PROJECT REPORT

Title of the Project: **POLITICAL PULSE**

*In partial fulfillment of the requirement of the degree of **Bachelor of Computer Science** (BCS)*

BY:

> ➤ **Nasima Akthar Tapadar**
>   **(Roll: 062522 No.: 200200869 ,**
>   **Reg.No.: 20220007263)**
> ➤ **Imrana Begum**
>   **(Roll: 063522 No.:200200878,**
> **Reg.No.:20220007272)**

the Guidance of

Dr. Ananya Roy

Department of Computer Science and Application

KARIMGANJ COLLEGE, *Sribhumi*

Affiliated to

ASSAM UNIVERSITY, *Silchar*

Year of Under Submission: *2025*

TABLE OF CONTENTS

POLITICAL

PULSE

INTRODUCTION AND OBJECTIVE OF THE PROJECT:

POLITICAL PULSE is a web-based platform designed to *collect*, *analyze*, and *visualize* public opinions on political topics using real-time data from Twitter, Reddit, and news sources. By leveraging Natural Language Processing (NLP) and sentiment analysis techniques, this system evaluates public sentiment toward politicians, policies, and election trends. The dashboard provides dynamic visualizations, highlighting how public perception shifts over time.

The primary objective of this project is to develop an advanced sentiment *analysis* dashboard that systematically collects and processes real-time data from Twitter and Reddit,   the most influential platforms for political discussions.

This dashboard will enable users to track sentiment trends over time, analyze reactions to specific political figures or policies, and compare discussions across different regions. With a user-friendly interface, it will present data through pie charts, bar graphs, and reports, making complex sentiment patterns easy to interpret. The dashboard will classify sentiments into positive, negative, and neutral categories, providing a clear understanding of public opinion trends.
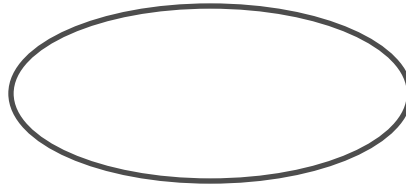
PROJECT CATEGORY: Machine learning & DataScience

DATA FLOW DIAGRAM

Data Flow diagram is a graphical representation of flow of data throughout the information system. Data flow diagrams illustrate how data is processed by a system in terms of inputs and outputs.

Name Notation Rule

> ## Process

Transforms incoming data flow to output data flow

> ## Data Store

Repositories of data in the system.

> ## Dataflow

Dataflow are pipelines through which packets of information flow.

> ## External Entity

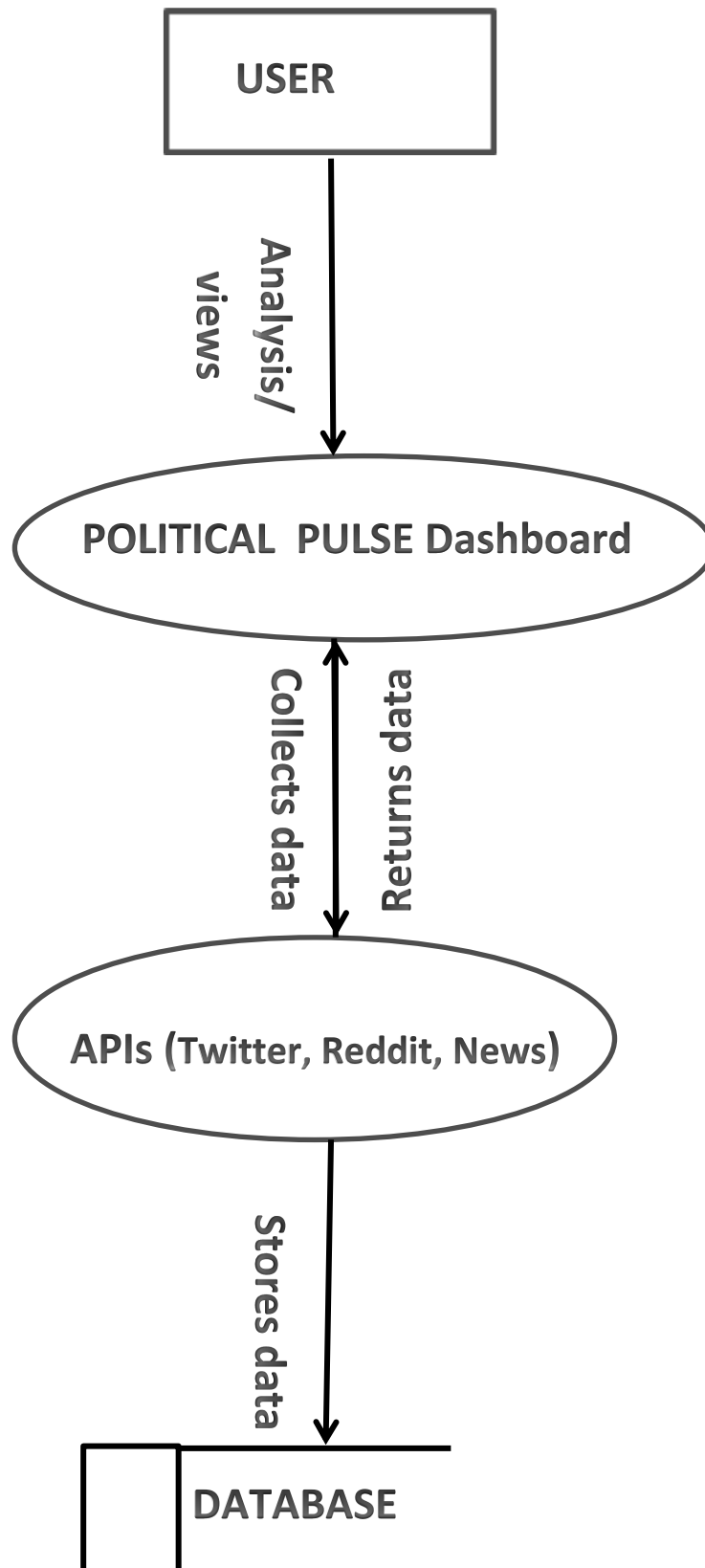**External entities are objects outside the system, with which the system communicate.**

Fig1. LEVEL 0 DFD

USER

Request Analysis

POLITICAL PULSE Dashboard

Data collects

Process Data

Sentiment Analysis

Result

Data storage

Data collection

Fetch Tweets

Fetch Posts

Fetch Articles

Display Insight

Save Processed Data

Twitter API

Reddit API

News API

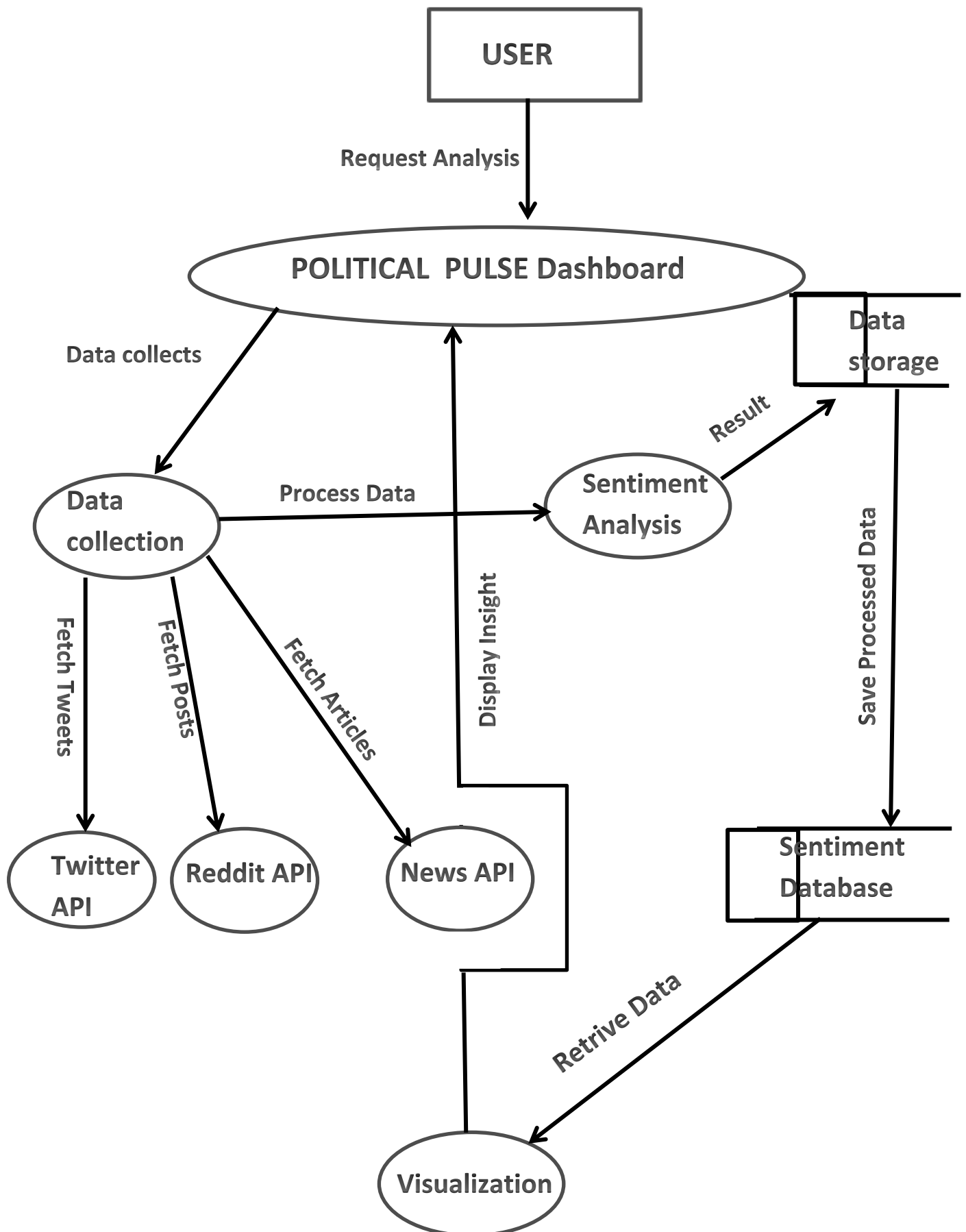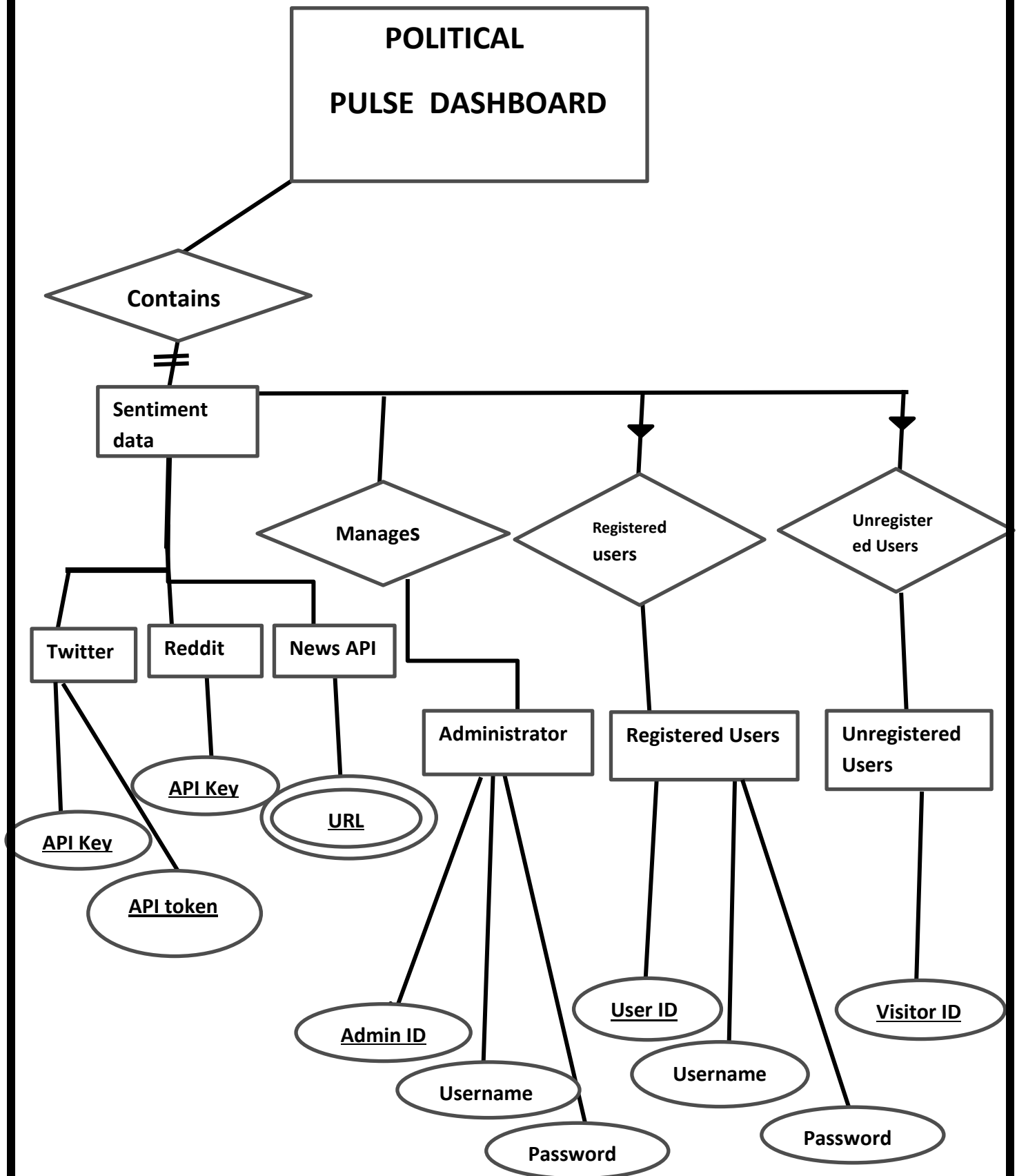**Sentiment Database**

Retrive Data

Visualization

Fig2. LEVEL 1 DFD

<u>Entity Relationship Diagram:</u>

HARDWARE REQUIREMENT SPECIFICATIONS:

Processor: Intel Core i5-1235U

RAM: 8GB

Hard disk: 1TB

Monitor: 15" color or advanced

Keyboard: Any

Mouse: Any

Printer: to print the report

SOFTWARE REQUIREMENT SPECIFICATIONS:

Database: Firebase

Browser: Microsoft Edge

Web Server: Dash's built-in Flask server (used for local development) and Render's web service (used for deployment)

FUTURE SCOPE AND FURTHER ENHANCEMENT OF THE POLITICAL PULSE:

The future scope of the Political Pulse includes expanding data sources by integrating platforms like Facebook, YouTube, political blogs, and government reports for a broader understanding of public opinion. To improve inclusivity, multilingual analysis will allow sentiment tracking in regional and global languages. AI-powered predictive analytics will enable the system to forecast election outcomes, policy impacts, and political unrest based on historical data. A smart news recommendation system will enhance user experience by detecting media bias and summarizing political trends. Furthermore, integration with government and election bodies will help monitor campaign effectiveness, misinformation trends, and public responses to policies.

Future enhancements will include real-time alerts for sudden shifts in public sentiment, ensuring timely insights and Advanced data visualization will make the dashboard more user-friendly. Additionally, speech analysis will allow sentiment tracking in political speeches and debates, while an AI chatbot will provide real-time sentiment updates, polls, and trend analysis. To enhance security, blockchain technology will ensure data transparency and prevent manipulation. Finally, a mobile app version will provide users with on-the-go access to sentiment trends and notifications. These enhancements will make political analysis smarter, faster, and more reliable, benefiting policymakers, researchers, and the general public.

<u>CONCLUSION</u>

Political Pulse provides real-time insights into public opinion on politicians, policies, and elections. By analyzing social media and news data, it helps identify sentiment trends and shifts over time. Designed for political analysts, journalists, researchers, and the general public, the system will serve as a powerful tool to decode online political discourse, helping stakeholders make informed decisions. By transforming vast amounts of unstructured social media conversations into structured, actionable insights, this project aims to bridge the gap between digital discussions and meaningful political and meaningful political analysis.
.