

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

Date	14 October 2022
Team ID	PNT2022TMID30205
Project Name	Project - Real-Time Communication System Powered by AI for Specially Abled
Maximum Marks	4 Marks

Technical Architecture :

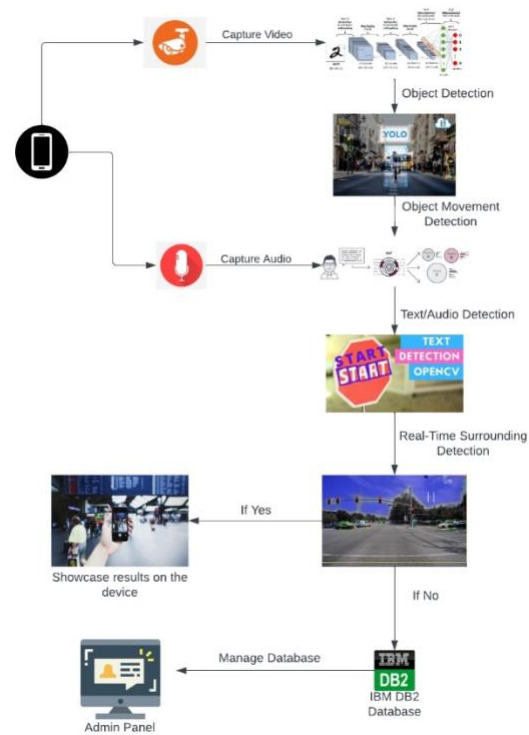


Table-1: Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application	HTML, CSS, JavaScript / React Js etc.
2.	Application pre-processing	Pre-processing the model using datasets	Python (Jupyter)
3.	Application Training	Train the model -image extraction	Python (Jupyter)
4.	Application Testing	Test the model	Python
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 Block Storage or Other Storage Service or Local Filesystem
8.	Machine Learning Model	Purpose of Machine Learning Model	Object Recognition Model, Text Recognition Model, Audio Detection Model etc. YOLOv7 model
9.	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	Python (Anaconda) open-source frameworks used	python
2.	Security Implementations	Camera surveillance / Audio surveillance	AI
3.	Scalable Architecture	3 – tier Architecture	Python
4.	Availability	All the time surrounding are under surveillance	AI

S.No	Characteristics	Description	Technology
5.	Performance	Real-Time Surrounding Detection will be done along with Speech Recognition	Python, CNN, YOLO Model, OpenCV, NLP