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

Date	15 October 2022
Team ID	PNT2022TMID30241
Project Name	IoT Based Smart Crop Protection System For Agriculture
Maximum Marks	4 Marks

Technical Architecture:

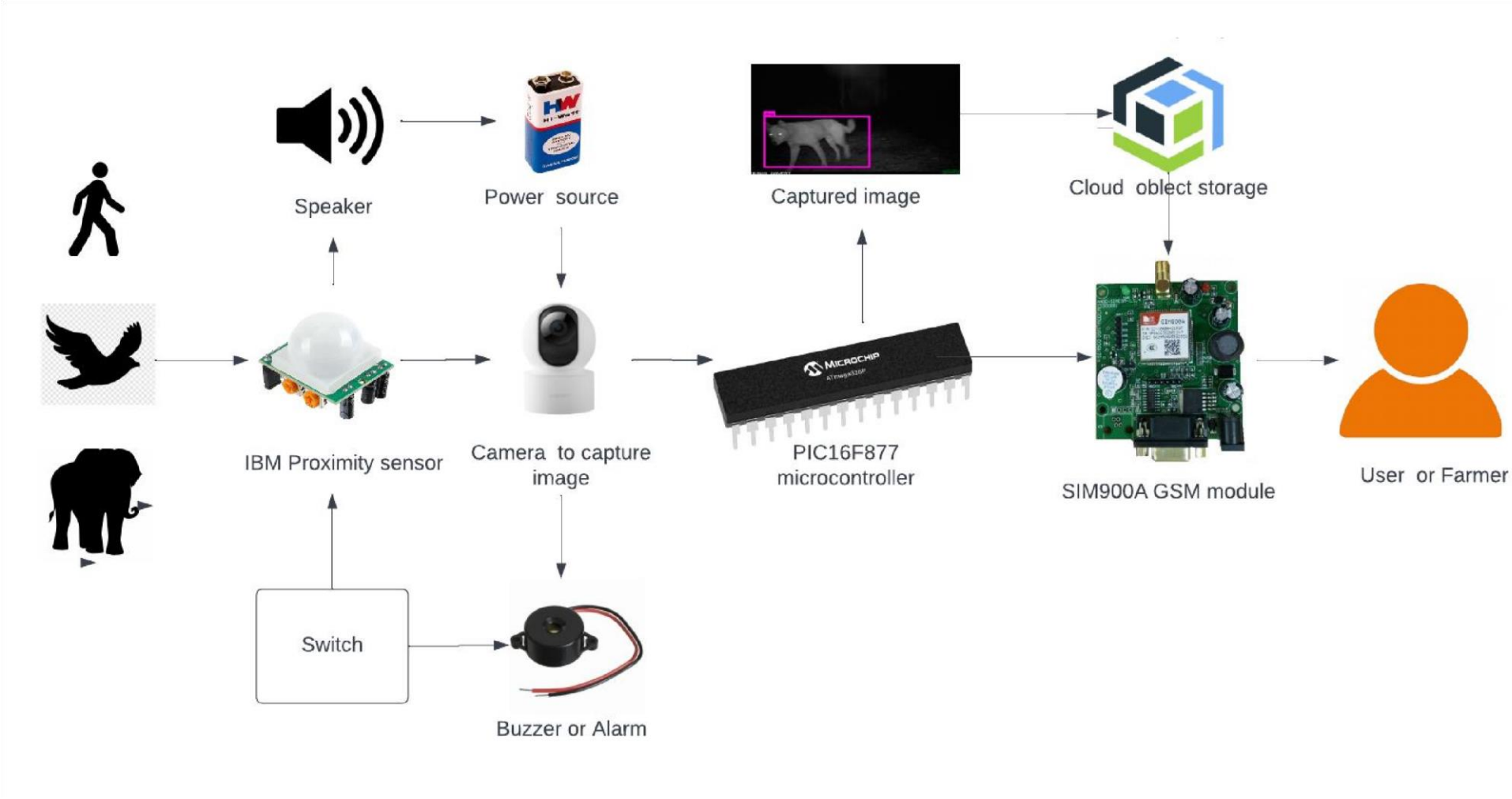

Table-1: Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Mobile	IoT

2.	Application Logic-1	The proximity sensor detects the movement and the continuous noise is generated.	IoT
3.	Application Logic-2	Whenever the movement is detected the camera will be switched ON and captures the images.	Camera
4.	Application Logic-3	Buzzer will be turned ON incase of any detection and produce a noise.	Buzzer
5.	Database	Camera takes the picture and it will be stored in a microcontroller.	Microcontroller
6.	Cloud Database	Call the data IBM Cloudant is used and user login credentials.	IBM DB2, IBM Cloudant
7.	File Storage	IoT credentials are stored in the microcontroller.	IBM microcontroller
8.	External API-1	To get the status of movement detected or not.	IBM Proximity sensor
9.	External API-2	To get the message from camera which is stored in IBM DB2.	GSM
10.	Machine Learning Model	To convert the movement of detection and image capture into text.	LCD display
11.	Infrastructure (Server / Cloud)	To host the cloud and application	Cloud

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	To protect the crops from birds and animals, we use the IoT based detection system.	IoT
2.	Security Implementations	The implementations are manually controllable.	IoT
3.	Scalable Architecture	To scale the protection system.	IBM Auto scaling

4.	Availability	To make use the system and data are available 24/7.	IBM Microcontroller
5.	Performance	To increase the protection of crops in the highperformance instance.	IBM instance