Software Engineering and Testing. BSC Year 2, 2020/2021
(Assignment 3 - 20%)

Assessment 3: Design and Draft Implementation

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Declaration

I herby certify that this material, which I now submit for assessment on the programme of study leading to the award of Ordinary Degree in Computing in the Institute of Technology Blanchardstown, is entirely my own work except where otherwise stated.

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Title: Blanch Suits

Abstract / About the site

We will create an online suit shop for you to handle the ever-growing market competition. This shop needs to be user friendly, and the suits need to accommodate for different body sizes and body shapes. A database will be made to store customer details for our online shop. Customers will receive an email generated receipt that will confirm their purchase

1. Project Definitions

The project definition:

- The project involves developing and testing a website for a suit company.
- The website will allow users to search for specific brands of suits, log in, browse categories of suits, get their own tailored suits by inputting their own body type and body measurements for the suit, and add items to their basket.
- Main components will be a search bar, customer sign up/in area, shopping basket and a navigation bar.
- The website will be used mainly by businessmen looking for suits or men looking for suits for occasions.
- The web

2. Document Revision

1.0 (18/02/24) – We made the Database first.

1.5 (20/02/24) – Then we made the UML Diagram.

2.0 (20/02/24) – Layout for header and footer and the template for the shop.

2.1(20/02/24) – Second database protype made.

2.2(20/02/24) – The database into the store connection.

2.3(21/02/24) – Database connection cleansed.

3.0(1/03/24) – Update and delete to database working.

3.1(1/03/24) – Log in working.

4.0(11/03/24) –Orders array working.

5.0(18/03/24) – Orders update working.

Purpose of using classes:

- It allows you to encapsulate data and methods into a single unit.
- Provides a way to create abstract data types.
- Allows for inheritance so you can create classes from existing ones.

What is a class diagram:

- Structural hierarchy that represents the nature of the system.

Static Versus Dynamic Case Diagrams:

- static diagrams are like a snapshot of what the code looks like, while dynamic diagrams are like watching how the code behaves and changes while it's running.

What is an ERD:

- ERD is a Entity Relation Diagram. It is a visual representation of Entities in a database.

Volatile versus Persistent storage:

- Volatile storage is temporary storage that can be lost or erased.
- Persistent storage is permanent that stores data that needs to be preserved.

3. Requirements

- **Functional Requirements**
  - Customers should be able to access the website by searching in on the Internet from a laptop or computer or mobile device.
  - If you would like to make a tailored suit there should be some instruction on how to input the measurements in properly.
  - Customers should be able to input their measurements manually or by using interactive tools such as a slider bar.

- **User Interface Requirements**
  - The User interface should be intuitive and user-friendly.
  - The website should be accessible on different screen sizes such as a laptop, Desktop, Tablet and smartphone.

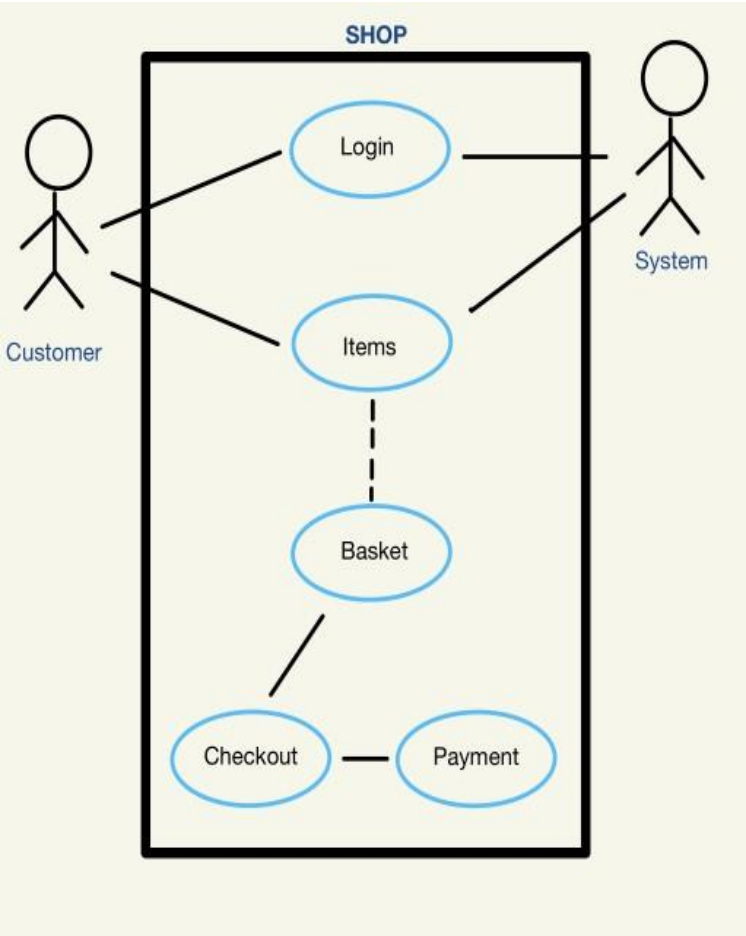
- **Performance Requirements**
    - The website should load quickly and respond promptly to user interactions.
    - The website should be able to handle high levels of traffic without going down.

- **Usability Requirements**
    - When a customer is using the website, it should be straightforward.
    - The nav bar and search bar should be able to be found with ease.
    - Once one is clicked it should bring you to the tailored suit or regular suit page.
    - Once all is completed the Customer can now purchase their new top quality tailored suit from the comfort of their own home.

Login:	• On initial log in customers are brought to a page to register where they are asked for their First name, Last name , Email, Phone number, Address. • Once the Customers have entered these details they will be asked to enter their card details for the ability to be able to pay with ease when paying. The customers only have to input these details if the want to it is not necessary. • If the customer already has an account they will just be asked for an email and password as their details are already stored in a database. • Authentication request gets sent to the database to confirm customer details • Authentication verified.
Shipping + basket:	• When the customer selects "Add to Basket" on an item it will then be added to their basket. • When an item is placed into the basket the basket will show the item with its price and quantity. • The customer will also have the ability to delete the item from the basket by pressing on the remove from basket button on the store page. • Once the customer would like to pay they can click on the "Confirm Purchase" button.

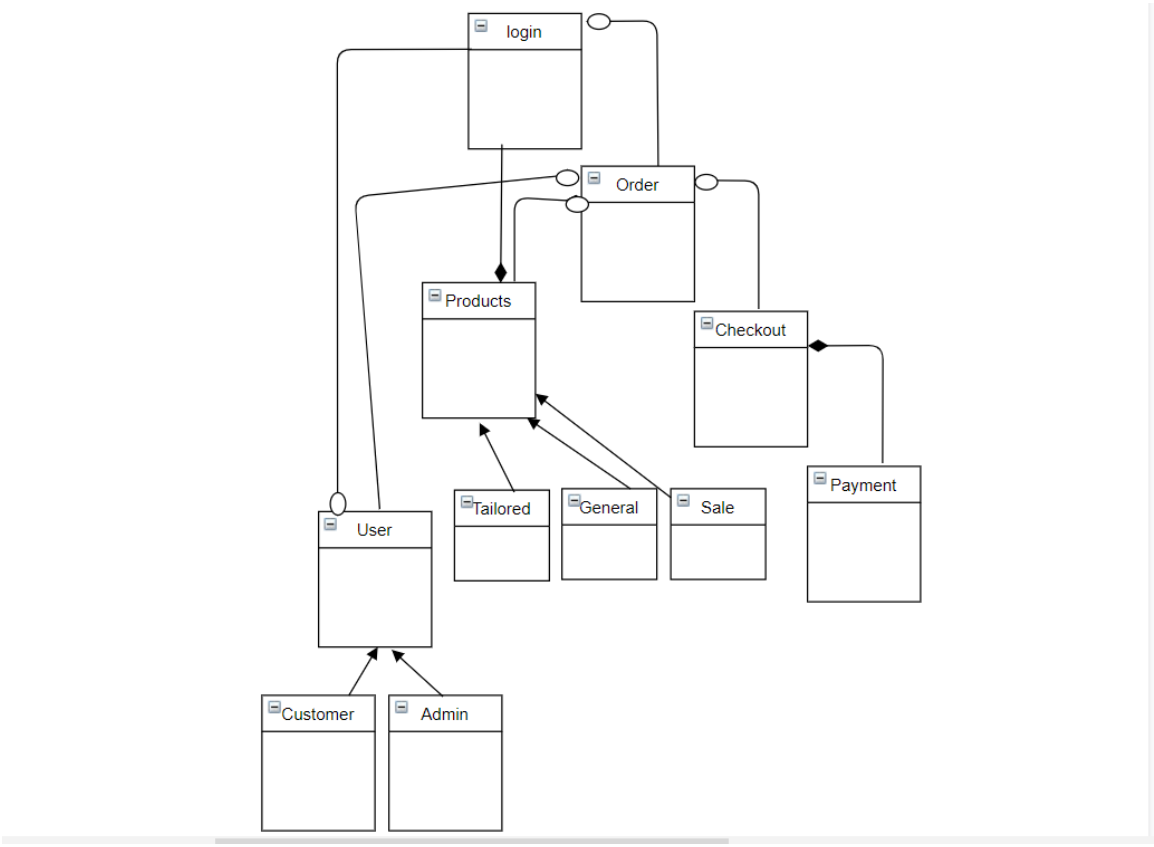
	• Once the customer clicks the "Confirm Purchase" button they will be directed to the confirmation page which will show their order.
Stores (Not Tailored):	• Store to shopping basket if put to basket. • ONLY has Small, Medium, Large. • Refine search/filter to select different body types (radio) • Refine search/filter to select colours (checkbox) • Once the customer clicks onto the "Suit" page either from the home page or the nav bar it redirects them to our non-tailored suit page. • Once in this page the customer can browse the range of Branded suits either using the filter option or by just going through the catalogue. • Once the customer is happy with the suit they can click on the suit and it will bring them to be able to select their size. • The sizes on the website will be small(S), medium(M) and Large(L). • Once the size has been clicked you can then add it to your basket.

Use Case Diagram



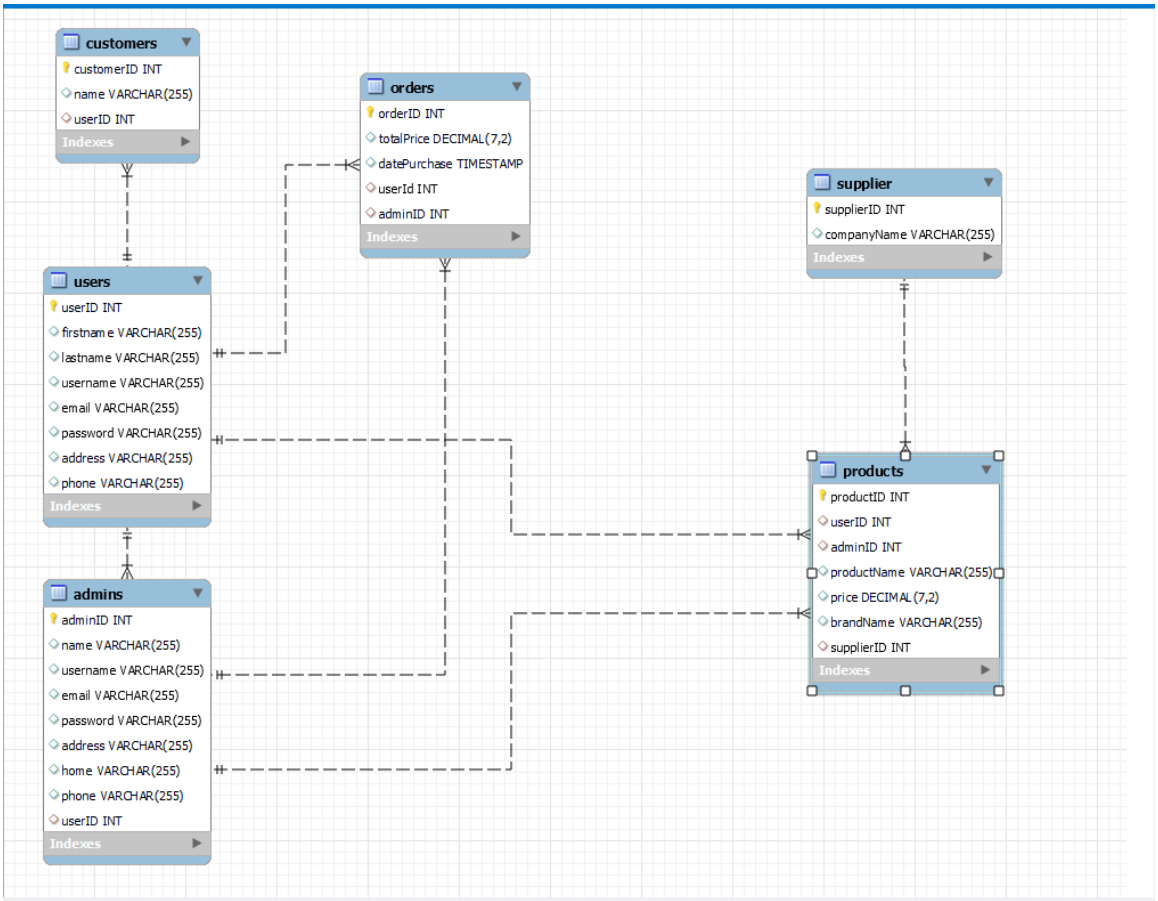
4. Case Diagrams

Class UML



Users have a pool of customers and admins (composition).
Login will take in the user as an inheritance as the login can only provide certain access privileges to the user, such as the admin being able to add and delete products.
Our products and its classes will aggregate between our general products, tailored products, and on sale products.
All users whether logged in or not are able to order a suit. Therefore the 'Order' shall take in the user's order. This will imply an association between order and user. The payment inherits from checkout which inherits from orders

ERD



Starting with our 'Users' we show that both users and customers form a many to many relationship, which in turn makes our users table. This is needed for when our login inherits our user class to provide access privileges. Our orders table will have a 1 to many relationship with our orders as many a user could make many orders. Our products will be provided by our supplier where one supplier can provide many of a certain product. Our user and admin will connect to the supplier which is a way for admins to add a product into our products table.

5. Conclusions

Our web site has basic functionality being able to purchase as suit at will and admins being able to add a product when needed. Users can add whatever quantity of suits that they need with the add to basket and remove from basket button.

After our initial draft is completed, we can work on implementing our general sales and our tailored sales. We should also work on completing our front end for our UX.

Currently we have not implemented such sales which is what we have in our original system requirements. This is to be done during the Easter break, and final testing for the month of April.

Additional sections: Table of Contents, Table of Figures, References, Index

Checklist: Is your document complete and correct?

Content:

- Does the design include all requirements from the customers' needs
- Are you satisfied with all parts of the document?
- Do you believe all parts have been implemented?
- Have you explained your methodology and design choices?
- Have you clearly articulated your understanding of the purpose of all diagrams created ?
- What are these diagrams? Why you need them? How were they developed?
- Is each part of the document in agreement with all other parts?
- Does the design create a solution for the initial proposal?

Completeness:

- Are all the necessary components specified?
- Are the design specifications precise enough?
- Are all sections from the document template included – if changed, why?

Clarity:

- Is the design reasonable?
- Is the level of details for each design section appropriate?
- Is the design written in a language appropriate to the intended audience of software engineering teams?
- Are all items clear and unambiguous?