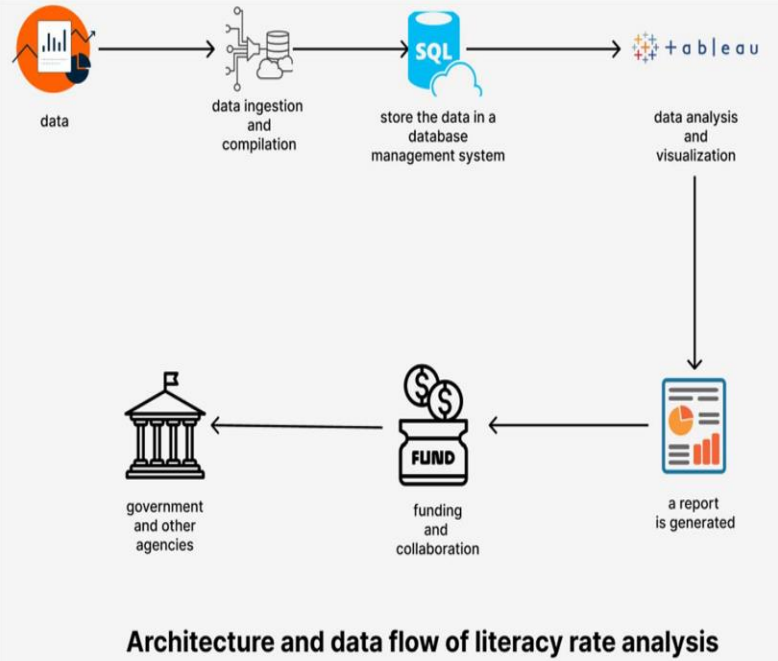
Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	27 October 2023
Team ID	PNT2022TMID**591190**
Project Name	Project: Empowering the Future: A Literacy Rate Analysis for a Better Tomorrow
Maximum Marks	4 Marks

Technical Architecture:



Architecture and data flow of literacy rate analysis

- Develop a web-based literacy rate analysis application that collects, analyses, and visualizes data using a backend and frontend stack, providing valuable insights for a better future.
- Host the project infrastructure on a cloud platform for scalability, accessibility, and ease of maintenance.
- Integrate third-party APIs for geospatial data and data visualization libraries to enhance the project's functionality.
- Utilize a cloud-based database service like Amazon RDS, Google Cloud SQL, or Microsoft Azure SQL Database for efficient and scalable data storage.
- Implement an API or service to facilitate communication between the web application and machine learning models for predictive analysis and insights

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	Data Collection	Gathering relevant data on literacy rates	Surveys, government reports, databases
2.	Data Analysis	Analyzing literacy rate data	Statistical software, data visualization tools
3.	Challenges and Barriers	Examining successful literacy initiatives	Research, interviews, data analysis
4.	Community Engagement	Identifying obstacles to progress in literacy rates	Analysis, community input, research
5.	Policy Recommendations	Engaging with local communities and educational bodies.	Surveys, workshops, interviews
6.	Awareness Campaign	Developing policy suggestions for literacy improvement	Research, data analysis, collaboration.
7.	Technology and Literacy	Creating a public awareness campaign on literacy	Social media, educational materials
8.	Measuring Impact	Exploring technology's role in literacy improvement	Educational software, digital platforms.
9.	External API-2	Establishing metrics to gauge literacy improvement	Data analysis, tracking, reporting.
10.	Report and Presentation	Compiling findings into a comprehensive report	Document preparation, presentation tools
11.	Project Management	Overseeing project operations and coordination	Project management software, planning

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Open-source frameworks used in the project	React.js, Django (Python), PostgreSQL
2.	Security Implementations	Security and access control measures implemented	Encryption, access control policies, OWASP
3.	Scalable Architecture	Scalability considerations and architectural approach	Microservices Architecture, Kubernetes
4.	Availability	Ensuring high availability of project/application	Load Balancers, Redundancy, Distributed Servers
5.	Performance	Design considerations for optimizing project/application performance	Caching, CDN, Asynchronous Processing