

1 Introduction

1.1 Purpose of Document

This is the Requirements Specification document for a web-based e-commerce application ("the e-commerce site") for Mimililu & Co. Jewelry (MCJ). MCJ is a distributor of luxury jewelry, gifts, and accessories products including necklaces, pendants, rings, earrings, watches, bracelets, fragrances, etc...

The new system will provide customers customized browsing of the product catalog and the ability to complete product orders online.

This document describes the scope, objectives, and goals of the new system. In addition to describing non-functional requirements, this document models the functional requirements with use cases, interaction diagrams, and class models. This document is intended to direct the design and implementation of the target system in an object-oriented language.

1.2 Project Summary

Project Name:	MCJ E-commerce System
Project Manager:	TBD
Project Analysts:	TBD
Responsible Users:	

1.3 Background

MCJ sells luxury jewelry (e.g. necklaces, pendants, rings, earrings, etc..), gifts (e.g., engagement rings, watches, home designs products, housewarming gifts, etc...), and accessories products (e.g., brooches, pins, charms, etc...). MCJ customers include individuals (of the middle class and above who have disposable income) interested in buying jewelry for personal use or gifts.

The e-commerce site is intended as an alternative to the traditional brick-and-mortar store, intended for customers with limited free time, so it should provide enough information but not too much that it takes too much time to browse.

The e-commerce site will be a new product and does not replace any existing system. It should be architected in a way that is highly maintainable, scalable, expandable

1.4 Project Scope

The scope of this project is a web-based system that supports the marketing of MCJ products directly to customers.

Order creation is a part of this product.

Advertising of products, order processing, inventory management, account billing/payment processing, and payroll are not part of this project.

The actual implementation of a new database system, a web search engine within the scope of the e-commerce site is a part of this project.

Issues of website security, including user account and authentication, secured information delivery (due to password and payment information delivery), are part of this project.

1.5 System Purpose

1.5.1 Users

Those who will primarily benefit from the new system include:

- **Customers:**

Customers will easily and quickly navigate through the site, identify products, and order products (require user membership, information, and shipping address). The website should provide facilities for a better user experience, for example, wishlist, shopping bag, gift message customization, optional gift boxes, etc...

- **Product Owners:**

Product Owners will be allowed to maintain the data about their products directly. This will eliminate the delays in getting new products or changing products specifications into the system.

Those who will be affected by the new system include:

- **Customer Service Department:**

The new system should reduce the workload of Customer Service as customers are able to find the information they need from the website. The Customer service system is beyond the scope of this project.

- **Marketing Department:**

Site navigation and telemetry data could be sent to the Marketing Department. Understanding how a customer uses the website to make a purchase will result in improvements in getting and keeping customers.

- **Accounting Department:**

Purchase information will be sent directly to Accounting, allowing for more accurate and timely billing. The accounting system is beyond the scope of this project.

- **Shipping Department:**

Purchase information will be sent directly to Shipping for inventory control and order processing. The shipping system is beyond the scope of this project.

- Information Technology Department:
This department will be responsible for implementing the new database, hosting the website, and maintaining the system.

1.5.2 Location

The system will be available to any potential customer using the Internet. Potential customers may register for an account. MCJ employees may also use the system from any location and will be able to access restricted areas of the site through a user account authentication scheme.

1.5.3 Responsibilities

The primary responsibilities of the new system:

- Provide customers direct access to up-to-date, accurate product information on which they can make a decision to buy
- Customize product offerings to specific users
- Allow customers to place an order through the website
- Allow customers to request the assistance of a customer service agent
- Allow product owners to maintain information about their products directly
- Send order information directly to Accounting and Shipping

Other desired features of the new system:

- Responsive web design, optimized for both desktop and mobile devices
- A consistent “look and feel” throughout the website
- Low initial load and page navigation delays.
- Full-text searches of the web pages a user has permission to access
- Password-protected account authentication scheme for non-public web pages
- Password-protected account authentication scheme for public customer accounts
- Translation of a web page to another language

The system will not be responsible for account receivables, or inventory control.

1.5.4 Need

This system is needed in order to service the expected demand for jewelry from customers from the growing middle class in Vietnam. The new system will allow MCJ to rapidly increase sales without a large and expensive increase in the number of sales agents and other customer support employees.

1.6 Overview of Document

The quick brown fox jumps

2 Functional Requirements

2.1 High Priority

- Users can view and be informed of the newest products of the store
- Users of the site may be anonymous and can remain anonymous until they agree to purchase the items in the shopping bag
- Each user has 1 shopping bag and 1 wishlist. Registered users' shopping bags and wishlists will be synced to their accounts.
- When viewing their shopping bag:
 - The user may remove some/all of the items from the bag, modify the purchasing quantity per product in the shopping bag, and choose to "Save for later" (i.e. save to favorites and remove from the shopping bag.)
 - The application shall allow the user to print or email the shopping bag information
 - The application shall preview the order summary, containing: subtotal, shipping cost, estimated tax, and estimated total. The user may then click 'Checkout' to proceed to checkout.
- Users may choose from either free complimentary shipping or express 1-day shipping as the mode of delivery, and a delivery charge may be levied and will be shown on the order preview page
- Customers can pay by debit/credit card or cash when ordering from the app.
- For first-time users, the application shall collect their shipping information, payment information (and billing address, if different from shipping address), and order contact information (mobile phone and email) after they proceeded to checkout. In addition, the users may choose to create an account to save their information for future orders when they complete their purchase
- For logged-in returning users, the application, by default, will use the shipping, payment & billing, and order contact information of the last order and shall ask the user to confirm the information (and to make any changes, if necessary) before completing their purchase
- The application shall allow purchasing users to provide an optional custom gift message to come with their order. Messages are limited to 8 lines of text and 35 characters per line.
- An order may also have a note that is directed to the delivery company; for example, a note might indicate to "only deliver to person, don't put in mailboxes".
- When the user completes their purchase, (1) the order is forwarded to the shipping and accounting department, (2) a confirmation email will be sent to the email address provided by the user at the time of purchase.
- Products are classified into broad types of jewelry, watches, home, accessories, fragrances. Each product type has multiple categories; for example, Jewelry: Necklaces, Rings, etc...; Home: Bar, Drinkware, etc; Accessories: Leather Goods, Eyeware, etc;...

- Products are made with different types of materials, including Gold, Sterling Silver, Titanium, Crystal, Lacquer, Stainless Steel, Glass, etc. A product can be made of any number of materials.
- Products may feature different types of gemstones, including Diamonds, Ruby, Pearls, etc... or may feature No Gemstones. A product can be made with any number of gemstones.
- Products may be part of a collection. A collection consists of any number of products from different categories and types.
- Products also have a name, a description; descriptions are optional free-form text that is typically a review of the jewelry.
- Rings (Type: Jewelry, Category: Jewelry Rings and Type: Engagement, Category: Engagement Bands) may have multiple ring sizes
- Engagement Rings (Type: Engagement, Category: Engagement Rings) will have a diamond as the main feature, it shall also be differentiated by the Diamond Shape, including Princess Cut, Heart Shape, etc., and the Diamond Setting, including Solitaire, Halo, and Three Stones.
- Users may browse products by type or by collection
- The application shall allow users to filter by product attributes when in Category View or Search Result View
- The application shall provide suggestions to the user based on product view history, similar to the currently viewed product, etc...
- Product Owners may log in to the Product Owner Management page, and view their assigned products' details, edit, delete or hide the products from sale
- Web Administrator may log in to the Web Admin page, create, update, remove, deactivates user account and product owner pages.

2.2 Medium Priority

-

3 Non-Functional Requirements

3.1 Performance and Scalability

3.1.1 Performance

- Response time for a transaction should not take more than an average of 2 seconds but can vary at by most 10 seconds depending on Internet connection and distance
- Throughput should increase by 1700 transactions per second

- The system should be able to support 5000 simultaneous users.

3.1.2 Scalability

- Still meet the performance requirement even when the users use multiple functions

3.2 Reliability

- The system shall be completely operational at least 95% of the time.
- Downtime after a failure (include human error, equipment failure, malicious attack) shall not exceed 5 hours.

3.3 Availability

- There will be scheduled downtime for maintenance every 15 days

3.4 Usability

- The app will be designed to be as simple as possible so the app will require minimum technology skill to interact
- A user who already knows what product he or she is interested in should be able to locate and view that page in a blink of an eye.

3.5 Manageability

- When editing the code for applicants' profile pages, the rest of the site stays up and running.

3.6 Data Integrity

- The system shall maintain data integrity by keeping backups of all updates to the database for every record transaction.

3.7 Security

- Personal information must be transmitted and stored in encrypted form
- The system shall provide password-protected access to web pages that are to be viewed only by employees

3.8 Interfaces

The system must interface with

- The Accounting system/microservice

- The Shipping system/microservice