Project Design Phase-
IITechnologyStack(Architecture&Stack)

Date	18 October 2022
TeamID	PNT2022TMID03558
ProjectName	EmergingMethodsForEarlyDetectionofForestFires
MaximumMarks	4Marks

Technical Architecture

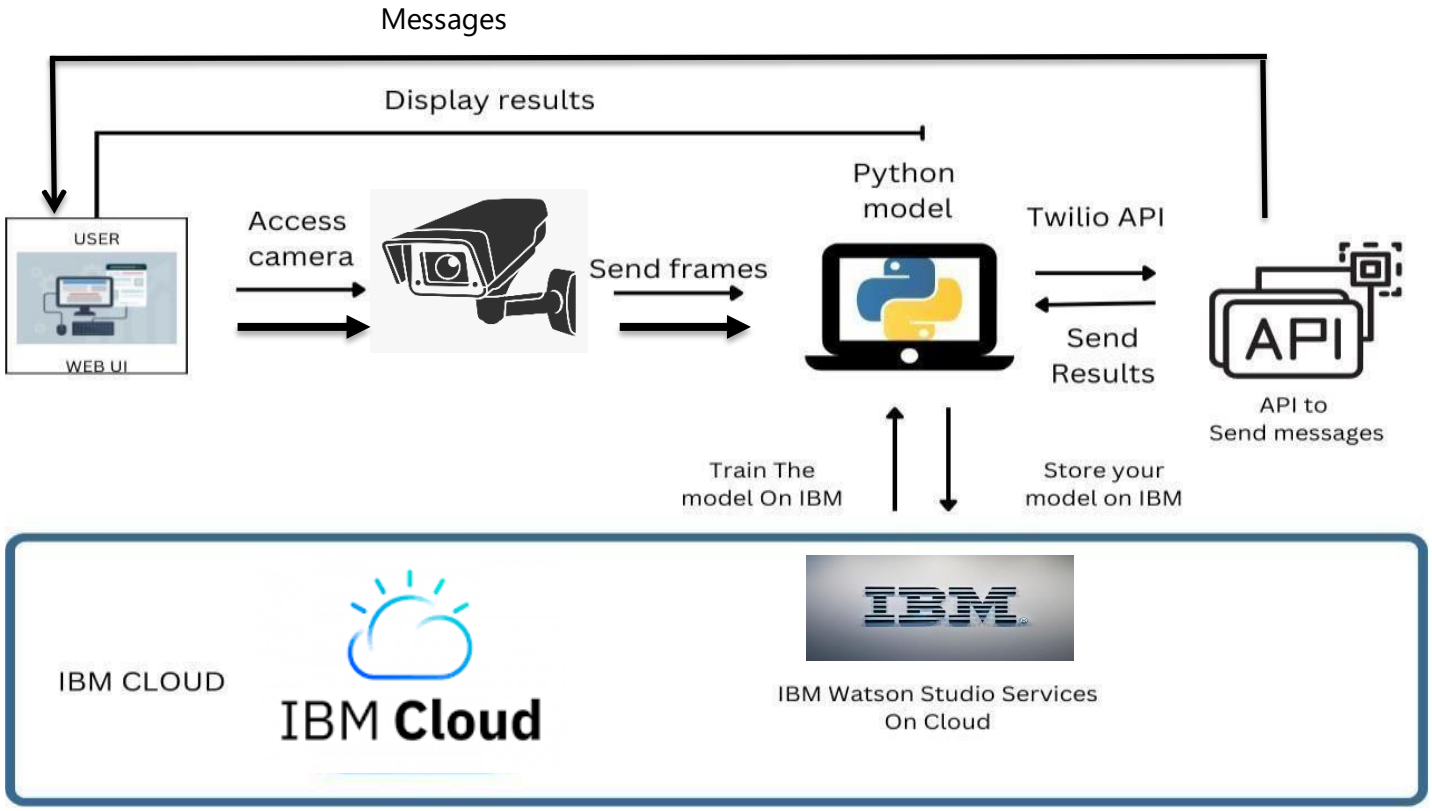

Table-1:

Components&Technologies:

S.No	Component	Description	Technology
1.	UserInterface	Theuserusestheconsoletoaccesstheinterface	Python/HTML ,CSS , Javascript andreact.Js
2.	Input	VideoFeed	WebCamera/Video onasite
3.	Conversion	VideoinputtedisconvertedintoFrames	FrameConverter
4.	FeedingtheModel	TheFramesaresenttotheDeeplearningmodel	OurModel
5.	Dataset	UsingTestsetandTrain set, trainthemodel	DatasetfromCloudStorage,Database
6.	CloudDatabase	Themodelistrainedinthe cloudmoreprecisewithdetectionsmoreimagescanbeaddedlateron.	IBMCloudant,PythonFlask.
7.	Infrastructure(Server/Cloud),API	Application Deployment on Local System / CloudLocal,CloudServerConfiguration,TwilioAPItosendmessages	Java/python, React.Js, JavaScript,HTML,CSS,IBMCloud,OPEN CV, AnacondaNavigator,Local.

Table-2:

ApplicationCharacteristics:

S.No	Characteristics	Description	Technology
1.	Open-SourceFrameworks	PythonFlaskframeworkis used	TechnologyofOpensourceframework
2.	SecurityImplementations	Mandatory Access Control (MAC) andPreventativeSecurityControlisused	e.g.SHA-256,Encryptions,IAMControls,OWASPetc.
3.	ScalableArchitecture	Highscalabilitywith3-tierarchitecture	Web server – HTML ,CSS ,JavaScriptApplicationserver– Python,AnacondaDatabaseserver– IBMDB2
4.	Availability	Useofloadbalancingtodistribute trafficacrossservers	IBMloadbalancer
5.	Performance	EnhancetheperformancebyusingIBMCDN	IBMContentDeliveryNetwork