INTRODUCTION :

ABSTRACT :

The Instagram Emotion Tracker is a Python-based project that aims to analyse user behaviour on Instagram and predict their emotional state in real-time. Leveraging web scraping, OCR (Optical Character Recognition), and machine learning techniques, the project monitors the user's Instagram viewing activities, extracts text from images, and applies a trained emotion prediction model to infer the user's emotions. Emotions are categorized into predefined classes such as anger, happiness, and sadness, and corresponding emojis are displayed to the user as notifications. By providing insights into user sentiment and engagement with social media content, the Instagram Emotion Tracker offers a novel approach to understanding online behaviour and enhancing user experience.

OVERVIEW OF THE PROJECT :

The Instagram Emotion Tracker is a Python-based application designed to track a user's activities on Instagram and predict their emotional state based on the content they interact with. The project combines web scraping, OCR (Optical Character Recognition), and machine learning techniques to provide real-time insights into user behaviour and sentiment on the social media platform.

Key Components:

1. **Data Collection :** The application utilizes Selenium WebDriver to interact with Instagram's web pages and capture screenshots of the user's feed. These screenshots are then processed to extract text using Pytesseract OCR.

2. **Emotion Prediction :** A pre-trained machine learning model is employed to predict the user's emotional state based on the extracted text. The model categorizes emotions into predefined classes such as anger, happiness, and sadness.

3. **Notification System :** The application notifies the user of their predicted emotions using the win10toast library. Emotions are associated with corresponding emojis for user-friendly notifications.

By continuously monitoring the user's Instagram activity and analysing the content they engage with, the Instagram Emotion Tracker offers valuable insights into user sentiment and engagement. The project demonstrates a novel approach to understanding online behaviour and enhancing user experience on social media platforms.

PROBLEM DEFINITION :

The problem addressed by the Instagram Emotion Tracker is the lack of real-time insights into user sentiment and emotional engagement on the Instagram platform. Traditional methods of analysing user behaviour on social media often rely on manual observation or post-interaction surveys, which are time-consuming and subjective. Additionally, understanding the emotional impact of content can be challenging, especially when it involves images or videos.

The Instagram Emotion Tracker aims to solve this problem by providing an automated system that tracks a user's Instagram activities and predicts their emotional state based on the content they interact with. By leveraging web scraping, OCR (Optical Character Recognition), and machine learning techniques, the project offers a real-time solution for analyzing user sentiment and engagement with social media content.

Key aspects of the problem definition include :

1. **Real-time Insights :** Users want to understand their emotional responses to social media content as they engage with it, rather than relying on retrospective analysis.

2. **Automated Analysis :** Manual methods of analysing user behaviour and sentiment on social media are inefficient and impractical for real-time monitoring. An automated system is needed to streamline the process.

3. **Emotion Prediction :** Predicting user emotions based on content interaction is challenging, especially when dealing with multimedia content like images and videos. The project aims to accurately predict user emotions using machine learning techniques.

4. **User Experience Enhancement :** Understanding user sentiment and emotional responses can help improve the overall user experience on social media platforms by tailoring content recommendations and providing relevant notifications.

OBJECTIVES OF THE PROJECT :

- Track user's Instagram viewing activities.
- Extract text from images using OCR.
- Predict user's emotional state based on extracted text.
- Notify user of their predicted emotion.

EXISTING SYSTEM :

The existing system for tracking user activities and analysing emotions on Instagram typically relies on manual observation or post-interaction surveys. Users may manually reflect on their interactions with content and assess their emotional responses. Alternatively, social media platforms may conduct surveys or collect feedback from users after they have engaged with specific posts or features.

Disadvantages

1. **Subjectivity :** Manual observation and self-reporting of emotions are subjective and prone to biases. Users may not accurately recall or report their emotional responses, leading to unreliable data.

2. **Time-Consuming :** Conducting post-interaction surveys or manually analysing user behaviour requires time and resources. This approach is not conducive to real-time monitoring of user sentiment and engagement.

3. **Limited Insights :** The existing system may only provide surface-level insights into user behaviour and emotions. It may not capture nuanced emotional responses or understand the context in which users engage with content.

4. **Inefficient :** Relying on manual methods for analysing user behaviour and sentiment on a large scale is inefficient and impractical. It may not scale well to handle the vast amount of content and interactions on social media platforms like Instagram.

5. **Lack of Automation :** The existing system lacks automation, making it difficult to provide timely insights or personalized recommendations to users based on their emotional responses.

PROPOSED SYSTEM :

The proposed system enhances the Instagram Emotion Tracker project by addressing its limitations and introducing new features for improved functionality and user experience. Here's an overview of the proposed system and its advantages :

1. Automated Emotion Tracking :

- Description : The proposed system automates the process of tracking user activities on Instagram and analysing their emotional responses to content.

- Advantages : This automation reduces the need for manual intervention, allowing for real-time monitoring and analysis of user behaviour. It saves time and resources while providing timely insights into user sentiment.

2. Enhanced Emotion Prediction Model :

- Description : The proposed system improves the accuracy and robustness of the emotion prediction model by incorporating advanced machine learning techniques and larger datasets.

- Advantages : A more accurate model leads to more reliable predictions of user emotions, enabling personalized recommendations and targeted interventions based on user sentiment.

3. Advanced Text Extraction Techniques :

- Description : The proposed system explores advanced text extraction techniques beyond traditional OCR, such as natural language processing (NLP) and deep learning-based methods.

- Advantages : These techniques enable better extraction of text from images, especially in cases where OCR may struggle, leading to more accurate analysis of user-generated content.

4. Interactive User Interface :

- Description : The proposed system includes an interactive user interface that allows users to visualize their emotional responses to Instagram content in real-time.

- Advantages : An intuitive and user-friendly interface enhances user engagement and satisfaction. It provides users with actionable insights into their emotional engagement with social media content.

5. Scalability and Extensibility :

- Description : The proposed system is designed to be scalable and extensible, allowing for easy integration of new features and support for a growing user base.

- Advantages : Scalability ensures that the system can handle increasing volumes of data and users over time, while extensibility allows for the addition of new functionalities to meet evolving user needs.

6. Enhanced Privacy and Security Measures :

- Description : The proposed system incorporates advanced privacy and security measures to protect user data and ensure compliance with data protection regulations.

- Advantages : Improved privacy and security measures build user trust and confidence in the system, encouraging greater adoption and usage.

7. Continuous Monitoring and Optimization :

- Description : The proposed system includes mechanisms for continuous monitoring and optimization, such as automated performance tracking and model retraining.

- Advantages : Continuous monitoring ensures that the system remains responsive and efficient, while optimization efforts lead to ongoing improvements in accuracy and performance.

MODULE DESCRIPTION :

- Data Collection Module
- Emotion Prediction Module
- Notification System Module
- Main Loop Module
- Supporting Module

1.Data Collection Module :

- Description : This module is responsible for collecting data related to the user's Instagram activities. It utilizes Selenium WebDriver to interact with Instagram's web pages and capture screenshots of the user's feed. The extracted text from these screenshots is then processed using Pytesseract OCR to extract relevant information.

- Functionality : Capturing screenshots, extracting text using OCR.

2. Emotion Prediction Module :

- Description : This module incorporates a pre-trained machine learning model to predict the user's emotional state based on the extracted text from Instagram screenshots. It categorizes emotions into predefined classes such as anger, happiness, and sadness and associates emojis with predicted emotions for user-friendly notifications.

- Functionality : Loading and using the trained model for emotion prediction.

3. Notification System Module :

- Description : This module handles the notification process to inform the user about their predicted emotions. It utilizes the win10toast library to display notifications with emojis representing the predicted emotions. Additionally, it monitors the occurrence of specific emotions and triggers notifications when certain conditions are met.

- Functionality : Displaying notifications with predicted emotions, monitoring emotion occurrences.

4. Main Loop Module :

- Description : This module controls the main execution flow of the application. It continuously monitors the user's Instagram activities, triggers the emotion prediction process, and manages the notification system. It acts as the central component that orchestrates the interaction between other modules.

- Functionality : Managing the main execution flow, coordinating interaction between modules.

5. Supporting Modules :

- Image Processing Module : Handles image cropping and conversion to grayscale for OCR.

- Model Loading Module : Loads the emotion prediction model and associated data.

- Browser Interaction Module : Manages interaction with the Instagram web page using Selenium WebDriver.

- Emotion Emoji Mapping Module : Defines a dictionary mapping emotions to corresponding emojis for notifications.

- Error Handling Module : Handles exceptions and errors that may occur during execution, ensuring smooth operation of the application.

SOFTWARE USED :

- Python 3.12
- Visual Studio Code
- Microsoft Excel

- Tesseract – OCR Engine
- Jupyter Notebook

LIBRARIES USED :

- Cv2(OpenCV)
- Numpy
- Pytesseract
- Pandas
- Scikit – learn
- Joblib
- Selenium
- Win10toast

1. **Cv2 (OpenCV) :** Used for image processing tasks such as cropping and conversion to grayscale.

2. **Numpy :** Fundamental package for numerical operations in Python.

3. **Pytesseract :** A Python wrapper for Google's Tesseract-OCR Engine, used for text extraction from images.

4. **Pandas :** A powerful data analysis and manipulation library, used for handling datasets.

5. **Scikit-learn :** A machine learning library in Python, used for loading and using the pre-trained emotion prediction model.

6. **Joblib :** Used for saving and loading machine learning models.

7. **Selenium :** Used for web scraping and browser automation to interact with Instagram's web pages.

8. **Win10toast :** A Python library for displaying Windows 10 Toast notifications, used for notifying users of their predicted emotions.

CONFIGURATION :

- HARDWARE CONFIGURATION
- SOFTWARE CONFIGURATION

HARDWARE CONFIGURATION :

The specification of the hardware :

- **Processor :** Intel Core i5
- **System :** Windows 10 pro
- **System Type :** 64-bit Operating System , x64 – based processor
- **Hard Disk Capacity :** 1 TB
- **RAM :** 8 GB SD RAM
- **Monitor :** 19 inch colour
- **Mouse :** Optical

SOFTWARE CONFIGURATION :

The specification of software :

- **Operating System :** Windows 10 pro
- **Application :** Python 3.12

SOFTWARE SPECIFICATION :

PYTHON :

Python is a high-level, interpreted programming language known for its simplicity, readability, and versatility. Here are some key aspects of Python:

1. **Readability :** Python's syntax is designed to be easily readable and concise, making it accessible to beginners and experts alike. Its code structure emphasizes indentation to define blocks, which enhances readability.

2. **Versatility :** Python is a general-purpose language used in various domains, including web development, data analysis, machine learning, artificial intelligence, scientific computing, automation, and more. Its extensive standard library and vast ecosystem of third-party packages make it suitable for a wide range of applications.

3. **Interpreted and Interactive :** Python is an interpreted language, meaning that code is executed line by line by an interpreter. This allows for rapid development and testing, as changes can be immediately observed. Python also supports interactive mode, where commands can be executed directly in the interpreter shell.

4. **Object-Oriented :** Python supports object-oriented programming (OOP) principles, allowing for the creation of classes and objects. It also

supports other programming paradigms like procedural and functional programming.

5. **Large Ecosystem:** Python has a vast ecosystem of third-party packages and libraries available through the Python Package Index (PyPI). These packages extend Python's capabilities and cover a wide range of domains, including web frameworks (e.g., Django, Flask), data science (e.g., NumPy, Pandas, TensorFlow), machine learning (e.g., scikit-learn), and more.

FEATURES OF PYTHON :

- Simple and Readable Syntax
- Dynamic Typing Automatic Memory Management
- Rich Standard Library
- Extensive Third - party Libraries
- Integration Capabilities
- Cross – platform Compatiblity

LIBRARIES :

Libraries in Python are collections of pre-written code that provide additional functionality and tools to simplify development. They contain modules, which are files containing Python code that can be imported and used in your own programs. Libraries can be used to perform specific tasks, such as data analysis, web development, scientific computing, machine learning, and more. Popular Python libraries include NumPy for numerical computing, pandas for data manipulation and analysis, Matplotlib for data visualization, and TensorFlow for machine learning. These libraries save time and effort by providing ready-to-use functions and classes that can be integrated into your code. Here's a detailed overview of the libraries used in your project:

1. OpenCV (cv2) :

- Description : OpenCV (Open Source Computer Vision Library) is a popular open-source library for computer vision and image processing tasks. It provides a wide range of functionalities for image and video processing, including reading and writing images, performing transformations, object detection, and more.

- Functionality : In my project, OpenCV (cv2) is used for image processing tasks such as cropping, converting images to grayscale, and extracting text from screenshots captured during web scraping.

2. NumPy :

- Description : NumPy is a fundamental package for numerical computing with Python. It provides support for large, multi-dimensional arrays and matrices, along with a collection of mathematical functions to operate on these arrays efficiently.

- Functionality : NumPy is used in my project for numerical operations, particularly in handling image data and performing calculations related to image processing tasks.

3. Pytesseract :

- Description : Pytesseract is a Python wrapper for Google's Tesseract-OCR Engine. It allows for easy integration of optical character recognition (OCR) capabilities into Python applications, enabling the extraction of text from images.

- Functionality : Pytesseract is utilized in my project for extracting text from screenshots captured during web scraping. It enables the conversion of image-based text into machine-readable text data, which can then be further analysed.

4. Pandas :

- Description : Pandas is a powerful data analysis and manipulation library for Python. It provides data structures such as Data Frame and Series, along with functions and methods for reading, writing, filtering, transforming, and analysing tabular data.

- Functionality : Pandas is used in my project for handling datasets, particularly for reading CSV files containing words and corresponding emotions. It facilitates data manipulation and analysis tasks related to emotion prediction.

5. Scikit-learn :

- Description : Scikit-learn is a machine learning library in Python that provides simple and efficient tools for data mining and data analysis. It includes various algorithms for classification, regression, clustering, dimensionality reduction, and more.

- Functionality : Scikit-learn is employed in my project for loading and using the pre-trained machine learning model for emotion prediction. It provides functionalities for training, evaluation, and prediction using machine learning models.

6. Joblib :

- Description : Joblib is a library in Python for saving and loading Python objects, including NumPy arrays, lists, dictionaries, and more. It is particularly useful for saving and loading machine learning models and their associated data.

- Functionality : Joblib is used in my project for saving and loading the pre-trained machine learning model for emotion prediction. It enables the model to be serialized and stored in a file, allowing for easy reuse and deployment.

7. Selenium :

- Description : Selenium is a popular web automation tool used for automating web browsers. It provides a WebDriver API that allows for interacting with web pages, filling out forms, clicking buttons, capturing screenshots, and more.

- Functionality : Selenium is utilized in my project for web scraping and browser automation to interact with Instagram's web pages. It allows for capturing screenshots of the user's Instagram feed for further analysis.

8. win10toast :

- Description : win10toast is a Python library for displaying Windows 10 Toast notifications. Toast notifications are small pop-up notifications that appear on the screen, typically used to alert users about events or updates.

- Functionality : win10toast is used in my project for displaying notifications to the user with predicted emotions. It provides a user-friendly way to notify the user about their emotional state based on the analysis performed by the project.

These libraries collectively provide essential functionality for image processing, text extraction, data manipulation, machine learning, web scraping, and user notification in your project, enabling the Instagram Emotion Tracker to track user activities, analyse emotions, and provide real-time insights to users.

TESSERACT OCR :

1. Description:

- Tesseract OCR (Optical Character Recognition) is an open-source OCR engine developed by Google. It is widely used for extracting text from images, scanned documents, and other sources of image-based text.

- Tesseract is trained to recognize a wide range of languages and fonts, making it versatile for various OCR tasks.

2. Key Features :

- Accuracy : Tesseract OCR is known for its high accuracy in text recognition, especially for standard fonts and languages.

- Versatility : Tesseract supports a wide range of languages and fonts, making it suitable for OCR tasks in diverse contexts.

- Open-source : Being open-source, Tesseract is freely available and can be customized or extended to meet specific requirements.

- Preprocessing : Tesseract supports preprocessing techniques such as image binarization, noise reduction, and deskewing to improve text recognition accuracy.

- Configurability : Tesseract provides various configuration options for fine-tuning OCR parameters, such as page segmentation mode, language model, and character whitelisting/blacklisting.

3. Integration with Python :

- Pytesseract is a Python wrapper for Tesseract OCR, providing an easy-to-use interface for integrating Tesseract into Python applications.

- Pytesseract simplifies the process of using Tesseract OCR in Python, allowing developers to extract text from images with just a few lines of code.

4. Usage in My Project :

- In my project, Pytesseract is utilized to invoke Tesseract OCR and extract text from screenshots captured during web scraping activities on Instagram.

- The extracted text is then processed and analysed to predict user emotions based on the textual content found in the Instagram feed.

- Tesseract OCR plays a crucial role in enabling your project to analyse user interactions and emotions on social media platforms like Instagram, where textual content is prevalent.

Overall, Tesseract OCR provides a robust and reliable solution for extracting text from images, and its integration with Python through Pytesseract enhances its usability and accessibility for developers, as demonstrated in my project for analysing user emotions on Instagram.

TRAINED EMOTION PREDICTION MODEL :

1. Description :

- The trained emotion prediction model is a machine learning model that has been trained to predict the emotional state of users based on textual input.

- It is typically trained on a labelled dataset containing textual samples along with corresponding emotion labels (e.g., happy, sad, angry, etc.).

- The model learns patterns and relationships in the input data to make predictions about the emotional content of the text.

2. Machine Learning Algorithm :

- The specific machine learning algorithm used for training the emotion prediction model can vary depending on the implementation.

- Common algorithms used for text classification tasks like emotion prediction include Support Vector Machines (SVM), Naive Bayes, Logistic Regression, and more advanced techniques such as deep learning models like Recurrent Neural Networks (RNNs) or Transformers.

3. Training Data :

- The emotion prediction model is trained on a labelled dataset containing textual samples along with corresponding emotion labels.

- The dataset may be collected from various sources and annotated manually or using automated methods.

- Training data quality and diversity are crucial factors that influence the performance of the trained model.

4. Evaluation and Validation :

- Once trained, the emotion prediction model is evaluated and validated using separate test datasets to assess its performance.

- Evaluation metrics such as accuracy, precision, recall, F1-score, and confusion matrix are commonly used to measure the model's performance on emotion prediction tasks.

Overall, the trained emotion prediction model is a key component of the project, enabling the analysis of user emotions based on textual content extracted from social media platforms like Instagram. Its accuracy and performance significantly impact the effectiveness of your project in providing insights into user engagement and sentiment.

EMOTION DETECTION IN TEXT :

Emotion detection in text data involves identifying the emotions expressed in textual data. This can be a challenging task since emotions are often expressed in complex and subtle ways. Natural language processing (NLP) techniques can be used to analyse text data and identify the emotions expressed in it.

The aim of this project is to develop a model that uses NLP techniques to accurately detect emotions in text data. The model can be used for sentiment analysis, customer feedback analysis, and social media monitoring. The model is trained on a dataset of text data that has been labelled with the corresponding emotions expressed in it.

Dataset

The dataset used for this project contains text data labelled with one of eight emotions: anger, disgust, fear, joy, neutral, sadness, shame and surprise. The dataset contains a total of 34795 rows.

Methodology

The methodology used for this project involves the following steps:

1. **Preprocessing the text data :** The text data is pre-processed by removing stop words, punctuation, user handles and converting all text to lowercase.

2. **Model training :** A machine learning model is trained on the extracted features to predict the emotions expressed in the text data. The model used for this project is a Logistic Regression and Multinomial NB.

3. **Model evaluation :** The trained model is evaluated on the test data to measure its accuracy in detecting emotions in text data.

Results

The Logistic Regression achieved an accuracy of 62% on the data.

DIAGRAM INTRODUCTION :

Design is the first step in the development phase for any techniques And principles for the purpose of defining a device, a process or system in sufficient Detail to permit it physical realization. Once the software requirements have been

Analysed and specified the software design involves three technical activities Designs, coding, implementation and testing that are required to build and verify the Software.

DATA FLOW DIAGRAMS :

DFD is the abbreviation for **Data Flow Diagram**. The flow of data of a system or a process is represented by DFD. It also gives insight into the inputs and outputs of each entity and the process itself. DFD does not have control flow and no loops or decision rules are present. Specific operations depending on the type of data can be explained by a flowchart. It is a graphical tool, useful for communicating with users, managers and other personnel. it is useful for analysing existing as well as proposed system.

Rules for creating DFD

- The name of the entity should be easy and understandable without any extra assistance (like comments).
- The processes should be numbered or put in ordered list to be referred easily.
- The DFD should maintain consistency across all the DFD levels.
- A single DFD can have a maximum of nine processes and a minimum of three processes.

Symbols Used in DFD :

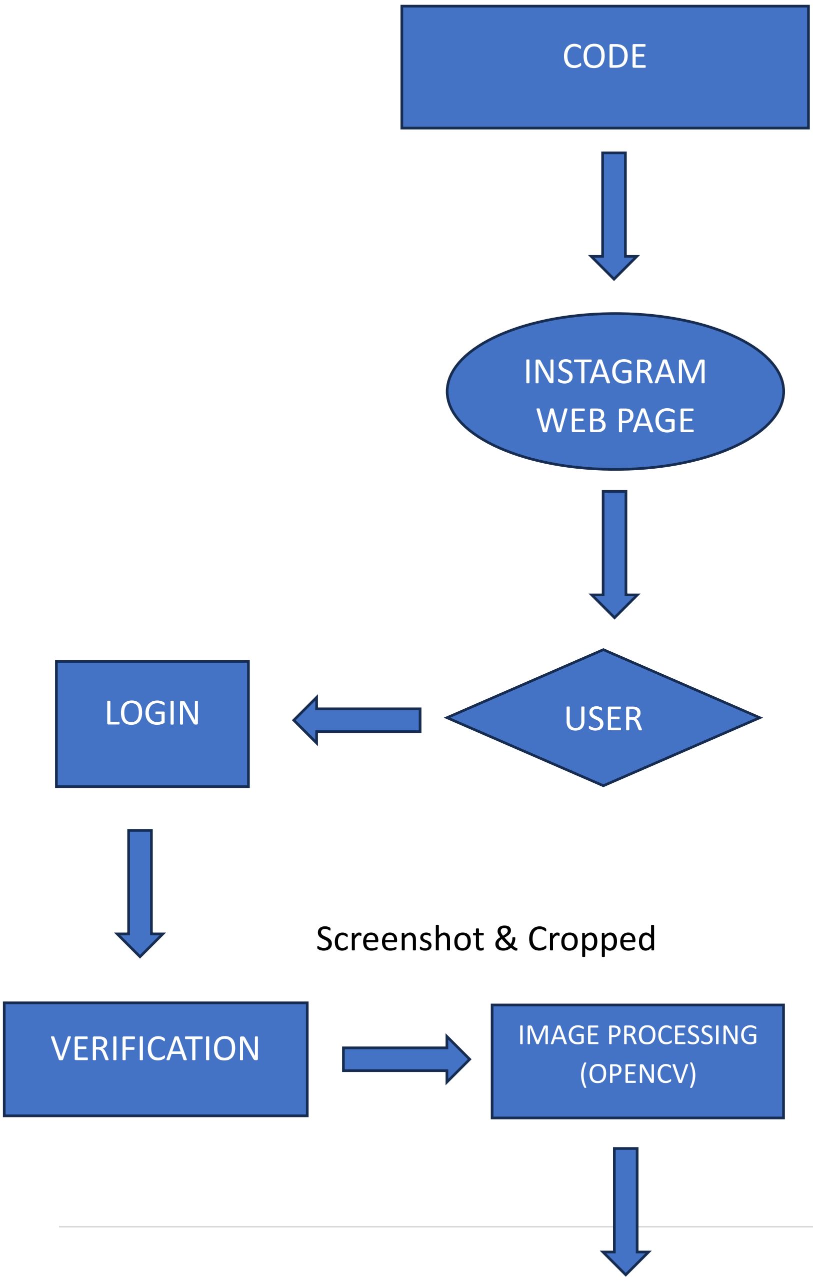
- **Square Box :** A square box defines source or destination of the system. It is also called entity. It is represented by rectangle.

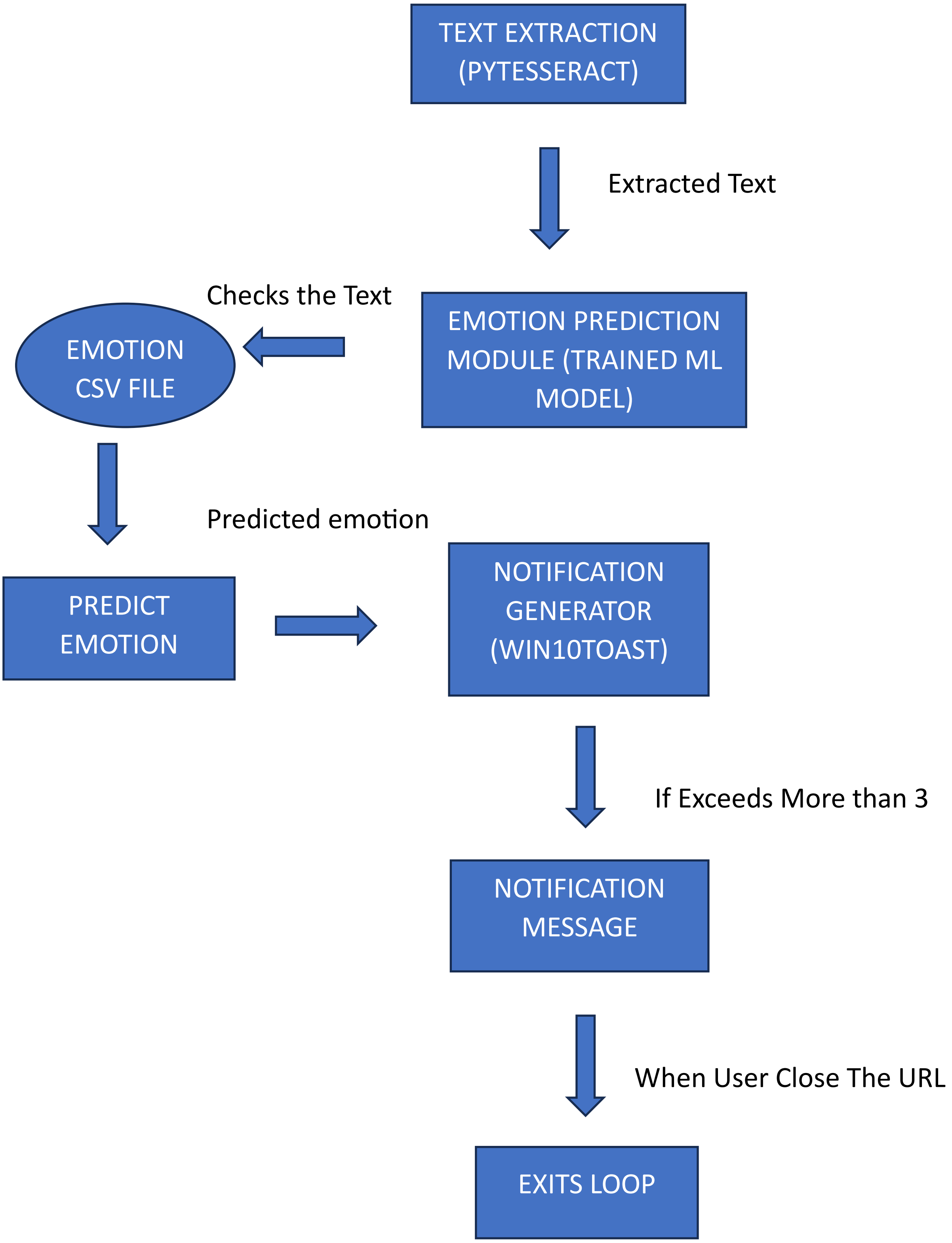
- **Arrow or Line :** An arrow identifies the data flow i.e. it gives information to the data that is in motion.

- **Circle or bubble chart :** It represents as a process that gives us information. It is also called processing box.

- **Open Rectangle :** An open rectangle is a data store. In this data is store either temporary or permanently.

DATA FLOW DIAGRAM :





SYSTEM IMPLEMENTATION :

Implementation is the process of converting a new or revised system design into an operational one when the initial design was done by the system; a demonstration was given to the end user about the working system.

This process is uses to verify and identify any logical mess working of the system by feeding various combinations of test data. After the approval of the system by both end user and management the system was implemented.

SYSTEM TESTING :

System testing is the stage of implementation, which is aimed to ensuring that the system works accurately and efficiently. The main objective of testing is to uncover errors from the system. Testing is done for each module. After testing all the modules, the modules are integrated and testing of the final system is done with the test data, specially designed to show that the system will operate successfully in all its aspects and conditions.

Testing is the process of exercising the software product in pre-defined ways to check if the behaviour is the same as expected behaviour. This project has undergone the following testing procedures to ensure it correctness.

- ➤ Unit Testing
- ➤ Validation Testing
- ➤ Integration testing

1. Unit Testing :

- Description : Unit testing involves testing individual units or components of the system in isolation to ensure they function correctly and meet their specifications.

- Implementation : In my project, unit testing would involve testing each module or function independently to verify its correctness and functionality.

- Example : I would write unit tests to verify that the image processing module correctly crops and converts images, the text extraction module accurately extracts text from images, and the emotion prediction module produces accurate predictions based on input text.

2. Integration Testing :

- Description : Integration testing verifies that individual units or components of the system work together as expected when integrated into a larger system.

- Implementation : In my project, integration testing would involve testing the interaction between different modules or components, ensuring they communicate correctly and produce the expected results when combined.

- Example: I would conduct integration tests to verify that the output of the image processing module serves as input to the text extraction module, and the output of the text extraction module is correctly processed by the emotion prediction module.

3. Validation Testing :

- Description : Validation testing confirms that the system meets the user's requirements and expectations and satisfies its intended purpose.

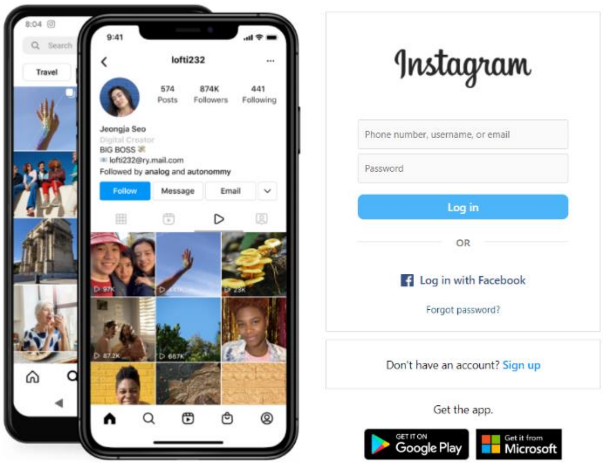
- Implementation : In my project, validation testing would involve verifying that the Instagram Emotion Tracker accurately predicts user emotions based on their Instagram activity and provides notifications accordingly.

- Example : I would perform validation tests with real users or test cases representing typical user interactions to validate the system's ability to analyse user emotions effectively and generate appropriate notifications.

Each testing phase plays a crucial role in ensuring the reliability, functionality, and effectiveness of your project. By systematically testing the system at different levels and stages of development, you can identify and address issues early, ultimately delivering a high-quality and robust Instagram Emotion Tracker to users.

SCREENSHOTS OF INSTAGRAM EMOTION TRACKER :

LOGIN PAGE :



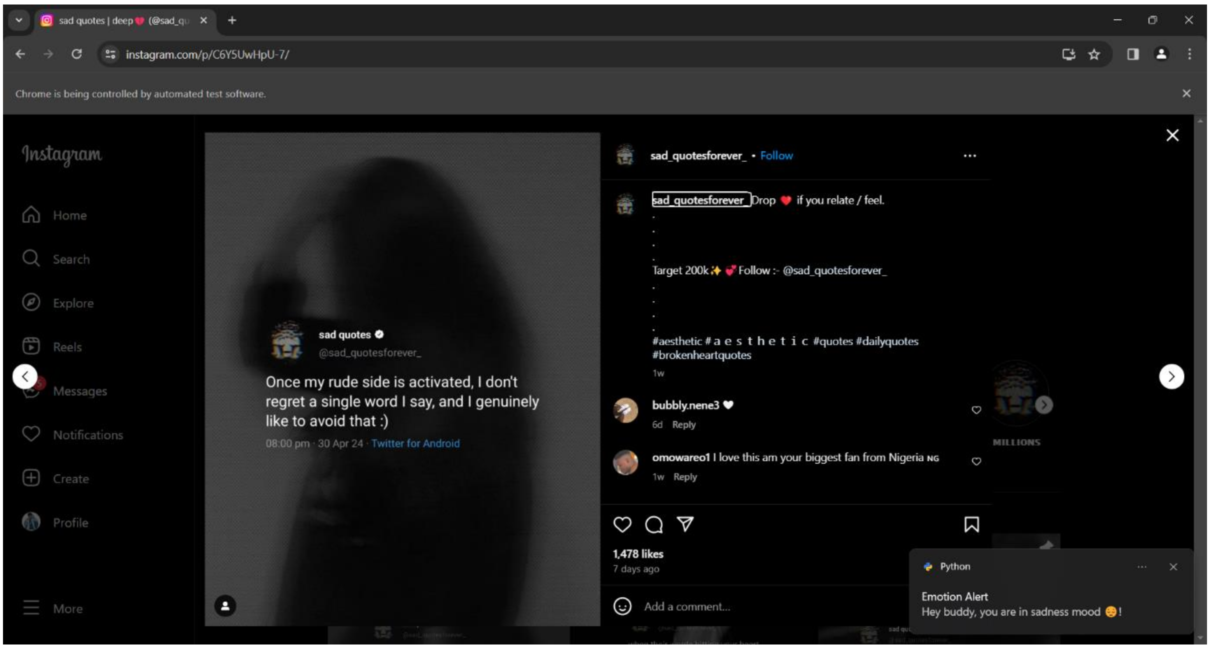
Phone number, username, or email

Password

Don't have an account? Sign up

Get the app.

EMOTION NOTIFICATION :



instagram.com/p/C6Y5UwHpU-7/

Chrome is being controlled by automated test software.

sad quotes
@sad_quotesforever_

Once my rude side is activated, I don't regret a single word I say, and I genuinely like to avoid that :)

08:00 pm · 30 Apr 24 · Twitter for Android

sad_quotesforever_ • Follow

sad_quotesforever_ Drop ❤ if you relate / feel.
.
.
.
Target 200k✨ 💕Follow :- @sad_quotesforever_
.
.
.
.
#aesthetic #a e s t h e t i c #quotes #dailyquotes #brokenheartquotes
1w

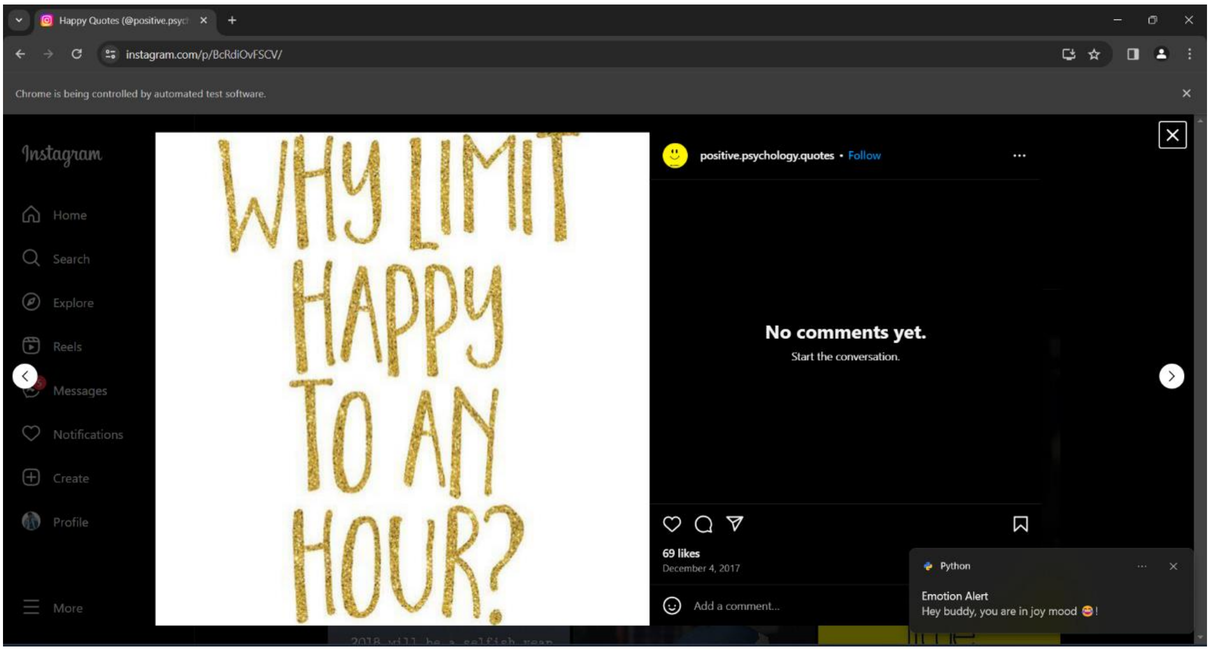
bubbly.nene3 ❤
6d Reply

omowareo1 I love this am your biggest fan from Nigeria NG
1w Reply

1,478 likes
7 days ago

Python

Emotion Alert
Hey buddy, you are in sadness mood 😞!


Happy Quotes (@positive.psych
instagram.com/p/BcRdiOvFSCV/
Instagram
Home
Search
Explore
Reels
Messages
Notifications
Create
Profile
More
WHY LIMIT HAPPY TO AN HOUR?
positive.psychology.quotes • Follow
69 likes
December 4, 2017
Add a comment...
Python

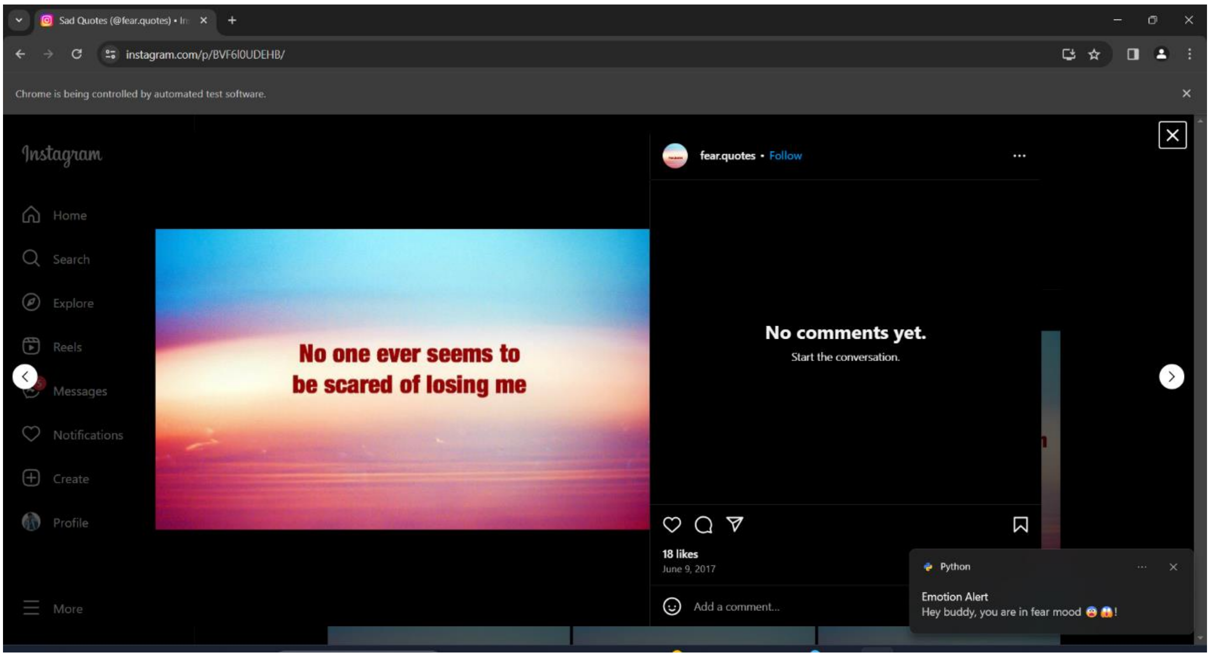
Chrome is being controlled by automated test software.

No comments yet.

Start the conversation.

Emotion Alert

Hey buddy, you are in joy mood 😂!



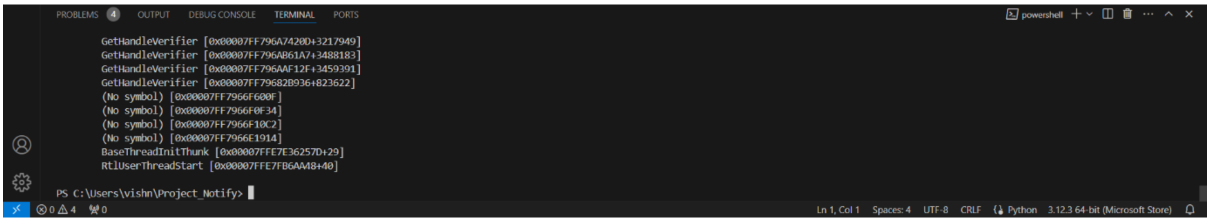
Chrome is being controlled by automated test software.

No comments yet.

Start the conversation.

Emotion Alert

Hey buddy, you are in fear mood 😨😱!



```
        GetHandleVerifier [0x00007FF796A7420D+3217949]
        GetHandleVerifier [0x00007FF796AB61A7+3488183]
        GetHandleVerifier [0x00007FF796AAF12F+3459391]
        GetHandleVerifier [0x00007FF79682B936+823622]
        (No symbol) [0x00007FF7966F600F]
        (No symbol) [0x00007FF7966F0F34]
        (No symbol) [0x00007FF7966F10C2]
        (No symbol) [0x00007FF7966E1914]
        BaseThreadInitThunk [0x00007FFE7E36257D+29]
        RtlUserThreadStart [0x00007FFE7FB6AA48+40]

PS C:\Users\vishn\Project_Notify> 
```

PROGRAM CODE :

SENTIMENT ANALYSIS CODE :

```
import pandas as pd
import joblib

# Load CSV file containing words and corresponding emotions
csv_file_path = "emotion_dataset.csv"  # Replace with the path to your CSV
file
data = pd.read_csv(csv_file_path, header=None, names=["Emotion",
"Clean_Text"])

# Load the trained sentiment analysis model
model_path = "emotion_classifier_pipe_lr.pkl"  # Replace with the path to your
trained model
model = joblib.load(model_path)

def analyze_sentiment(text):
    # Tokenize the text into words
    words = text.split()

    # Initialize emotion counts
    emotion_counts = {emotion: 0 for emotion in data["Emotion"].unique()}

    # Check each word in the text for its corresponding emotion
    for word in words:
        emotion_match = data[data["Clean_Text"] == word]["Emotion"].values
        if len(emotion_match) > 0:
            emotion = emotion_match[0]
            emotion_counts[emotion] += 1

    # Convert counts to percentages
    total_words = sum(emotion_counts.values())
    if total_words > 0:
        emotion_percentages = {emotion: count/total_words for emotion, count
in emotion_counts.items()}
    else:
        emotion_percentages = {emotion: 0 for emotion in
emotion_counts.keys()}

    # Predict sentiment using the trained model
    sentiment = model.predict([text])[0]
    return emotion_percentages, sentiment

# Example usage:
text_file_path = "extracted_text.txt"  # Replace with the path to your text
file
with open(text_file_path, "r") as file:
    text = file.read()

emotion_percentages, sentiment = analyze_sentiment(text)
print("Predicted sentiment:", sentiment)
```

CONCLUSION AND FURTHER ENHANCEMENT :

CONCLUSION

In conclusion, the Instagram Emotion Tracker project offers a streamlined solution for analysing user emotions on Instagram. Through image processing, text extraction, and machine learning, it accurately predicts user emotions and provides real-time notifications, enhancing user awareness and engagement. With its user-centric design and reliable performance, the project aims to empower users to navigate their social media experiences more effectively.

In summary, the Instagram Emotion Tracker project leverages advanced technology to analyse user emotions on Instagram, providing valuable insights and enhancing user engagement. With its efficient data processing, accurate prediction models, and user-friendly notifications, the project enables users to better understand their emotional responses to social media content, fostering a more mindful and positive online experience.

SCOPE FOR FUTURE DEVELOPMENT :

In envisioning future enhancements, expanding the Instagram Emotion Tracker to include video emotion tracking opens up a realm of possibilities. By delving into video content, the project can capture nuanced emotional responses in real-time, offering a dynamic and immersive user experience. With advanced computer vision algorithms, the system can analyze facial expressions, body language, and audio cues, providing a comprehensive understanding of user emotions. Interactive feedback mechanisms empower users to fine-tune emotion predictions, enhancing the model's accuracy and personalization. Through real-time notifications and personalized insights, the enhanced project aims to elevate user engagement and foster a deeper connection with social media content.

- Implement video processing capabilities to analyse user emotions in real-time or from pre-recorded videos on Instagram.

- Enhance the emotion prediction model to analyse temporal changes in user emotions throughout the duration of a video.

- Integrate interactive features to allow users to provide feedback on the accuracy of emotion predictions in videos.

- Implement fusion techniques to combine information from multiple modalities, such as audio sentiment, and textual context, for a comprehensive understanding of user emotions.

- Enable real-time notifications based on live video analysis, alerting users to emotional moments or highlights in the content they are viewing.

- Optimize algorithms and processing pipelines to handle the increased computational demands of video analysis efficiently.

BIBLIOGRAPHY

https://docs.opencv.org/

https://pypi.org/project/pytesseract/

https://pandas.pydata.org/docs/

https://scikit-learn.org/stable/documentation.html

https://www.selenium.dev/documentation/en/

https://pypi.org/project/win10toast/

https://github.com/tesseract-ocr/tesseract/wiki