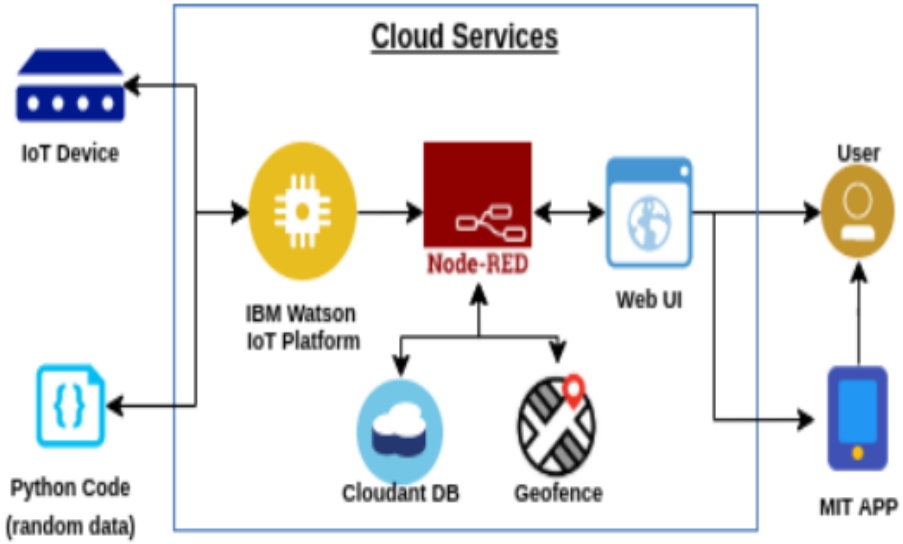
Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	03 November 2022
Team ID	PNT2022TMID42243
Project Name	Project-SMART SOLUTIONS FOR RAILWAYS
Maximum Marks	4 Marks

Technical Architecture:



Features:

1. There will a Mobile app for the public through which they can book tickets by seeing the available seats.
2. After booking the person will get a QR code which has to be shown to the Ticket Collector at boarding. He scans the QR code to identify the personal details.
3. A GPS module is present in the train to track it. The live status of the journey is updated in the mobile app continuously.
4. The user can set a notification for intimating the train live status for both boarding and destination stations.

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, Python Script / Angular J s / React J s etc.
2.	Application Logic-1	Logic for a process in the application	Java / 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 or Other Storage Service or Local Filesystem
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	Object Recognition Model, etc.
11.	Infrastructure (Server / Cloud)	Application Deployment on Cloud system Cloud Server Configuration:	Cloud Foundry, Kubernetes, etc.

Table-2: Application Characteristics:

S No	Characteristics	Description	Technology
1.	Open-Source Frameworks	List the open-source frameworks used	Technology of Opensource framework
2.	Security Implementations	List all the security / access controls implemented, use of firewalls etc.	e.g.SHA-256, Encryptions, IAM Controls, OWASP etc.
3.	Scalable Architecture	Justify the scalability of architecture (3 – tier, Micro-services)	Technology used

S No	Characteristics	Description	Technology
4.	Availability	Justify the availability of application (e g use of load balancers, distributed servers etc.)	Technology used
5.	Performance	Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN's) etc.	Technology used