Criterion A - Planning

Defining The Problem

Mr. Aarons has large expenses due to employing VA's (Virtual Assistants) to automated activities on his social media accounts.

Word Count: 19

Description of Scenario

My client, Mr. Aarons, is a self employed multiple business owner who runs e-commerce brands. Adev is looking for a program that can automate activities on his social media accounts such as commenting, following¹ and composing a list of users. Adev is looking to run the program on a daily basis² in order to form a list of desirable users that can be reached out to.

Word Count: 66

Rationale For the Proposed Product

The reason for a computerized program with graphical user interface (GUI), is because it allows the user to interact with the program, rather than simply have it run with no interaction at all. NetBeans will be used as the integrated development environment because it has integrated GUI features which make the visual creation of the program much easier than hard coding it. The language in which the program will be written is Java. Java is the language learned in the Object-Oriented Programming (OOP) option and has the following features via OOP:

- Encapsulation increase reliability
- Inheritance Easier to organize "Modularity"
- Representation of real-life "objects"

Using a graphical user interface allows the user to interact with the program and gather necessary inputs from the user in order to run the program. Behind the scenes, the Selenium Webdriver framework will be utilized. Selenium allows interaction with online data and the automation of various tasks through social media platforms. This enables the extraction of data that can be found online and used within the program. The user would be able to run a 'scraper' or multiple 'scrapers' which can be considered as "web crawling" and retrieve the data from a user's profile on www.instagram.com. This will mimic a virtual assistant serving the same function, and ensure that no suspicious activity is detected by Chrome or Instagram.

Word Count: 224

¹ Adev Aarons, interview by author, Bangkok, November 17, 2020, transcript section 1, Appendix 1 IA

² Adev Aarons, interview by author, Bangkok, November 17, 2020, transcript section 1, Appendix 1 IA

Initial Prototype Design:

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A second interview will be conducted in order to receive feedback from the client, so the program can better suit the needs and visual requirements of the client.



Improved Prototype After Client Feedback³:

³ Adev Aarons, interview by author, Bangkok, November 17, 2020, transcript section 2, Appendix 1 IA

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Criteria of Success:

- A commenting and like bot that automates tasks done by VA
 - According to the interview⁴, my client desires a program which can replace the work done by his virtual assistant which he employs. He can use a program which does the same task as the VA's without paying a fee.
- Functioning scraper that can extract profiles from instagram
 - In order to gather the users, a scraper Instagram account will be created which will follow users and allow the program to interact with these users. This way, there will be no requirement to locally store the list of users.
- An easy and manageable way to use the program with cookies⁵.
 - Instead of having the user manually input a web session id cookie, they will be prompted with a chrome login window where they will log in to their account, and from there the program will automatically retrieve the session id cookie.
- Rare occurrence of action blocks on instagram.
 - Instagram only allows a certain amount of actions to be done per quantity of time, which requires the program to wait a random amount of time before executing every action. The user requested⁶ that the program should be mindful of how much activity it does on Instagram so hisaccounts do not get blocked.
- Running either a scraper or commenter, and the user is able to stop it⁷
 - I will use a Thread object in order to stop the scraper or commenter per the users requests. Having this feature function properly would be very useful for the user.
- Fetching and saving data to and from an SQLite database
 - The data such users scraped, users that were commented on, comments and model profiles⁸ should be saved to a database and then fetched for the automation scripts to use.
- Displaying data from SQLite database to JTables
 - The client requested⁹ to be able to see the users they have already commented on and the amount of people they've scraped, so this could be displayed on a Jtable in one of the tabs.
- Error handling
 - The program will have to handle various errors which include user influenced errors and external errors relating to the web automation. Firstly, it is important that the program takes in the right data types the user is to input. Secondly, if there is an error due to an Instagram page not being found, the program will handle this by simply moving on, but noting that the error has occurred.

⁵ Adev Aarons, interview by author, Bangkok, December 29, 2020, transcript section 2, Appendix 1 IA

⁴ Adev Aarons, interview by author, Bangkok, November 17, 2020, transcript section 1, Appendix 1 IA

⁶ Adev Aarons, interview by author, Bangkok, November 17, 2020, transcript section 1, Appendix 1 IA

⁷ Adev Aarons, interview by author, Bangkok, December 29, 2020, transcript section 2, Appendix 1 IA

⁸ Adev Aarons, interview by author, Bangkok, November 17, 2020, transcript section 1, Appendix 1 IA

⁹ Adev Aarons, interview by author, Bangkok, December 29, 2020, transcript section 2, Appendix 1 IA