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

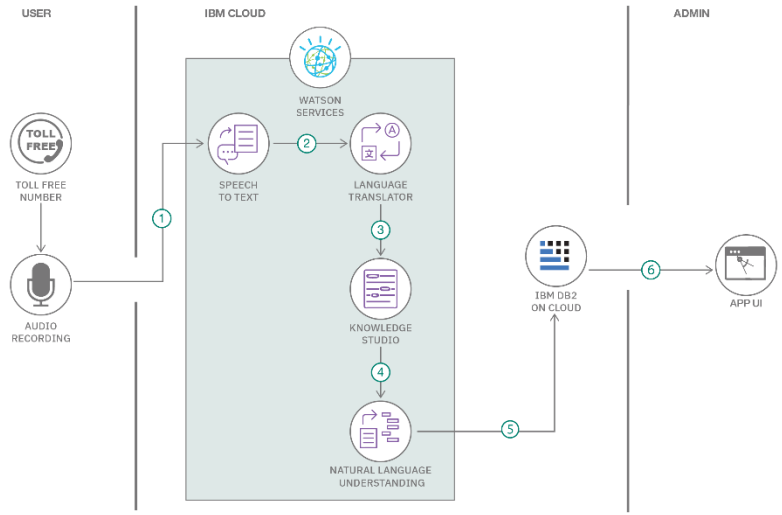
Date	14October 2022
Team ID	PNT2022TMID30018
Project Name	Project – IoT Based Smart Crop Protection system for Agriculture
Maximum Marks	4 Marks

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

Example: Order processing during pandemics for offline mode

Reference: https://developer.ibm.com/patterns/ai-powered-backend-system-for-order-processing-during-pandemics/



Guidelines:

1. Include all the processes (As an application logic / Technology Block)
2. Provide infrastructural demarcation (Local / Cloud)
3. Indicate external interfaces (third party API's etc.)
4. Indicate Data Storage components / services
5. Indicate interface to machine learning models (if applicable)

Table-1 :Components & Technologies:

S.No	Component	Description	Technology
1.	PIC microcontroller	Sensing the animals entered in crop field	HTML,CSS,Javascript
2.	buzzer	Used as loud noise maker	Java/python
3.	GSM module	For Data transfer applications and Send sms alert to farmer	IBM Watson STT service
4.	LCD Display	Provides monitor's brightness and Display the presence of animal	IBM Watson Assistant
5.	LDR	Detect the size of the animal	MySQL,NoSQL
6.	Flame sensor	Detect the fire when give alert messages to Farmer	IBM DB2,
7.	APR board	Used to divert a animal by giving the Sounds	IBM Block storage
8.	LASER	Used for general illumination	IBM Weather API
9.	PIR sensors	Detect the position of the animal	An electronic sensor that measures infrared IR light radiating from objects in its field of view.
10.	SD card module	Work with negative restricted memory	Solid state storage device

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	The major problem faced by the Indian farmer is their poorly maintained irrigation. This system maintained irrigation system properly.	Technology of open-source Framework
2.	Security Implementations	It is very important to monitor the ns of animals. This system provide a better solution to resolve this problem.	E.g. SHA-256,Encryption,IAM controls
3.	Scalable Architecture	This system yields a monitoring procedure for farm safety against animal attacks.	Technology used
4.	Availability	The crops are ravaged by the wild animals at night time. It is not possible to farmers to barricade entire fields and guard it.	Technology used
5.	Performance	Microcontroller sensing the animals and send the alert messages to farmer.	Technology used

References:

www.wikipedia.com

https://www.arduino.cc

https://en.m.wikipedia.org>wiki>arduino