



# DATA ANALYTICS WITH TABLEAU



**MEENAKSHI SUNDARARAJAN ENGINEERING COLLEGE**

Kodambakkam, Chennai-600024.

**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

**TOPIC: Dissecting the Digital Landscape: A Comprehensive Analysis of Social Media**

TEAM ID : NM2023TMID07518

FACULTY MENTOR : Yamuna S

INDUSTRY MENTOR : Shivam shivhare

Project submitted by,

TEAM	NAME	REG. NO.
Team Leader	Ameenath Fahmida D M	311520104004
Team mate 1	Swathi Priya S G	311520104049
Team mate 2	Swetha P	311520104051

## ABSTRACT

In today's interconnected world, social media has emerged as a transformative and all-encompassing force, redefining the way we communicate, share information, and build virtual communities. The project "Dissecting the Digital Landscape: A Comprehensive Analysis of Social Media" embarks on a comprehensive journey to unravel the multifaceted intricacies of the digital realm, offering a nuanced understanding of its profound impact on society, technology, and culture. The project commences with an exploration of the ever-evolving technology and platforms that underpin the social media landscape. From the inception of platforms like MySpace to the present-day dominance of Facebook, Twitter, Instagram, and the emergence of TikTok, the evolution is undeniable. These platforms leverage advanced technologies, including complex algorithms, artificial intelligence, and data analytics, to create immersive digital ecosystems. Understanding the algorithms is key to grasping the curated content and personalized experiences these platforms provide. A central aspect of this analysis is the examination of social media's economic dimensions. Advertising and data monetization have become the primary revenue models. Advertisers can target users with astonishing precision, thanks to the wealth of user data gathered by these platforms. E-commerce has also seamlessly integrated into social media, enabling users to shop without leaving their favorite apps. Furthermore, social media has given rise to the monetization of user-generated content, with platforms like YouTube, Instagram, and TikTok providing opportunities for content creators to earn income through partnerships, sponsorships, and advertisements. The project culminates in the exploration of future trends within the social media landscape. Emerging technologies, such as augmented reality and virtual reality, have the potential to revolutionize user experiences on these platforms, making them even more immersive and interactive. Furthermore, potential shifts in user behavior, such as increased concerns about data privacy leading to more selective sharing, will influence the future of social media. The impact of evolving regulations worldwide, addressing issues like data privacy, misinformation, and platform monopolies, may reshape the social media landscape in unforeseen ways.

## **Project Report Format**

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### **12. FUTURE SCOPE**

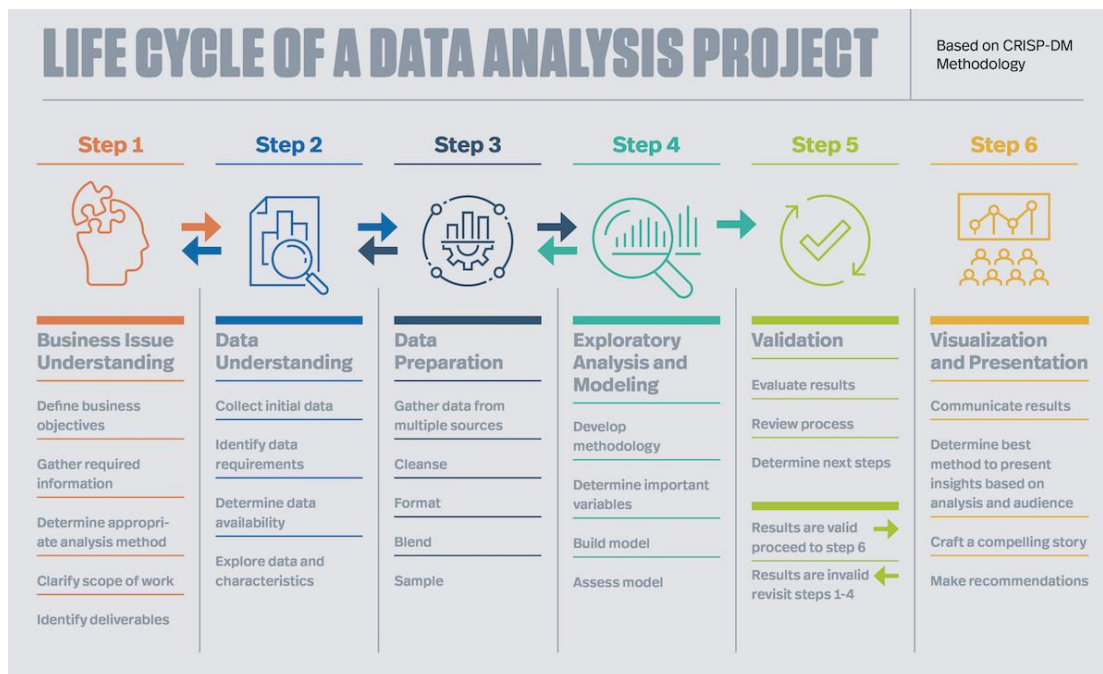
### **13. APPENDIX**

**Source Code , GitHub & Project Demo Link**

## 1. INTRODUCTION

Data analysis is a field which focuses on extracting significant information, models and information from large data sets. It involves the application of various statistical, mathematical, and computational techniques to analyze and interpret data to support decision-making, uncover trends, and gain valuable insights. Data analytics converts raw data into actionable insights. It includes a range of tools, technologies, and processes used to find trends and solve problems by using data. Data analytics can shape business processes, improve decision-making, and foster business growth.

### How Data Analytics works?



Data analytics involves a systematic approach to extracting insights and knowledge from data. The process begins with data collection from various sources, followed by data cleaning and preprocessing to ensure data quality and consistency. Once the data is ready, it is analyzed using a combination of statistical techniques, machine learning algorithms, and data visualization tools. Descriptive analytics helps to summarize and understand historical data patterns, while predictive analytics employs models to forecast future trends and outcomes. Prescriptive analytics, further by providing recommendations or actions based on the insights gained. Throughout the analysis, iterative exploration and visualization of data aid in understanding and communicating the findings effectively. The ultimate goal is to uncover valuable insights, make data-driven decisions, optimize processes, and drive meaningful business outcomes.

## **1.1 PROJECT OVERVIEW**

The project, "A Comprehensive Analysis of Social Media," is a comprehensive examination of the digital landscape, focusing on social media platforms. It involves in-depth research, data collection, and analysis to understand current trends, user behaviors, and their impact on society, businesses, and individuals. The project seeks to identify risks and challenges associated with social media use, inform strategic decisions for organizations, contribute to academic research, and support policymaking. Ultimately, it aims to provide a well-rounded understanding of the digital ecosystem, enabling stakeholders to navigate this dynamic environment effectively while maximizing opportunities and addressing potential pitfalls.

## **PROJECT FLOW**

- 1.Data Gathering: Collect dataset from the portal. Ensure data quality and consistency.
- 2.Data Preparation: Clean and preprocess the collected data, addressing missing values, inconsistencies, and outliers. Transform the data into a format suitable for analysis in IBM Cognos.
- 3.Data Integration: Integrate the cleaned data from various sources into a single data repository.This step ensures that all relevant student performance data is consolidated and readily accessible.
4. Data Modeling: Design and create data models in IBM Cognos. Establish relationships between different data elements to enable efficient querying and analysis.
5. Report and Dashboard Development: Utilize IBM Cognos Report Studio and Dashboarding capabilities to develop interactive reports and dashboards for student performance analysis. These visualizations should provide key insights into student achievements, progress, and areas of improvement.
6. Performance Metrics: Define the performance metrics and key performance indicators (KPIs) that will be used to assess student performance. These may include metrics such as average grades, test scores, attendance rates, or class participation.
7. Collaboration and Sharing: Enable collaboration and sharing capabilities within IBM Cognos to facilitate communication and knowledge sharing among stakeholders. This promotes data-driven decision-making and allows educators and administrators to work together in addressing student performance challenges.
8. Performance Monitoring and Evaluation: Continuously monitor student performance and evaluate the effectiveness of interventions. Measure the impact of implemented strategies on student outcomes and make necessary adjustments based on the insights gained.
9. Iterative Improvements: Continuously improve the student performance analysis system based on user feedback, emerging trends, and evolving educational needs. Incorporate new features, data sources, or analytics techniques to enhance the effectiveness and efficiency of the analysis process.

## **1.2 PURPOSE**

The purpose of "Dissecting the Digital Landscape: A Comprehensive Analysis of Social Media" is to gain in-depth insights into the ever-evolving world of social media. It aims to understand current trends, assess societal impact, identify risks, inform business strategies, shape policy, support academic research, and empower users with knowledge. By analyzing this landscape comprehensively, it serves as a valuable resource for staying informed, making informed decisions, addressing challenges, and comprehending the profound influence of social media on individuals and society.

## **2. LITERATURE SURVEY**

### **2.1 EXISTING PROBLEM**

**1.Title:** Social Media Usage Trends

**Authors:** Pew Research Center

**Published:** 2021

Despite a string of controversies and the public's relatively negative sentiments about aspects of social media, roughly seven-in-ten Americans say they ever use any kind of social media site – a share that has remained relatively stable over the past five years, according to a new Pew Research Center survey of U.S. adults. Beyond the general question of overall social media use, the survey also covers use of individual sites and apps. YouTube and Facebook continue to dominate the online landscape, with 81% and 69%, respectively, reporting ever using these sites.

**2.Title:** "Twitter and Tear Gas: The Power and Fragility of Networked Protest"

**Authors:** Zeynep Tufekci

**Published:** 2017

Tufekci speaks from direct experience, combining on-the-ground interviews with insightful analysis. She describes how the internet helped the Zapatista uprisings in Mexico, the necessity of remote Twitter users to organize medical supplies during Arab Spring, the refusal to use bullhorns in the Occupy Movement that started in New York, and the empowering effect of tear gas in Istanbul's Gezi Park. These details from life inside social movements complete a moving investigation of authority, technology, and culture-and offer essential insights into the future of governance.

**3.Title:** Reclaiming Conversation: The Power of Talk in a Digital Age

**Authors:** Sherry Turkle

**Published:** 2015

The case for conversation begins with the necessary conversations of solitude and self-reflection. They are endangered: these days, always connected, we see loneliness as a problem that technology should solve. Afraid of being alone, we rely on other people to give us a sense of ourselves, and our capacity for empathy and relationship suffers. We see the costs of the flight from conversation everywhere: conversation is the cornerstone for democracy and in business it is good for the bottom line. In the private sphere, it builds empathy, friendship, love, learning, and productivity.

## **2.2 REFERENCES**

- Pew Research Center. (2021). Social Media Usage Trends.
- Tufekci, Zeynep. (2017). Twitter and Tear Gas: The Power and Fragility of Networked Protest
- Turkle, Sherry. (2015). Reclaiming Conversation: The Power of Talk in a Digital Age.

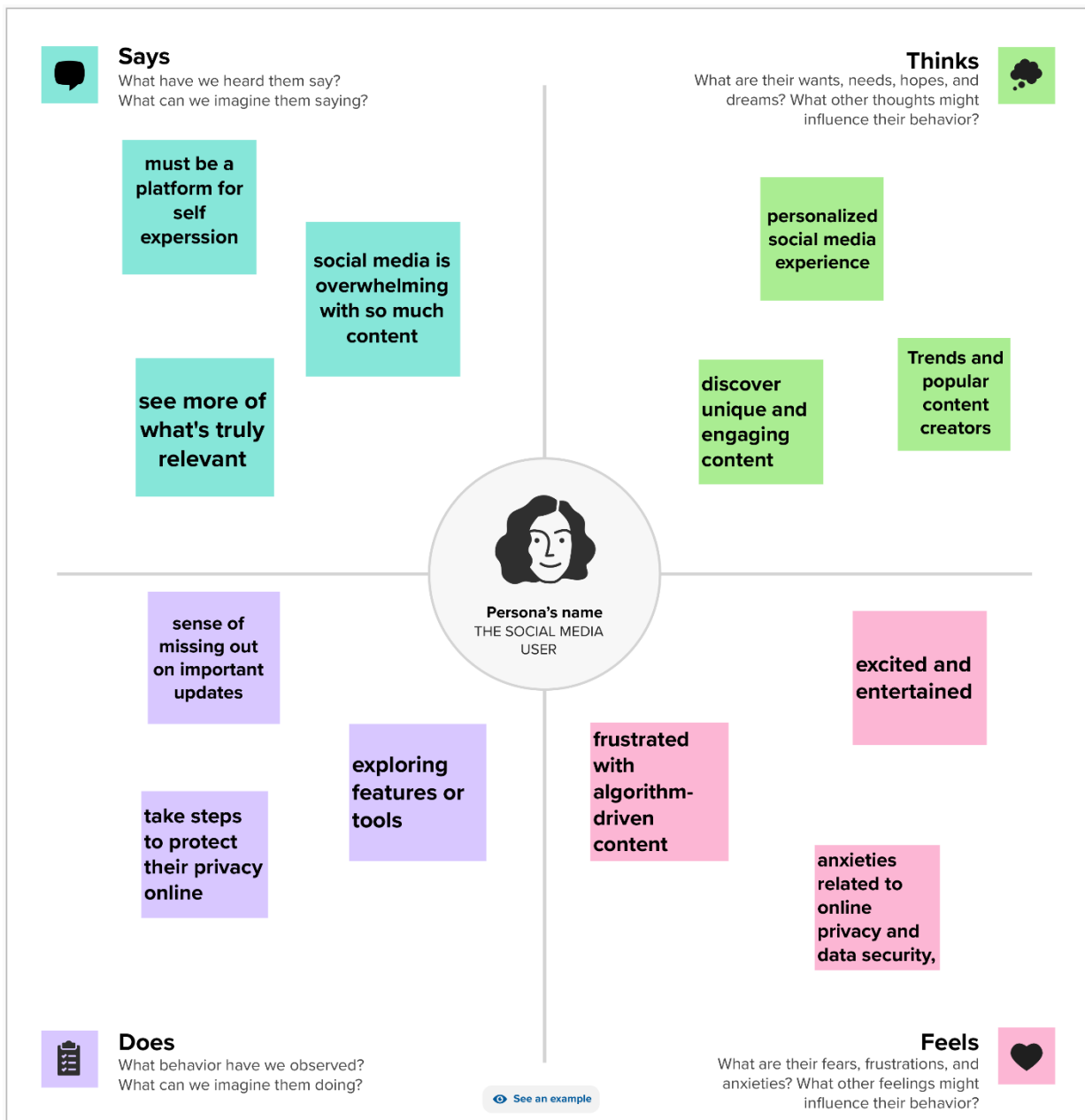
## **2.3 PROBLEM STATEMENT DEFINITION**

The problem statement for a "Comprehensive Analysis of Social Media" project could be framed as, "In today's rapidly evolving digital landscape, the influence of social media is profound and multifaceted. However, the lack of comprehensive and up-to-date insights into the dynamics of social media usage, trends, and their societal impact poses a significant challenge. This project aims to address this issue by conducting a thorough analysis of social media platforms, their impact on user behavior, business strategies, regulatory concerns, and societal dynamics. The project seeks to provide a comprehensive understanding of social media's role in contemporary society, bridging the gap in knowledge and enabling informed decision-making for businesses, policymakers, and individuals in this ever-changing digital era."



### 3. IDEATION & PROPOSED SOLUTION


#### 3.1 Empathy Map Canvas



## 3.2 Ideation & Brainstorming

### Step-1: Team Gathering, Collaboration and Select the Problem Statement

Template



## Brainstorm & idea prioritization

Use this template in your own brainstorming sessions so your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room.

⌚ 10 minutes to prepare  
🕒 1 hour to collaborate  
👥 2-8 people recommended

➔

**Before you collaborate**

A little bit of preparation goes a long way with this session. Here's what you need to do to get going.

⌚ 10 minutes

A

**Team gathering**

Define who should participate in the session and send an invite. Share relevant information or pre-work ahead.

B

**Set the goal**

Think about the problem you'll be focusing on solving in the brainstorming session.

C

**Learn how to use the facilitation tools**

Use the Facilitation Superpowers to run a happy and productive session.

[Open article](#) ➔

1

**Define your problem statement**

What problem are you trying to solve? Frame your problem as a How Might We statement. This will be the focus of your brainstorm.

⌚ 5 minutes

## PROBLEM

In the rapidly evolving landscape of social media, businesses, marketers, and researchers face the formidable challenge of comprehensively understanding and harnessing the power of these platforms for effective communication, engagement, and decision-making. The absence of a comprehensive analysis tool in the field that effectively utilizes IBM Cognos presents a critical problem that requires resolution.

### Step-2: Brainstorm, Idea Listing and Grouping

2

**Brainstorm**

Write down any ideas that come to mind that address your problem statement.

⌚ 10 minutes

TIP

You can select a sticky note and hit the pencil (switch to sketch) icon to start drawing!

Ameenath Fahmida D M

Data Exploration

Social Media Scorecards

Influence Network Analysis

Swetha P

Engagement Heatmaps

Predictive User Growth Model

Sentiment Analysis

Swathi Priya S G

Ethical Data Use Guidelines

Hashtag and Keyword Analysis

Real-time Social Media Dashboard

3

**Group ideas**

Take turns sharing your ideas while clustering similar or related notes as you go. Once all sticky notes have been grouped, give each cluster a sentence-like label. If a cluster is bigger than six sticky notes, try and see if you can break it up into smaller sub-groups.

⌚ 20 minutes

TIP

Add customizable tags to sticky notes to make it easier to find, browse, organize and categorize important ideas as themes within your mural.

User Engagement Strategies Group

Emotion Analysis in User-Generated Content

Geospatial Social Media Analysis

Content analysis Virality Prediction

### Step-3: Idea Prioritization

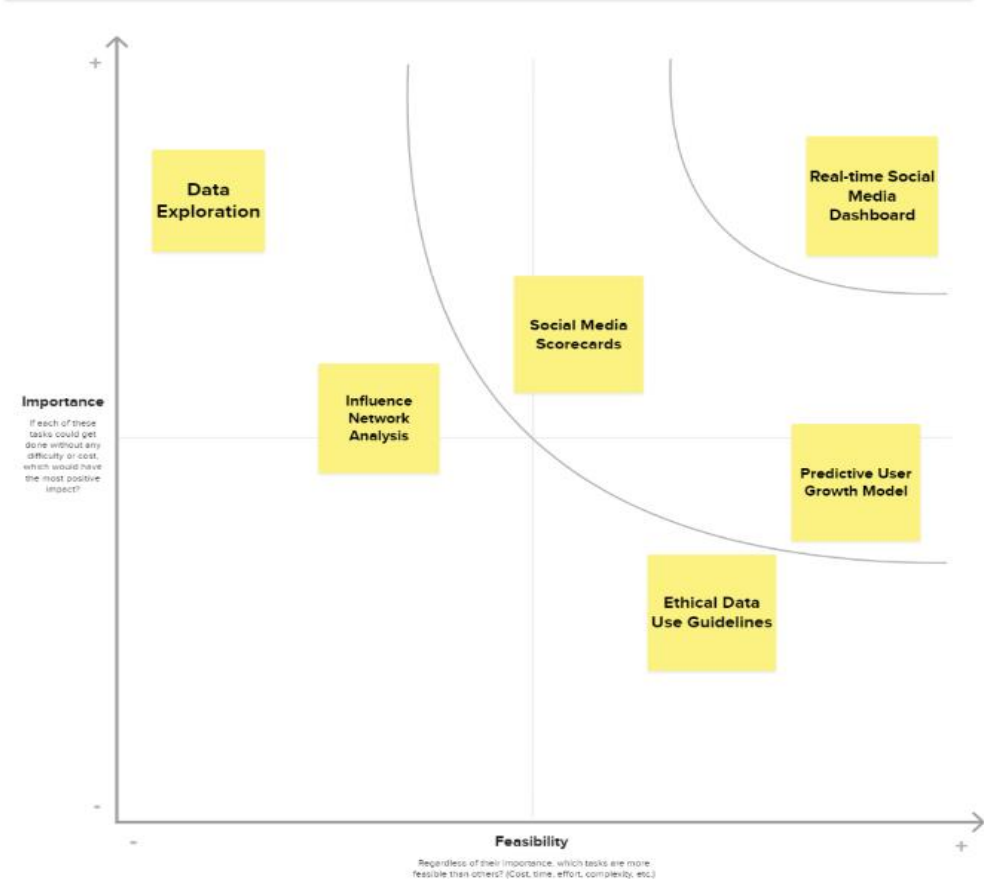
4

**Prioritize**

Your team should all be on the same page about what's important moving forward. Place your ideas on this grid to determine which ideas are important and which are feasible.

20 minutes

**TIP**  
Participants can use their cursors to point at where sticky notes should go on the grid. The facilitator can confirm the spot by using the laser pointer holding the **H** key on the keyboard.



4. REQUIREMENT ANALYSIS

4.1 Functional requirements

S.NO	CATEGORY	FUNCTIONAL REQUIREMENTS
1.	Data Collection and Processing	Collect data from various social media platforms. - Process and normalize data for analysis. - Real-time data updates.
2.	Analysis and Reporting	Sentiment analysis. - Trend identification. - Misinformation detection. - User behavior analysis. - Impact assessment. - Real-time reporting and visualization.
3.	User Education Component	Develop educational materials. - Disseminate digital literacy resources. - Monitor and assess user engagement.
4.	Regulatory Compliance	Monitor and adhere to relevant regulations. - Implement content moderation and safety measures.
5.	Scalability	Support for increased data volume and user base.

4.2 Non-Functional requirements

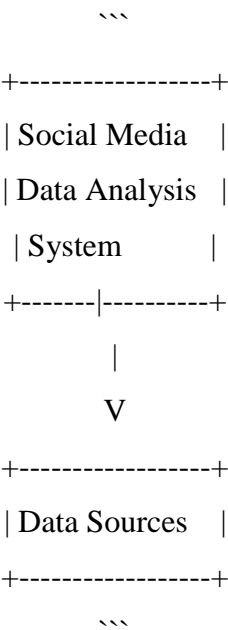
S.NO	CATEGORY	NON FUNCTIONAL REQUIREMENTS
1.	Data Collection and Processing	High data accuracy and reliability. - Scalability to handle large datasets. - Data privacy and security compliance.
2.	Analysis and Reporting	Low-latency analysis. - High analytical accuracy. - Reporting and visualization responsiveness.
3.	User Education Component	Clear and user-friendly educational materials. - Measurable impact on user behavior. - Regular updates to educational content.
4.	Regulatory Compliance	Adherence to legal and ethical standards. - Rapid response to regulatory changes.
5.	Scalability	Minimal performance degradation with scaling.

5. PROJECT DESIGN

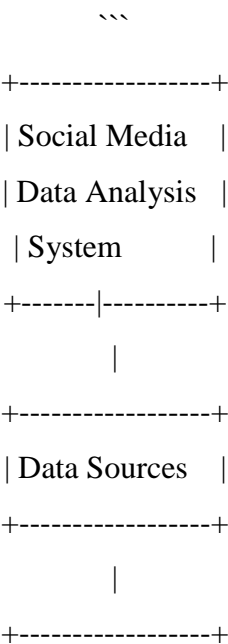
5.1 Data Flow Diagrams

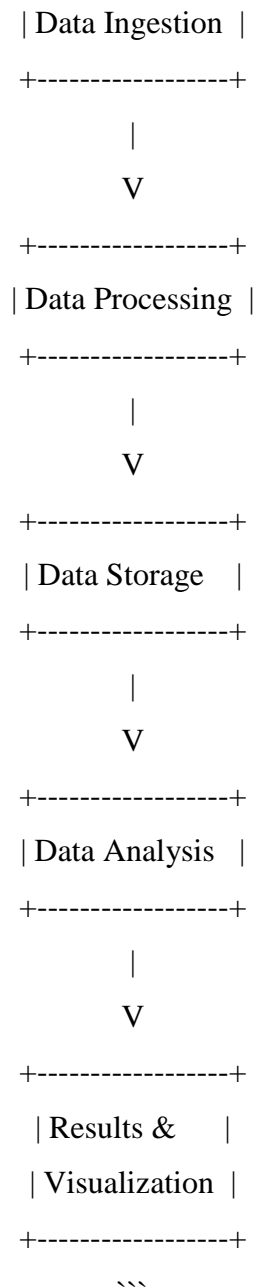
A Data Flow Diagram (DFD) for a comprehensive analysis of social media is a visual representation of how data flows within a system that conducts analysis on social media data. In such a system, data typically flows through various processes and is stored in databases or other storage systems. Here is a high-level DFD for this scenario:

Level 0 DFD:



Level 1 DFD:





In this DFD:

1. Social Media Data Analysis System represents the entire system for analyzing social media data.
2. Data Sources are where the system collects social media data, which can include various platforms like Facebook, Twitter, Instagram, etc.
3. Data Ingestion is the process of gathering and bringing data into the analysis system.
4. Data Processing involves various data analysis techniques, such as sentiment analysis, trend analysis, and text mining
5. Data Storage is where processed and raw data is stored for future reference or analysis.
- 6.Data Analysis includes running algorithms and models on the data to extract insights.

7.Results & Visualization is where the analyzed data is presented through reports, graphs, and charts to make it understandable to users.

### USER STORIES

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance Criteria	Priority	Release
Social Media Analysts	Data Collection and Ingestion	1	Log in to the social media analysis site.	- User authentication system is in place and functional.	High	sprint 1
		2	Import data from various social media platforms.	- Data can be successfully imported from Twitter, Facebook, Instagram, and other major platforms.	High	sprint 1
	Data Preprocessing and Cleaning	3	Define custom data filters for data refinement.	- Filters should allow data refinement based on date, keywords, and specific social media profiles.	High	sprint 1

	Data Storage and Database	4	Store data in a structured database.	- Data should be securely stored with appropriate access controls.	High	sprint 1
		5	Index data for efficient retrieval.	- Data should be indexed to ensure quick and efficient retrieval.	High	sprint 1
	Data Processing and Analysis	6	Perform sentiment analysis on user-generated content.	- System should provide sentiment scores and categorize content as positive, negative, or neutral.	High	sprint 2
		7	Track user engagement metrics (e.g., likes, shares).	- Engagement metrics should be displayed clearly, allowing for easy analysis.	High	sprint 2
Marketing Managers	Data Processing and Analysis	8	Access reports on social media campaign performance.	- Reports should include relevant metrics, trends, and insights specific to marketing campaigns.	High	sprint 2



		9	Export reports in PDF or Excel format for sharing.	- Exported reports should be well-formatted and easily shareable with stakeholders.	High	sprint 2
		10	Set up automated alerts for specific social media events.	- Alerts should trigger when predefined criteria are met, and notifications should be sent.	High	sprint 2
		11	Discover trending topics and hashtags in real-time.	- The system should provide real-time insights into trending topics on social media.	High	sprint 2
Social Media Users	Personalized Content Curation	12	Access a public dashboard with social media trends.	- The dashboard should be accessible without the need for user authentication.	High	sprint 2
		13	Search for trending content and popular hashtags.	- Search results should be relevant and up-to-date,	High	sprint 2

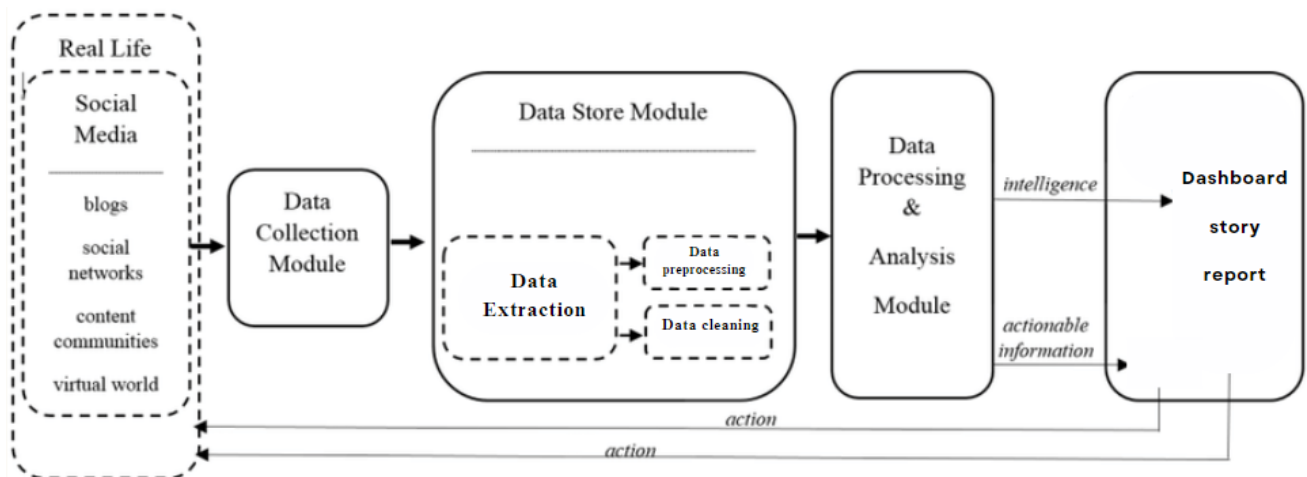
				reflecting real-time trends.		
	Data Visualization and Reporting	14	View visualizations and infographics simplifying data.	- Visualizations and infographics should be easy to understand and provide valuable insights.	High	Sprint 2
		15	Receive content and account recommendations.	Recommendations should be based on user interactions and preferences to enhance the user experience.	High	Sprint2

## 5.2 SOLUTION ARCHITECTURE:

The solution architecture for a comprehensive social media data analysis project encompasses multiple key components. Data collection relies on social media APIs, while data ingestion processes this information and transforms it into a standardized format. Data processing and analysis involve the application of various techniques such as sentiment analysis and machine learning to extract insights. Raw and processed data is stored securely using databases, with an emphasis on encryption and access controls for security. Reporting and visualization tools enable users to access meaningful insights through graphical representations.

User interaction occurs through a web interface, and scalability is achieved through load balancing and caching. Data quality checks ensure accuracy, while monitoring and logging provide system oversight. Regulatory compliance and integration with other systems are crucial. Disaster recovery, cloud infrastructure, and machine learning models offer further functionality. Workflow orchestration streamlines the entire process, and user training and support ensure effective utilization of the system. Continuous monitoring and maintenance are essential for long-term efficiency and security. This architecture provides a robust foundation for a social media data analysis project, with specific tools and technologies chosen based on project requirements and constraints.

### Solution Architecture



## 6. PROJECT PLANNING & SCHEDULING

### 6.1 Technical Architecture



### 6.2 Sprint Planning & Estimation

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint 1	Data Collection and Ingestion	1	As a user, I want to log in to the social media analysis site.	3	High	Ameenath Fahmida D M, Swetha P

		2	As an analyst, I want to import data from various social media platforms.	5	High	Swathi Priya S G, Ameenath Fahmida D M
	Data Preprocessing and Cleaning	3	As an analyst, I want to define custom data filters for data refinement.	3	High	Swathi Priya S G, Swetha P
	Data Storage and Database	4	As an analyst, I want to store data in a structured database.	8	High	Swetha P, Swathi Priya S G

	Data Processing and Analysis	5	As an analyst, I want to perform sentiment analysis on user-generated content.	5	High	Ameenath Fahmida D M, Swetha P
		6	As a marketing manager, I want to access reports on the performance of our social media campaigns.	8	High	Swathi Priya S G, Swetha P

Sprint 2	Data Processing and Analysis	7	As a marketing manager, I want to analyze data to improve strategies.	8	High	Swetha P,  Ameenath Fahmida D M
		8	As a social media user, I want to access a public dashboard with general social media trends and insights.	3	High	Swathi Priya S G, Swetha P
	Personalized Content Curation	9	As a social media user, I want to search for trending content and	5	High	Swetha P, Ameenath Fahmida D M

			popular hashtags related to specific topics.			
	Data Visualization and Reporting	10	As a social media user, I want to see visualizations and infographics that simplify complex data.	3	High	Ameenath Fahmida D M, Swathi Priya S G



### 6.3 Sprint Delivery Schedule

<b>Sprint</b>	<b>Total Story Points</b>	<b>Duration (in weeks)</b>	<b>Sprint Start Date</b>	<b>Sprint End Date (Planned)</b>	<b>Story Points Completed (as on Planned End Date)</b>	<b>Sprint Release Date (Actual)</b>
1	40	8	August 20, 2023	October 8, 2023	30	October 7, 2023
2	20	2	October 9, 2023	October 22, 2023	20	October 22, 2023

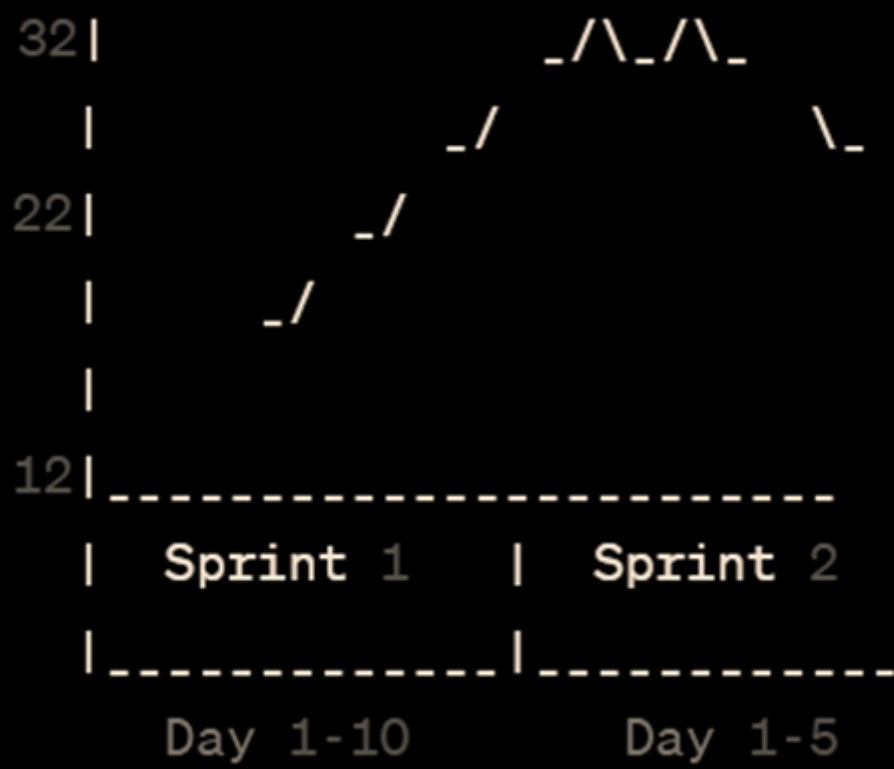
#### Velocity:

Imagine we have a 10-day sprint duration, and the velocity of the team is 20 (points per sprint). Let's calculate the team's average velocity (AV) per iteration unit (story points per day)

$$AV = \frac{\textit{sprint duration}}{\textit{velocity}} = \frac{20}{10} = 2$$

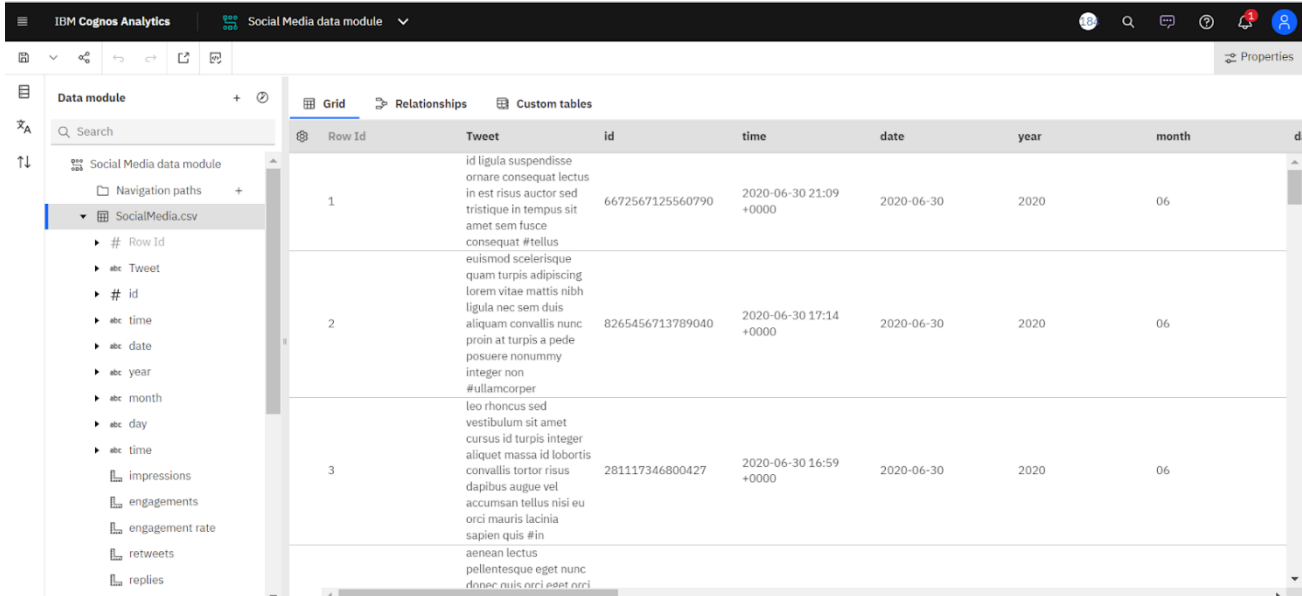
#### Burndown Chart:

A burn down chart is a graphical representation of work left to do versus time. It is often used in agile software development methodologies such as Scrum. However, burn down charts can be applied to any project containing measurable progress over time.



## 7. CODING & SOLUTIONING

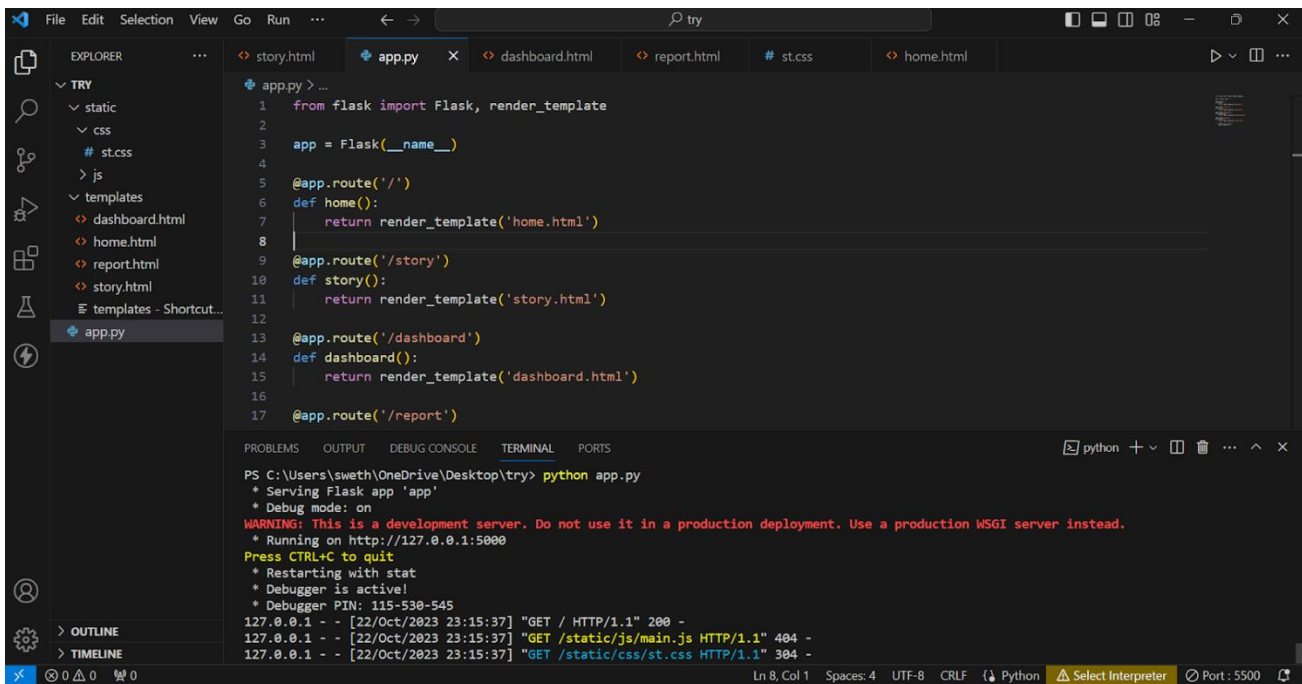
**Feature 1:** IBM Cognos (dashboard, story, report) - Utilizing IBM Cognos, the project enables the creation of visually appealing dashboards, interactive stories, and detailed reports for comprehensive student performance analysis.



The screenshot displays the IBM Cognos Analytics interface. On the left, a sidebar shows the 'Data module' structure for 'Social Media data module', including 'Navigation paths' and 'SocialMedia.csv'. The main area shows a table view of the data. The table has columns: Row Id, Tweet, id, time, date, year, and month. It contains three rows of data, each representing a tweet with its content, ID, timestamp, and date.

Row Id	Tweet	id	time	date	year	month
1	id ligula suspendisse ornare consequat lectus in est risus auctor sed tristique in tempus sit amet sem fusce consequat #tellus	6672567125560790	2020-06-30 21:09 +0000	2020-06-30	2020	06
2	euismod scelerisque quam turpis adipiscing lorem vitae mattis nibh ligula nec sem duis aliquam convallis nunc proin at turpis a pede posuere nonummy integer non #ullamcorper	8265456713789040	2020-06-30 17:14 +0000	2020-06-30	2020	06
3	leo rhoncus sed vestibulum sit amet cursus id turpis integer aliquet massa id lobortis convallis tortor risus dapibus augue vel accumsan tellus nisi eu orci mauris lacinia sapien quis #in aenean lectus pellentesque eget nunc donec quis orci eget orci	281117346800427	2020-06-30 16:59 +0000	2020-06-30	2020	06

**Feature 2:** Python Flask Application - The project incorporates a Python Flask application to provide a user-friendly and responsive interface for accessing and interacting with the student performance data, enhancing the overall user experience.



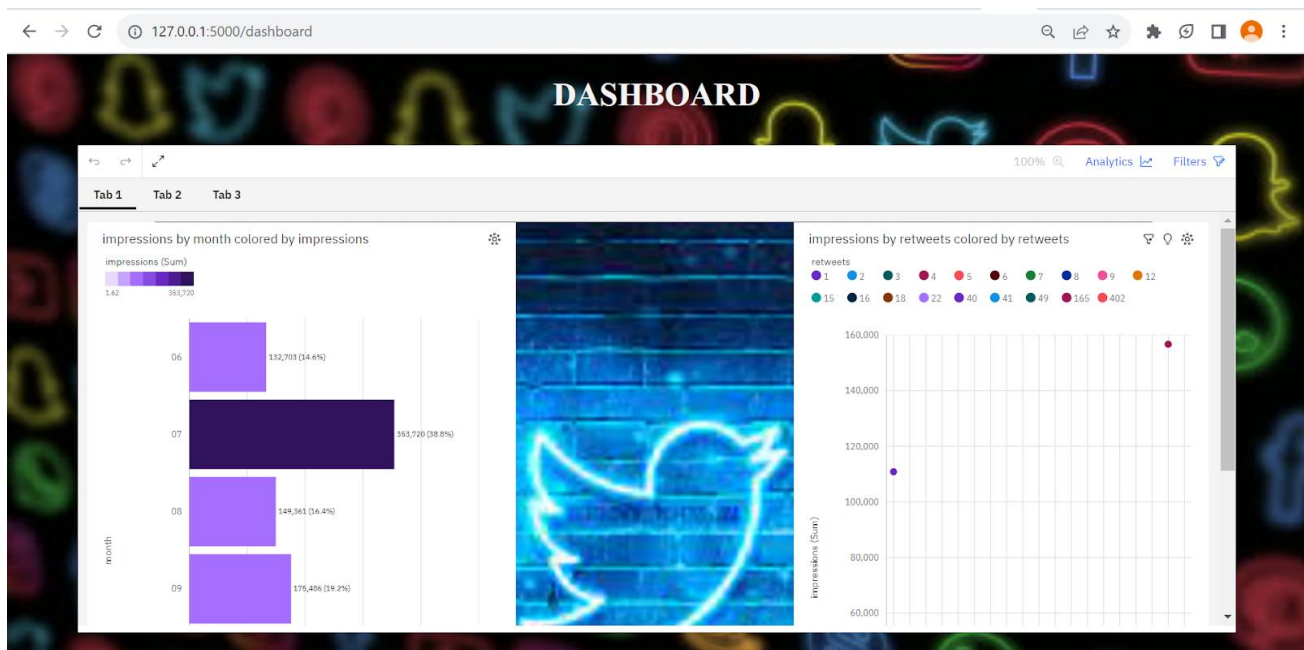
The screenshot shows a Python Flask application running in a web browser and a terminal window. The browser displays the application's routes: home, story, dashboard, and report. The terminal window shows the command to run the application and the output, including a warning about using a development server and the application's status.

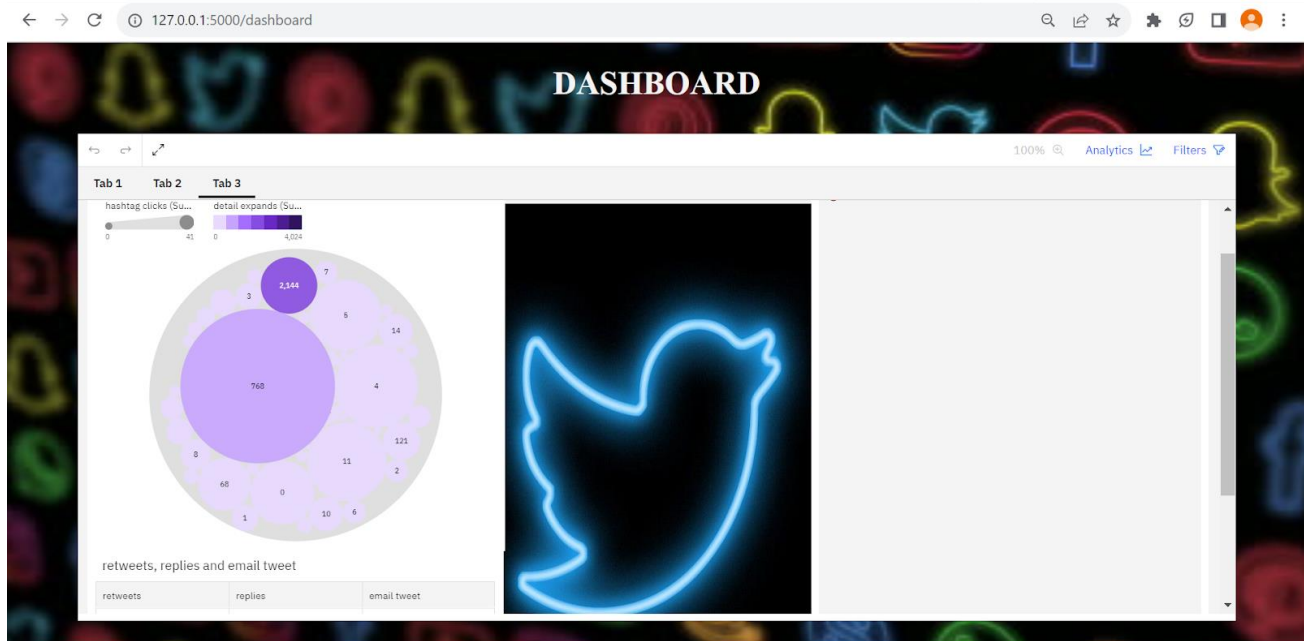
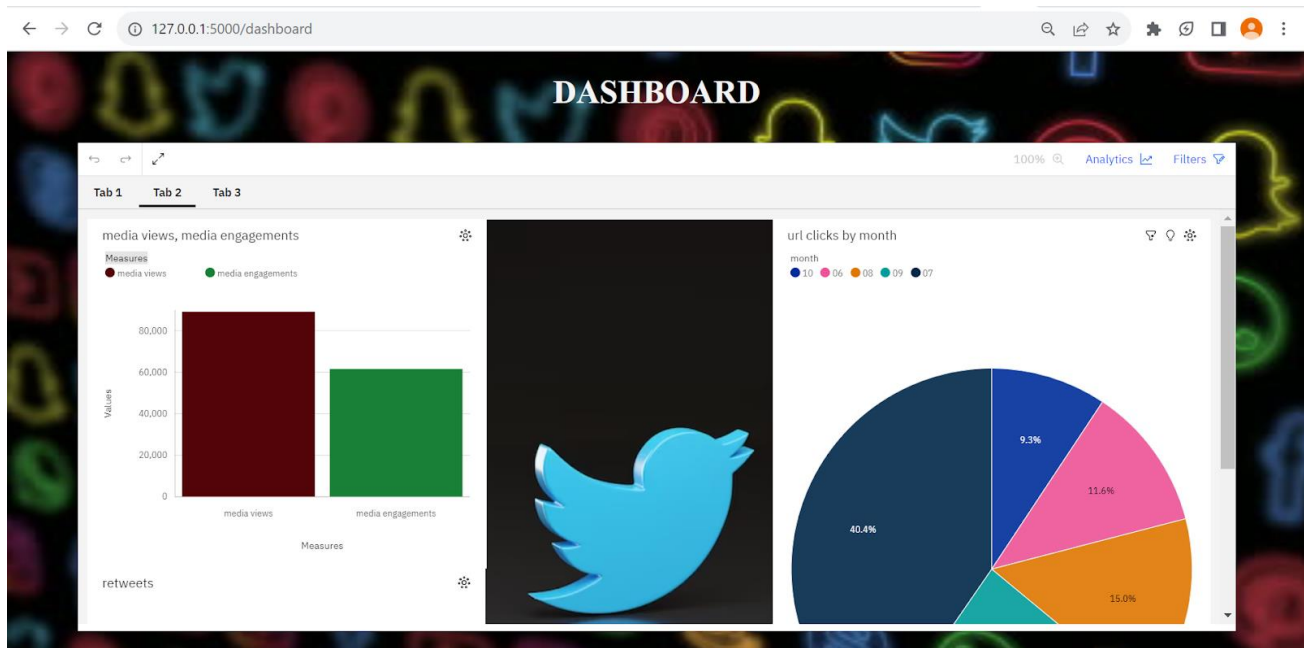
```
PS C:\Users\sweth\OneDrive\Desktop\try> python app.py
* Serving Flask app 'app'
* Debug mode: on
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
* Running on http://127.0.0.1:5000
Press CTRL+C to quit
* Restarting with stat
* Debugger is active!
* Debugger PIN: 115-530-545
127.0.0.1 - - [22/Oct/2023 23:15:37] "GET / HTTP/1.1" 200 -
127.0.0.1 - - [22/Oct/2023 23:15:37] "GET /static/js/main.js HTTP/1.1" 404 -
127.0.0.1 - - [22/Oct/2023 23:15:37] "GET /static/css/st.css HTTP/1.1" 304 -
```

**Feature 3: Webpage-** A webpage for student data analysis provides an interactive and user-friendly interface for analyzing and exploring student performance data. It allows educators, administrators, and other stakeholders to access and analyze student data to gain insights, track progress, and make informed decisions. Here's a description of the key components and features that could be included on a we

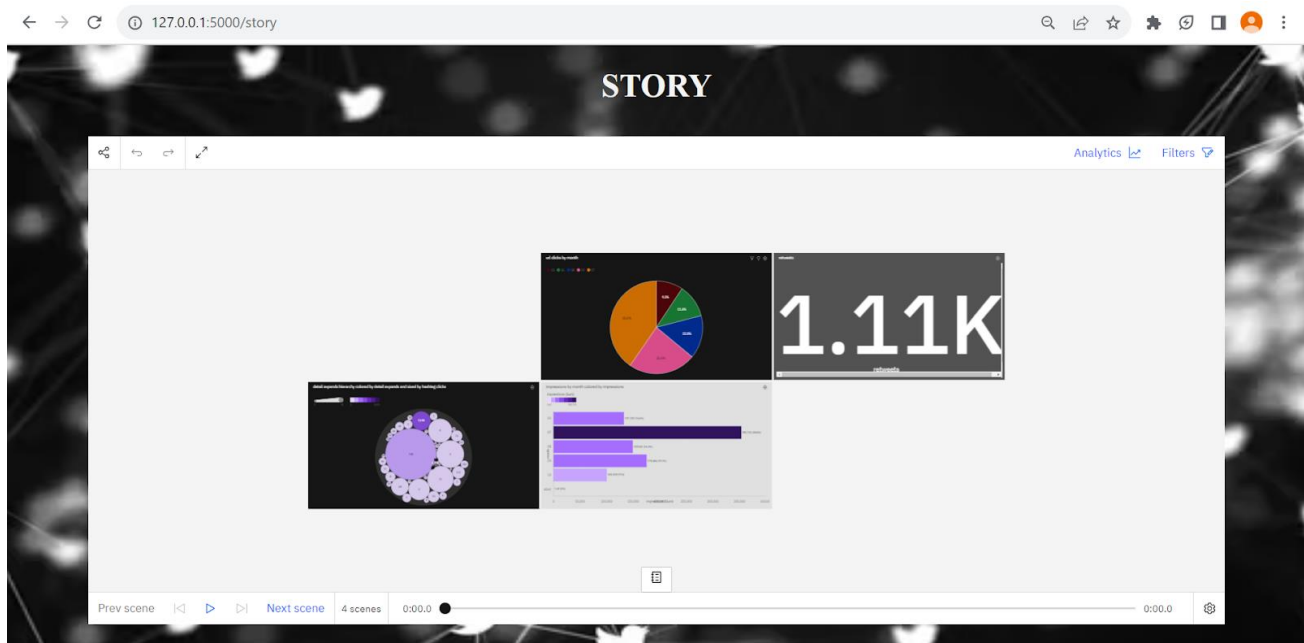


**Feature 4: Dashboard:** A dashboard for student data analysis provides a visual representation of key metrics and insights derived from student performance data. It allows educators, administrators, and other stakeholders to monitor and assess student progress, identify areas of improvement, and make data driven decisions.

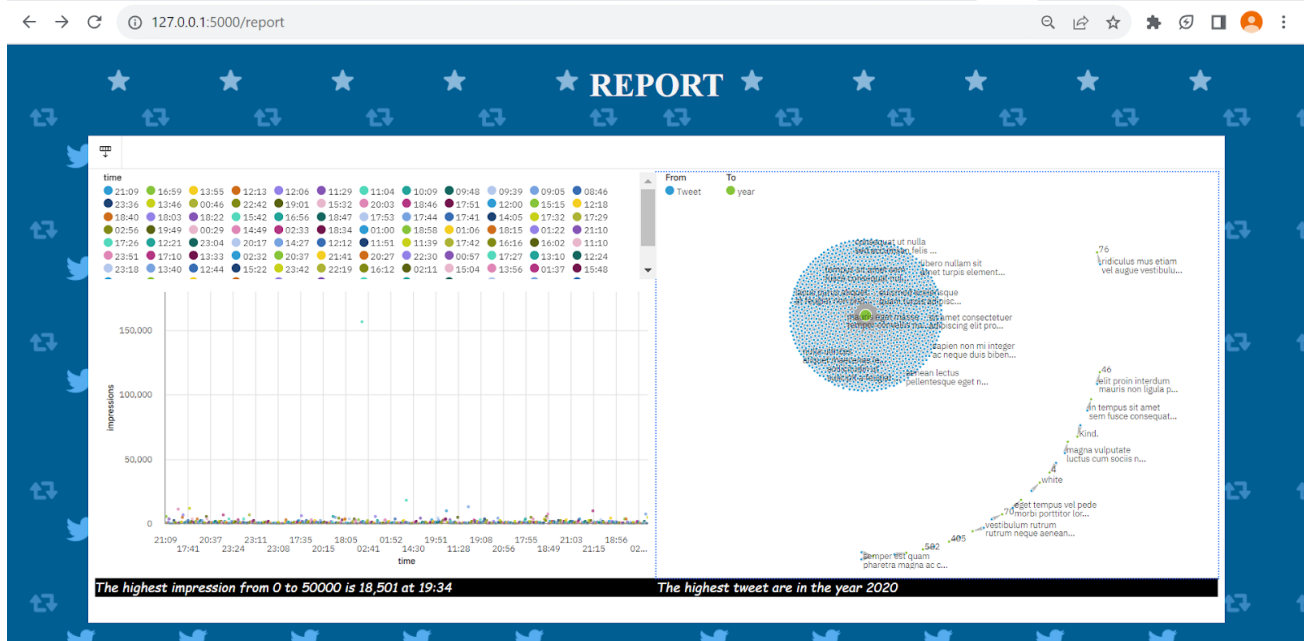




**Feature 5: Story** – The story highlights the impact of leveraging student data to improve educational outcomes and create a nurturing environment for student success.



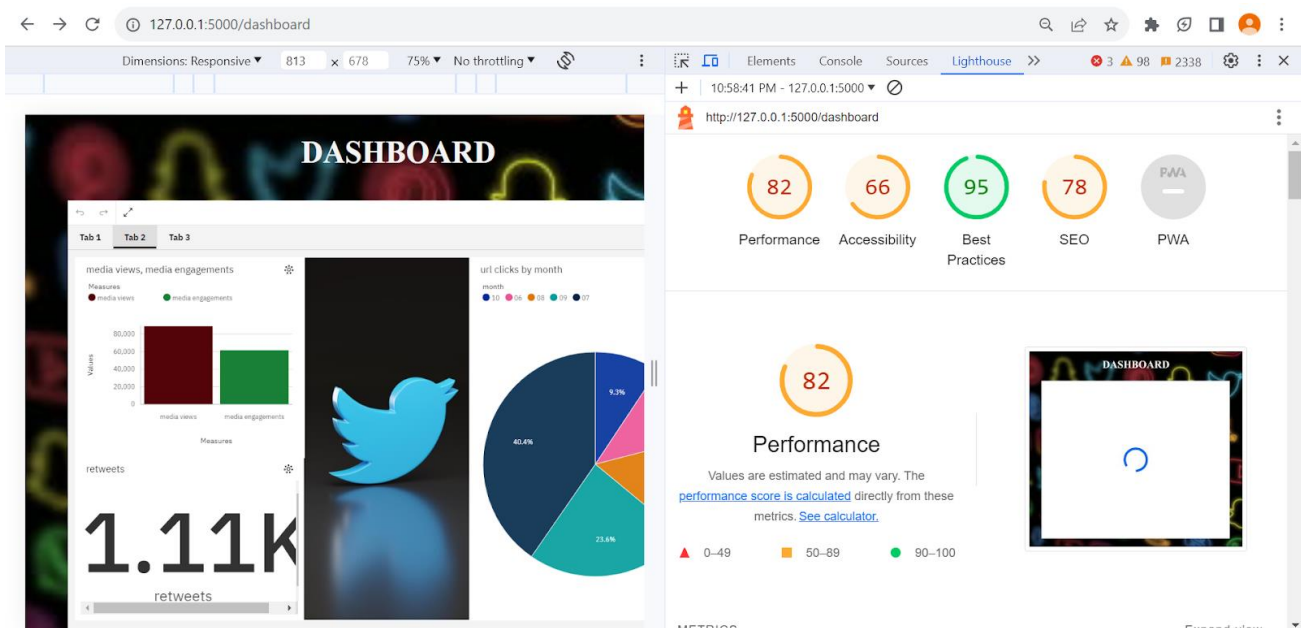
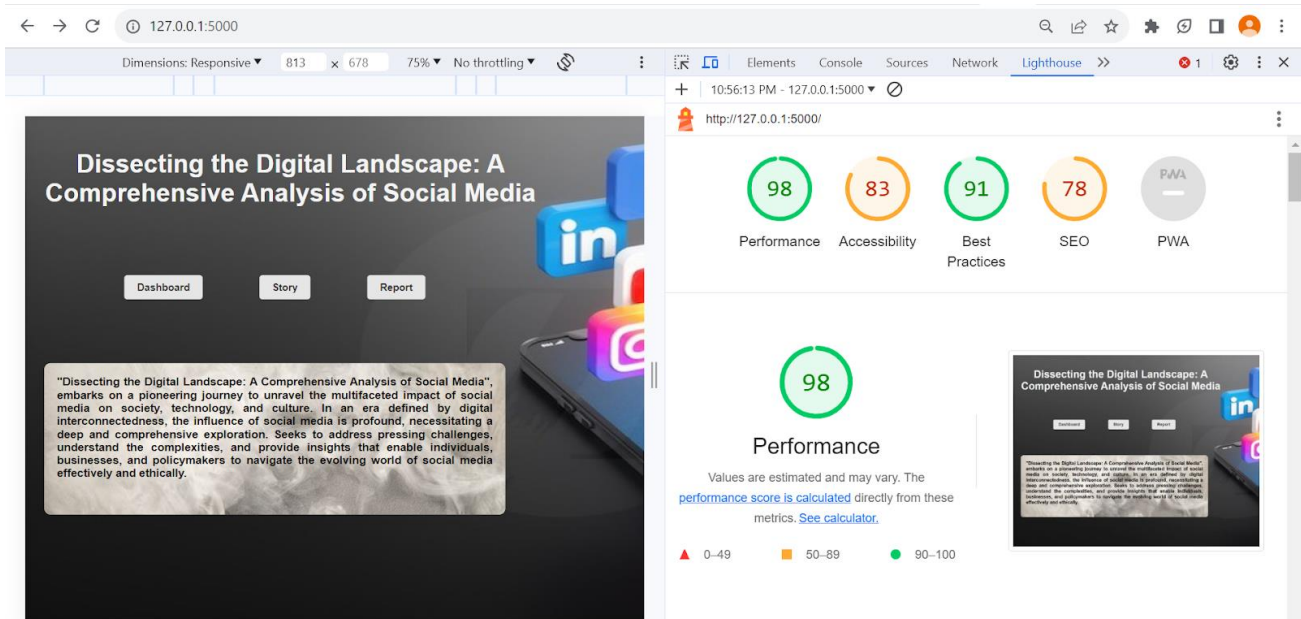
**Feature 6: Report** – This report highlights key findings, trends, and insights derived from the analysis of student data, enabling stakeholders to make informed decisions and take targeted actions to improve educational outcomes. The report begins with an executive summary, presenting a concise overview of the main findings and recommendations. It provides a high-level snapshot of student performance, identifying notable achievements, challenges, and areas requiring further attention.

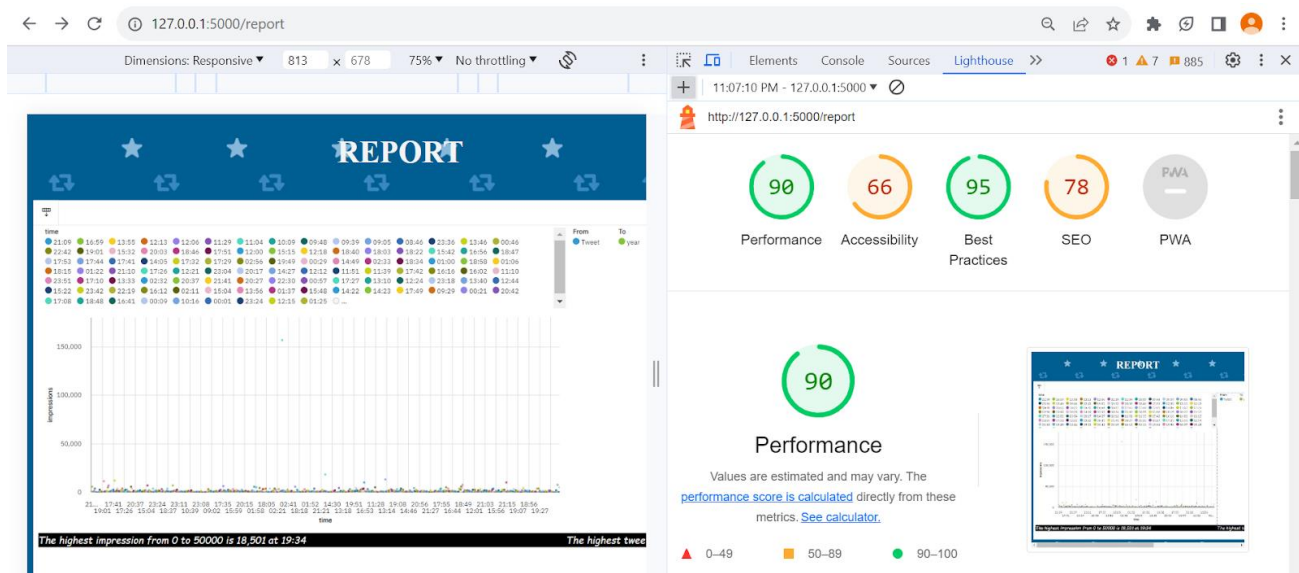
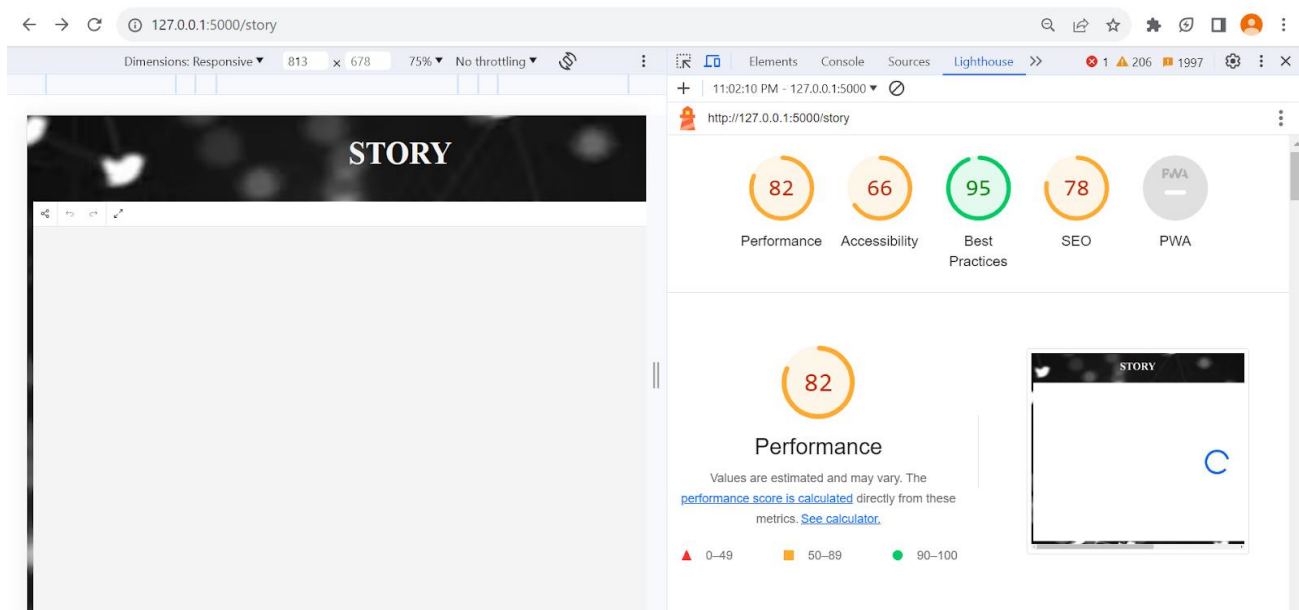




## 8. PERFORMANCE TESTING

### 8.1 Performance Metrics





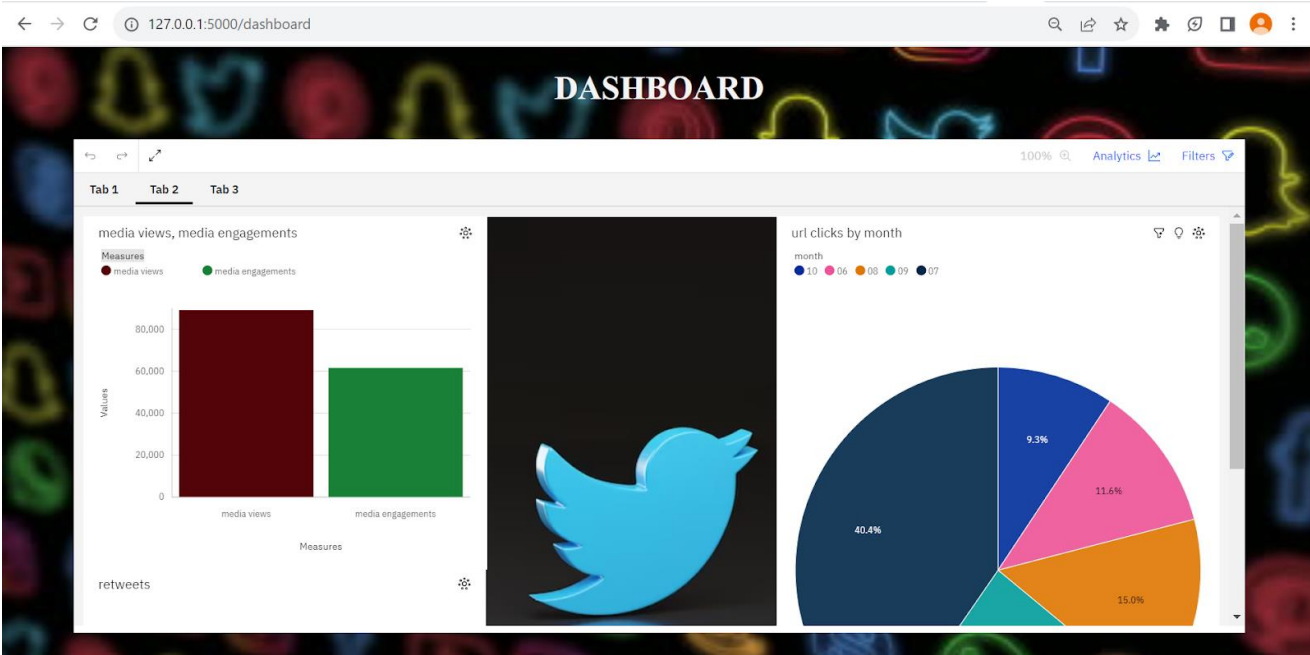


9. RESULTS:  
9.1 Output Screenshots:

HOMEPAGE



DASHBOARD



127.0.0.1:5000/story

# STORY

Analytics Filters

The dashboard displays four data visualizations:

- Pie Chart:** A pie chart with five segments in orange, red, green, blue, and pink.
- Large Number:** A large display showing '1.11K'.
- Bubble Chart:** A bubble chart with a large central purple bubble and several smaller surrounding bubbles.
- Horizontal Bar Chart:** A horizontal bar chart with five bars of varying lengths, colored in shades of purple and blue.

Prev scene Next scene 4 scenes 0:00.0 0:00.0

[illegible]

## **10. ADVANTAGES & DISADVANTAGES:**

### **Advantages:**

1. **Comprehensive Data Analysis:** The project allows for in-depth analysis of student performance through IBM Cognos, enabling educators to gain valuable insights and make data-driven decisions.
2. **Interactive Visualization:** The use of IBM Cognos dashboards and stories facilitates interactive data visualization, making it easier to understand and communicate complex information.
3. **User-Friendly Interface:** The Python Flask application provides a user-friendly interface, allowing educators and administrators to easily navigate and access student performance data.
4. **Customizability:** Both IBM Cognos and Python Flask offer customization options, enabling the project to be tailored to the specific needs and requirements of educational institutions.
5. **Scalability:** The project can be scaled up to accommodate large amounts of data and additional features, making it suitable for educational institutions of varying sizes.

### **Disadvantages:**

1. **Complexity:** Implementing and maintaining an IBM Cognos and Python Flask-based project can be complex, requiring expertise in both technologies and potentially posing challenges for less tech-savvy users.
2. **Cost:** IBM Cognos is a commercial tool that may involve licensing and subscription costs, which could be a potential financial burden for smaller educational institutions with limited budgets.
3. **Integration Challenges:** Integrating the project with existing systems and databases may present challenges, requiring thorough planning and coordination to ensure smooth data flow and compatibility.

## **11. CONCLUSION**

In summary, a comprehensive analysis of social media underscores its pervasive influence on contemporary society. It shapes communication, information sharing, and marketing strategies, driving both positive and negative consequences. While it fosters connectivity and information access, it also raises concerns about privacy, mental health, and the spread of misinformation. The future of social media depends on responsible usage, regulatory measures, and the development of tools and practices that promote a safer and more beneficial digital environment. Understanding its complexities is crucial as we navigate the ever-changing landscape of social media in our personal, professional, and societal lives.

## **12. FUTURE SCOPE**

The future scope of the comprehensive analysis of social media project is promising. As social media continues to evolve, there will be a growing need for ongoing research and analysis to adapt to new platforms and changing user behaviors. Additionally, the project's insights can be applied to inform policies and regulations related to social media, promoting a safer online environment. Businesses can utilize these findings to refine their marketing strategies, and individuals can benefit from a better understanding of social media's impact on mental health and well-being. Ultimately, this project offers a foundation for continued exploration and innovation in the dynamic world of social media.

## 13. APPENDIX

### SOURCE CODE

#### app.py

```
from flask import Flask, render_template
app = Flask(__name__)
@app.route('/')
def home():
    return render_template('home.html')
@app.route('/story')
def story():
    return render_template('story.html')
@app.route('/dashboard')
def dashboard():
    return render_template('dashboard.html')
@app.route('/report')
def report():
    return render_template('report.html')
if __name__ == '__main__':
    app.run(debug=True)
```

#### st.css

```
.home {
    font-family: Arial, sans-serif;
    margin: 0;
    padding: 20px;
    background-image: url("https://media.licdn.com/dms/image/D5612AQGvDKAbhWiC6w/article-cover_image-shrink_600_2000/0/1686891837012?e=2147483647&v=beta&t=bKmj-84m3h-qD-7nIFrrj2zUdM9fbxITpBTZW9NNxDE");
    background-size: 1700px 800px;
    background-repeat: no-repeat;
    background-position: top left;
    height: 600px;
}
```

```
h1 {
  text-align: center;
  color: whitesmoke;
  font-size: 40px;
}
.container {
  padding-top: 50px;
  display: flex;
  justify-content: center;
  align-items: center;
  height: 100px;
  width: 750px;
  gap: 70px;
}
.heading {
  width: 800px;
  padding-top: 5px;
  font-size: x-large;
}
.link {
  display: inline-block;
  margin: 10px;
  padding: 10px 20px;
  background-color: #e6e6e6;
  border-radius: 5px;
  text-decoration: none;
  color: #333;
  font-weight: bold;
}
.container1 {
  padding-top: 60px;
  display: flex;
  justify-content: center;
  align-items: center;
```

```

height: 100px;
width: 750px;
margin-top: 80px;
}
p {
background-image: url("https://img.freepik.com/free-photo/white-smoke-background-textured-wallpaper-high-resolution_53876-133394.jpg");
display: inline-block;
margin: 10px;
background-repeat: no-repeat;
background-size: 800px;
height: 200px;
border-radius: 10px;
color: black;
font-weight: bold;
font-size: large;
text-align: justify;
padding: 20px;
}
iframe {
display: flex;
margin: auto;
justify-content: center;
align-items: center;
margin-top: 40px;
}

```

### **dashboard.html:**

```

<!DOCTYPE html>
<html>
<head>
<title>Dashboard - Social Media Analysis</title>
<style>
.embed-container iframe {
width: 90%;

```



```

        height: 600px;
        border: none;
    }
</style>
<link rel="stylesheet" href="{{ url_for('static', filename='css/st.css') }}">
</head>
<body
    style="background-image: url(https://media.istockphoto.com/id/1221290384/video/social-media-logo-
compilation-animation-social-network-marketing-dark-
background.jpg?s=480x480&k=20&c=CZlAc9nU85lHpqWo0OG9s8XEOq7-
Y4u7sa4fZn2Tb_0=);background-repeat:    no-repeat;background-position:    center;background-size:
1700px 900px;">
    <h1>DASHBOARD</h1>
    <div class="embed-container">
        <iframe
src="https://us1.ca.analytics.ibm.com/bi/?perspective=dashboard&pathRef=.my_folders%2FSocial
%2BMedia%2Bdashboard&closeWindowOnLastView=true&ui_appbar=false&ui_navba
r=false&shareMode=embedded&action=view&mode=dashboard"
        width="320" height="400" frameborder="0" gesture="media" allow="encrypted-media"
        allowfullscreen="">
    </iframe>
    </div>
</body>
</html>

```

## home.html

```

<!DOCTYPE html>
<html>
<head>
    <title>Social Media Analysis</title>
    <link rel="stylesheet" href="{{ url_for('static', filename='css/st.css') }}">
</head>
<body class="home">
    <div class="heading">
        <h1>Dissecting the Digital Landscape: A Comprehensive Analysis of Social Media </h1>
    
```

```

</div>
<div class="container">
  <a class="link" href="{{ url_for('dashboard') }}">Dashboard</a>
  <a class="link" href="{{ url_for('story') }}">Story</a>
  <a class="link" href="{{ url_for('report') }}">Report</a>
</div>
<div class="container1">
  <p>
    <span> "Dissecting the Digital Landscape: A Comprehensive Analysis of Social Media",
embarks on a pioneering journey to unravel the multifaceted impact of social media on society,
technology, and culture. In an era defined by digital interconnectedness, the influence of social media is
profound, necessitating a deep and comprehensive exploration. Seeks to address pressing challenges,
understand the complexities, and provide insights that enable individuals, businesses, and policymakers
to navigate the evolving world of social media effectively and ethically.
    </span>
  </p>
</div>
</body>
<script src="{{ url_for('static', filename='js/main.js') }}"></script>
</html>
report.html
<!DOCTYPE html>
<html>
<head>
  <title>Report - Social Media Analysis</title>
  <link rel="stylesheet" href="{{ url_for('static', filename='css/st.css') }}">
</head>
<body
  style="background-image:      url(https://cutewallpaper.org/21/wallpapers-twitter/Twitter-Wallpaper-
Wallperio.com.png);">
  <h1>REPORT</h1>
  <div class="embed-container">
    <iframe
src="https://us1.ca.analytics.ibm.com/bi/?pathRef=.my_folders%2FSocial%2BMedia%2Breport&cl

```

```
oseWindowOnLastView=true&ui_appbar=false&ui_navbar=false&shareMode=embedde  
d"
```

```
width="1400" height="600" frameborder="0" gesture="media" allow="encrypted-media"  
allowfullscreen=""></iframe>
```

```
</div>
```

```
</body>
```

```
</html>
```

## story.html

```
<!DOCTYPE html>
```

```
<html>
```

```
<head>
```

```
<title>Story - Social Media Analysis</title>
```

```
<link rel="stylesheet" href="{ { url_for('static', filename='css/st.css') } }">
```

```
</head>
```

```
<body
```

```
style="background-image: url(https://videohive.img.customer.envatousercontent.com/files/0b45cb81-  
cc12-4b29-9aec-  
769b62c28b59/inline_image_preview.jpg?auto=compress%2Cformat&fit=crop&crop=top&max-  
h=8000&max-w=590&s=03fca50a19d3abc4b12f4925059bec7e);background-repeat:no-  
repeat;background-position: center;background-size: 1700px 800px;">
```

```
<h1>STORY</h1>
```

```
<div class="embed-container">
```

```
<iframe
```

```
src="https://us1.ca.analytics.ibm.com/bi/?perspective=story&pathRef=.my_folders%2FSocial%2B  
Media%2Bstory&closeWindowOnLastView=true&ui_appbar=false&ui_navbar=false&a  
mp;shareMode=embedded&action=view&mode=dashboard"
```

```
width="1400" height="600" frameborder="0" gesture="media" allow="encrypted-media"  
allowfullscreen=""></iframe>
```

```
</div>
```

```
</body>
```

**Github link:**

<https://github.com/AmeenathFahmidaDM/Naan-Mudhalvan>

**ProjectDemoLink:**

[https://drive.google.com/file/d/1\\_Z07x64WXChuXUI2BTovkpLut2kS1B3/view?usp=sharing](https://drive.google.com/file/d/1_Z07x64WXChuXUI2BTovkpLut2kS1B3/view?usp=sharing)