PROJECT DESIGN PHASE - II

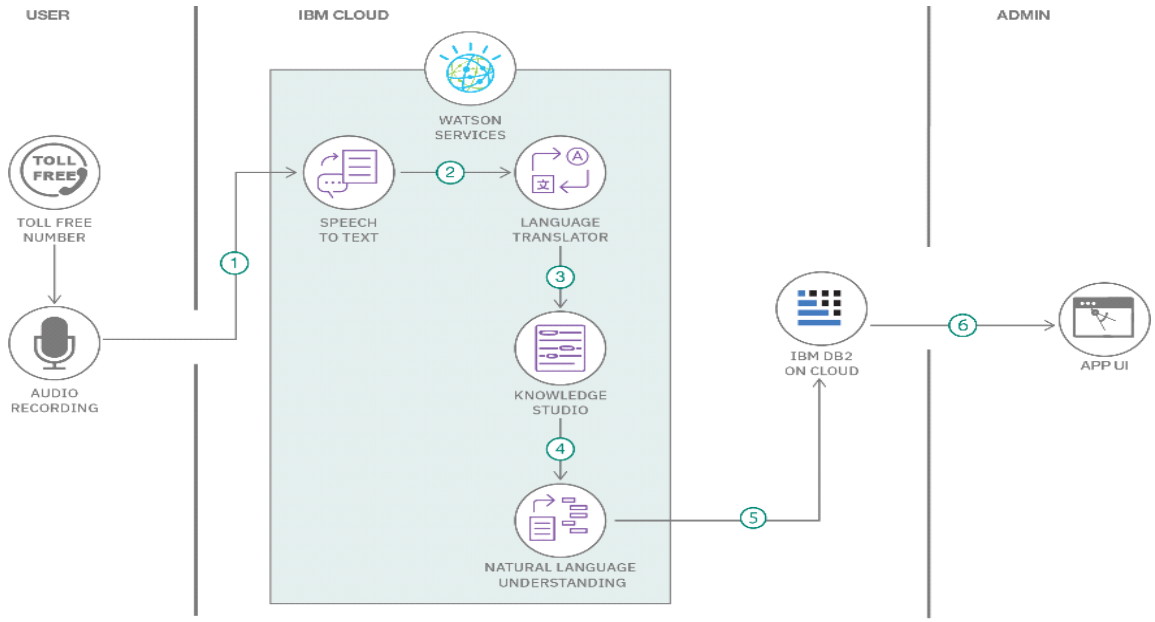
TECHNOLOGY – ARCHITECTURE

Date	07 November 2022
Team ID	PNT2022TMID01185
Project Name	Smart Farmer - IoT Enabled Smart FarmingApplication
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



Guidelines:

- Include all the processes (As an application logic / Technology Block)
- Provide infrastructural demarcation (Local / Cloud)

- Indicate external interfaces (third party API's etc.)
- Indicate Data Storage components / services
- Indicate interface to machine learning models (if applicable)

Table-1 : Components & Technologies:

S.no	Characteristics	Description	Technology
1.	USER INTERFACE/USERDISPLAY	Hardware Output display to the user by means of Web UI, SMS and LCD Display	Embedded C++, Drones, automation and robotics, artificial intelligence
2.	(Application logic-1) Connection of Hardware between Arduino with required sensor.	Integrating the Pressure sensor along with the Arduino Uno and Node Red.	Arduino IDE ,Embedded C++
3.	(Application Logic-2)	Connecting Hardware Applications withInternet of Things through IBM cloud	IBM cloud source
4.	Server side Logic mechanism	Integrating with the Webhooks. (e.g) Select if the alert to be sent which condition exist or does not existin the case	IBM DB2, IBM Watson STT service
5.	Integrating with the IBM cloud Monitoring	Configuring monitoring instance detail. Specifying	CRUD operation , JSON fileformat , API

		the API Key with the function call.	function call
6.	SMS Sending application	Communication AT, IMEI in the mobile and Network	IBM Cloudant DB, Node RED service

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	OPEN SOURCE FRAMEWORKS	Django, which is an open source framework under python, has been used.	Technology used is python
2.	SECURITY IMPLEMENTATION	As a cloud-hosted service the IBM Watson IoT Platform service embeds security as an important aspect of its architecture	IBM Watson
3.	SCALABLE ARCHITECTURE	The browser-based GUI and REST APIs are fronted by HTTPS, so it can trust that they are connecting to the genuine Platform Service. Access to the web-	

		based GUI is authenticated by your IBMid. Using the REST API requires an API key, generated through the GUI, can use this to make authenticated REST API calls against the organization.	
4.	AVAILABILITY	System uses GSM technique to send alert message to respective person if no one is there in the house and then gas leaks occurs, GSM module is there to send immediate messages to the respective person regarding the gas leak (GSM MODULE)	GSM MODULE TECHNOLOGY
5.	PERFORMANCE	Design consideration for the performance of	

		theapplication (number of requests per sec, use of Technology used Cache, use of CDN’s) etc.	