GOVERNMENT COLLEGE OF ENGINEERING BARGUR

( AUTONOMOUS)

## PROJECT TITLE: Image Recognition with IBM Cloud Visual Recognition

TEAM MEMBERS:

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PROBLEM STATEMENT:

The project involves creating an image recognition system using IBM Cloud Visual Recognition. The goal is to develop a platform where users can upload images, and the system accurately classifies and describes the image contents. This will enable users to craft engaging visual stories with the help of AI-generated captions, enhancing their connection with the audience through captivating visuals and compelling narratives.

PROBLEM SOLUTION:

## PROJECT OVERVIEW

The project aims to create an image recognition system using the IBM Cloud Visual Recognition service. The system will allow users to upload images, and it will accurately classify and describe the image contents using AI-generated captions. This platform will enable users to craft engaging visual stories, enhancing their connection with the audience through captivating visuals and compelling narratives.

## DESIGN THINKING APPROACH

### 1. Image Recognition Setup

**Objective:** Set up the IBM Cloud Visual Recognition service and obtain the necessary API keys.

* **Action Steps:**
  + Access the IBM Cloud Visual Recognition service.
  + Create an IBM Cloud account if not already done.
  + Acquire API keys and credentials.
  + Configure access to the service within the project.

### 2. User Interface

**Objective:** Design a user-friendly interface for users to upload images and view the AI-generated captions.

* **Action Steps:**
  + Collaborate with UI/UX designers to create an intuitive and aesthetically pleasing interface.
  + Implement user-friendly features for image upload, caption display, and user interactions.
  + Ensure responsiveness for various devices (desktop, mobile, tablet).

### 3. Image Classification

**Objective:** Implement the image classification process using the IBM Cloud Visual Recognition API.

* **Action Steps:**
  + Integrate the IBM Cloud Visual Recognition API into the system's backend.
  + Develop algorithms for image preprocessing and analysis.
  + Establish a robust connection to the IBM Cloud Visual Recognition service.

### 4. AI-Generated Captions

**Objective:** Integrate natural language generation to create captions for the recognized images.

* **Action Steps:**
  + Identify and integrate a suitable NLG library or service (e.g., GPT-3, BERT).
  + Develop algorithms for generating captions based on image content.
  + Ensure the captions are coherent, contextually relevant, and grammatically correct.

### 5. User Engagement

**Objective:** Design features to allow users to explore, save, and share their AI-enhanced images.

* **Action Steps:**
  + Implement options for users to save and download AI-enhanced images.
  + Create sharing features for various social media platforms.
  + Develop a gallery or portfolio functionality for users to explore their creations.

### 6. Security and Privacy

**Objective:** Ensure robust data security and privacy measures for user-uploaded images.

* **Action Steps:**
  + Implement secure image storage and access control mechanisms.
  + Educate users about data privacy and obtain necessary consents.
  + Comply with data protection regulations (e.g., GDPR, CCPA).

CONCLUSION:

By following this comprehensive plan, the project aims to deliver a robust and user-centric image recognition system that fulfils the user needs and expectations, ensuring accurate image classification and meaningful AI-generated captions. Additionally, a user-friendly interface and features for user engagement and data security will enhance the overall user experience.