

eCommerce CMS Software Requirements Specification

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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 (Sections 5.2.2 and 5.2.3)
	Back-End	Report/Proposal Generator (Sections 5.2.4 and 5.2.5)
	Back-End	Front-End Generator (Sections 5.2.6 and 5.2.7)
	Back-End	Transaction Processor (Sections 5.2.8 and 5.2.9)
	User Front-End	Visual Web Page Editor (Section 5.3.2)
	User Front-End	Web Page Template Editor (Section 5.3.4)
	User Front-End	Inventory Input/Edit Form (Section 5.3.5)
	User Front-End	Report/Proposal Requestor (Sections 5.3.6 and 5.3.7)
	Customer Front-End	Proposal Specification Form (Section 5.4.3)
	Customer Front-End	Web Store (Sections 5.4.4 and 5.4.5)
	Customer Front-End	Purchasing/Transaction System (Sections 5.4.6, 5.4.7, 5.4.8, 5.4.9, and 5.4.10)

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 Back-End (FBE) Requirements

The application will serve eCommerce web pages allowing inventory data to be manipulated and transacted with by the user and customers, respectively.

The Functional Back-End (FBE) Requirements section is segmented into subsections consisting of one functional back-end requirement each.

5.2.1 FBE 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 FBE Requirement 2

The back-end shall provide a persistent data store.

5.2.3 FBE Requirement 3

The back-end persistent data store shall hold any data input by either the user or by customers.

The back-end persistent data store will offer invoice, proposal, report, and web store content generation by the user.

5.2.4 FBE Requirement 4

The back-end shall provide an endpoint that generates a report based on the selection and fields provided by the user in the body of the request through the method outlined in section 5.3.8.

5.2.5 FBE Requirement 5

The back-end shall provide an endpoint that generates a proposal based on the selection and fields provided by the user in the body of the request through the method outlined in section 5.3.8.

5.2.6 FBE Requirement 6

The back-end shall provide a user front-end generator that deploys a set of documents written in standard HTML.

The front-end deployed by the back-end will allow for management of the eCommerce site when deployed by the user.

5.2.7 FBE Requirement 7

The back-end shall provide a customer front-end generator.

The customer front-end generator will deploy a set of documents written in standard HTML with customization based on past user input, by the methods outlined in section 5.3.2, when deployed by HTTP endpoint.

5.2.8 FBE Requirement 8

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.

5.2.9 FBE Requirement 9

The back-end shall provide a transaction processor.

The transaction processor will log data pertaining to either a sale of inventory or a generation of a proposal for use in report generation, as outlined in sections 5.2.4 and 5.2.5, when a transaction is conducted.

5.3 Functional User Front-End (FUFEE) Requirements

The User Front-End will provide inventory, web site, and report management functionality. The user will have the ability to add and edit products and services that are available to customers and to reports that are generated. The user will also manipulate the display of the customer's front-end through a user interface editor. The user will be able to edit the layout of reports and proposals generated by the application and to generate those documents upon request.

The Functional User Front-End (FUFEE) Requirements section is segmented into subsections consisting of one functional user front-end requirement each.

5.3.1 FUFEE Requirement 1

The user front-end shall provide all web pages in HTML.

The user front-end will allow users to interact with the back-end when opened in a browser by a user.

5.3.2 FUFEE Requirement 2

The user front-end shall provide a What-You-See-Is-What-You-Get (WYSIWYG) style editor.

The WYSIWYG style editor will allow a user to edit the layout and appearance of the customer front-end when the customer front-end is re-deployed by the user, per Section 5.3.3.

5.3.3 FUFEE 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.

5.3.4 FUFEE 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.

5.3.5 FUFEE Requirement 5

The user front-end shall provide an inventory management form.

The inventory management form will allow users to input or edit inventory data as necessary when the user inputs information and clicks a submit button.

5.3.6 FUFEE Requirement 6

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

The history of transaction details will be in the form of a customizable report.

5.3.7 FUFEE Requirement 7

The user front-end shall provide a document proposal generator.

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

5.3.8 FUFE Requirement 8

The user front-end document proposal generator shall provide user selection to select output generation

5.4 Functional Customer Front-End (FCFE) Requirements

The Customer Front-End will provide access to the e-store customized by the user and provide the ability to purchase or request inventory. The customer will be able to setup an account, browse inventory, browse other web sites generated by the user, and to purchase through a third-party payment processor.

The Functional Customer Front-End (FCFE) Requirements section is segmented into sub-sections consisting of one functional customer front-end requirement each.

5.4.1 FCFE Requirement 1

The customer front-end shall provide all web pages in HTML.

5.4.2 FCFE Requirement 2

The customer front-end shall allow customers to interact with the back-end and conduct transactions when opened in a browser by a customer.

5.4.3 FCFE Requirement 3

The customer front-end shall provide a proposal data submission form.

The data submission form will 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.

5.4.4 FCFE Requirement 4

The customer front-end shall provide a web store with a product browsing page.

The product browsing page(s) will show key details about products.

5.4.5 FCFE Requirement 5

The customer front-end shall provide a web store with a set of product detail viewing pages.

Any one product detail viewing page will show specific details about a single product while a customer is on that page.

5.4.6 FCFE Requirement 6

The customer front-end shall provide an “Add to shopping cart” button on pages where products or services are displayed, see sections 5.4.4 and 5.4.5.

5.4.7 FCFE Requirement 7

The customer front-end shall provide a persistent shopping cart.

5.4.8 FCFE Requirement 8

The customer front-end’s persistent shopping cart shall take items added by the method described in section 5.4.6.

The persistent shopping cart will store added items and display them when the customer goes to a checkout section.

5.4.9 FCFE Requirement 9

The customer front-end shall provide a “Checkout” button that takes customers to a web page dedicated to transacting sales of products; see section 5.4.10

5.4.10 FCFE Requirement 10

The customer front-end shall provide a web page dedicated to transacting sales of products in the shopping cart; see section 5.4.8.

The customer front-end’s page dedicated to transacting sales of products will be displayed when a customer presses a button navigating to the “Checkout” page, by the method specified in section 5.4.9.

5.4.11 FCFE Requirement 11

The customer front-end shall be displayed in the format specified by the user.

The user will specify the format of the customer front-end either through template selection or through customization through a WYSIWYG, see sections 5.3.2 and 5.3.4.

5.5 Performance Requirements

5.5.1 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.

5.5.2 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 requirements 5.2.4 and 5.2.5 when a user triggers the process through the methods described in requirements 5.3.6 and 5.3.7.

5.5.3 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 5.2.7 when a user triggers the process through the methods described in requirement 5.3.3.

5.5.4 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 5.2.8 and completing logging of the transaction detailed in requirement 5.2.9.

5.5.5 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 5.3.1 and 5.4.1.

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

5.6 Environment Requirements

5.6.1 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.

5.6.2 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 constitute 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.