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

Date	17 November 2023
Team ID	Team-592072
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

Reference:ai powered background process for image caption generation - Bing images

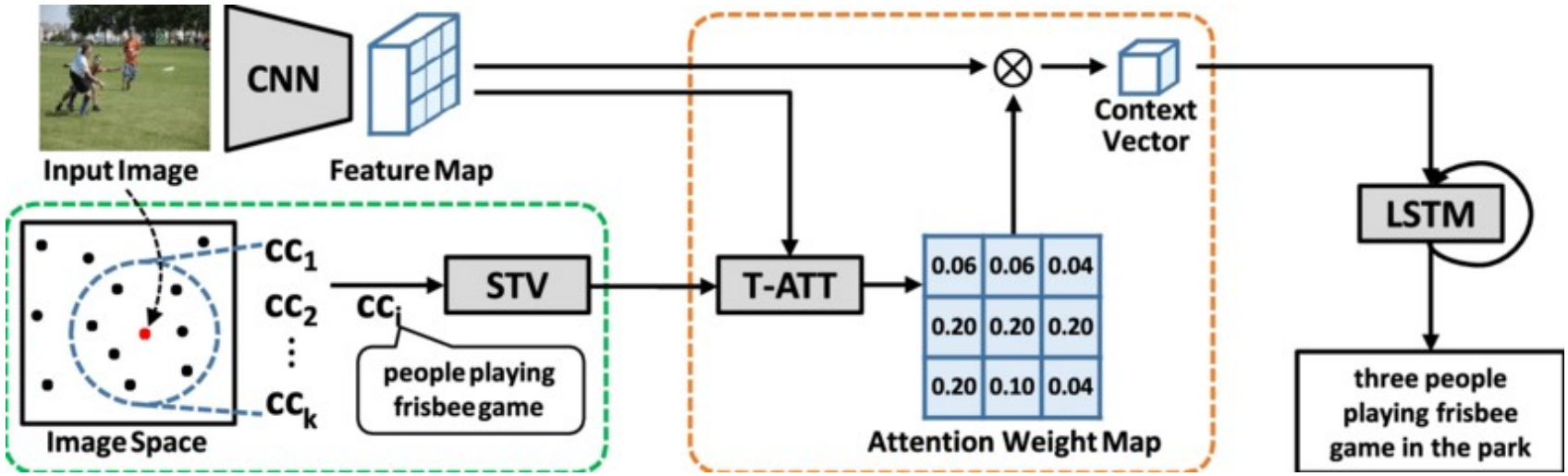

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g.Web UI, Mobile App, Chatbot etc.	HTML, CSS, JavaScript ,Bootstrap
2.	File Storage	File storage requirements	Local file system by a physical server
3.	Machine Learning Model	Purpose of Machine Learning Model	Object Recognition Model,VGG16 etc.
4.	Deployment	To Attach the well written code to the front end part using flask	Flask
5.	Application Logic	To Create an effective image caption generation system that combines computer vision and natural language processing	CNN,LSTM
6;	Infrastructure	Application Deployment on Local System : Jupyter	Local

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	List the open-source frameworks used	Technology of Opensource framework, Eg-JavaScript
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)	Technology stack and architectural patterns that enables security
4.	Availability	Justify the availability of application (e.g. use of load balancers, distributed servers etc.)	Load Balancers
5.	Performance	Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN's) etc.	Load testing frameworks

References:

https://c4model.com/

https://developer.ibm.com/patterns/online-order-processing-system-during-pandemic/

https://www.ibm.com/cloud/architecture

https://aws.amazon.com/architecture