E-commerce System Assignment

Distributed Imagination

Link to demonstration video: https://youtu.be/_621i51LGcQ

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Requirements Review

General Requirements Progress

Req. #	Title	Comment	Status
G0	View the Products Currently on offer		COMPLETED
G1	View details about a particular product		COMPLETED
G2	Add a product to their shopping cart		COMPLETED
G3	Remove a product from their shopping cart		COMPLETED
G4	Search for a product.		COMPLETED
G5	Create a customer account		COMPLETED
G6	Log in to their account.		COMPLETED

Logged in Customer Requirements Progress

Req. #	Title	Comment	Status
C0	Go to the checkout to purchase orders in their shopping cart.		COMPLETED
C1	Use a (fake) payment portal to pay for their goods.		COMPLETED
C2	View their order history		COMPLETED

Logged in Owner Requirements Progress

Req. #	Title	Comment	Status
O0	Login via the same interface as (G7)		COMPLETED
O1	Add products to the shop		COMPLETED
O2	Hide existing products (that are no longer available)		COMPLETED
O3	View all orders		COMPLETED
O4	Change the state of orders		COMPLETED
O5	Edit their product details.		COMPLETED

Additional Requirements

Describe any additional requirements you have completed above and beyond the spec of the project. Use as much space as you require to do this.

Password Hashing(security.WebSecurityConfig.java)

We used bcrypt along with WebSecurityConfigurerAdapter to hash our users passwords for security and to better simulate a real working E-commerce environment.

Docker

We dockerised our application for containerising and ease of deployment on many kinds of systems.

Java Security User Sessions(services.UserDetailsServiceImpl.java)

This stores the current logged in user in a browser cookie using HTTP sessions, it also assigns configurable roles to users which we used in this application to check if the logged in user is in fact the owner which allows them to access special functionality. This is extra functionality compared to a basic username check.

Custom Product SKU Generator(service.SKUGenerator.java)

An extension of the hibernate class SequenceStyeGenerator which allows new products to automatically generate an ID of type String with an easily configurable prefix. We used "BASICS" for this demonstration to represent the Remazon Basics line of products. This SKU also increments automatically and simulates a real product more than a simple ID.

Profile Pictures(controllers.UserController):

On registration users have the option of uploading a profile picture to their account which displays in the navbar. Otherwise there is a default photo that display

ProductRecommendations(repositories.ProductRepository.findSuggestions):

A custom product recommendation class which generates three random product cards to view as suggestions while a user is viewing a product. The logic ensures that no card is duplicated and you cannot be recommended the same product you are viewing.

Summarise these requirements using the requirements table below.

Req. #	Title	Comment	Status
A0	<insert a title>		COMPLETED
A1	<insert a title>		COMPLETED

Reflections

Please summarise your experiences on the project: what did you learn; what challenges did you have to overcome; what would you have done differently if you could have started over.

DO NOT WRITE MORE THAN ONE PAGE

During the duration of this project we have developed valuable practical skills using the SpringBoot framework and learned about many web development concepts, which make the internet possible. As a team we have developed a very well polished e-commerce site which implements features common in every web store which we can be proud of. As a group we feel the main thing we take away from this experience is the skills required to work in a team on a web application, we think these skills will really prepare us for starting our Internships.

Challenges

Although we didn't have many major challenges we found as the size of the project increased the time to fix bugs also increased as searching through the big project really slowed down development. We also spent some time understanding how we were going to implement the system which was also time consuming working out what kind of relations each object needed.

Changes

If we could have started over we would of changed the way we uploaded images for user profiles and new products. The way we have of storing them in images in the static resource folder means when you turn the project into a jar you can no longer write images to the folder this causes both these features to not work in the docker containers. We attempted to fix these issues but as we only found this out a day before our internships, so we had no time to overhaul the features. We would also liked to have split the services up into micro-services and have a service for each main feature e.g(Auth,Orders/Inventory/Products, Users).

Conclusion

We feel although this project did have its struggles, what we developed was a great project and given more time we could really build on this project and implement more of our ideas using more technologies in the future. We think this project was a great way to get introduced into the world of Web Development.