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

Date	20 November 2023
Team ID	SPSGP-614965
Project Name	Project - Extracting Intelligent Insights With AI-Based Systems
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: https://www.researchgate.net/figure/System-architecture-of-text-summarization_fig1_321737468

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)

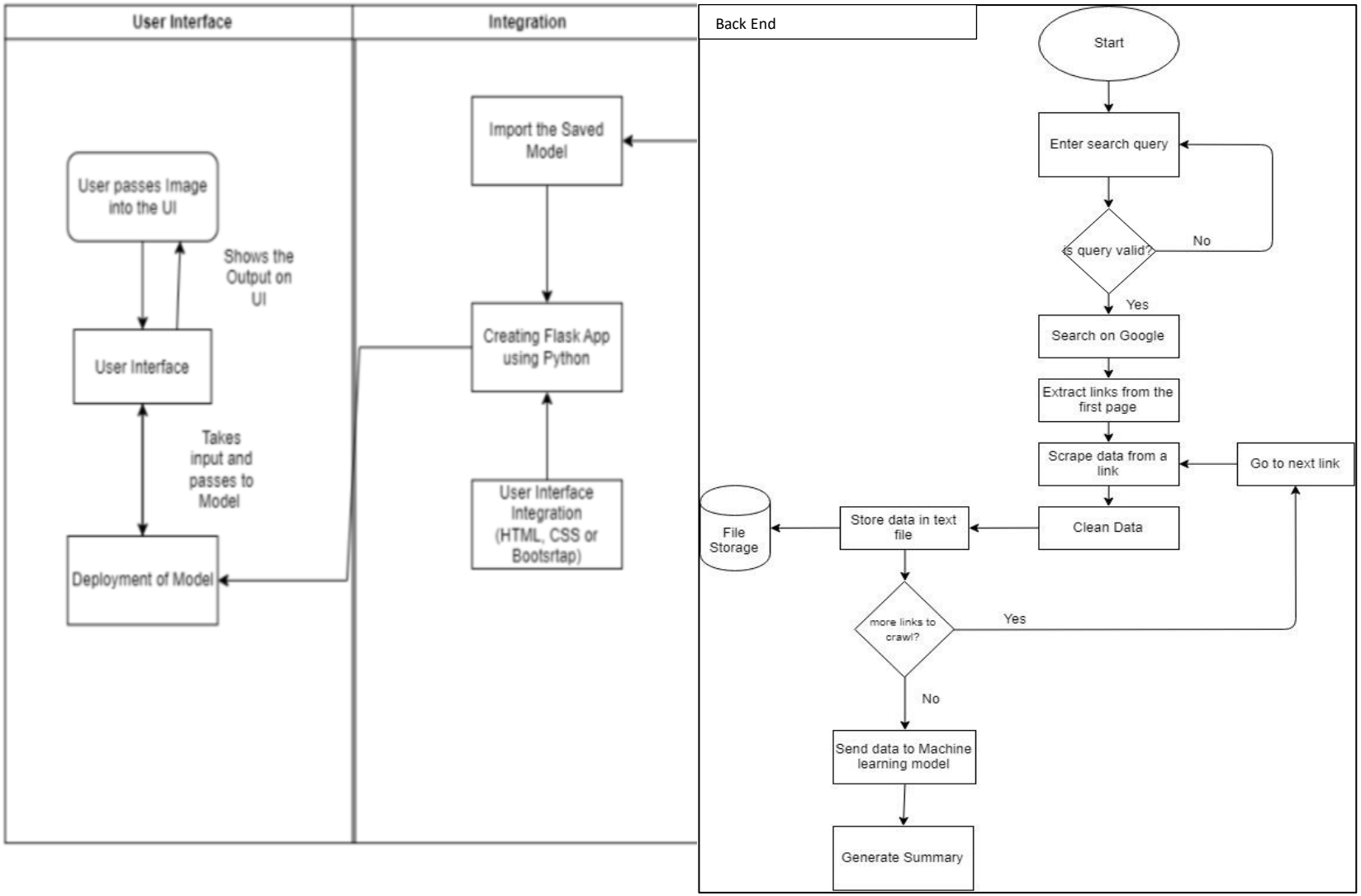
User Interface
Integration
Back End
User passes Image into the UI
Shows the Output on UI
User Interface
Takes input and passes to Model
Deployment of Model
Import the Saved Model
Creating Flask App using Python
User Interface Integration (HTML, CSS or Bootsrtap)
Start
Enter search query
is query valid?
No
Yes
Search on Google
Extract links from the first page
Scrape data from a link
Go to next link
Clean Data
Store data in text file
File Storage
more links to crawl?
Yes
No
Send data to Machine learning model
Generate Summary

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.	Application Logic – 1	Logic for a process in the application	Python
3.	Application Logic - 2	Logic for a process in the application	BeautifulSoup
4.	Application Logic - 3	Logic for a process in the application	Sentencepiece
5.	Application Logic - 4	Logic for a process in the application	NLP Pipeline
6.	File Storage	File storage requirements	Local Filesystem
7.	Machine Learning Model	Purpose of Machine Learning Model	Transformers- Text Summarization Model – Pegasus
8.	Infrastructure (Server / Cloud)	Application Deployment on Local System	Flask

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)	Technology used
S.No	**Characteristics**	**Description**	**Technology**
4.	Availability	Justify the availability of application (e.g. use of load balancers, distributed servers etc.)	Technology used
5.	Performance	Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN's) etc.	Technology used

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

https://medium.com/the-internal-startup/how-to-draw-useful-technical-architecture-diagrams-2d20c9fda90d