School of Computing

Year 4 Project Proposal Form

SECTION A

Project Title - Bróga Nua (Irish Sneakers Application)

Student Name - Olan Patrick Buckeridge

Student ID - 15461022 Stream - CASE 4

Project Supervisor Name - Gareth Jones

[Note: It is the student's responsibility to ensure that the Supervisor accepts your project and this is only recognised once the Supervisor assigns herself/himself via the project dashboard. Project proposals without an assigned Supervisor will not be accepted for presentation to the Approval Panel.]

SECTION B

Proposal Description – using the following headings:

- General area covered by the project
- Outline of the proposed project
    - Background - where the ideas came from
    - Achievements - what functions it provides, who the users will be
    - Justification - why/when/where/how it will be useful
- Programming language(s) - List the proposed language(s) to be used
- Programming tools / Tech stack – e.g. compiler, database, web server, etc.
- Learning Challenges - List the main new things (technologies, languages, tools, etc) that you will have to learn
- Hardware / software platform - State the hardware and software platform for development
- Special hardware / software requirements - Describe any special requirements.

Make use of figures / diagrams where appropriate.

Note: The final revision of your proposal form should be converted to a **PDF** in your GitLab repo from where it will be automatically collected.

Idea

The idea for my app is an Irish sneaker based app. As a sneakerhead it is an area that I'm very passionate about. I am constantly getting messages off people I know and people off Instagram wondering where to get certain pairs of sneakers. I want to create an app that offers consumers a place to find their sneakers without having to crawl through multiple sites. I want to crawl the websites of Irish retailers for their sneakers and compile pages for different brands/ models. The app will show you wear the nearest retailer to purchase the sneakers you want and show you lowest prices. The app will be broken up into sections - Catalog, Hyped Releases and Community.

The Catalog section will contain data scraped from Irish Retailers allowing one channel for consumers to shop for their sneakers.

The Hyped Releases will be the very limited sneakers that are raffled off and available through competitions. There is normally one or two big drops a month and unless you're checking retailers instagrams regularly, you won't know about releases. I want to ensure all Irish sneakerheads get a chance at these sneakers.

The Community section will contain information about events within the community and to show off local creatives and talent.

Background

The app idea came from my own experiences and my friends. I am constantly checking Instagram and Twitter to stay on top of sneaker drops and trying to find the best deal for a certain model of sneakers. I want to make a more efficient way of sneaker shopping.

Achievements

The app will functions as the one channel consumers shop for sneakers, instead of spending hours going through various sites. The users will be in majority 16-24 year olds that are passionate about sneakers and fashion.

Justification

The sneaker market is quite niche but it growing hugely every year. While working at Life Style Sports we collected data on how Irish customers shop. Over 70 percent of people would rather shop with Irish retailers. Creating an app that will allow customers to find everything in one place will save people time and money while supporting Irish businesses.

Programming Languages

I will be using Android Studio to create the application with Java.

I'm planning on using Beautiful Soup with Python to extract HTML data to compile the catalog from retailers, it will also be used to try and automate information about raffles for limited releases.

I will also be using CSS for design.

Programming Tools

Android Studio will be the main tool used to program the application.

I will be using a database to store all the data scraped using Python and will use SQLAlchemy to communicate with the database.

Learning Challenges

There are quite a few challenges with this application.

1. **Automating the products scraped** - Each retailer will have brand, model, size run of each sneaker. I need to find a way for the database to interpret the same sneakers throughout different sites to create a product page in the app with all the available retailers. This is quite tough as a lot of websites simply allow filtering by the primary colour e.g Nike Air Max 97 "Black" - although there could be 4-5 different variations of that model in black. I need to interpret which products are the exact same from different retailers.
2. **Automating the limited releases** - Currently people will spend hours on Instagram finding information regarding limited sneaker drops. I want to find a method of automating the information from a release for example scraping the retailers instagram for keywords e.g "Raffle"
3. **Python Programming** - Last year for our third year project, our application was entirely written in Java. Although I have dabbled Python throughout the years of this course, I have never created something using Python. Python will play a key part in operating the web scraping which is something I have no experience with.
4. **Optimisation** - Issues we ran into for our application last year was how poorly optimised it was for different devices. It didn't scale correctly and was designed with my phone in mind. When used on smaller devices text would go off the screen and images would be skewed to one side. Also instead of streaming a lot of data, the application was quite large in size due to storing a lot of files locally. I would like to focus a lot this year on optimisation.

Hardware/ Software Platform

The application will be developed for Android operating system. It will support devices back to Android 4.4.

I will be using a OnePlus 6 for testing the application.

UI Mockups

Potential design ideas for the app.