Vanier College

Faculty of Science and Technology

GallerieM

System Development

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Overview

GallerieM, is a local boutique situated in Montreal that specializes in handcrafted and personalized items, making it a top choice for events like weddings, anniversaries, and bridal showers. Their transition to an eCommerce platform comes with challenges such as maintaining a personal connection with customers, data security, competition, team training, and building a website. Selling handmade products adds complexity due to higher production costs and the need to convey the value of quality over mass-produced items.

Presently, GallerieM manages operations via Instagram and an Excel sheet to handle inquiries and custom product requests. They follow a creative process, including sketching, material acquisition, production, and delivery coordination, ensuring a personalized customer experience.

In the new system, there are three critical diagrams which include a flowchart, use case diagram with a description, and a class diagram. The flowchart visually represents the processes and interactions between administrators and users. While, the use case UML outlines the various interactions and activities involving users, administrators, and essential APIs. Lastly, The class diagram provides an overview of system components and their relationships.

Description of Client

Located in the heart of Montreal, GallerieM is a standout boutique, renowned for its handcrafted and personalized items. Their vast portfolio, from tailor-made t-shirts and elegant mugs to detailed invitation cards and delightful baby attire, positions them as a top choice for events like weddings, anniversaries, and more intimate affairs such as bridal showers. GallerieM operates with a clear B2C focus, handling both individualized requests and larger bulk orders, always ensuring a personal touch in every piece.

GallerieM, doesn't have any knowledge of programming but possesses a commendable understanding of digital tools. They're proficient with Excel spreadsheets and using them for various business needs. Furthermore, they are efficient with email communication, ensuring smooth interactions with customers and suppliers. As the business seeks to expand its digital footprint with an eCommerce platform, their foundational computer skills will be an asset, although the technicalities of web development will be a new territory. Her in-house design craftsmanship and a keen eye for detail, combined with her digital proficiency, set GallerieM on a path of promising growth amidst a competitive market, particularly during peak seasons and significant occasions.

Business Problem

There are some problems for most businesses when going online. However, five biggest challenges are:

- Maintaining personal connection with customers.
- Data collection and security.
- Battling and staying ahead of competition.
- Preparing and training the team for change.
- Building a website.

In addition, there are more problems when the product is handmade. The main disadvantages of selling handmade products are that having much higher production costs than similar products that are mass-produced, therefore, product's prices will be higher. Then the business' owner must get consumers to understand why the prices are higher and see the benefits of handmade products , otherwise, customers will buy the cheaper, mass-produced product.

Therefore, in the website it is necessary to focus on the quality, life time and other advantages compared to mass-produced products. Since there are special customers for these products on special occasions, targeting should also be focused on these people and on these occasions.

Another problem that exists for such businesses is not knowing the competitors. Anyone can do the same thing at home and become a competitor. Therefore, advertising for such jobs should be done with a lot of study and the virtual world should be taken care of in parallel and constantly to identify competitors.
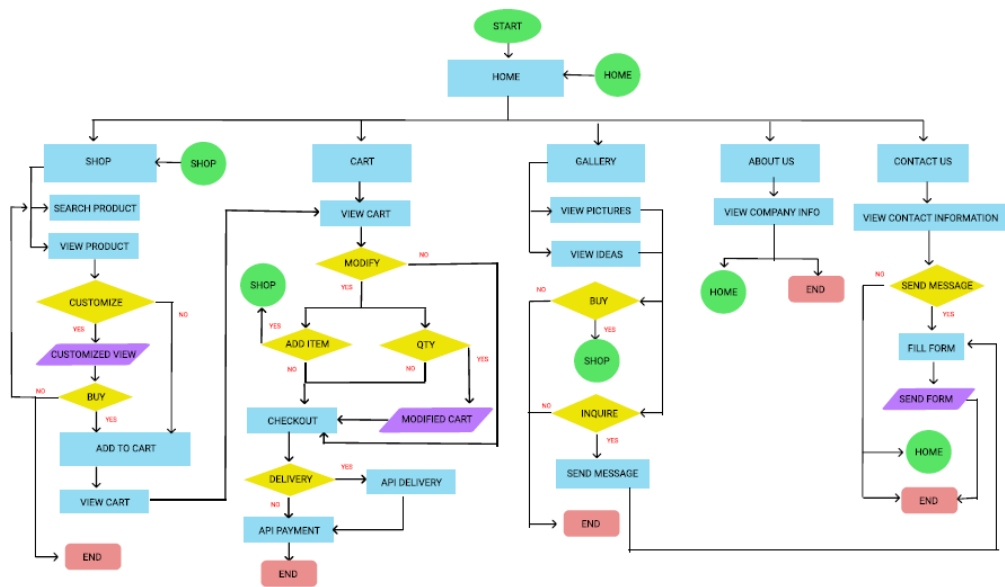
Description of Current System

The business owners currently manage their operations primarily through Instagram, where they engage with customers and handle inquiries related to custom products. These inquiries typically fall into two categories. First, customers seeking information about the feasibility of producing a specific product, and second, customers requesting custom-made items. To be better organized, the owners maintain an Excel sheet that has the details of these inquiries, including product specifications and requested delivery dates.

When they decide to proceed with the product request, the owners begin a creative phase. They begin by creating sketches or mockups, selecting the design that best aligns with the client's preferences and needs. Additionally, they acquire the necessary materials from stores such as Michaels, Amazon, or local craft stores to do the production of the requested items.
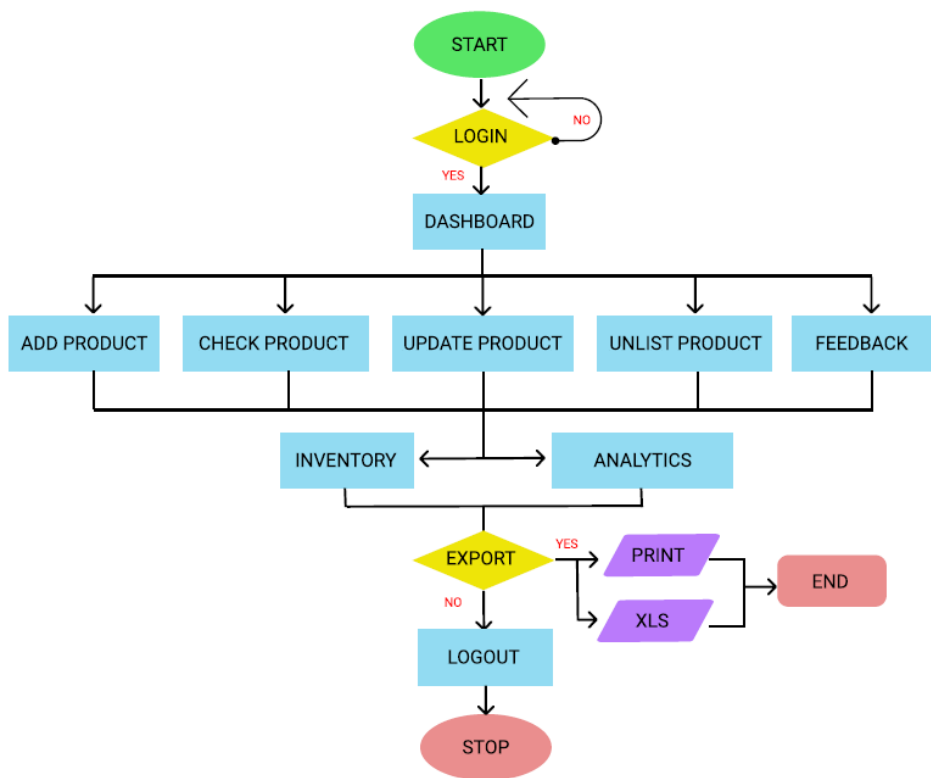
Once the materials are in hand, they embark on the production process, crafting the customized products according to the agreed-upon specifications. Upon completion, they coordinate the delivery with the client, taking into account the client's preferred method of delivery (shipping or pickup) and adhering to the specified delivery date. Payment for the custom product is collected following successful delivery or pickup.
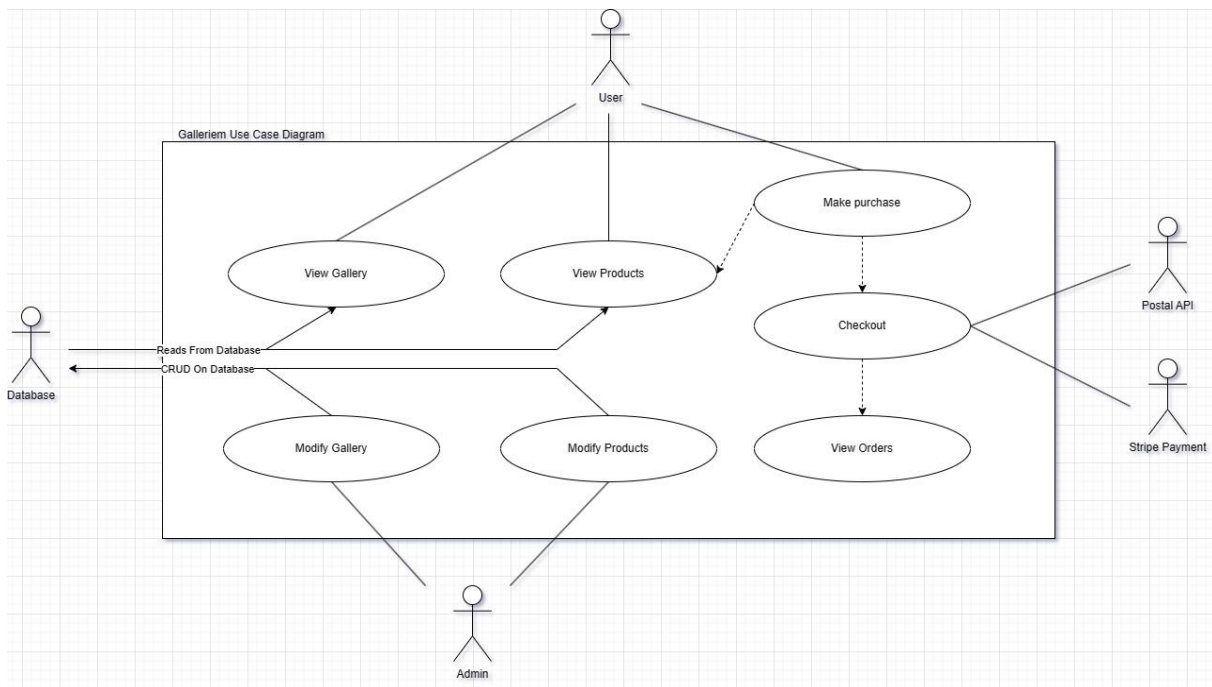
Flowchart Diagram

Admin

User/Customer

Use Case UML

Galleriem Use Case Diagram

User
Database
Admin
Postal API
Stripe Payment

View Gallery
View Products
Make purchase
Checkout
View Orders
Modify Gallery
Modify Products

Reads From Database
CRUD On Database

Use Case Description

In the new system, there are five primary roles and seven distinct use cases. To start, the primary user is the main participant who engages in the majority of the system's operations. This engagement encompasses activities such as browsing the photo gallery, exploring product listings, adding items to the shopping cart, and completing orders by supplying their personal information during checkout.

The second role belongs to the administrators, who represent the system's owners. Administrators possess access to a dashboard where they can execute actions such as adding, modifying, deleting, or updating images and products on the front end of the website. To facilitate this, a crucial third role is played by the database, which manages the changes made by administrators and ensures that these modifications are seamlessly presented to the users. Additionally, administrators can monitor orders that have been confirmed by the system and have passed the checkout process.

In addition to these roles, two essential APIs play key roles in handling the checkout functionality of the e-commerce page. The first API, Stripe, is responsible for processing payments and verifying them. The second API, Postgrid, takes on the responsibility of tracking information, verifying locations, and performing price calculations.

Class UML