own ratings
  - ■ Give ratings to the customers
  - ■ Receive ratings from the customers
  - ■ Bid for delivery position
  - ■ Decide a route to the customer
    - ➢ After they have won the bid
- ● **Salespeople**
  - ■ View their own information as an employee
  - ■ View their own ratings
  - ■ Receive ratings from cooks
    - ➢ About the quality of the supplies
  - ■ Buy supplies from suppliers
    - ➢ Decide from which suppliers to buy from based on price and quality

2.2 Assumptions and Dependencies

It is assumed that this software system is a distributed food ordering and management system. It can be used in applications such as:
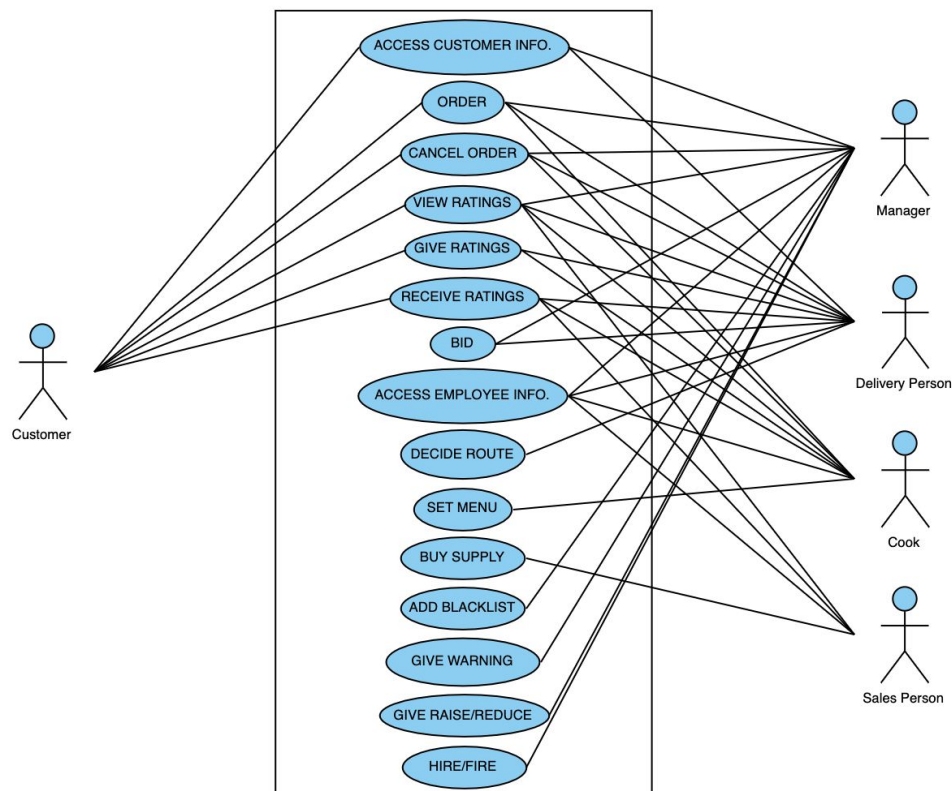
- Request to order food from a restaurant and have it delivered
- Management of the food orders, customer services, and employees

The software system will be heavily dependent on databases to store and retrieve such information.

3. Specific Requirements

This section contains detailed requirements for the software system. The features are organized in a use-case model diagram and discussed in detail by parts. Further requirements not portrayed in the diagram are described as well.

3.1 Use-Case Report

3.1.1 Access Customer Information

Brief Description: This feature allows users to access the customer's information

Relation to Users

- **Customers:** Allows customers to view and update their information
    - **Constraints**
        - Only Registered and VIP customers may view and update their information
        - Customers may not alter their name
        - Customers may not have access to other customers' information
- **Managers:** Allows managers to view and update all of the customer's information
    - **Constraints**
        - Managers may only update the customer's blacklist status and average rating
- **Delivery People:** Allows delivery people to view the customer's information
    - **Constraints**
        - Delivery People may not update the customer's information
        - Delivery People may only view the customer's name, address, and phone number

3.1.2 Order

Brief Description: This feature allows users to order food from their desired restaurant.

Relation to Users:

- **Customers:** Allows customers to choose and order food
    - **Constraints:**
        - Blacklisted customers will have their orders denied
- **Managers:** Allows managers to view the customer's order and either approve or deny it
    - **Constraints:**
        - Managers must deny orders from blacklisted customers
        - Managers may deny orders if the order is unable to be processed due to supply levels
- **Delivery People:** Allows delivery people to view the customer's order
    - **Constraints:**
        - Delivery People may not deliver to blacklisted customers
- **Cooks:** Allows cooks to view the customer's order and prepare the meal

accordingly
- ○ **Constraints:**
  - ■ Cooks may not cook food ordered by blacklisted customers

3.1.3 Cancel Order

Brief Description: This feature allows users to cancel their orders.

Relation to Users:

- ● **Customers:** Allows customers to cancel their order
  - ○ **Constraints:**
    - ■ Customers may not cancel their order if 10 minutes have passed since the order has been processed
    - ■ Customers may cancel their order if the actual delivery time exceeds the estimated delivery time
    - ■ Customers may cancel their order if the food that was delivered was different from their order
- ● **Managers:** Allows managers to view a canceled order
  - ○ **Constraints:**
    - ■ Managers may not receive a payment for a canceled order
    - ■ Managers may not pay delivery people for a canceled order
- ● **Delivery People:** Allows delivery people to view a canceled order
  - ○ **Constraints:**
    - ■ Delivery People may not get paid for a canceled order
- ● **Cooks:** Allows cooks to view a canceled order
  - ○ **Constraints:**
    - ■ Cooks may not reuse a canceled order for another order

3.1.4 View Ratings

Brief Description: This feature allows users to view ratings from 1(worst) to 5 (best).

Relation to Users:

- ● **Customers:** Allows customers to view the ratings they posted about the quality of the restaurant as well as ones posted by others. It also allows customers to view their own ratings.
  - ○ **Constraints:**
    - ■ Customers may not alter any ratings about them
- ● **Managers:** Allows managers to view the ratings from customers, delivery people, and cooks

- ○ **Constraints:**
  - ■ Managers may not alter any ratings
- ● **Delivery People:** Allows delivery people to see their own delivery ratings
  - ○ **Constraints:**
    - ■ Delivery people may only view their own ratings
    - ■ Delivery people may not alter any ratings about their delivery
- ● **Cooks:** Allows cooks to view ratings on the food they have prepared
  - ○ **Constraints:**
    - ■ Cooks may only view their own ratings
    - ■ Cooks may not alter any ratings about the food they have prepared
- ● **Sales People:** Allows salespeople to view their ratings on the supplies they have bought
  - ○ **Constraints:**
    - ■ Salespeople may only view their own ratings
    - ■ Salespeople may not alter any ratings about the supplies they have bought

3.1.5 Give Ratings

Brief Description: This feature allows users to give ratings, where ratings that are less than 3 are viewed as a complaint

Relation to Users:

- ● **Customers:** Allows customers to rate the quality of the restaurant (food and delivery service)
  - ○ **Constraints:**
    - ■ Customers may not alter their ratings to the restaurant after receiving a rating from the delivery person
- ● **Delivery People:** Allows delivery people to rate the customers that they deliver to
  - ○ **Constraints:**
    - ■ Delivery people may not rate managers and other restaurant employees
    - ■ Delivery people must not give or alter their ratings to a customer after receiving their ratings from the customer
- ● **Cooks:** Allows cooks to rate the supplies that the salespeople have ordered
  - ○ **Constraints:**
    - ■ Cooks may not rate customers, managers, and other restaurant employees

3.1.6 Receive Ratings

Brief Description: This feature allows users to receive ratings.

Relation to Users:

- **Customers:** Allows customers to receive ratings from delivery people
  - **Constraints:**
    - Customers may only receive ratings from delivery people
- **Delivery People:** Allows delivery people to receive ratings from customers they delivered to
  - **Constraints:**
    - Delivery people may only receive ratings from customers
- **Cooks:** Allows cooks to receive ratings from customers about the food
  - **Constraints:**
    - Cooks may only receive ratings from customers
- **Sales People:** Allows salespeople to receive ratings from cooks about the supplies they have ordered
  - **Constraints:**
    - Salespeople may only receive ratings from cooks

3.1.7 Bid

Brief Description: This feature allows delivery people to bid on the amount of compensation they want for each delivery. It also allows managers to choose delivery people based on the lowest bid.

Relation to Users:

- **Managers:** Allows managers to view bids and pick the lowest one
  - **Constraints:**
    - Managers must pick the lowest bid
    - Managers may not pick more than one bid
- **Delivery People:** Allows delivery people to apply to the delivery job with the bid they would like to claim
  - **Constraints:**
    - Delivery people may not view other applicants' bids

3.1.8 Access Employee Information

Brief Description: This feature allows users to view information about the employees.

Relation to Users:

- **Managers:** Allows managers to view an employee's basic information, total hours, hourly wage, current salary, commission percent for all employees (salespeople, cooks, delivery people)
    - **Constraints:**
        - Managers may only alter total hours, hourly wage, current salary, and commission percentage
- **Delivery People:** Allows delivery people to view their basic information, total hours, hourly wage, and current salary
    - **Constraints:**
        - Delivery people may not view other employee's information
        - Delivery people may only alter their basic information
- **Cooks:** Allows cooks to view their basic information, total hours, hourly wage, and current salary
    - **Constraints:**
        - Cooks may not view other employee's information
        - Cooks may only alter their basic information
- **Sales People:** Allows salespeople to view their basic information, hourly wage, total hours, current salary, and commissions
    - **Constraints:**
        - Salespeople may not view any other employee's information
        - Salespeople may only alter their basic information

3.1.9 Decide Route

Brief Description: This feature allows the delivery person to choose a route for the delivery.

Relation to Users:

- **Delivery People:** Allows delivery people to choose a route suited for quicker delivery and better service
    - **Constraints:**
        - Delivery people must choose one optimal route

3.1.10 Set Menu

Brief Description: This feature allows the cook to decide the menu items and its prices

Relation to Users:

- **Cooks:** Allows cooks to alter the menu based on supplies and customer ratings

  - ○ **Constraints:**
    - ■ Cooks may modify the menu to cater to different dietary restrictions
    - ■ Cooks may not set inappropriate prices on the menu items
    - ■ Cooks must remove an item off of the menu if the average rating is less than 2 in the last 3 orders

3.1.11 Buy Supply

Brief Description: This feature allows salespeople to buy supplies.

Relation to Users:

- ● **Sales People:** Allows salespeople to decide and buy supplies from multiple suppliers that have the best deal based on quality and price
  - ○ **Constraints:**
    - ■ Salespeople may start a new business with a new supplier or discontinue business with a current supplier
    - ■ Salespeople must choose the supplier with the best food quality and price

3.1.12 Add Blacklist

Brief Description: This feature allows managers to blacklist a customer.

Relation to Users:

- ● **Managers:** Allows managers to blacklist customers based on their ratings
  - ○ **Constraints:**
    - ■ Managers must only blacklist a customer with an average rating of less than or equal to 1
    - ■ Managers may not remove any customers off of the blacklist

3.1.13 Give Warning

Brief Description: This feature allows managers to give warnings to employees based on their performance.

Relation to Users:

- ● **Managers:** Allows managers to warn employees who are not performing up to standards based on their ratings; may also erase warnings
  - ○ **Constraints:**

- Managers may not issue a warning without reason
- Managers may erase a warning
- Managers must issue a warning to a cook whose food item was dropped off the menu twice
- Managers must issue a warning to a delivery person that has an average rating of less than 2 in the last 3 deliveries
- Managers must issue a warning to a salesperson that received a complaint about a supply from the cooks more than 3 times

3.1.14 Give Raise/Reduce

Brief Description: This feature allows managers to raise or reduce the salaries and/or commissions of employees.

Relation to Users:

- **Managers:** Allows managers to raise or reduce salaries/commissions based on the employee's ratings
    - **Constraints:**
        - Managers may not alter an employee's salary without reason
        - Managers may raise an employee's salary who consistently receives good ratings
        - Managers may reduce an employee's salary who consistently receives bad ratings
        - Managers must reduce a salesperson's commission by 10% when they received a warning
        - Managers must raise a salesperson's salary by 10% when they receive 3 straight 5 ratings

3.1.15 Hire/Fire

Brief Description: This feature allows managers to hire or fire employees.

Relation to Users:

- **Managers:** Allows managers to hire employees based on required skills and needs in the restaurant or as a replacement for fired employees, and fire employees based on their ratings
    - **Constraints:**
        - Managers may not fire employees without reason
        - Managers must fire a delivery person who received more than 3

warnings
- Managers must fire a cook who received more than 3 warnings
- Managers must fire a salesperson who received more than 3 warnings

3.2 Supplementary Requirements

Accessibility: This software system is accessible to visually impaired customers, and includes a voice-based order feature.

Login: Users will be asked to login through a username and password

Number of Employees: Each store that the software system applies to must have at least two cooks and two salespeople

Types of Customers: There are 3 types of customers

- **VIPs**:
  - Charged the lowest price for food
  - Receives discounts on orders
  - Receives small perks such as free food items
- **Registered Customers**:
  - Charged regular price for food
  - Receives discounts on orders
  - Can become a VIP if they made more than 3 orders with an average rating of 4 and above
  - Can be demoted to a visitor if they made more than 3 orders with an average rating between 2 and 1
- **Visitors**:
  - Charged highest price for food
  - Cannot rate their orders
  - Can become a registered customer if they are approved by the manager
  - Do not have a username or password

Order Recommendations: Customers receive recommendations based on their previous orders or popular items, depending on the type of customer

4. Supporting Information

4.1 Index