Technical Stack:

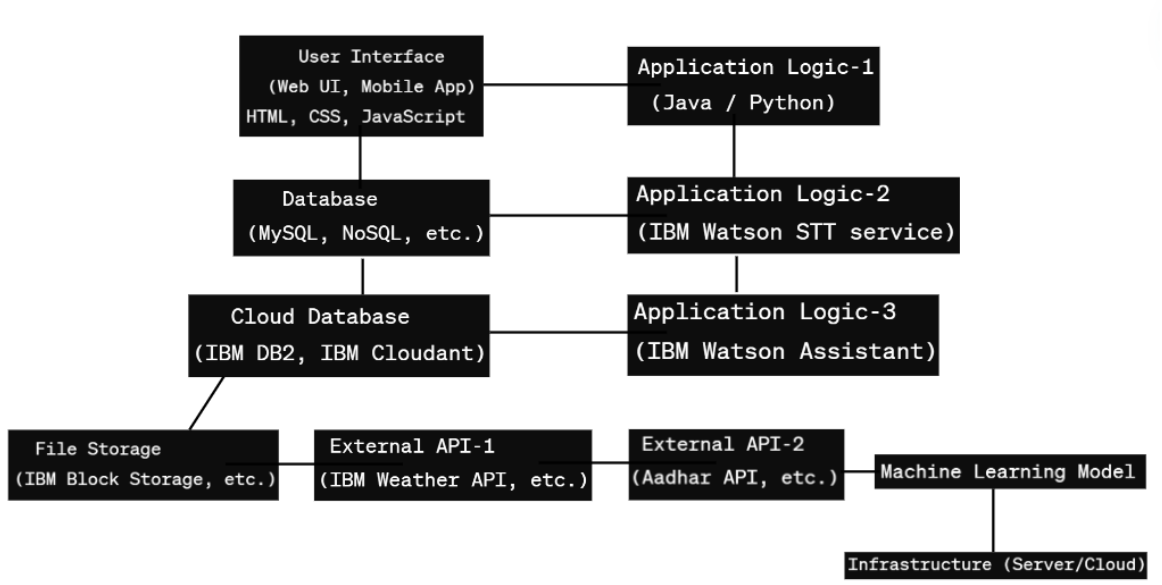

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Web UI, Mobile App, Chatbot etc.	HTML, CSS, JavaScript / Angular Js / React Js ,Flutter etc.
2.	Application Logic-1	Logic for a process in the application	Python
3.	Application Logic-2	Logic for a process in the application	IBM Watson STT service
4.	Application Logic-3	Logic for a process in the application	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
8.	External API-1	Purpose of External API used in the application	IBM Weather API, etc.
9.	External API-2	Purpose of External API used in the application	Aadhar API, etc.
10.	Machine Learning Model	Purpose of Machine Learning Model	Data analysis Model

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	Dart, Flutter	Flutter Framework
2.	Security Implementations	Secure communication (HTTPS), In-app data encryption	TLS/SSL, Data Encryption
3.	Scalable Architecture	Scalability for user base and prediction capabilities	Microservices Architecture

S.No	Characteristics	Description	Technology
4.	Availability	High availability for real-time predictions	Load Balancers, Redundancy
5.	Performance	Optimized for mobile performance and low latency	Flutter optimizations, CDN

Project planning

Product Backlog, Sprint Schedule, and Estimation (4 Marks)

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Flood alert	FPN-1	As a citizen, I want to receive real-time flood alerts on my mobile device.	3	High	Sakshi Rai
Sprint-2	Early Warning System	FPN-2	As a local authority, I want access to an early warning system that predicts potential floods	5	High	Sakshi Rai

Sprint-3	Flood Risk Assessment	FPN-3	As an infrastructure planner, I want a tool to assess flood risks in different areas.	4	Medium	Sakshi Rai
Sprint-4	Flood Response Coordination	FPN-4	As an emergency responder, I want a platform to coordinate flood response efforts	4	High	Sakshi Rai
Sprint-5	System Monitoring	FPN-5	As a system administrator , I want tools for monitoring system health and performing maintenance tasks	3	High	Sakshi Rai

Project Tracker, Velocity & Burndown Chart: (4 Marks)

Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)
Sprint-1	19	10 Days	1 feb 2024	10 feb 2024	19	10 feb 2024
Sprint-2	16	10 Days	1 feb 2024	10 feb 2024	16	10 feb 2024
Sprint-3	18	10 Days	1 feb 2024	10 feb 2024	18	10 feb 2024
Sprint-4	15	10 Days	1 feb 2024	10 feb 2024	15	10 feb 2024

Velocity:

Average Velocity (AV) per iteration unit (story points per day) = Total Story Points / Total Sprint Duration

Example: AV = 19 / 10 = 1.9 story points per day

AV=Sprint Duration/Velocity
=>19/10=1.9

Burndown Chart: