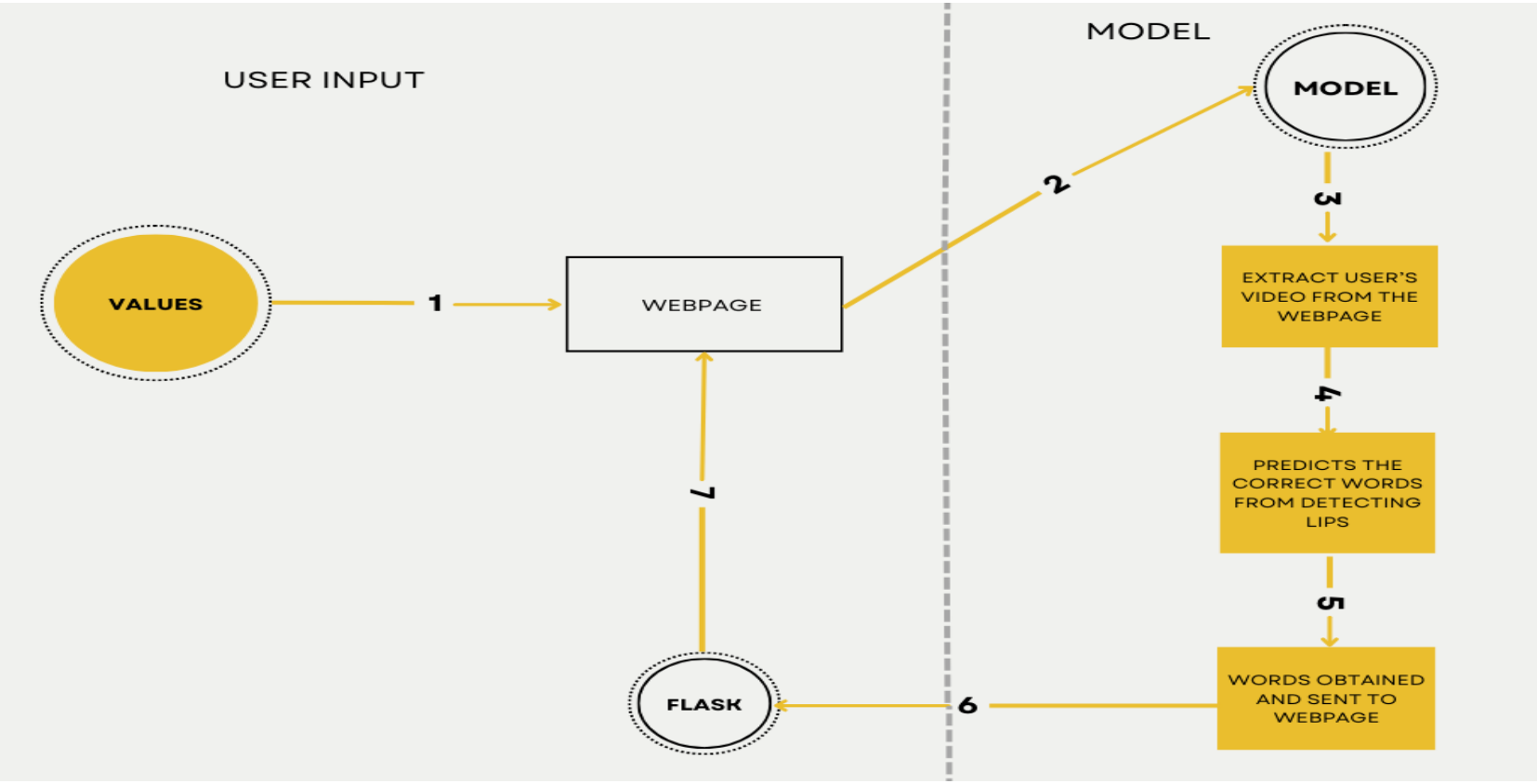
Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	14 November 2023
Team ID	PNT2023TMID591725
Project Name	Project – Lip Reading using Deep Learning
Maximum Marks	4 Marks

Technical Architecture:



1. User provides input (video) to the webpage.
2. The webpage is linked with the trained model.
3. These inputs (video) are extracted and feeded into the trained model.
4. Model predicts the correct words from detecting lips.
5. Now the words obtained are sent to the webpage again.
6. Here flask used to connect the trained model and the webpage.
7. Final obtained words are displayed in the webpage.

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	User interact with the application by inputting video into the webpage.	HTML, CSS, JavaScript / React Js
2.	Application Logic-1	Handles data preprocessing, executes models, and generates words using videos in the web interface.	Python
3.	Application Logic-2	Manages user input, custom scenarios, and display words in web interface.	Flask
4.	Application Logic-3	Nil	Nil
5.	Database	Nil	Nil
6.	Cloud Database	Nil	Nil
7.	File Storage	Storing the model's required files	Local Filesystem
8.	External API-1	Nil	Nil
9.	External API-2	Nil	Nil

10.	Machine Learning Model	Utilizes video data to predict words from detecting lips, enhancing words prediction within the web interface.	Lip Reading Model (Python)
11.	Infrastructure (Server / Cloud)	Application Deployment on Local System Local Server Configuration:	Foundry, Kubernetes, etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	The open-source Flask framework supports Lip Reading website.	Flask
2.	Security Implementations	Nil	Nil
3.	Scalable Architecture	Adopts Flask to create an adaptable framework for Lip Reading.	Flask
4.	Availability	Can be available through a simple Domain (because this project is a web page)	Google, Domains, Register.com
5.	Performance	Caching: When a user visits a website, the elements get stored in temporary hard drive storage called cache. This process loads pages faster. Reduce HTTP requests: Browsers use a cache to reduce the number and size of HTTP requests, making web pages load faster.	Hard drive (Temporary storage for caching data).