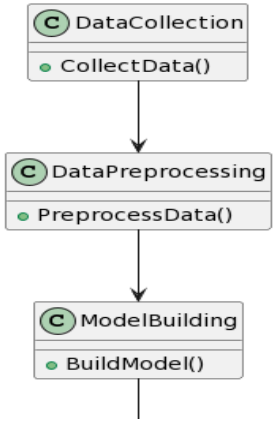
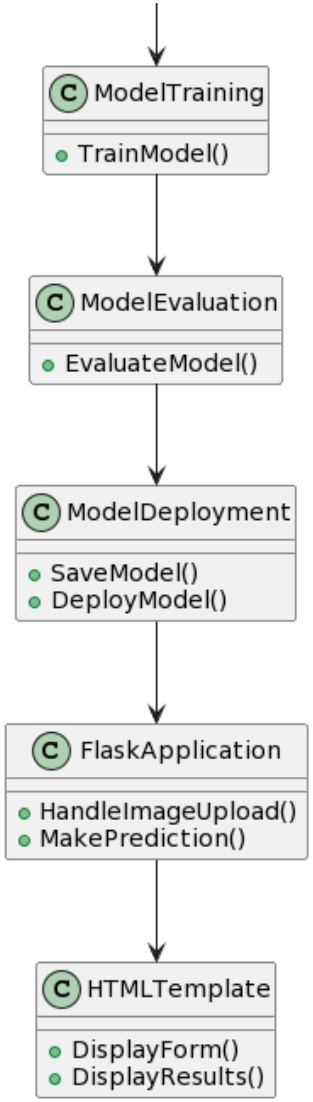
Project Design Phase-II Data Flow Diagram & User Stories

Date	23 November 2023
Team ID	592033
Project Name	ASL-Alphabet Image Recognition
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.




ModelTraining
TrainModel()
ModelEvaluation
EvaluateModel()
ModelDeployment
SaveModel()
DeployModel()
FlaskApplication
HandleImageUpload()
MakePrediction()
HTMLTemplate
DisplayForm()
DisplayResults()

User Stories

Use the below template to list all the user stories for the product.

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
End User	ASL Recognition System	USN-1	As a user, I want to input an image of an ASL alphabet gesture and receive accurate recognition.	1. The system correctly identifies the ASL alphabet in the image. 2. Recognition is achieved within a reasonable response time.	High	Sprint-1
End User	User-friendly Interface	USN-2	As a user, I want an intuitive interface for capturing and uploading ASL alphabet images	1. The interface allows easy image input. 2. Users receive clear instructions for capturing images.	High	Sprint-1
Developer	Model Integration	USN-3	As a developer, I want to integrate a CNN model for ASL alphabet recognition	1. The CNN model is successfully integrated with the system. 2. Model compatibility with OpenCV is ensured.	High	Sprint-1

Developer	Dataset Preparation	USN-4	As a developer, I need to prepare a diverse dataset for training the ASL recognition model.	1. A diverse dataset with ASL alphabet gestures is collected. 2. Data preprocessing using OpenCV is applied.	High	Sprint-1

Tester	Validation and Testing	USN-5	As a tester, I want to validate and test the ASL recognition system for accuracy and reliability.	1. The system passes rigorous validation tests. 2. Testing on diverse datasets demonstrates real-world performance.	Medium	Sprint-1
End User	Accessibility Features	USN-6	As a user with disabilities, I want the ASL recognition system to be compatible with assistive technologies.	1. The system is compatible with screen readers. 2. Accessibility features are integrated for users with disabilities.	Medium	Sprint - 2
Developer	Model Tuning and Updates	USN-7	As a developer, I want to implement model tuning and updates based on user feedback and performance metrics.	1. Model tuning improves accuracy based on feedback. 2. Updates are seamlessly deployed without disrupting the system.	Medium	Sprint - 2

Developer	Documentation	USN-8	As a developer, I want comprehensive documentation for system usage and maintenance.	1. User and developer documentation is created. 2. Instructions for model retraining and updates are clearly outlined.	Low	Sprint - 3