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

Date	26-10-2023
Project Name	Image Classification Generation
Maximum Marks	4 Marks

Technical Architecture:

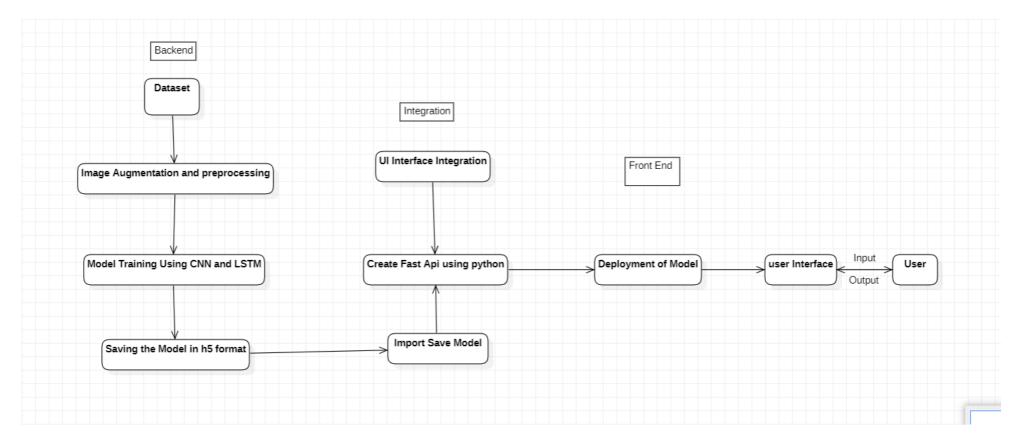The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Website	Reactjs
2.	Application Logic-1	Whenever user interacts with UI we make api calls to process the request from backend	Reactjs, Nodejs
3.	Database	Collect the Dataset Based on the Problem Statement	File Manager, MySQL, NoSQL, etc.
4.	File Storage/ Data	File storage requirements for Storing the dataset	Local System, Google Drive Etc
5.	Frame Work	Used to Create a web Application, Integrating Frontend and Back End	Python Fast API
6.	Deep Learning Model	Tech used to generate Captions for the image	CNN, LSTM Transfer Learning etc.
7.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Localhost Cloud Server Configuration : AWS	Local, AWS

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	List the open-source frameworks used	Python and Fast API
2.	Security Implementations	List all the security / access controls implemented, use of firewalls etc.	SHA-256, Encryptions, IAM Controls, OWASP,Security Groups etc
3.	Scalable Architecture	Justify the scalability of architecture (3 – tier, Micro-services)	Elastic Cloud Computing Instance (Auto Scale)
4.	Availability	Justify the availability of application (e.g. use of load balancers, distributed servers etc.)	Application Will be available in asia-east zone.

S.No	Characteristics	Description	Technology
5.	Performance	Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN's) etc.	Elastic Load Balancer in front of EC2 instances.