# SRS for

# ATTENDANCE MONITORING USING FACE RECOGNITION

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# INDEX

# 1. Introduction

## 1.1 Purpose

The purpose of this document is to define the requirements of the application named 'Attendance monitoring using face recognition'. It helps in analyzing , all the research done on the project in order to develop the application.

## 1.2 Scope

The application allows users to recognize, people in a group and update their attendance. Faculty can update the attendance of students by taking a picture of the students in the class.

## 1.3 Definitions, acronyms and abbreviations

| | |
|---|---|
| User | Faculty who updates the attendance in the application. |
| AMFR | Attendance Monitoring using Face Recognition |
| Functional requirement | A service provided by the software system |
| Non-functional requirements | A constraint on the system or how the system is developed |
| SRS | This Software Requirements Specification document |

## 1.4 References


[1]. www.google.com
[2]. www.wikipedia.org
[3]. https://towardsdatascience.com/a-guide-to-face-detection-in-python-3eab0f6b9fc1


## 1.5 Document overview

i. Section 1 of the SRS described purpose, scope, definition.
ii. Section 2 of the SRS describes the product in more detail.
iii. Section 3 provides a complete list of the functional requirements of the intended system.
iv. Section 4 provides the non-functional requirements.

# 2. General Description

## 2.1 Product Perspective

The mission of our project is to make the attendance monitoring system easier and efficient.

## 2.2 Product Functions

**Login:**

User should login into the application using her details (User ID & Password).

**Class Credentials:**

After successfully logging in, the user must provide the details of the subject taught and the section of the class being taught.

**Image Input:**

After submitting the details of the class, the application will prompt the user to input the image of all the students present for the class in a suitable format.

**Result:**

The application will open the spread sheet consisting of the details of all students present for the class.

## 2.3 User Characteristics

- User Friendly Environment
- User need not have any technical expertise to use the application
- A prior knowledge in the quality of image required for face recognition

## 2.4 General Constraints

- The Image format is restricted to JPEG or PNG
- The resolution of the camera should be at least 10MP.

# 3. Specific Requirements

## 3.1 Functional Requirements

### 3.1.1 Login

The user needs to login with authenticate username and password to use the application.

#### 3.1.1 a. Input

The user enters his/her username and password.

#### 3.1.1 b. Processing

User entered password and username would be subjected to authentication test.

#### 3.1.1 c. Output

After verification, the page is directed to class credentials page.

### 3.1.2 Class credentials

The user need to enter the details of subject and section taught.

#### 3.1.2 a. Input

The user needs to enter the subject and section of the class.

#### 3.1.2 b. Processing

User entered password and username would be subjected to authentication test.

#### 3.1.2 c. Output

The page is redirected to page for entering the image.

### 3.1.3 Image Input

The user needs to input the image of students.

#### 3.1.3 a. Input

The user inputs the image of students in a jpeg or png format.

#### 3.1.3 b. Processing

Each student is identified in the picture using face recognition techniques and deep learning algorithms.

#### 3.1.3 c. Output

Based on the results of face recognition, names of the students who are recognized will be displayed.

# 4. Non-Functional Requirements

## 4.1 Security Requirements

Every user will have separate login details, such that, they get logged into their account and take a picture for their respective period.

## 4.2 Safety Requirements

The system shall provide persistent storage where all the user details, list of students are stored.

## 4.3 Reliability Requirements

This application is more reliable. There will be no chance of malpractices.

## 4.4 Availability Requirements

Users can easily understand the process of the application and can access the application without any internet.

## 4.5 Maintainability Requirements

In case of any problem with the usage of application, a **help** button will be provided which answers basic questions regarding system crash, problems with recognition. Moreover, a complaint box will be provided to report any other problems for which immediate response will be given.

# 5. System Requirements

## 5.1 Software Requirements

**5.1.1 Operating System:** Windows 10

` **5.1.2 Frameworks and IDE's:** Python Jupyter notebooks, Flask ,Django.

**5.1.3 Data Sets:** Image Datasets required for training the model.

## 5.2 Hardware Requirements

**5.2.1 GPU:** Intel HD Graphics

**5.2.2 CPU:** Intel i5 core

**5.2.3 Camera:** Minimum 10megapixel

**5.2.4 USB port:** 1xUSB 2.0

**5.2.5 RAM:** 8GB