Project Design Phase-II
Data Flow Diagram & User Stories

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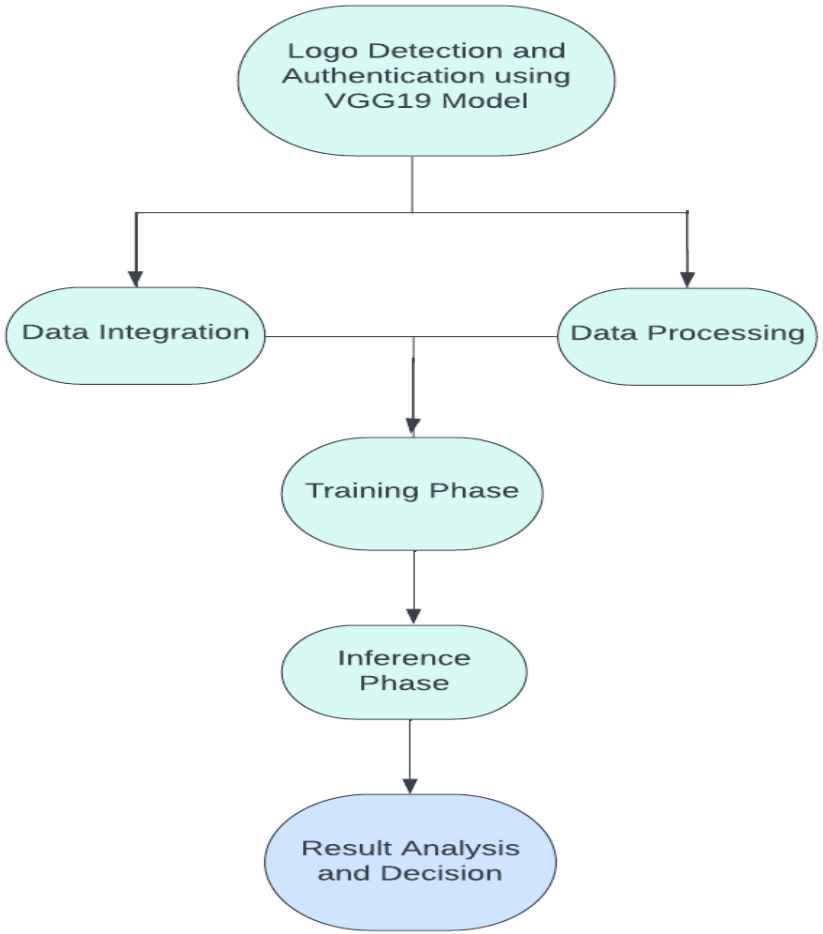
Team ID	Team-593033
Project Name	Fake/Real Logo detection using deep learning
Team Members	Satyam Pundir, Ranpura Divy Dharmeshbhai, Samarth Patel, Utkarsh Gupta

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.

Diagram:


Logo Detection and Authentication using VGG19 Model
Data Integration
Data Processing
Training Phase
Inference Phase
Result Analysis and Decision

Explanation:

1. Data Ingestion and Preprocessing:

• This step involves gathering and preparing the logo images for training or inference.

• Data can come from various sources such as databases, web scraping, or user uploads.

• Preprocessing includes resizing, normalizing, and augmenting the images to make them suitable for the CNN model.

2. Training Phase :

• In this optional step, you train the VGG19 CNN model using labeled data to teach it to differentiate between real and fake logos.

• The trained model learns to extract relevant features from logo images.

3. Inference Phase:

• New logo images are fed into the trained VGG19 model.

• The model processes the images through its layers and generates predictions (confidence scores or probabilities) for each logo's authenticity.

4. Result Analysis and Decision:

• The predictions from the inference phase are analyzed to determine whether a logo is real or fake.

• A predetermined threshold value can be applied to convert the confidence scores into a binary decision (real or fake).

• The result may trigger further actions, such as flagging potential counterfeits, notifying brand owners, or updating a database with authentication results.

User Stories

User Type	Functional Requirement (Epic)	User Story/Task	User Story Number	Acceptance Criteria	Priority	Release
Brand owner	Protect brand identity and prevent fraud	Automatically detect fake logos	US-1	The system can detect fake logos with an accuracy of at least 95%.	High	Sprint 1
Brand owner	Automate logo authentication	Get notified of unauthorized logo usage	US-2	The system can generate alerts for unauthorized logo usage.	Medium	Sprint 2
Consumer	Ensure the authenticity of products or services	Verify the authenticity of logos before making a purchase	US-3	The system can provide consumers with a way to verify the authenticity of logos.	Low	Sprint 3
Brand owner	Train the system to detect specific brand logos	Train the system to detect my specific brand logo	US-4	The system can be trained to detect specific brand logos with an accuracy of at least 95%.	High	Sprint 4
Brand owner	Customize the system to alert for specific types of unauthorized logo usage	Customize the system to alert me of specific types of unauthorized logo usage	US-5	The system can be customized to alert brand owners of specific types of unauthorized logo usage.	Medium	Sprint 5
Consumer	Easily access the system to verify the authenticity of logos	Easily access the system to verify the authenticity of logos	US-6	The system can be accessed by consumers through a mobile app or website to verify the authenticity of logos.	Low	Sprint 6