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

Date	18 October 2023
Team ID	Team-593012
Project Name	Alzheimer Disease Prediction

Technical Architecture:

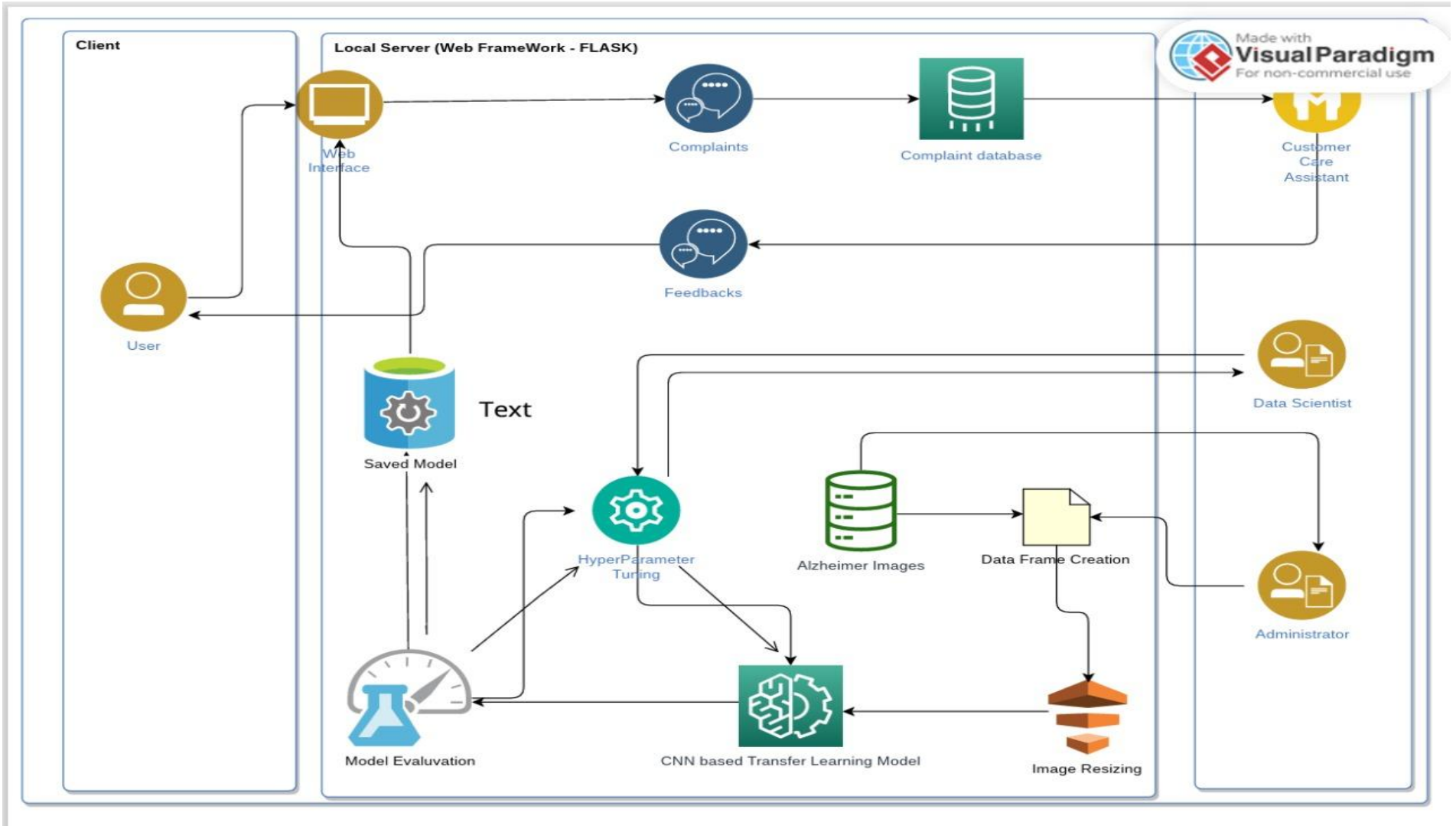

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Users can upload input images to the website and use the predict option in the website to predict the current stage of Alzheimers. They can also request assistance or file complaints which are stored in a database and further directed to the customer care assistant who provides them with the respective feedback.	HTML, CSS, JavaScript.
2.	Application Logic-1	Downloading the dataset, dataframe creation, preprocessing.	Python (pandas, numpy), Kaggle
3.	Application Logic-2	Model building, Model evaluation and Hyperparameter Tuning.	Python (Tensorflow)
4.	Application Logic-3	Model Saving.	Python (Pickle)
5.	Database	Image Database. (jpeg)	Kaggle
6.	File Storage	All files saved locally in VSCode.	VSCode, GitHub
7.	External API-1	Kaggle API used to import Data From using API tokens.	Kaggle
8.	External API-2	Flask has an API that allows developers to easily build RESTful web services such as Routes and Request Objects. Access information about the incoming HTTP request, such as the URL, request method, and request data.	Flask
9.	Machine Learning Model	The transfer learning model uses deep learning	Transfer Learning models - VGG16,

		techniques which reads image datasets and trains them based on pre - defined CNN layers for accurate prediction of result.	ResNet50, Inception and Xception.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Flask is a lightweight Python web framework known for its simplicity and ease of use a great choice for building small to medium-sized web applications.	Flask FrameWork Used
2.	Scalable Architecture	3 tier Client-Server Architecture using a local host.	Visual Paradigm, IBM tools
3.	Availability	The application will be available on the local environment.	Local Host Used
4.	Performance	Used by a single user at a time.	Command Line