Project Design Phase-II

Technology Stack (Architecture & Stack)

Date	22 October 2022
Team ID	PNT2022TMID50802
Project Name	Project –Emerging methods for early detection of forest fire
Maximum Marks	4 Marks

Technical Architecture:

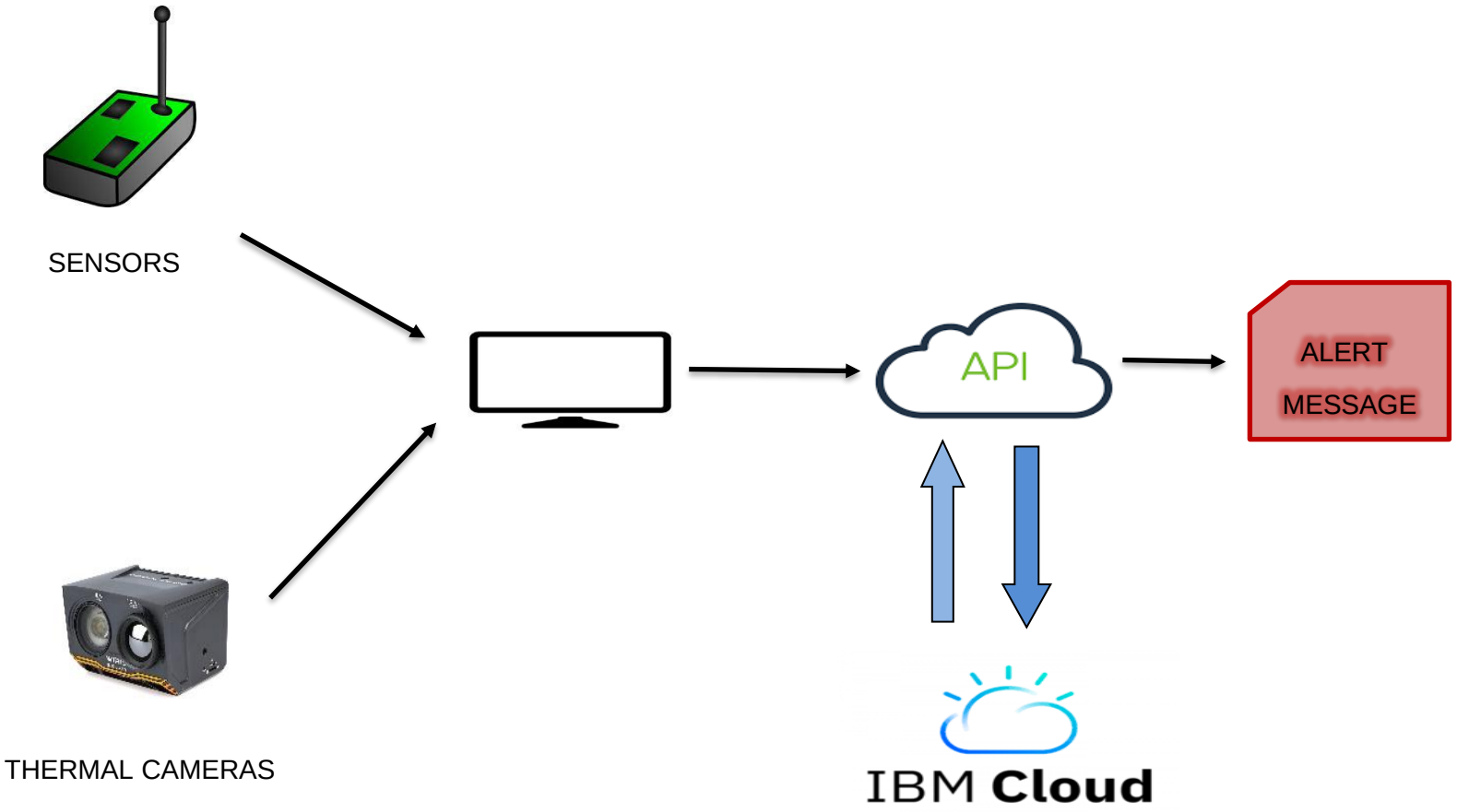

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Using Web UI and Mobile App user can communicate	HTML, CSS, JavaScript etc.
2.	Application Logic-1	Logic for a process in the application	Python
3.	Camera	Data processing	Thermal Camera
4.	Database	Trained and tested dataset	API
5.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant etc.
6.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
7.	External API-1	Purpose of External API used in the application	IBM Weather API, etc.
8.	Machine Learning Model	Purpose of Machine Learning Model	Object Recognition Model, etc.
9.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Cloud Server Configuration :	Local,IBM Cloud, Kubernetes, etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	The open-source frameworks are libraries from python	Technology of Opensource framework
2.	Security Implementations	To secure our data ,we use the following technologies	SHA-256, Encryption
3.	Scalable Architecture	Deployed WSN should essentially be scalable(adding new sensor nodes and thermal cameras)	CNN(Convolution Neural Networks)

S.No	Characteristics	Description	Technology
4.	Availability	Server should be available always,so to balance network traffic if any distributed servers are used	**CORBA, .NET Web Services**
5.	Performance	with high accuracy compare to other machine / deep learning algorithm The cnn algorithm is detect the fire	CNN(convolutional nueral network),image processing.