Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	29 September 2023
Team ID	NM2023TMID03198
Project Name	Project - Dissecting the digital landscape: a comprehensive analysis of social media
Maximum Marks	4 Marks

Technical Architecture:

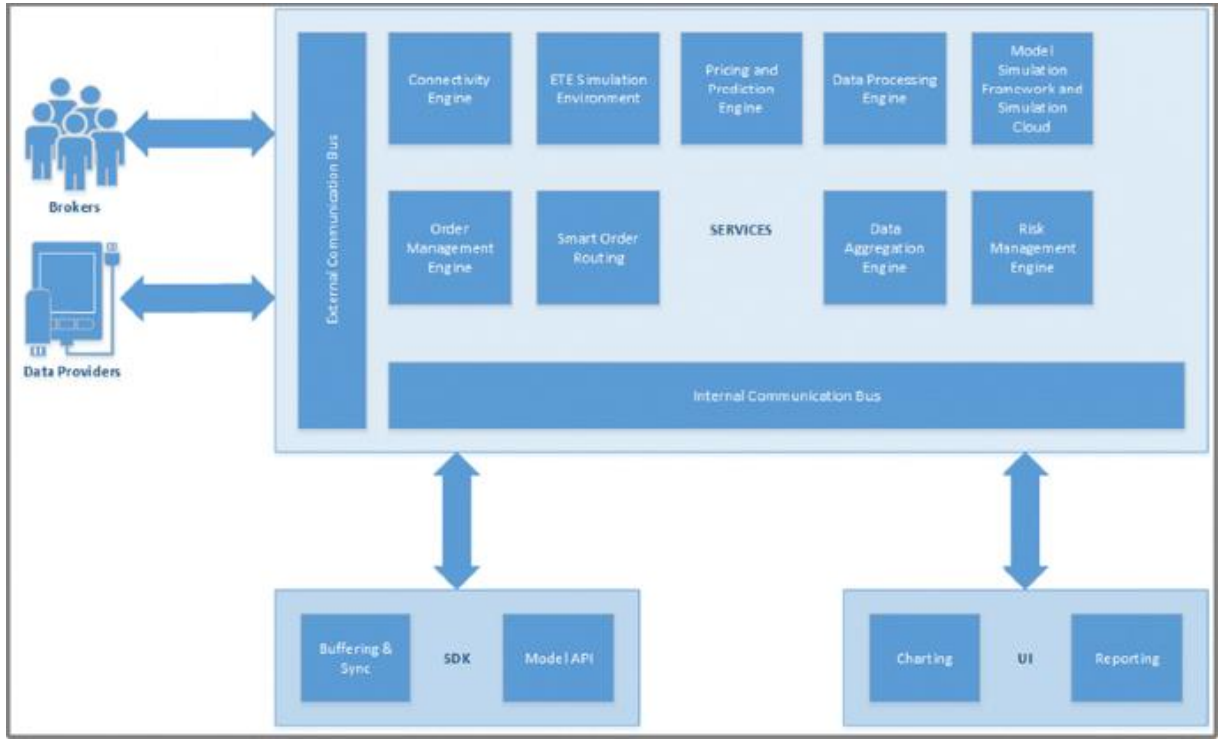

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. Web UI, Mobile App, Chatbot etc.	HTML, CSS, JavaScript / Angular Js / React Js etc.
2.	Data Ingestion Logic	Application logic for collecting data from various sources, such as social media platform APIs, web scraping, and data feeds.	Java / Python
3.	Data Visualization and Reporting Logic	Logic for creating interactive dashboards, charts, and visualizations to communicate insights.	Tableau, Power BI, D3.js, NetworkX
4.	Security and Privacy Logic	Compliance logic to adhere to data protection regulations and ethical guidelines.	IBM Watson Assistant
5.	Database	Data Type, Configurations etc.	MySQL, NoSQL, etc.
6.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant etc.
7.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
8.	Google Maps API	Allows geospatial analysis and mapping of location-based social media data	IBM Weather API, etc.
9.	Third-party Social Listening API	Various third-party social listening and analytics tools offer APIs to access their data and insights.	Aadhar API, etc.
10.	Feature Extraction	TF-IDF vectors, word embeddings (Word2Vec, GloVe), or deep learning-based embeddings (BERT, GPT).	Object Recognition Model, etc.
11.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Cloud Server Configuration :	Local, Cloud Foundry, Kubernetes, etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	When it comes to dissecting the digital landscape and conducting a comprehensive analysis of social media, open-source frameworks and tools can be invaluable for simplifying the process.	Facepy, Scrapy, Tweepy, Apache Spark,etc..,
2.	Security Implementations	When conducting a comprehensive analysis of social media, especially when dealing with large datasets and sensitive information, it's essential to implement robust security measures to protect the data, systems, and privacy of individuals	e.g. SHA-256, Encryptions, IAM Controls, OWASP etc.
3.	Scalable Architecture	Creating a scalable architecture for dissecting the digital landscape and conducting a comprehensive analysis of social media requires careful planning and the use of technologies and strategies that can handle large volumes of data efficiently.	Data Storage, Data Warehousing, Real-time analysis,etc..,
S.No	**Characteristics**	**Description**	**Technology**
4.	Availability	Ensuring high availability in the context of dissecting the digital landscape and conducting a comprehensive analysis of social media is critical, especially when dealing with real-time data and making data-driven decisions.	Redundancy, Auto-scalloing, Data Replication, Backup and Recovery, etc..,
5.	Performance	Performance is a critical aspect when dissecting the digital landscape and conducting a comprehensive analysis of social media.	Query performance, Network performance,etc..,