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

Date	18 October 2022
Team ID	PNT2022TMID30270
Project Name	SmartFarmer - IoT Enabled Smart Farming Application
Maximum Marks	4 Marks

Technical Architecture:

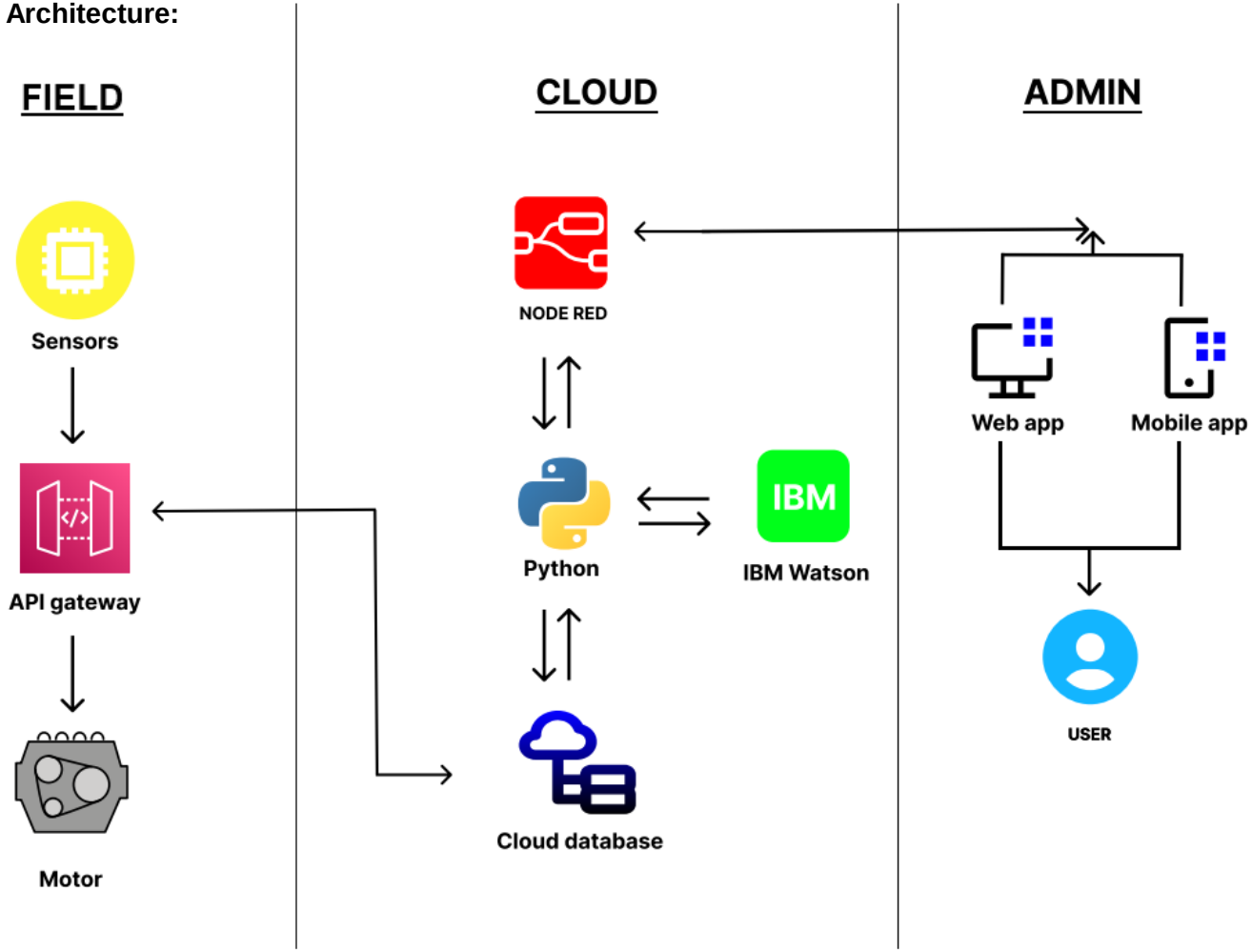

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Mobile and web application.	HTML, CSS, JavaScript
2.	Application Logic-1	Gets the permission from the farmer before the initializing the irrigation pump.	Python
3.	Cloud Database	IBM DB2 is used to collect and store the data of the field for further analyses	IBM DB2
4.	File Storage	App code and IoT credentials are stored and API keys	IBM Block Storage
5.	External API-1	To get the details of parameters detected in field	IBM field detection API
6.	External API-2	To get the decision from the farmer	IBM decision API
7.	Infrastructure (Server / Cloud)	To host the server and application	Node Red

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	To develop the application interface, we use MIT App Inventor	MIT APP INVENTOR
2.	Security Implementations	To secure the users login credentials and personal information	SHA-256, OWASP
3.	Scalable Architecture	To scale the application database	IBM Auto scaling
4.	Availability	To make use the application and data are available 24/7	IBM Cloud load balancer
5.	Performance	To increase the performance the application in hosted in the high-performance instance.	IBM instance