



CSC-336  
PROJECT

Web App using MERN Stack

# CertiMeet

CertiMeet is a versatile platform designed to streamline certificate generation and meeting scheduling. With its intuitive interface, users can effortlessly create professional certificates and manage meetings efficiently, all in one place.

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## Overview

### Introduction to the Project:

CertiMeet is a dynamic MERN stack application designed to streamline the process of certificate generation and meeting management. By integrating interactive client-side views with robust server-side functionality, CertiMeet provides a seamless user experience for individuals and organizations.

### Purpose and Objective of the Application:

The main purpose of CertiMeet is to simplify administrative tasks associated with event management and certificate issuance. The objectives include:

- Providing a user-friendly interface for creating and managing certificates.

- Implementing a secure and efficient meeting scheduling system.
- Enabling multiple actors, including administrators and users, to interact with the system effectively.
- Ensuring data security and accuracy through authentication and business logic implementation.

## Business Name and Problem Statement:

**Business Name:** CertiMeet

**Problem Statement:** Many organizations struggle with the time-consuming and error-prone tasks of managing meetings and issuing certificates. Traditional methods often lead to inefficiencies, data inconsistencies, and lack of user engagement. CertiMeet addresses these challenges by offering a comprehensive platform that automates these processes while maintaining flexibility and scalability.

## Scope of the Project

### Defined functionalities:

CertiMeet offers a range of functionalities to ensure a seamless user experience:

- User Authentication and Authorization: Secure login and role-based access.
- Certificate Generation: Dynamic creation and customization of certificates.
- Meeting Management: Scheduling, organizing, and managing meetings effectively.
- Multi-Actor System: Support for administrators, users, and other relevant roles.
- Real-Time Data Updates: Ensuring synchronization and accuracy across all modules.

### Purpose of Online Presence:

The online presence of CertiMeet aims to:

- Provide a centralized platform for managing certificates and meetings.
- Enhance user accessibility and interaction through a web-based interface.
- Ensure real-time availability of services, reducing manual effort and time.

- Improve organizational efficiency and user satisfaction by offering automated solutions.

## Services offered:

CertiMeet provides the following services:

- **Custom Certificate Design:** Create, modify, and distribute professional certificates.
- **Meeting Scheduling and Management:** Plan and coordinate meetings with minimal effort.
- **User Role Management:** Assign and manage roles for administrators, users, and guests.
- **Data Security and Analytics:** Secure storage and insightful analytics for better decision-making.

## Technology Stack

### Frontend Technologies:

- React.js for building interactive user interfaces.
- Tailwind CSS for styling and responsive design.
- Axios for API integration.

### Backend Technologies:

- Node.js with Express.js for server-side development.
- Mongoose for database schema management and interaction.

### Database:

MongoDB as the primary database for storing user and system data.

### Other Tools:

- Git for version control and collaboration.
- Postman for API testing.

- JWT (JSON Web Tokens) for user authentication.

## Fulfillments of Requirements

### Single Page Application:

CertiMeet is designed as a SPA, ensuring smooth navigation and a dynamic user experience without page reloads.

### Backend with CRUD operations and Business Logic:

The backend supports:

- **Create:** Adding new users, certificates, and meetings.
- **Read:** Viewing details for certificates, meetings, files and HTML templates.
- **Update:** Modifying existing records.
- **Delete:** Removing redundant or outdated records.

### Multiple Actors:

CertiMeet supports multiple user roles:

- **Administrator:** Manages the system and oversees all operations.
- **User:** Schedules meetings and generates certificates.
- **Visitor:** Visits the site, verify the certificate.

### User Authentication:

JWT-based authentication ensures secure access. Role-based authorization controls functionality access per user type.

### Frontend Implementation:

React.js components, props, and states manage the dynamic UI. Axios fetches data from the REST API.

### CSS and Styling:

Tailwind CSS ensures a modern and responsive UI, compatible with various devices.

## Database Schema:

MongoDB with Mongoose defines clear schema specifications for users, certificates, and meetings.

# System Architecture

## Overview of the Architecture:

CertiMeet follows the MERN stack architecture:

- **Frontend:** React.js for UI.
- **Backend:** Node.js with Express.js for API and business logic.
- **Database:** MongoDB for data persistence.
- **Integration:** Components interact via REST APIs.

## Interaction between Components:

- User interactions trigger frontend actions.
- API calls fetch or update data from the backend.
- Real-time updates reflect changes across components.

# Main Functionalities

## User Authentication:

- Secure login/logout.
- Role-based access control.

## Key Functional Modules

### Module 1: User Management

- Profile creation and updates.
- Role assignment.

## Module 2: Upload and Management of CSV/Excel Files

- File upload and parsing.
- Data validation and storage.

## Module 3: Creation and Management of HTML Templates for Certificates

- Dynamic design of certificates.
- Templates storage and retrieval.

## Module 4: Certificates Generation, Download and Deletion

- Generation of certificates based on uploaded files and templates.
- Download certificates in various formats.
- Delete certificates from the database.

## Module 5: Meeting Scheduling

- Create and manage meeting schedules.
- Participant management.

## Module 6: Sending Emails

- Automated email generation and dispatch.
- Tracking email status.

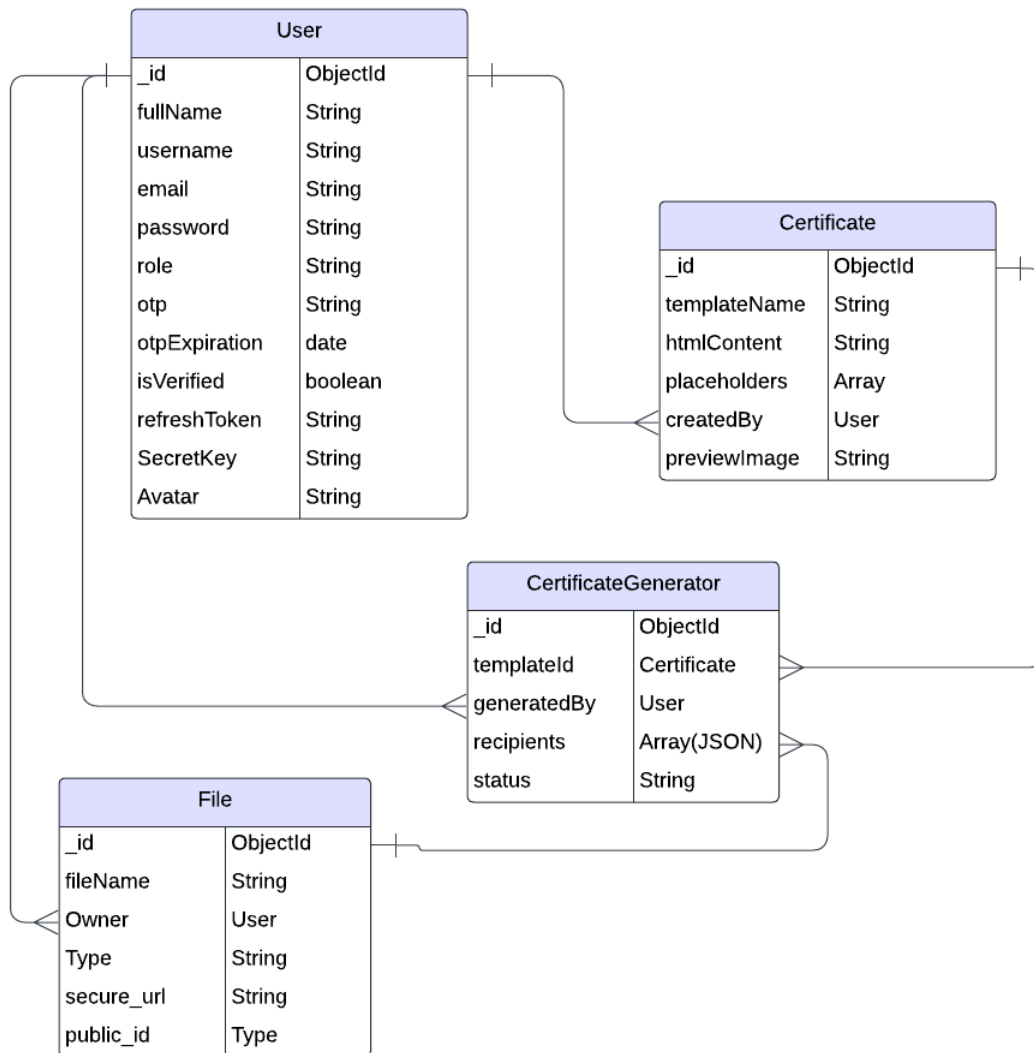
## Error Handling and Logging:

- Comprehensive error messages.
- Logging system to track and debug issues.



# Database Design

## Entity-Relation Diagram:



## Database Relationships:

- Users can have multiple certificates, files, templates and meetings.
- One Certificate is based on a file and a template and belongs to a specific user.

# RESTful API

## User Management Routes:

### Register User

- **Route:** /register
- **Method:** POST
- **Description:** Registers a new user. No avatar upload is performed here.

### Verify OTP

- **Route:** /verify-otp
- **Method:** POST
- **Description:** Verifies the OTP sent during signup.

### Login User

- **Route:** /login
- **Method:** POST
- **Description:** Logs in a user.

### Logout User (Protected)

- **Route:** /logout
- **Method:** POST
- **Middleware:** verifyJWT
- **Description:** Logs out a user. Requires a valid JWT token.

### Change Password (Protected)

- **Route:** /change-password
- **Method:** PUT
- **Middleware:** verifyJWT
- **Description:** Allows a user to change their password.

### Change Full Name (Protected)

- **Route:** /change-full-name
- **Method:** PUT
- **Middleware:** verifyJWT
- **Description:** Updates the user's full name.

#### **Change Username (Protected)**

- **Route:** /change-username
- **Method:** PUT
- **Middleware:** verifyJWT
- **Description:** Updates the user's username.

#### **Change Email (Protected)**

- **Route:** /change-email
- **Method:** PUT
- **Middleware:** verifyJWT
- **Description:** Updates the user's email address.

#### **Upload Avatar (Protected)**

- **Route:** /upload-avatar
- **Method:** POST
- **Middleware:** verifyJWT, upload.single("avatar")
- **Description:** Uploads an avatar for the user.

### **File Management Routes:**

#### **Upload File (Protected)**

- **Route:** /upload
- **Method:** POST
- **Middleware:** verifyJWT, upload.single("file")
- **Description:** Allows users to upload a file.

#### **Get Specific File (Protected)**

- **Route:** /getFile/:fileId
- **Method:** GET
- **Middleware:** verifyJWT
- **Description:** Fetches a specific file using its ID.

#### **Get All Files (Protected)**

- **Route:** /getAllFiles
- **Method:** GET
- **Middleware:** verifyJWT
- **Description:** Fetches all files uploaded by the logged-in user.

#### **Delete Specific File (Protected)**

- **Route:** /deleteFile/:fileId
- **Method:** DELETE
- **Middleware:** verifyJWT
- **Description:** Deletes a specific file using its ID.

#### **Delete All Files (Protected)**

- **Route:** /deleteAllFiles
- **Method:** DELETE
- **Middleware:** verifyJWT
- **Description:** Deletes all files uploaded by the logged-in user.

## **Certificate Template Management Routes**

#### **Create Template (Protected)**

- **Route:** /create-template
- **Method:** POST
- **Middleware:** verifyJWT
- **Description:** Creates a new certificate template.

#### **Get Template by ID (Protected)**

- **Route:** /get-template/:id
- **Method:** GET
- **Middleware:** verifyJWT
- **Description:** Fetches a single certificate template by its ID.

#### **Get All Templates (Protected)**

- **Route:** /get-templates
- **Method:** GET
- **Middleware:** verifyJWT
- **Description:** Fetches all templates for the logged-in user.

#### **Delete Template by ID (Protected)**

- **Route:** /delete-template/:id
- **Method:** DELETE
- **Middleware:** verifyJWT
- **Description:** Deletes a specific template using its ID.

#### **Delete All Templates (Protected)**

- **Route:** /delete-all-templates
- **Method:** DELETE
- **Middleware:** verifyJWT
- **Description:** Deletes all templates for the logged-in user.

### **Certificate Generation Routes:**

#### **Generate Certificates (Protected)**

- **Route:** /generate
- **Method:** GET
- **Middleware:** verifyJWT
- **Description:** Generates certificates for participants.

#### **Download Certificates as ZIP (Protected)**

- **Route:** /download/:generatedCertificateId
- **Method:** GET
- **Middleware:** verifyJWT
- **Description:** Downloads all certificates for a specific generation ID as a ZIP file.

#### Send Certificates via Email (Protected)

- **Route:** /send-certificates/:generatedCertificateId
- **Method:** POST
- **Middleware:** verifyJWT
- **Description:** Sends certificates to participants via email.

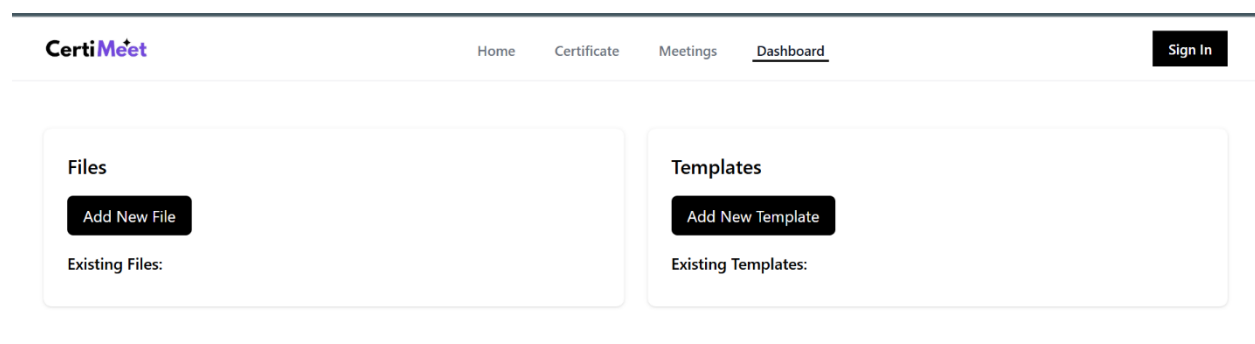
#### Delete Generated Certificates (Protected)

- **Route:** /delete/:generatedCertificateId
- **Method:** DELETE
- **Middleware:** verifyJWT
- **Description:** Deletes generated certificates for a specific generation ID.

## GitHub Repository:

- Access the source code and documentation on [GitHub](#).

## User Interface Design



# Streamline Your Certificate & Meeting Management

Automate certificate generation and simplify meeting scheduling with CertiMeet. Save time and increase productivity with our all-in-one solution.

[Get Started](#)[Learn More](#)

## FEATURES

### Everything you need to manage certificates and meetings



#### Certificate Generation

Automatically generate professional certificates for your events and courses.



#### Meeting Management

Schedule and organize meetings efficiently with our intuitive interface.



#### Cloud Storage

Securely store and manage all your certificates and meeting records.

## HOW IT WORKS

### Simple steps to get started

#### Certificate Generation

Create professional certificates effortlessly with our intuitive platform. Follow these simple steps to get started:

- Upload your custom certificate template in just a few clicks.
- Enter recipient details individually or import them in bulk.
- Preview the certificates to ensure everything looks perfect.
- Generate certificates in bulk, ready for immediate download or sharing.
- Optionally, store the certificates securely for future access or edits.



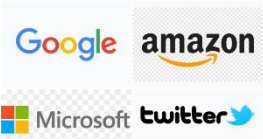
#### Meeting Management

Schedule and manage meetings seamlessly using our intuitive calendar interface. Follow these steps to make the process simple and efficient:

- Pick a date and time from the easy-to-navigate calendar view.
- Customize meeting details, including title, description, and location (online or in-person).
- Send personalized invitations to participants with a single click.
- Track RSVPs and monitor attendee responses in real-time.
- Integrate the meeting schedule with your favorite tools and platforms for streamlined organization.

### Ready to get started?

Join thousands of organizations that use CertiMeet to streamline their certificate generation and meeting management processes.

[Start Free Trial](#)[Contact Sales](#)

## CertiMeet

CertiMeet simplifies your workflow by seamlessly combining certificate generation and meeting scheduling into a single, user-friendly platform. Whether you're organizing events, managing teams, or handling certifications, CertiMeet ensures efficiency and professionalism at every step.

## CONTACT

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## Certificate Generation

### Select File

[Add New File](#)

### Select Template

[Add New Template](#)[Generate Certificates](#)[Send via Email](#)[Delete from Server](#)

## Login

[Login](#)[Don't have an account? Sign up](#)

## Sign Up

Password must contain:

- Lowercase letters
- Uppercase letters
- Numbers
- Special characters

[Sign Up](#)[Already have an account? Login](#)