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

Date	03 October 2022
Team ID	PNT2022TMID49070
Project Name	Emerging Methods For Early Detection of Forest Fires
Maximum Marks	4 Marks

Technical Architecture

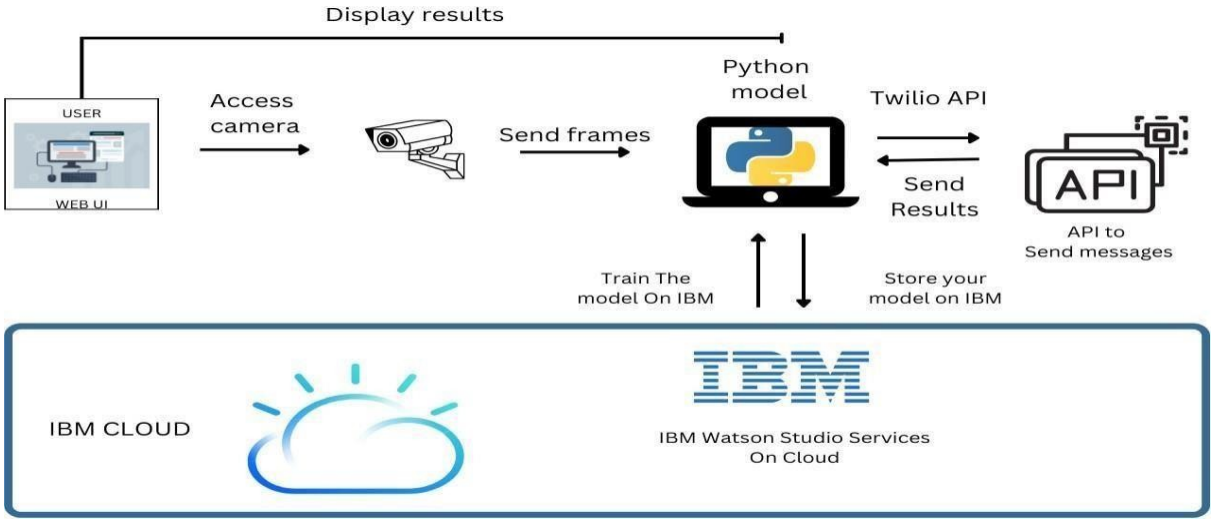

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	The user uses the console to access the interface	Python/HTML ,CSS , Javascript and react.Js
2.	Input	Video Feed	Web Camera/Video on a site
3.	Conversion	Video inputted is converted into Frames	Frame Converter
4.	Feeding the Model	The Frames are sent to the Deep learning model	Our Model
5.	Dataset	Using Test set and train set , train the model	Data set from Cloud Storage , Database
6.	Cloud Database	The model is trained in the cloud more precise with detections more images can be added later on.	IBM Cloudant ,Python Flask.
7.	Infrastructure (Server / Cloud), API	Application Deployment on Local System / Cloud Local ,Cloud Server Configuration , Twilio API to send messages	Java/python ,React.Js ,JavaScript ,HTML ,CSS ,IBM Cloud ,OPEN CV ,Anaconda Navigator ,Local.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Python Flask framework is used	Technology of Opensource framework
2.	Security Implementations	Mandatory Access Control (MAC) and Preventative Security Control is used	e.g. SHA-256, Encryptions, IAM Controls, OWASP etc.
3.	Scalable Architecture	High scalability with 3-tier architecture	Web server – HTML ,CSS ,JavaScript Application server – Python , Anaconda Database server –IBM DB2
4.	Availability	Use of load balancing to distribute traffic across servers	IBM load balancer
5.	Performance	Enhance the performance by using IBM CDN	IBM Content Delivery Network