

Restaurant Fast Lane

Software Requirements Specification

1.0.0

4/26/2014

Joe A. DeLuca
Lead Software Engineer

Prepared for
MSIT 668—Application Development Capstone Project
Instructor: Dr. Raul Salazar
Winter 2015

Revision History

| Date | Description | Author | Comments |
|-------------|--------------------|---------------|------------------|
| 03/01/14 | 1.0.0 | Joe A. DeLuca | Initial Document |
| | | | |
| | | | |
| | | | |

Document Approval

The following Software Requirements Specification has been accepted and approved by the following:

| Signature | Printed Name | Title | Date |
|------------------|---------------------|--------------|-------------|
| | | | |
| | | | |
| | | | |

Table of Contents

| | |
|--|------------|
| REVISION HISTORY..... | II |
| DOCUMENT APPROVAL..... | II |
| 1. INTRODUCTION..... | 1 |
| 1.1 PURPOSE..... | 1 |
| 1.2 SCOPE..... | 1 |
| 1.3 DEFINITIONS, ACRONYMS, AND ABBREVIATIONS..... | 1 |
| 1.4 OVERVIEW..... | 1 |
| 2. GENERAL DESCRIPTION..... | 1-4 |
| 2.1 PRODUCT PERSPECTIVE..... | 2 |
| 2.2 PRODUCT FUNCTIONS..... | 3 |
| 2.3 USER CHARACTERISTICS..... | 3-4 |
| 2.4 GENERAL CONSTRAINTS..... | 4 |
| 2.5 ASSUMPTIONS AND DEPENDENCIES..... | 4 |
| 3. SPECIFIC REQUIREMENTS..... | 5-8 |
| 3.1 EXTERNAL INTERFACE REQUIREMENTS..... | 5 |
| 3.1.1 <i>User Interfaces</i> | 5 |
| 3.1.2 <i>Hardware Interfaces</i> | 5 |
| 3.1.3 <i>Software Interfaces</i> | 5 |
| 3.1.4 <i>Communications Interfaces</i> | 5 |
| 3.2 FUNCTIONAL REQUIREMENTS..... | 5-8 |
| 3.2.1 <i>Web Application</i> | 6-7 |
| 3.2.1.1 <i>Create Category Item</i> | 6 |
| 3.2.1.2 <i>Read Category Item</i> | 6 |
| 3.2.1.3 <i>Update Category Item</i> | 6 |
| 3.2.1.4 <i>Delete Category Item</i> | 6 |
| 3.2.1.5 <i>Create Menu Item</i> | 6 |
| 3.2.1.6 <i>Read Menu Item</i> | 6 |
| 3.2.1.7 <i>Update Menu Item</i> | 6 |
| 3.2.1.8 <i>Delete Menu Item</i> | 6 |
| 3.2.1.9 <i>Add Menu Item To Cart</i> | 6 |
| 3.2.1.10 <i>Delete Menu Item from Cart</i> | 6 |
| 3.2.1.11 <i>Update Quantity</i> | 7 |
| 3.2.1.12 <i>Proceed to Checkout</i> | 7 |
| 3.2.2 <i>Kitchen Staff Application</i> | 7 |
| 3.2.2.1 <i>Display List of Orders Not Complete</i> | 7 |
| 3.2.2.2 <i>Display List of Orders Completed</i> | 7 |
| 3.2.2.3 <i>Complete Order</i> | 7 |
| 3.2.2.4 <i>Order Not Complete</i> | 7 |
| 3.2.3 <i>Customer Application</i> | 7-8 |
| 3.2.3.1 <i>Add Menu Item To Cart</i> | 7 |
| 3.2.3.2 <i>Delete Menu Item from Cart</i> | 7 |
| 3.2.3.3 <i>Update Quantity</i> | 7 |
| 3.2.3.4 <i>Proceed to Checkout</i> | 8 |
| 3.3 NON-FUNCTIONAL REQUIREMENTS..... | 8 |
| 3.4 DESIGN CONSTRAINTS..... | 8 |
| 3.5 LOGICAL DATABASE REQUIREMENTS..... | 8 |
| 4. CHANGE MANAGEMENT PROCESS..... | 8 |

1. Introduction

This document is the Software Requirement Specification (SRS) for a restaurant Point of Sale (POS) system called Restaurant Fast Lane. It will outline all of the features of the software.

1.1 Purpose

The purpose of the SRS is to provide a set of requirements for the Restaurant Fast Lane System.

1.2 Scope

The software to be created is called Restaurant Fast Lane which is a restaurant Point of Sale (POS) system.

1. The components included:
 - 1 . web interface for restaurant customers to purchase menu items online
 - 2 . web interface for restaurant administrators to Create, Read, Update, and Delete menu items.
 - 3 . android application interface for restaurant customers to purchase menu items.
 - 4 . android application interface for restaurant order queue.
2. The web interface will be a custom theme and custom plugin for Word Press.

1.3 Definitions, Acronyms, and Abbreviations

These are the terms used in this SRS relating to the game.

- POS – Point Of Sale System
- SRS – Software Requirement Specification.
- RFS – Restaurant Fast Lane

1.4 Overview

This section is an overview of the whole system. This will describe the way user that will interact with the system and the functionality that the system will provide. It will also explain the constraints and assumptions for the system.

2. General Description

The Restaurant Fast Lane system is a POS specifically designed with the small business in mind. The idea is to offer the small business a POS software bundle at an inexpensive subscription price. The POS system is run from the cloud and the interfaces are on the mobile phone and tablet devices as well as a web front end and back end. Since the POS is offered as a subscription and run from the cloud, when updates are available all clients will be synchronized and updated.

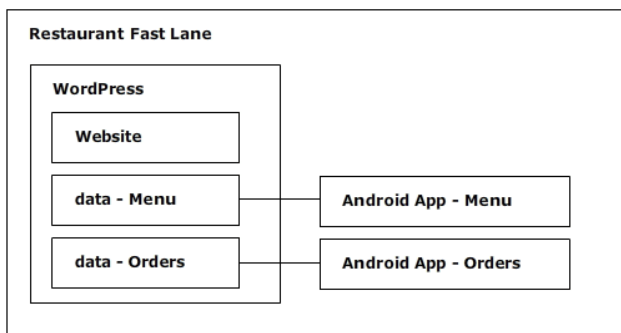
2.1 Product Perspective

The product consists of a Wordpress website and 2 Android applications. The Wordpress website serves as a front end menu with shopping cart and the backend administration of the website and menu. The Wordpress site serves RSS feeds to the mobile applications. There is a restaurant customer mobile application serves as a menu and shopping cart. There is also a kitchen queue application which is for the restaurant kitchen to view all the orders in the queue. The kitchen queue app provides the functionality for finishing the order.

The following are the main features which are provided by RFL:

- web
 - front end web site
 - menu – display for categories and items
 - shopping cart – provides way to collect and purchase items.
 - back end administration
 - create, update, and delete menu items with title, description, price, and picture.
 - supplies data
 - menu items and categories
 - to update the kitchen queue
- mobile phone customer app
 - menu
 - shopping cart – provides way to collect and purchase items.
 - displays estimated time of completion
 - notification of actual order completion
- mobile tablet customer app
 - same as mobile phone customer app
- mobile tablet restaurant app
 - displays list of orders not completed
 - displays order detail
 - order completed button – completes an order
 - displays list of orders completed
 - order not complete button – moves a completed order back to not complete status

Figure - Product Perspective



2.2 Product Functions

This product consists of a suite of applications which all provide interfaces into the system.

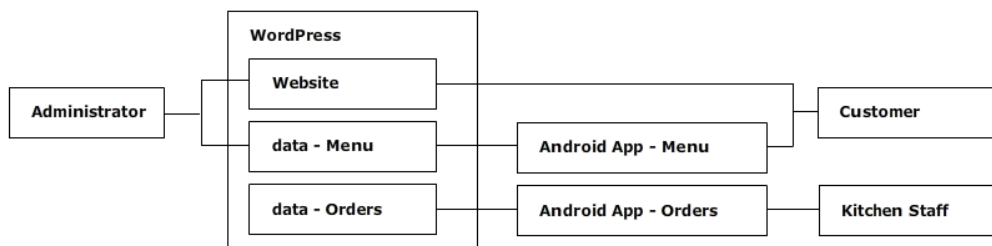
- web
 - front end web site - provide functionality for ordering menu items online
 - menu – functionality adding items to cart. Each item contains Title, Description, and Price
 - shopping cart – provides functionality for adding and removing items from an order. It includes functionality for passing that order information to a payment processor such as PayPal for payment.
 - back end administration
 - provides functionality for creating, updating, and deleting menu items
 - items include title, description, price, picture, estimated cook time, and cook time buffer.
 - Provides functionality for supplying data to the mobile applications
 - functionality for sending data for menu items and categories
 - functionality for sending data related to updating the kitchen queue
- mobile phone customer app
 - menu – provides functionality for displaying categories and menu items
 - shopping cart – provides functionality for adding and removing items from an order. It includes functionality for passing that order information to a payment processor such as PayPal for payment.
 - displays estimated time of completion – provides functionality for calculating and displaying count down timer
 - notification of actual order completion – provide functionality for notifying the customer that their order is ready for pickup
- mobile tablet customer app
 - same as mobile phone customer app
- mobile tablet restaurant app
 - displays list of orders not completed – provides functionality for displaying a table all of the orders entered in the system but not completed.
 - displays order detail – provides functionality for displaying individual order details. Order details would include: dine-in or take-out, time ordered, time promised, item title, item quantity, and special instructions.
 - order completed button – functionality for completing the order which would notify the customer that their order is ready for pickup.
 - displays list of completed orders for the day – functionality for displaying orders that were marked complete.
 - order not complete button – provides functionality for moving a completed order back to not complete status. Notifies the user of the status change and supplies a message.

2.3 User Characteristics

There are essentially three classes of users for RFL. They include are the administrator, kitchen staff, and customer.

1. Administrator
 - access to the administrative functionality through the wordpress admin
 - manages menu categories and items
2. Kitchen Staff
 - ability to view an order detail for both completed and not completed orders.
 - ability to mark a not completed order complete and vice versa.
3. Customer
 - can order from the shopping cart on the web site.
 - can order from the shopping cart on the mobile phone or tablet android app.
 - a customer can represent a customer or an employee that inputs on behalf of the customer (a cashier or waiter)

Figure - User Characteristics



2.4 General Constraints

General design/implementation constraints include:

- the software will run from a linux web server
- the web server will be an external host shared server hosting wordpress
- all web server code will be written with php as a wordpress plugin or theme
- the code for the Customer App will be written in Java for Android
- the code for the Kitchen Staff App will be written in Java for Android
- changes made in wordpress to the website menu will be reflected in the Customer Menu App
- Android code will be for phones and tablets running 4.0 and above.

2.5 Assumptions and Dependencies

- the web server will be running php on a linux os shared hosting environment
- the android app will be for phones and tablets running 4.0 and above

3. Specific Requirements

This section provides functional requirements of the system. It also gives a detailed description of all the systems features.

3.1 External Interface Requirements

This section provides details of all the inputs and outputs of the system. It gives basic prototypes of the user interface.

3.1.1 User Interfaces

There are 3 applications that make up this system and the interfaces are specific to the way those types of users will interact with the system.

1. Web Application interface
 - customer menu with shopping cart
 - administration of the menu items from the wordpress admin
2. Kitchen Staff Application interface
 - list of orders not completed with the ability to mark orders completed
 - list of orders completed with the ability to mark orders not completed
 - detail view of individual orders
3. Customer Application interface
 - customer menu with shopping cart

3.1.2 Hardware Interfaces

The applications do not have any designated hardware. The web application is to be run from a linux server environment with php and wordpress installed. It could also be run from a windows server environment with php and wordpress installed. The kitchen staff application does not require any hardware but could use a bluetooth thermal receipt printer if desired. The customer application does not require any hardware either other than the phone or tablet it is installed on.

3.1.3 Software Interfaces

The system is self-contained and does not require integration with any other software outside of the web application(wordpress), the kitchen staff application, and customer application. These applications integrate with each other. It is possible that a payment processing system such as PayPal may interface with the web application and the customer application but this is not required at this time.

3.1.4 Communications Interfaces

There is no communication with any other systems outside of the RFL system of applications. It is self-contained. Within the RFL system of applications, The web application communicates with the customer application and the kitchen staff application over https. It is possible that a payment processing system such as PayPal may communicate with the web application and the customer application but this is not required at this time.

3.2 Functional Requirements

This section includes the requirements that specify all the fundamental actions of the system.

3.2.1 Web Application

The web application is build around the wordpress content management system.

3.2.1.1 Create Category Item

A category item represents the name for a section of menu items. For example, Appetizers, Salads, Beverages, Chicken, Pasta, Seafood, Rib/Steaks, Burger/Sandwiches, Kids Menu, Healthy Options, Desserts, etc. Once a category item is created then menu items can be assigned to it.

3.2.1.2 Read Category Item

The category item is displayed on the web application menu. It is also used in the administration for menu items because menu items need to be part of a category.

3.2.1.3 Update Category Item

Saves any changes to a category item.

3.2.1.4 Delete Category Item

Removes a category item.

3.2.1.5 Create Menu Item

A menu item is an individual unit. A menu item contains a name, description, price, and estimated cook time. Each menu item is a child of a category.

3.2.1.6 Read Menu Item

The menu item is displayed on the web application menu as a child to a category. On the menu, the name, description, and price are displayed to everyone.

3.2.1.7 Update Menu Item

Saves any changes to a menu item.

3.2.1.8 Delete Menu Item

Removes a menu item.

3.2.1.9 Add Menu Item To Cart

Adds a menu item to the shopping cart.

3.2.1.10 Delete Menu Item from Cart

Remove a menu item from the shopping cart.

3.2.1.11 Update Quantity

Adding the same item to the shopping cart from the menu increments the quantity of items. It may also be updated from the cart.

3.2.1.12 Proceed to Checkout

The proceed to checkout button sends the customer to the payment processing gateway such as paypal.

3.2.2 Kitchen Staff Application

This application is an android application which is a list of the orders not complete and list of orders completed in the last 24 hours.

3.2.2.1 Display List of Orders Not Complete

List view of orders not complete.

3.2.2.2 Display List of Orders Completed

List view of orders completed in the last 24 hours.

3.2.2.3 Complete Order

Moves an order from the Orders Not Complete list to the Orders Complete.

3.2.2.4 Order Not Complete

Moves an order from the Orders Complete list to the Orders Not Complete list.

3.2.3 Customer Application

This application is an android application which shopping cart for menu items.

3.2.3.1 Add Menu Item To Cart

Adds a menu item to the shopping cart.

3.2.3.2 Delete Menu Item from Cart

Remove a menu item from the shopping cart.

3.2.3.3 Update Quantity

Adding the same item to the shopping cart from the menu increments the quantity of items. It may also be updated from the cart.

3.2.3.4 Proceed to Checkout

The proceed to checkout button sends the customer to the payment processing gateway such as paypal.

3.3 Non-Functional Requirements

There are no non-functional requirements at this time.

3.4 Design Constraints

There are no design constraints imposed by other standards, company policies, hardware limitations which will impact this application.

3.5 Logical Database Requirements

There are no database requirements outside of the mysql database that wordpress uses. Data will be part of the wordpress system using the wordpress api.

4. Change Management Process

If this SRS document requires an update, a new version of the SRS will be submitted by Joe DeLuca the lead applications developer on this project. It will be submitted to Dr. Salazar for approval through Blackboard Course Email with SRS attachment.