

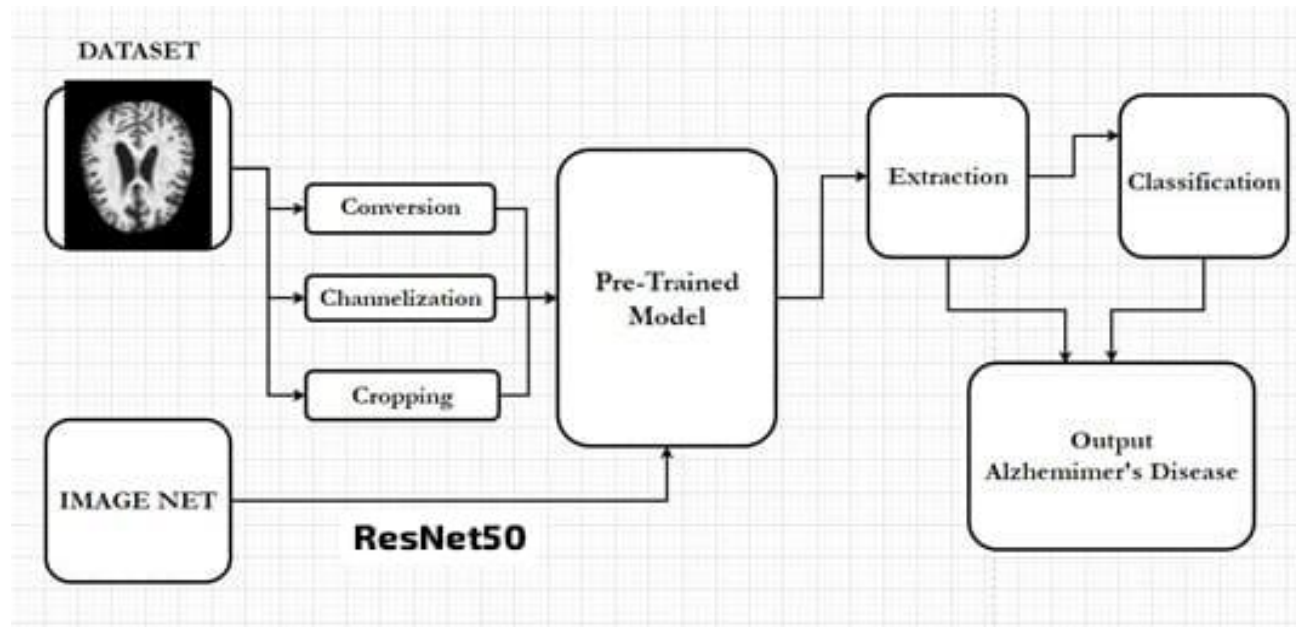
Project Design Phase-II

Data Flow Diagram & User Stories

Date	1 November 2023
Team ID	Team-592710
Project Name	Alzheimer Disease Prediction
Maximum Marks	4 Marks

Data Flow Diagrams:

A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It shows how data enters and leaves the system, what changes the information, and where data is stored.



User Stories:

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Healthcare	Project setup & Infrastructure	USN-1	Set up the development environment with the required tools, frameworks and libraries to start the detection or predicting Alzheimer's disease	Successfully completed setting all necessary tools, frameworks and libraries	High	Sprint 1
Researchers and Academics	Developing environment	USN-2	Gather a diverse dataset of MRI and PET scans containing different stages of Alzheimer's disease(mild demented, moderate demented ,non-demented, very high demented) for training the deep Learning model.	Gathered a diverse dataset of images depicting various stages of disease	High	Sprint 1
Family and Care Planning	Data collection	USN-3	Preprocess the collected dataset by normalization, standardization, resizing, de noising, format conversion and splitting it into training and validation sets.	Preprocessed the Dataset(MRI scans)	High	Sprint 2
Policy makers and Public Health Officials	Feature extraction	USN-5	Feature extraction involves automatically identifying and selecting significant patterns or attributes from raw data, enabling models to focus on prediction. We use normalization(aligning and registering), Denoising, Standardization, Resizing, Smoothing, Format conversion, Tissue segmentation, skull removal etc.	We could remove the noise and unwanted from the dataset.	High	Sprint 2
Educational Institutions	Data preprocessing	USN-4	A multi-class classification is used. Evaluate different deep learning architectures (e.g., CNNs) to select the most suitable model for predicting the Alzheimer's disease.	Explore various deep learning algorithms	High	Sprint 2
Government Agencies and Non profits	Model development	USN-6	Train the selected deep learning model (RESNET-50) using the preprocessed dataset and monitor its performance on the validation set.	we could do validation	High	Sprint 3
General Public	Training	USN-7	Implement the data augmentation and we set the appropriate evaluation metrics such accuracy, precision and recall and F-1 score to assess the model.	we could do testing	Medium	Sprint 3
	Prediction	USN-8	When the particular image scan is inserted into the model it will classify it with the pre-trained model and predict the stage of Alzheimer's disease.	We could introduce more stages	Medium	Sprint 4
	Model deployment & Integration	USN-9	Deploy the trained deep learning model as an API or web service to make it accessible for Alzheimer's prediction. Integrate the model's API into a user-friendly web interface for users to upload images and receive the stage of Alzheimer's disease	we could check the scalability	Medium	Sprint 5