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LEXICON LEGIS

In partial fulfilment of the requirements for the degree of

Bachelor of Science in Computer Science

Supervisor: Junaid Nasir

Department of Computer Sciences

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Certificate



We accept the work contained in the report titled

“Lexicon Legis”

written by

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as a confirmation to the required standard for the partial fulfilment of the degree of
Bachelor of Science in Computer Science.

Approved by:

Supervisor: Junaid Nasir

(Signature)

05 June, 2025

DECLARATION

We hereby declare that this project report is based on our original work except for citations and quotations which have been duly acknowledged. We also declare that it has not been previously and concurrently submitted for any other degree or award at Bahria University or other institutions.

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Lexicon Legis

ABSTRACT

In a nation where legal knowledge and professional advice is sometimes lacking, Lexicon Legis presents a revolutionary answer to Pakistan's difficult family law problems. For people as well as lawyers, negotiating problems including divorce, child custody, and alimony can be intimidating. Lexicon Legis offers contextual, precise legal counsel.

The website is meant to provide simple access to legal advice, therefore enabling people to better grasp their legal rights and alternatives. Lexicon Legis gives consumers fast and simple access to reliable legal information by including an easy-to-use legal search tool. Additionally included on the platform is a lawyer referral system that pairs consumers with appropriate attorneys depending on their particular legal requirements.

Combining artificial intelligence with Pakistani family law criteria, Lexicon Legis enables users to create free, easily available legal knowledge, therefore closing the distance between people and the legal tools they need. The platform guarantees that everyone may quickly access legal advice, which is not only relevant and useful but also This initiative seeks to transform Pakistan's legal assistance delivery by increasing accessibility, efficiency, and user-friendliness.

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CHAPTER 1

INTRODUCTION

1.1 Background

The legal system of Pakistan, especially concerning family law, is one of the most complicated and difficult areas for the average Pakistani. Matters like divorce, child custody, and alimony require specialized legal knowledge, which may not be easily accessible to those in need of such services. A lack of conventional means also aids the problem, where legal services are regarded as costly, tedious, and limited in scope, which leaves many without the necessary guidance. Recent surveys have indicated that a considerable portion of the Pakistani population, especially those in rural areas, lack access to educational and legal resources. These gaps particularly in family law, which applies to the lives of millions of people, are fuelling the demand for easy-to-access and affordable legal services.

The law of Pakistan, like all laws, is greatly influenced by religion, customary practices of the territories, and other statutory laws; so, navigating without legal help can prove to be very difficult. For instance, the Muslim Family Laws Ordinance, 1961 makes provision for marriage, divorce, and inheritance; but its scope is not limited to the mere providing as it often varies extensively with respect to its application. In family law, especially in divorce or child custody matters, understanding one's legal rights is exceptionally difficult, especially for women as well as the economically weaker sections of the society. Rooted in the need for basic, obtainable legal help that is reasonably priced, this presents a puzzling contradiction to many legal experts. [14]

1.2 Problem Statements

Especially in the field of family law, the Pakistani legal system is difficult and demanding for the ordinary person to handle. Combining legislative regulations, religious beliefs, and local customs helps to address difficulties including divorce, child custody, alimony, and inheritance, so generating a legal environment that is periodically confusing and unreachable to individuals without particular knowledge. Many people, especially women and poor groups, find great trouble knowing their legal rights and options; this drives ongoing legal conflicts, financial pressure, and emotional misery (UN Women Pakistan, 2021; Aurat Foundation, 2011).

One of the fundamental flaws in Pakistan's legal system is the dearth of fairly reasonable, readily available legal education. Conventional legal services can be expensive; court and attorney costs actually bite customers. Many, especially from low-income homes, just cannot afford legal assistance (UNDP Pakistan, 2012). Since most skilled solicitors live in cities and overlook rural areas, the legal services aggravate this costly barrier. Many people are consequently driven to negotiate the legal system on their own, generally without knowing their rights or the matching legal procedures (Gallup & Gilani Pakistan, 2020).

Another major issue is lack of context-specific, real-time legal advice. Like Legal Ease, Pakistani present legal systems offer a great wealth of information that might not be relevant to the local legal scene of the user. For example, a user seeking direction on divorce might have a general awareness of the legal system but lack prior knowledge of Pakistani family law, so this advice might be absent or erroneous. Absence of regional guidance could lead to misinterpretation and incorrect legal decisions, therefore increasing the legal situation of the user. Moreover, limiting their utility and accessibility for a wider audience are some contemporary systems' absence of real-time lawyer recommendations (Zia, 2018).

These problems are increasingly relevant for society. Lack of freely available legal direction can lead to extended fights, financial problems, and emotional anguish for all the involved parties in divorce or child custody (UNDP Pakistan, 2012). Particularly women suffer in family law since they could lack the means or legal knowledge to effectively exercise their rights. This not only prolongs gender inequality but also jeopardizes the effectiveness of the whole legal system in managing family law issues. By providing easily available and reliable legal advice.

Apart from personal issues, lawyers fight to offer speedy and effective legal aid. Given the volume of cases and complexity of family law, lawyers struggle to provide every client tailored attention. Problems in client satisfaction arising from this and case resolution can emerge from by way of a lawyer referral system matching clients with solicitors depending on their specific legal needs, Lexicon Legis aims to solve this issue so ensuring that clients obtain professional counsel and that lawyers can better regulate their caseloads.

Pakistan's lack of legal understanding and awareness finally renders access to justice somewhat difficult. Many people are unaware of their legal rights or the procedures applied to resolve conflicts. Sometimes this ignorance causes misinterpretation and incorrect court decisions, therefore exacerbating the legal situation of the user. Lexicon Legis seeks to solve this by providing a searchable family law rule database, therefore giving customers with the knowledge needed to make sensible decisions. [15]

1.3 Aims and Objectives

Lexicon Legis's aim is to convert Pakistan's legal aid system, especially in relation to family law, hence changing the way it is. Using artificial intelligence (AI), the platform aims to make legal advice readily available, effective, and user-friendly for both people and lawyers. The project empowers users with the knowledge and tools they need to properly negotiate their legal matters. It is driven by a set of well-defined goals that requires to solve the problems of accessibility, affordability, and complexity in the system.

1. Create a platform driven by artificial intelligence for legal advice.
2. Use a lawyer referral system.
3. Verify Localised Legal Consultancy
4. Improve accessibility and user-friendliness
5. Encourage legal system efficiency
6. Reach other spheres of law
7. Guarantee scalability
8. Encourage Cooperation Among Lawyers

1.4 Scope of Project

With an eye on problems including divorce, child custody, and alimony, Lexicon Legis mostly addresses the difficulties of Pakistani family law. Using artificial intelligence (AI) technology, the platform is meant to offer precise, context-specific legal advice. Lexicon Legis wants to close the gap between those looking for legal help and competent solicitors by using these cutting-edge technologies, therefore enabling more user-friendly legal advice.

The main purpose of the platform is to give users, depending on their particular searches, real-time legal advice. Users can ask legal questions. Lexicon Legis also features a lawyer referral system that links users with attorneys particular in the field of family law according to their need. This guarantees that customers are linked with the appropriate legal expert, therefore raising the possibility of a positive result in their legal affairs.

Lexicon Legis is unique in that it emphasizes localized legal guidance. The platform is made to grasp and analyze the problems of Pakistani family law, which is mostly shaped by local customs and religious values as well as the Muslim Family Laws Ordinance, 1961. This guarantees that the platform's recommendations are not only accurate but also pertinent for the particular legal setting of Pakistan. In circumstances of divorce, for instance, the platform can offer direction on the legal criteria for filing a divorce, the rights of both parties, and the processes for settling conflicts about child custody and alimony.

Lexicon Legis also encompasses potential developments into other spheres of law, including labour law, criminal law, and property law. Lexicon Legis can become a complete legal aid solution that meets a broad spectrum of legal demands by including pertinent legal datasets and extending the platform's AI capabilities. In the context of property law, for instance, the platform might offer direction on tenant rights, inheritance rules, and property conflicts. In the framework of criminal law, too, the website might provide guidance on legal processes and accused rights. Furthermore, designed to be scalable is the platform. Blockchain technology might be included on the platform to guarantee legal document and transaction integrity and

security. These sophisticated tools would improve the capacity of the platform even more and equip it as a more effective instrument for legal help.

Lexicon Legis is made to be user-friendly and easily available to anyone with different degrees of technical knowledge. The straightforward and easy-to-use interface of the platform guarantees that even people without legal or technological experience may make efficient use of it.

At last, Lexicon Legis covers legal professionals and law students in addition to individual consumers. For lawyers, the website offers fast access to legal statutes, case law, and other pertinent information, therefore acting as a useful resource. Lexicon Legis can be a great learning aid for law students since it clarifies the useful application of family law. Lexicon Legis can influence the Pakistani legal community more broadly by serving these extra user groups.

CHAPTER 2

LITERATURE REVIEW (and/or SRS)

2.1 Introduction

Driven by technical advancements and increasing demand for readily available legal services, the worldwide scene of legal help platforms has lately demonstrated incredible expansion. Popular websites like AI Lawyer, Legal Nature have drawn clients with their quick and reasonably priced legal solutions. These websites offer a range of services from document preparation and legal templates to AI-powered chatbots able to answer basic legal questions. Although these websites have been successful in simplifying consumer legal processes in developed countries, their applicability inside Pakistan's legal system is minimal.

Though just a few sites offer basic legal services and Pakistan's legal aid scene is still in its growing years. Lexicon legis is one such tool giving consumers access to legal knowledge and uniform legal document templates. Legal Ease lacks complex elements like artificial intelligence-driven legal advice, real-time attorney suggestions, which are needed for offering context-specific counsel in a convoluted legal system like. Sometimes customers receive generic information that might not be relevant to their individual legal situation, which causes misinterpretation and false legal conclusions.

Furthermore, Lexicon Legis crosses the limitations of present systems by offering a searchable database of family law regulations and teaching resources. By helping users to obtain the knowledge needed to make good legal judgements, this focus on education serves to reduce the possibility of misunderstandings and erroneo legal acts.

Lexicon Legis stands out largely from others by giving scalability first importance. Although present systems usually have a limited reach, Lexicon Legis is supposed to enable future developments into other domains of law, including labour law, criminal law, and property law. This scalability ensures that, should the legal environment evolve, the platform remains relevant and useful since it provides consumers with access to legal counsel in numerous spheres. [16]

2.2 AI within Legal Systems

Rising as transformative technologies in the legal sector, artificial intelligence (AI) offers novel methods to assess, grasp, and manage legal data. More precisely, quickly available, and efficient these technologies could totally change the way legal services are given.

2.3 Challenges of Pakistan Family Law

Legislative norms, local practices, and religious values help to define the varied and complex field of Pakistani family law. The background shapes the interpretation and application of the Muslim Family Regulations Ordinance, 1961 even if it offers the basic legal framework managing family concerns like marriage, divorce, child custody, and inheritance. For individuals in Pakistan handling family law issues, this intricacy mixed with systematic issues including limited access to legal resources, a backlog of cases, and poor legal literacy creates enormous challenges. [17]

2.3.1 The diverse nature of the legal system

The complexity of the legal system causes one of the key challenges in Pakistani family law. Combining statutory regulations, Islamic principles, and regional standards defines family law in Pakistan, so making it difficult for people to understand their rights and responsibilities. For divorce, for example, demands many legal procedures including registration of the divorce with the relevant authorities, issuing of a Talaq (divorce pronouncement), and resolution of

problems with child custody and alimony. Each one of these acts is under regulation by certain legal clauses, which can compound talks without competent guidance onerous.

Moreover, affecting the knowledge of family law is the jurisdiction and court rulings. Regarding child custody, for example, the courts typically give the child's best interests high priority; nonetheless, the concept of what really counts as the "best interests" could vary greatly. Consistent application of family law leaves people in doubt and makes it challenging for them to project the outcome of their legal processes.

2.3.2 Limited Access to Legal Resources

Still another major barrier is restricted access to legal resources, particularly in rural areas. Many times, concentrated in cities, qualified family lawyers leave rural areas abandoned. This geographical difference hampers life for those in rural locations who would have to drive considerable miles in quest of legal assistance. Furthermore, restricting low-income people's access to legal assistance is the sometimes-outrageous cost of legal services. The widespread poor legal literacy of the people aggravates the few legal resources accessible. Many people, especially women and underprivileged groups, are not aware of their legal rights or the approaches applied in resolving family conflicts. Sometimes this ignorance leads to misinterpretation and false court decisions, therefore increasing the personal legal problem. A woman seeking a divorce, for example, would not be aware of her claim to Khula kind of divorce launched by the wife or the procedural guidelines for submitting a divorce petition, therefore generating delays and meaningless legal disputes.

2.3.3 Court System Load

The backlog of cases Pakistan's judicial system carries also a significant impact on the outcome of family law disputes. Overwhelmed with cases, the courts slow down the determination of family law conflicts. Particularly for women and children depending on quick legal decisions for their financial and emotional well-being, these delays can have major impact in situations calling for child custody or alimony.

Lack of specific family courts in many parts of the country aggravates the case backlog. Although family courts have been established in various cities, their presence in rural regions is limited. Many times, this lack of specialized courts causes family law matters heard in regular civil courts to be handled by judges lacking the skills or knowledge required to fairly handle family law problems. Cases could thus be postponed or resolved without complete awareness of the intricacy engaged.

2.3.4 The reversed gender roles in family law

In Pakistani family law, gender inequality creates a significant barrier particularly in relation to divorce, child custody, and inheritance. Especially in cases of inheritance or divorce, women sometimes experience great difficulties asserting their legal rights. For example, even if the law allows women to pursue Khula, the process is sometimes plagued with challenges like public stigma, misconception, and legal procedural delays.

Sometimes women battle with child custody, particularly if they rely on their spouses financially. Usually, the courts award the mother custody of tiny children; but, this is not always assured, particularly if the mother is considered unfit or unable of providing for the needs of the kid. For women, getting alimony or maintenance from past partners is another challenge particularly if the spouse is unfriendly or reluctant to help financially.

2.3.5 Impact of Local Customary Practice and Norms

Another great challenge for Pakistan is how local culture and societal expectations affect family law. Social behavior and cultural conventions could jeopardize several liberties and defenses provided by the legal system. Under conditions of inheritance, for example, social pressure or generally accepted conventions can occasionally deny women their due share of property. Women also endure significant social shame and fight to defend their legal rights in divorce.

Local customs have especially great influence in rural areas, where traditional knowledge often rules over official policies. For example, jirgas, or traditional tribal councils, often settle family law disputes in rural areas, therefore circumventing the official legal system. Especially in issues involving women's rights, these traditional approaches might not have the justice and openness of the official court system even if they might provide quick remedies.

2.3.6 Lack of awareness of legal education

Pakistani access to justice is much hampered by legal awareness and education. Many people especially in rural areas do not know their legal rights or the procedures needed to resolve family problems. Sometimes this ignorance leads to misinterpretation and false court decisions, therefore increasing the personal legal problem. For example, a woman seeking a divorce might not know her right to Khula or the legal requirements for filing a divorce litigation, therefore resulting in delays and unnecessary legal complexities.

Especially among women and impoverished groups, who often have extra challenges acquiring legal resources, the lack of legal awareness is rather obvious. Rural women, for example, would be prone to unfairness and maltreatment as they were unaware of their rights to inheritances or

maintenance. Similarly, those from low-income backgrounds could lack the wherewithal to receive legal guidance, therefore limiting their access to justice.

2.3.7 Inefficiencies in Legal Procedures

Still another main challenge in Pakistani family law is the shortcomings in the court system. Cases endure years; hence the court system is sometimes convoluted and time-consuming. In family law, this is particularly problematic when speedy resolution is really important. In cases of child custody, for example, delays in the legal system can have major consequences on the well-being of the child, particularly should the child get stuck in the Centre of a horrific conflict between parents.

Lack of alternative conflict resolution mechanisms like arbitration or mediation aggravates the weaknesses in the judicial system. These websites might offer Pakistan restricted access but speedier and more reasonably priced solutions for family law problems. Many family law issues so are resolved by protracted and expensive court procedures, so taxing the court system and the involved parties.

2.3.8 Social stigma and cultural challenge

Pakistani family law especially in cases involving divorce and child custody faces great challenges from cultural constraints and society shame. Particularly in traditional societies, divorce seeking women could suffer from great social shame. Women who demand their legal rights may be determined by this stigma, hence caught in unsatisfactory or violent partnerships. In terms of child custody, too, social standards might support the father especially in cases involving older or male children.

Rural areas clearly reveal cultural challenges to achieve justice since traditional values and community conventions can control statutory legislation. Rural women, for example, can be under pressure to resolve family law disputes via jirgas or other traditional means, which usually lack the objectivity and openness of the formal legal system. This can particularly leave women vulnerable to unfairness and exploitation in circumstances calling for

inheritance or support.

2.3.9 Expert Legal Deficit

Lack of specialized lawyers is another main problem in Pakistani family law. Though Pakistan has many capable lawyers, few especially in rural areas specialize in family law. Many times, this lack of knowledge results in people obtaining either inadequate or general legal advice not fit for their specific situation. Moreover, the lack of some legal understanding could lead to delays in the resolution of family law problems since regular practitioners might lack the skills or information required to effectively handle challenging family law matters.

2.3.10 Demand for Legal Reforms

The challenges in Pakistani family law highlight the need of legislative reforms to address the structural issues restricting the access to justice. Among these developments are efforts for legal education and awareness, alternative dispute resolution mechanisms, and more specialist family courts. Moreover, the legal system has to be more gender sensitive especially in issues influencing women's rights.

2.4 System Use Cases

Lawyer Interactions:

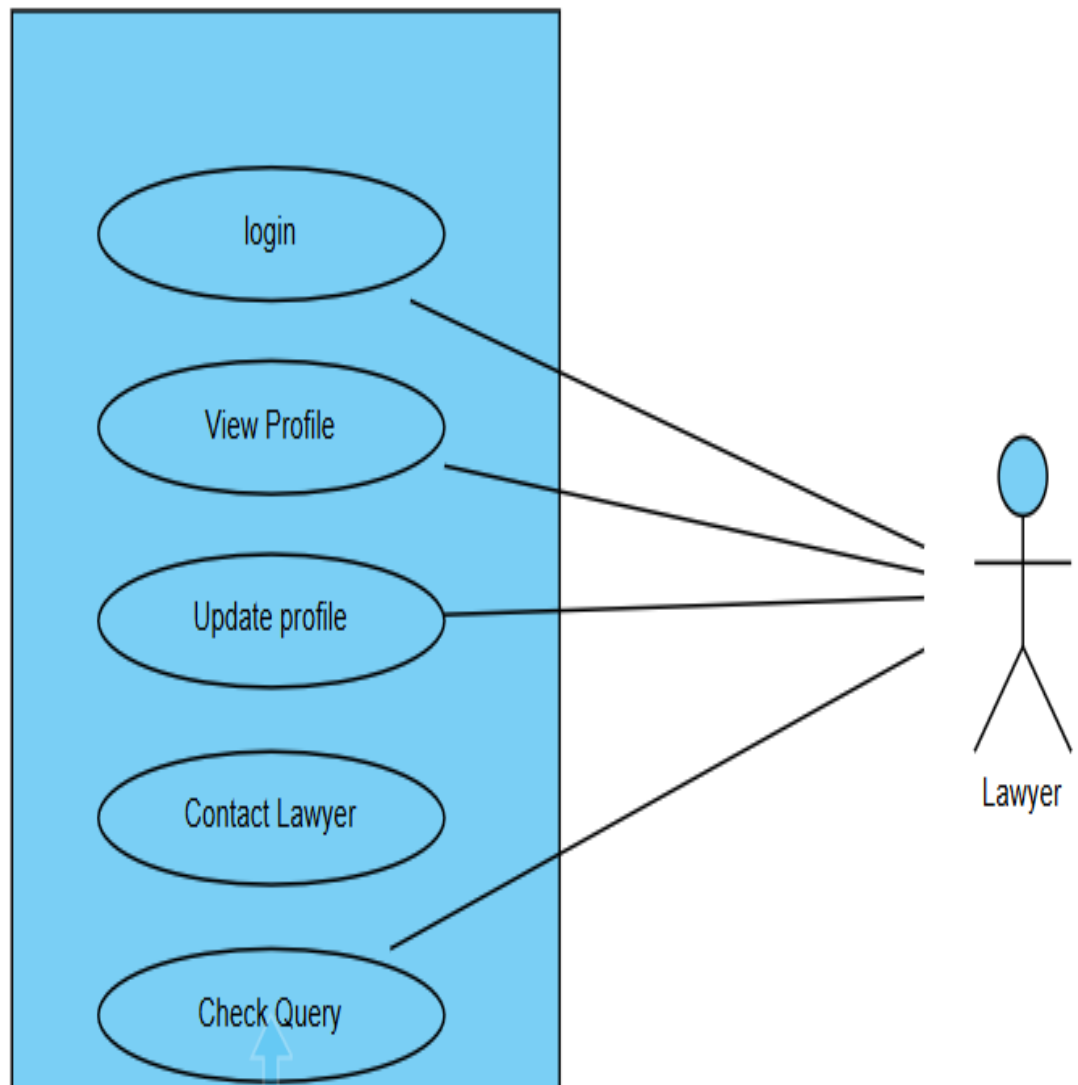
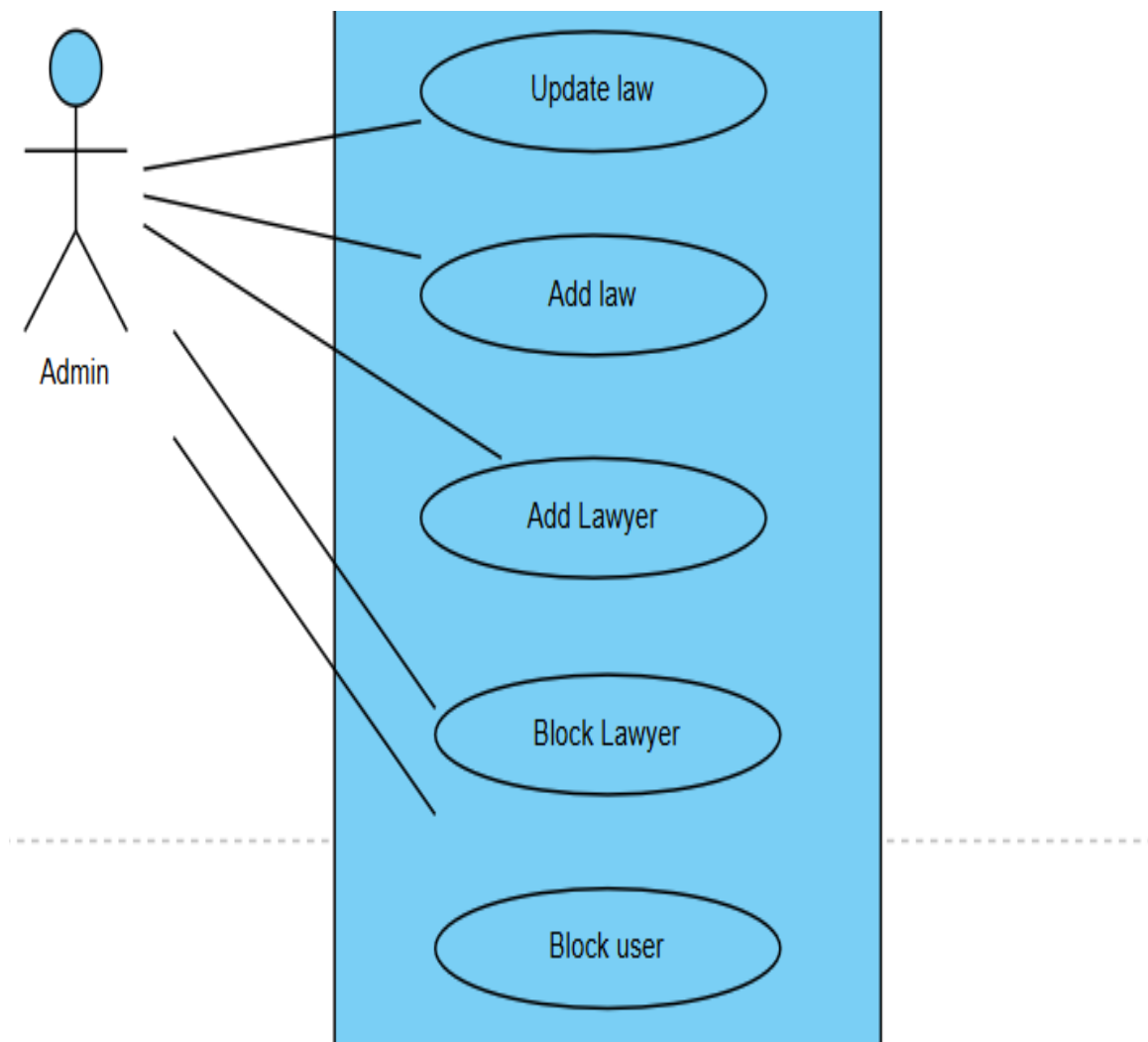
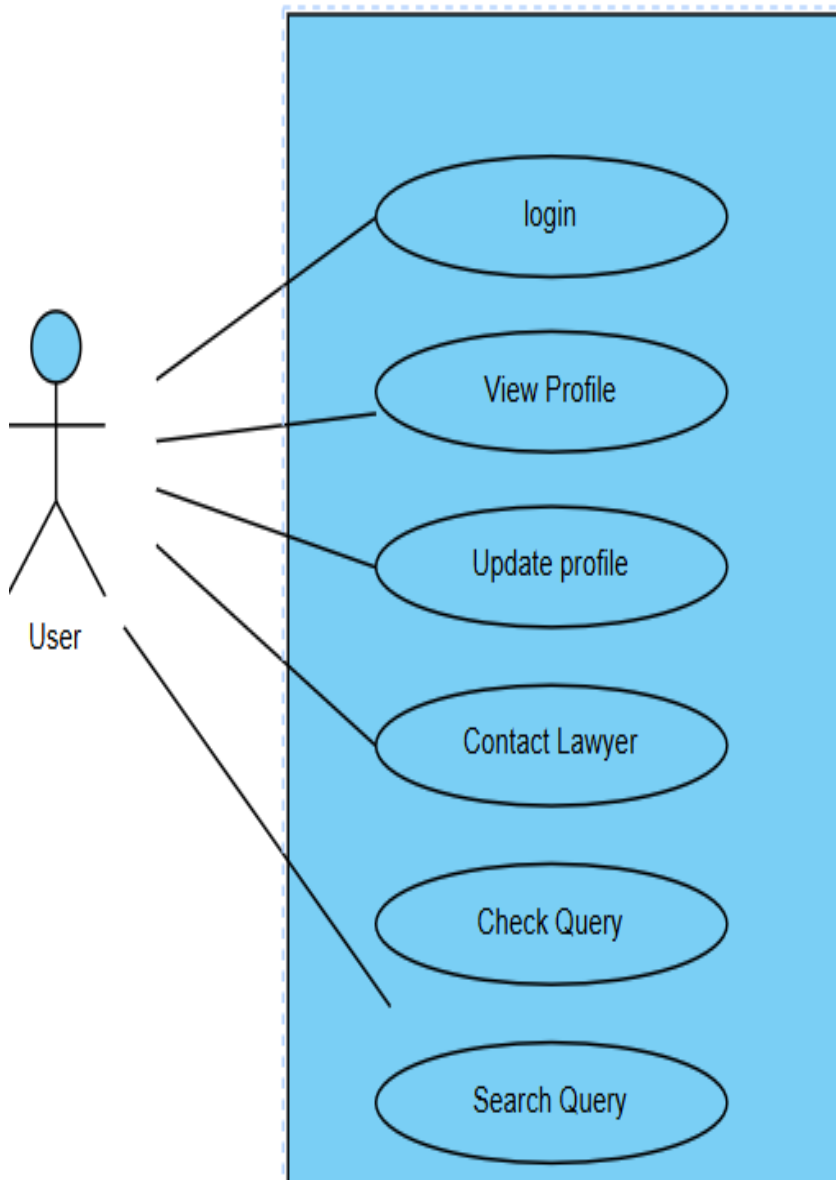


Figure 2.1: System Use Case

This is a use case diagram focusing on the Lawyer role in a legal assistance system. It shows the user interacting with five main functions, logging in, view and update the profile, contact lawyer and check query.

Admin Functionalities:**Figure 2.2: Admin Functionalities**

This is a use case diagram focusing on the admin role in a legal assistance system. It shows the user interacting with five main functions, logging in, Add and update the law, add and block lawyer, block user.

User Interactions:**Figure 2.3: User Interaction**

This is a use case diagram focusing on the User role in a legal assistance system. It shows the user interacting with six main functions, logging in, viewing and updating their profile, contacting a lawyer, checking queries, and searching queries. Each use case represents a key functionality accessible to a registered user.

System Use Case

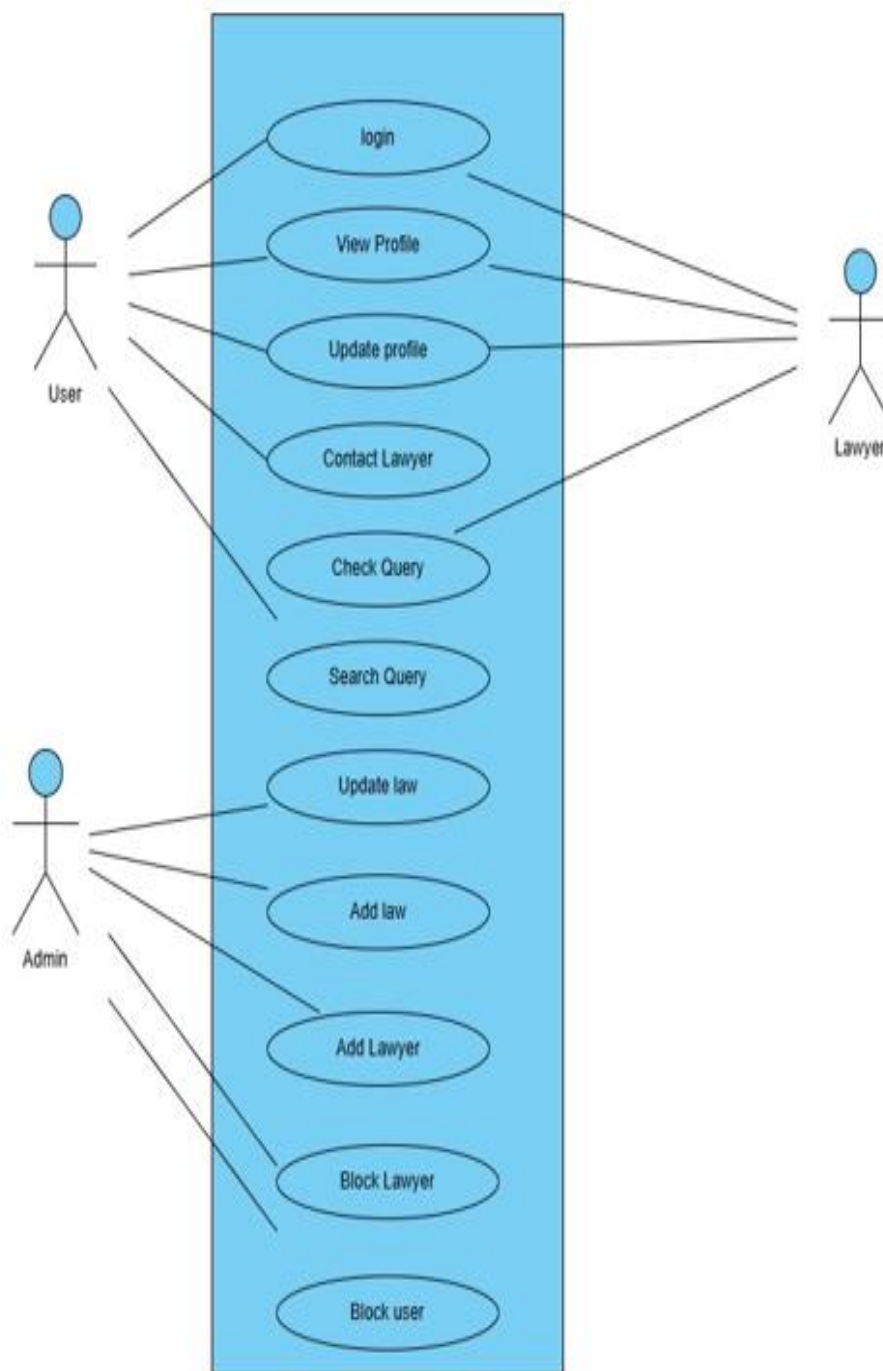


Figure 2.4: System Use Case

This is a use case diagram for a legal assistance system. It shows three actors, user, Lawyer, and Admin each interacting with various system functions such as login, profile management, legal query handling, and law updates. Admin has additional privileges like adding laws/lawyers and blocking users or lawyers.

2.5 System Use Case Tables

Table 2.1 Sign Up for User

Use Case	Sign Up for User
Use Case ID	UC-001
Actors	User
Priority	High
Description	Allows a user to create an account
Success Scenario	<ol style="list-style-type: none"> 1. User accesses the signup page. 2. User enters valid personal details (Email, password, etc.). 3. System validates the information provided.
Includes	-
Extends	-
Pre-Condition	User has access to the signup interface.
Post Condition	User account is created and accessible for login.

Supported by:

[1] K. D. Ashley, *Artificial Intelligence and Legal Analytics*

[12] PkLawNotes – Legal notes used to populate user-facing features

This table describes the Sign Up for User use case (Use Case ID: UC-001) in a legal assistance system. It outlines the process where a User creates an account by entering valid personal details on the signup page. The system then validates the information, and upon success, a new user account is created. The use case has a high priority, with the pre-condition being access to the signup interface and the post-condition being a successfully created and login-ready account.

Table 2.2 Sign-Up Lawyer

Use Case	Signup for Lawyer
Use Case ID	UC-002
Actors	Lawyer
Priority	High
Description	Lawyers registering for an account on the platform
Success Scenario	<ol style="list-style-type: none"> 1. Lawyer accesses the signup page. 2. Enters personal and professional details. 3. Creates a mail/password.
Includes	-
Extends	-
Pre-Condition	Lawyer accesses signup page.
Post Condition	Lawyer account is successfully created.

Supported by:

[\[3\]](#) M. H. Malik – Context of legal professional workflows in Pakistan

[\[12\]](#) PkLawNotes – Integration of local legal education material

This table defines the Signup for Lawyer use case (Use Case ID: UC-002) in the system. It involves a Lawyer registering on the platform by accessing the signup page, entering both personal and professional details, and setting up login credentials. The use case holds high priority, with the pre-condition being access to the signup page and the post-condition being the successful creation of a lawyer account.

Table 2.3 Sign-Up for Admin

Use Case	Signup for Admin
Use Case ID	UC-003
Actors	Admin
Priority	High
Description	Admin registers for an account.
Success Scenario	<ol style="list-style-type: none"> 1. Admin accesses signup page. 2. Admin enters necessary details (name, email, password, etc.). 3. System verifies and creates admin account.
Includes	-
Extends	-
Pre-Condition	Admin accesses signup page.
Post Condition	Admin account is successfully created.

Supported by:

[\[3\]](#) Pakistan Code – Admins may manage access to legal documents

[\[1\]](#) K. D. Ashley

The Signup for Admin use case (Use Case ID: UC-003) in the system. It describes how an Admin creates an account by accessing the signup page and providing essential information like name, email, and password. The system verifies the input and creates the account. The use case is marked as high priority, with the pre-condition being access to the signup interface and the post-condition being the successful creation of an admin account.

Table 2.4 User Login

Use Case	User Login
Use Case ID	UC-004
Actors	User
Priority	High
Description	User logs into the system
Success Scenario	User enters valid credentials
Includes	Email, Password
Pre-Condition	User account exists
Post Condition	User is logged into the system.

Supported by:

[\[1\]](#) K. D. Ashley – Describes user authentication in legal tech systems

[\[11\]](#) Arxiv.org – Use of pre-trained models can be applicable in identity verification

This table describes the User Login use case (Use Case ID: UC-004) in the system. It involves a User accessing the platform by entering valid login credentials, specifically email and password. The use case is of high priority, with the pre-condition being that the user already has an account. Upon successful authentication, the post-condition is that the user is logged into the system.

Table 2.5 Lawyer Login

Use Case	Lawyer Login
Use Case ID	UC-005
Actors	Lawyer
Priority	High
Description	Lawyer logs into the system
Success Scenario	Lawyer enters valid credentials
Includes	Email, Password
Extends	Forget Password
Pre-Condition	Lawyer account exists
Post Condition	Lawyer is logged into the system.

Supported by:

[1] K. D. Ashley

[3] M. H. Malik – Lawyer-specific access

[\[12\]](#) PkLawNotes – For lawyer dashboard linking to legal content

This table outlines the Lawyer Login use case (Use Case ID: UC-005) within the system. It enables a Lawyer to access their account by entering valid email and password credentials. This high-priority use case also extends the "Forget Password" functionality for account recovery. The pre-condition is that the lawyer's account already exists, and the post-condition is a successful login to the system.

Table 2.6 Admin Login

Use Case	Admin Login
Use Case ID	UC-006
Actors	Admin
Priority	High
Description	Admin logs into the system
Success Scenario	Admin enters valid credentials
Includes	Email, Password
Pre-Condition	Admin account exists
Post Condition	Admin is logged into the system.

Supported by:

[10] Pakistan Code

[13] Supreme Court of Pakistan

This table describes the Admin Login use case (Use Case ID: UC-006) in the system. It allows an Admin to log in by entering valid email and password credentials. The use case is marked as high priority, with the pre-condition being the existence of an admin account. The post-condition is a successful login, granting the admin access to the system.

Table 2.7 User Update Profile

Use Case	Update Profile
Use Case ID	UC-007
Actors	User
Priority	High
Description	User updates their profile information.
Success Scenario	1. User selects 'Edit Profile. 2. User modifies information. 3. User saves changes.
Includes	-
Extends	-
Pre-Condition	User is logged in.
Post Condition	User profile information is updated.

Supported by:

[1] K. D. Ashley – AI-assisted personalization in legal systems

[4] M. Kamiran and T. Calders Relevant for bias-aware user data updates

The Update Profile use case (UC-007) allows a logged-in user to modify their personal information by selecting the Edit Profile option, making the necessary changes, and saving the updated details. This high-priority functionality ensures users can maintain accurate and current profile data, enhancing user experience and system reliability. Upon successful completion, the system reflects the changes, confirming that the user's profile has been updated.

Table 2.8 Lawyer Update Profile

Use Case	Update Profile
Use Case ID	UC-008
Actors	Lawyer
Priority	High
Description	Lawyers update their profile info.
Success Scenario	Lawyer navigates to profile update section.
Includes	-
Extends	-
Pre-Condition	Lawyer is logged in.
Post Condition	Lawyer profile information is updated.

[3] M. H. Malik

[5] D. Katz et al. – Use of lawyer data for legal behavior modelling

Use Case UC-008 allows logged-in lawyers to edit and update their professional profile information. Lawyers navigate to their profile section, modify details like qualifications or contact info, and save changes. The system immediately reflects updates, ensuring profile accuracy.

Table 2.9 Admin Update Profile

Use Case	Update Profile for Admin
Use Case ID	UC-009
Actors	Admin
Priority	High
Description	Admin updates their profile details.
Success Scenario	<ol style="list-style-type: none"> 1. Admin navigates to the profile update section. 2. Admin modifies the necessary profile information. 3. Admin saves the changes successfully.
Includes	-
Extends	-
Pre-Condition	Admin is logged in.
Post Condition	Admin profile is updated successfully.

Supported by:

[\[10\]](#) PakistanCode

[13] Supreme Court of Pakistan

The Update Profile for Admin use case (UC-009) enables authenticated administrators to modify their profile details by navigating to the update section, editing relevant information, and saving changes. This high-priority functionality ensures admins maintain accurate account details, with updates reflected immediately upon successful submission. The process requires no additional sub-processes or extensions, operating as a straightforward profile management feature for system administrators.

Table 2.10 Admin Functionalities

Use Case	System Settings
Use Case ID	UC-010
Actors	Admin
Priority	Low
Description	Admin manages system settings and configurations.
Success Scenario	Admin modifies system settings based on requirements.
Includes	-
Extends	-
Pre-Condition	Admin is authenticated.
Post Condition	Settings modified successfully.
Extends	-
Condition	User is logged in

Supported by:

[1] K. D. Ashley – Admin control over legal content automation

[6] M. Barkat & P. K. Varshney – Decision-making in signal-based systems

[10] Pakistan Code

The System Settings use case (UC-010) allows authenticated administrators to modify and manage system configurations as needed. While classified as low priority, this functionality ensures proper system customization and control, with changes taking effect immediately upon successful updates. The process requires admin authentication but involves no additional sub-processes or extensions, providing straightforward system management capabilities.

2.6 Non-Functional Requirements

The platform should provide a responsive user experience, with pages loading within 2 seconds to ensure user satisfaction.

CHAPTER 3

DESIGN AND METHODOLOGY

3.1 System Architecture

Modular architecture of the Lexicon Legis platform guarantees scalability, security, and effective functionality. The system consists mostly in the following elements:

3.1.1 Frontend:

The main user interface is the frontend, which offers a quick and easy access. Bootstrap is used in development guarantees and responsive interface. The main characteristics consist in:

- Text Input: lets users specify their searches, which are text-based transcription.
- Users may enter their legal searches either free-text or on a structured form.
- Lawyer Profile Viewing: Shows comprehensive profiles of lawyers including experience and credentials.

3.1.2 Backend

ASP.NET Core is used for backend development, taking use of its strong foundation to oversee central platform features:

- Combines ASP.NET Web API to classify legal inquiries such as those related to divorce or custody.
- Data modelling and query management using Entity Framework Core
- Using Lucene.Net, which is use to search data from database
- Using APIs of DeepInfra service for AI chatbot

3.1.3 Databases:

Legal references, user data, and attorney profiles are kept and managed from a MySQL database. High availability and security aspects of the database are intended to be present including:

- User Data Storage: Retails user profiles, authentication credentials, and query histories.
- Lawyer Profile Management: Lists case history, qualifications, knowledge, and experience of lawyers.
- Legal Resource Repository: Comprising government rules, case precedents, and legal papers.

3.1.4 Preprocessing and Data Collection

To improve accuracy and dependability, legal data is compiled from many legislative sources, court decisions, and legal knowledge bases. Legal interpretations are guaranteed consistency and relevance in preparatory stages. Data cleansing removes redundant, antiquated, or contradicting legal books. Normalizing legal jargon into consistent language can help one understand it more easily.

3.1.5 Lawyer Referral System

Based on knowledge and availability, the platform uses a lawyer referral system to link consumers with the most appropriate legal practitioners. The main elements consist of:

- Expertise-Based Matching: Based on their area of expertise and finds pertinent lawyers.

3.1.6 Live chat and User Interaction

The platform combines real-time live chat tools to enable users to safely interact with legal professionals, therefore promoting flawless user engagement. Important traits comprise:

- Instant Messaging: Real-time text communication lets consumers obtain legal counsel.
- Multimedia Support: Let users talk to distribute legal documents and proof.
- Automated Chatbot Support: offers first direction prior to human legal action.

3.2 Lawyer Login Process

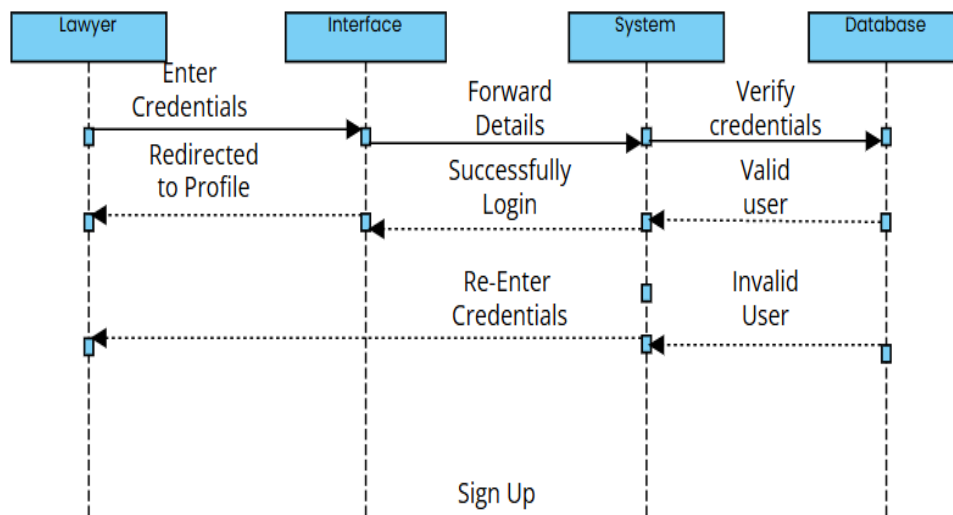


Fig 3.1: Lawyer login process

3.3 User Login Process

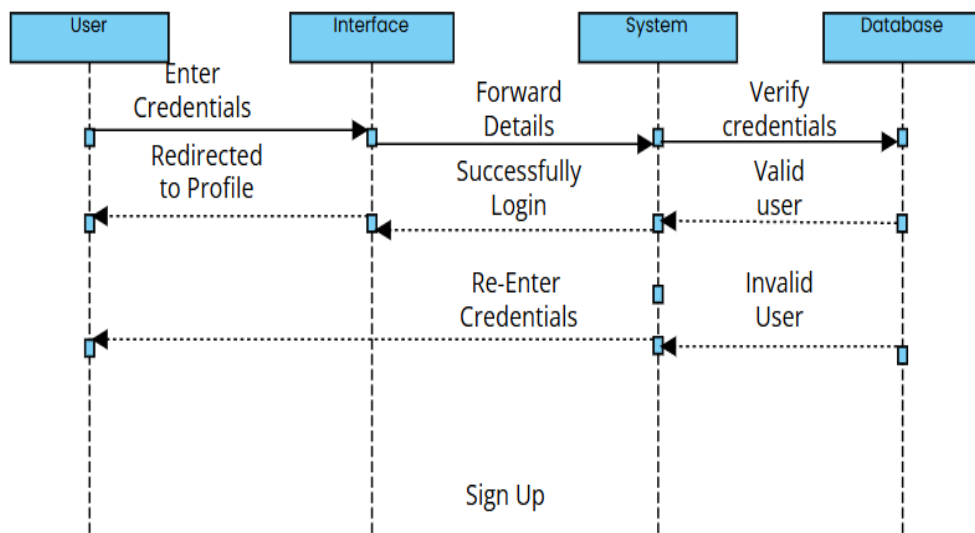


Fig 3.2: User login Process

3.4 Admin Login Process

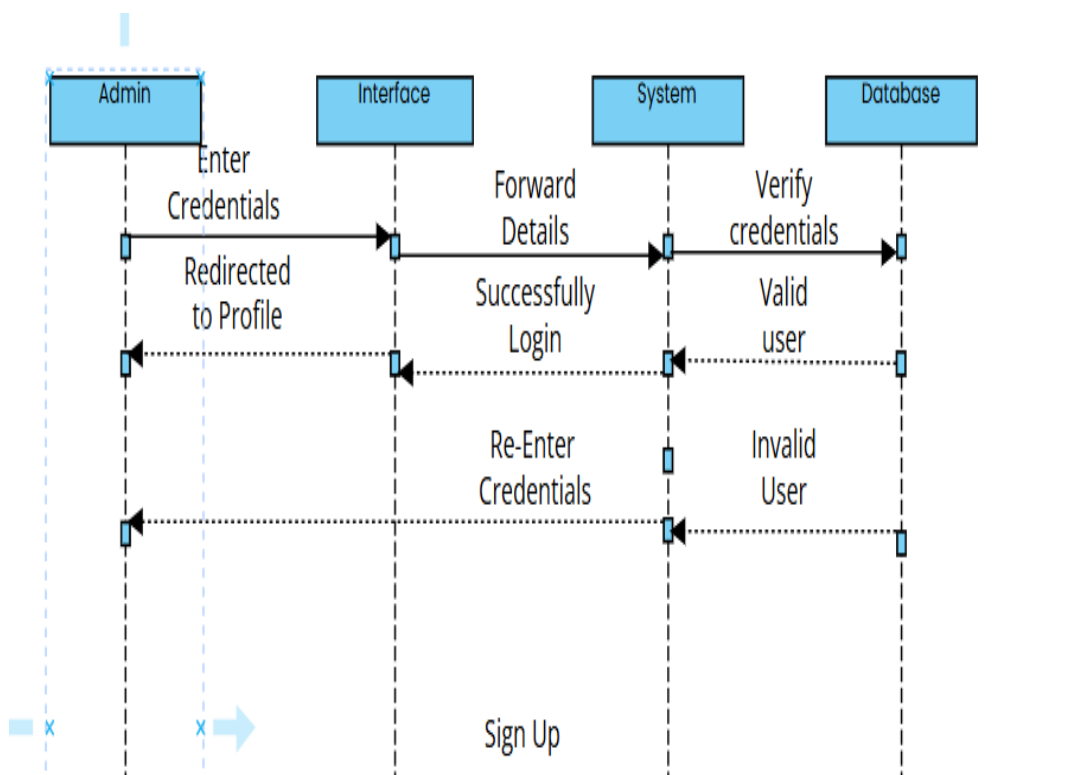


Fig 3.3: Admin Login Process

3.5 User Interaction Process

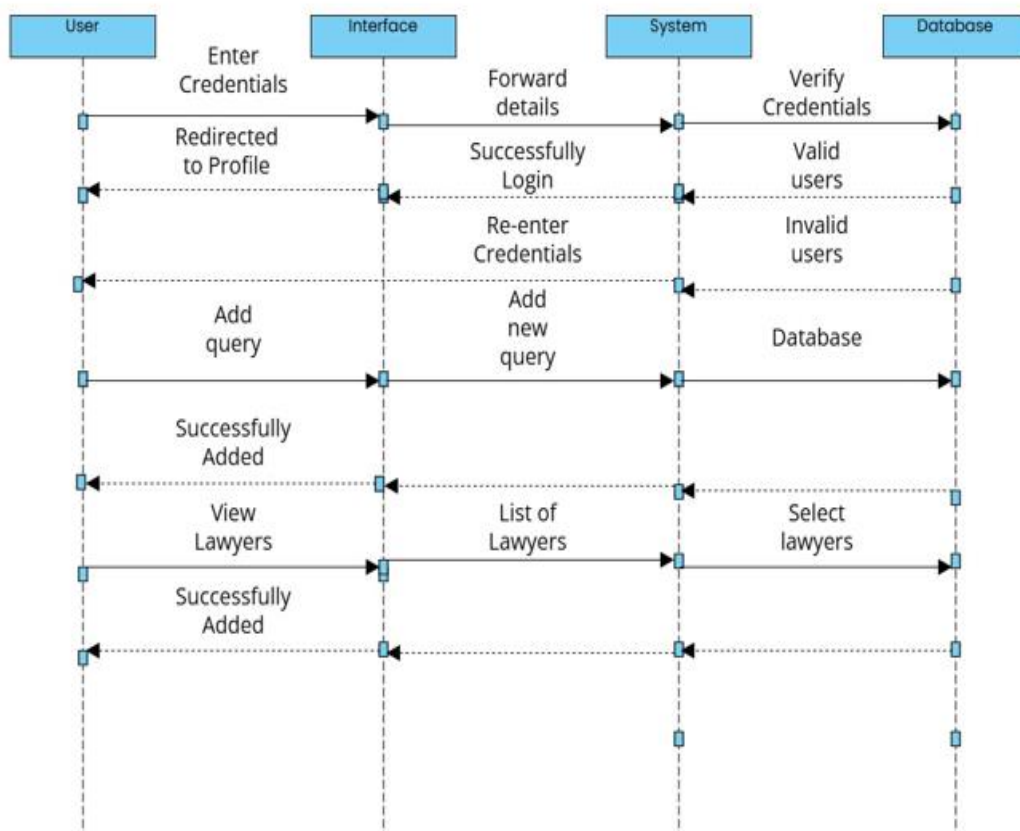


Fig 3.4: User Interaction Process

3.6 Lawyer Interaction Process

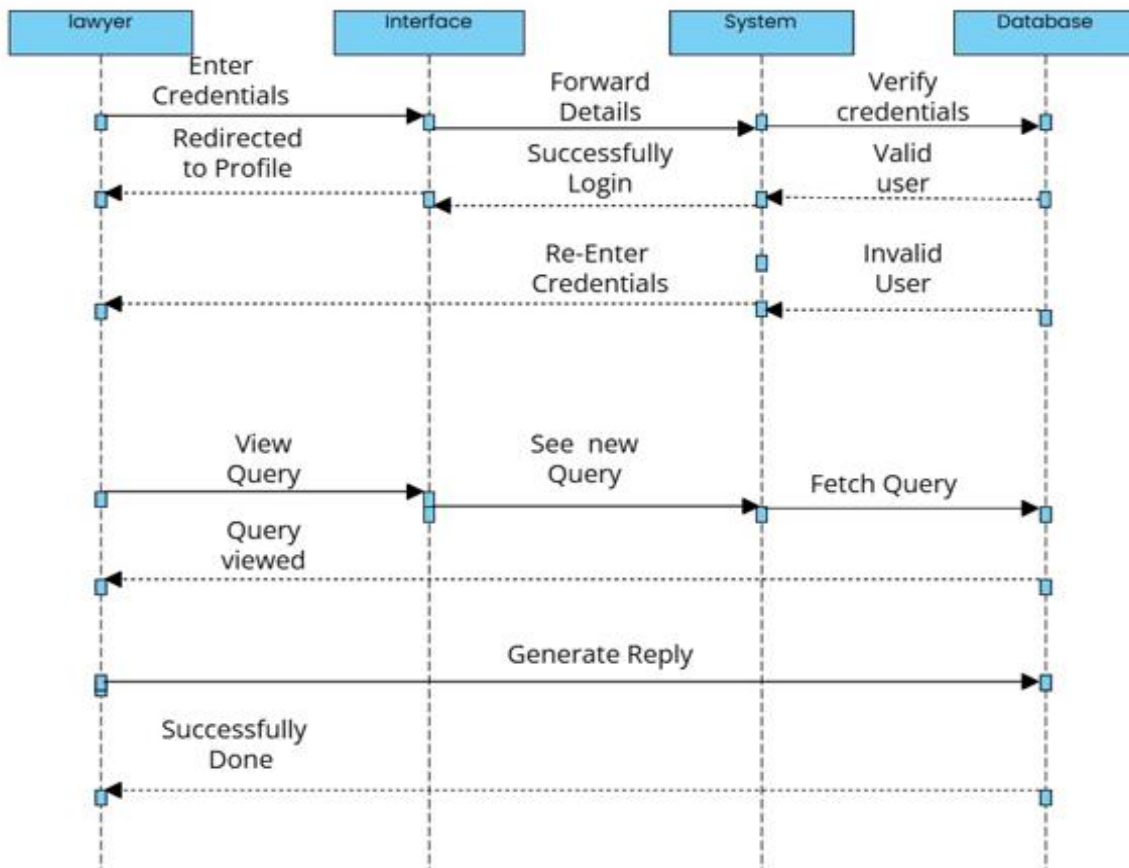


Fig 3.5:Lawyer interaction process

3.7 Admin Interaction Process

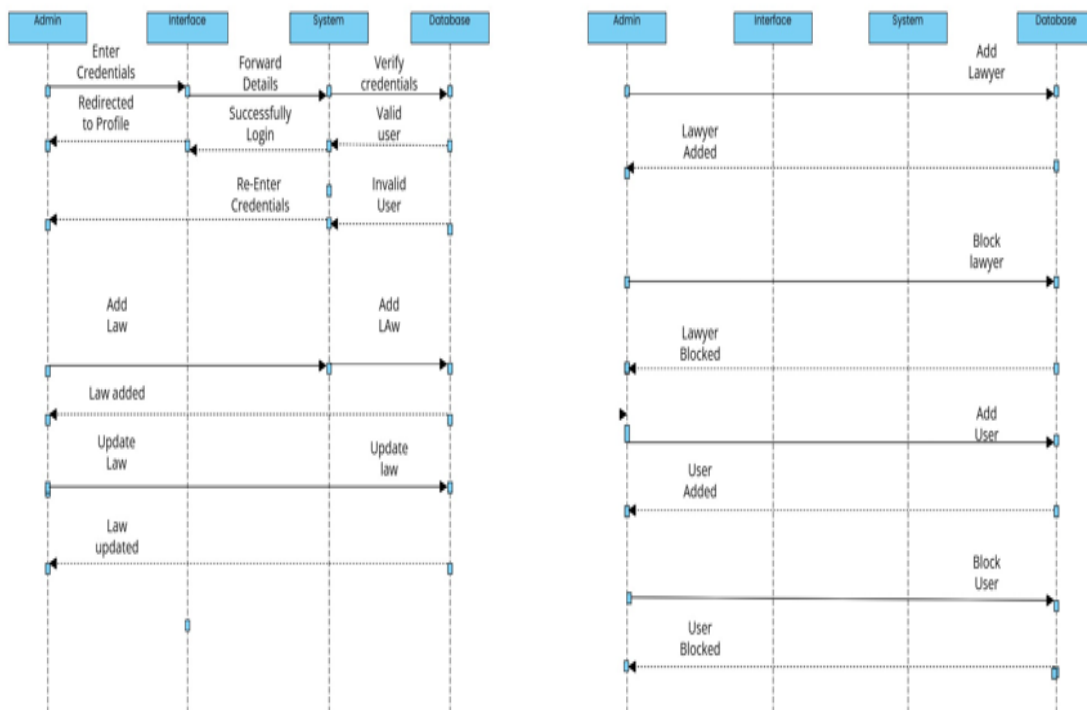


Fig 3.5: Admin Interaction Process

3.8 Class Diagram

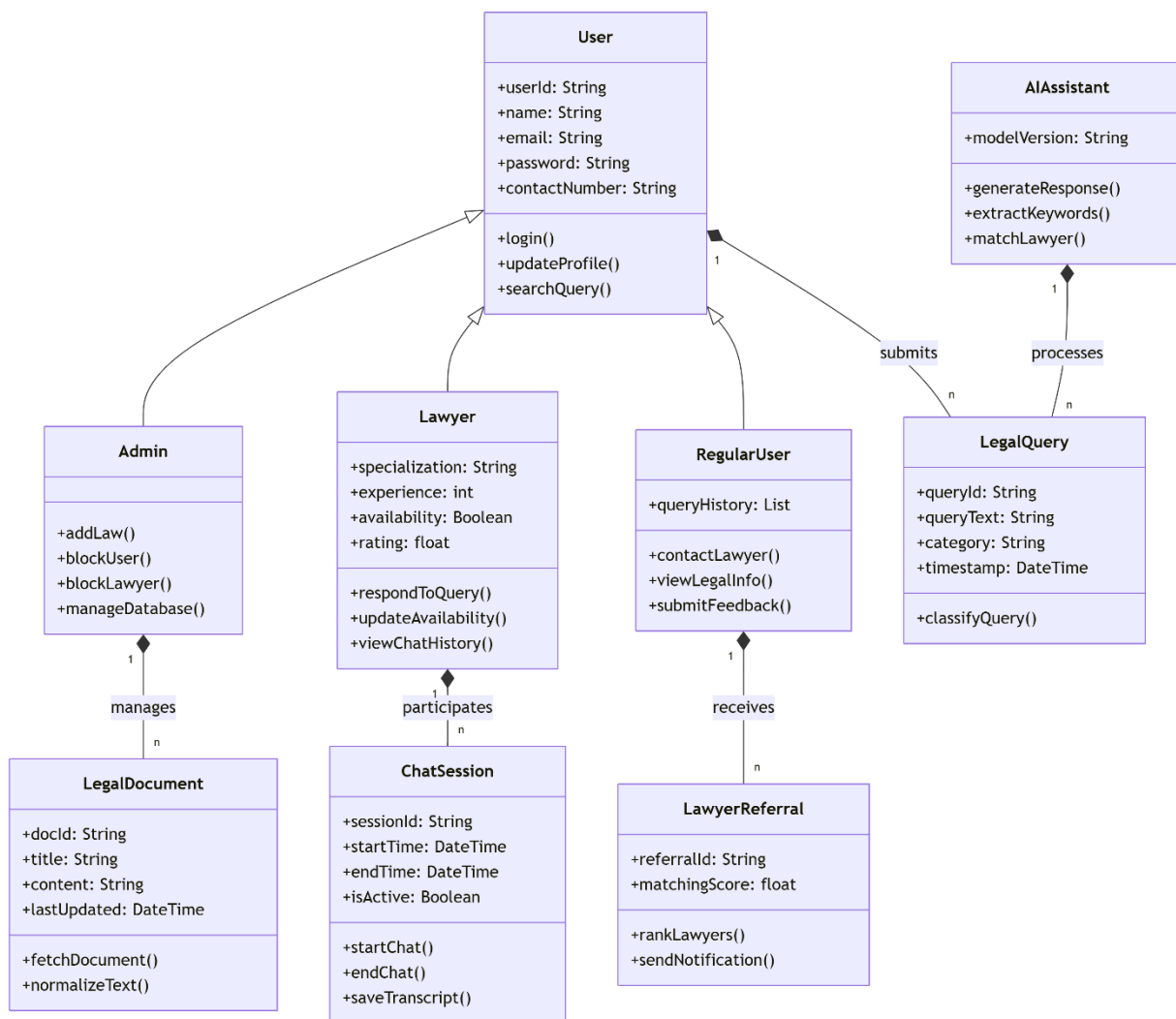


Fig 3.7: Class Diagram

3.9 ER Diagram

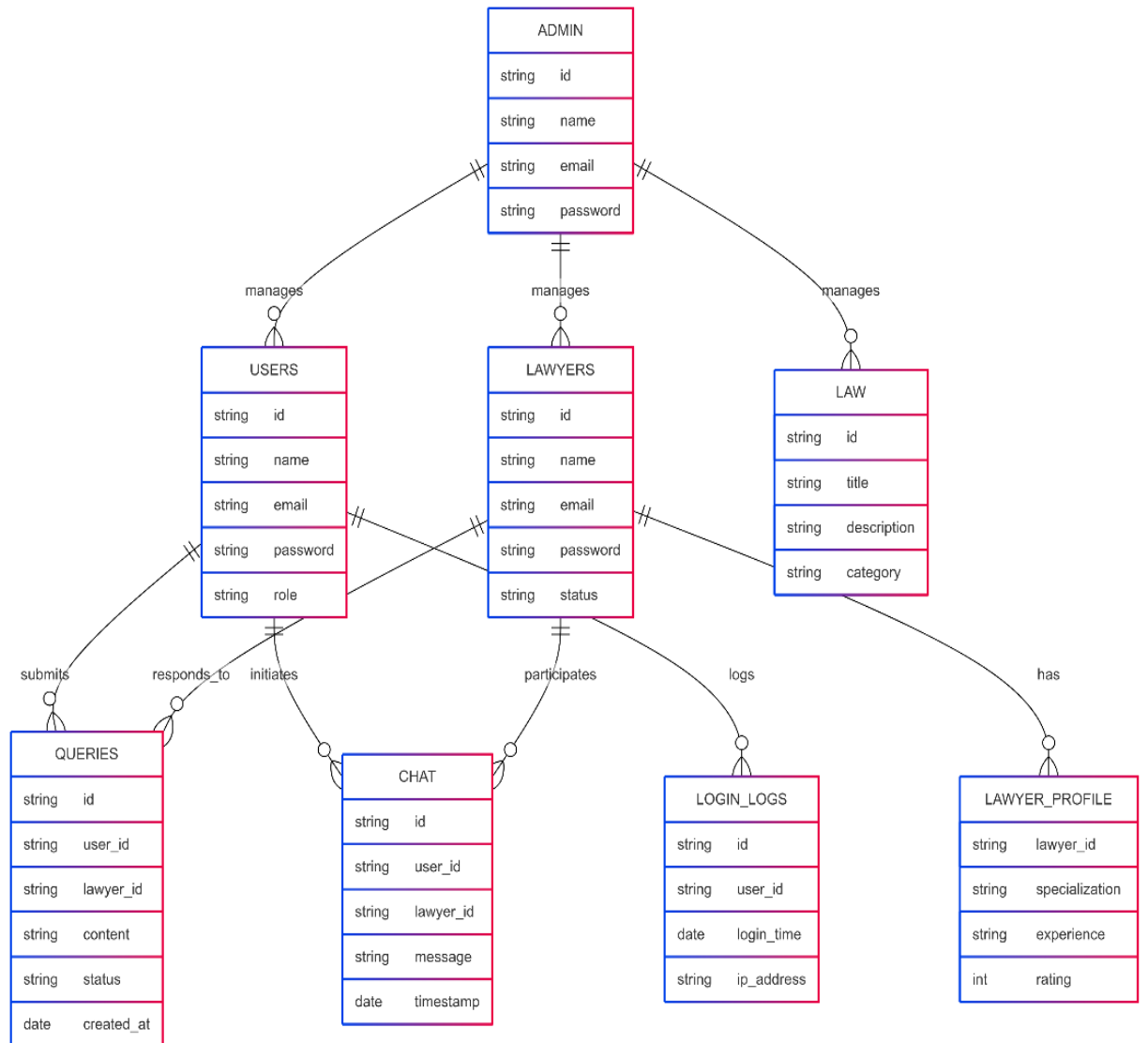


Fig3.8: ER Diagram

3.10 Methodology

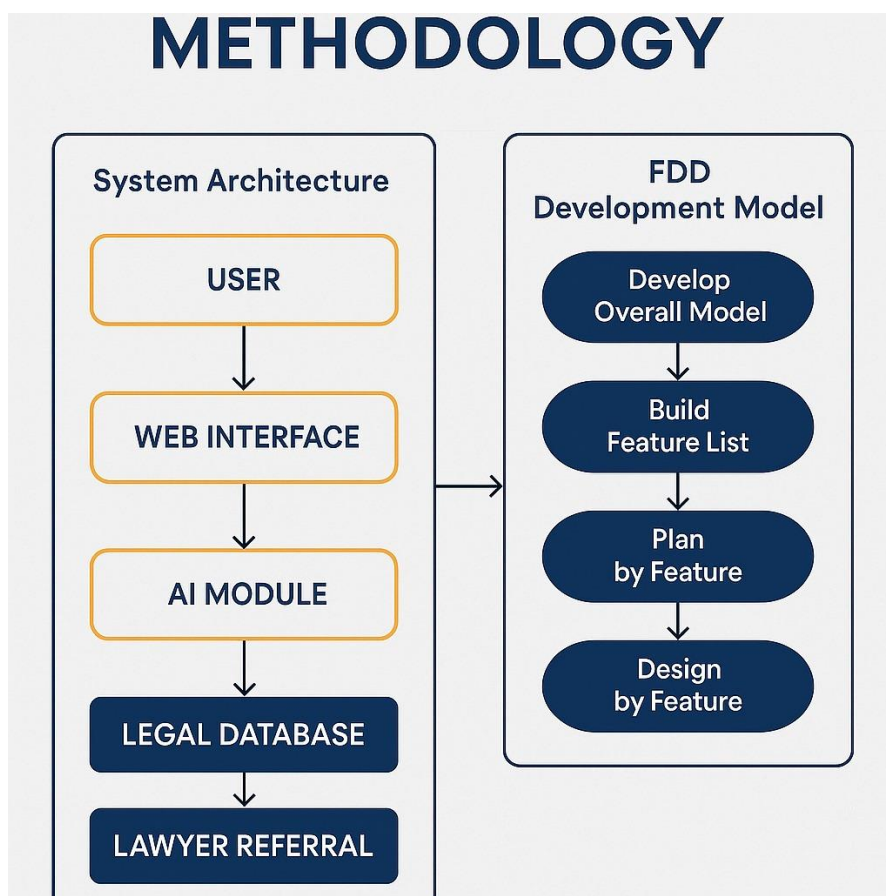


Fig.3.9: Methodology

Feature Driven Development (**FDD**) approach of system development use in this project. In fig 3.9, rather than treating requirements, design, and testing as large sequential steps, an FDD model makes them all ongoing processes that require involvement from developers and students.

CHAPTER 4

DATA AND EXPERIMENTS (and/or IMPLEMENTATION)

4.1 System Development

Using both front-end and back-end development, artificial intelligence integration, and legal data processing, Lexicon Legis applies a methodical methodology.

4.2 Front-End Development

Bootstrap is used in frontend of the Lexicon Legis platform to create an interactive and user-friendly interface. The salient qualities consist in:

- Text Input: Users search the query and obtain the response.
- Legal Query Submission: Users may enter plain English, easily processed legal enquiries.
- Viewer of Lawyer Profile: Shows availability and expertise of lawyers
- Users get information about their searches, and chat contacts in real time.

4.3 Backend Development

ASP.NET Core is used for backend development, taking use of its strong foundation to oversee central platform features:

- Combines ASP.NET Web API to classify legal inquiries such as those related to divorce or custody.
- Data modelling and query management using Entity Framework Core
- Using Lucene.Net, which is use to search data from database

4.4 AI-Based Question Processing

The system matches users with appropriate solicitors and interprets legal searches using Lucene.Net. Analysis Package. The execution calls for:

- Lucene.Net. Analysis Package installation allows us to extract important legal phrases.
- Classification Model: Groups searches into pre-defined legal spheres including alimony, child custody, and divorce.
- Context awareness helps one to grasp by seeing connections among legal entities.
- Automated Response Generation: Offers first legal direction prior to attorney referrals.

4.5 Legal Data Processing & Gathering

Legal material comes from verifiable sources including additional legislative references and the Muslim Family Laws Ordinance, 1961. The data processing consists in:

- Data cleaning removes obsolete or pointless legal material.
- Normalizing legal phrases helps to clarify them.
- Feature Extraction: Finds important passages in legal papers for inquiry responses.

Legal documents, case references, and user searches safely housed in a MySQL database.

4.6 Lawyer Referral System

Expertise-Based Matching: Lists solicitors focused in the legal issue of the user.

Availability Check: Guarantees only referred to available lawyers.

Automated Scheduling: lets consumers reserve legal advice.

4.7 Live Chat & User Interaction

The software combines real-time live chat for legal advice to improve user involvement:

- Instant messaging lets one have real-time discussions with legal professionals.
- Multimedia Support: Throughout consultations, users can distribute legal documentation.
- AI-powered chatbot offers fundamental legal direction prior to human lawyer contact.

4.8 Performance Improvement & Testing

Complete testing guarantees system accuracy and dependability:

- Unit testing ensures expected functionality of individual modules.
- Integration testing guarantees seamless frontend, backend, and artificial intelligence component connectivity.
- User Acceptance Testing (UAT) tests actual usability with possible end users.

4.9 Managing Risk & Security

The platform combines to provide data privacy and legal standard compliance. Frequent security audits find and resolve system weaknesses. Scalability Planning guarantees system capacity to effectively manage growing user load.

4.10 New Improvements

Lexicon Legis might have several improvements in terms of expansion to criminal and property law by including new legal domains.

- Multilingual NLP models: supporting extra regional languages.
- Development of Mobile Apps: Designed an Android or iOS variant of the system.
- AI-Powered Case Summarizing: Automatically compiles legal materials for user access.

CHAPTER 5

RESULTS AND DISCUSSIONS (or USER MANUAL)

5.1 Home Screen

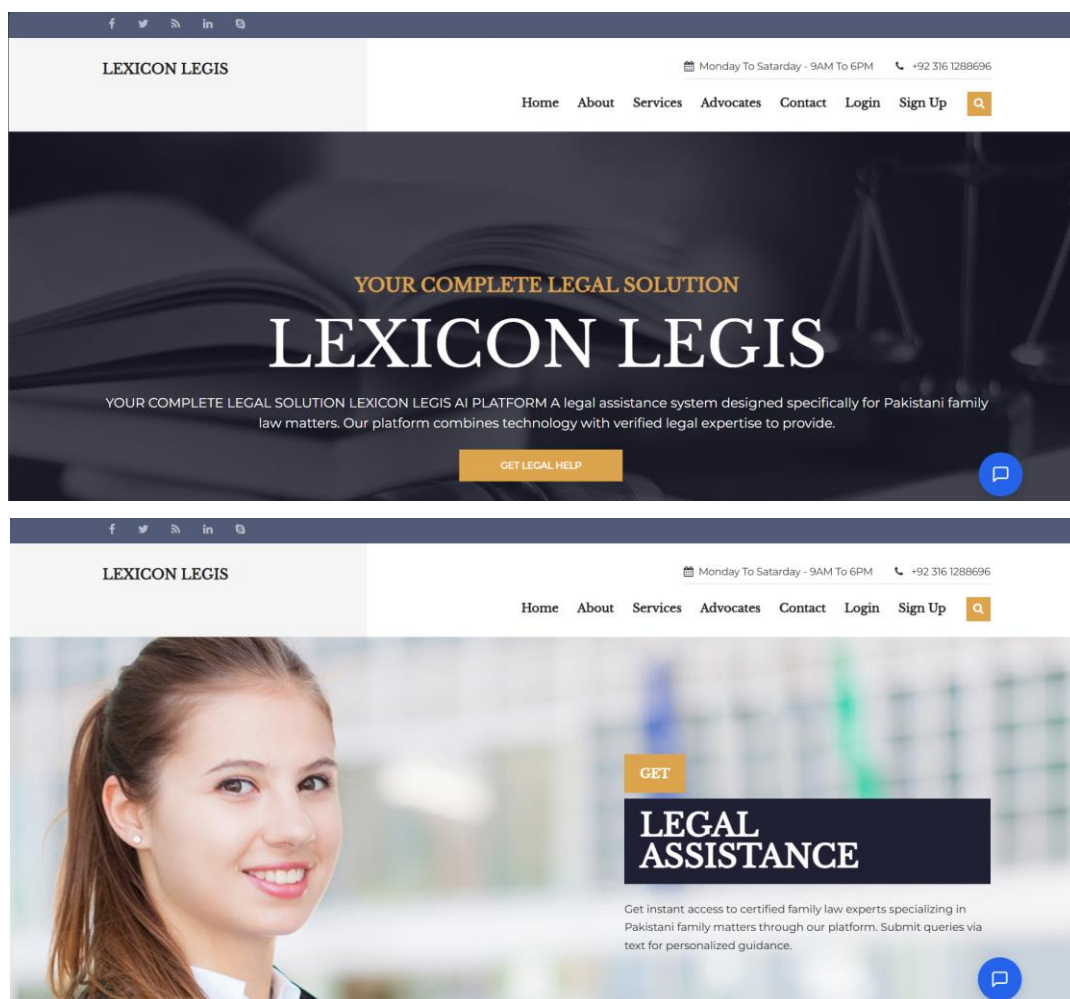


Fig 5.1: Home Screen

The fig 5.1 shows the homepage of the website which name is Lexicon Legis AI-powered legal assistance. Lexicon Legis helps you understand Pakistani family laws easily. Get legal help, and ask questions all in one place.

5.2 Login Page

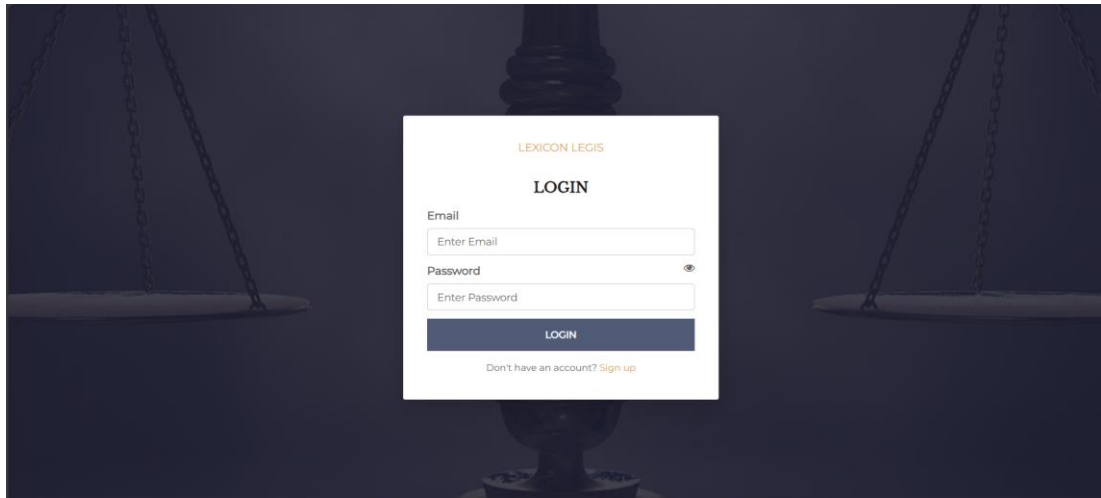


Fig 5.2: Login Page

The fig 5.2 shows the login page where admin, lawyer and user login to their profile

5.3 User Sign-Up

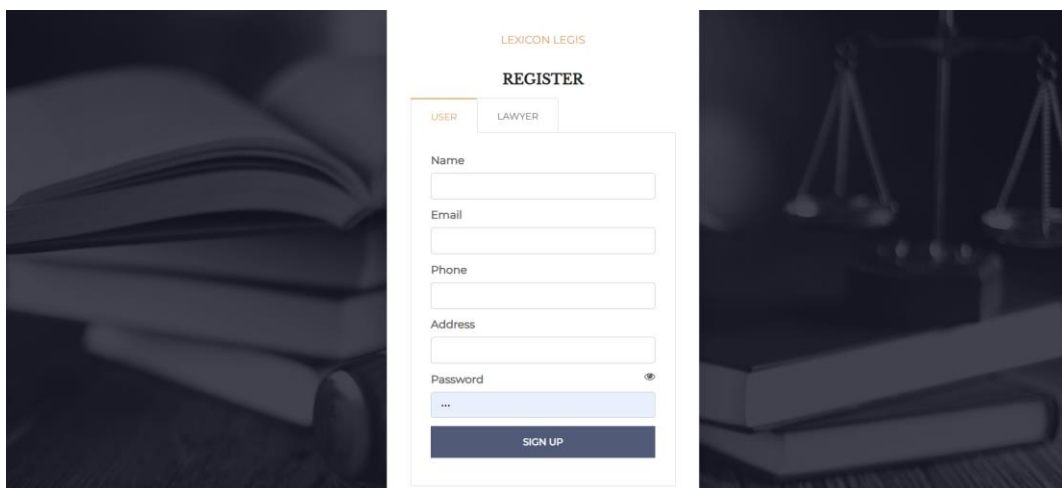


Fig 5.3: User Sign-Up

The fig 5.3 shows user sign up page where a user add their credentials and make their id by this a user can get the services easily.

5.4 User Homepage

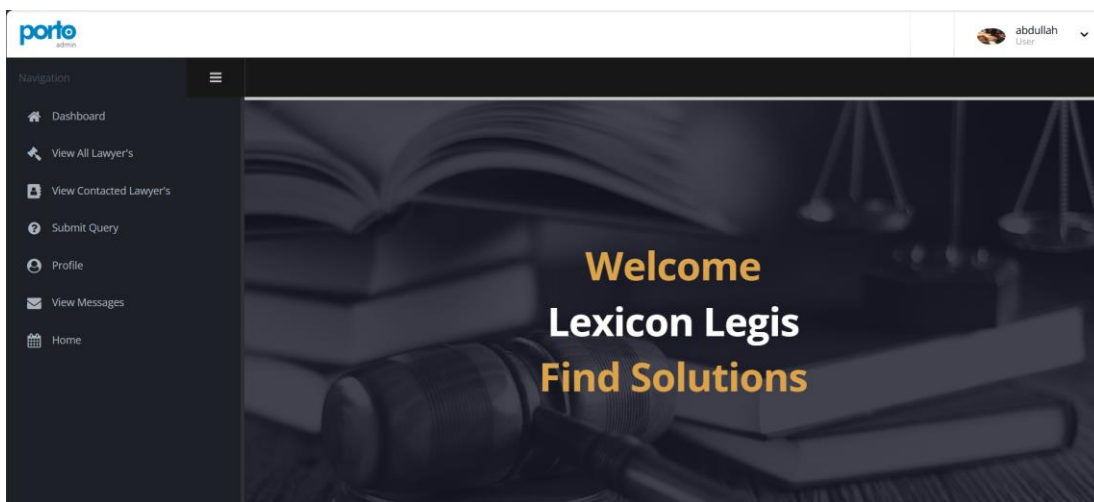


Fig 5.4: User Homepage

The fig 5.4 shows the user homepage from where a user can do contact with the lawyers, submit their queries and can manage his profile.

5.5: Lawyer

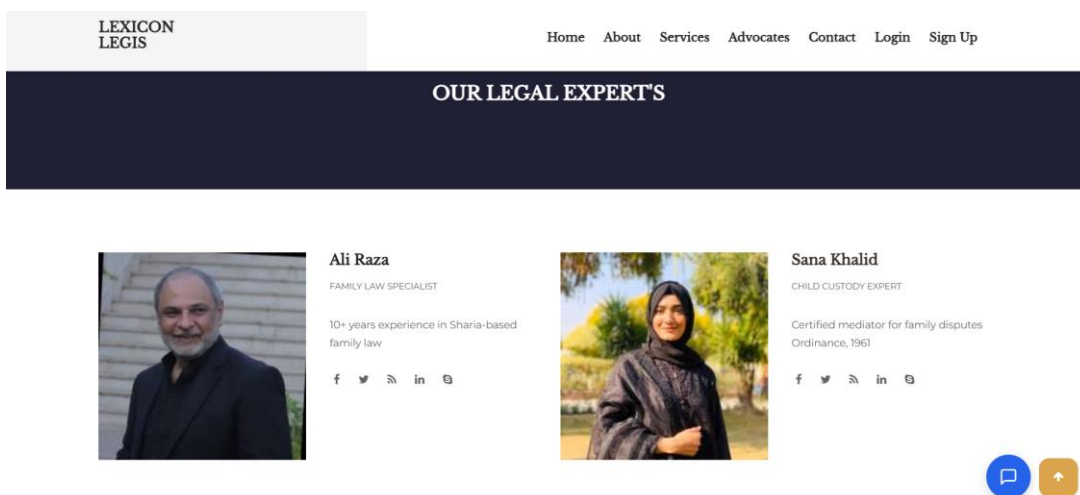


Fig 5.5: Lawyer

The fig 5.5 shows our legal expertise which can give the user legal guidance.

5.6: Chat with Lawyer

10 records per page

Id	Full Name	Email	Phone	Specialization	Action
1	All Raza	ua505252@gmail.com	92317-4824472	Family Law Specialist	
3	Sana Khalid	ua505252@gmail.com	0322-6703523	Child Custody Expert	
4	Usman Ahmed	ua505252@gmail.com	0317-4824472	Divorce Consultant	
5	Ayesha Malik	ua505252@gmail.com	0317-4824472	Women's Rights Advocate	
6	Imran Khan	ua505252@gmail.com	0317-4824472	wewewe	
7	Sameer Ahmed khan	Sameer6794648@gmail.com	1234-5678911	Child Custody	

Showing 1 to 6 of 6 entries

Submit Query

Subject:

Lawyer:

Message:

10 records per page

Lawyer	Action
Sameer Ahmed khan	

Showing 1 to 1 of 1 entries

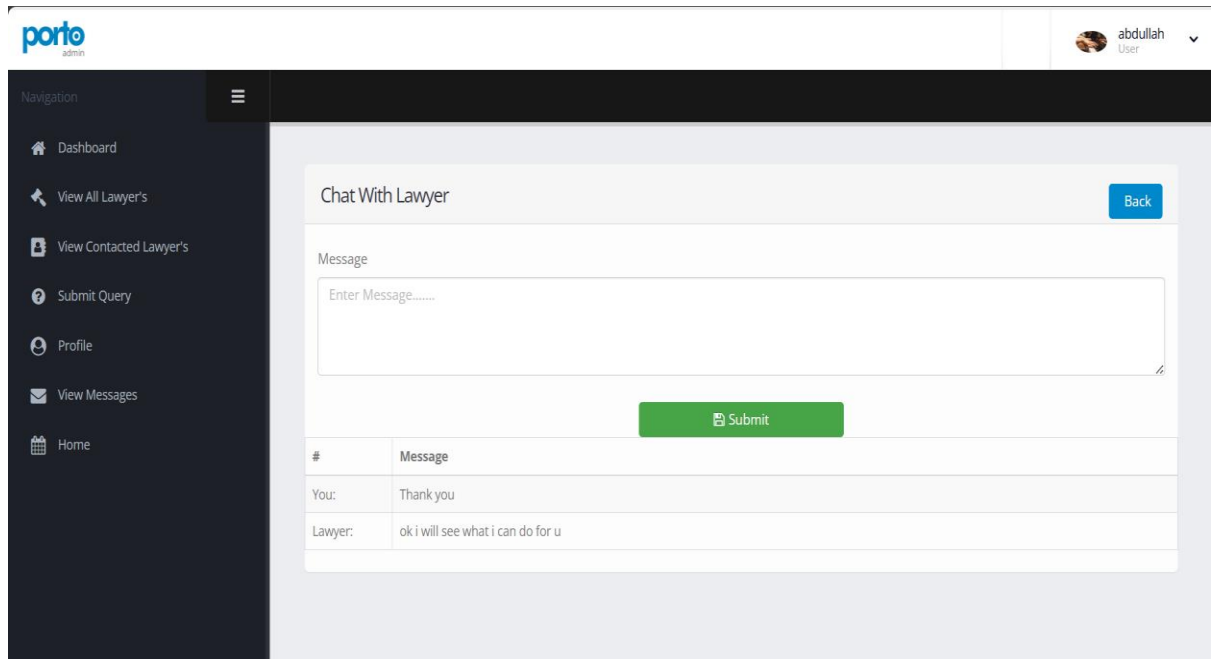


Fig 5.6: Chat with Lawyer

In this fig 5.6 the user can do live chat with the lawyer through the third-party application (WhatsApp) and he can also do chat with the lawyer on website too, by submitting their query to the specific lawyer.

5.7: Chat With Ai Assistant

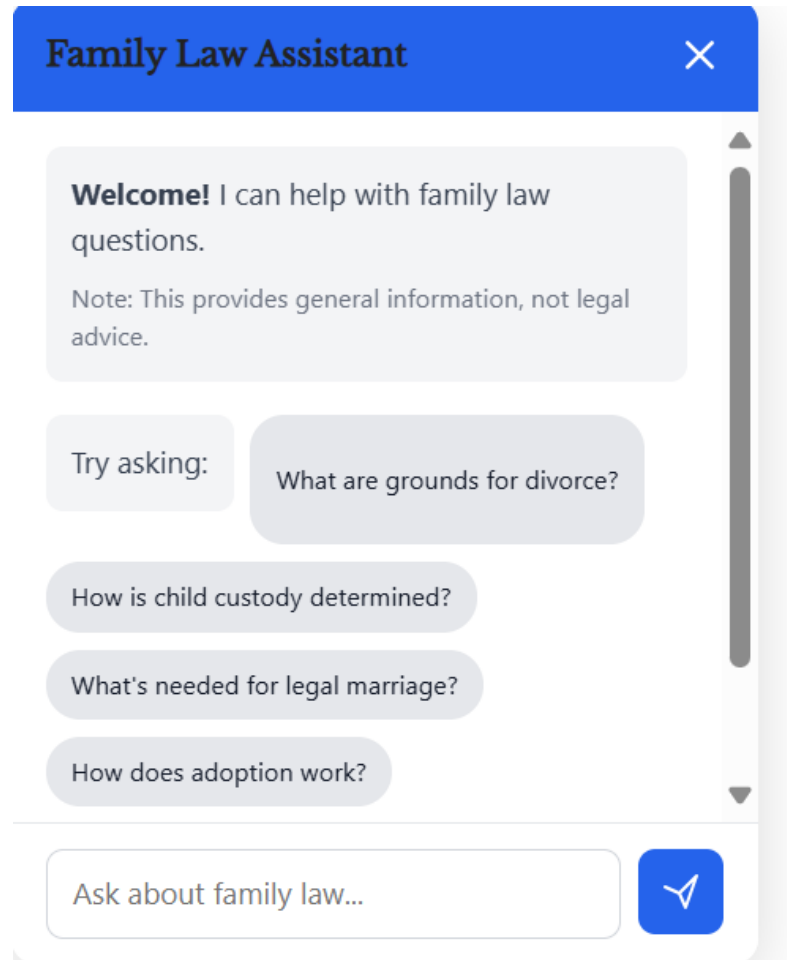
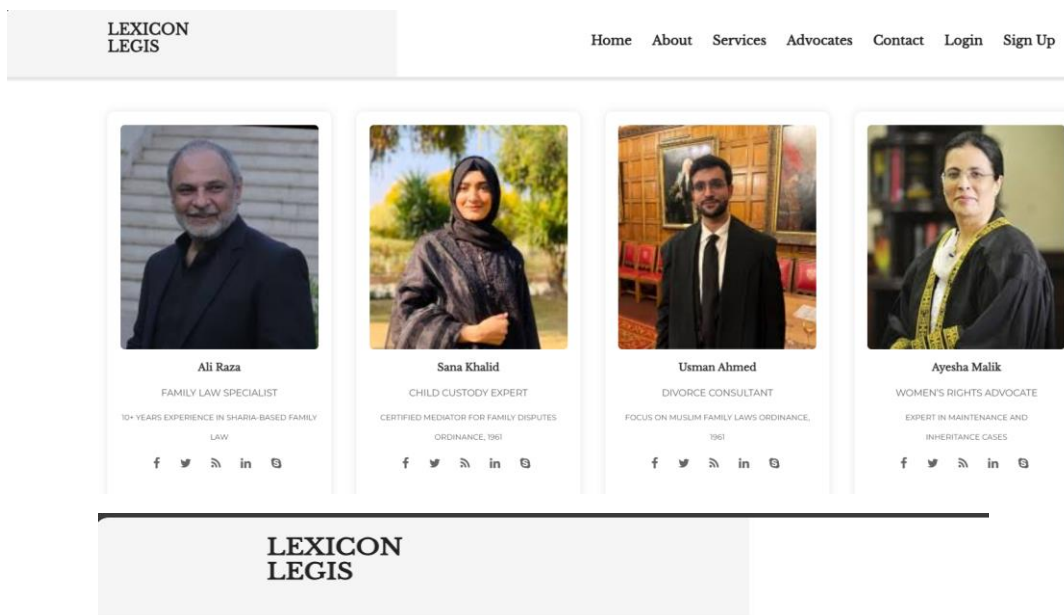


Fig 5.7: Chat with Ai Assistance

The fig 5.7 shows the Ai assistance who can help the user by giving the answer of their issue or question according to family law only.

5.8: Recommend Lawyers



ATTORNEYS IN THIS AREA —



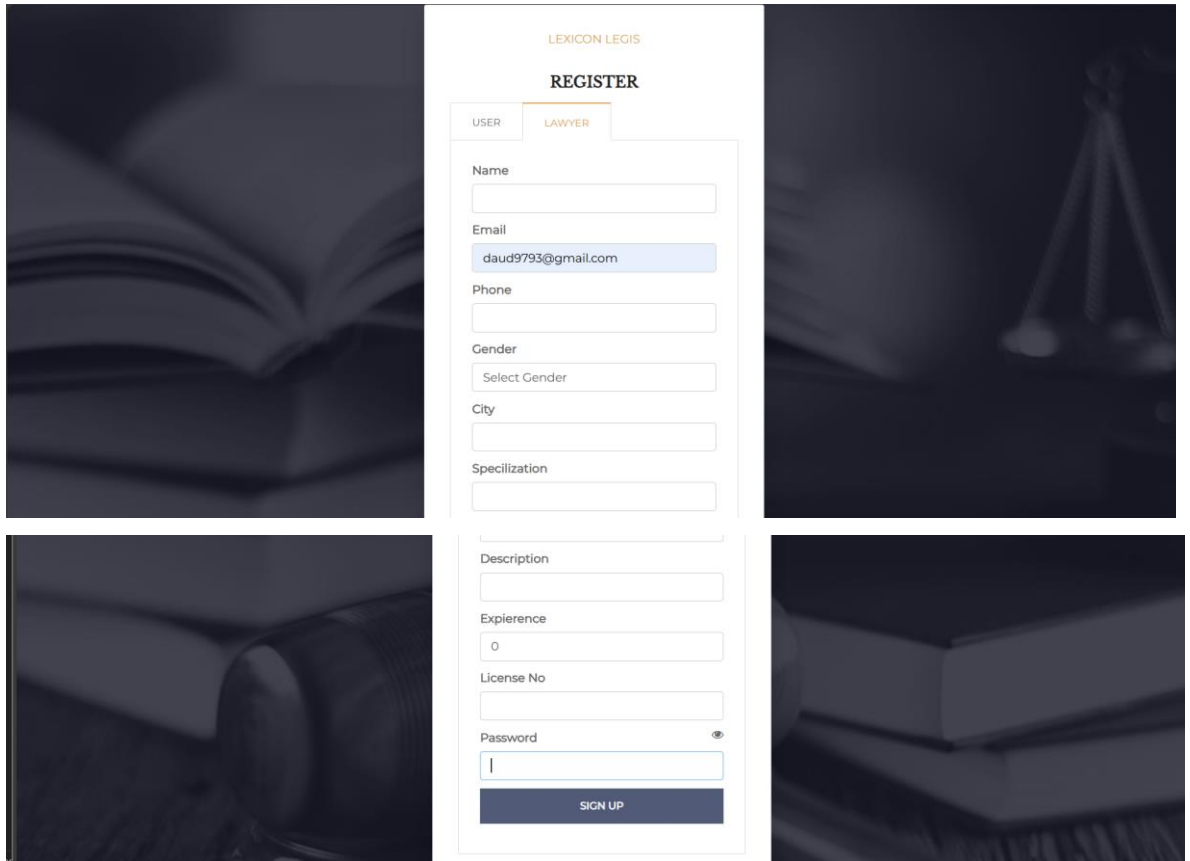
Usman Ahmed

FOCUS ON MUSLIM FAMILY LAWS ORDINANCE, 1961

Fig 5.8: Recommended Lawyers

In this fig 5.8 we refer the lawyer to the user according to their query e.g. a user search about marriage issue, so we provide legal knowledge and also refer a lawyer who can manage user problem with that marriage issue.

5.9: Lawyer Sign-Up



The screenshot displays the 'REGISTER' page for lawyers on the 'LEXICON LEGIS' platform. The page features a central white form with a dark blue background. At the top, the site name 'LEXICON LEGIS' is visible. Below it, the title 'REGISTER' is centered. There are two tabs: 'USER' and 'LAWYER', with 'LAWYER' being the active tab. The form contains several input fields: 'Name', 'Email' (with the value 'daud9793@gmail.com'), 'Phone', 'Gender' (a dropdown menu showing 'Select Gender'), 'City', 'Specilization', 'Description', 'Experience' (with the value '0'), 'License No', and 'Password'. A 'SIGN UP' button is located at the bottom of the form. The background of the page is a dark blue image featuring a stack of books and a pair of scales of justice.

Fig 5.9: Lawyer Sign-Up

The fig 5.9 shows the lawyer sign-up page from where a lawyer can register himself by adding their credentials.

5.10: Lawyer Homepage

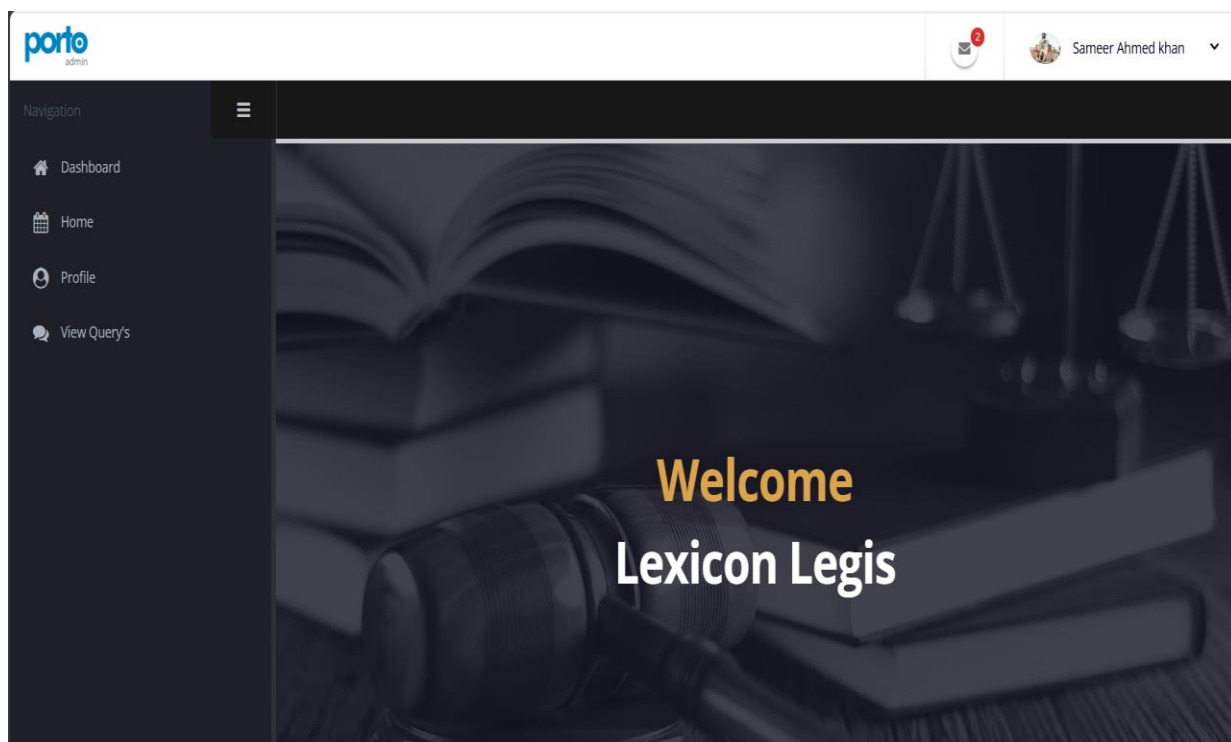


Fig 5.10: Lawyer Homepage

The fig 5.10 shows the lawyer homepage from where a lawyer can manage all the queries of the user and he can also manage his profile.

5.11: Lawyer Chat with User

The top screenshot displays the 'All Query's Submitted' page. It features a table with the following data:

Id	Name	Email	Phone	Subject	Message	Action
17	Gohar	ua505252@gmail.com	0898-9876665	Marriage Dissolution	VJDFQKVBWRBFJQBKWW	[Info] [Chat]
18	abdullah	daud9793@gmail.com	0344-7670329	Marriage Dissolution	12235RYIHUMLM	[Chat]
19	abdullah	daud9793@gmail.com	0344-7670329	child custody	i want child custody	[Info] [Chat]

The bottom screenshot shows the 'Chat With User' interface. It includes a message input field with the placeholder 'Enter Message.....', a green 'Submit' button, and a chat history section:

#	Message
User:	Thank you
You:	ok i will see what i can do for u

Fig 5.11: Lawyer Chat with User

In this fig 5.11 shows lawyer chat with user on website. Here the lawyer replies the query of the user on website and the data of chat of both lawyer and user is stored under the chat.

5.12: Admin Homepage

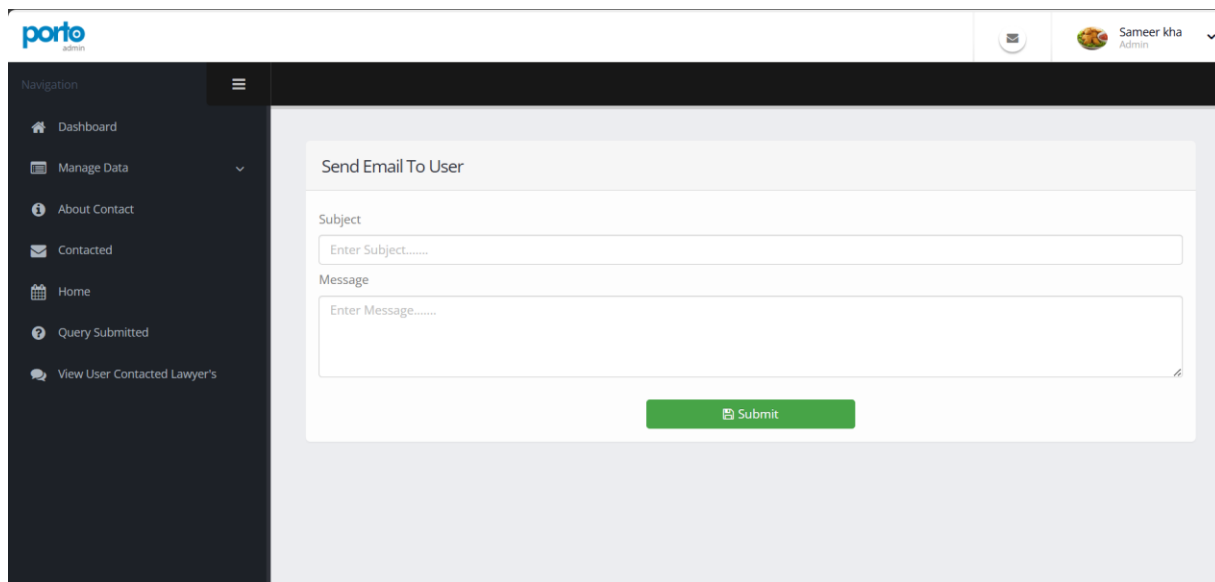
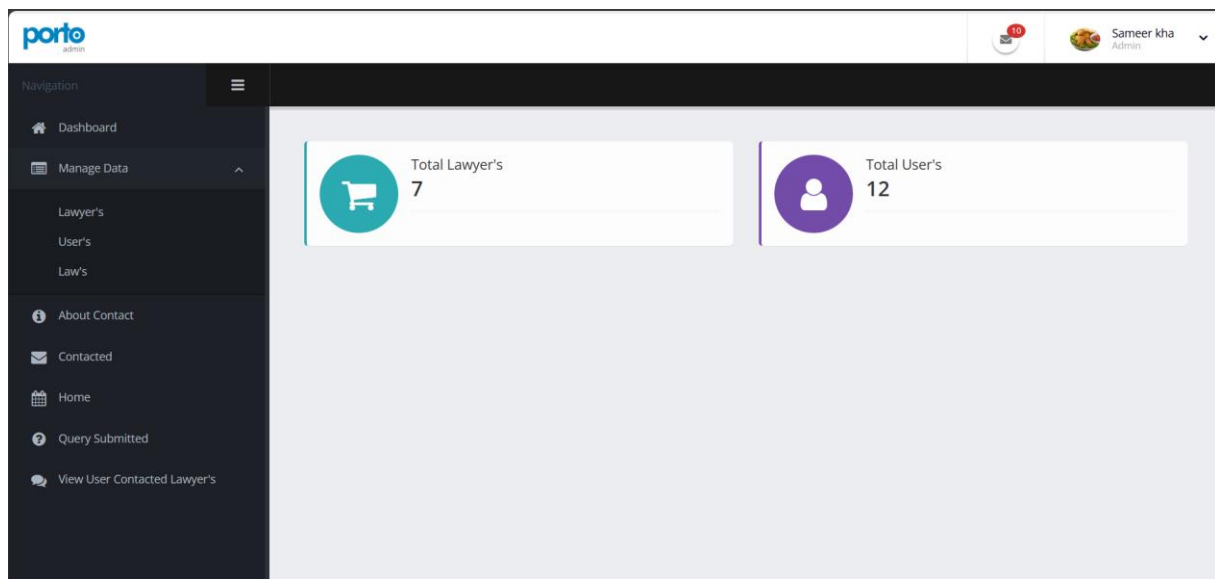


Fig 5.12: Admin Homepage

The fig 5.12 shows the homepage of Admin from where an admin can manage lawyers, users, and laws. He can see the queries of the user and also reply them by sending their message on their email.

5.13: Lawyer & User Database

The screenshot displays two database views within the Porto Admin interface. The top view, titled 'All Lawyer's', shows a table with 7 entries. The bottom view, titled 'All User's', shows a table with 10 entries. Both views include a search bar, a 'New' button, and a table with 10 records per page.

All Lawyer's Database:

Id	Full Name	Email	Phone	Action
1	Ali Raza	ua505252@gmail.com	92317-4824472	[Edit] [Delete]
3	Sana Khalid	ua505252@gmail.com	0322-6703523	[Edit] [Delete]
4	Usman Ahmed	ua505252@gmail.com	0317-4824472	[Edit] [Delete]
5	Ayesha Malik	ua505252@gmail.com	0317-4824472	[Edit] [Delete]
6	Imran Khan	ua505252@gmail.com	0317-4824472	[Edit] [Delete]
7	Sameer Ahmed khan	Sameer6794648@gmail.com	1234-5678911	[Edit] [Delete]

All User's Database:

Id	Name	Email	Phone	Role	Action
1	Umair Ansari	ua505252@gmail.com	0317-4824472	Admin	[Edit]
4	Umair Shoukat	ua505252@gmail.com	0317-4824472	User	[Edit] [Delete]
5	Umair Shoukat66666	ua505252@gmail.com	0317-4824472	User	[Edit] [Delete]
6	New user	ua505252@gmail.com	0317-4824472	User	[Edit] [Delete]
7	Gohar	ua505252@gmail.com	0898-9876665	User	[Edit] [Delete]
9	New demo	ua505252@gmail.com	0317-4824472	User	[Edit] [Delete]
10	uyiokl	ua505252@gmail.com	0317-4824472	User	[Edit] [Delete]

Fig 5.13: Lawyer and User Database

The fig 5.13 shows all the data of lawyers and users. It can only handle by the admin, he can delete, add and edit the lawyer and user profile.

5.14: View User Contacted Lawyer

The screenshot displays a web application interface with a dark sidebar on the left containing navigation options: Dashboard, Manage Data, About Contact, Contacted, Home, Query Submitted, and View User Contacted Lawyer's. The main content area is titled "Lawyer's Contacted" and features a table with the following data:

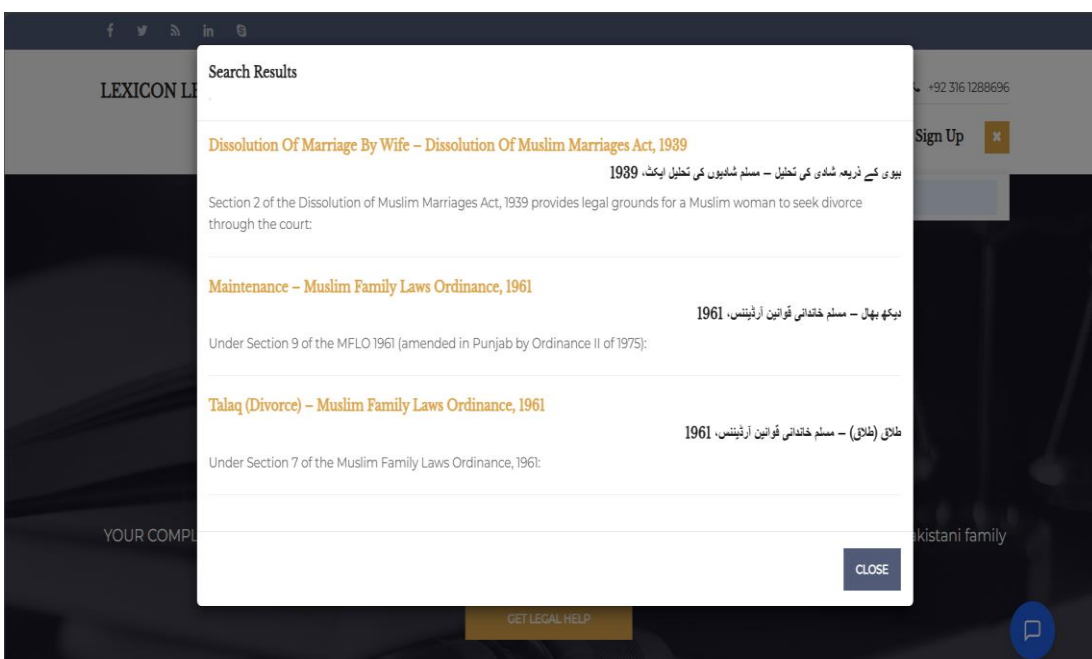
Lawyer	User	Datetime Contacted
Ali Raza	Umair Shoukat	5/1/2025 1:14:47 AM
Ali Raza	Umair Shoukat	5/1/2025 1:15:35 AM
Sana Khalid	Umair Shoukat	5/1/2025 1:15:51 AM
Usman Ahmed	Umair Shoukat	5/1/2025 1:45:33 AM

Below the table, it indicates "Showing 1 to 4 of 4 entries" and includes pagination controls showing page 1 of 1.

Fig 5.14: View User Contacted Lawyer

The fig 5.14 shows all the record of all the lawyers from which you do contacted, but it all shows only to the admin

5.15: Search Query



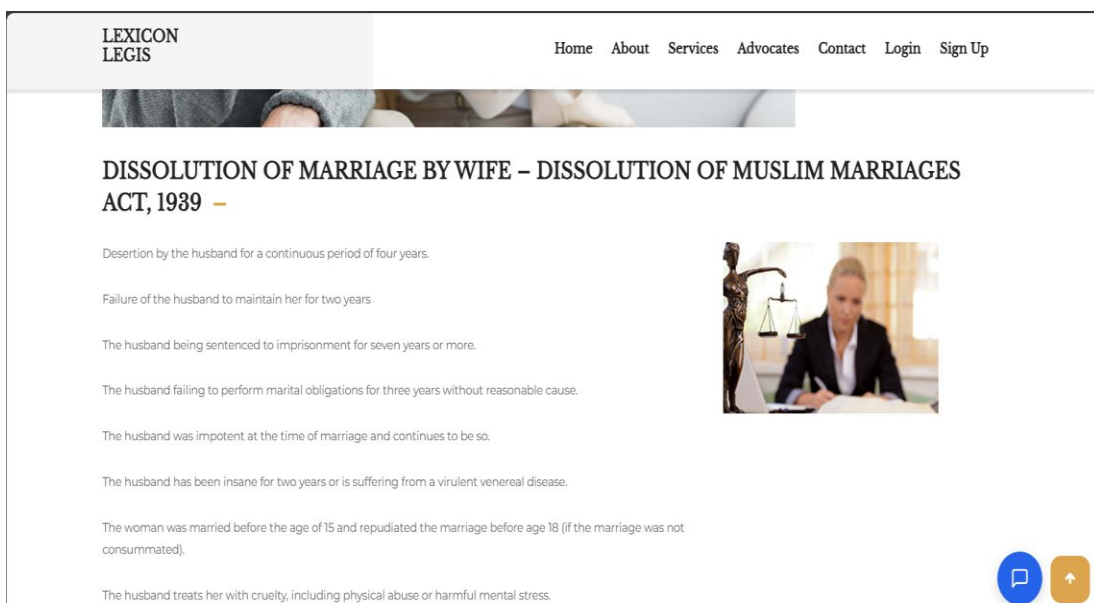
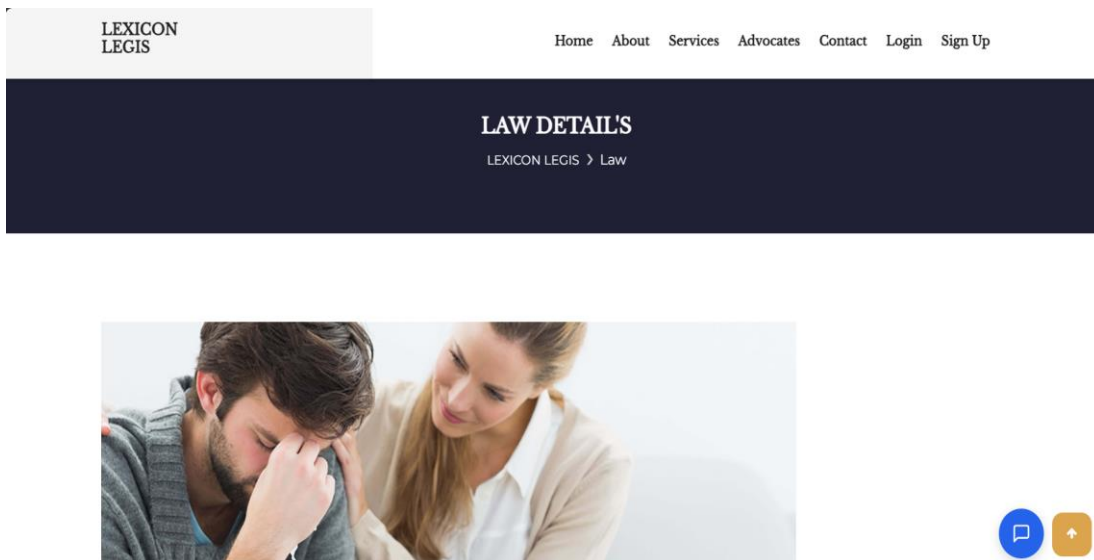


Fig 5.15: Search Query

The search query is that function by which any user or person search their query about family laws and get information, by this a person can get legal knowledge and easily solve their problems without any issue.

CHAPTER 6

CONCLUSION AND RECOMMENDATIONS

6.1 Overview of the Result

Using Lexicon Legis has produced notable results in transforming Laws and Lawyers availability. This section covers the most important findings, including user interaction with the system, system performance, user satisfaction, issues discovered, and future possible developments in the system.

6.2 User Experience & Interaction

User comments indicate that Lexicon Legis had a positive experience for them. Getting about has been made simpler by the user-friendly interfaces for lawyers as well as clients. Customer testimonials on the value of laws and consulting calls which improves the user experience showcase their usefulness.

6.3 System Operations

The project objectives are quite in line with Lexicon Legis's usefulness. For simplicity of use, the user may search their query from the search box and also obtain the suggested attorney. Whereas the AI-driven personalized legal information service has effectively given correct and relevant advice, the platform effectively matches users with specialized lawyers depending on their legal needs. The platform satisfies its

initial design criteria since the real-time search capability easily combines several data sources. It also offers consumers the live chat service including legal advice.

6.4 Performance Standards

According to quantitative measures, accomplishment is really decent. The system maintains high uptime, and reaction times for critical chores satisfy already established criteria. Reliable and helpful the site is shown by metrics on user involvement showing users actively searching their laws and hiring consultants.

6.5 Problems & Remedies

Development brought up challenges including data integration, which were resolved effectively by teaming together to identify answers. Constant monitoring and fast answers to issues reported by users have made a powerful and steady system feasible.

6.6 Comparisons Aimed Towards Objectives

The obtained findings quite closely match the original project objectives. Lexicon Legis has effectively accelerated the advice process, incorporated laws, and hired more easily available lawyers. Few deviations occurred and were promptly corrected to ensure either meeting or exceeding of project goals.

6.7 Future Improvements

More modern laws and more educational material, awareness-raising, and hiring of top solicitors for specific issues could be additions in the future. Lexicon Legis will also keep in line to refresh and appreciate their consumers.

6.8 Compilation of Results

Lexicon Legis effectively solves the difficulties of offering Pakistan's citizens easily available and precise legal advice. For those looking for legal help, the platform's AI-driven tools which include query processing and attorney referrals make it an invaluable tool. Users of the site have responded favorably, noting its accuracy and simplicity.

6.9 Suggestion for Future Development

Future advancements should concentrate on broadening the platform to cover additional spheres of law, including criminal law and property law. Furthermore, included should be language support to provide a larger audience. Furthermore, improved should be the platform to incorporate more sophisticated AI elements such case outcome prediction and predictive analytics.

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Journal Papers, Conference Papers

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