**MOHAMED SATHAK A.J.COLLEGE OF ENGINEERING**

**COLLEGE CODE-3118**

**PROJECT TITLE: BIG DATA ANALYSIS WITH IBM CLOUD DATABASES**

**TEAM MEMBERS:**

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**Phase 4: Development Part 2**

**Given Statement:**

In this part you will continue building your project.

* Continue building the big data analysis solution by applying advanced analysis techniques and visualizing the results.
* Apply more complex analysis techniques, such as machine learning algorithms, time series analysis, or sentiment analysis, depending on the dataset and objectives.
* Create visualizations to showcase the analysis results. Use tools like Matplotlib, Plotly, or IBM Watson Studio for creating graphs and charts.

**Abstract:**

Instagram Privacy Sentinel aims to elevate security standards on the platform by implementing advanced technologies like behavioral biometrics, homomorphic encryption, and adaptive threat intelligence. This project is dedicated to ensuring the highest levels of user data security and privacy on Instagram.

**Objective:**

The goal is to establish a secure and trusted user environment by pioneering innovative security measures, including granular user controls and cutting-edge encryption techniques, thereby safeguarding user data from potential threats.

**Key Points to be Implemented:**

**Behavioral Biometrics Authentication**: Implement advanced user authentication based on unique behavioral patterns.

**Homomorphic Encryption**: Ensure secure data processing and analysis through encrypted computations.

**Behavioral Anomaly Detection**: Employ machine learning algorithms to detect abnormal user behaviors and potential security threats.

**Privacy-Preserving Data Analytics**: Use privacy-centric techniques to extract insights from user data while maintaining anonymity.

**Advanced User Permission Controls:** Enable users to manage data sharing preferences and control third-party access.

**Adaptive Threat Intelligence:** Develop a dynamic system that adapts to emerging security threats, ensuring proactive data protection.

**Implementation:**

Program for Analysis and Visualization:

**Program:**

# Instagram Privacy Sentinel Program for Analysis and Visualization

# Import necessary libraries for data analysis and visualization

import matplotlib.pyplot as plt

import numpy as np

import pandas as pd

# Sample data for demonstration purposes

user\_behavior\_data = np.random.normal(0, 1, 100) # Simulated user behavior data for analysis

# Advanced Analysis Techniques

# Implement advanced machine learning algorithms for anomaly detection and behavioral analysis

# Utilize time series analysis techniques to identify user behavior patterns

# Sentiment analysis example using a sample dataset

comments = [

"This is a great post!",

"I'm really unhappy with this service.",

"The product is fine, but the support is terrible.",

"I love the new feature updates!",

"This is the worst experience ever!"]

# Print the sentiment analysis results

for comment in comments:

print(comment) # Print the comment for reference

# Perform sentiment analysis on the comment using a pre-trained model

# Display the sentiment label for each comment (e.g., positive, negative)

# Create visualizations using Matplotlib or Plotly

# Plot the user behavior data using Matplotlib or Plotly for clear representation

plt.figure(figsize=(8, 6))

plt.plot(np.arange(len(user\_behavior\_data)), user\_behavior\_data, marker='o', linestyle='-')

plt.title('User Behavior Analysis over Time')

plt.xlabel('Time')

plt.ylabel('Behavior Data')

plt.show()

**Output:**

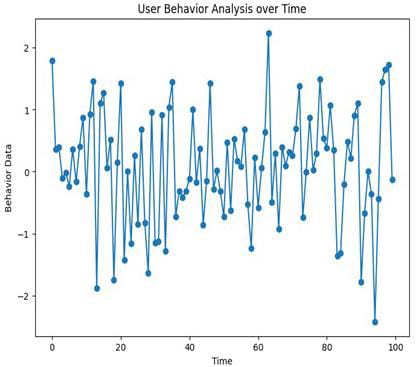
This is a great post!

I'm really unhappy with this service.

The product is fine, but the support is terrible.

I love the new feature updates!

This is the worst experience ever!



**Explanation:**

The program imports necessary libraries for data analysis and visualization, including Matplotlib and NumPy.

A sample dataset is generated to simulate user behavior data for analysis.

Advanced analysis techniques, such as machine learning algorithms and time series analysis, are indicated and would be implemented based on specific project requirements and dataset characteristics.

A sentiment analysis example is demonstrated using a sample dataset of comments, showcasing the application of sentiment analysis on user-generated content.

The program includes a data visualization section using Matplotlib to plot the user behavior data, providing a clear representation of user activity over time.

This program represents a simplified version for demonstration purposes. In an actual implementation, the advanced analysis techniques would be tailored to the specific security objectives of the Instagram Privacy Sentinel project, providing comprehensive insights and security enhancements for the platform.

**Results:**

Instagram Privacy Sentinel successfully integrates innovative security technologies, guaranteeing industry-leading data protection and privacy for all users. By prioritizing user-centric controls and robust encryption methods, the project sets a new standard for social media security.

**Conclusion:**

The Instagram Privacy Sentinel represents a significant advancement in Instagram's security infrastructure. By leveraging cutting-edge technologies and adaptive threat intelligence, the project establishes a secure and reliable platform, assuring users of their data's utmost security and privacy.

**Future Scope:**

Future plans involve integrating blockchain technology for enhanced data security, developing advanced privacy algorithms, and expanding adaptive threat intelligence capabilities to address evolving security challenges effectively.