eCommerce CMS Software Requirements Specification

Andrew Won

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Abstract

eCommerce CMS is a software solution for small business customers looking for an initial online presence. The eCommerce CMS application will offer both a web service for HTTP requests and sets of internet-accessible web pages served by that web service.

This Software Requirements Specification is intended to outline the necessary outcomes and performance specifications required for eCommerce CMS to be considered fully functional and deployable.

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CSCI	CSC	CSU
eCommerce CMS	Back-End	Persistent Data Store (Section 5.2.2)
	Back-End	Report/Proposal Generator (Section 5.2.3)
	Back-End	Front-End Generator (Sections 5.2.4 and 5.2.5)
	Back-End	Transaction Processor (Sections 5.2.6 and 5.2.7)
	User Front-End	Visual Web Page Editor (Section 5.2.9)
	User Front-End	Web Page Template Editor (Section 5.2.11)
	User Front-End	Inventory Input/Edit Form (Section 5.2.12)
	User Front-End	Report/Proposal Requestor (Sections 5.2.13 and 5.2.14)
	Customer Front-End	Proposal Specification Form (Section 5.2.16)
	Customer Front-End	Web Store (Sections 5.2.17 and 5.2.18)
	Customer Front-End	Purchasing/Transaction System (Sections 5.2.19, 5.2.20, and 5.2.21)

Table 1: CSCI, CSC, and CSU Hierarchy

5 Software Requirements Specification

5.1 Introduction

5.1.1 Identification

This Software Requirements Specification (SRS) documents the requirements for the small business utility web service and web site, called eCommerce CMS.

5.1.2 System Overview

The eCommerce CMS application will offer a Java-based web service which will allow for HTTP requests to qualified users. The Java-based service will also serve two sets of front-end web pages. Through the first set, small business users of the application can implement and manage an online business management and sales solution. Through the second set, customers of the small business will be able to interact with the small business either through making purchases on an eCommerce web site or through committing information required for generation of a proposal.

The eCommerce CMS application is the Computer Software Configuration Item (CSCI) and consists of three major Computer Software Components (CSC). The CSCI is broken down into the back-end CSC, the user front-end CSC, and the customer front-end CSC. Each respective CSC can further be broken down to several Computer Software Units (CSU). This document will specify some of the CSU's that are intended in table 1, but this list shall in no way bind or limit the number of CSU's that will be developed within eCommerce CMS.

5.1.3 Document Overview

This SRS is a minimized form of a typical SRS due to time constraints. The remainder of this document is structured as follows. Section 5.2 contains Functional Requirements, Section 5.3 contains Performance Requirements, and finally Section 5.4 contains Environmental Requirements. Following these Requirements sections there will be an appendix.

Table 2 defines key terms that are used within this document.

Term	Definition
Shall	A contractual obligation without which this software shall be considered incomplete.
Should	An optional provision offering guidance for functional requirements.
Will	An optional provision offering guidance for design requirements.
User	Small business owner, or agent thereof, intending to deploy a web service and corresponding web sites.
Customer	A customer of the small business owner who intends to use the web service or one of the web sites deployed by the user.
Application	The eCommerce CMS software suite outlined in this SRS.
Back-End	The web service offering HTTP endpoints and serving web sites
User Front-End	The collection of web sites that offer creation and management functionality to the user.
Customer Front-End	The collection of web sites customized by the user displaying a web store or data entry fields for proposal generation.

Table 2: Definitions used in this SRS.

5.2 Functional Requirements

The application will serve eCommerce web pages allowing inventory data to be manipulated and transacted with by the user and customer's, respectively. The user will have the ability to also manipulate the display of the customer's front-end.

The Functional Requirements section is segmented into subsections consisting of one functional requirement each. These subsections flow sequentially from back-end, to user front-end, and finally to customer front-end.

5.2.1 Functional Back-End Requirement 1

The back-end shall provide a URI contract with a set of HTTP endpoints to access web service functions for all functions offered by the web service when hit by an HTTP request.

5.2.2 Functional Back-End Requirement 2

The back-end shall provide a persistent data store with saved input data from the user and from customers to offer invoice, proposal, report, and web store content generation by the user.

5.2.3 Functional Back-End Requirement 3

The back-end shall provide an endpoint that generates either a report or a proposal based off of the selection and fields provided by the user in the body of the request.

5.2.4 Functional Back-End Requirement 4

The back-end shall provide a user front-end generator that deploys a set of documents written in standard HTML and allowing for management of the eCommerce site when deployed by the user.

5.2.5 Functional Back-End Requirement 5

The back-end shall provide a customer front-end generator that deploys a set of documents written in standard HTML with customization based on past user input when deployed by HTTP endpoint.

5.2.6 Functional Back-End Requirement 6

The back-end shall provide a transaction processor, or connection to a third-party transaction processor, to accept purchasing by customers when a customer completes a check-out process.

5.2.7 Functional Back-End Requirement 7

The back-end shall provide a transaction processor that logs data pertaining to either a sale of inventory or a generation of a proposal for use in report generation, as outlined in section 5.2.3, when a transaction is conducted.

5.2.8 Functional User Front-End Requirement 1

The user front-end shall provide all web pages in HTML to interact with the back-end when opened in a browser by a user.

5.2.9 Functional User Front-End Requirement 2

The user front-end shall provide a What-You-See-Is-What-You-Get (WYSIWYG) style editor to edit the layout and appearance of the customer front-end when saved and the customer front-end is re-deployed by the user, per Section 5.2.10.

5.2.10 Functional User Front-End Requirement 3

The user front-end shall provide a button to re-deploy the customer front-end adhering to saved customizations when clicked by the user.

5.2.11 Functional User Front-End Requirement 4

The user front-end shall provide a set of templates that can be deployed to full-scale customer front-ends with minimal input from the user when an option is chosen from the user front-end initial home screen.

5.2.12 Functional User Front-End Requirement 5

The user front-end shall provide an inventory management form where inventory data can be input or edited as necessary when the user inputs information and clicks a submit button.

5.2.13 Functional User Front-End Requirement 6

The user front-end shall provide a history of transaction details in the form of a customizable report when the user requests a report through a request page.

5.2.14 Functional User Front-End Requirement 7

The user front-end shall provide a document proposal generator that will take products or services in the inventory and aggregate them into a document template when requested by a user through a request page.

5.2.15 Functional Customer Front-End Requirement 1

The customer front-end shall provide all web pages in HTML to interact with the back-end and conduct transactions when opened in a browser by a customer.

5.2.16 Functional Customer Front-End Requirement 2

The customer front-end shall provide a proposal data submission form to transmit data that will be used in proposal generation by the user when a customer opens the form web page and submits the data by a form submission button.

5.2.17 Functional Customer Front-End Requirement 3

The customer front-end shall provide a web store with a product browsing page that will show key details about products while a customer is on a product browsing web page.

5.2.18 Functional Customer Front-End Requirement 4

The customer front-end shall provide a web store with a product detail viewing page that will show specific details about a single product while a customer is on that product's viewing page.

5.2.19 Functional Customer Front-End Requirement 5

The customer front-end shall provide an "Add to shopping cart" button on pages where products or services are displayed, see sections 5.2.17 and 5.2.18 for adding products to a shopping cart when the button is pushed.

5.2.20 Functional Customer Front-End Requirement 6

The customer front-end shall provide a persistent shopping cart where items added by the method described in section 5.2.20 will be stored and displayed when the customer goes to a checkout section.

5.2.21 Functional Customer Front-End Requirement 7

The customer front-end shall provide a "Checkout" button and web page dedicated to transacting sales of products in the shopping cart, see sections 5.2.17 and 5.2.18, that will be displayed when a customer presses a button navigating to the "Checkout" page.

5.2.22 Functional Customer Front-End Requirement 8

The customer front-end shall be displayed in the format specified by the user either through template selection or through customization through a WYSIWYG, see sections 5.2.9 and 5.2.11, upon navigation to the customer front-end pages.

5.3 Performance Requirements

5.3.1 Performance Requirement 1

The back-end shall respond to all front-end page requests through HTTP endpoints within 2 seconds in accordance with functional back-end requirement 5.2.1.

5.3.2 Performance Requirement 2

The back-end shall respond to requests for reports or proposals through HTTP endpoints within 10 seconds in accordance with functional back-end requirement 5.2.3 when a user triggers the process through the methods described in requirements 5.2.13 and 5.2.14.

5.3.3 Performance Requirement 3

The back-end's front-end generator shall respond to a re-deploy request by a user within 15 seconds in accordance with functional back-end requirement 5.2.5 when a user triggers the process through the methods described in requirement 5.2.10.

5.3.4 Performance Requirement 4

The back-end shall respond to requests to complete transactions within 5 seconds plus any additional time required by third-party vendors in accordance with functional back-end requirement 5.2.6 and completing logging of the transaction detailed in requirement 5.2.7.

5.3.5 Performance Requirement 5

The web pages of both the user and customer front-ends shall be displayed within 3 seconds in accordance with functional requirements 5.2.8 and 5.2.15.

Category	Requirement
JDK	1.5+
Hard Drive Space	250mb
Operating System	No requirement
RAM	512mb

Table 3: Server Requirements

Browser	Version
Google Chrome	All versions
Microsoft Internet Explorer	7.x+
Mozilla Firefox	3.7+
Apple Safari	5.x+

Table 4: Supported Browsers

5.4 Environment Requirements

5.4.1 Development Environment Requirements

The application is developed with Java 1.6+ with packages provided by Maven. There are no specific system requirements for the development of the application besides the ability to use Java and the packages provided by Maven.

5.4.2 Execution Environment Requirements

The back-end is served from a web server or from a hosting solution provider and is required to have the minimum specifications outlined in table 3. The server itself requires minimum hardware support, but does require an always-on network connection through which to serve the service and web pages. A Java Development Kit (JDK) of version 1.5 or newer is required to compile and package the Maven repository that will be used.

The front-end is served as web pages within supported web browsers, as listed in table 4. This does not constitue a complete list of supported web browsers, but is a brief list of web browsers that are guaranteed to be supported by the web sites.