EduVault – A Comprehensive Student Information Management System

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# Abstract

EduVault is an innovative, web-based solution created to revolutionize the management of student data within educational institutions...

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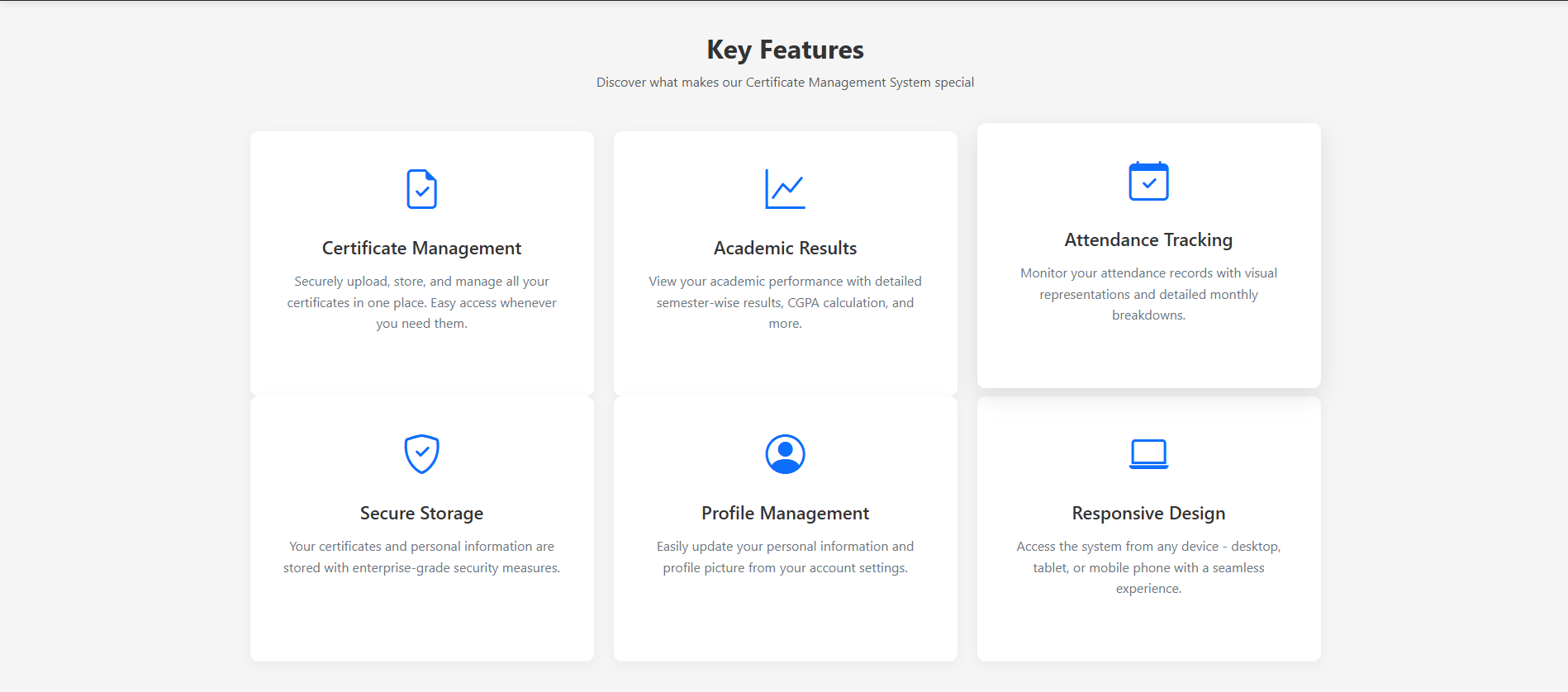
# Introduction

# Background

Managing student data using traditional, manual methods often leads to errors...

# Purpose

The primary goal of EduVault is to develop a centralized and automated system..



# Scope

- Student Registration: ...

- Academic Record Management: ...

- Attendance Tracking: ...

- Certificate Management: ...

# Objectives

- Enhanced Security: ...

- Efficient Data Handling: ...

- Database Efficiency: ...

- User-Friendly Interface: ...

- Real-Time Data Accessibility: ...

# System Overview

EduVault is architectured as a modern web application...

# Technologies Used

- Frontend:

- HTML & CSS

- JavaScript

- Backend:

- Node.js

- Express.js

- Database:

- MySQL

- Templating Engine:

- EJS

- Version Control:

- Git and GitHub

- Package Management:

- npm

# System Architecture

EduVault follows the Model-View-Controller (MVC) paradigm...

# Directory Structure

- controllers/

- models/

- routes/

- views/

- public/

- config/

# Module Descriptions

# Authentication Module

- Functionality: Manages user login and registration...

# Student Management Module

- Functionality: Facilitates CRUD operations for student records...

# Attendance Module

- Functionality: Records daily attendance data for every student...

# Certificate Module

- Functionality: Automates certificate generation...

# Admin Dashboard

- Functionality: Offers a comprehensive overview of system statistics...

# Database Design

# Tables and Relationships

| Table Name | Key Attributes | Relationship |

|------------|----------------|--------------|

| users | user\_id (PK), username, password...

# Implementation Details

- Server Setup

- Middleware Configuration

- Routing and Controllers

- Middleware and Views

# Testing and Validation

- Unit Testing

- Integration Testing

- User Acceptance Testing (UAT)

# Challenges Faced

- Database Connectivity

- Session Management

- Dynamic Content Rendering

# Future Enhancements

- Role-Based Access Control (RBAC)

- Email Notifications

- Data Analytics

- Mobile Responsiveness

- Integration with Other Tools

# Conclusion

EduVault has been successfully developed to address the increasing demands...

# References

- Node.js Documentation

- Express.js Guide

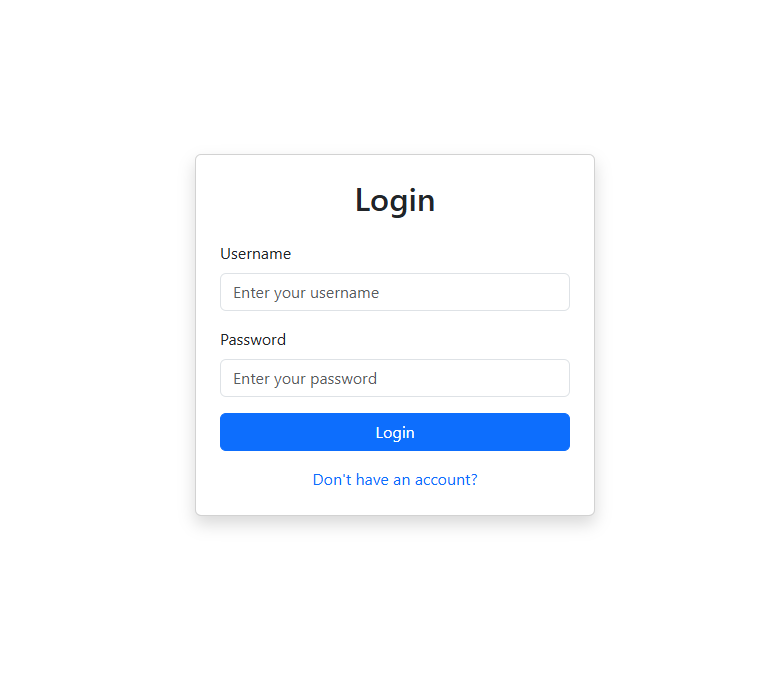
- MySQL Reference Manual

- EJS Templating Documentation

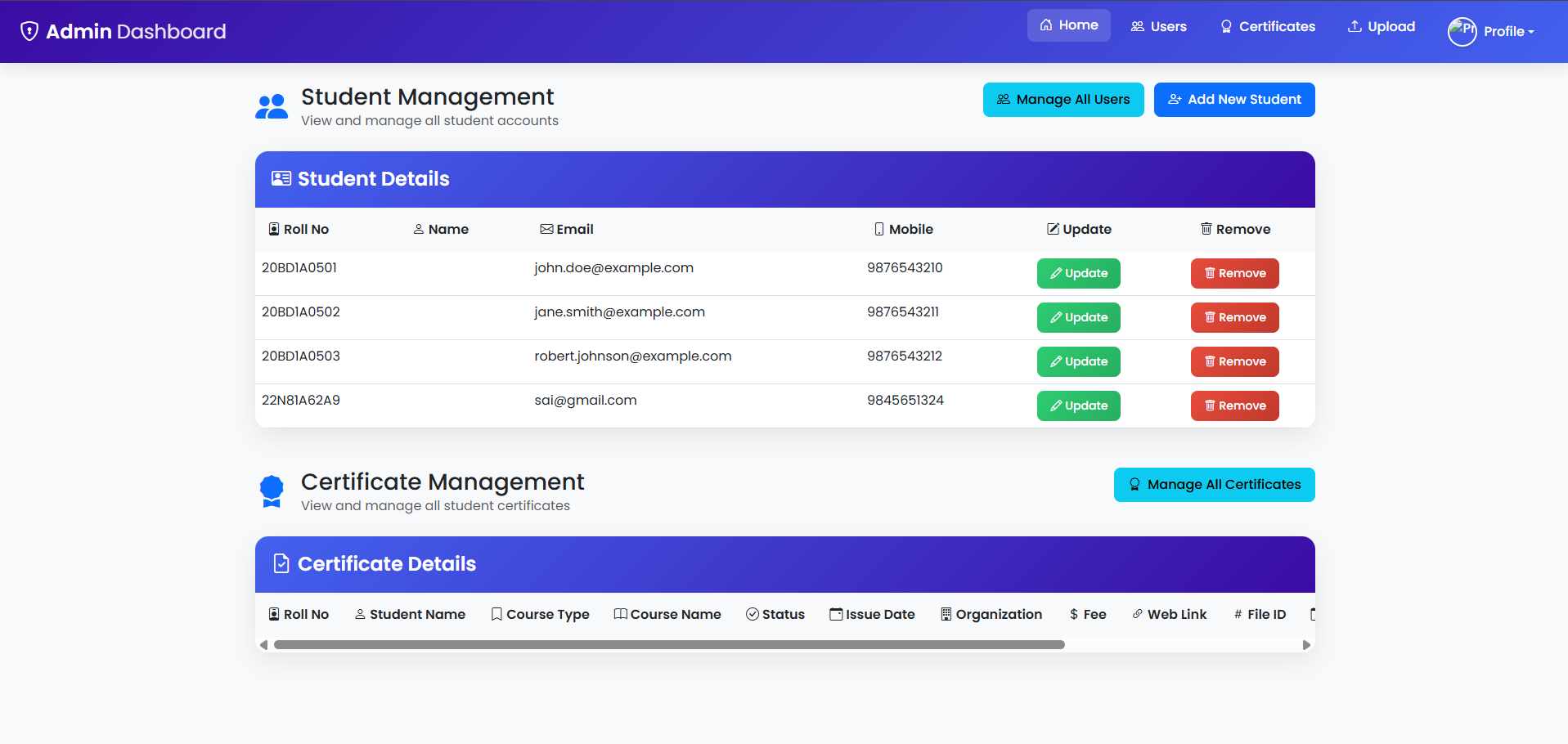
# Appendices

# Screenshots

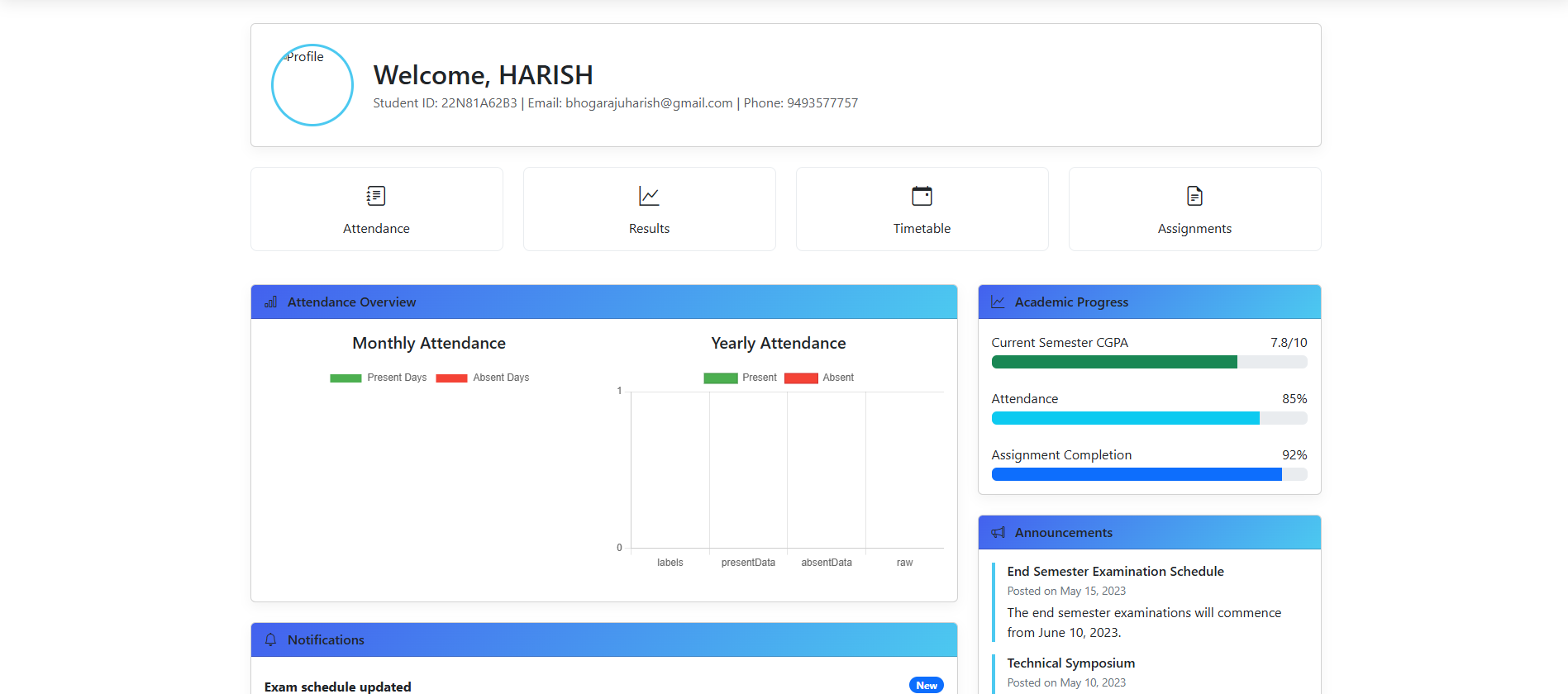
- Login Page



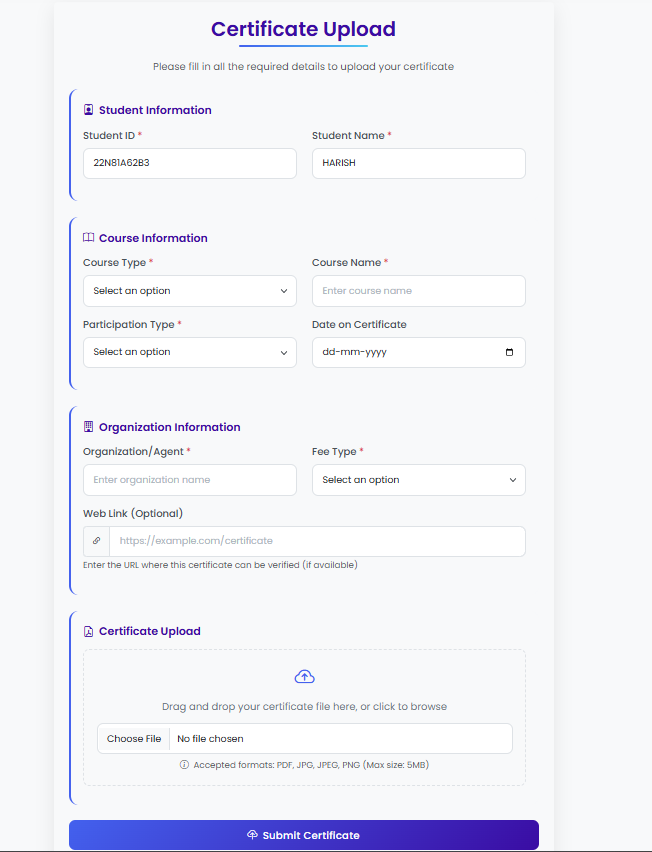
- Dashboard



- Student Management Interface



- Certificate Generation Page



# Code Snippets

- Sample Controller Functions

- EJS Template Examples

# Database Schema Diagram

A visual representation of the database schema...

