Progress Report Book

On

Automated Attendance System
19-202-0611 Mini Project

By

27 - A S Swan
42 - Govind M J
51 - Joel John Varghese
55 - Lakshmi Manoj

(B.Tech. Computer Science and Engineering - Batch A)

Under the Guidance of

Dr. Sheena Mathew

School of Engineering
Cochin University of Science and Technology

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Preface

This progress report book provides a comprehensive overview of the development and implementation of the attendance management system. The goal of this project is to create a user-friendly system for tracking student attendance, enabling teachers and administrators to easily view attendance records and generate reports. The system is web-based, allowing users to access it from any device with an internet connection.

The project team consists of four individual. Our team is committed in delivering a high-quality system that meets the needs of attendance management.

This progress report book will provide an overview of the project's objectives, scope, methodology, and deliverables. We will also discuss the challenges encountered during the development process, and the strategies implemented to overcome them. In addition, we will provide a detailed description of the system's features, including the user interface, data management, security, and reporting capabilities.

We hope that this progress report book will serve as a valuable resource, providing insight into the development process and the system's functionality.

Contents

Week 1

08/03/2023

1.1 Framed the abstract

In this week, we have framed the abstract of the project.

1.2 Basic working

Develop a real-time system which utilizes the knowledge and concepts revolving around facial recognition using Artificial Intelligence to mark students' attendance. A model will be trained in order to recognize a batch of students during its training phase. In the real time testing environment, it will be able to recognize these students uniquely by their facial features, which will be linked to their personal student information in a database upon which the attendance status will be reflected.

Teachers will have access to a mobile phone application which can scan the QR associated to a camera or use the one present in their very mobile system to take the snapshot of the classroom/course when they desire to take the attendance. The image will be captured and faces of students will be recognized by the model upon which attendance will be updated in the database. Teachers can later track attendance and export them as .csv or .xls files for future reference.

Week 2

15/03/2023

2.1 Proposed the Modules

The different modules included in the projects were proposed.

- Face Detection Module: This module detects the faces of individuals in a given image or video stream. It identifies the location of faces within an image and is an essential part of face recognition systems.

- Face Recognition Module: This module recognizes the identity of individuals by comparing the detected face to a database of known faces. It uses machine learning algorithms to identify the person by comparing features of the face such as the distance between the eyes, the shape of the nose, and the contours of the face.

- Database Management Module: This module stores and manages the data of registered users, such as their name, ID number, and face template.

- Attendance Management Module: This module records and tracks attendance for each user. It logs the time and date of each attendance and stores it in a database.

- User Interface Module: This module provides a graphical user interface that allows users to interact with the system. Users can register

their faces, view their attendance records, and perform other actions through the interface.

2.2   Basic human recognition done

In this week, we have tried basic human recognition using OpenCV and an open source trained model **haarcascade_frontalface_default.xml** which worked successfully.

Basic human recognition Source:
`https://github.com/gobmj/Attendance.git`

Trained data set Source:
`https://github.com/opencv/opencv/blob/master/data/haarcascades/haarcascade_`
`frontalface_default.xml`