Projrct Design Phase-II

Technology Architecture

Date	04 November 2022
Team ID	PNT2022TMID50348
Project Name	Project - Emerging Methods For Early Detection OfForest Fires
Maximum Marks	4 Marks

Technical Architecture:

S.No	Component	Description	Technology
1.	User Interface	The user interface must be a better support and usage offorest officials	HTML, CSS, JavaScript / Angular Js /python

		,React Js etc.	
2.	Application Logic-1	So the logic governing is about the detection of patternof forest fire	Java / Python (cnn)
3.	Application Logic-2	Convention of live streaming videos into frames	IBM OPEN CV
4.	Application Logic-3	Computer program that contains the information (in the form of business rules) that defines or constrains how IT operates .	IBM Watson Assistant

Table-1 : Components & Technologies:

5.	Database	Comparing the obtained frames with pre stored patternsin data base	MySQL, NoSQL, NLP etc.
6.	Cloud Database	Plenty of datasets based on all various types of forestfire pattern must been stored in the cloud.	IBM DB2, IBM Cloudant etc.
7.	File Storage	The datasets are stored in the cloud in the form ofdatabase the may be used at UI session.	IBM Block Storage or Other Storage Service or Local Filesystem
8.	External API-1	To build machines & algorithms that will initiate alertsystem in terms of any forest fire pattern detection on the algorithm or else the entire system must be looped and monitoring progress must be carried out	Natural language programming, etc.
9.	External API-2	Neural networks reflect the behavior of the human brain, allowing computer programs to recognize patterns and solve common problems in the fields of AI, machine learning, and deep learning.	CNN , etc.

10.	Machine Learning Model	Those models are used for the image pre processingpurpose.	Xception v3 , Inception,Resnet etc.
11.	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 compiler , Ploting the graphs , image processingetc	Numpy , pandas, seaborn, matplotolio,tenserflow and keras etc
2.	Security Implementations	User interface collecting informations about the usercomes under the web development process.	HTM, CSS, JAVAscript,SQLetc
3.	Scalable Architecture	The number datasets stored an be scaled upto an endof the progress , it can be timely updated.	IBM cloud
4.	Availability	To build your own branded live chatbot intoany device, application, or channel.	IBM watson
5.	Performance	Neural networks reflect the behavior of thehuman brain, allowing computer programsto recognize patterns and solve common problems in the fields of AI, machine	Natural language program

		learning, and deep learning.	