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Instagram Bot

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Overview

An instagram bot that can **mass text users, receive and read a text back and store it somewhere with user details** and much more. Exploring options like instagram API , selenium driver etc

Goals Formulated

- ❖ **Login into Instagram:** (Achieved)
- ❖ **Texting to a Single User:** (Achieved)
- ❖ **Following Users:** (Achieved)
- ❖ **Responding to a Single User:** (Achieved)
- ❖ **Texting to Multiple Users:** (Achieved)
- ❖ **Creating Group and texting in it:** (Achieved)
- ❖ **Downloading a number of posts with a keyword:** (Achieved)
- ❖ **Liking a number of posts of a user/hashtag:** (Achieved)
- ❖ **Logging Out:** (Achieved)
- ❖ **Building a GUI app:** (On the way)

Specifications

Platform: Python files. Virtual Environment using PIPENV.

Libraries: Selenium, Time, Pyperclip, Pyautogui, OpenCv, os, wget

Softwares: Windows Chromedriver

Low-Level Specs: Whole program is built in Object Oriented fashion and Modular structure is followed throughout.

Milestones

July 15, 2021

1. Setting up virtual environment - pipenv

Creating a project directory and setting up a virtual environment using pipenv. Then downloading dependencies required for the project such as selenium. **PIPENV is better than virtualenv as it supports version control.**

```
C:\Users\ABHILASH\Desktop\InstaBot>pipenv shell
Launching subshell in virtual environment...
Microsoft Windows [Version 10.0.19042.1083]
(c) Microsoft Corporation. All rights reserved.

(InstaBot-Sux8_mwP) C:\Users\ABHILASH\Desktop\InstaBot>pipenv install selenium
Installing selenium...
Adding selenium to Pipfile's [packages]...
Installation Succeeded
Installing dependencies from Pipfile.lock (e89fe3)...
===== 0/0 - 00:00:00
```

2. Downloading Chromedriver and Login to Instagram using selenium

There are other libraries too that help login to instagram such as **kora**, **instapy** but all use selenium as their backend, hence it'll be beneficial to learn selenium from scratch.

```
from instapy import InstaPy

session = InstaPy(username="<your_username>",
password="<your_password>")

session.login()
```

3. Running python interactively

```
python -i bot.py
```

-i flag runs python interactively. This helps to inspect the chromedriver window even after all commands have been run. Otherwise the driver windows shut down as soon as the program ends.

4. Sleep vs EC (expected conditions)

Each webpage has its own life cycle, where all the elements load one after the other to assemble the content. So if the element we are targeting is still being processed and hasn't been loaded on the page yet – Selenium won't be able to detect it.

Solution 1:

```
from time import sleep

sleep(<appropriate amount of time>)
```

Solution 2: expected conditions

```
from selenium.webdriver.support import expected_conditions as EC
from selenium.webdriver.common.by import By
from selenium.webdriver.support.wait import WebDriverWait

username = WebDriverWait(driver,
10).until(EC.element_to_be_clickable((By.CSS_SELECTOR,
)))
```

Solution 2 is rather advanced, saves time and is compatible for all devices. Hence we'll carry on with Solution 2.

Milestones

July 16, 2021

1. Object - oriented - ness and Modular Structure

Creating different files for different functions enhances clarity in code and helps to debug faster. Object oriented code provides proper abstraction.

2. Messaging to a single user/group or to multiple users/groups

Program to text to a single user/group has been coded. The function takes a 'user' parameter and a 'message' parameter. Looping the previous program can send messages to multiple users individually.

3. Creating a group with certain users and texting in it

Program very similar to the previous two with just some logical differences.

4. Using Action Chains

Action chains can perform a wide range of operations such as hovering, right click, long click etc.

5. Message Retrieval

Computer Vision is used for the retrieval of messages. **Pyautogui** library was used for detection of elements so as to navigate to the latest message and copy it to the clipboard. Then **pyperclip** was used to paste the retrieved message to a specified file.

6. Downloading a number of posts by a certain keyword

First searching for a keyword which is generally a user or a hashtag then downloading a number of posts of it using the **wget** library. Then creating a directory and saving all the images there using os library.

Milestones

July 17, 2021

1. Liking a number of posts by a hashtag or of a user:

The method `find_elements_by_tag_name` returns all the elements of the webpage of which the specified criterion is met, whereas `find_element_by_tag_name` returns only the first element.

2. The retrieve message function is dependent upon the screen size.

The method uses relative movement and searches on the screen. Thus it is required to change the images in the 'images' folder for the retrieve_message function to work.

3. If last message is sent by us

Then the retrieve function will return that message only and will save it by the other user's name.

4. The same follow function can be used to unfollow.

The same like function can be used to unlike.

5. For the whole application to run:

OTP by message security has to be turned off, and access should be given for once to the chromedriver software.
