IT Project Idea

Overview

My project idea is a smartphone application which uses a 3D scanner (through the camera) to measure your body or body parts. It will then store your physical dimensions which, upon your request can be uploaded to online clothing stores to match your measurements with their sizing scales. The application will accurately assess which clothing in their store will fit you and filter out the clothing which does not. Added features will include style recommendations for your body type and feedback on selected clothing items, i.e. it may suggest an item is too big or too tight around the arms. You will be able to store multiple profiles in the application (e.g. your family members).

Motivation

I would find this application particularly useful in my current life, given the current global crisis is restricting our ability to shop in bricks and mortar stores, online shopping has boomed. *'Global ecommerce sales are rising at top speed and are anticipate to reach $4.5 trillion (USD) in 2021.'* Clement (2020).

One of the frustrations I find with online shopping, is the ability to correctly gauge the sizing of a garment. International clothing sizes vary (UK, US, EU, AU), whilst some shops class XS as a size 8, others class S as a size 8, some have sizes 8-10, whilst others have a size 8 as well as a size 10. Footwear, especially for children differs greatly and hats tend to come in a generic size.

Description

This smartphone application will work much the same way as the 3-D scanners available on the market today. It will only require a basic level of detail (outline of the body or body part and measurements).

The user will simply have to set their phone at a sufficient distance to capture the body or body part they are looking to measure. A timer option (much like with a camera) will allow the user time to position themselves prior to the scan commencing. An alert will advise scanning has begun and another alert will notify scanning is complete. Once approved by the user, measurements will be stored under a profile and options provided to proceed.

Options to proceed include directly to an online retailer or to remain in the application to customize the user profile further. To proceed directly, agreement will be received from the user to upload their information to a selected retail website (a search option will appear for the user to enter in the name of the store they wish to peruse), the application will also suggest retail partners, suggestion criteria can be tailored in the users profile. Where there is no partnership with an online shop/brand, an option will be presented to manually upload the brand's sizing chart for comparison.

To customize the user profile, fitting preferences such as 'relaxed fit' for pants, 'over-sized fit' for jumpers, 'fitted' exercise gear or 'room to grow' for children will recorded and stored. This information can be updated at any time and the application will allow for multiple profiles (i.e. different members of the family or household).

Once the profile information is uploaded to the selected website, clothing will be filtered into the preference categories and presented to the user, enabling them to accurately chose the garment size they are after. The retailers existing website filters will still be enabled (pricing, occasion, colour etc), to ensure the user can completely streamline their shopping experience.

In the case with no retail partnership and manual sizing chart input, the user will still be given recommendations based on the brands sizes chart, the users measurements and their profile preferences (i.e. it will still tell you if a jumper will be a relaxed feel or it may be too tight across the chest).

All data gained through measurement inputs, profile preferences, retail size charts and purchase history will be saved for referral and improvement of future shopping experience.

Agreements will need to be made with the online retailers to participate with this application and a fee will be charged to them (the application will provide another form of advertising, aimed directly at their target market). The service will be provided free of charge to the customer(user).

Privacy and security support will be implemented in the application to ensure the protection of the user's personal information.

Tools and Technologies

This application would use similar technology to 3-D scanners, laser measures and distance machines (used in construction). We would need to merge these existing technologies with the technology used in smartphones and the website platforms of retail suppliers.

To develop the application, utilisation of open sourced tools such as Prototyping on Paper for initial prototype creation and reform, and BuildFire.js to build the application (it offers infinite customisation for cross-platform framework application).

Hardware would be the smartphone of the customer; we would aim to have the application compatible with Android and iOS Phones and tablets.

Skills

The technology for 3-D scanning currently exists (at a higher and more detailed level), so it would be a case of replicating this technology in a simpler form and producing a system compatible with smartphone technology and retail websites.

"Artec Leo contains state-of-the-art technologies, including the NVIDIA® Jetson™ platform, featuring Quad-core ARM® Cortex®-A57 MPCore CPU and NVIDIA Maxwell™ 1 TFLOPS GPU with 256 NVIDIA® CUDA® Cores; a built-in 9 DoF inertial system – accelerometer, gyro and compass – which allows the scanner to understand its position and environment." (Artec3D 2020).

Purchasing the existing technology and tweaking it for our application's use could be achieved with the engagement of a Program Developer, however it may be an expensive initial outlay. We will look to recoup this expense via the charging of a fee to the retailer.

Outcome

If this application were to be successful, it would facilitate the ability and experience of every person who purchases clothing online (currently – everyone). As mentioned previously, we would offer the application free of charge to the customer, so it would be accessible to everyone wanting it.

In my life directly (and those in a comparable position), it would minimise the hassle and end the guessing game when purchasing from a new store or an unfamiliar brand. Sale items could be purchased with confidence (generally unable to be returned) and the costs associated with return postage for items which do not fit would dimmish. Retailers may also encounter decreased costs (payroll for employees who process returns and postage expenses for one way or two-way postage and/or courier delivery).

Referencing

Seek.com.au, viewed 9 September 2020

https://www.seek.com.au/job/50557327?type=standard#searchRequestToken=6f6fc732-f80f-4776-b762-e36b15f5e3cb

Myers-Brigs Type Indicator, viewed 9 September 2020

https://www.16personalities.com/ (Links to an external site.)

Learning Styles, viewed 9 September 2020

http://www.emtrain.eu/learning-styles/ (Links to an external site.)

Big 5 Factors, viewed 9 September 2020

https://openpsychometrics.org/tests/IPIP-BFFM/ (Links to an external site.)

Clement, J 2020, 'Worldwide Retail E-Commerce Sales, *Statista*, viewed 16 September 2020,

<https://www.statista.com/statistics/379046/worldwide-retail-e-commerce-sales/>

Artec Leo 3D Scanner, viewed 9 September 2020

https://www.artec3d.com/portable-3d-scanners/artec-leo