

Karnatak Law Society's
GOGTE INSTITUTE OF TECHNOLOGY
Udyambag Belagavi -590008
Karnataka, India.



A Course Project Report on
Image Posting Bot using UIPath studio
Submitted for the requirements of 5th semester B.E. in CSE
for “Robotics Process Automation (18CS645)”
Submitted by

NAME	USN
1)Nimisha G J	2GI20CS074
2)Prathamesh B	2GI20CS094

Under the guidance of
Prof. Vidyadheesh Pandurangi
Academic Year 2022-2023 (Even semester)

Karnatak Law Society's
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Udyambag Belagavi -590008
Karnataka, India.

Department of Computer Science and Engineering



Certificate

This is to certify that the Course Project work titled **“Image Posting Bot using uipath”** carried out by **Nimisha G J, Prathamesh B** bearing **USNs: 2GI20CS074, 2GI20CS094** for **Robotics Process Automation (18CS645)** course is submitted in partial fulfilment of the requirements for 6th semester B.E. in **COMPUTER SCIENCE AND ENGINEERING**, Visvesvaraya Technological University, Belagavi. It is certified that all corrections/suggestions indicated have been incorporated in the report. The course project report has been approved as it satisfies the academic requirements prescribed for the said degree.

Date:

Place: Belagavi

Signature of Guide

Prof. Vidyadheesh Pandurangi
KLS Gogte Institute of Technology, Belagavi

Karnatak Law Society's
GOGTE INSTITUTE OF TECHNOLOGY
Udyambag Belagavi -590008

Academic Year 2022-23 (Even Semester)

Semester: V

Course: Robotics Process Automation (18CS645)

Rubrics for evaluation of Course Project

S.No	Project / Seminar	Name→		Prathamesh B
		USN →	Nimisha g j 2GI20CS074	2GI20CS094
		Max. Marks		
1	Relevance of the project and its objectives	02		
3	Demonstration / Presentation	03		
4	Q and A	02		
5	Project Report	03		
	Total	10		

1.Engineering Knowledge: Apply the knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems.

2.Problem Analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and Engineering sciences.

3.Design/Development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

4. Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

5. Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

6. The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

7. Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

9. Individual and team work: Function effectively as an individual and as a member or leader in diverse teams, and in multidisciplinary settings.

10. Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

11. Project management and finance: Demonstrate knowledge and understanding of the engineering management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

12. Life-long learning: Recognize the need for and have the preparation and ability to engage in independent and lifelong learning in the broadest context of technological channel

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Title:

Image Posting Bot

Introduction:

In today's digital age, social media platforms have become an integral part of our lives, offering a way to connect and share moments with friends, family, and even the wider world. As social media continues to evolve, businesses and individuals alike are leveraging its power to promote their products, services, and personal brand. One key aspect of successful social media engagement is regularly posting captivating and visually appealing images.

However, manually uploading images to various social media platforms can be a time-consuming and repetitive task. This is where automation comes into play. UiPath Studio, a popular Robotic Process Automation (RPA) tool, provides a powerful solution to automate mundane tasks like image posting on social media.

An image posting bot built using UiPath Studio can significantly streamline the process of uploading images to multiple platforms simultaneously. By leveraging UiPath's intuitive user interface and visual workflow designer, developers can create a bot that interacts with social media APIs and performs actions such as selecting images, writing captions, and posting them on platforms like Instagram, Facebook, or Twitter.

The image posting bot can be customized to cater to specific requirements, allowing users to define various parameters such as the frequency of posts, targeted audience, and even image filters. This level of automation not only saves valuable time but also ensures consistency and accuracy in image posting.

Additionally, UiPath Studio offers a range of powerful features such as image recognition, OCR (optical character recognition), and text analytics, which can be integrated into the image posting bot. These features enable the bot to perform advanced tasks, such as automatically extracting relevant information from images or analyzing user engagement metrics.

Overall, an image posting bot built using UiPath Studio empowers businesses and individuals to automate the process of sharing visually appealing content on social media platforms. By eliminating repetitive manual tasks and leveraging the capabilities of UiPath Studio, users can focus on creating compelling images and engaging with their audience, ultimately driving brand awareness, increasing social media presence, and achieving their digital marketing goals.

Technologies used:

UiPath Studio: This is the development environment for UiPath. It allows you to create and run automations.

Design:

To design an effective image posting bot using UiPath Studio, we need to consider various components and workflows. Here's a high-level design for the bot:

User Interface:

Create a user-friendly interface to interact with the bot.

Include options to select social media platforms (e.g., Instagram, Facebook, Twitter).

Provide fields to input image location, caption, hashtags, and other relevant information.

Allow users to define posting frequency and schedule.

Image Selection and Preparation:

Implement a module to browse and select images from a local directory or cloud storage.

Add image processing capabilities to resize, crop, or apply filters as required.

Include error handling for unsupported image formats or invalid file locations.

Social Media Integration:

Integrate with social media platform APIs (e.g., Instagram API, Facebook Graph API) to authenticate and authorize access.

Implement posting functions to upload images, write captions, and add relevant metadata.

Handle API responses to ensure successful posting and capture any errors or exceptions.

Text Analytics and Hashtag Generation:

Utilize text analytics capabilities (such as UiPath's built-in activities or external APIs) to extract keywords or topics from the image caption or content.

Generate relevant hashtags based on the extracted keywords to increase visibility and reach on social media platforms.

Scheduling and Automation:

Implement a scheduling module to allow users to define the frequency and timing of image posts.

Use UiPath's scheduling features or external tools (e.g., Windows Task Scheduler) to automate the bot's execution at specified intervals.

Error Handling and Logging:

Include robust error handling mechanisms to capture and handle exceptions or failures during image posting.

Log relevant information, such as successful uploads, errors encountered, or API responses, for troubleshooting and analysis.

Reporting and Analytics:

Implement tracking and analytics functionality to monitor the bot's performance.

Capture metrics such as engagement, reach, likes, comments, or shares for each posted image.

Generate reports or visualize data to provide insights into the effectiveness of the bot's social media engagement.

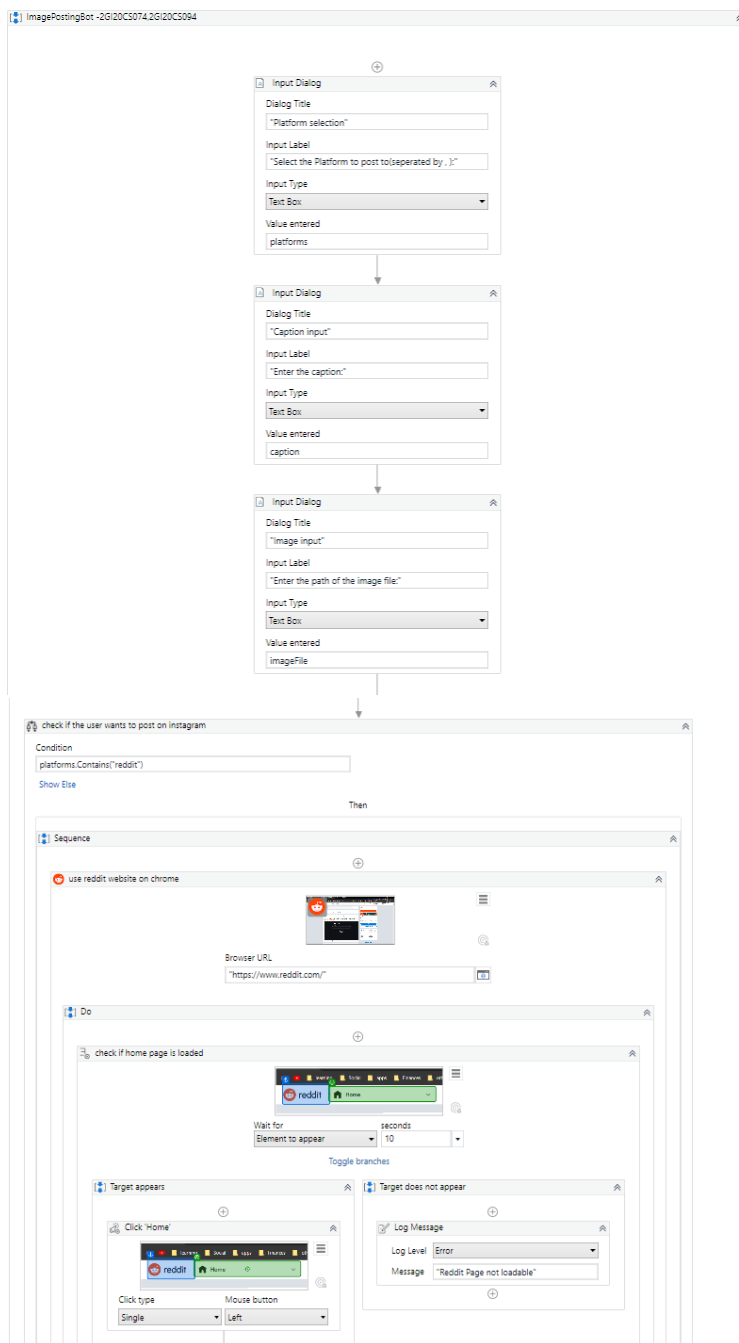
Security and Privacy:

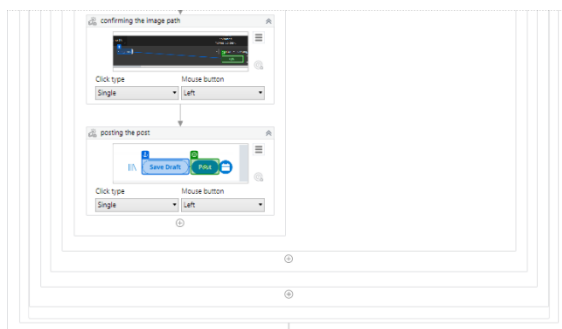
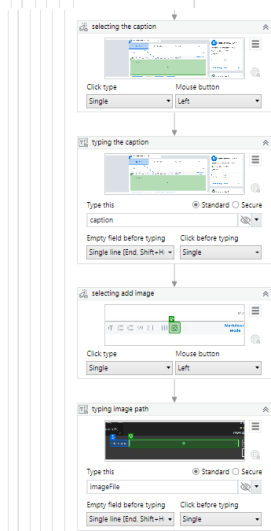
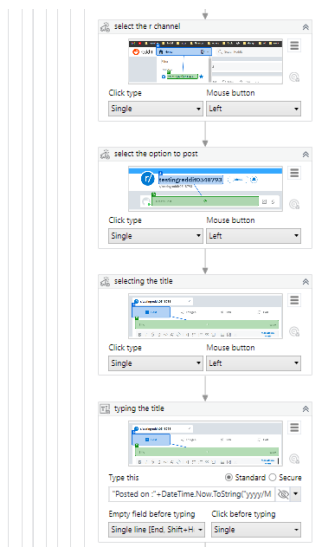
Ensure secure handling of login credentials or access tokens for social media platforms.

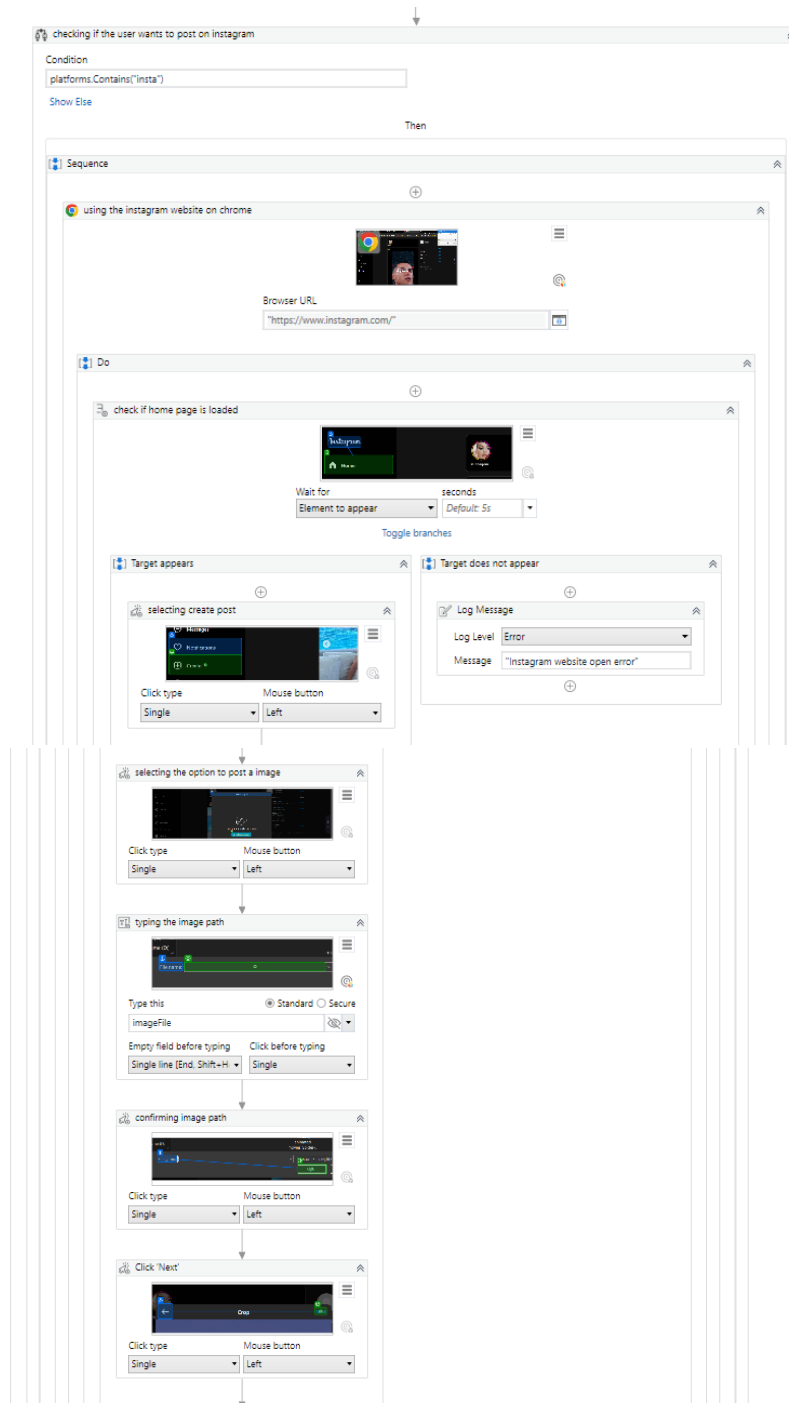
Comply with data protection regulations and consider privacy aspects when handling user data or images.

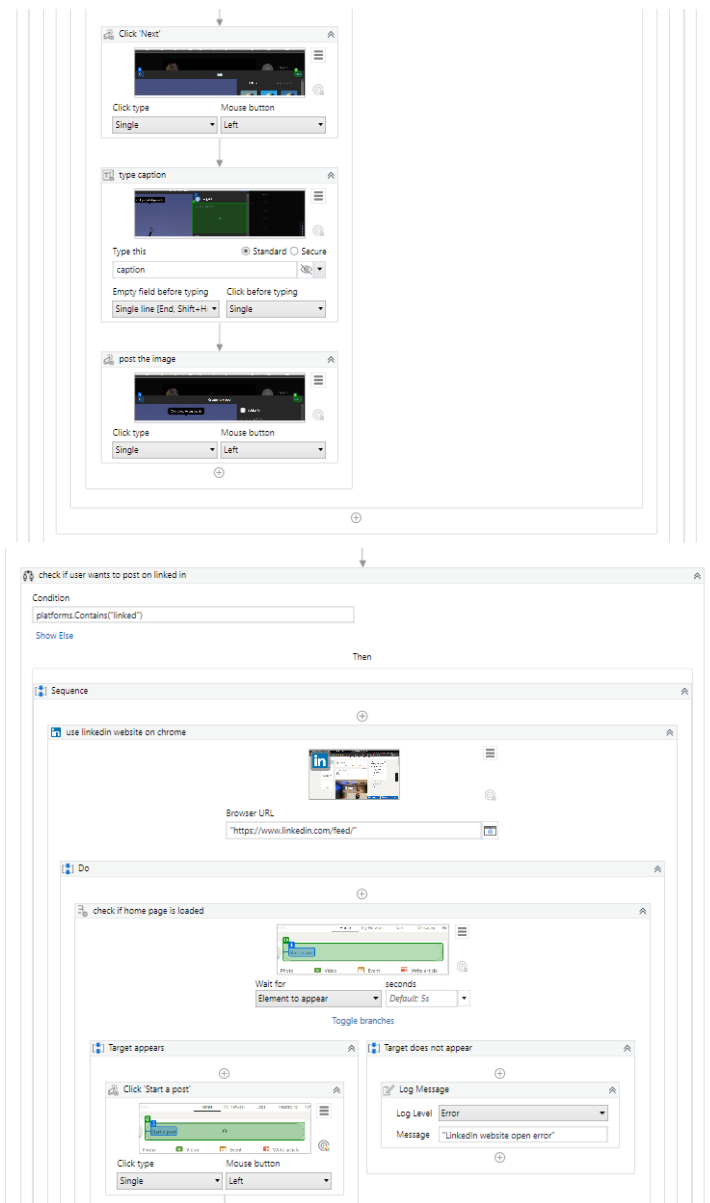
By following this design, you can create a powerful image posting bot using UiPath Studio, streamlining the process of sharing captivating visuals on various social media platforms while reducing manual effort and increasing efficiency.

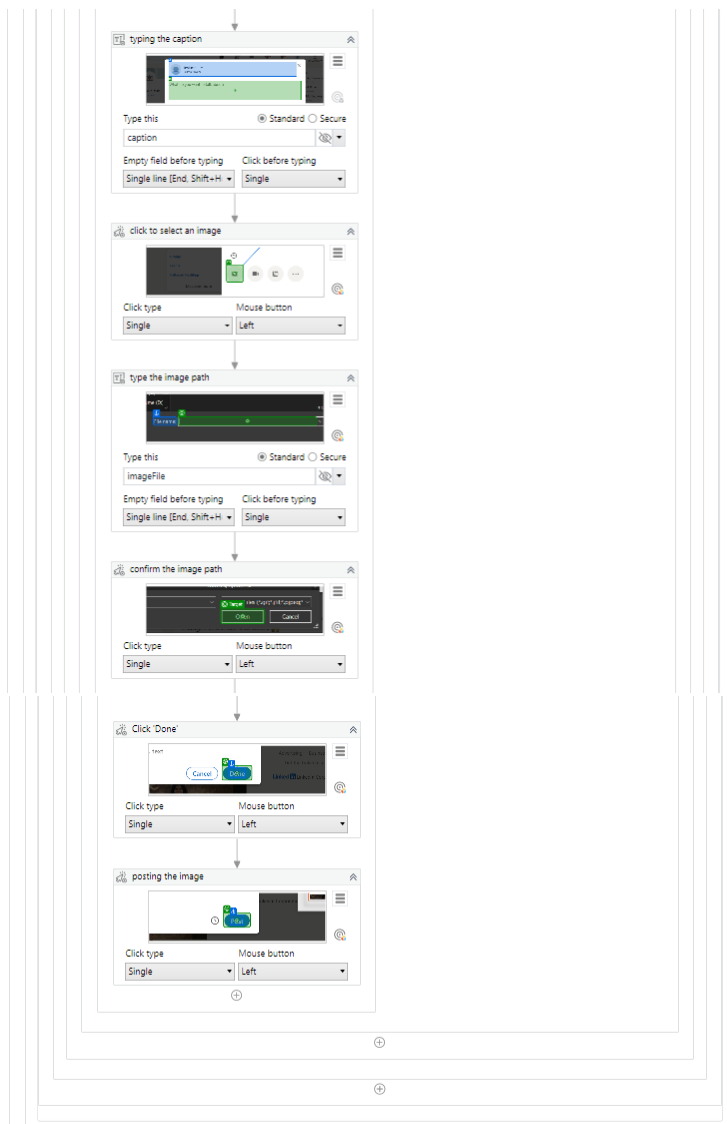
Working:

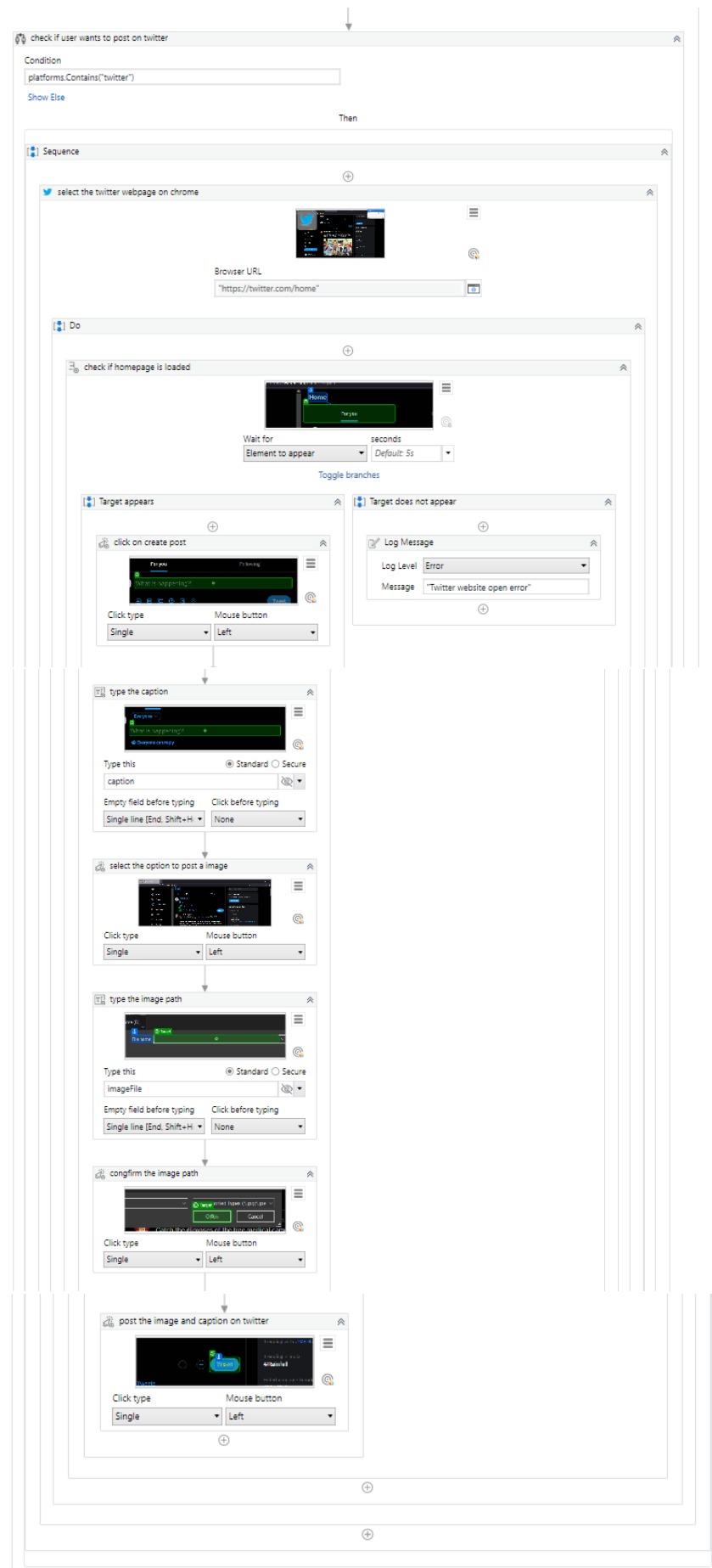


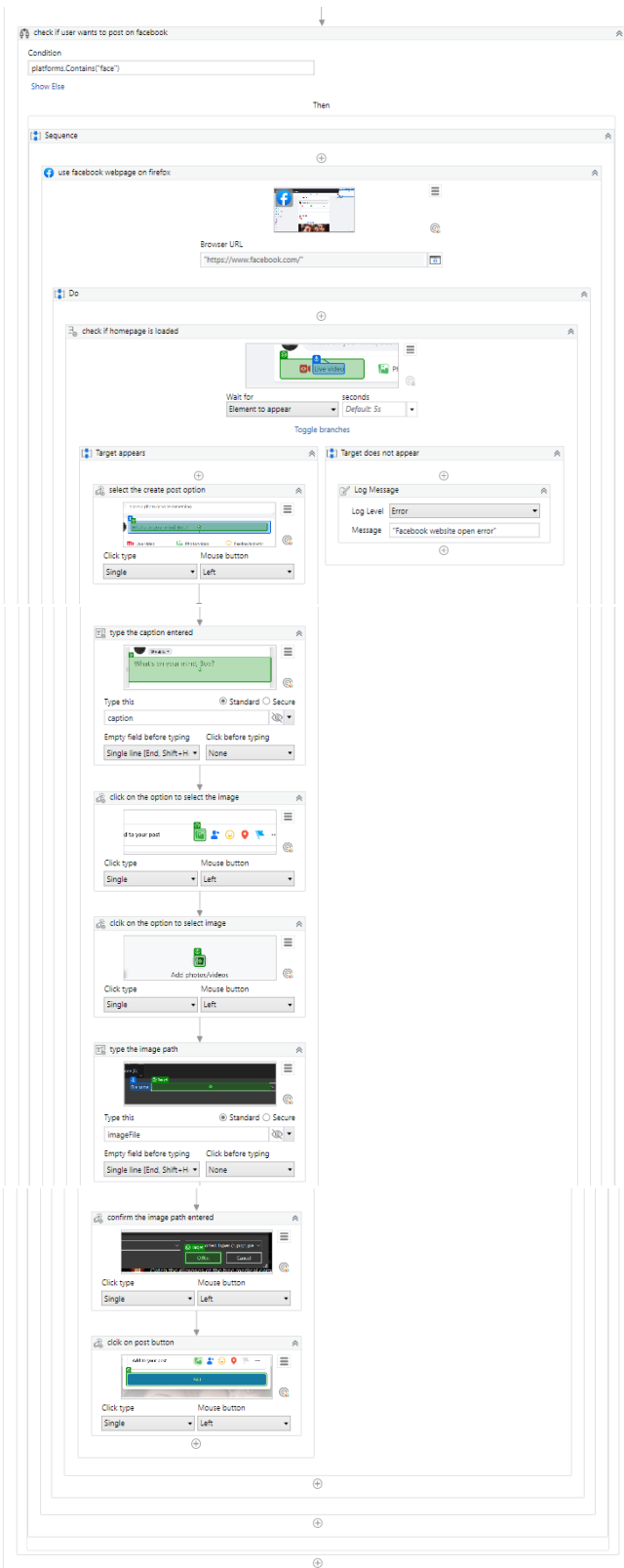




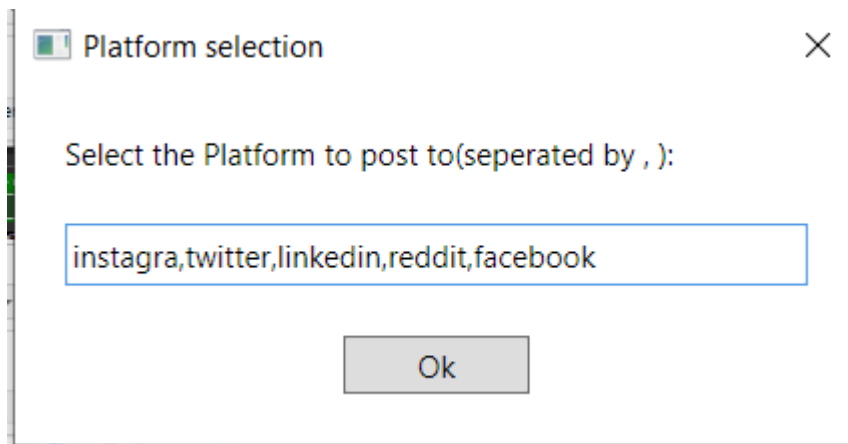




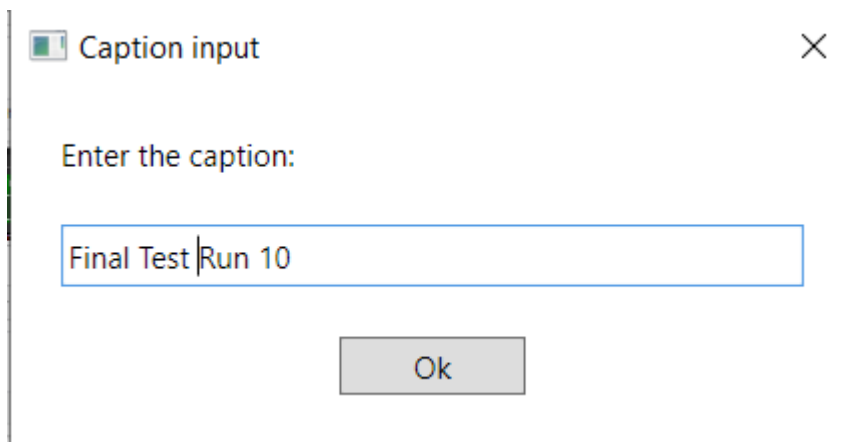




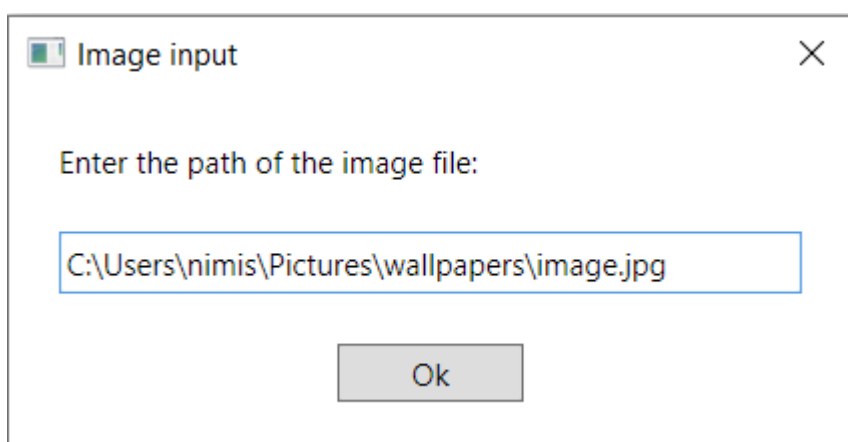
Input:



A dialog box titled "Platform selection" with a close button (X) in the top right corner. The text inside says "Select the Platform to post to(seperated by ,):". Below this is a text input field containing the text "instagra,twitter,linkedin,reddit,facebook". At the bottom center is an "Ok" button.



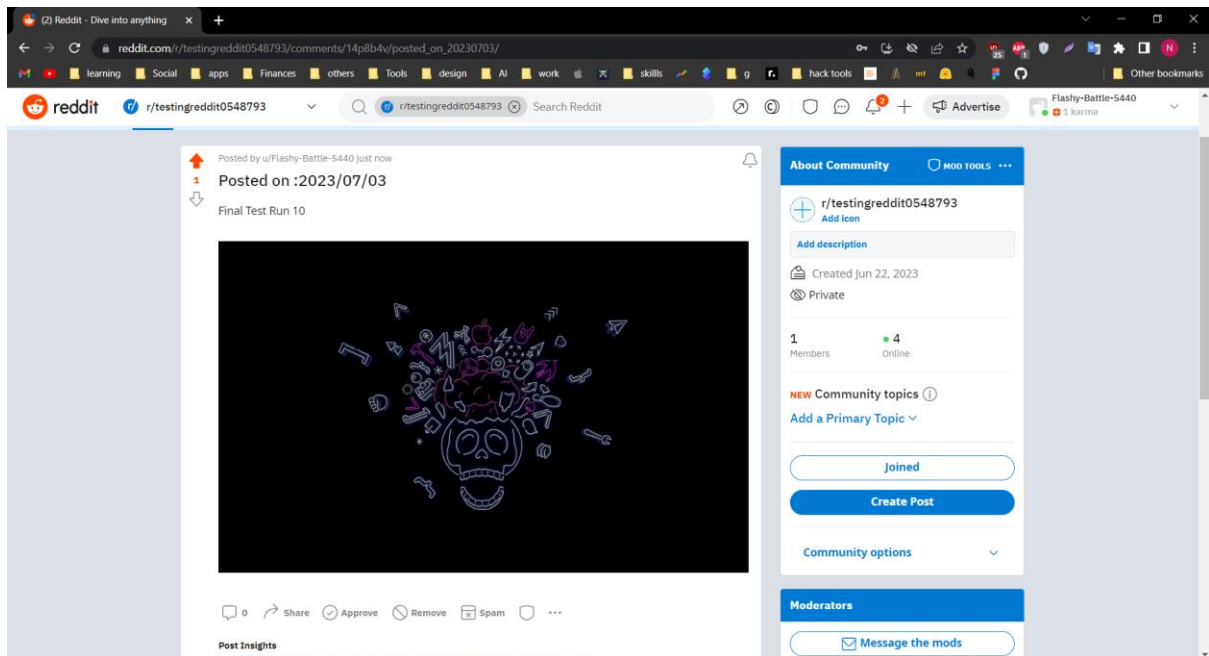
A dialog box titled "Caption input" with a close button (X) in the top right corner. The text inside says "Enter the caption:". Below this is a text input field containing the text "Final Test | Run 10". At the bottom center is an "Ok" button.



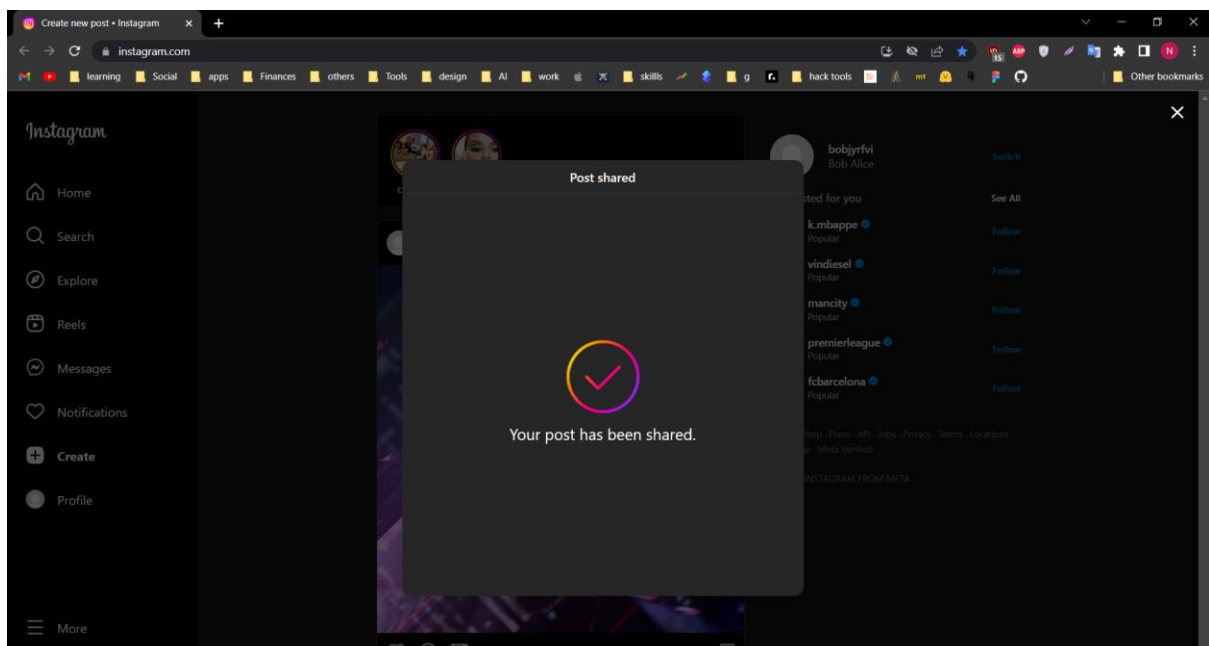
A dialog box titled "Image input" with a close button (X) in the top right corner. The text inside says "Enter the path of the image file:". Below this is a text input field containing the text "C:\Users\nimis\Pictures\wallpapers\image.jpg". At the bottom center is an "Ok" button.

Output:

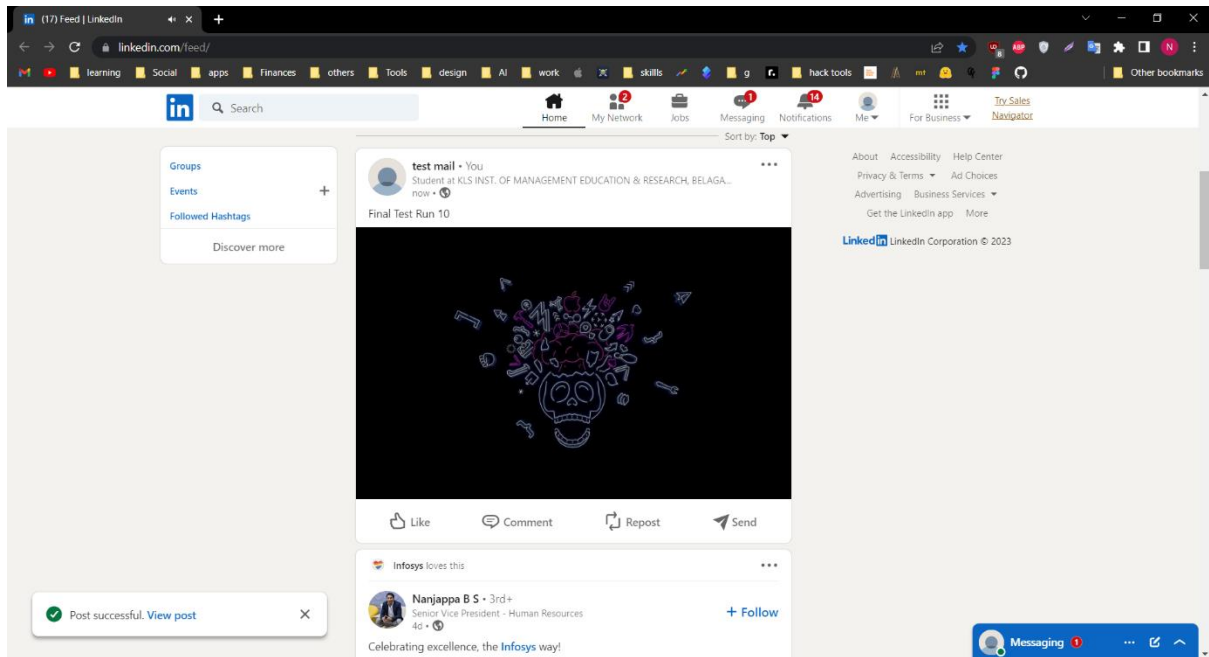
Result on reddit:



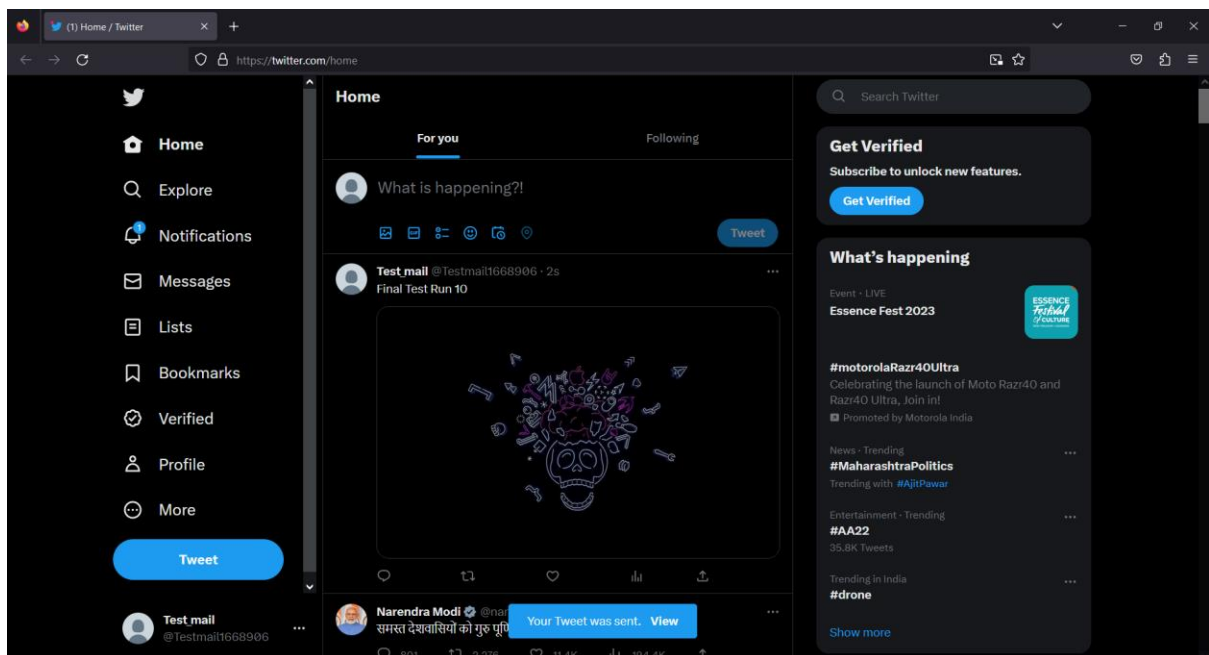
Result on Instagram:



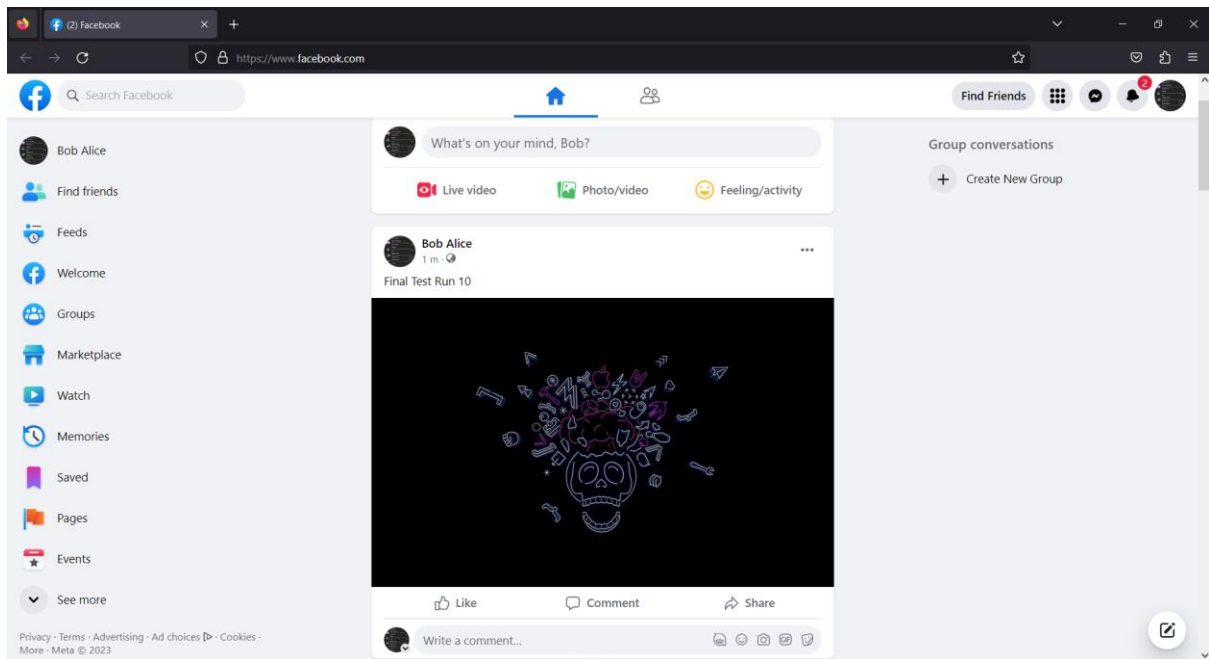
Result on Linkedin:



Result on Twitter:



Result on facebook:



Log Files:

- ① Debug started for file: Main
- ② imagePostingBot execution started
- ① Audit: Using Web App. Browser: Chrome URL: <https://www.reddit.com/>
- ① Audit: Using Web App. Browser: Chrome URL: <https://www.instagram.com/>
- ① Audit: Using Web App. Browser: Chrome URL: <https://www.linkedin.com/feed/>
- ① Audit: Using Web App. Browser: Firefox URL: <https://twitter.com/home>
- ① Audit: Using Web App. Browser: Firefox URL: <https://www.facebook.com/>
- ② imagePostingBot execution ended in: 00:04:32

Conclusion:

In conclusion, the image posting bot built using UiPath Studio presents a valuable solution to automate the process of uploading images to social media platforms. By harnessing the power of UiPath's user-friendly interface and automation capabilities, businesses and individuals can save time, ensure consistency, and enhance their social media presence.

The design for the image posting bot encompasses key components such as user interface, image selection and preparation, social media integration, text analytics, scheduling and automation, error handling and logging, as well as reporting and analytics. These components work together to create a seamless and efficient workflow for posting images on platforms like Instagram, Facebook, or Twitter.

The image posting bot's user interface provides an intuitive way to interact with the bot, allowing users to select images, write captions, and input relevant information. The integration with social media platform APIs ensures secure access and enables the bot to upload images, write captions, and add metadata to posts. Advanced features like text analytics and hashtag generation enhance the visibility and reach of the posted images, maximizing engagement.

By leveraging UiPath Studio's powerful automation tools and following the design outlined, businesses and individuals can streamline their social media posting process, saving time, increasing efficiency, and driving brand awareness. With the image posting bot handling repetitive tasks, users can focus on creating compelling visuals and engaging with their audience, ultimately achieving their digital marketing goals and enhancing their social media presence.

References:

UiPath YouTube Channel

UiPath Academy

UiPath Documentation

UiPath Forum