BANNARI AMMAN INSTITUTE OF TECHNOLOGY
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Stay Ahead

TECHNICAL APPROVAL COMMITTEE

GUIDE APPROVAL FORM

Date: 20 / 12 / 2024

Starting Date of Work				
Sl. No.	**Student Name**	**Reg. No.**	**Role**	**Signature**
1	Sabarish R	7376222IT237	Team Leader	R.Sabarish
2			Team Member	
3			Team Member	
4			Team Member	
5			Team Member	
Applying for the work:		Product *(Product must be of commercialized quality)*		
Title of Work		**Student Attendance System Using OpenCv**		

(To be Filled by Faculty Guide)

No. of students: 1

I acknowledge that I will act as a faculty in charge of the aforementioned students and guide them to complete the work by adopting the guidelines provided.

Lab Name: Fullstack and Devops
(In case of Faculty belonging to any special lab)

Name of the Faculty Guide:

M.SELVAKUMAR

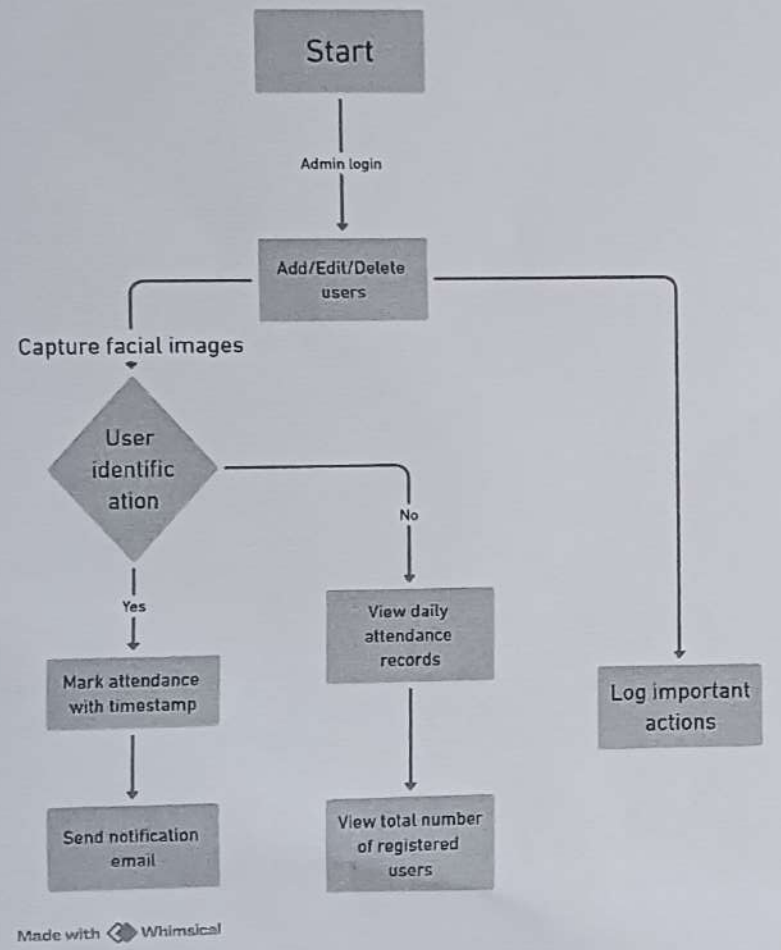
H. 20/12

Signature of the Faculty Guide with date*

**Any unfilled details will lead to rejection of the submission*

Idea/Approach Details

Add process flow chart or simulated image of prototype or any relevant image related to your idea



**Any unfilled details will lead to rejection of the submission*

Describe your Idea (Problem Statement) and Proposed Solution

The problem addressed by the Attendance Management System is the manual, time-consuming, and error-prone process of recording student attendance in educational institutions. Traditional methods often lead to inaccuracies, proxy attendance, and administrative burdens. There is a need for an automated system that can efficiently mark attendance, maintain records, and generate reports in real-time. Ensuring data security, scalability, and ease of use is crucial for seamless integration into academic environments. This project aims to provide a reliable, AI-powered attendance solution to streamline the process.

Describe the features / functions of the proposed work here

The Attendance Management System features face recognition-based attendance using OpenCV and a KNN model for real-time detection. It securely stores student and attendance records in MongoDB, supports automated email notifications with custom templates, and integrates ZeroBounce API for validationThe responsive web interface ensures seamless navigation, real-time updates, and a user-friendly experience.

Methodology / Algorithm / Process

The Attendance Management System's methodology involves face detection using OpenCV and recognition with a KNN-based model. Student data and attendance records are stored securely in MongoDB, enabling real-time updates and retrieval. The system validates email addresses using the ZeroBounce API and sends automated notifications through a custom SMTP setup. User authentication ensures data security with encrypted credentials and role-based access. The model retrains automatically upon data updates, maintaining high recognition accuracy.

Signature of Faculty Guide :

Name of the Faculty Guide :