Net-a-Porter VR Project

Bi-weekly Report 4
2 December 2016
Group Members: Vania D. Gunawan Setiono (Team Leader), Haran Anand, Yll Kelani

Overview

Over the past two weeks we have experimented with the 3D scanner and produced several 3D models of a sample garment. We have updated our website and created some wireframes for the Hololens interface prototype. Throughout the project we have been in touch with some experts in the area to advise us on the factors that we need to consider and the challenges that we need to tackle.

Summary of Meetings

Meeting 1 (Tuesday, 22 November 2016)
Attendees: Vania D. Gunawan Setiono, Haran Anand, Yll Kelani, Dr. Harry Strange and other Net-a-Porter teams.
Location: 66 Gower Street

This meeting was especially useful because we were able to meet with the other teams and confirm the direction for each project, given the fact that there was a considerable amount of overlap between us and another one of the teams. With the help of Dr Harry Strange, we were therefore able to clarify how the two projects would be significantly different and we were also able to see how we would be able to go on and collaborate with the team working on the AI chatbot to create a sort of personal assistant within our own app.

Meeting 2 (Thursday, 24 November 2016)
Attendees: Vania D. Gunawan Setiono, Haran Anand, Yll Kelani
Location: MPEB Labs

During this session, we were able to first try out the 3D scanner, which we did for a number of objects, such as my hat, Yll's head and the box the scanner was in, all with increasing degrees of success. After the session we realised that the scanner will be an incredibly vital tool for our project as it was produced a very highly realistic 3D model of whatever it was scanning. At the end of the session, we also sat down to add a few more requirements to our list.

Meeting 3 (Thursday, 1 December 2016)
Attendees: Vania D. Gunawan Setiono, Haran Anand, Yll Kelani
Location: MPEB Labs

During this session, we went to go and get the help of Philip Treleaven and his colleague, as we needed use of their mannequins in order to start trying out the 3D scanner on clothes. For the purpose of this session, we used Vania's jacket on a mannequin. The primary scan showed us something about the scanner that we were unsure about, which is the fact that you have to move the camera and you cannot just rotate the object. However once this was clear, the scans we were able to get of the garment were quite phenomenal, with nearly perfect 3D scans of the jacket even up to the

buttons and zips. The only issue we found was how the 3d scanner dealt with fur material on the jacket. The jacket has a ring of fur around the hood. When we scanned it the 3d scanner wouldn't see the fur and so at the end of the process, the scan would be completely missing the fur around the hood. We think this has something to do with the way light reflects off that type of material.

Tasks Completed

- Updated our website and enhanced the user interface
- 3D scanned some garments and analysed the 3D models results
- Set some requirements on the type of garment (which fabric/materials can be scanned and which ones can't)
- Ordered sample garments from the client
- Researched more about rendering the user's body in 3D using Hololens
- Learned more about Hololens development through Microsoft's Hololens Academy website

Problems

We faced problems in trying to scan clothes with fur on them. We have to find out why fur doesn't show in the 3d scans. We have to plan how we are creating an avatar for the user to view clothing and how much input from the user we are taking for the attributes of it. We have to find out how we are going to go about showing different angles of the avatar and clothing and if that can be done based on the motion of the user.

Next Steps

Our next steps are to import the 3D models from the scanner software into Unity and subsequently into Hololens. We are also going to follow up with our clients regarding 3D scanning the clothings that they want us to use. The team website will be updated regularly and we will start thinking about the structure of the video and what contents we are going to include. Before the end of this term, we aim to finish creating the basic user interface of the Hololens application.

Individual Contribution

Vania D Gunawan Setiono

Throughout the past two weeks, I have continuously maintained contact with the client and updated her on our team's progress. I have also changed the template of our website, created the basic skeleton for all the pages, and filled in the contents of some pages. I collaborated with my team to 3D scan the garments and did more research about 3D modelling using Hololens. I also did some more tutorials on the Hololens emulator from Microsoft's documentation in order to familiarize myself with development for the device.

Haran Anand

Over the course of the past two weeks I have largely been working on how to make the 3D scans we were producing better, whether that be experiment with different environments, angle of holding the camera or even different lighting. This has had a huge effect on the quality of the scans: the first few

scans we did were largely distorted and incomplete, whereas by the time we got to scanning a garment, i.e. Vania's jacket, we were able to get a nearly perfect 3D model. During this time I also worked out how we would go about importing the 3D model into Unity for use with the Hololens.

Yll Kelani

Over the last two weeks, I've been working on the UI to be used within the app. I researched software used for wireframing/prototyping applications and decided to use Sketch. I started a wireframe based on sketches drawn together as a group. I've been further learning how to use Unity and gaining experience using the HoloLens. I've been researching how to setup the actual function of the app from the HoloLens side; how the user will be able to view the avatar using the HoloLens tracking of motion and gesture control.