Virtual Online Shopping – Exploring Ecommerce from a wider angle.

Report Name	Virtual Online Shopping
Author (User Id)	Laura Wilkinson (law37)
Supervisor	Bernie Tiddeman (bpt)
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1.   Project description

As we are currently going through a pandemic, online retail is as strong as ever. A way to support shops are to make a real time simulation of clothing – people are more likely to buy items if they can examine the clothing like they would before the pandemic started – this included identifying the fit and colour for example. I will be using Virtual Reality to simulate high street shopping but from the comfort of home.

The main aspect of the project is having the ability to view clothing items in a virtual space. It will have a specific area to filter down the clothing choices and an area to view them. This is essential to the product. There is going to be surrounding functionality for ease of use including a save feature. This allows the user to take away the outcome of the application to then purchase the items if they so wish.

The end goal of the project is to assess the feasibility and popularity of this new approach of Ecommerce.

2.   Proposed tasks

I will look at other VR applications to assess which techniques are appropriate for movement and information display for example.

This project will be written in C# within Unity – using the latest release. This is hosted on Github, along with all the project planning tools and documents.

I will also be working with an API to gather the necessary data needed to filter products within the application. This will either be done in C# or Python – research will be done into which is more efficient and appropriate.

Some of the work will be 3D modelling the clothing items – the primary number of individual items would be 10 to show the proof of concept. They will be as accurate as possible and include physics.

The rest will be researching, designing, and creating an environment in which the user feels comfortable. Here all the different components will come together.

I will be releasing a Windows application as my developing hardware is the HTC Vive. This however doesn't limit the compatible hardware as I will be using Steam VR – which supports a large list of mixed reality headsets.

3.   Project deliverables

Testing will be done using a mixture of manual and unit tests during development. That will be using the "Test runner" included within Unity.

Designs will be manually drawn and reviewed by peers and myself – before any 3D modelling is started. All will be digitalised for the end report.

An environment will be created which encompasses all the below features:

- Drag clothes from wardrobe and put on the model
- Drag clothes back to wardrobe to re-hang
- Drag clothes to bin to delete

- Display details of clothes on the screen

- Change model (Male/Female)
- Change mannequin pose
- Spin mannequin

- Export saved list
- View saved list
- Clear saved tags
- Drag clothes tag to table to save clothing detail

- API will get information and store it accordingly within Unity.

- Application guide/documentation

- Finished final report