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

Date	20 March 2025
Team ID	SWTID1744280958
Project Name	SpendSmart: Your Personal Finance Companion
Maximum Marks	4 Marks

Technical Architecture:

Frontend

- **React.js**: A JavaScript library for building dynamic and responsive user interfaces.

- **Tailwind CSS**: A utility-first CSS framework used for styling and responsive design.

Backend

- **Node.js**: A JavaScript runtime environment for executing server-side code.

- **Express.js**: A minimal and flexible Node.js web application framework for building APIs.

Database

- **MongoDB**: A NoSQL database for flexible and scalable data storage.

Authentication

- **JSON Web Tokens (JWT)**: Used for stateless authentication and authorization.

Table 1: Tech Stack

Component	Technologies	Purpose
Frontend	React.js	Dynamic UI development
	Material-UI	Pre-styled components
	Redux Toolkit	State management
Backend	Node.js + Express.js	REST API server logic
	MongoDB	NoSQL database for expenses/users
	Mongoose	Database schema modeling
Authentication	JWT	Token-based user security
Deployment	Vercel	Frontend hosting
	Render	Backend server deployment
Testing	Jest + React Testing Library	Unit/component testing

Table 2: Features

Category	Details
Functional	- Add/delete expenses with categories
	- Visualize spending trends via charts
	- Set monthly budgets and receive alerts
Non-Functional	- Responsive design (mobile/desktop)
	- Secure API endpoints (JWT authentication)
	- Optimized performance with lazy loading