Software Requirements Specification

for

Build-My-Bot

Version 1.0 approved

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Table of Contents

Revision History

Name	Date	Reason For Changes	Version

1.Introduction

1.1 Purpose

Build-My-Bot is an online retailer of robots and machine parts which has a significant web presence and are looking to enhance the ordering experience for their customers. To achieve this objective, they are looking to improve their existing system to limit the downtime of their e-store as well as decrease the weekly scheduled maintenance period. By extending the list of payment methods on their e-portal, the company aims to attract even larger customer base. The new system should also attain the goal of providing more information about the products available for sale as well as enable package tracking for the orders placed, this would help in building trust amongst new customers and help them precisely define their requirements and expectations from the product. For the employees, the new system aims to improve the collaboration of information between various departments within the company to achieve a more integrated work environment and reduce redundancy of work.

1.2 Justification

Although the old system has an interface which is easy to browse and administer, it misses out on a bunch of essential features like order tracking, user login and preference tracking, diverse payment options as well as an interactive and user centric environment which is restricting the full potential of products and services that the company has to offer. With the introduction of the new system, BMB aims to fix the shortcomings and endorse more automation within the new system through must have capabilities such as scheduled alerts and reports, chat help support, automatically generate sales reports to monitor purchases and a shared relational database which is refreshed with every purchase, BMB thrives to enhance their company operations and reform processes involved in execution of tasks within the company.

1.3 Parameters of the Software

The new system will improve all the issues mentioned in the section above and allow BMB to build a more interactive user community within their portal and motivate more customers to share their experiences with the products by posting images and videos on the portal. Introducing a new and exhaustive database to support the new system will enable customers to login into their accounts, store the details of their product preferences, their saved card details, track their individual orders from dispatch to delivery and even get the option to subscribe to certain products for up to 12 months. Although the new system will provide multiple essential features to the customers and the employees, at the same time, the new system will also carry forward some features from the old system such as the user interface which is easy to browse

and administer by employees and customers of all ages irrespective of their proficiency level with technology.

and moreover, which will work as feedback to the product team to improve the shortcomings and modify their products according to customer requirements as well as inspire new ideas for product development.

1.4 Document Conventions

Terms	Explanation
Company	Build-My-Bot
Teams	All the teams of the Kayo Consulting company that are working on the BMB case
Users/Customers	The customers/end users of BMB products
System	The system term is used to refer to the new software being developed and all its related tools
Project	This refers to the project of developing a new system

1.4   References

Serial Number	References	Referred to
1.	https://www.bmc.com/blogs/software-requirements-specification-how-to-write-srs-with-examples/ Links to an external site.	Section 1.2
2.	https://www.radford.edu/softeng06/SoftwareRequirements.doc Links to an external site.	Section 3.2
3.	https://www.vast.uccs.edu/~tboult/SE/DOCS/srs.doc Links to an external site.	Section 2.5
4.	https://www.reqview.com/papers/ReqView-Example_Software_Requirements_Specification_SRS_Document.pdf Links to an external site.	Section 1.5
5.	https://exinfm.com/training/M2C3/srs_template.doc	Section 4

2.   Overall Description

2.1   Product Perspective

The system is an entirely new product which will be built from scratch, wherein the new features defined in the scope would be developed alongside incorporation of interfaces from the previous systems to maintain an experience of familiarity amongst the users. This system by interacting with various tools that are already being used by different departments within the company will provide cloud capabilities and is intended to deliver flawless data transition and data storage capabilities to the Warehouse for maintaining inventory, the accounting department to process sales tax for all territories and several other departments within the company.

2.2   Product Functions

Some of the major product functions include:

For the customers:
- Better visibility of actual product through multiple images and detailed description.
- Individual customer accounts with stored preferences and payment information.
- Faster query resolution through interaction with the community of similar users as well as excellent tech and customer support executives.
- Option to order different parts as a kit.

For the employees:
- Administrative access to the backend of the portal.
- Chat bot to answer frequently asked customer queries.
- Integration with different tools to share information
- Easier maintenance of the system.
- Automatically generate sales reports and dashboards from the customer sale/purchase data.

2.3   User Classes and Characteristics

<Identify the various user classes that you anticipate will use this product. User classes may be differentiated based on frequency of use, subset of product functions used, technical expertise, security or privilege levels, educational level, or experience. Describe the pertinent characteristics of each user class. Certain requirements may pertain only to certain user classes. Distinguish the most important user classes for this product from those who are less important to satisfy.>

The description of various product user classes based on product functions include:

- Customers: The customer class upon login into the system shall be able to access their purchase and personal records, product listings, payment gateway as well as post feedbacks and images of products to the user community
- Executive Office: This user class will have access to reports and databases to develop an understanding of the business function.
- Accounting and Finance Dept: Use the system to declare and file taxes and ensure finance reports are generated by taking each order into account.
- Marketing Dept: They will require access to customer feedbacks, images as well as suggestions to improve their marketing pitch and design campaigns highlighting the user requirements that their products suffice.
- Customer Support: Must be able to update the help features and tutorials and provide quick resolution to customer queries through AI chat bot.
- Product Development and Design Team: They need to edit the backend, frontend, UI/UX and also make database related changes to the portal.
- Manufacturing and Warehouse: Tracking of product from the assembly line to customer's house and access to the built-in inventory management features.

2.4   Operating Environment

All the features to be operated by the company employees should run on both MACs and Windows. Whereas accessibility for the customer used features should extend to iOS and Android devices as well. To support inventory management and report generation, the system should be able to interact effortlessly with MS Office tools. To enable end-to-end product

tracking, support for GPS applications such as Apple Maps and Google Maps needs to be built in.

2.5   Design and Implementation Constraints

Design constraints are evident to occur while trying to achieve the balance between providing accessibility to all available features at hands and keeping the interface simple and interactive. All the text information on the portal should be available in both English and Spanish. The system needs to interact well with the other existing tools that are used by various departments to perform their tasks. The essential feature on the system should be developed with ADA compliance. Database schema should provide option to upload multiple images should be available to users as well as company employees. All the system servers must be located inside of USA.

2.6   User Documentation

After implementation of the system, training sessions for each department with proper demonstration of all features will be provided by our teams. Detailed user documentation containing standard operational procedure (SOP) for features as well as guide on basic system maintenance shall be made available. The pages on the portal will have help bots and tutorials to perform tasks such as searching for products, making kits out of individual parts, completing order.

2.7   Assumptions and Dependencies

The functioning of some features in the system are dependent on contracts and support from third party companies. The new system is assumed to work on the existing versions of machines installed in the company office as well as those used by customers. Dependency on customers to post the images of their creation directly on the portal which would then have to be approved by company employees due to lack of a system-built image filter to remove irrelevant images on upload. If the company requirements change within the project duration, it would require changes and reevaluation of certain parameters of the project.

3.   External Interface Requirements

3.1 User Interfaces

The system screens will have APIs to connect with the several tools and applications used by accounting department, warehouse, and customer support. The end user screen in the new system portal will derive characteristics from the old system for the design of the interface, making it easier to use and interact. It will provide personalized product suggestions to the returning users and mention active subscriptions for the user. For the system admins, the option to import and export reports and browse statistical data about user logins and order summary.

3.2 Hardware Interfaces

The mobile web pages must be designed to take inputs from the devices and grant access to all features on mobile screens. The system must be able to transfer and exchange information with the MAC or Windows operating system.

3.3 Software Interfaces

The system will communicate with various software tools such as Quickbooks and ZipBooks, for handling taxes and financial documents, the system will use cloud storage integration with the database management systems such as AWS cloud servers and use SQL APIs to import data from the existing system.

3.4 Communications Interfaces

Several protocols will be required to perform set of tasks within the system. For e.g. File Transfer Protocol (FTP) to transfer files to and from the cloud and APIs. Transmission Control Protocol to allow customers to connect securely to the portal. Internet Protocol Security(IPsec) to encrypt payment details entered on the checkout page by the customer. SMTP mail transfer protocol to send out campaign details to customers through emails. Duo authentication to secure login for company employees on the portal.

4. System Features

4.1   Add products to cart

Users must be able to browse through items available, add them to cart as individuals or as kits, select delivery location and get a prompt to make payment. This task is an essential feature on the portal and hence is of **High Priority.**

4.1.2   Stimulus/Response Sequences

The user after logging into the system will browse through images and details of several products, after selecting the products of his choice and adding them to cart, he will enter the preferred mode and address of delivery. They will then be prompted to make a payment on the next page.

4.1.3   Functional Requirements

REQ-1: The user must be logged into the system.
REQ-2: The servers must be up and responding and not swamped with queries or under maintenance.

4.2   **Make Payment**

4.2.1   Description and Priority

To place an order, the user needs to make a transaction by going through the payment gateway. As it is an essential task for placing an order it is a **High Priority** task.

4.2.2   Stimulus/Response Sequences

After completing the order details and selecting a payment option, the customer should be prompted to the payment gateway depending on the mode of payment that they have selected. After they complete the payment, the order tracking details should be available to them.

4.2.3   Functional Requirements

REQ-1:   The customer must have added all the products into the cart.
REQ-2:   The selected mode of payment must be online and connected to the server.

REQ-3:   The user must have enough balance to complete the transaction.

4.3   Analyze inventory and sales Reports

4.3.1   Description and Priority

The Executives analyze the auto generated reports and dashboards based on information from inventory management system and sale/purchase data to make business decisions and decisions related to products.

4.3.2   Stimulus/Response Sequences

On logging in as an administrator of the system, the executives can select to view, edit, and analyze the reports and use various visualization tools to generate valuable insights from the reports.

4.3.3   Functional Requirements

REQ-1: Reports must include latest data to avoid decisions based on stale information.
REQ-2: The manager must be logged into the system.

5.   Other Nonfunctional Requirements

5.1   Performance Requirements

The system should be connected to all the third-party servers while they are being operated and provide fast exchange of data between various applications. The data present across the website should be consistent amongst all pages as well as with the data on third party applications. The load distribution amongst the servers must be balanced to provide quick query executions. If the systems are run in a parallel mode for some time, the exchange of information between both systems must not have lag or performance drops. The first phase of system that is implemented must have all the high priority features mentioned under the scope.

5.2   Security Requirements

The database should have security measures to avoid SQL injection attacks. The data being stored must be encrypted to avoid piracy. The website must provide secure connection to the users. The executives must have to authorize through Duo to complete login. The servers must be available only in USA. The company must comply with government policies and standards for products listed on the portal. The proprietary intellectual property related to the system must be stored safely to avoid theft.

5.2   Compatibility

The system must provide compatibility with Android and iOS devices for user access and must operate on Windows and MAC systems for admin operation.

5.4   Software Quality Attributes

The system must use high quality software and hardware to meet the client demands of shorter periods of maintenance and minimum downtime and be available to users. The system should be able to adapt with changes in company requirements over time. In terms of usability, the system should be fast and easy to operate. The end-to-end process of ordering a product must be quick, simple and intuitive for the user.

5.5   Business Rules

The administrative rights and access to reports must be restricted to accounts having root permissions on the system. The admins must respect the privacy of user data and follow CPA regulations to deal with consumer data. The users must be able to upload images to the portal with supported file extensions. The system must comply with ADA guidelines. The delivery of system must comply with the deadline period and within budget approved by project sponsor.

5.6   Other Requirements

The database supporting the project must be relational to maintain integrity of highest level and provide transactional capabilities for inventory management and ACID compliance. As all the

servers are in USA, the search queries of international clients must be routed through secondary servers to distribute load.

User Documentation

To understand and maintain the system, the aforementioned documentation and training would be provided by Kayo.

Training modules	In-person training would be provided by experts specifically for each department.
User Manuals	Manuals with directions to access and use various features along with information on how to maintain the system.
Project Documentation	A document containing all the information related to the project such as finances, team member details with roles and scope and the software programming methods used.
Special training	Special training would be provided to managers and IT staff to access certain features to run the system.
Help boxes	To help users navigate through the system, various help screens would be made available on the portal.

Appendix A: Glossary

Terms Used	Description

ADA	American with Disabilities Act defines certain guidelines to be followed by businesses to improve accessibility for disabled
CPA	Consumer Privacy Act defines the consumers to have their personal information such as date of birth, social security number to be protected
FTP	File Transfer Protocol

Appendix B: Analysis Models