Software Requirements Specification

for

Jonesborough Farmer’s Market Sales System-Web Site

Version 1.0 approved

Prepared by: Jeff Amburgey

Joey LaGuardia

Michael Schneider

Andy Searles

David Leyden

Jacob Ferguson

Ryan Robeson

Software Systems Engineering – Group 1

December 1, 2013

Table of Contents

1. Introduction 4

1.1 Purpose 4

1.2 Document Conventions 4

1.3 Intended Audience and Reading Suggestions 4

1.4 Product Scope 4

1.5 References 5

2. Overall Description 5

2.1 Product Perspective 5

2.2 Product Functions 5

2.3 User Classes and Characteristics 5

2.4 Operating Environment 7

2.5 Design and Implementation Constraints 7

2.6 User Documentation 7

2.7 Assumptions and Dependencies 7

3. External Interface Requirements 8

3.1 User Interfaces 8

3.2 Hardware Interfaces 9

3.3 Software Interfaces 9

3.4 Communications Interfaces 9

4. System Features 10

4.1 Customer 10

4.2 Volunteer 16

4.3 Grower 20

4.4 Administrator 25

5. Other Nonfunctional Requirements 28

5.1 Performance Requirements 28

5.2 Safety Requirements 28

5.3 Security Requirements 29

5.4 Software Quality Attributes 29

5.5 Business Rules 29

6. Other Requirements 29

Revision History

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Date** | **Reason For Changes** | **Version** |
| SSE Group 1 | 12-1-13 | Update Functional Requirements | 2.0 |
| SSE Group 1 | 12-2-13 | Update Fonts and Formatting of Bullet Items | 2.0 |

# Introduction

## Purpose

The Jonesborough Famer’s Market needs to be able to sell vendor products online and in-store. In addition, they require a website that allows them to coordinate with volunteers, vendors, donors, and other farmer’s markets.

## Document Conventions

Each version of this document represents a full iteration and review of this SRS. Version 1.0 is the first full version of this document while version 2.0 would constitute a second full review of this document. Any minor version of this document ex. Version 1.3 represents minor changes to sections or subsections of this document.

## Intended Audience and Reading Suggestions

The intended audience for this document is the group of Stakeholders involved in the Jonesborough Farmer’s Market Sales System and Web Site development project. The main objective is to provide the details necessary for a group of software developers to build the software. This document will also provide important information for the project sponsors and represents an agreement between the development team and the sponsors with regard to the features to be included in the finished software product.

It is suggested that both groups (project developers and project sponsors) read the introductory sections (sections 1, 2, & 3) of this document in detail. The remaining sections are design details meant mainly for the developers. The project sponsors, however, should at least skim over these sections to get a high level understanding of each product feature.

## Product Scope

The Jonesborough Famer’s Market needs to be able to sell vendor products online and in-store. In addition, they require a website that allows them to coordinate with volunteers, vendors, donors, and other farmer’s markets.

The scope of the system specified by this document is a system designed to enable customers to view and place orders for available products, allow customers to register as members of the Farmer’s Market, allow registration of volunteers, allow administrators to collect data about volunteers, and allow potential product or service providers to apply for registration as vendors. This will be achieved through the use of a web-based application. The system will be stand-alone with regard to the Jonesborough Farmer’s Market, but will have links to other farmer’s markets. It will also include a data store and will interface with a Point of Sale system for payment processing. The system is not considered critical in terms of public safety or environmental concerns, but it will be crucial to the success of the Farmer’s Market by making products available to a wide customer base. The current system has 25 listed Growers\Vendors and 1300 documented Facebook fans.

The goals of the system are to allow the Jonesborough Farmer’s Market organization to serve and grow its customer base, elicit and grow its volunteer base, plus promote the products and services offered by the Jonesborough community.

## References

Please reference the following documents located in the same folder as this specification:

Jonesborough Farmers Market PID Version 1.0.docx, Problem Identification and Description document, Software Systems Engineering Group 1 (Fall 2013), 10-8-2013

Jonesborough Farmers Market TLR Version 2.0.docx, Top Level Requirements document, Software Systems Engineering Group 1 (Fall 2013), 12-1-2013

Jonesborough Farmers Market Use Case Descriptions Version 1.0.docx, Use Case Descriptions document, Software Systems Engineering Group 1 (Fall 2013), 12-1-2013

# Overall Description

## Product Perspective

The product to be developed is meant to be a replacement for the existing web site: jonesborough.locallygrown.net . It will interface with an external point of sale system. For more information relevant to the origin of this product, please refer to the Problem Identification and Description document. It is entitled **Jonesborough Farmers Market PID Version 1.0.docx** (see References section of this document).

To visualize the main components of the system along with functionality and interfaces, please refer to the System Level Diagram located in the System Definition section of the Top Level Requirements document. It is entitled **Jonesborough Farmers Market TLR Version2.0.docx** (see References section of this document).

## Product Functions

The major functions that the product must perform or let a user of the system perform, are based on the class of each user. The next section of this document (section 2.3) summarizes these major functions as they apply to each class of user. For additional information on product functions, please refer to sections 3 and 4 of this document and the System Level Diagram located in the System Definition section of the Top Level Requirements document **Jonesborough Farmers Market TLR Version 2.0.docx** (see References section of this document).

## User Classes and Characteristics

### Administrators

Administrators are market managers and other individuals familiar with the market, interacting with the sales system, and navigating the website. They perform the following functions:

* Assign security roles to users
* Manage products
* Manage dividends/benefits system
* Email users
* Update blog
* Create barcodes
* Schedule volunteers

### Growers and Vendors

Growers and vendors are members of the community that provide either produce or homemade products for sale. There will be a wide variance of computer skills among this class of user; some may have little or no experience navigating websites. When Growers and Vendors suffer, Customers also suffer, so it is critical to provide this class of user a satisfying user experience. Growers and Vendors perform these functions:

* Add products to inventory
* Set prices for his/her products

### Volunteers

Volunteers are members of the community who sign up to help with various aspects of the operation of the market. There will be a wide variance of computer skills among this class of user; some may have little or no experience navigating websites. Volunteers perform these functions:

* Register as a volunteer
* Update system inventory
* Create item barcode
* Scan an item’s barcode to add the item into inventory
* Scan an item’s barcode to sell the item out of inventory

### Donors

Donors are members of the community who support the market by offering to give money. There will be a wide variance of computer skills among this class of user; some may have little or no experience navigating websites. Donors perform these functions:

* Register as a donor
* Donate money

### Customers

Customers are members of the community that purchase either produce or homemade products. There will be a wide variance of computer skills among this class of user; some may have little or no experience navigating websites. Customers may or may not be registered users of the website. An active customer base creates business for Growers and Vendors, so it is important to keep this class of user satisfied. Customers perform these functions:

* View products
* Purchase products online for in-store pickup
* Purchase products at the store
* Add recipes to the website

## Operating Environment

All classes of user will interact with the Jonesborough Farmer’s Market Sales System through a web interface. The system shall support access via the following web browsers:

* Internet Explorer 9 (or later)
* Mozilla Firefox 15 (or later)
* Google Chrome 20 (or later)
* Apple Safari 4 (or later)

Other browsers, including mobile-based browsers, will not be tested and therefore will not officially be supported. No additional plugins (i.e., Adobe Flash, Oracle Java, etc.) shall be required to operate the system.

## Design and Implementation Constraints

The following constraints have been identified for the Jonesborough Farmer’s Market Sales System:

* The system shall support different authorization roles including: administrators, vendors, volunteers, donors, and customers.
* The system shall support the exchange of real world currency (primarily USD) for products.
* The system shall support sending email notifications.
* The system shall interface with a Point of Sale system.

## User Documentation

The following user documentation components shall be included with system delivery:

* Online walk-through
* Online manual and FAQ
* Video Tutorials

## Assumptions and Dependencies

### Assumptions

#### The term Customer is synonymous with the term User.

#### Any user of the system is a Customer.

#### A Customer may or may not have an account.

#### The term Authenticated means “logged in”.

#### The term Grower is synonymous with Vendor.

#### The term Product is synonymous with Item.

### Dependencies

#### The system shall be web-based.

#### The system shall be connected to an external Point of Sale system.

# External Interface Requirements

## User Interfaces

### Blog posts shall be written in Times New Roman font.

### Blog posts shall be formatted so that a text reader will be able to read the blog posts.

### All images on the website shall provide alternate texts.

### The website shall follow all usability practices that have been outlined by guidelines.usability.gov.

### The system shall present all information with color-blindness compliance.

### The system shall allow users to use the tab key to set through the inputs of any forms.

### The menu bar for the website shall be in the same location for all web pages.

### A common theme for fonts and color schemes shall be used for the entire website.

### All collapsible elements shall be clearly marked with the standard convention of a left pointing triangle <| or a right pointing triangle |>  for collapsed element and a downward pointing triangle https://lh4.googleusercontent.com/gRdlQahEEwScBAArbxyl5OvOLlivaWOL5eBkID1wBk0mf0Prcd2kvj-diOGIi_qkXSelJqxbCwK0x2YnCZxpuNkMumlysYH7Wj9hdGBqLQVkYjhqJcmDHntjMXf5mr3KM-M for uncollapsed elements.

### The link for the user account and the link to login/logout shall be located in the top right corner of the website.

### The system shall format the credit card expiration date, as part of the user’s billing information, to be mm/yyyy with mm being the month and yyyy being the year.

### All hyperlinks on the website shall be identifiable with bolded text, altered colored from surrounding text, and change the mouse pointer, when hovered on, from the normal select to the link select.

### The system shall refrain from using implicit user interaction, such as right-click for menu options or hotkeys.

### The system shall refrain from creating pop-up windows or new tabs for web content.

## Hardware Interfaces

### The system shall have a barcode scanner to be used in the store.

### The scanner shall interface with the checkout computer.

### The scanner shall be connected to the checkout computer using a USB cable.

### The checkout computer shall be able to interpret a barcode scanner as a product ID.

## Software Interfaces

### The system shall consist of two main software interfaces: a web interface and a point of sale interface.

### The web interface shall be browser based. It shall be accessible from anywhere on the internet.

### The point of sale interface shall be a software package installed only on computers used for store checkout. The point of sale interface shall interact only with the server to maintain inventory quantities.

## Communications Interfaces

### The web interface shall use HTTPS to ensure secure communication. Before logging on a message shall display warning the user not to log on over public Wi-Fi due to the existence of SSL strip. Data transfer rates will need to be fast enough to meet non-functional requirements.

### The point of sale system shall connect over the internet with the server. Encryption shall be used since a database will be updated with this connection. Inventory shall be updated and read by the point of sale system.

# System Features

## Customer

### Customer Account

##### User Interface

#### The system shall allow a customer to login when the customer submits his or her login credentials.

##### User Interface

##### 

##### A Customer will login with their email address and password

###### <email\_address> ::= 1{alpha\_numeric}30@1{alpha\_numeric | . }30. <alpha><alpha><alpha>

###### An email address must be RFC 2822 compliant.

###### <password> ::= 1{alpha\_numeric}12

##### User Interface

### Blog Posts & Webpage Information

#### The system shall allow a customer to view blog posts by visiting a blog page.

##### User Interface Design

##### Blog Page

###### A blog page is a webpage containing blog posts. A page’s content consists of blog posts, ordered by publication date with most recent post displayed first.

###### A blog page shall display ten blog posts at a time. Navigation options shall be provided at the bottom of a blog page to allow viewing older blog posts.

###### The ‘Home Page’, ‘Blog Page’, and ‘Frequently Asked Questions Page’ shall all be structured as blog pages.

##### Blog Post

###### A blog post is a piece of administrator-created content viewed from a blog page.

###### Title

<title> ::= 1{alpha\_numeric}20

###### Content

The content of the blog post. Content shall be html-formatted, so that additional media like pictures and video can be included.

<content> ::= 1{html\_valid\_chars}30000

###### Publication Date

The date/time when an administrator published this post. Automatically calculated.

<pub\_date> ::= <date\_time>

###### Author

<author> ::= <first\_name><whitespace><last\_name>

###### Keywords

A list of administrator-selected keywords which categorize the content of a blog post.

<keywords> ::= 1{keyword}10

#### The system shall allow a customer to search a blog page by keyword when the customer issues a blog page query.

##### The system shall allow a customer to enter a keyword search into a text box.

###### The search text box shall display default text, “Search by keyword”.

##### The system shall allow the user to view search results by pressing the search button.

##### Blog Search Results Page

##### A Blog Search Results Page is a blog page that only contains blog posts which include the customer-entered keyword.

###### The system shall compute and generate a blog search results page in less than two seconds.

###### The system shall compute the blog search results page as follows:

for each blogPost in blogPage

{

IF blogPost.keywords contains userKeyword

THEN add blogPost to blogSearchResultsPage

}

display blogSearchResultsPage

##### If the keyword is left blank, an empty blog search results page is displayed

#### The system shall allow a customer to view general information about the Jonesborough Farmer’s Market by accessing the home page, blog page, or Q & A page.

##### Home Page - User Interface Design

##### Frequently Asked Questions – User Interface

#### 

##### The system shall display these pages to customers who are and who are not logged-in.

##### These pages shall be classified as blog pages.

##### These pages shall be editable only by an administrator (see Requirement 4.1.2.1.3.1).

### Jonesborough Farmer’s Market Products

#### The system shall display available products when a customer issues the “display available products” command.

###### 

1.1.2

1.1.1

###### 

###### 4.1.3.3.1.3

###### 

.1.3.1

End If

###### 

###### 4.3.1.1

4.1.3.3.1.3

4.1.3.3.2.3

T

1.1.1

##### User Interface

## Volunteer

#### 

##### See requirement 4.4.2

warning

## Grower

#### User Interface

### 

###### and added to the system”

### The system shall allow a grower to create a product invoice when the grower issues a “create product invoice” command.

#### User Interface

#### A product invoice will include the products being sold, the quantity of each product being sold, and the date the grower will bring to the market the products being sold.

##### <product\_type> ::= 1{alpha\_numeric}25

##### <product\_quantity> ::= 1{numeric}100

##### <date\_to\_market> ::= <date>

#### The system shall allow a grower to confirm a product invoice before it is submitted.

##### If the product invoice is rejected by the grower, then the system shall delete the invoice.

##### If the product invoice is accepted then the system shall submit the invoice.

#### Activity Diagram

### The system shall allow a grower to view product invoice history when the grower issues a “view product invoice history” command.

#### User Interface

#### If the grower has never submitted a product invoice, the system shall display an error message.

##### <no\_invoices\_message> ::= “No product invoices have been submitted.

##### You have no product invoice history.”

#### Activity Diagram

### The system shall allow a grower to view his or her payment history when a grower issues a “view payment history” command.

#### If the grower has never received a payment, the system shall display an error message.

##### <no\_payments\_message> ::= “No payments have been received.

##### You have no payment history.”

#### Activity Diagram

## Administrator

#### User Interface

### The system shall allow administrators to schedule volunteers when an administrator issues the “schedule volunteers” command.

#### The system shall allow the Administrator to view volunteer schedules which consist of the volunteer’s name and date(s) scheduled.

##### <Volunteer Name>: <Last Name><space><First Name>

##### <Last\_Name> ::= 1(Alpha-Numeric Characters)25

##### <First Name> ::= 1(Alpha-Numeric Characters)25

##### <Date\_Scheduled> ::= <Date>

##### <Time\_Scheduled>:: <Time>

#### The system shall allow Administrators the ability to view volunteer availability.

##### Volunteer Name::= (see requirement 4.4.2.2.1)

##### Date(s) Available: <date>

#### The system shall allow Administrators to have the ability to enter volunteers’ schedule.

##### <volunteer\_name>::= (see requirement 4.4.2.2.1)

##### Pseudo Code

#### If first name left blank then

#### system display message “Please enter First Name”

#### Endif

### *If last name left blank then*

### *system shall display message “Please enter Last Name”*

### *Endif*

##### <Volunteer Schedule> ::= <date>+

##### The system shall save the Volunteer’s Schedule

#### C:\Users\Jacob\Desktop\22c Diagram.png Activity Diagram

# Other Nonfunctional Requirements

## Performance Requirements

### The system shall complete all user search requests and provide results within 5 seconds.

### When a user requests a password reset, the system shall reset the password within one hour.

### The system shall commit a user’s updates to his/her user account information within 3 seconds.

### When a user adds an item to his/her shopping cart, the system shall update the user’s shopping cart within 2 seconds.

### The system shall create a receipt for a completed checkout within 3 seconds of the transaction’s completion.

### The system shall update the total for the user’s cart within 3 seconds of any change made to the cart.

### The system shall complete a money transaction for a purchase or donation within 5 business days.

### The system shall update product inventory within 5 minutes of a product being added to inventory.

### The system shall update product inventory within 30 seconds of a product being removed from inventory.

### The system shall email a receipt to the customer within 1 minute of a transaction’s completion.

## Safety Requirements

The system was determined to be "non-critical", therefore no special Safety Requirements have been specified.

## Security Requirements

### The system shall allow the user to have 5 incorrect logins before locking the user’s account for 3 hours.

### The system shall hash and salt passwords as follows, SHA-224 ((first 6 characters of password) append (MD5 of username) append (remaining characters of password in reverse order)).

### The system shall parameterize all queries.

### The system shall validate all user input from checkboxes and buttons.

## Software Quality Attributes

### The system shall maintain 90% availability.

### The system shall have less than 5 mishandled transactions per year.

## Business Rules

### No Business Rules were deemed necessary for this project.

# Other Requirements

## No requirements other than the ones listed in previous sections have been identified.