Requirements Document

Best SENG Painting Company (BSPC) Mobile Ordering System

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Contents

Revision History

Name	Date	Reason for Changes	Version
Requirements Document	September 26th, 2018		1.0

1 Introduction

1.1 Purpose

This is the initial release of the Requirements Document for the Best SENG Painting Company Mobile Ordering System project (hereafter known as the Mobile Ordering System).
The following is a response to the Request for Proposals (RFP) offered by the Best SENG Painting Company (hereby referred to as BSPC). They are searching for a mobile-based software system to replace the current ordering system. The following document details the requirements of the overall system, its features, external interface, and non functional features as per the RFP and the initial elicitation interview with the client.

old systems not being replaced fully. no end of life for old systems. old systems can still be used.

1.2 Project Scope

The new system, the Mobile Ordering System, will replace the existing email and text ordering methods and provide customers of the BSPC with an additional method to purchase paints and other paint paraphernalia. The existing system is inefficient and requires too much employee time. Replacing the existing system with the new system will allow staff and customers to fully utilize the paint selection and ordering process that the company is known for. The new system should improve upon some aspects of the existing system and replace others. The app shouldn't outright replace the old methods but coexist, as there is the odd customer who still utilizes the old methods, and may not have a smartphone that can allow apps.

The new system will be used primarily by both individual customers with small orders (for example, those painting their own homes), and contractors with larger orders (for example, those purchasing a large number of the same paint). The new system will also be used by employees of BSPC, who will be responsible for processing and completing the orders (for example, mixing paints, gathering ordered materials and preparing them for pickup, etc) that were received from the system.

The new system must:
- Allow customers to order with ease and speed
- Increase the number of orders made by customers, resulting in increased revenue (This is a marketing concern and does not fall within the parameters of this document.)
- Reduce the amount of manual input (inputting received orders) needed by employees, allowing employees to be more efficient
- Allow employees to have access to customer's detailed past and frequent order and purchases Employees should not have to look through customer orders via the app, as all sales will be input into the actual point of sale system, however customers should be able to view their past mobile orders, that way both parties can view information in manners that they are used to (employees via POS and customers via app)

1.3 Glossary of Terms

Back end system: The server that receives and processes incoming orders, stores data for the company and generates output including pick slips and barcodes.

DDos: Denial of service attacks ? its not used anywhere else in the document

Challenge-response test: A family of protocols to verify that the user is not a robot

Cart: A list of products the user has selected for purchase.

Customer : A customer and user referenced but actually the same. The intended users/customers are contractors and large retail organization. The first sentence needs to be clearer.

Must: Mandatory feature that needs be incorporated into BSPC system.

User profiles: Information that the system stores about users.

Pick System: The system used by staff to track orders; generates pick slips.

Pick Slips: A slip containing order information.

Point of Sales system: System currently used to track sales and make payments.

Product: Any item sold in store.

Staff: People completing pick orders and consultations in store.

Should: Not mandatory behaviour, but highly desirable.

1.4 References

IEEE Software Requirements Specification Template: used for guidelines for requirements document.

1.5 Overview

The next sections provide information on:
- The problem domain and features of the Mobile Ordering System, including the major users of the system, design considerations, assumptions, and constraints
- Major system features, including search functionality, product recommendation, and color matching
- External interfaces the Mobile Ordering System will be required to work with
- Additional non-functional or other requirements

2 Overall Description

2.1 Product Perspective

The product will be a mobile ordering system. The existing methods of purchasing any items is to place an order via email, phone, text message or in person. Each order is inputted to the pick system which generates a pick slip, and an employee uses that pick slip to process the order. The new system should replace (System is not replacing the old one, it's alongside it.) the email and text ordering methods, but the pick slip format must remain the same and the pick slip system must remain in operation.

2.2 Product Features

Primary Features:
- Each customer must be able to order items via mobile phone. already a normal part of the store, not a feature
- Each customer must be able to obtain automated item selection guidance. Item selection guidance should accommodate a varying degree of customer knowledge.
- Customer creating a mobile order must have the option to use an item ID to add an item to their cart.
- Each customer must be able to access their previously placed orders and add any items from previous orders to their cart.
- Each customer that places an order must be provided with an estimated time until the order can be filled.
- Each customer can access detailed specifications of each item.
- Each employee must be able to view and edit each customer's order to ensure order legitimacy, availability of items, and correctness of item selection prior to order confirmation. employee editing orders is out of scope. It is not in the desired system, and happens after the point of sale
- After order confirmation, a pick slip must be generated and printed automatically.
- Data entry into the existing Point of Sales system must be streamlined.
- There must exist a method of alerting employees when each mobile order is placed.

Secondary (Non-Required) Features:
- Each customer should have a method of matching colors of owning items with items at BSPC
  Not sure what this sentence means. Cannot interpret

2.3 User Classes and Characteristics

2.3.1 Customer

The customer user class includes people who purchase paint for personal use and need guidance to select the paint they need.

2.3.2 Contractor

The contractor user class includes people who purchase paint on a regular basis and likely know the specific paint, paint type or product number.

2.3.3 Returning Customer Why is this a different class?

The returning customer user class includes any customer that has previously made one or more mobile

orders.

2.3.4 Employee

The employee user class includes any person currently working at BSPC.

2.4 Operating Environment

The Mobile Ordering System is to be run on mobile phones (both iPhone and Android) purchased from 2010 onward. Nothing about the employee end

2.5 Design and Implementation Constraints

- To accommodate a variety of phone-user skill sets, the mobile ordering procedure should have an intuitive interface without a steep learning curve.
- There must be an interface between the Mobile Ordering System and the existing pick-slip generation system as described above in 2.2 Product Features.
- Phone and in person ordering method must not be disrupted. Ambiguous. What does this mean?

2.6 Assumptions and dependencies

- Users can read and write in English. and in French.
- Users have internet access on their devices.

3 System Features

missing feature - choose which store to pickup from
also fix your indentation *please*

3.1 Search function

3.1.1 Description and Priority

The search function should allow users who know what they want to search for specific items. As a large portion of the user-base is expected to be returning customers, this is considered an important part of the app and is given high priority

very solutionary!!!!!!!!

3.1.2 Functional Requirements

- The search function should be immediately accessible upon signing into the Mobile Ordering System.
- The search function should accept a variety of inputs, including item number, brand name, keywords (eg: 'glossy'), desired item features (eg: weather-resistant), and item names (eg: ladder, roller handles).
- Failure to recognize a search term should produce a message indicating that the term was not recognized, and suggest a list of popular products.

say most common?

3.2 Product Recommendation System

3.2.1 Description and Priority

The product recommendation feature should elicit the user's needs, and recommend an item based on the information gathered. This is a high priority feature of the system as per BSPC request, and is expected to parallel the elicitation system used by associates in-store.

3.2.2 Functional Requirements

- The item recommendation feature should give the user the opportunity to define their paint needs (eg: outdoor/indoor?) with respect to a variety of categories, and be presented with a recommendation upon completion.
- The item recommendation feature should be displayed prominently on the landing page of the mobile ordering system - with the expectation that first-time customers will naturally begin by using it - but the item recommendation feature should also be easily bypassed by returning customers.
- In situations where multiple items may fit a user's needs, the recommendation page should present a top choice and alternatives, and explain the differences between each. Should have a comparison feature too.

3.3 Color Matching

3.3.1 Description and Priority

The color matching feature could utilize a user's phone camera to photograph a surface next to a color swatch for the purposes of color matching a paint. Color matching is considered a "nice-to-have" feature that may be outside of the scope of this project, and is a low priority.

3.3.2 Functional Requirements

- The color-matching feature must work with a wide variety of phones, with cameras/flashes of differing specifications
- It absolutely must match the photographed color accurately. If accurate matching proves impossible or unreliable, it is preferable that this feature not be offered. It should match the colour, but most of the time comes down to customer acceptance, most customers prefer a close, but not perfect match as lighting plays a huge effect.
- It can be assumed the the user of this feature has acquired a color swatch from the store at a previous visit.

This can not be assumed. They just should have a reference to take care of camera variance. also 'the the'

3.4 Order History

3.4.1 Description and Priority

Returning customers should be able to easily view their past orders, and use them as a basis for creating new orders. As a large portion of the user base will be repeat business in the form of contractors, this is given high priority.

- A link to view past orders should be available immediately upon signing into the

Mobile Ordering System.
- A past order must be easily duplicated, or re-submitted with minor edits to save time for repeat customers who have recurring paint needs.
- For new customers, this feature should be clearly disabled, or not visible at all. Not a requirement. If it's not visible, customers may not know it exists

3.5 Products Catalogue

3.5.1 Description and Priority

This feature allows the user to browse items offered by the store, and view information specific to each item examined. This is a mid level priority feature. This is high priority

3.5.2 Functional Requirements

- The item catalog should include all items provided by the paint store.
  all paints, not all items due to different stores having different sundries
- The item catalog should be easy to browse, and include a filtering system to allow a user to narrow the list of items they see listed.
- As an optional "nice-to-have" enhancement, the store's real-time inventory could be accessed by the item catalog, allowing users to check current availability of the item(s) they are browsing. This should not be added. Requires to much work for the employee to keep inventory up to date. Any out of stock merchandise can be restocked before a client pickups up their order.
- A user should be able to easily add an item from the item catalog to an existing order, and/or begin a new order containing the selected item.
- The item catalog should be maintained/edited/updated by store manager/owner. This is too much from a store level, so it should be up to head office.

3.6 Featured Products Section

3.6.1 Description and Priority

This feature would ambiguous allow the store to market items that are on-sale or featured in some way or another. Given that the app is intended to be a functional tool more than a promotional tool, this feature is considered "nice-to-have" and awarded low priority.

3.6.2 Functional Requirements

- Allow the store owner/manager to promote certain item through the Mobile Ordering System. More of a upper level head office change than lower level manager/store
- Noticeable space must be allocated on the Mobile Ordering System landing page to draw the user's attention.

3.7 Wait time estimator

3.7.1 Description and Priority

Upon placing an order, the user should be presented with an   estimate on when the order will be ready for pickup. This is a medium priority.

3.7.2 Functional Requirements

- After an order is placed, the Mobile Ordering Service should (conservatively) produce an estimate as to when the order will be ready for pickup.
- The criteria for determining wait time is yet to be determined, but may be based on order size, existence of other orders currently being handled, and/or a response from an associate at the store.

4 External Interface Requirements

4.1 User Interfaces

The Mobile Ordering System must have the following user interface characteristics to satisfy overall user experience:

- Simplicity: No unnecessary elements (functions) to confuse the users. Logical and concise interface
- Clarity: Buttons and functions that have clear meaning to avoid confusion and prevent users from pressing wrong buttons. Clear communication for easy navigation
- Familiarity: Intuitive interface for users to naturally understand the functions
- Consistency: Building usage patterns to increase the user experience and efficiency

- Efficiency: Allowing users to perform tasks with speed and ease   what speed?

- Responsiveness: Providing short and concise error messages when the user attempts an invalid action

The buttons and functions that will be used most frequently must be on every screen for easy access. These include: profile, help, search, settings, order, and notification/ alert. And the screen layout of all the necessary buttons and functions should be consistent with the screen layout of any device the company plans to use (e.g a computer), to increase familiarity and efficiency. What does any of this mean? Also wasn't it specified earlier in the RD that this is a mobile app; if so why does this need to be optimized for a computer?

4.2 Hardware Interfaces

The system will run on smartphones up to eight years old.
The back end system will integrate with the existing Point of Sale system and pick system.

4.3 Software Interfaces

what database?

The database should have accessible information of the items the BSPC carries and as well as the registered customer or business company information, such as name, phone number, and email. Along with the customer information, the data regarding their current, past, and frequent orders must be accessible as well.
The Mobile Ordering System must include both IOS and Android operating systems. The operating systems for older devices (e.g. iPhone 4) must be available as well for the customers that own older model devices.
The current existing system uses a Point of Sale system to create orders. The Mobile Ordering System

must be implemented with the Point of Sale system at the request of the BSPC. The mobile ordering system should utilize a printer to print a pick slip that a worker then uses to input the sale information into the POS.

4.4 Communications Interfaces

Some communications interface the Mobile Ordering System should have are phone calls and email. The phone calls and email option will allow customers to reach out to the company for any questions and concerns. However, phone call option must be the only other option for placing an order other than using the Mobile Ordering System.

There must be an electronic form, a questionnaire, for the customers to fill out to best narrow down the paint they are searching for. (grammar. use of comma)

5 Other Non Functional Requirements

5.1 Performance Requirements

Paint order placements must be made in real time to ensure that employees are able to receive and confirm the order as quickly as possible. Changes to paint orders by staff must happen in real time. Stock updates should be made in real time to avoid customers ordering paint that is unavailable.

(The stock information update is not high priority. if customers order something currently out of stock, we just need to give them a longer estimate time for the employee to get ready. Customer can still place something out of stock. the word 'Avoid' is not accurate.)

5.2 Security Requirements

The Mobile Ordering System must keep all user data private according to user data legislation by the Government of Canada. Customers must not have access to employees side features such as employees ability to view and edit orders. Customers have access to any previous paint order they have made. The Mobile Ordering System should have a challenge-response authentication test to avoid robots What robots? from overloading the Mobile Ordering System with paint orders.

5.3 Software Quality Attributes

Availability

The customers must be able to place paint orders 24 hours a day. Paint order confirmation and processing must be only be available to staff 24 hours a day. Editing paint orders must be only available to employees at the company.
Orders can be made 24 hours a day but employees don't work 24 hours a day. if placed after hours, roll over to next day morning.

Reusability

Customers must be able to reuse past order barcodes to automatically fill out order requirements. employees must be-able to view and confirm the correctness of the paint orders before they are printed off as a pink slip. Customers accounts must always be reusable. Customers must be able to easily reuse order barcodes to from previous purchases when they want to place a new paint order. Customers should not be able to use barcodes. Workers use the barcodes to scan the item upon pickup, to ring-up the total cost. Customers should be able to view previous orders within the system, not requiring a barcode.

Robustness

An average of 2 000 should be 5000 an hour paint orders per hour must be feasible. As well as, an

average of 100 000 Shouldn't matter how many people are using the app registered client concurrent users should be able to use the system at once - the total number of concurrent users will be scalable over time. The Mobile Ordering System must be integrable with Best Seng Painters Company's API they are using on their current software system.

Interpretability

Non-technology savvy customers must be able to easily place a paint order. Employee must be able to easily comprehend the paint order so that edits to the order can be quickly made before the pick slip is printed.
replace savvy with experienced?
Pick slip is printed after the order is placed via the mobile ordering system, the employee then double checks the pick slip for inaccuracies before inputting the order into the stores POS system.

Useability

Customers must be able to easily use their mobile devices to place orders. Employees must be able to use the paint order pick slip to complete the order at there paint store.

Maintainability

The system must be easily maintainable. To ensure maintainability the system should implement the MVC architecture model to ensure easy testability and maintainability with other smaller IT departments that might up-keep the system after the contract with BSPC as expired. (Sentence is hard to follow. It's a bit of a run on) As well, the ability to easily assign and create user roles. Sentence fragment, what does this relate to?