PROJECT DESIGN PHASE - II

TECHNOLOGY STACK

Date	14 October 2022
Team ID	PNT2022TMID28899
Project Name	A Gesture-based Tool for Sterile Browsing of Radiology Images
Maximum Marks	4 Marks

Technical Architecture:

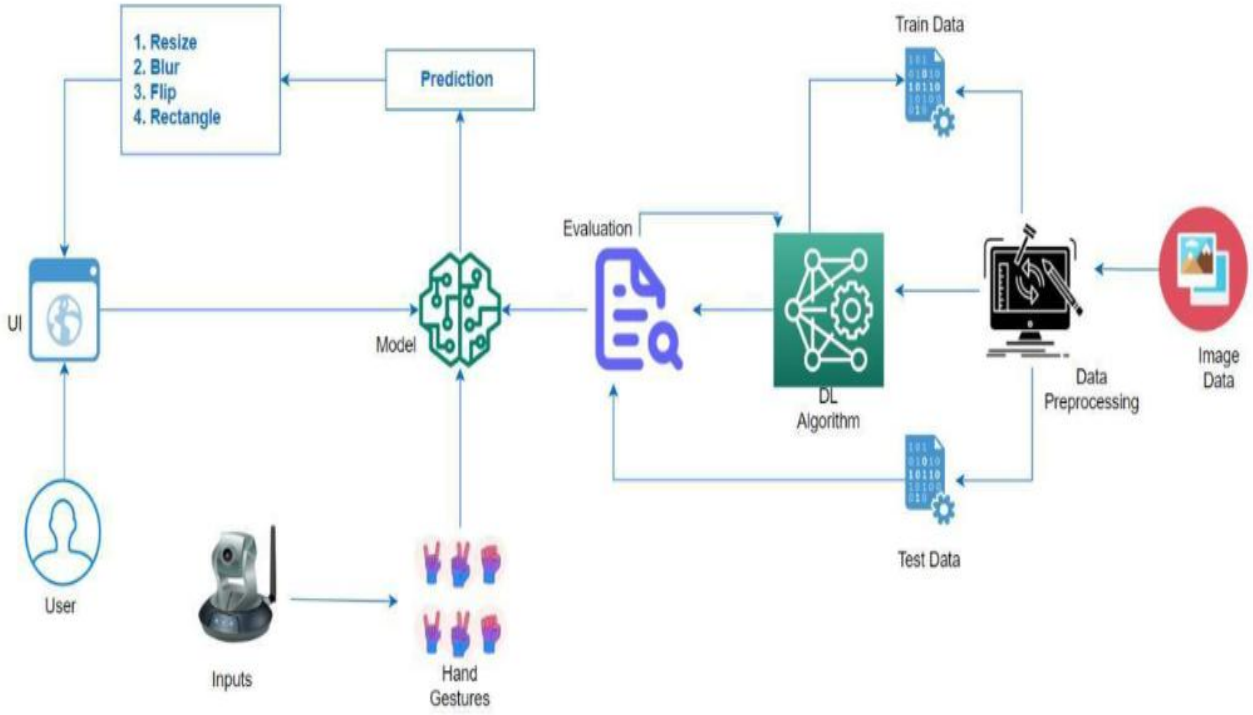

Table-1 : Components & Technologies

S.NO	COMPONENTS	DESCRIPTION	TECHNOLOGIES
1	User Interface	How User Interacts With the User	HTML, CSS, Javascript
2	Application Logic - 1 Pre-Processing of Image	Library files are used to pre-process the input image	Python, TensorFlow
3	Application Logic - 2 Model Building	Constructing a CNN model to detect the gesture	Python, Keras
4	Application Logic -3 Creating Application	The Application is created to receive gestures as input and to output them	HTML, CSS, JavaScript
5	Collecting the Dataset	Dataset of Hand gestures is collected	IBM DB2, IBM Cloudant
6	Cloud Database	User input image is stored in cloud	IBM Cloud
7	File Storage	File storage contains dataset and source code	IBM Block Storage or Other Storage Service or Local Filesystem
8	Infrastructure	Application Deployment on Local System/Cloud Local Server Configuration: Cloud Server Configuration:	Local, Cloud Foundry, Kubernetes, etc.
9	Machine Learning Model	CNN Model was used to recognize the pre processed image by image capturing or by video segmenting	Image/Object Recognition Model

Table - 2 : Application Characteristic

S.NO	CHARACTERISTIC	DESCRIPTION	TECHNOLOGIES
1	Open-Source Frame works	For model building, package manager and code development	Visual Studio Code, Conda, TensorFlow
2	Security Implementation	List all the security/access control implemented, use of firewalls	Encryption and Decryption
3	Scalable Architecture	Justify the scalable Architecture i.e.,use of load balancer	IBM Cloud
4	Availability	Justify the availability of application	TensorFlow, Keras
5	Performance	To generate more data from a smallno of images, data augmentation is used	Keras