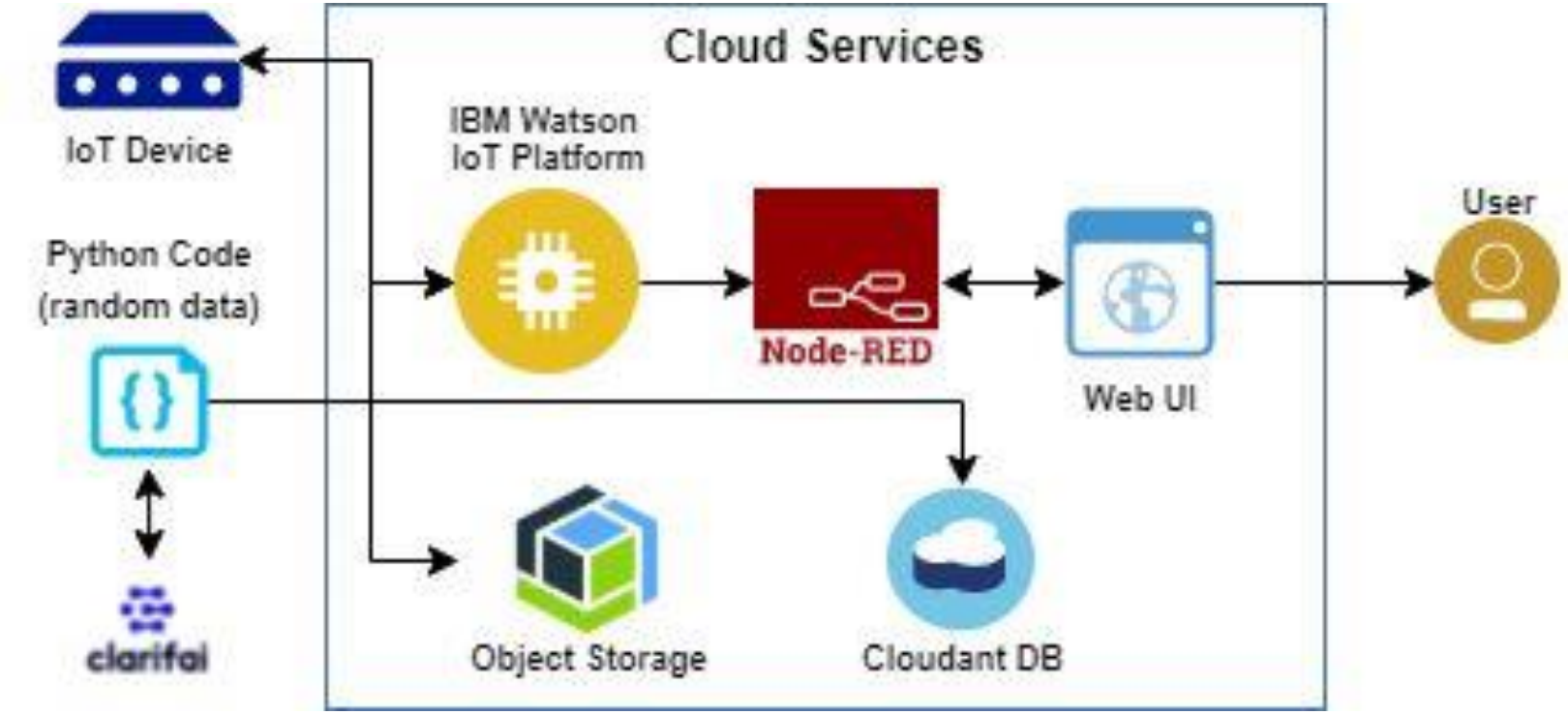
Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	03 October 2022
Team ID	PNT2022TMID54441
Project Name	IoT based smart crop protection system for agriculture
Maximum Marks	4 Marks

Technical Architecture:



Technical Architecture:

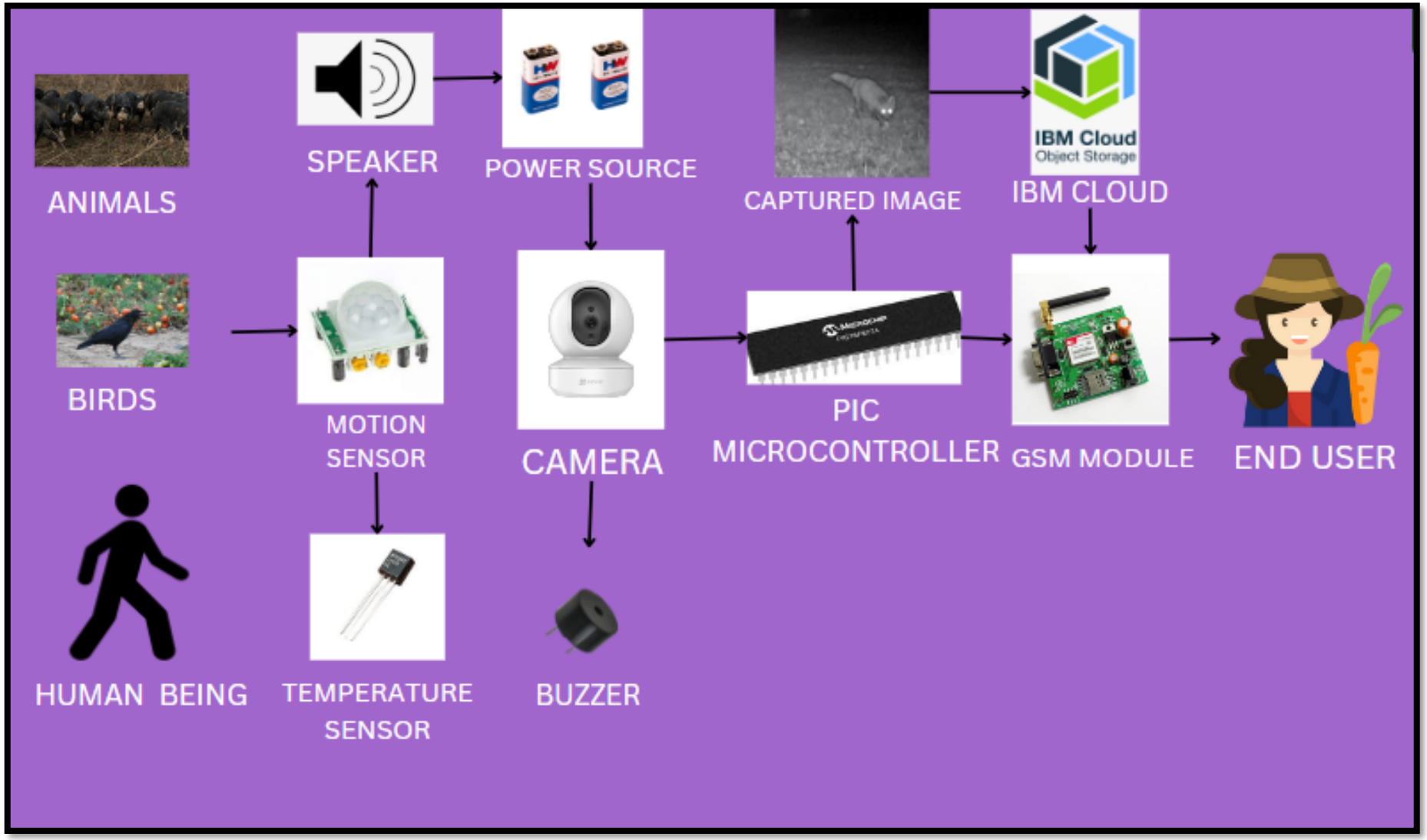


Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Web UI, Mobile App, etc.	HTML, CSS, JavaScript / Angular Js / React Js etc.
2.	Application Logic-1	The motion detection sensor detects the movement movement and the continuous noise is generated	Iot
3.	Application Logic-2	Whenever the movement is detected, the camera will be switched ON and capture the images.	Camera
4.	Application Logic-3	Buzzer will be turned ON automatically if any motion is detected and will produce noise	Buzzer
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 Cloudant
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)	Application Deployment on Local System / Cloud Local Server Configuration: Cloud Server Configuration:	Local, Cloud Foundry, Kubernetes, etc.

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 sealing

S.No	Characteristics	Description	Technology
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 high-performance instance.	IBM instance