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

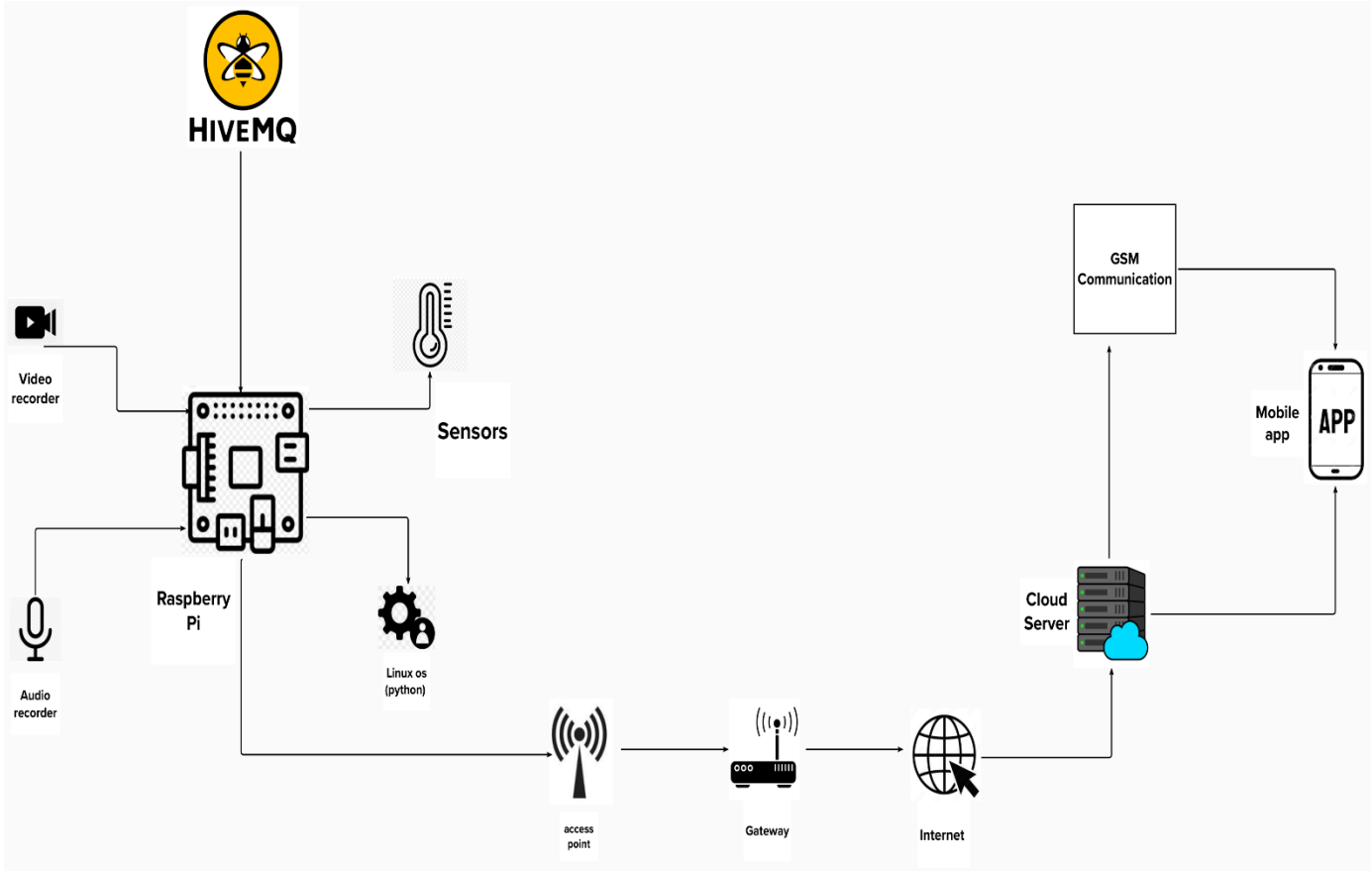|	
Date	15 October 2022
Team ID	PNT2022TMID46841
Project Name	IoT Based Safety Gadget for Child Safety Monitoring and Notification
Maximum Marks	4 Marks

Technical Architecture:

Table-1: Components & Technologies:

S.no	Component	Description	Technology
1.	User Interface	How user interacts with application e.g.Web UI, Hive MQ, Node-Red App etc.	Python, Linux, Raspberry Pi
2.	Application Logic-1	Logic for a process in the application	Python
3.	Application Logic-2	Logic for a process in the application	IBM Watson Service
4.	Application Logic-3	Logic for a process in the application	IBM Watson Assistant
5.	Database	Backend service	Azure IOT hub
6.	Cloud Database	Database Service on Cloud	IBM DB2, etc.
7.	File Storage	File storage requirements	Cloud Storage or Local Filesystem

8.	External API-1	Used to tracking children place	IBM Weather API, etc.
9.	External API-2	Purpose of External API used in the application	Aadhar API, etc.
10.	Machine Learning Model	Purpose of Machine Learning Model	Object Recognition Model, etc.
11.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration, LAN Cloud Server Configuration	Local, Cloud Foundry, Kubernates, etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	List the open-source frameworks used Program and operating system	Technologies like Python, Linux.
2.	Security Implementations	security / access controls implemented	By using Encryptions and decryption protocols are used and users are change password after certain number of times used
3.	Scalable Architecture	Justify the scalability of architecture	Scalability is important when it comes to child tracking its allows an parent to make comfortable to handle the device and increasing the demand while maintain the secure level of performance
4.	Availability	Justify the availability of application	The data is access from the IOT device based on these standard this facilitate by protocol such as MQTT,HTTP through API this allows the device that can be monitoring performance of the sensor wireless communication and server operation
5.	Performance	Design consideration for the performance of the application	The device used to track and monitoring the child by the parents the device implemented with technology like GSM/GPS and send data via cloud and also used to detect the health conditions In case the child in emergency situation