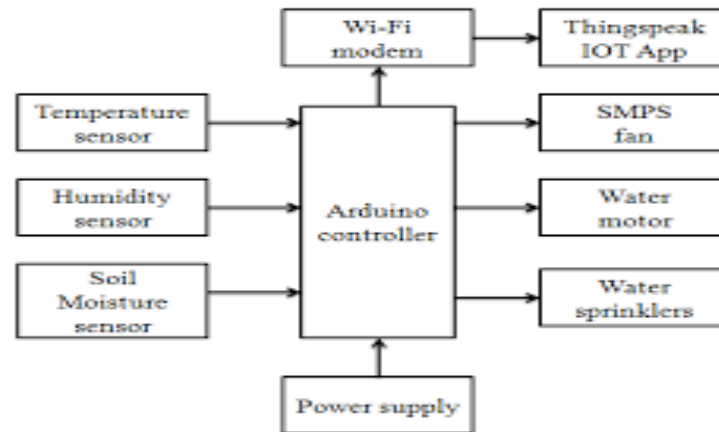


Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	16 October 2022
Team ID	PNT2022TMID29740
Project Name	Smart Farmer – IoT Enabled Smart Farming Application
Maximum Marks	4 Marks

Technical Architecture:



Reference:

https://www.google.com/search?q=smart+farming+flowchart&tbm=isch&chips=q:smart+farming+flowchart,online_chips:iot:vUoIDKJyQDM%3D&hl=en&sa=X&ved=2ahUKEwixxMq0-T6AhWfktgFHR1DAgMQ4lYoAHoECAEQIw&biw=1349&bih=568#imgrc=iZ9B1yKqV0-8rM

<https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.ijitee.org%2Fwp-content%2Fuploads%2Fpapers%2Fv8i6%2FF4077048619.pdf&psig=AOvVaw3XOY-QhBgV15jnQfZC5Dd&ust=1666018961819000&source=images&cd=vfe&ved=0CA0QjRxqFwoTCNji7LyC5foCFQAAAAAdAAAAABAP>

Table-1: Components & Technologies:

S. No	Component	Description	Technology
1.	Arduino	User interacts with application and performs entire process	IoT, C++, Java
2.	Sensors	It will sense and detects the moisture of the soil and gives the output according to the code	C, Java Senses according to the Code
3.	Mobile app	Used to ON and OFF the motor through the application	MIT Inverter
4.	Power Supply, Motors	Operated through mobile app by the Farmer	-
5.	Database	Data Type, Configurations etc.	Node red
6.	Cloud Database	Database Service on Cloud	IBM Cloud, IBM Watson
7.	File Storage	File storage, Local filesystem	IBM Block Storage
8.	External API-1	To know the Weather condition	IBM Weather API
9.	External API-2	Weather value and location	Aadhar API, etc.

Table-2: Application Characteristics:

S. No	Characteristics	Description	Technology
1.	Open-Source Frameworks	List the open-source frameworks used	Thinker cad and MIT Inverter
2.	Security Implementations	List all the security / access controls implemented, use of firewalls etc.	Encryptions
3.	Scalable Architecture	Justify the scalability of architecture (3 – tier, Micro-services)	Technology used
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

References:

<https://aws.amazon.com/architecture>

<https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.ijitee.org%2Fwp-content%2Fuploads%2Fpapers%2Fv8i6%2FF4077048619.pdf&psig=AOvVaw3XOY-QhBgV15j-nQfZC5Dd&ust=1666018961819000&source=images&cd=vfe&ved=0CA0QjRxqFwoTCNjl7LyC5foCFQAAAAAdAAAAABAP>