CSC312 Capston project Assignment 1
CtrlAltElite

Ammar Behardien
Amir Davids
Siphiwe Clinton Mthebule
Vanick Wilfred Jouemo Semegni
Mickyle James
Reid Ebden
4125732, 4165406, 4041743, 4110829, 4143342, 4115316
4125732@myuwc.ac.za, 4165406@myuwc.ac.za,
4041743@myuwc.ac.za, 4110829@myuwc.ac.za,
4143342@myuwc.ac.za, 4115316@myuwc.ac.za

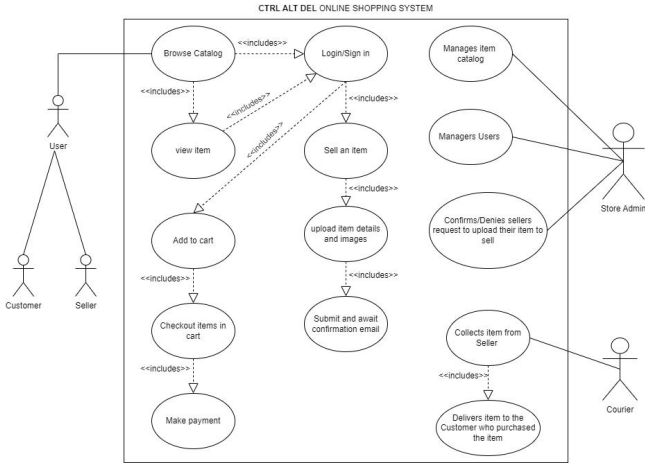
ABSTRACT

Write your abstract here if you want an abstract.

1 INTRODUCTION OR YOUR HEADING

In this document, we outline a series of new features aimed at optimizing the user experience for an online clothing Thrift store iThrift. The central addition to this platform is the capability for users to rate and upload their clothing items for assessment by the company. This feature promises to streamline the process, reducing manual labor while ensuring faster evaluations. Furthermore, it introduces machine learning and artificial intelligence elements to suggest pricing, adding an extra layer of sophistication to the user experience.

2 Use Cases



3 Mental Model

3.1 Homepage

The homepage can be seen as the entrance to the store. It's the first thing that users see when they visit the webpage. The homepage displays

recently added products and offers a taste of the store's offerings.

3.2 Navigation Bar

Imagine the navigation bar as boards navigating customers to different product categories, like "Men's," "Women's," "Tops," "Bottoms," and more.

3.3 Product Details Page

View the product details page as the sales assistant. When a customer views the product details page they are provided with more information, such as size and colour options, that a sales assistant provides.

3.4 Shopping Cart

See the shopping cart as a physical shopping cart that holds the products that you are going to purchase.

3.5 Checkout Page

Picture the checkout page as the physical till where you pay for your products. The customer can review the items in their cart, and fill in payment and address details, to complete the purchase.

3.6 Search Bar

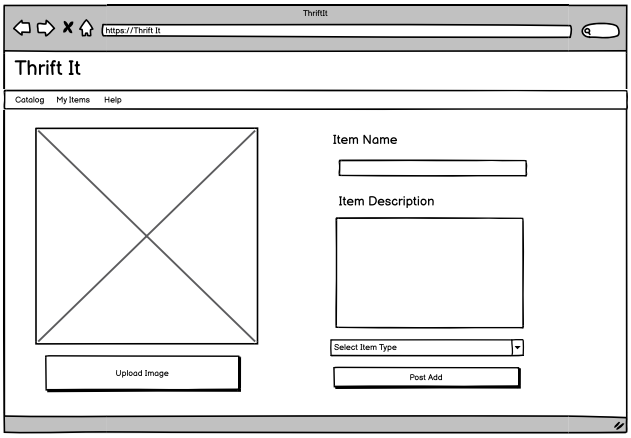
Consider the search bar as a helpful employee, ready to help to find certain products throughout the store. Users can search for specific clothing items.

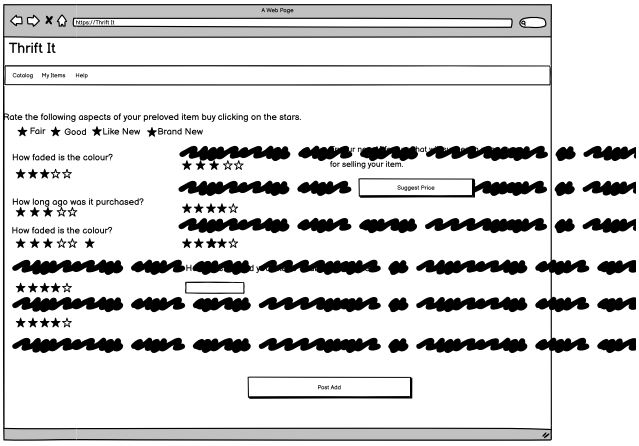
3.7 Filter

The filter option can be seen as going to an aisle in a store that holds a specific category of items. Customers can filter products by certain categories.

This mental model enhances the customers' shopping experience by giving them a familiar process to make it easier to purchase items through the website. It helps them to traverse the website which ensures a good experience.

4 Design Model





Feature 1: Uploading and Describing Clothing Items

The primary update to the platform involves a user-friendly interface for uploading clothing items. On the first page, users will be able to upload images of their products by simply clicking on an "Upload Image" button. This image upload is complemented by description boxes to provide essential details about the item, including its name, description, and type. To proceed, users can click a "Post Ad" button, effectively submitting the image file along with its associated information.

This feature facilitates a seamless process for users to contribute their clothing items for evaluation. The

inclusion of image uploads and detailed descriptions ensures that the company receives comprehensive information, improving the evaluation process.

Feature 2: Star Rating and Pricing Estimation

The second page builds upon the first, offering users the opportunity to rate their clothing items before listing them for sale. This feature aims to reduce manual labor and expedite the quality confirmation process. Users will have the option to assign star ratings based on various factors such as colour fading, wear and tear, and the item's age. Additionally, users can estimate the selling price they desire for the item.

By allowing users to rate their items, the platform can collect valuable data regarding the quality and condition of each product. This data can significantly enhance the efficiency of the evaluation process, as it reduces the need for extensive manual inspection.

Feature 3: AI-Powered Pricing Suggestions

One of the most innovative additions to the second page incorporates elements of machine learning (ML) and artificial intelligence (AI). This advanced feature utilises the data collected from user ratings, descriptions, and images to suggest a price range or even a specific single price for the item. The AI-driven pricing suggestions take into account various factors, including the item's condition, market trends, and historical data.

By implementing this AI-driven pricing feature, the platform empowers users with valuable insights into the potential market value of their clothing items. This not only simplifies the listing process but also ensures that users have a realistic expectation of the selling price, improving overall satisfaction.

5 Implementation

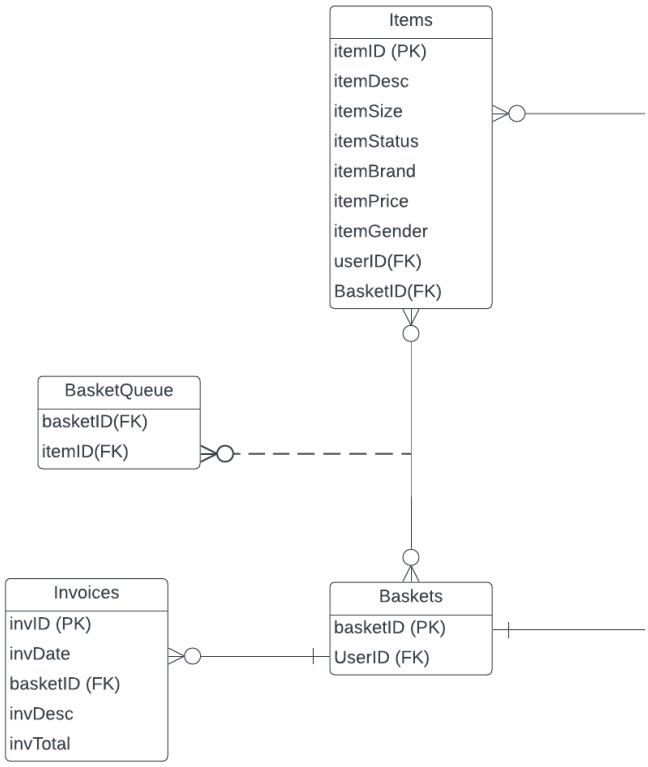
As discussed, this semester we will be making improvements on our capstone project, we have previously built a thri=ing website where users may buy and sell clothing items. This semester we will be improving our website by introducing a web scraping feature that will be used to gather on clothing item prices from external sources and return a suggested price for the highlighted item. We will also gather data from our website using input prompts on successful lis)ngs to assist our ai model in making predic)ons. These new func)ons will be wriCen using html and JavaScript. Other improvements to our website will include general improvements to the existing website as well as work on the database. Our work will be split up into 3 categories that will be tackled by 3 groups of two members. The 3 categories will be a database, website improvements, and ai model. These groups will be dynamic in nature to allow for each member of our group to gain some knowledge in each aspect of the project.

6 Database Design

We have identified 5 different entities in this database. They include:

- Users (userID (PK), username, userCellNo, userPassword, userEmail, userAccount, userBankName, userAddress)
- Baskets (basketID (PK), userID (FK))
- Items (itemID (PK), itemDesc, itemSize, itemStatus, itemBrand, itemPrice, itemGender, userID (FK), basketID (FK))
- Cards (userID (FK), cardNumber (PK), cardCVV, cardExpDate)
- Invoices (invID (PK), basketID (FK), invDate, invDesc, invTotal)

Each USER can sell zero or many ITEMS. Each ITEM must be sold by one USER.
Each USER can have only one BASKET. Each BASKET belongs to only one USER.
Each USER can have zero or many CARDS. Each CARD must belong to one USER.
Each BASKET can contain zero or many ITEMS. Each ITEM can belong to zero or many BASKETS.
Each BASKET can contain zero or many INVOICES. Each INVOICE belongs to only one BASKET.
BasketQueue has been created as an associative entity to resolve the Many-to-Many relationship between ITEMS and BASKETS.


Items
itemID (PK)
itemDesc
itemSize
itemStatus
itemBrand
itemPrice
itemGender
userID(FK)
BasketID(FK)
BasketQueue
basketID(FK)
itemID(FK)
Invoices
invID (PK)
invDate
basketID (FK)
invDesc
invTotal
Baskets
basketID (PK)
UserID (FK)