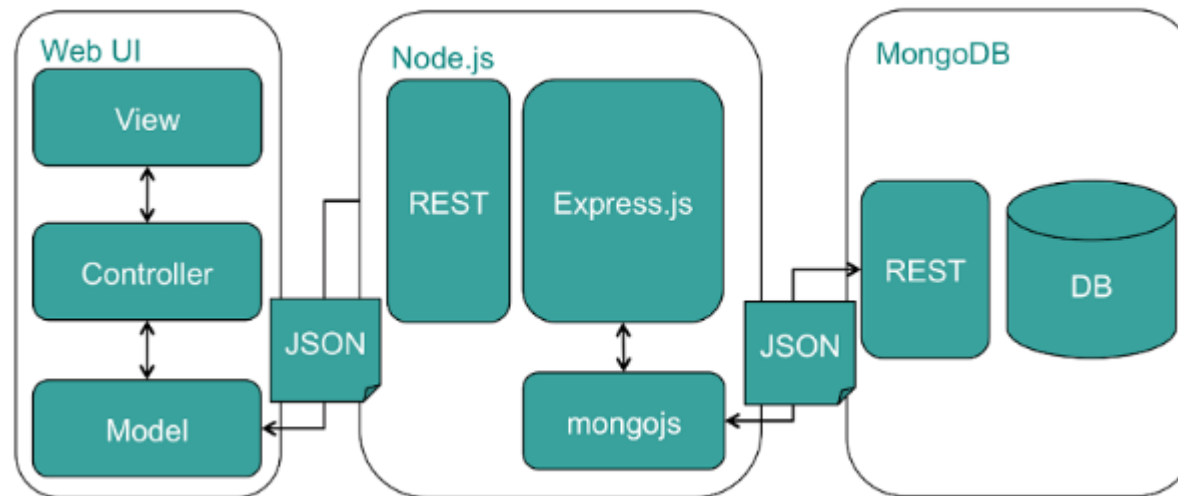
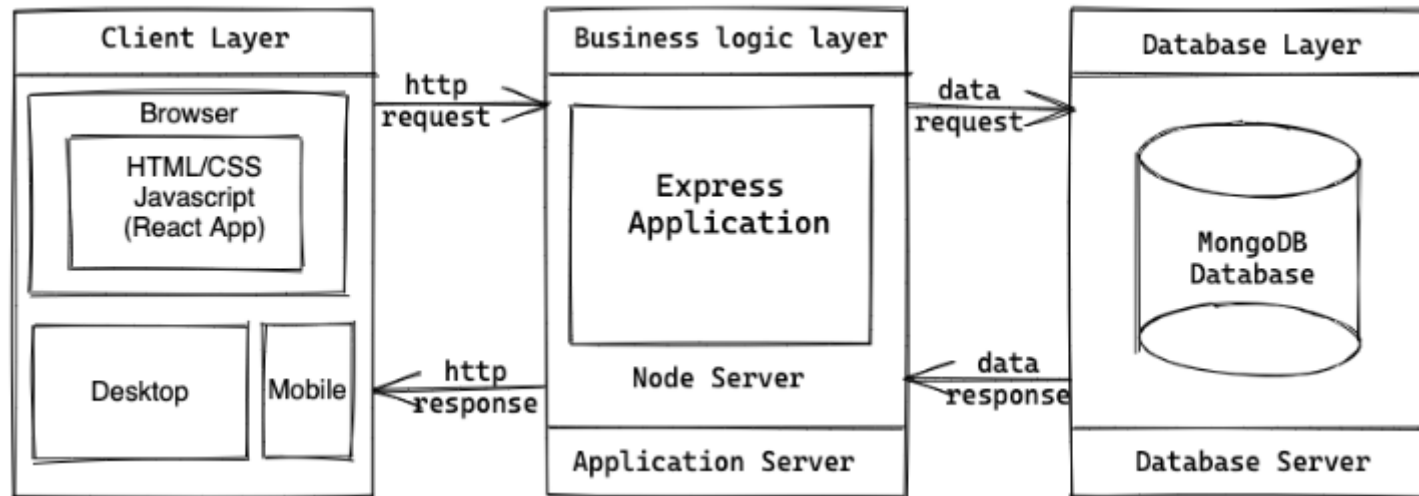


Requirement Gathering and Analysis Phase
Technology Stack (Architecture & Stack)

Date	7 JULY 2024
Team ID	SWTID1720106020
Project Name	Banking Application Web App
Maximum Marks	3 Marks

Technical Architecture:





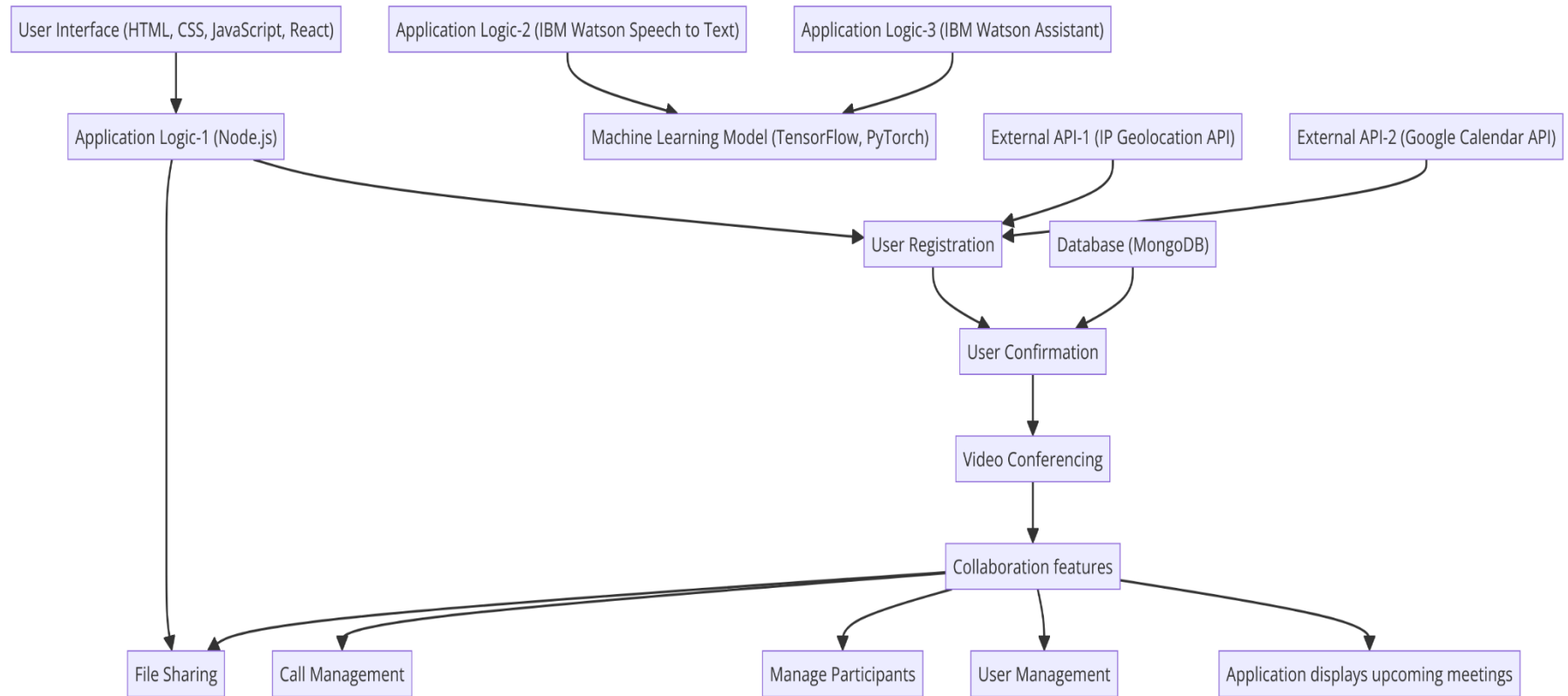


Table-1: Components & Technologies:

S.no:	Component	Description	Technology
1	User Interface	How user interacts with application	HTML, CSS, JavaScript (React)
2	Application Logic-1	Logic for user authentication and session.	Node.js, Express.js
3	Application Logic-2	Logic for transaction processing	Node.js, Express.js
4	Application Logic-3	Logic for customer support chat.	IBM Watson Assistant
5	Database	Data storage for user and transaction data	MongoDB (NoSQL database)
6	Cloud Database (Optional)	Database service on cloud	MongoDB Atlas (Cloud-based MongoDB)
7	File Storage	Storage for user documents and reports.	IBM Block Storage (Cloud), Other Cloud Storage Service, or Local Filesystem, AWS S3
8	External API-1	For verifying user identities.	Aadhar API
9	External API-2	For fetching financial market data.	Financial Market Data API
10	Machine Learning Model	Fraud detection and risk assessment.	Custom-built ML model on TensorFlow
11	Infrastructure (Server / Cloud)	Application deployment environment	Local: Docker, Cloud: AWS ECS, Kubernetes

Table-2: Application Characteristics:

S.No.:	Characteristics	Description	Technology
1	Open-Source Frameworks	Utilize open-source frameworks for UI development and backend logic (MERN Stack).	React, Node.js Express.js, MongoDB
2	Security Implementations	List all security/access controls implemented	JWT for authentication, SHA-256 encryption, IAM controls
3	Scalable Architecture	Justify the scalability of architecture (e.g., micro-services)	Microservices architecture using Docker and Kubernetes
4	Availability	Justify the availability of application (e.g., load balancers)	AWS Elastic Load Balancing, distributed servers
5	Performance	Design considerations for application performance	Use of caching (Redis), CDN (CloudFront), optimized database queries