



An-Najah National University

Faculty of Engineering & Information Technology

Computer Engineering Department

Software Graduation Project

JustiPro

Students:

Shahd Noman Hamad

Raia Abdullah Ishtaya

Supervisor:

Shareef Yaseen

shareef.yaseen@najah.edu

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Acknowledgment

In the name of God, the Most Gracious, the Most Merciful.

All praise is due to God, who has blessed us with the passion, strength, and knowledge to complete this project. With hearts heavy with pain for the suffering of our homeland and our people in Gaza, the West Bank, and across our beloved country, we write these words. To the pure souls of our martyrs, to our steadfast prisoners enduring in the brutal occupation's prisons, and to every grain of soil in our cherished land that has borne the weight of suffering for centuries—this effort is humbly dedicated. We dedicate this work to every prisoner, wounded individual, and martyr, and to every Palestinian, whether at home or in the diaspora.

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With sincere appreciation,

Shahd Hamad

Raia Ishtaya

Disclaimer

This report was created by Shahd Hamad and Raia Ishtaya from the Computer Engineering Department at the Faculty of Engineering, An-Najah National University. Please note that it hasn't been revised beyond minor editorial fixes, so it might still have some language or content errors. The opinions, outcomes, and recommendations in this report are entirely those of the authors. An-Najah National University is not responsible for any consequences if this report is used for anything other than its intended purpose.

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Abstract

JustiPro is a comprehensive legal case management system designed to streamline the process of tracking and managing legal cases for lawyers, judges, prosecutors, and citizens. The system comprises a mobile application and a website, allowing lawyers to log in and create personal profiles that include their professional information and CVs. Through JustiPro, lawyers can access the cases they are handling, view court dates, case details, and receive updates on procedural changes. Additionally, they can submit electronic requests, such as postponing hearings or submitting new documents. Judges and prosecutors can log in to monitor the cases under their jurisdiction, staying informed about any developments or updates provided by the court. As the system's administrative entity, the court is responsible for adding new cases, updating case statuses, and notifying relevant parties of any changes. Citizens can use JustiPro to search for lawyers, communicate with them for legal consultations, and interact directly through a built-in chat system. For those with registered cases, the system allows them to track case progress and view detailed information. JustiPro also offers a notification system to alert users of important updates and upcoming court sessions, all while providing a secure, user-friendly interface that prioritizes the confidentiality and security of legal data.

Chapter 1

Introduction

1.1 Statement Of Problem

The judicial system is under significant strain due to inefficiencies in case management, communication breakdowns between legal professionals and the public, and delays in procedural updates. Lawyers struggle with organizing and accessing vital case details, court dates, and procedural changes, often relying on fragmented or outdated methods to manage their workloads. Judges and prosecutors find it challenging to monitor the progress of cases under their jurisdiction, leading to delays in decision-making and case resolution.

For the public, finding and communicating with lawyers can be a daunting and time-consuming endeavor, especially when seeking legal advice or tracking the progress of their cases. The lack of an integrated system for real-time notifications and secure data sharing exacerbates these difficulties, potentially jeopardizing the confidentiality of sensitive legal information.

Courts, as central administrative bodies, face challenges in efficiently updating case statuses, notifying relevant parties, and managing the procedural flow of cases, resulting in bottlenecks and reduced productivity.

Given these issues, there is a critical need for a comprehensive legal case management system that can streamline communication, centralize case-related information, and enhance collaboration among all stakeholders—lawyers, judges, prosecutors, and the public—while safeguarding data security and confidentiality.

1.2 Objectives

The primary objective of **JustiPro** is to develop a comprehensive legal case management system that streamlines the management, tracking, and communication of legal cases for lawyers, judges, prosecutors, and citizens. The system aims to:

- **Enhance Case Management Efficiency:** Provide lawyers with tools to organize and

track their cases, including access to court dates, case details, and procedural updates in real-time.

- **Facilitate Communication:** Enable seamless interaction between lawyers and clients through features like a built-in chat system and legal consultation requests.
- **Support Judicial Oversight:** Allow judges and prosecutors to efficiently monitor and manage cases under their jurisdiction, staying informed about updates and developments.
- **Empower Citizens:** Simplify the process for citizens to search for lawyers, communicate with them, and track the progress of their registered cases.
- **Streamline Court Operations:** Provide courts with an efficient platform for adding new cases, updating case statuses, and notifying relevant parties about changes or updates.
- **Ensure Data Security and Confidentiality:** Implement robust security measures to protect sensitive legal information and maintain the confidentiality of all users.
- **Improve Accessibility:** Offer a user-friendly interface accessible through both a mobile application and a website to ensure ease of use for all stakeholders.

By achieving these objectives, JustiPro aims to create a unified platform that improves efficiency, enhances collaboration, and reduces delays in the legal system.

1.3 Project Scope

The scope of the **JustiPro** project encompasses the development and deployment of a comprehensive legal case management system, providing solutions for lawyers, judges, prosecutors, and citizens. The system is designed to enhance the efficiency of legal processes, streamline communication, and ensure the secure management of legal data. The following outlines the key components and functionalities within the scope of the project:

- **Legal Case Management:** Creation, tracking, and management of legal cases. Access to case details, court dates, and updates for lawyers, judges, and prosecutors. The ability for lawyers to submit electronic requests, such as postponing hearings or submitting new documents.
- **User Access and Profile Management:**
 - **Lawyers:** Registration and creation of personal profiles, including professional information and CVs.
 - **Judges and Prosecutors:** Role-based access to monitor cases under their jurisdiction and receive updates.
 - **Citizens:** Access to search for lawyers, communicate for consultations, and track their cases.
- **Court Operations:** The court, as the administrative body, will have the ability to add new cases, update case statuses, and notify relevant parties of any procedural changes or updates.

- **Communication System:** A built-in chat system for lawyers to communicate with clients and for citizens to interact with lawyers. Notifications for users about important updates, upcoming court sessions, or any changes in case details.
- **Data Security and Confidentiality:** Implementation of security measures to ensure the protection and confidentiality of legal information. User authentication and authorization to restrict access based on roles (lawyers, judges, citizens, and administrative staff).
- **Platform Accessibility:** The system will be available via a web application and mobile app, ensuring users can access it from different devices. User-friendly interface designed to accommodate all stakeholders, including lawyers, judges, prosecutors, and citizens.
- **Exclusions:** The project will not cover the integration of external systems such as court databases or third-party services unless explicitly mentioned in the requirements. The system will not provide direct legal advice or representation for citizens.

By defining the above scope, the JustiPro project will focus on delivering a secure, efficient, and user-friendly platform to streamline the legal case management process, improve communication, and ensure effective data handling for all users involved in the legal system.

1.4 Project Importance

The **JustiPro** system is important for the following reasons:

- **Improves Efficiency:** It automates and streamlines case management, saving time for lawyers, judges, and court staff.
- **Enhances Communication:** Lawyers, judges, and clients can easily communicate and share updates in real-time.
- **Empowers Citizens:** Citizens can track their cases, search for lawyers, and get notifications about updates.
- **Secures Legal Data:** The system ensures the confidentiality of legal information with secure login and encryption.
- **Facilitates Court Administration:** Courts can manage cases, update statuses, and notify relevant parties about changes.
- **Provides Accessibility:** The web and mobile apps allow users to access the system anytime, anywhere.
- **Supports Modernization:** JustiPro contributes to the digital transformation of the legal sector.

By addressing these areas, JustiPro helps improve the efficiency, security, and accessibility of legal services.

1.5 Organization

This report highlights the process of the research and the practical side of creating *JustiPro*. Therefore, the report will consist of the following chapters:

- **Chapter 1: Introduction** - This chapter states the importance of the project, the objectives, the scope of the project, and its significance.
- **Chapter 2: Literature Review** - This chapter investigates projects and articles from around the world to understand how similar projects were implemented, their recommendations, and possible enhancement features for *JustiPro*.
- **Chapter 3: Methodology** - This chapter outlines the steps followed to create the system, discussing the constraints and limitations faced during the project.
- **Chapter 4: Results and Discussion** - This chapter investigates the final results of the project and discusses the outcomes.
- **Chapter 5: Conclusion and Recommendations** - This chapter summarizes the conclusions of the project and suggests recommendations for further research and future projects.

Chapter 2

Literature Review

In this section, various studies, projects, and articles from around the world will be reviewed to explore the existing approaches to legal case management systems, their implementations, and the challenges they face. The goal is to identify the gaps in current systems, and based on this analysis, suggest enhancements that can be applied to the *JustiPro* system.

2.1 Legal Case Management Systems

Many legal case management systems have been developed to streamline legal processes and improve communication between different stakeholders in the legal field. These systems typically provide case tracking, document management, scheduling, and communication tools for lawyers, judges, and clients.

Some well-known systems include:

- **Clio:** A cloud-based law practice management software widely used by law firms for case management, document storage, and billing. It allows for collaboration between legal professionals and clients and features client portals for secure communication.
- **MyCase:** Another widely used legal practice management software that provides tools for case management, time tracking, billing, and document sharing. It also includes a secure messaging feature for communication between lawyers and clients.
- **TrialDirector:** A case management system used for trial preparation, organizing evidence, and providing tools for courtroom presentations.

2.2 Challenges in Current Legal Systems

Despite the wide use of legal management software, several challenges persist:

- **Lack of Integration:** Many systems are not fully integrated with other legal systems, leading to inefficiencies and communication barriers between different parties.

- **Security Concerns:** Handling sensitive legal data online brings about security risks, including data breaches and unauthorized access to private information.
- **User Experience:** Many legal professionals face challenges using complex systems, which are not always user-friendly. A lack of proper training can lead to poor adoption of these systems.
- **Access to Legal Services:** Many citizens, especially in underdeveloped regions, still face difficulty accessing legal services due to physical barriers or lack of digital infrastructure.

2.3 Innovations and Recommendations for Improvement

Several studies suggest innovations that could address these challenges:

- **Cloud-based Systems:** Cloud computing provides flexibility, allowing legal professionals and clients to access the system from anywhere. It also helps reduce the costs associated with maintaining physical infrastructure.
- **AI and Automation:** Artificial intelligence and machine learning are increasingly being integrated into legal case management systems to predict case outcomes, automate repetitive tasks, and improve efficiency.
- **Blockchain Technology:** Some projects have explored the use of blockchain for secure document storage and to ensure the integrity of legal records.
- **Mobile Apps:** The increasing use of mobile devices has driven the development of mobile applications for legal case management, making it easier for legal professionals and clients to stay connected on the go.

2.4 Enhancements for JustiPro

Building on the findings from the literature review, the *JustiPro* system can be improved by considering:

- Integrating advanced AI tools for better case outcome predictions and automatic document management.
- Implementing a user-friendly interface that simplifies navigation and improves adoption rates among users.
- Using blockchain for secure storage and retrieval of legal documents, ensuring the integrity and confidentiality of sensitive data.
- Expanding access to citizens by developing a fully mobile-compatible app and making the system more inclusive for those in remote areas.

Chapter 3

Methodology

3.1 TOOLS, TECHNOLOGIES, ARCHITECTURE, AND PROGRAMMING LANGUAGES

3.1.1 TOOLS

To ensure the successful completion of this project, we used a variety of tools that facilitated development, testing, and deployment. Below are the main tools utilized:

- **Visual Studio Code:** A lightweight but powerful integrated development environment (IDE) used for both front-end and back-end development, as well as for debugging and code editing. [[visualstudio`code](#)]
- **Android Studio:** An IDE primarily used to test and simulate the mobile application on Android devices, ensuring that all mobile-specific features function as intended. [[android`studio](#)]
- **XAMPP:** Used for local server-side development, including MySQL database management. This local environment aids in testing server functionality before deployment. [[xampp](#)]
- **Postman:** A tool used to test the application's API by simulating HTTP requests and responses, ensuring API reliability and performance. [[postman](#)]
- **GitHub:** Used for version control, code sharing, and collaboration, allowing the team to track changes, manage branches, and ensure organized code management. [[github](#)]
- **Firebase:** Implemented for real-time notifications, ensuring that users receive immediate updates and alerts within the application. [[firebase](#)]

3.1.2 PROGRAMMING LANGUAGES

Frontend Framework

- **Flutter:** We used Flutter to develop the front-end of this project for both mobile and web. Flutter was chosen because it is capable of creating multi-platform, high-performance applications without relying on web display methods. It uses its own display engine to ensure coordinated interfaces across different platforms. Additionally, it allows for the conversion of the project to fit screens of various sizes, such as mobile and web.
- **Dart programming language:** Flutter uses Dart as its programming language, developed by Google. Dart is suitable for developing mobile and web applications due to its power, object-oriented principles, and support for asynchronous programming.

Backend Development

- **Node.js with Express.js:** For backend development, we used Node.js due to its ease of use, especially because it is based on JavaScript. Node.js is known for its superior performance compared to traditional languages such as PHP, especially in handling asynchronous operations, resulting in faster response times.
- **Express.js Framework:** Express.js is a simple web framework built on top of Node.js. It provides essential features for developing web applications and powerful APIs. It simplifies handling HTTP requests and responses, offers efficient routing mechanisms for orchestrating application endpoints, and facilitates middleware integration to enhance resiliency.
- **Middleware support:** Middleware components in Express.js were used to handle tasks such as implementing additional functionality during request processing and parsing HTTP request structures. This middleware architecture enhances code organization, maintainability, and reduces boilerplate code.

Database Administration

- **MySQL with Sequelize:** In this project, we used MySQL as the relational database management system (RDBMS) due to its performance, reliability, and scalability with relational data. Sequelize was used as an ORM (Object Relational Mapping) tool to facilitate interactions with the database.
- **MySQL Database:** MySQL was chosen for its performance, reliability, and scalability when working with relational data. It provides robust support for SQL queries and transactions, ensuring data integrity and reliability.
- **SQL Queries and Transactions:** Sequelize allows the application to handle transactions and execute SQL queries efficiently, taking advantage of MySQL's capabilities to manipulate, retrieve, and analyze complex data.

- **Schema management:** Sequelize makes it easy to manage the database schema, including data modeling, data migration, and schema synchronization with the application data model. This ensures that the database schema evolves consistently with changes in the application requirements.
- **Integration with Node.js:** By integrating with Node.js, Sequelize is well compatible with the asynchronous and event-driven architecture of Node.js, improving performance and scalability for server-side applications.

3.2 DATABASE IMPLEMENTATION

3.2.1 ENTITY RELATIONSHIP (ER) DIAGRAM

In the JustiPro application, we need to store a lot of relational data. We built databases, tables, and relationships based on the project requirements.

The ER diagram visually represents the database schema, depicting relationships and constraints between tables, as shown in Figure 3.1. This diagram effectively displays the underlying data model, detailing tables, columns, data types, and their interconnections, providing a comprehensive overview of the database structure.

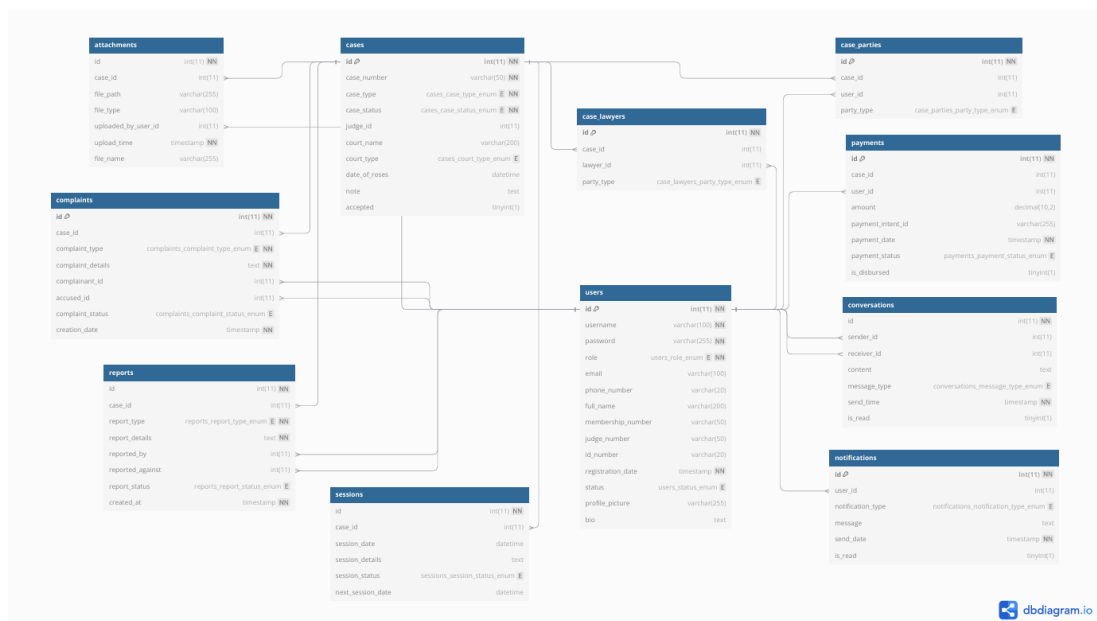


Figure 3.1: ER diagram

3.3 Implementation Features

3.3.1 JustiPro Application for Web Usage

As mentioned earlier, the JustiPro application can also be accessed via the web platform. The web version includes all the features available in the mobile app, providing users with a seamless experience across devices.

3.3.2.1 Use *JustiPro* as Admin

Welcome Page & Authentication Pages

The web version of JustiPro starts with a welcoming page that offers an intuitive and user-friendly interface as shown in Figure 3.2. The authentication pages ensure a secure login experience, requiring users to log in with their credentials before accessing the application's features. The login page includes the following elements:

- **Username and Password Fields:** For entering login credentials.
- **Forgot Password Option:** To recover forgotten credentials.
- **Login Button:** To authenticate the user and proceed to the dashboard.
- **Don't Have an Account?:** A clickable link directing users to the registration page for creating a new account.
- **About This App:** A link that provides more information about the JustiPro app.

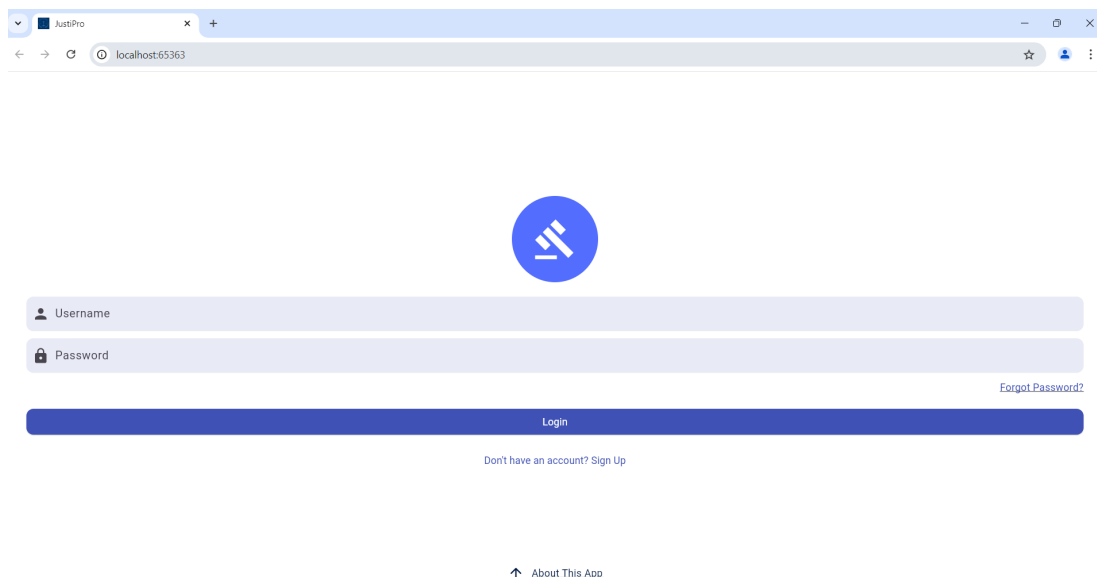


Figure 3.2: Login Page Overview

After User Interaction

Once the user interacts with the login page, the following steps occur:

- **Clicking the Login Button:** When the user enters their credentials and clicks the login button, the system validates the entered information. If the credentials are correct, the

user is authenticated and redirected to the dashboard where they can access the core features of the application. If the credentials are incorrect, an error message will appear, prompting the user to try again. as shown in Figure 3.3

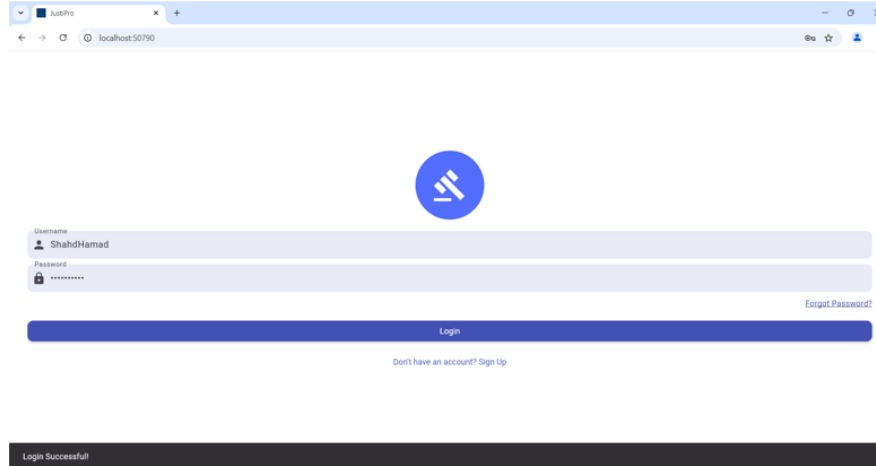


Figure 3.3: Successful Login

- **Clicking Forgot Password:** If the user clicks the "Forgot Password" option, they will be redirected to a password recovery page as shown in Figure 3.4. On this page, they will need to enter their email address associated with the account. After submitting, the system will send a password reset link to the user's email as shown in Figure 3.5. Clicking the link will allow them to set a new password as shown in Figure 3.6 and regain access to the application.

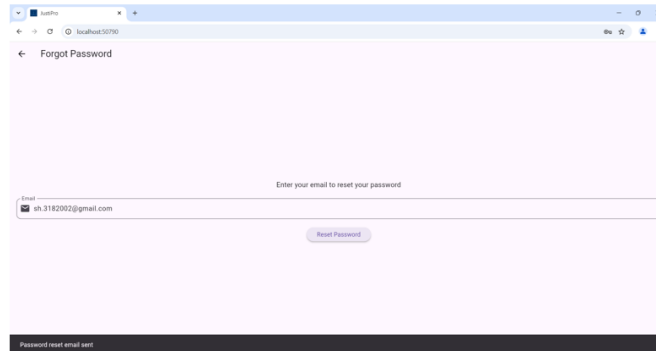


Figure 3.4: Forgot Password Page

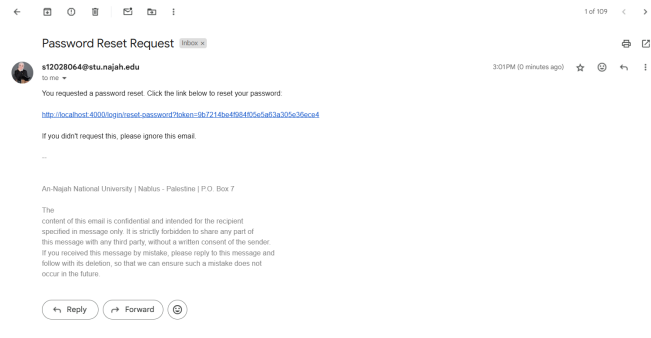


Figure 3.5: Password Reset Email

Reset Your Password

New Password:

Figure 3.6: Password Reset Page

- Clicking Don't Have an Account?:** When the user clicks the "Don't Have an Account?" link, they are redirected to the registration page as shown in Figure 3.7. Here, they will need to enter their details, such as name, email, and password, to create a new account. After successfully registering, they will be logged in automatically and redirected to the dashboard.



Figure 3.7: Sign-Up Page

- Clicking About This App:** When the user clicks the "About This App" link, they are redirected to a page containing information about the JustiPro app as shown in Figure 3.8, including its features, purpose, and how it benefits users. This page provides a brief overview of what the application is and how it helps users track their progress and checkpoints.

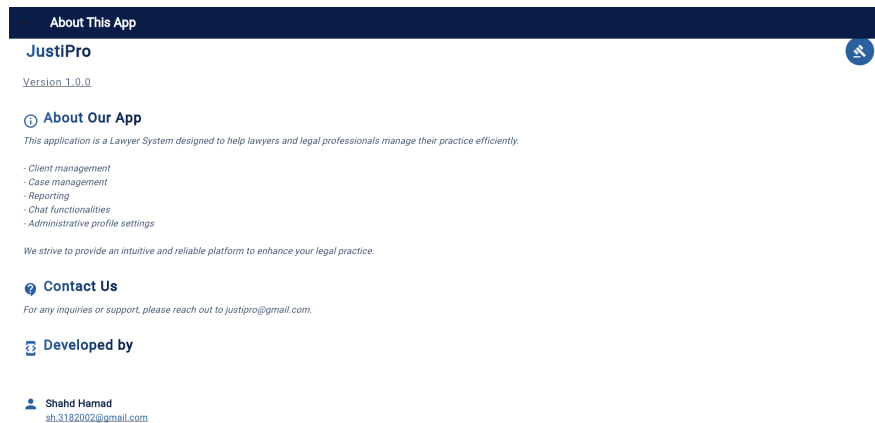


Figure 3.8: About This App Page

Admin Dashboard Overview

The admin dashboard provides an overview of all active checkpoints, user activity, and other vital statistics related to the application as shown in Figure 3.9. The interface is designed for efficient management and includes several key sections:

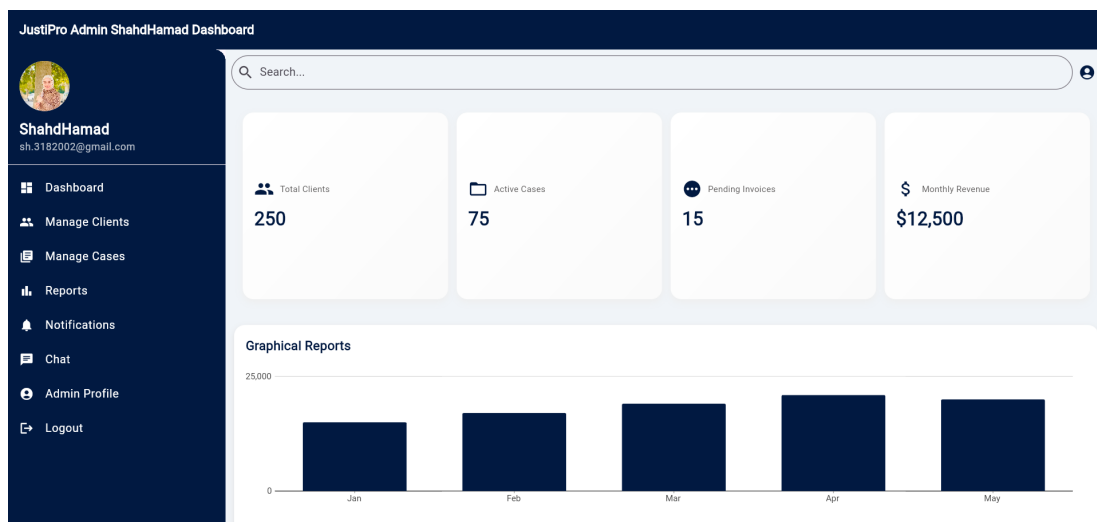


Figure 3.9: Admin Dashboard Overview

- **Manage Clients:** The admin can:

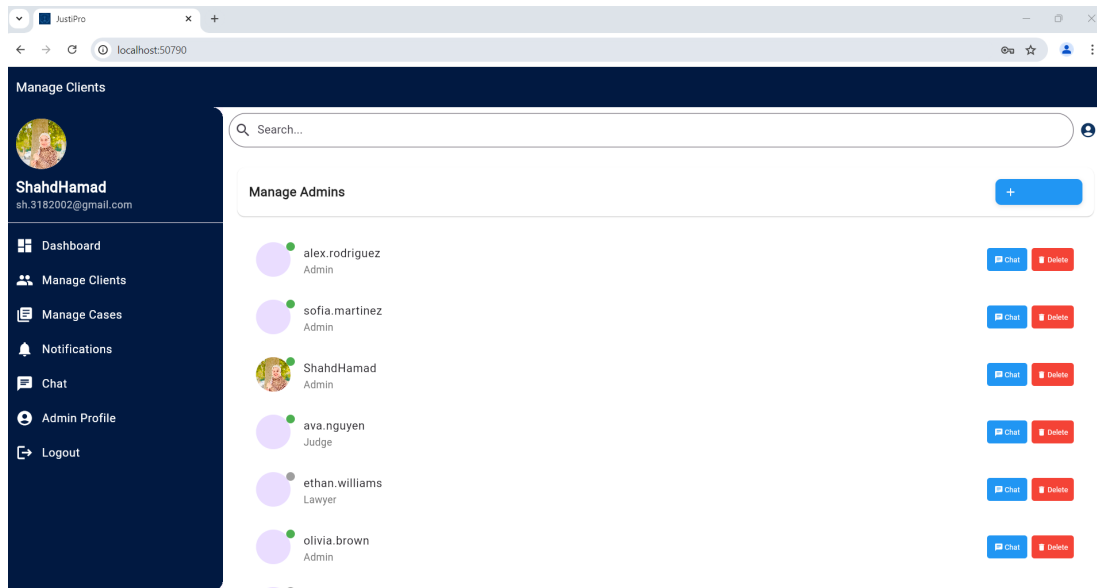


Figure 3.10: Manage Clients

- **Search for Clients:** Easily search for any client by name or other details to quickly find the client profiles as shown in Figure 3.11.

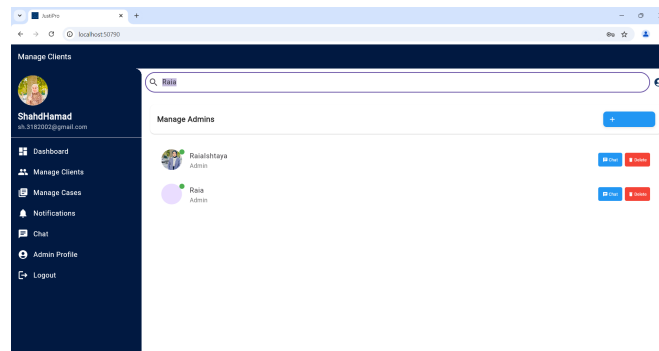


Figure 3.11: Search for Clients

- **Make Client an Admin:** The admin has the ability to elevate any client's role to an admin, granting them higher-level permissions as shown in Figure 3.12.

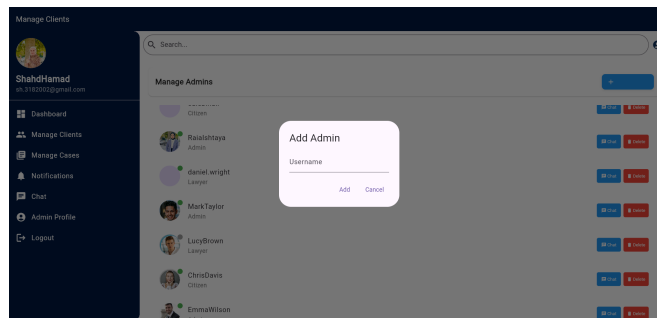


Figure 3.12: Make Client an Admin

- **Delete Client:** Allows the admin to remove a client from the system permanently as shown in Figure 3.13.

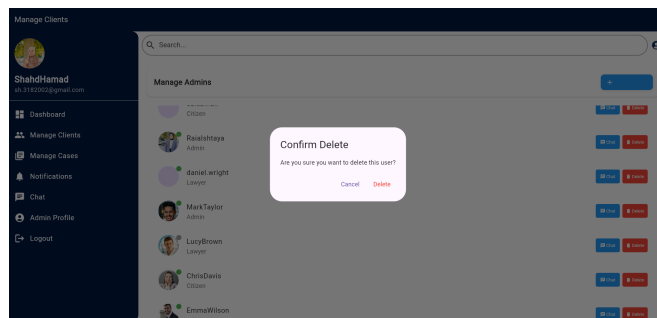


Figure 3.13: Delete Client

- **Show Details:** View detailed information about each client, including their cases, chat history, and other relevant data as shown in Figure 3.14.

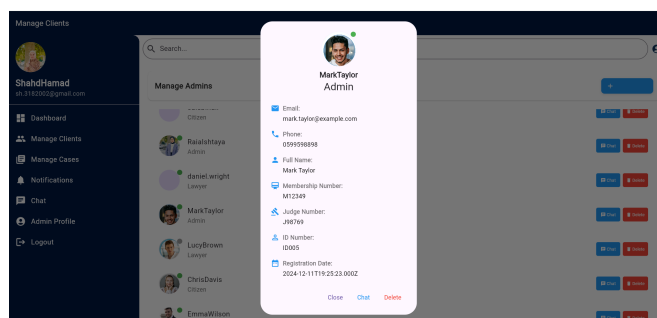


Figure 3.14: Show Client Details

- **Chat:** Communicate with clients directly through the chat feature, facilitating real-time discussions for case updates or inquiries.
- **Manage Cases:** Admins can manage all cases, including their details. The following sections are available under case management:

- **View All Cases:** The admin can view a list of all ongoing and completed cases as shown in Figure 3.15.

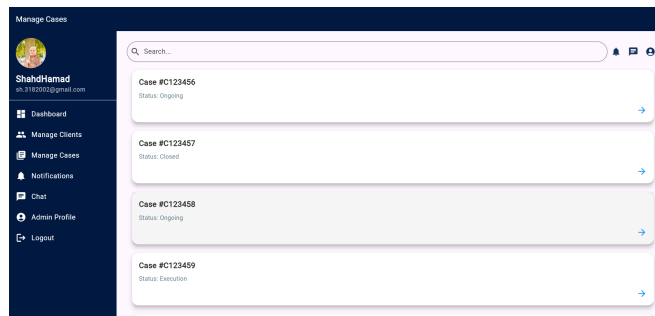


Figure 3.15: View All Cases

- **Search for Cases:** The admin can search for a specific case by entering details such as case name, case number, or client name as shown in Figure 3.16.



Figure 3.16: Search for Cases

- **Case Details:** Clicking on any case will show detailed information, including case status, associated clients, and case history.
 - **Payments:** The admin can view and manage payments associated with each case, including amounts paid, due payments, and payment dates as shown in Figure 3.17.

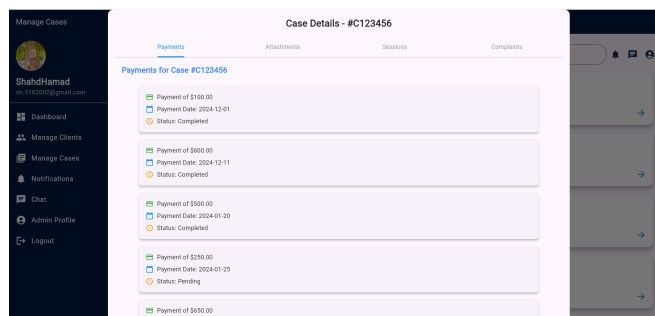


Figure 3.17: Payment Details for Case

- **Attachments:** Admins can view and manage any attachments related to the case, such as documents, images, or files uploaded by clients or the system as shown in Figure 3.18.

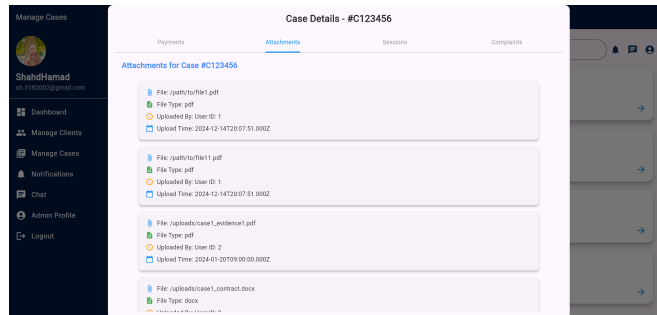


Figure 3.18: Attachments for Case

- **Sessions:** The admin can view and manage session details related to the case, including dates and the progress of each session as shown in Figure 3.19.

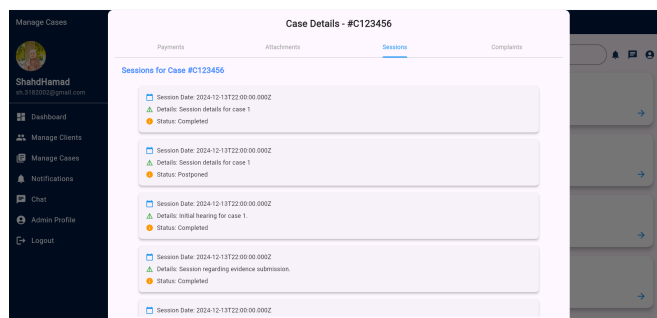


Figure 3.19: Session Management for Case

- **Complaints:** The admin can access any complaints raised by clients regarding their case. The status of complaints and their resolution can also be tracked as shown in Figure 3.20.

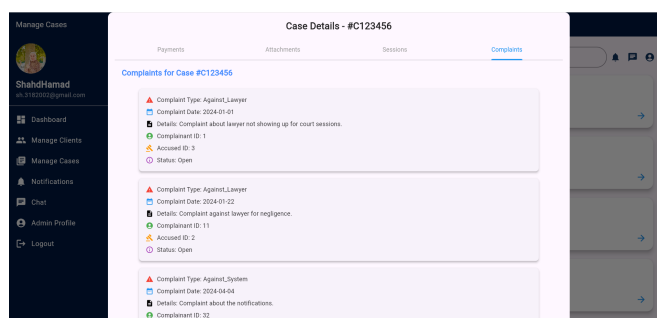


Figure 3.20: Complaints Management for Case

- **Profile Page:** Allows the admin to update their personal information, change password .

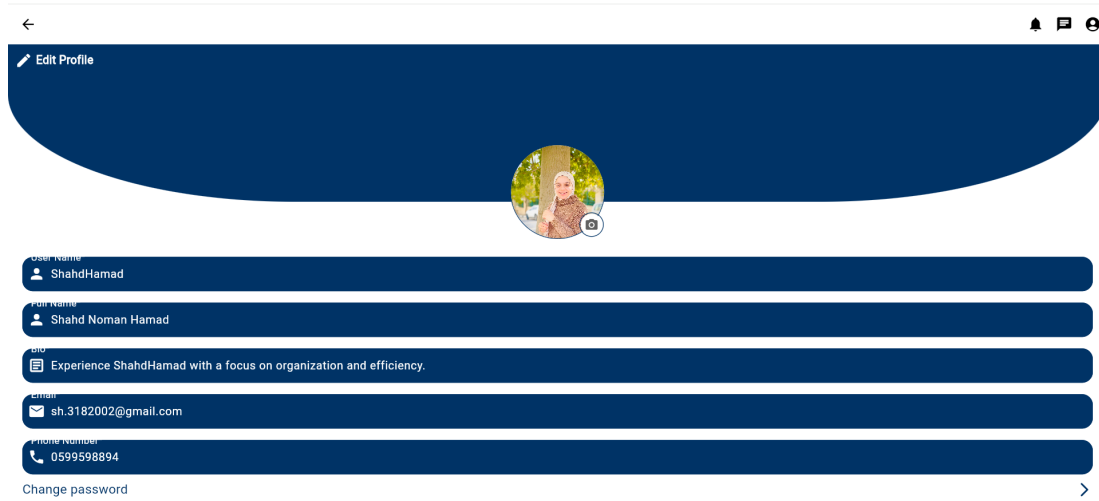


Figure 3.21: Profile Page

- **Edit Personal Information:** The admin can update their personal details such as name, email, and contact information.

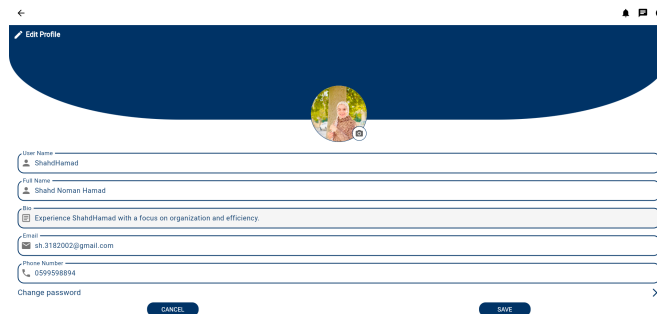


Figure 3.22: Edit Personal Information Page

- **Change Password:** The admin can change their password by clicking on the "Change Password" option and entering a new password.

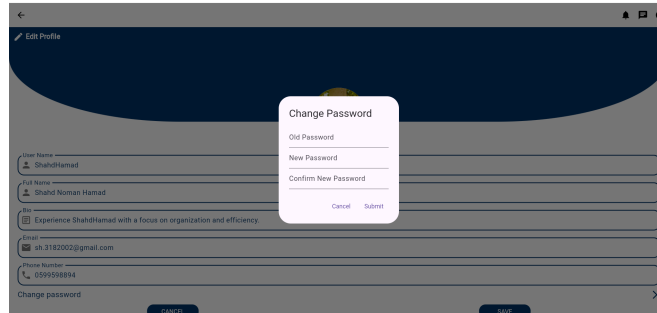


Figure 3.23: Change Password Page

- **Change Profile Picture:** The admin can upload a new profile picture by clicking on the "Change Photo" option and selecting an image from their system.

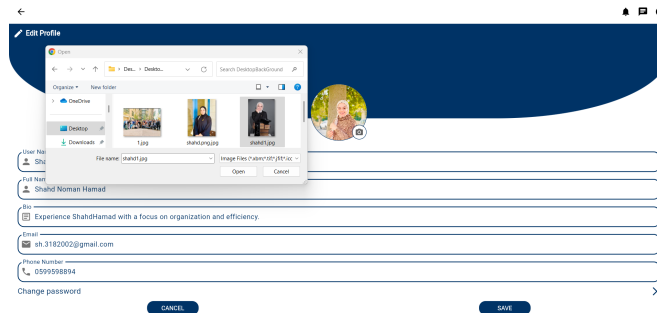


Figure 3.24: Change Profile Photo Page

- **Chat:** The chat feature enables seamless communication between the admin and users, allowing for real-time discussions and issue resolution. The following functionalities are available:
 - **Main Chat Interface:** The admin can access the main chat interface to view all recent conversations and notifications.

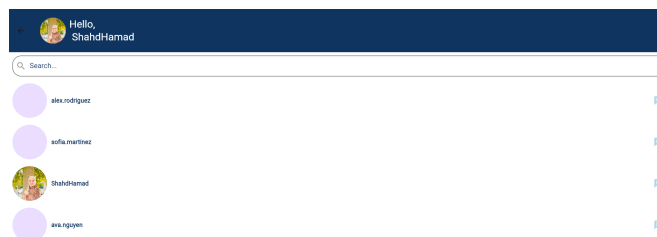


Figure 3.25: Main Chat Interface

- **Search for a User:** The admin can search for any user by their name or details to initiate or continue a chat.



Figure 3.26: Search for a User

- **Select a User:** Once a user is selected from the search results, the chat window for that specific user opens.



Figure 3.27: Select a User to Chat

- **Chat Between Two Users:** A real-time chat scenario between two users—one on the web interface and the other on the mobile app. This allows for smooth interaction regardless of the device.

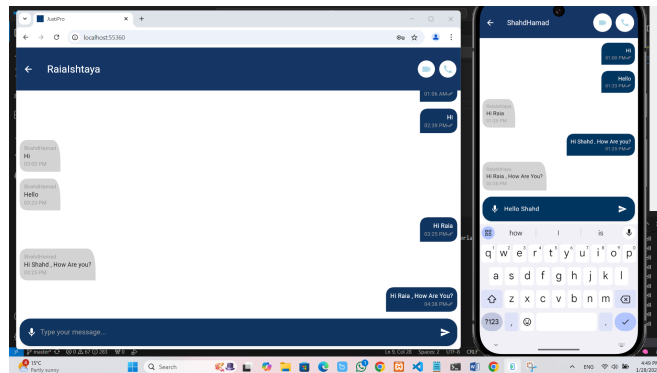


Figure 3.28: Before Chat: Initial interface before starting a conversation.

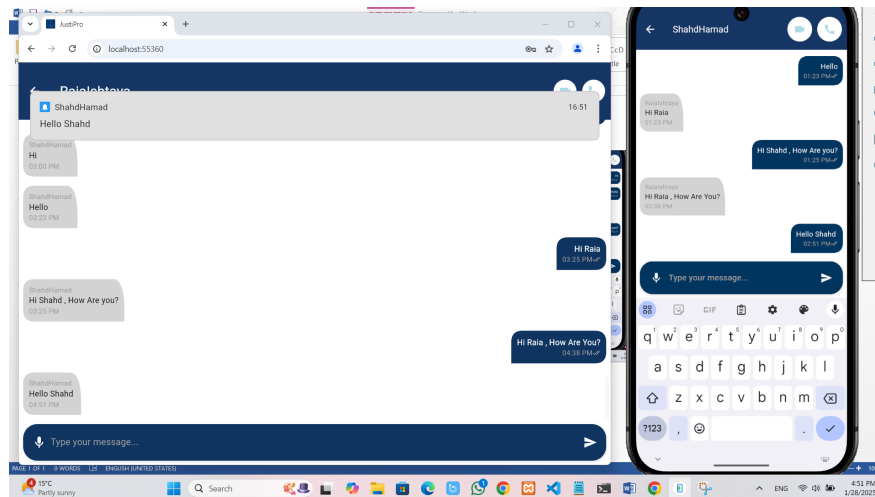


Figure 3.29: Message from Mobile to Web.

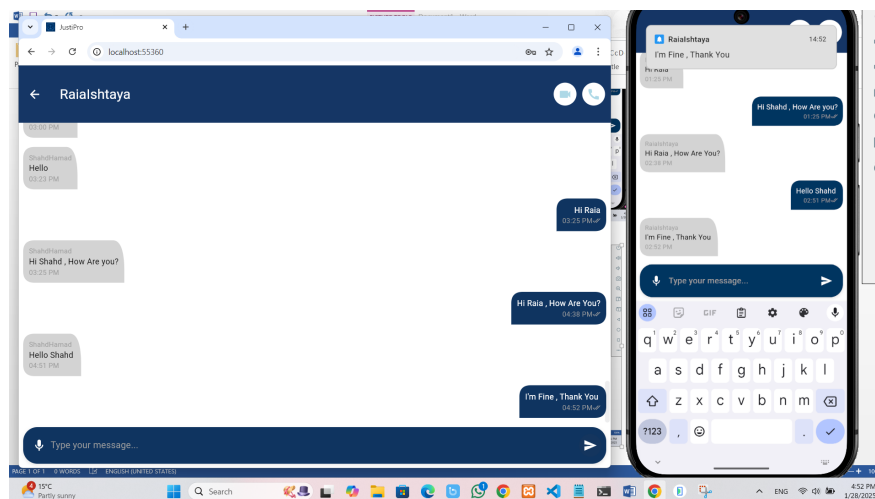


Figure 3.30: Message from Web to Mobile.

Chat Scenario: Demonstrating the flow of communication between web and mobile interfaces. The last two images show messages exchanged between mobile and web platforms with push notifications.

- **Reports:** Offers tools for generating and viewing reports related to system usage, client activity, and other relevant data. The admin can:
 - **Generate Reports:** Create summaries of system usage, case type, case status, case statistics, etc.

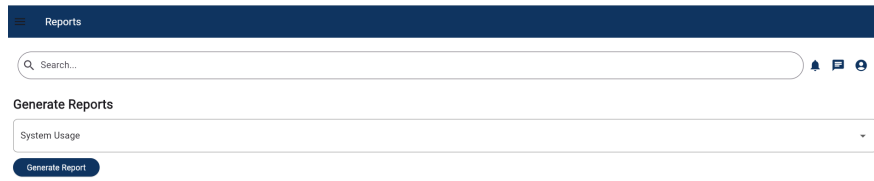


Figure 3.31: Main Report Page

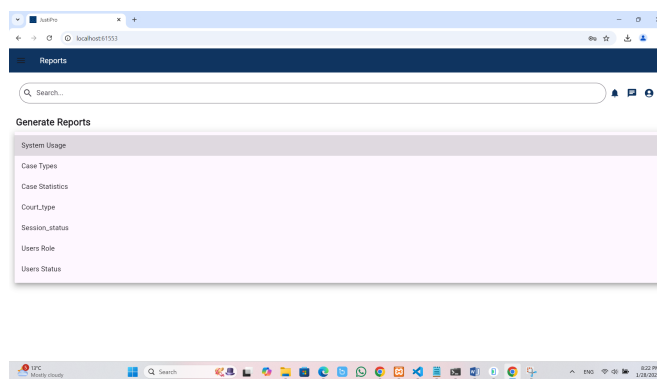


Figure 3.32: Generate Report

- **View Reports:** Access detailed reports, including tables for analysis.

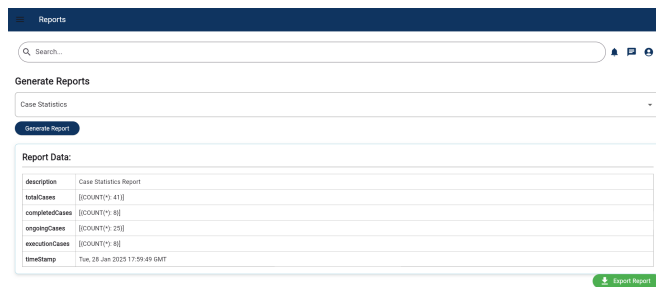


Figure 3.33: View Report

- **Export Reports:** Download reports in pdf formats for easy sharing or record-keeping.

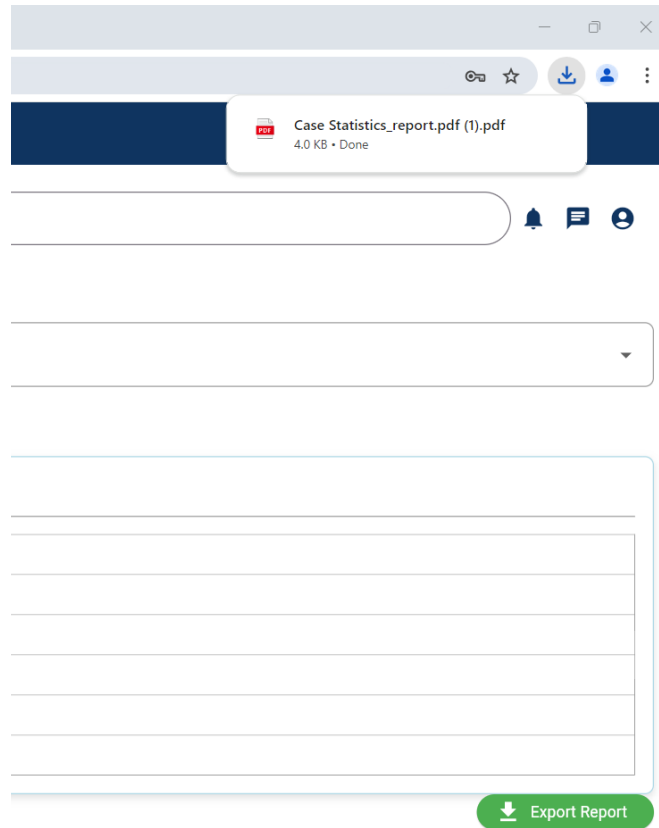


Figure 3.34: Pdf Report Download

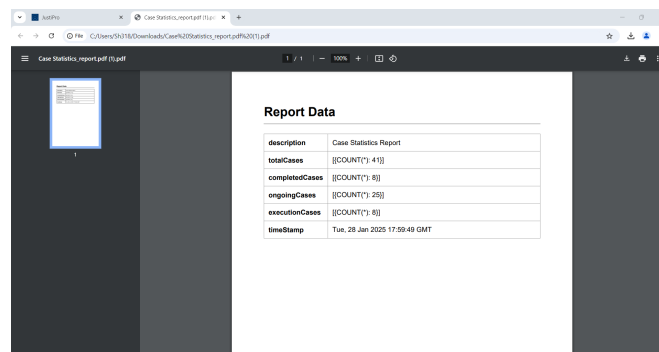


Figure 3.35: Pdf Report View

- **Logout:** Provides an option for the admin to log out of the system securely.

Additional Features at Admin Panel

Case Management: When the admin opens the cases, the listed cases and the submitted cases awaiting the admin's approval appear.

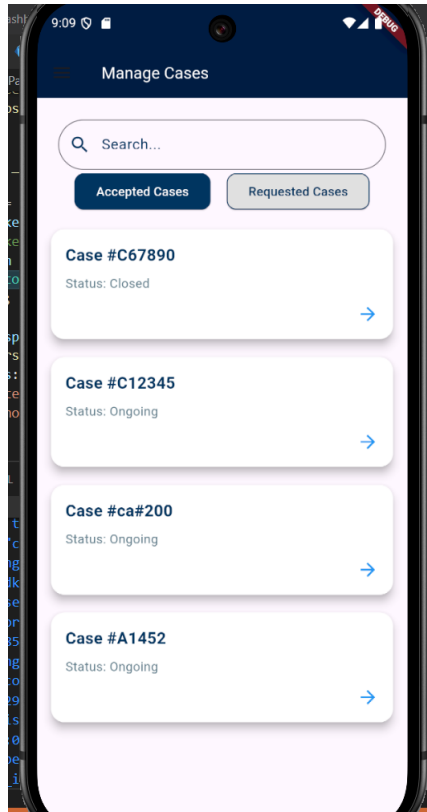


Figure 3.36: Access and Request Cases

The admin can review submitted cases, approve or reject them, and add detail to them .

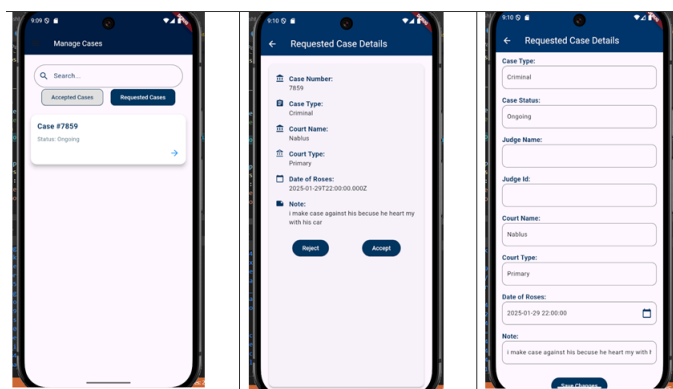


Figure 3.37: Case Approval Process

the case will appear at accepted case and notification to party will send.

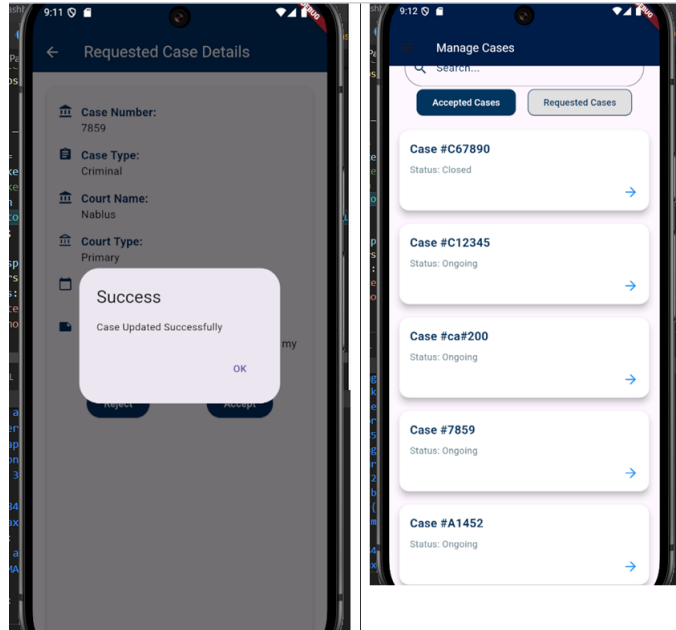


Figure 3.38: Case accepted successfully

The Admin can add a session to any case they have by entering its details.

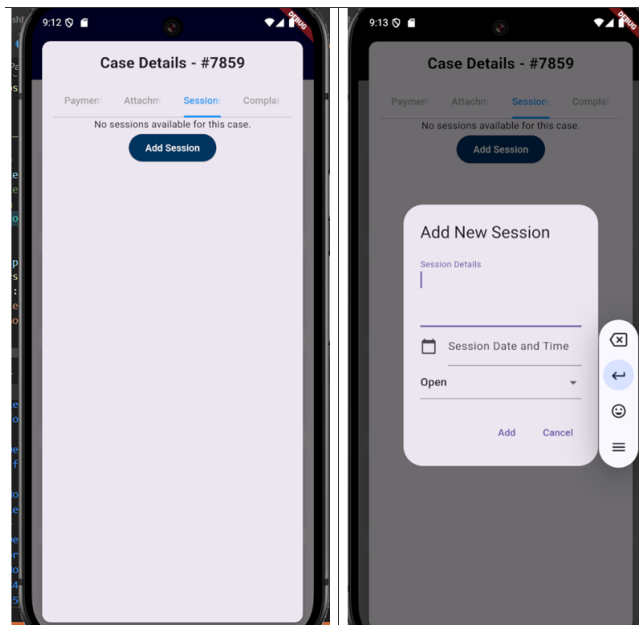


Figure 3.39: session to case

The Admin can added session information include detail,date,time,status and then the session will added to this case succesfully and notification to party about .

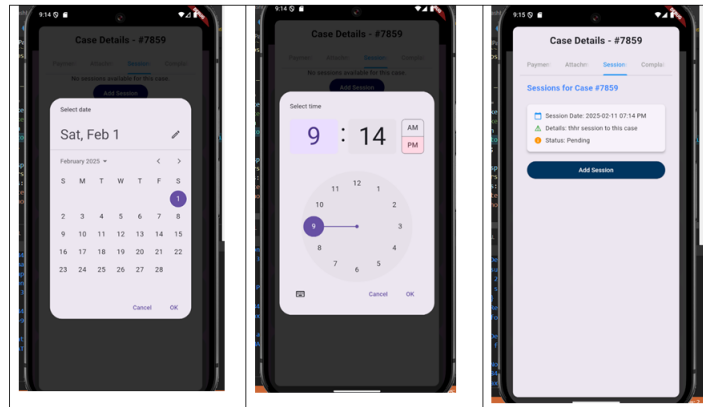


Figure 3.40: session to case

3.3.2 JustiPro Application for Mobile Usage

JustiPro is a mobile application designed to facilitate legal services efficiently and seamlessly. It provides lawyers with essential tools to manage their cases, communicate with clients, and streamline legal workflows directly from their smartphones. The application is built using Flutter for cross-platform compatibility, ensuring a smooth experience on both Android and iOS devices.

3.3.2.1 Using *JustiPro* as a Lawyer

I can log into the system as a lawyer, a citizen with cases, or a judge responsible for cases. However, since the system is similar for all three parties, we will log in as a lawyer, as they have the features available to both other parties, in addition to extra functionalities.

Home Page When a lawyer logs into the *JustiPro* mobile application, they are first directed to the login page, where they enter their username and password.

After successful authentication, the system navigates the lawyer to the home page. This page provides a summary of case status, distribution data, and a list of cases with which the lawyer has recently interacted or viewed.

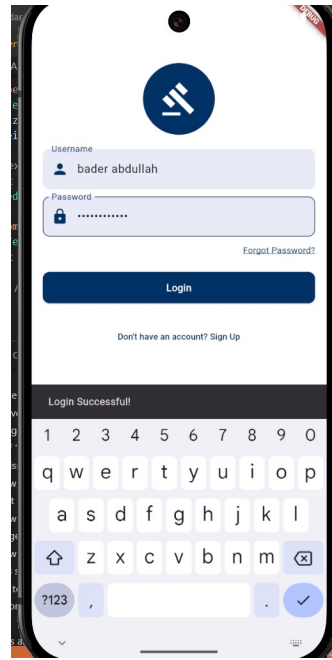


Figure 3.41: Lawyer Login Page

User Search To search for a user, the lawyer clicks the search icon at the bottom of the screen. This takes them to the search page.

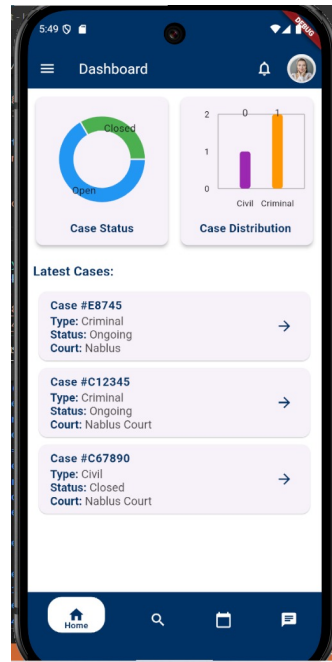


Figure 3.42: Lawyer Home Page

On this page, they can search for any user within the system by entering their full name. The system displays a filtered list of users based on the search.

Clicking on a user in the search results will display their profile page, which includes information about them. From the profile page, the lawyer can send a message to the user.

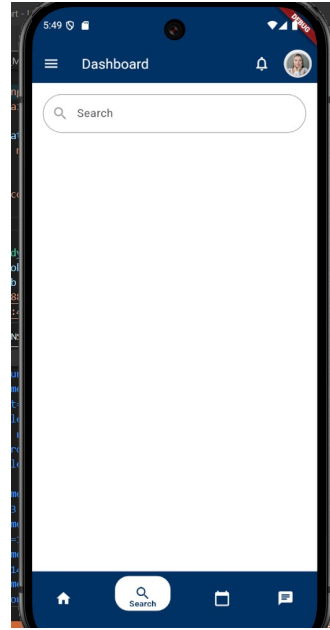


Figure 3.43: Lawyer Search Page

If no matching user is found, the system displays a "no results found" message.

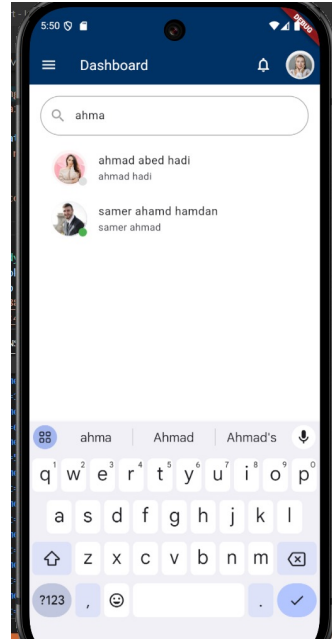


Figure 3.44: Lawyer Search Results

Calendar When the lawyer clicks on the calendar icon, they will be taken to the calendar page. This page displays a calendar showing all days. If a lawyer selects a specific day, the system will display any scheduled sessions for that day. If there are no scheduled sessions, the system will display a message indicating that no sessions are found for the selected date.

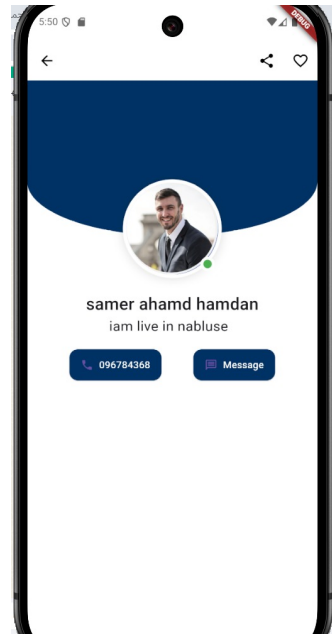


Figure 3.45: User Profile Page

Lawyer Profile Page The lawyer's profile page allows them to view their personal information and make updates to it.

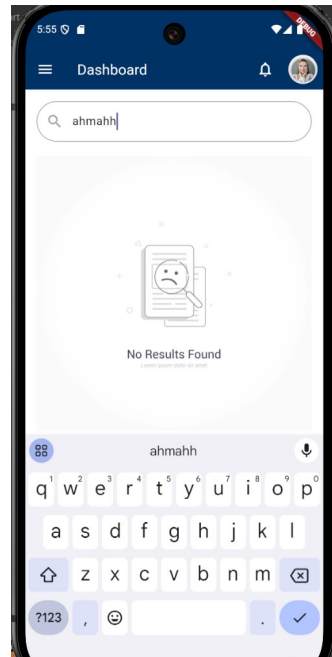


Figure 3.46: No Search Results Found

From the profile page, lawyers can also edit their information.

Lawyers also have the option to change their profile photo.

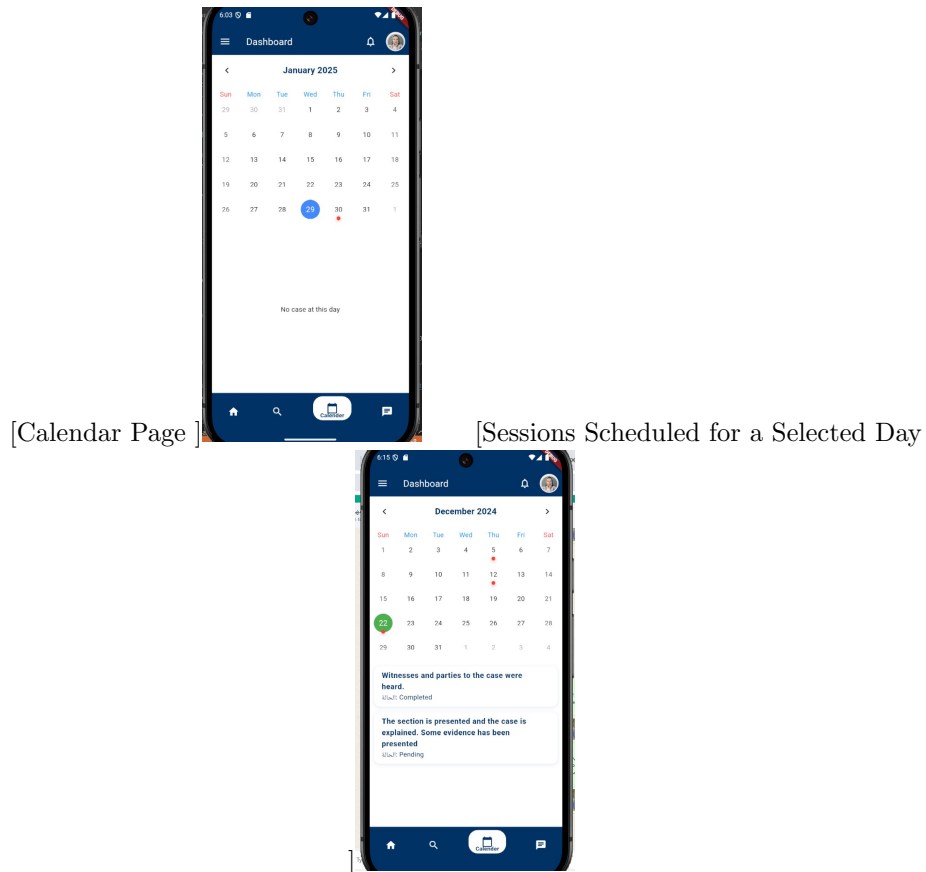


Figure 3.47: Calendar Functionality

Additionally, they can change their password via the profile page.

After making edits, the profile page will be updated.



Figure 3.48: Lawyer Profile Page: View Mode

Case List in Home Page If the lawyer clicks on the list icon in the home page, a list appears. If they then click on "Cases," they are taken to a page that shows their cases. Clicking "Cases" in that list takes the user to the cases page.

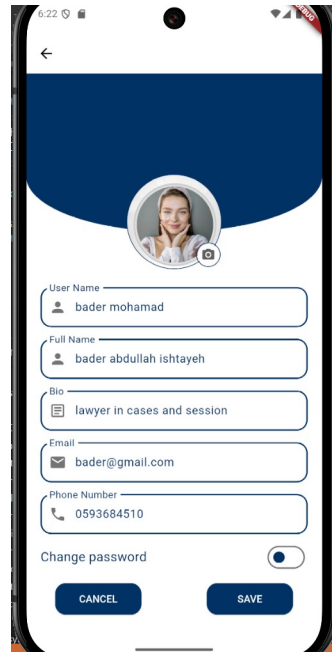


Figure 3.49: Lawyer Profile Page: Edit Mode

The lawyer can search by different filters.

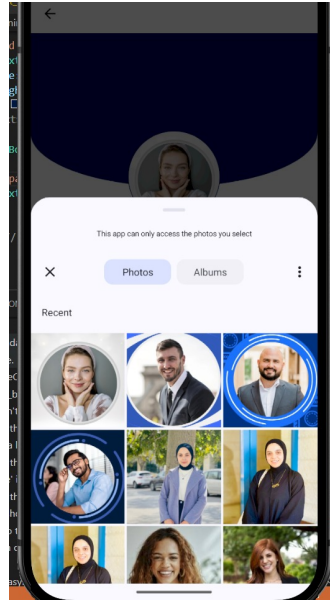


Figure 3.50: Change Profile Photo

Lawyers can filter their cases by status, such as "Recycled" cases. Or they can filter by "Dismissed" status.

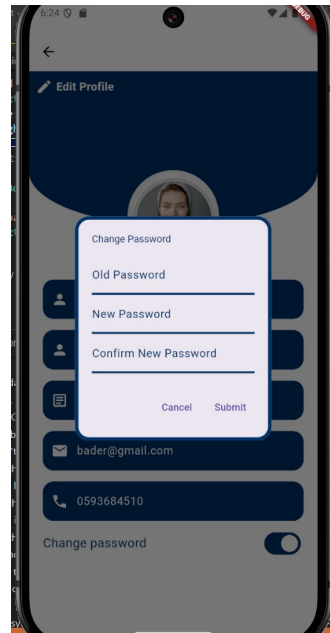


Figure 3.51: Change Password Option

Clicking on a case in the list will open the "Case Details" page which contains the case's details.

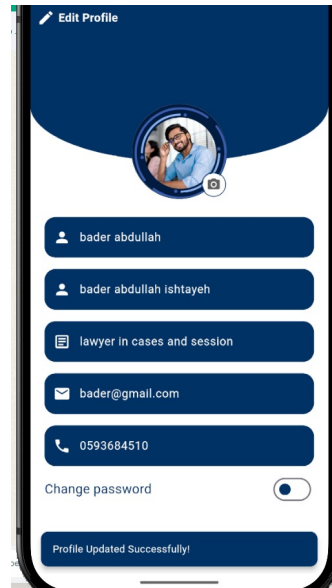


Figure 3.52: Lawyer Profile Page: After Edits

- Case Details: Details Tab The Case Details page provides several tabs with different information, the first of which is the details tab, which contains basic information about the case.

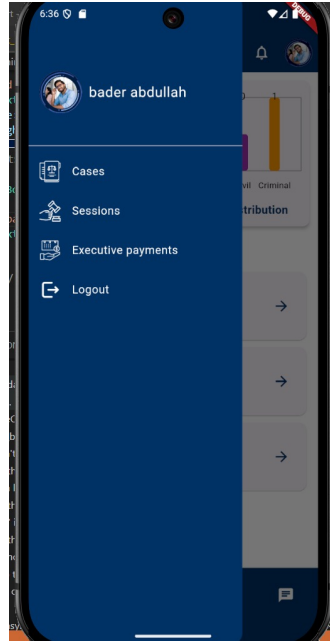


Figure 3.53: Lawyer Home Page: List View

Case Details: Parties Involved Tab The Parties Involved tab, displays the different parties involved in the case.

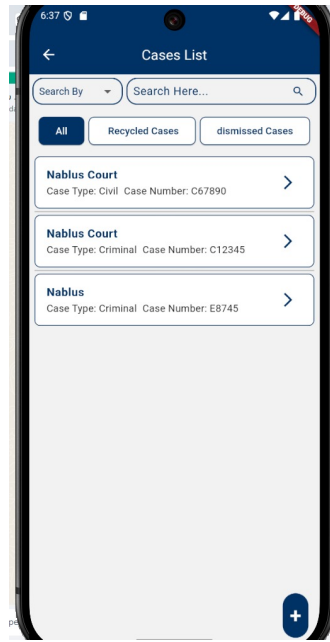


Figure 3.54: Lawyer Case List Page

- Case Details: Sessions Tab The sessions tab displays any related sessions that are scheduled for the case.

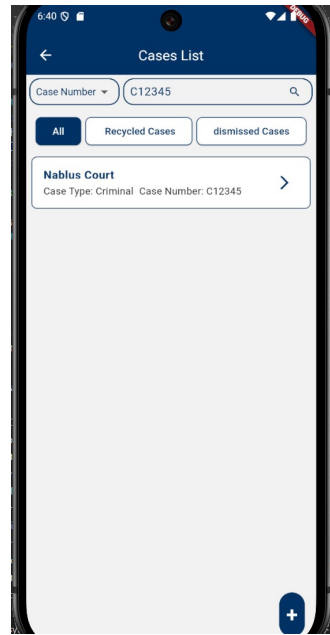


Figure 3.55: Case List: Search By Filter

- Case Details: Attachments Tab The attachments tab allows to see any attached files or documents in relation to the case

- **Case Details: Payments Tab** The payments tab shows any payments that were done for this case and allows to add a new payment.

Lawyers can also make a payment as disbursed.

From the cases page, users can add a new case by clicking the "Add Case" button. This will take them to a page where they can enter case details. After submitting the case, it will not be immediately visible. Instead, it will first require approval from the admin, who will review it and add necessary details such as the judicial panel before making it accessible.

Sessions List in Home Page Clicking "Sessions" in the case details list takes the user to the Sessions tab. This tab allows lawyers to filter sessions by date or file.

Payments List in Home Page Clicking "Payments" in the case details list takes the user to the Payments tab. This tab allows lawyers to filter payments by "All," "Complete," or "Pending" status.

Notification Icon in Home Page The notifications button on the homepage leads to a page that displays all system notifications. These include updates on existing cases, newly submitted cases awaiting admin approval, approved cases, upcoming hearings with reminders, and any other relevant notifications within the system.



Figure 3.56: Case List: Filter by "Recycled" Status

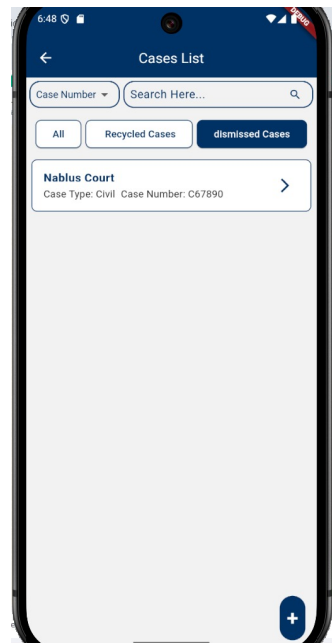


Figure 3.57: Case List: Filter by "Dismissed" Status

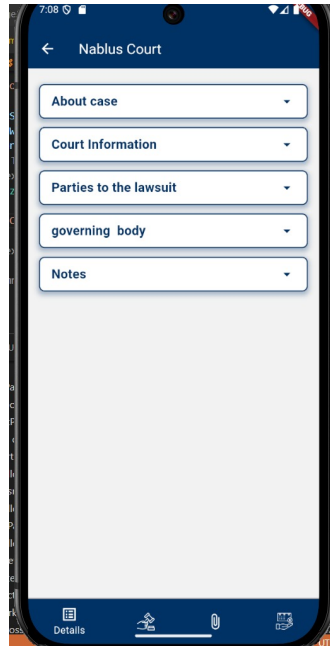


Figure 3.58: Case Details Page: Opening Case Details

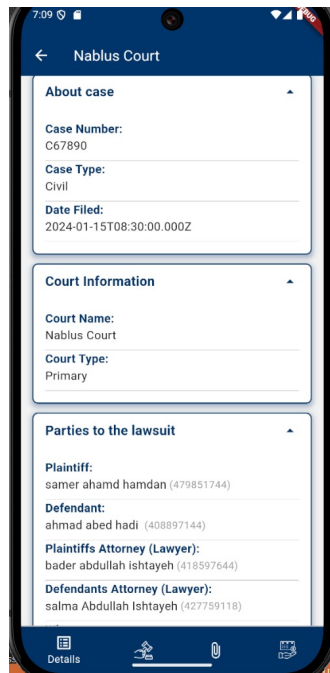


Figure 3.59: Case Details: Basic Information

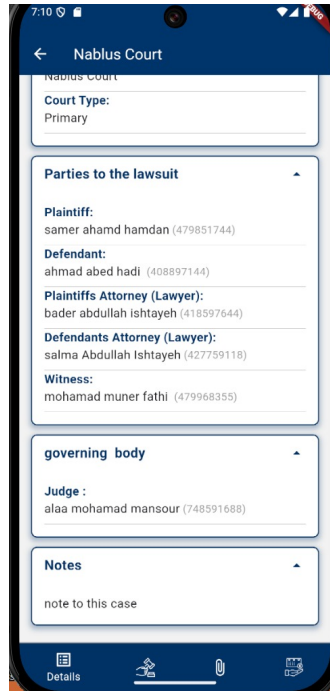


Figure 3.60: Case Details: Parties Involved

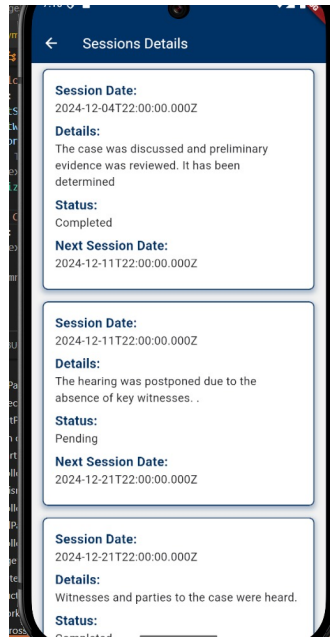


Figure 3.61: Case Details: Sessions

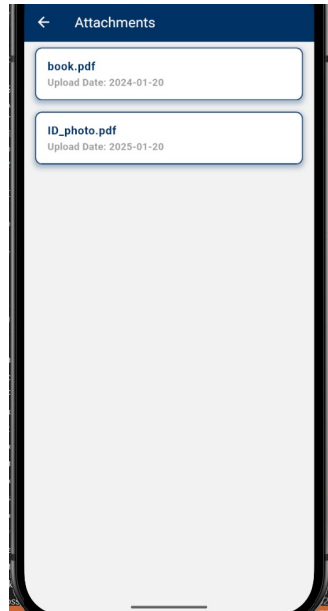


Figure 3.62: Case Details: Attachments

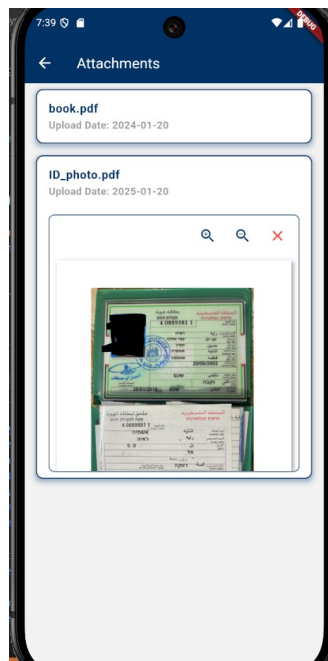


Figure 3.63: Case Details: After Click On any Attachments to View

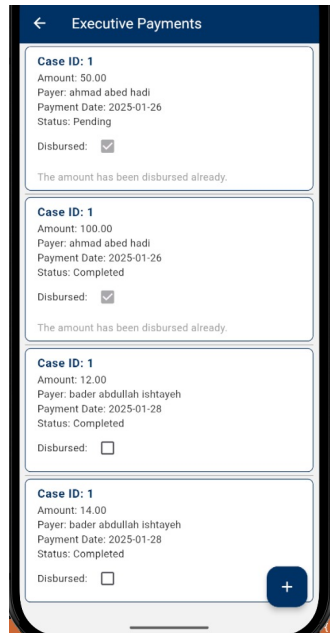


Figure 3.64: Case Details: Payments

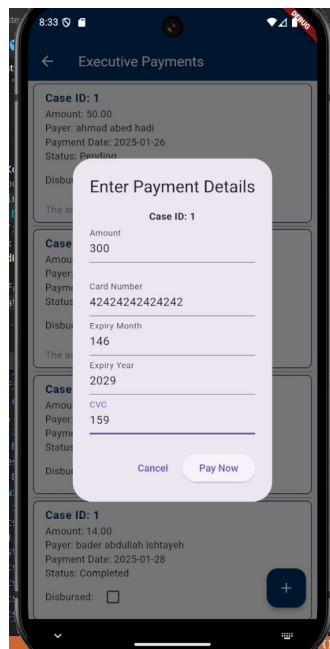


Figure 3.65: Case Details: Add Payment

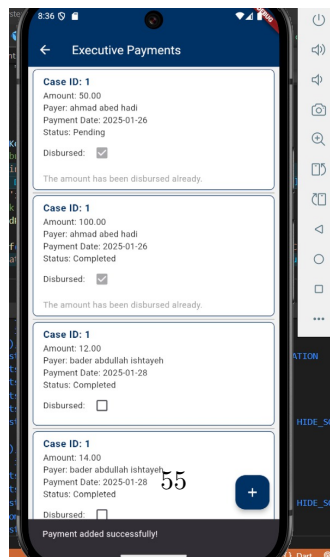


Figure 3.66: Case Details: After Add Payment

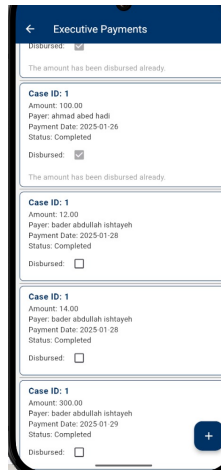


Figure 3.67: Case Details: before make Disbursed for payment

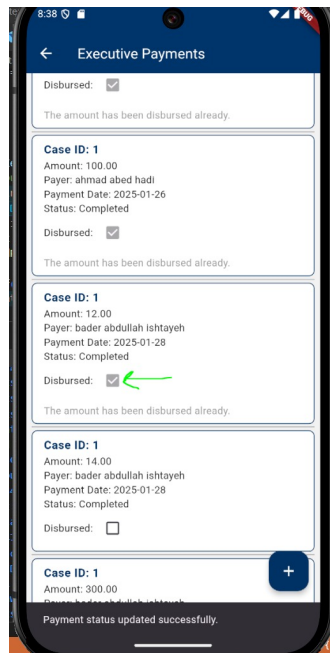


Figure 3.68: Case Details: After make Disbursed for payment

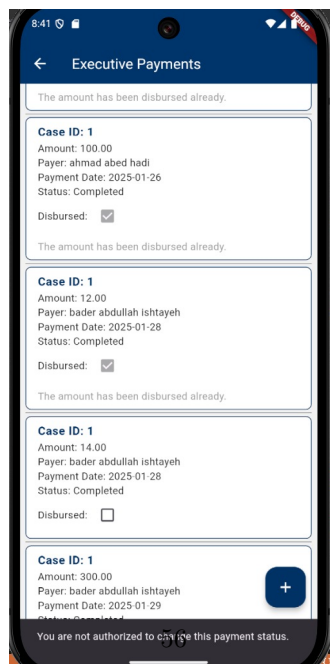


Figure 3.69: Case Details: After Attempt To make payment that not authorized



Figure 3.70: Add New Case Option

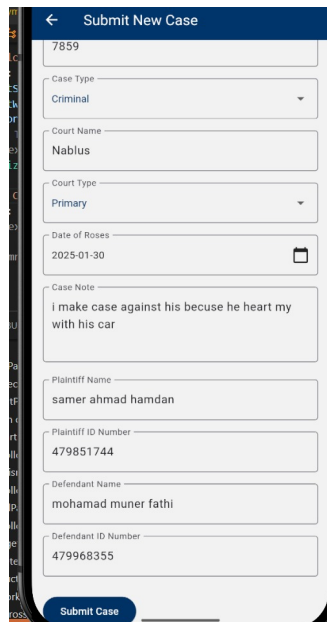


Figure 3.71: Add New Case: Enter Details

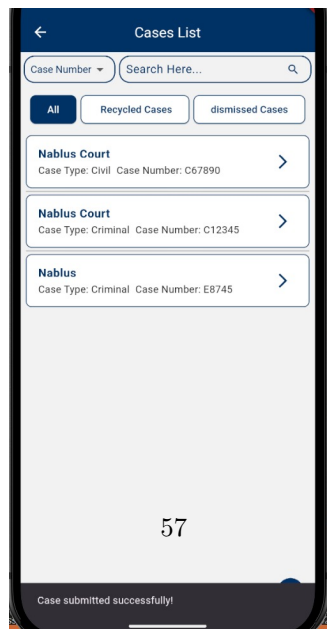


Figure 3.72: Add New Case: Submit Case

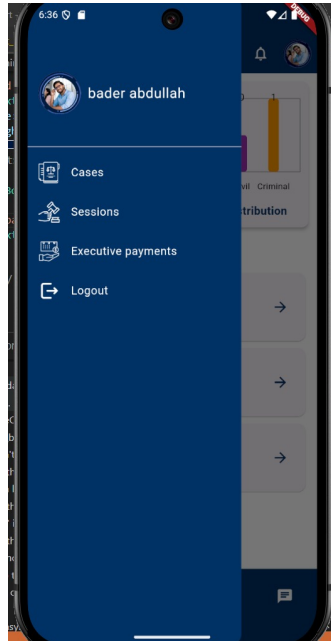


Figure 3.73: Lawyer Home Page: List View



Figure 3.74: Sessions Page: Initial View

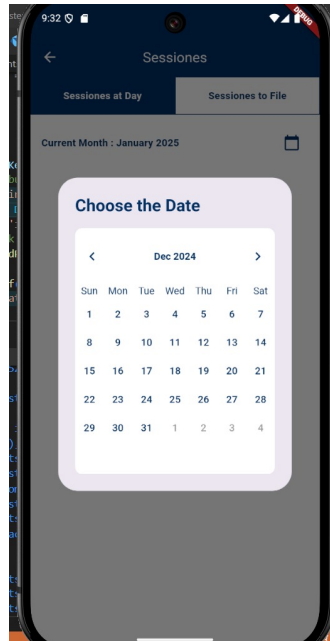


Figure 3.75: Sessions Page: Filter by Date



Figure 3.76: Sessions Page: After Filtering by Date

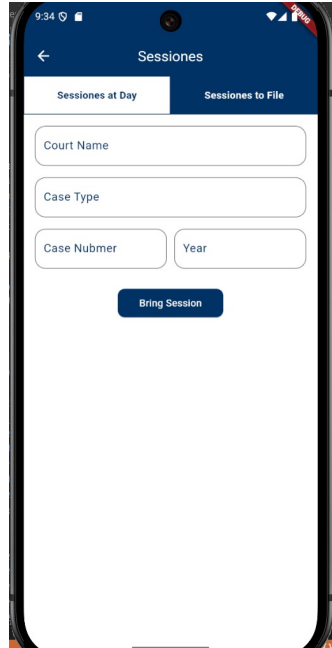


Figure 3.77: Sessions Page: Filter by File

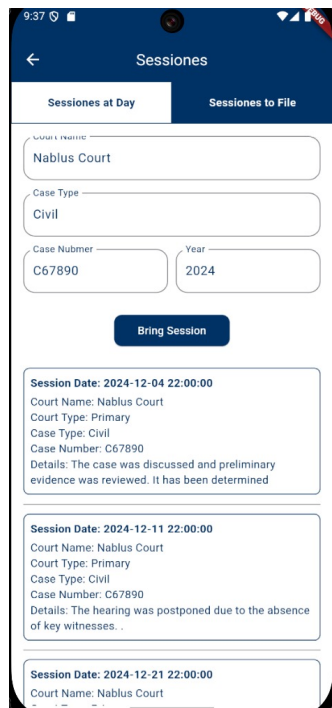


Figure 3.78: Sessions Page: After Filtering by File

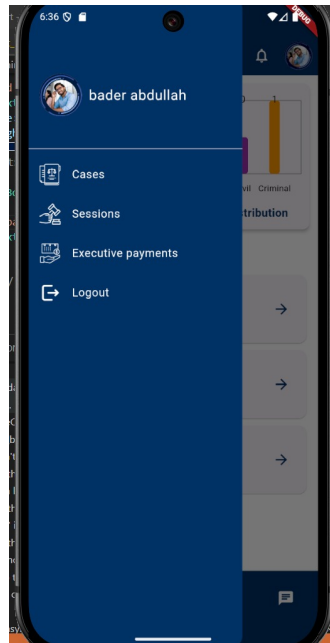


Figure 3.79: Lawyer Home Page: List View

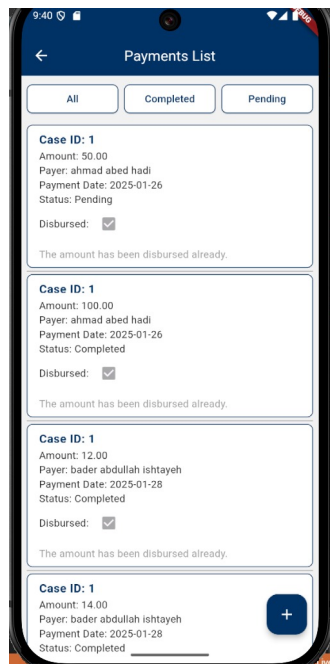


Figure 3.80: Payments Page: Initial View

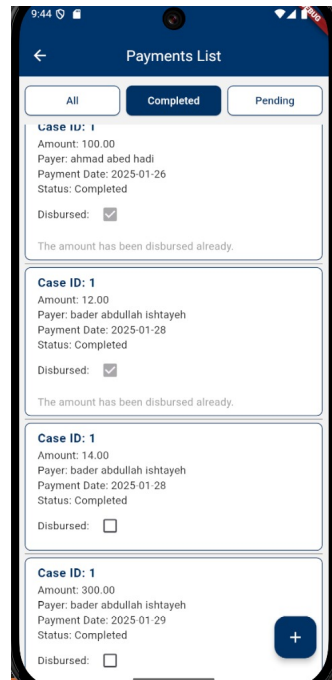


Figure 3.81: Payments Page: Filter by "Complete" Status

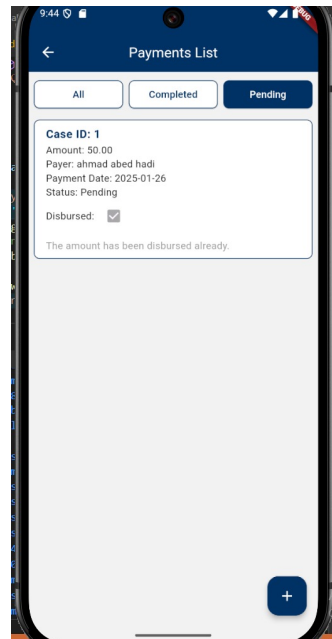


Figure 3.82: Payments Page: Filter by "Pending" Status

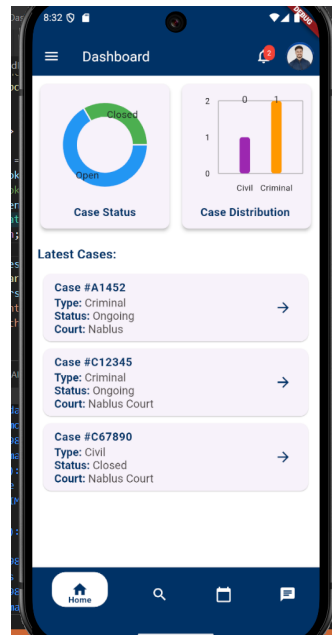


Figure 3.83: Notification Icon: notification

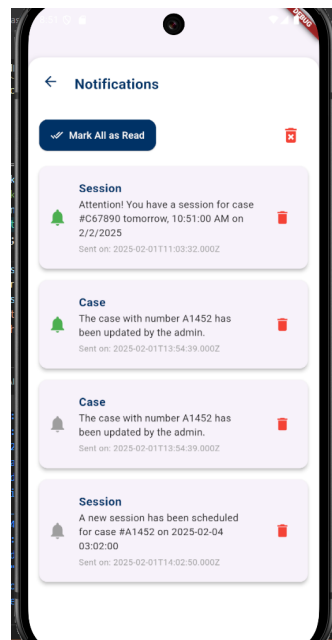


Figure 3.84: Notification Icon: all notification to the user you can change unread notification to read

Chapter 4

Result And Discussion

Thanks to God, we have successfully developed the "JustiPro" application, a platform designed to streamline the management of legal cases and provide a comprehensive solution for lawyers, clients, and administrative staff. The application enables users to efficiently manage case files, track progress, store and access important documents, and facilitate communication between all parties involved.

Users can access "JustiPro" through both mobile and web versions, offering flexibility and convenience. The app was designed with a strong focus on user experience, featuring an intuitive and easy-to-navigate interface that ensures a seamless and efficient workflow for all users. Our goal with JustiPro was to simplify the legal case management process and eliminate the need for manual paperwork and inefficient methods of communication.

With "JustiPro", users no longer need to worry about keeping track of numerous case files or searching through various documents to find important information. The application centralizes all data related to cases, clients, and legal proceedings, allowing users to access up-to-date case status, case-related documents, and communication logs in one place. This centralization not only saves time but also ensures that the data is organized and accessible whenever needed. Furthermore, the administrator's role within the system ensures constant monitoring and auditing, which helps in maintaining the smooth functioning of the application.

4.1 Constraints

Throughout the development process of "JustiPro", we encountered several challenges, each offering valuable insights and leading to solutions that improved the overall functionality of the application.

4.1.1 Case Management and Workflow Optimization

One of the major challenges was designing an efficient case management system. The application needed to handle various types of legal cases with different processes, document requirements, and deadlines. Developing a workflow that allowed users to track case statuses, document submissions, and upcoming legal events proved to be complex. To address this challenge, we implemented a task automation system that notifies users of important updates, deadlines, and document submissions, helping them stay on top of their cases without manual intervention.

4.1.2 User Interface and Accessibility

We aimed to design an application that was not only functional but also easy to use. Ensuring the application was accessible to all users, including those with disabilities, required additional considerations. We incorporated features such as adjustable font sizes, high-contrast text for visibility, and a user-friendly layout to cater to a wide range of users. Testing the user interface on various devices also presented challenges, as we wanted to make sure that the experience was smooth across both web and mobile platforms.

4.1.3 Document Management and Security

Since "JustiPro" handles sensitive legal documents, ensuring the security of these documents was a top priority. Implementing a secure document management system that ensured only authorized users could access and modify case-related documents required the integration of encryption and secure access controls. We also made sure that documents were easily searchable and could be quickly retrieved when needed. This required a comprehensive approach to organizing documents by case and ensuring proper access permissions were in place for each user role.

4.1.4 Payment and Invoice Integration

Managing payments and invoices for legal services was another challenge. The application needed to integrate with payment systems to allow clients to settle fees and track payments. Developing a secure and reliable payment system that ensured transaction records were accurately linked to the corresponding legal cases was essential. This required significant time spent on integrating third-party payment systems and testing their reliability. We also implemented automatic invoice generation based on the services rendered, simplifying the billing process for users.

4.1.5 Client Communication and Collaboration

Facilitating communication between lawyers and clients is a key feature of JustiPro, and ensuring that messages were efficiently tracked and responded to was challenging. We built a communication module that allowed users to send messages, attach case-related files, and track message history. This system helps avoid miscommunication, ensures all parties are updated on the case's progress, and reduces the need for back-and-forth emails or phone calls.

Despite these challenges, we successfully developed the "JustiPro" application with all its essential features. It has proven to be an effective tool for case management, enabling lawyers and clients to collaborate more efficiently and manage cases with greater ease. "JustiPro" has simplified legal case management by organizing tasks, improving communication, and enhancing document security, all while maintaining a focus on usability.

Chapter 5

Conclusion and Future Work

5.1 Conclusion

In conclusion, the development of the "JustiPro" application has successfully addressed the needs of legal professionals by providing an efficient and user-friendly platform for case management. By centralizing key information such as case files, client details, and case status, JustiPro has streamlined the legal workflow, making it easier for lawyers to manage cases and collaborate with clients. Additionally, the incorporation of features such as document management, task automation, secure communication channels, and integrated invoicing ensures that users can complete their tasks with minimal effort and maximum efficiency.

Despite the challenges faced during development, including managing workflows, ensuring document security, and integrating payment systems, the team was able to overcome these obstacles through careful planning, continuous testing, and iterative development. The result is a robust and scalable application that serves the needs of its users while offering a seamless experience across both mobile and web platforms.

The successful implementation of "JustiPro" reflects the potential of technology to revolutionize legal case management and improve the overall efficiency of legal practices. By reducing manual processes, increasing accessibility to case information, and ensuring secure communication and document handling, "JustiPro" contributes to enhancing productivity in legal firms.

5.2 Recommendations

While "JustiPro" has made significant strides in improving legal case management, there are several areas where further improvements can be made to enhance its functionality and usability. Based on the experience during development and initial testing, we recommend the following areas for future enhancement:

5.2.1 Cloud Integration

While the application currently does not use cloud storage, integrating cloud functionality could further improve its scalability and flexibility. Cloud integration would allow users to access documents and case files from anywhere, ensure data redundancy, and simplify data backups. It could also enable collaboration between multiple legal professionals on the same case in real-time.

5.2.2 Advanced Analytics and Reporting Features

The addition of advanced analytics and reporting tools would allow users to gain deeper insights into their cases. By incorporating data visualization tools such as charts and graphs, users could analyze case trends, monitor case progress over time, and make data-driven decisions. This feature would be particularly beneficial for law firms seeking to assess their performance and identify areas of improvement.

5.2.3 AI-Based Document Review and Automation

Integrating artificial intelligence (AI) for document review and automation could significantly improve the efficiency of legal processes. AI algorithms could be used to automatically analyze and categorize legal documents, detect errors, and provide suggestions for improvement. Additionally, AI-powered tools could assist in drafting legal documents, reducing the time and effort required for lawyers to create complex contracts or agreements.

5.2.4 Enhanced User Interface for Mobile Version

Although the mobile version of the application provides the necessary functionalities, further improvements can be made to the user interface to enhance its usability. Features such as voice input for hands-free operation, improved navigation controls, and a more responsive design for smaller devices would increase the accessibility and usability of the app, especially for users on the go.

5.2.5 Internationalization and Multi-Language Support

As legal professionals operate in a diverse range of regions, adding multi-language support to "JustiPro" would allow the application to serve users in different linguistic regions. Supporting various languages would increase the app's reach and make it more adaptable to international markets, enabling legal practices from different countries to benefit from the app's features.

5.2.6 Integration with Legal Databases

Incorporating integration with external legal databases could make "JustiPro" even more valuable for lawyers. Real-time access to up-to-date legal precedents, case laws, and regulations would allow lawyers to quickly reference relevant legal information while managing cases. This feature could save time spent on research and improve the accuracy of legal documents prepared by users.

In summary, "JustiPro" has great potential to become an indispensable tool for legal professionals, and by incorporating the above-mentioned features and improvements, it can continue to evolve and meet the changing needs of the legal industry. The team recommends focusing on enhancing scalability, improving user experience, and leveraging emerging technologies to take the application to the next level.

Bibliographic