Objective : Prepare a SRS document on Automatic Attendance Marker in line with the IEEE recommended standards.

Software Requirements Specification

for

Automatic Attendance Marker

Version 1.0 approved

Prepared by Tushar Sharma

Kiet Group Of Institution

21.02.2023

Table of Contents

Introduction

Purpose:

The main objective of creating this model is to mark the attendance automatically which reduce the time consumption and difficulty in maintenance. This model can be reliable system to mark attendance without any proxy.

Document convention:

This document will follow a standard format for software requirement specification (SRS). It will include functional and non-functional requirements, use case diagrams, and other relevant details for the airline reservation system.

Intended audience and reading suggestions:

The intended audience for this document is the development team, project managers, and stakeholders involved in the creation of the airline reservation system. The document is recommended to be read in its entirety by the project team, with special attention paid to the functional and non-functional requirements.

Product scope:

The scope of this model is to mark the attendance automatically which reduce the time consumption and difficulty in maintenance. This model can be reliable system to mark attendance without any proxy.

Functional requirements:

Customers can create and manage their attendance

Customers can scan multiple faces and mark their attendance.

Customers can reduce proxy problem.

Customers can store the data into the database.

Non-functional requirements:

The system should be user-friendly and easy to navigate.

The system should be accessible from desktop and mobile devices.

The system should be able to handle a high volume of user traffic.

The system should have robust security features to protect customer data.

The system should have fast response times and minimal downtime.

References:

"Automatic Attendance Marker: Design and Implementation from--->
Automated Attendance Marking and Management System by Facial Recognition Using Histogram
(https://ieeexplore.ieee.org/document/8728399)

Overall Description

Product Perspective:

This project is about automatic attendance management web application. The automatic attendance management will replace the manual method, which takes a lot of time consuming and difficult to maintain. In this project we used image recognition method to mark the attendance . In this the teacher will open the camera from a position and capture the live vedio of whole class . the faces are detected and then it is recognized with the database and finally the attendance is marked.There are various methods for comparing the faces . OpenCV library is used in this project.

Product Functions:

The automatic attendance marker has the following main functions:

- Multiple face scanning
- Multiple face dectection and recognition.
- Store the details of attendees
- Show details on the web interface

User Classes and Characteristics:

The system has two main user classes:Multiple Face Detection and Face Recognition. Customers are individuals who can scan multiple faces and the system will recognize them and store there details into the database and show onto the interface.

Operating Environment:

The automatic attendance marker is a web-based application that is accessible via desktop and mobile devices. The system requires an internet connection to function properly. It is designed to be compatible with all modern web browsers.

Design and Implementation Constraints:

The automatic attendance marker must be designed and implemented to handle a high volume of user traffic. It must be scalable to accommodate future growth in user demand. The system must also have robust security features to protect customer data and prevent unauthorized access. The system must comply with all relevant industry standards and regulations.

User Documentation:

The automatic attendance marker must have comprehensive user documentation that explains how to use the system. The documentation should include step-by-step guides, FAQs, and troubleshooting tips. The documentation must be user-friendly and accessible to all users.

Assumptions and Dependencies:

The successful implementation of the automatic attendance marker is dependent on the availability of the necessary technical infrastructure, such as web servers and databases. The system assumes that customers have access to the internet and have basic computer literacy. The system also assumes that the detailed staff responsible for managing flight schedules and availability have the necessary technical knowledge and expertise.

external interface requirements:

User Interfaces:

The user interface of the automatic attendance marker should be designed to be user-friendly, intuitive, and easy to navigate. The user interface should be accessible via desktop and mobile devices and should be compatible with all modern web browsers. The interface should allow customers to detect multiple faces and recognize them and marked there attendance.

Hardware Interfaces:

The automatic attendance marker must be compatible with the hardware used by customers and airline staff. Customers should be able to access the system using any modern web browser on their desktop or mobile device. The airline staff responsible for managing flight schedules and availability should have access to a computer or mobile device with an internet connection.

Software Interfaces:

The automatic attendance marker must be compatible with the software used by customers and scanning staff. Customers should be able to access the system using any modern web browser on their desktop or mobile device. The system should also be compatible with the multiple face scaning's internal systems to provide accurate information to customers. The system should be built using a programming language and framework that is compatible with the airline's existing technology stack.

Communication Interfaces:

The automatic attendance marker must have communication interfaces to allow for communication between the system and external systems. The system should be able to communicate with the face detection's internal systems to provide accurate information to customers. The system should also be able to communicate with payment gateways to process payments. The system should use secure communication protocols to ensure the privacy and security of customer data.

System Features:

System Feature 1: Scan multiple faces

The airline automatic attendance marker customers to scan for multiple faces based on various criteria such as age, expression and structure.

System Feature 2: Recognition and store data

The automatic attendance marker allows customers to recognize faces and store their details, including changing dates, times, and class.

System Feature 3: Attendance Management

The automatic attendance marker allows to store ,display and manage
the attendance onto the interface with date and time without any proxy problem.

Other non functional requirements:

Performance Requirements:

The automatic attendance marker must perform efficiently and quickly to provide a good user experience. The system should be able to handle a high volume of user traffic without slowing down or crashing. The system should also have a fast response time for search and booking operations. The system must be scalable to handle future increases in user traffic.

Safety Requirements:

The automatic attendance marker should ensure the safety of customers by preventing unauthorized access to sensitive information such as personal and payment information. The system should also ensure the safety of system by adhering to safety protocols and regulations.

Security Requirements:

The airline reservation system should have robust security features to prevent unauthorized access to sensitive information. The system should use encryption to protect personal and payment information. The system should have user authentication and access control mechanisms to prevent unauthorized access to the system. The system should also have mechanisms to prevent data loss, data corruption, and data theft.

Software Quality Attributes:

The automatic attendance marker should be developed using best practices in software engineering. The system should be easy to maintain, modify, and extend. The system should be tested thoroughly to ensure its correctness, reliability, and usability. The system should be designed to be flexible and adaptable to future changes in technology and user requirements.

Business Rules:

The automatic attendance marker should adhere to business rules and regulations. The system should have pricing and payment rules that are transparent and fair to customers.
capacity and demand. The system should comply with all relevant industry standards and regulations, such as those related to data privacy and security.

Other Requirements

Accessibility Requirements:

The automatic attendance marker should be accessible to all users, including those with disabilities. The system should comply with accessibility standards such as the Web Content Accessibility Guidelines (WCAG) to ensure that all users can access and use the system.

Compatibility Requirements:

The automatic attendance marker should be compatible with different web browsers, operating systems, and devices. The system should be designed to work seamlessly with the latest versions of popular web browsers and should be responsive to different screen sizes and resolutions.

Localization Requirements:

The automatic attendance marker should be designed to support multiple languages and currencies. The system should have the ability to display information in different languages and currencies based on user preferences.

Regulatory Requirements:

The airline reservation system should comply with all relevant laws, regulations, and standards. This includes data protection laws, aviation regulations, and other applicable laws and regulations.

Maintenance Requirements:

The airline reservation system should be designed for easy maintenance and updates. The system should be scalable and adaptable to future changes in technology and user requirements. The system should also be well-documented to aid in its maintenance and updates.

Training Requirements:

The airline reservation system should be designed to be user-friendly and easy to use. However, it may be necessary to provide training to users and staff to ensure that they can use the system effectively. The system should have user manuals and training materials available to help users and staff understand the system's features and functionality.