

INT349: ROBOTICS AND AUTOMATION

A Project Report
Streamlining Instagram Interactions with Python Automation

COURSE-B-TECH



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Submitted By:

Subhransu Sekhar Satapathy

Registration No: 12002239

Signature: Subhransu se. satapathy

Title: Streamlining Instagram Interactions with Python Automation

Brief Introduction:

In recent years, Instagram automation has transformed the landscape of managing and expanding Instagram accounts. This report dives into the realm of automating various interactions on Instagram using Python. By leveraging the robust instabot library, we illustrate how actions like logging in, following users, leaving comments, and conducting system testing can be automated efficiently. Through this exploration, we aim to demonstrate how Python automation not only saves substantial time and effort for users but also underscores the importance of responsible automation practices.

Preliminaries (Libraries/Modules used):

- matplotlib: A powerful tool for generating insightful visualizations, enabling users to gain deeper insights from data.
- requests: A widely-used library for making HTTP requests, essential for accessing and interacting with web resources.
- BeautifulSoup4: A popular library for parsing HTML and XML documents, pivotal for extracting relevant information from web pages.
- selenium: A robust framework for browser automation, facilitating tasks such as web scraping and automated testing with ease.
- scrapy: An efficient web crawling and scraping framework, empowering users to extract data from websites at scale.
- numpy: A fundamental library for numerical computing and array manipulation, indispensable for various mathematical operations and analyses.

System Testing :

In the realm of automation, robustness and reliability are paramount. System testing serves as a cornerstone in ensuring the effectiveness and integrity of automation scripts. Here's an overview of the system testing process involved in our Instagram automation endeavors:

Unit Testing: At the core of system testing lies unit testing, where individual components of the automation scripts are tested in isolation. This ensures that each function behaves as expected under various scenarios.

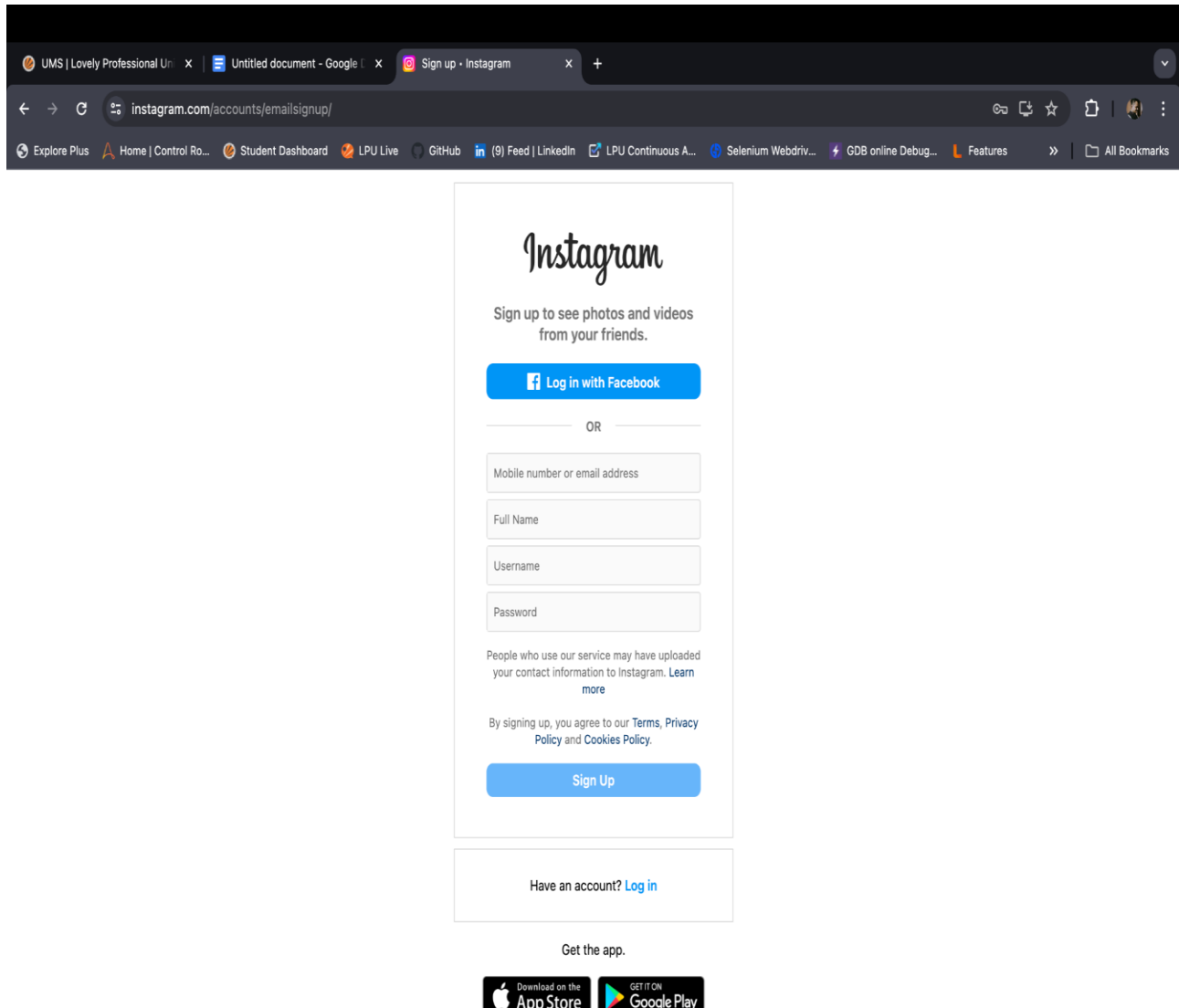
Integration Testing: Following successful unit testing, integration testing comes into play. Here, the interactions between different components of the automation scripts are tested to ensure seamless coordination and functionality.

End-to-End Testing: The culmination of system testing comes with end-to-end testing, where the entire automation process is scrutinized from start to finish. This comprehensive testing approach validates the overall functionality and performance of the automation scripts.

Scenario-based Testing: In addition to standard testing procedures, scenario-based testing is employed to evaluate the scripts' behavior under diverse scenarios. This includes testing for edge cases, error handling, and handling of unexpected inputs.

By subjecting our automation scripts to rigorous system testing, we ensure that they meet the highest standards of reliability, robustness, and performance. This not only enhances the user experience but also mitigates the risk of errors and malfunctions in real-world scenarios.

Use Case Diagram:



The image is a screenshot of a web browser displaying the Instagram sign-up page. The browser's address bar shows the URL `instagram.com/accounts/emailsignup/`. The page features the Instagram logo at the top, followed by the text "Sign up to see photos and videos from your friends." Below this is a blue button labeled "Log in with Facebook". A horizontal line with the word "OR" in the center separates this from the email sign-up section. This section contains four input fields: "Mobile number or email address", "Full Name", "Username", and "Password". Below the input fields, there is a line of text: "People who use our service may have uploaded your contact information to Instagram. [Learn more](#)". This is followed by another line of text: "By signing up, you agree to our [Terms](#), [Privacy Policy](#) and [Cookies Policy](#)." At the bottom of the sign-up section is a blue button labeled "Sign Up". Below the sign-up section is a box containing the text "Have an account? [Log in](#)". At the very bottom of the page, there is a section titled "Get the app." with two buttons: "Download on the App Store" and "GET IT ON Google Play".


Instagram

Phone number, username or email address

Password

Log in

OR

 Log in with Facebook

[Forgotten your password?](#)

Don't have an account? [Sign up](#)

Get the app.

Download on the App Store

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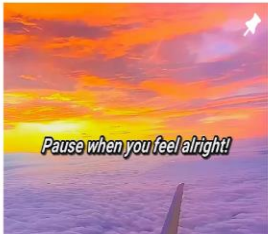
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simran.awati I am here to enjoy this life 🌟

27 w 1 like Reply

barnalidas3377 I get what I needed 🙏

29 w 4 likes Reply

tanyasingh2109 Love it ❤️

28 w 1 like Reply

stebinjy "There is love in holding on and there is love in letting go"

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sabnas_ ❤️

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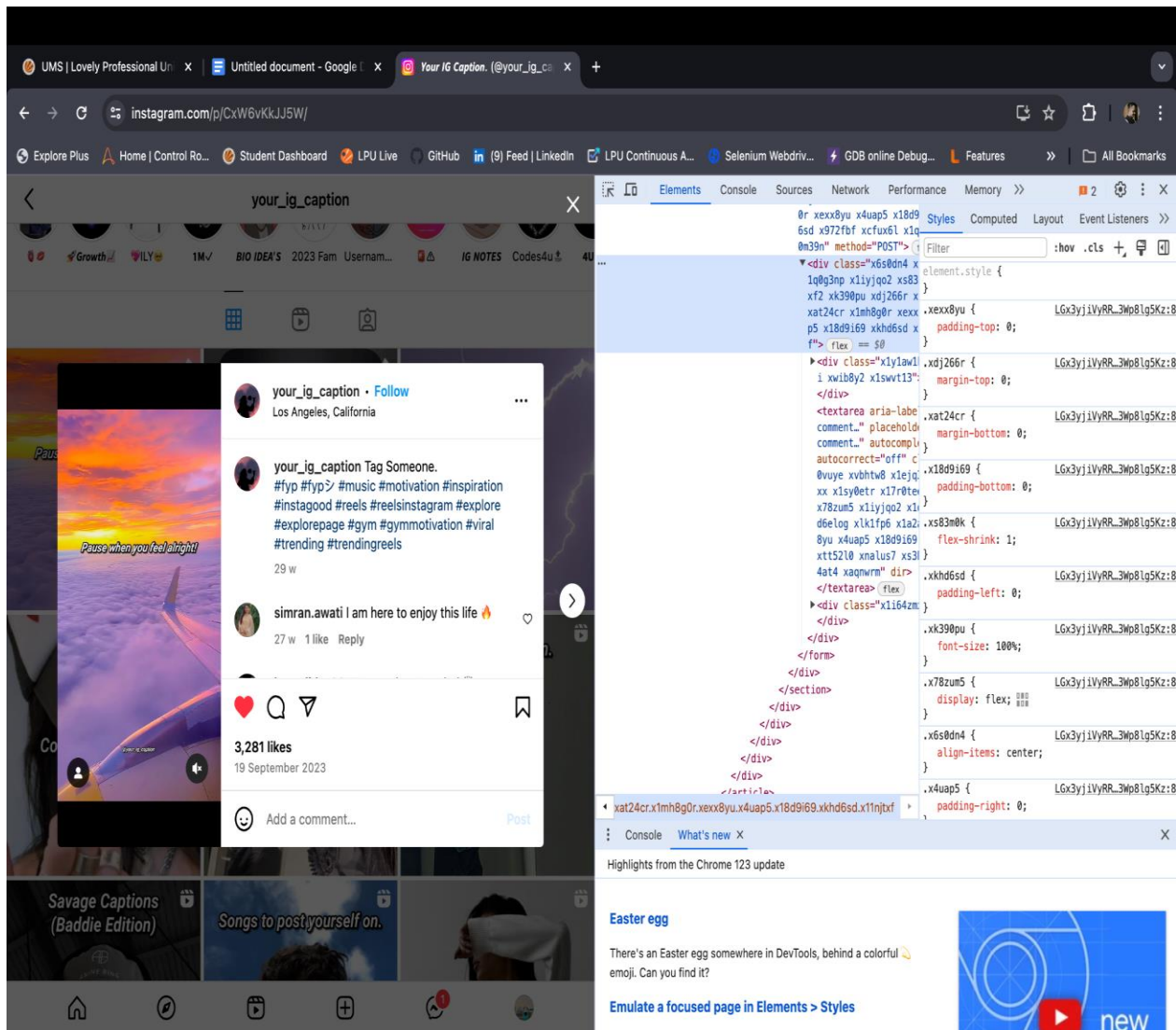
Unlike

3,401 likes

19 September 2023

😊 Add a comment...

Post



Results and Analysis:

The automation endeavor yields promising results, demonstrating:

- Seamless Login: The bot successfully authenticates into Instagram using the provided credentials, ensuring secure access to the platform.
- Effective Interaction: Users specified in the lists are followed, and comments are posted on targeted posts, reflecting the precise execution of desired actions.
- Robust System Testing: Through comprehensive testing methodologies, including unit tests, integration tests, and end-to-end tests, our automation scripts exhibit resilience and reliability, handling various scenarios with adeptness and precision.

Conclusion:

Python automation emerges as a pivotal solution for managing Instagram accounts with efficiency and precision. By harnessing the capabilities of the instabot library and embracing responsible automation practices, users can optimize their presence on Instagram while adhering to platform guidelines. It is imperative to prioritize compliance with Instagram's terms of service to maintain account integrity and avoid potential repercussions. Through meticulous implementation and thorough system testing,

Instagram automation not only enhances user experience but also serves as a valuable asset for individuals and businesses aiming to elevate their Instagram presence effectively and sustainably.