Project Design Phase-II

Technology Stack (Architecture & Stack)

Date	**27.10.2023**
Project Name	**Image Caption Generation**
Maximum marks	**4**

Technical Architecture:

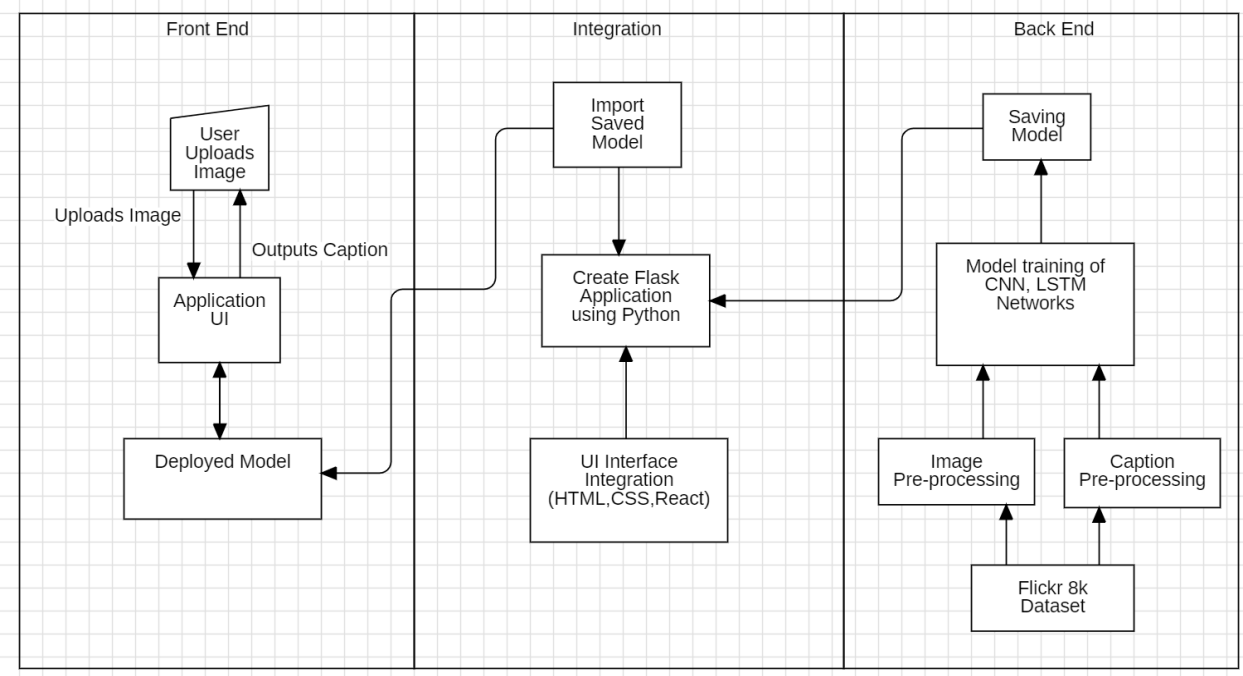

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. Web UI	HTML, CSS, Bootstrap, JavaScript / React Js etc.
2.	Application Logic-1	Logic for a process in the application	Python
3.	File Storage/ Data	File storage requirements for Storing the dataset	Local System, Google Drive Etc
4.	Frame Work	Used to Create a web Application, Integrating Frontend and Back End	Python Flask
5.	Deep Learning Model	Purpose of Model	CNN, LSTM, Transfer Learning etc.
6.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Cloud Server Configuration :	EC2, Lambda

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	List the open-source frameworks used	Python's Flask
2.	Security Implementations	List all the security / access controls implemented, use of firewalls etc.	e.g. SHA-256, Encryptions, IAM Controls, OWASP etc.
3.	Scalable Architecture	Justify the scalability of architecture (3 – tier, Micro-services)	1 - Tier architecture, Elastic Load Balancer, EC2 Auto Scaling Group
4.	Availability	Justify the availability of application (e.g. use of load balancers, distributed servers etc.)	Elastic Load Balancer, Minimum 2 EC2 instances are deployed across 2 availability zones.
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.