SRI ESHWAR OF ENGINEERING
COIMBATORE

- **Project Design Phase-II**

- **Technology Stack (Architecture & Stack)**

TEAM MEMBERS:

       SUBAHAN.K[LEAD]

       HASSAIN.K.M

       SAI KUMAR.G

       NIKHIL.K

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2
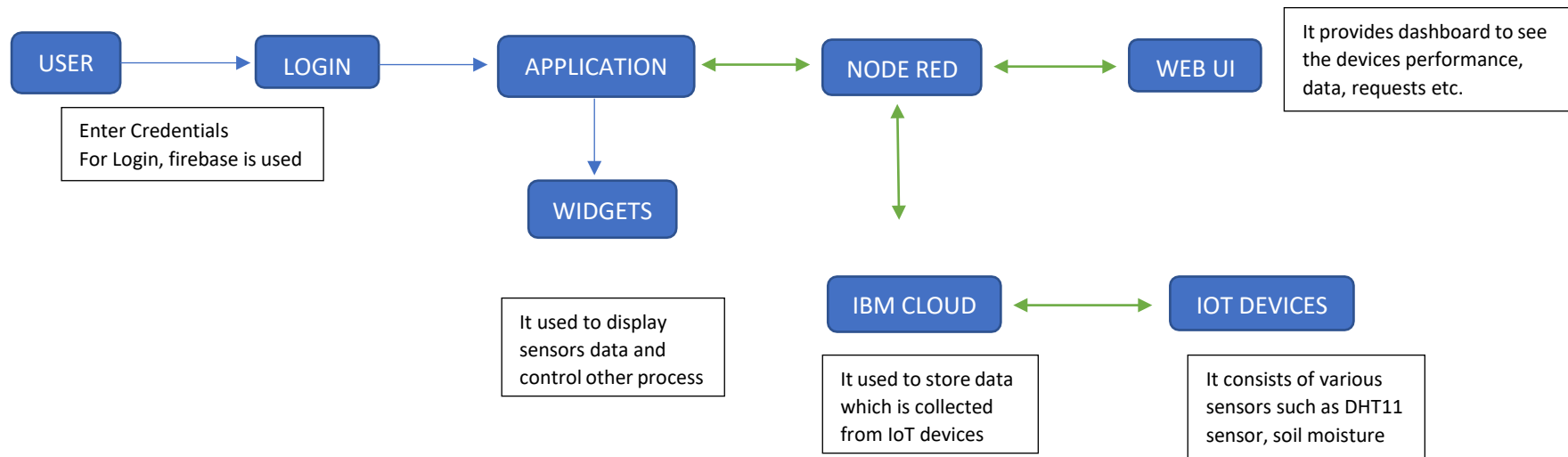
Table-1: Components & Technologies:

S. No	Component	Description	Technology
1.	User Interface	Mobile app. In our application, where data are displayed using widgets like structure. Users interacts with widgets to additional info	MIT App Inventor
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 base type	Firebase is NoSQL database
6.	Cloud Database	Database Service on Cloud	Firebase, IBM Watson IoT CloudPlatform
7.	File Storage	File storage requirements	IBM Block Storage or Other StorageService or Local Filesystem
8.	External API-1	Purpose of the API is got to weather information	Open Weather API
9.	External API-2	Purpose of the API is to connect with firebase forlogin purpose	Firebase API
10.	Infrastructure (Server / Cloud)	Application Deployment on Local System / CloudLocal Server Configuration:	Local, IBM Cloud, Firebase

		Cloud Server Configuration:	
11.	DHT11 sensor, Soil Moisture sensor	It used to monitor the soil, temperature, humidity.	

Table-2: Application Characteristics:

S. No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Node Red, MIT App Inventor, Arduino IDE Node Red for connecting with application, MIT AppInventor for building app, Arduino is open-source electronics platform to build hardware and software.	It is a software, which helps in connecting and building application. Node Red, MIT App Inventor, ArduinoIDE.
2.	Security Implementations	HTTPS Connections, X-Force Red IoT Testing	Encryptions, Secured Connection
3.	Scalable Architecture	Architecture is scalable from 10 devices to 300 devices easily and account is also scalable up to thousand connections. For very high scalability weneed to upgrade our cloud plan.	Firebase, IBM Cloud
4.	Availability	Availability of our application is 24/7 because which use a cloud technology. Firebase will use commercially reasonable efforts to make Firebaseavailable with a Monthly Uptime Percentage of at least 99.95% and distributed servers.	Firebase, IBM Cloud

5.	Performance	No of requests is 2 requests per 20 seconds or 4requests per 30 second and sometimes user request will be added with respective to the requests	MIT App Inventor, Node Red, Cloud