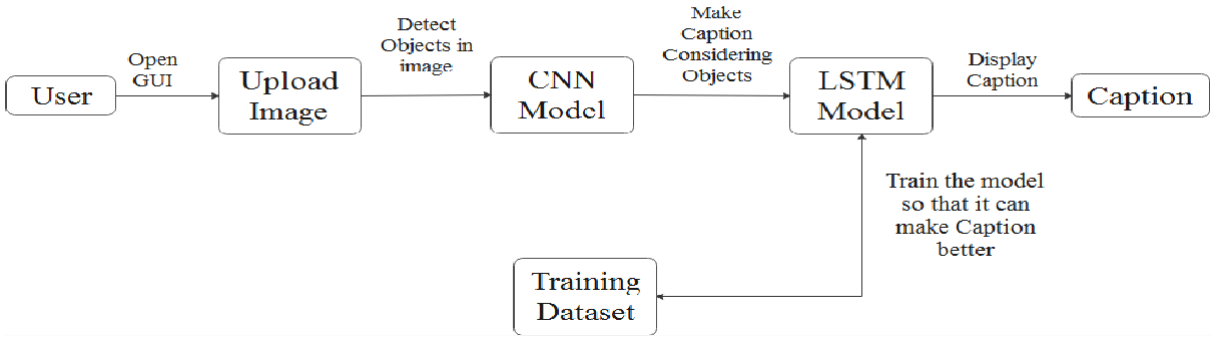
Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	05 November 2023
Team ID	Team-591978
Project Name	Image Caption 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

Example: Order processing during pandemics for offline mode



Guidelines:

1. Include all the processes (As an application logic / Technology Block)
2. Provide infrastructural demarcation (Local / Cloud)
3. Indicate external interfaces (third party API's etc.)
4. Indicate Data Storage components / services
5. Indicate interface to machine learning models (if applicable)

Table-1: Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g., Web UI, Mobile App, Chatbot etc.	HTML, CSS, JavaScript / Angular Js / React Js etc.
2.	Application Logic-1	Logic for a process in the application	Java / Python
3.	Application Logic-2	Logic for selecting the application	Java / Python
4.	Database/Cloud database	Data Type, Configurations /Cloud local server configuration	MySQL, NoSQL, Kubernetes, etc.
5.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
6.	Deep Learning Model	Purpose of Machine Learning Model	Object Recognition Model, CNN etc.
7.	Web development	Frontend, backend for the application	Python flask etc.

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)	Microservices run by kubemetes Engine (GKE)
4.	Availability	Justify the availability of application (e.g., use of load balancers, distributed servers etc.)	Google Cloud Load Balancing, Google cloud Spanner, etc.
5.	Performance	Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN's) etc.	Google Cloud CDN, Cloud Memorystore for Redis as a caching solution,etc.