Project Overview

Project Name: Law Firm Management System

1. Executive Description: The Law Firm Management System is a web-based application designed to automate various tasks within a law firm. It includes modules for client management, case management, billing, and payments. I have deployed the application on AWS infrastructure using the latest web technologies. The database backend is powered by AWS RDS, ensuring reliable and scalable storage for the application's data. The main objectives of this web application are;

- Efficient management of client details including the client's name, contact details, and case details
- Efficient case tracking and case management
- Automating billing and payment processes

I have added the link to the video at the end of this document.

2. Tech Stack:

- Frontend: HTML, CSS, JavaScript
- Backend: PHP
- Database: AWS RDS (MySQL)
- Cloud Hosting: AWS (Amazon Web Services)

I have chosen the above tech stack to build this web application.

Justification:

- **PHP:** Server-side scripting language, and is used for web development.
- **MySQL:** The database used for storing client, case, and billing information.
- **HTML/CSS:** Front-end technologies used for creating a user-friendly interface.
- **Bootstrap:** CSS framework to create a responsive and visually appealing design.
- **JavaScript:** Client-side scripting language to enhance user interactivity.
- **AWS RDS:** Used for its managed database service, which provides high availability, security, and ease of maintenance.

3. Application Architecture:

This application follows a typical three-tier architecture, with the front end interacting with the backend, and the backend connecting to the database.

Components:

1. **Web Server (Apache):** Serves PHP files.
2. **PHP:** Handles server-side logic, and interacts with the database.
3. **MySQL Database:** Stores client, case, and billing information.
4. **Front-End (HTML/CSS/JS):** User interface for interacting with the application.
5. **AWS-RDS:** The database layer is hosted on AWS RDS.

4. Running the Application:

1. **Database Setup:**
    - Create a MySQL database and import the provided schema (`lawfirm_database.sql`).
    - Update `db_conn.php`
    - To establish a connection with AWS RDS, I have updated the database configuration settings in the PHP application. The configuration now points to the AWS RDS endpoint, allowing secure and scalable database access.
2. **Web Server Configuration:**
    - Configure your web server (Apache or Nginx) to serve the PHP files.
3. **Access the Application:**
    - Open the web browser and navigate to the application's URL.

5. Software Tools used:

- **Text Editor/IDE:** VSCode, PhpStorm, or your preferred editor for coding.
- **Web Server:** Apache for serving PHP files.
- **Database:** MySQL and AWS RDS for cloud data storage.
- **Version Control:** Git for source code management.

6. Testing:

During the testing phase, I validated the application's connectivity with AWS RDS.

7. Tangible Results:

- I**mproved Law Firm Management System**: The application provides a platform for managing critical aspects such as clients, cases, and billing. The users of the application can easily retrieve client information, track communication history, and manage client interactions more effectively. The case management module facilitates tracking of case details, court dates, and actions taken. This leads to better coordination among the staff, ensuring that everyone is on the same page regarding case progress.

- **Reduced manual workload:** The application automates billing and payment processes, eliminating the need for manual invoicing and payment tracking. The application provides real-time tracking of payment statuses accurately and the lawyers and finance teams can easily monitor whether an invoice has been paid or if a payment is pending.

8. What I learned:

An accurate real-time office management system is crucial for legal offices, given the critical nature of their operations. I wanted to create an application addressing the needs of the legal office staff in building a cloud-based office management system in place of the traditional paper-based system. The result was an intuitive application designed to cater to the specific needs of legal staff.
I utilized the knowledge gained from the course about different programming languages including PHP, JavaScript, HTML, and CSS, to create a visually appealing and user-friendly interface that ensures easy navigation. I learned new commands and syntax that are used in the languages and was able to use them effectively. I have used MYSQL WorkBench to store client, case, and billing information. The integration of AWS RDS as a cloud database provided secure and scalable data management, enabling real-time access to critical information. The integration posed a challenge for me as I had to learn how to connect php (VS code) to the cloud database. The adoption of Bootstrap technology further enhanced the application's aesthetics and responsiveness. I also encountered challenges in the establishment of a GitHub repository for version control and I was able to successfully handle them. I also performed system testing where the entire system was tested as a whole to ensure it meets the specified requirements. In the development of the cloud-based Law Firm Office Management System, I encountered and successfully overcame various challenges, which provided me with several learning opportunities. The process not only allowed me to overcome obstacles but also provided valuable insights and knowledge.

9. Link to the video :
https://drive.google.com/file/d/1wSCJCjULO-7yNjSWgFvZoND5ecgYso4J/view?usp=sharing

10. Link to the code repository: https://github.com/BimayaJayamanne/lawFirm