

A Project Report on “JUSTICE FIRM”

**Submitted in fulfillment of requirement for the
award of
Diploma in Computer Engineering,
Gujarat Technological University**

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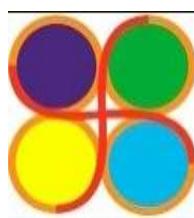
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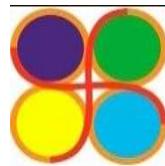


Computer Department

Government polytechnic, Ahmedabad

May-2023

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C E R T I F I C A T E

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This is to certify that *SHUBH PATEL* has successfully completed her academic project defined as '*JUSTICE FIRM*'. The report is a result of the bonafide work carried out by *SHUBH PATEL* during Academic Year 2022-23

Internal Guide

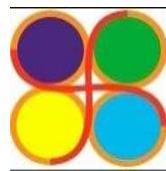
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C E R T I F I C A T E

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Internal Guide

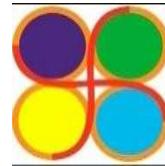
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Internal Guide

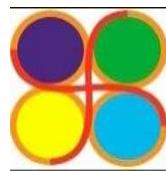
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Internal Guide

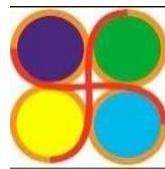
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ACKNOWLEDGEMENT

I sincerely feel the credit of the project work could not be narrowed down to only one individual. The development of this project involves many valuable contributions. Getting the opportunity for this project of "**JUSTICE FIRM**" as fulfillment of diploma (computer engineering) has been brightening experience for the near future to come and a focus on excellence in this venture, we are constantly guided and encouraged by **Prof. UMANG SHAH** who is our internal guide.

I would also thank our Head of the Department **Prof. B.H. KANTEVALA** for giving us such a wonderful chance to work with this interesting project and perform the project work for the entire duration of the semester and also thanks to internal guide for project technical guidance and giving inspiration in all the way during project making. Finally, I would like to thank our parents, friends and almighty for being with us to support directly or indirectly while making this project.

- From

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ABSTRACT

- **Need a lawyer?** Justice Firm is a website where lawyers can register and people/corporations can hire them according to their needs and requirement.
- Clients can see all basic details of the lawyers, and based on that the client can hire a lawyer.
- Justice Firm provides a facility to search all the law firms and lawyers' information in a single consolidated location.
- Justice Firm also allows for a prospective client to book an appointment with a lawyer based on the clients' requirements
- It also implements chat functionality so clients can communicate with the lawyers to confirm the timing of the appointment and to discuss the details of the case.

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Chapter 1 Introduction

1.1 Project Profile

Project Name:	JUSTICE FIRM
Front End	Vue 3, TypeScript, JS, Vuetify Framework
Front End Hosting Provider	Netlify
Back End	TypeScript on Node.JS
Back End Hosting Provider	AWS Lambda & API Gateway
Database	MariaDB, AWS DynamoDB
Protocols	HTTPS for client-server communication WebSocket (over TLS) for real-time chat system
Internal Guide	Mr UMANG SHAH
External Guide	-----
Project Duration	1 Year
Team Size	5 Members

Table:1

1.2 Hardware Requirement

Client and Lawyer Side

- Ram: 1GB
- Processor: Any processor manufactured after the year 2000
- Memory Space: 1GB
- Connected with Internet Connection
- Web Browser

Admin Side

- Ram: 4GB
- Processor: AMD Ryzen 5, Intel i5 or higher
- Memory Space: 16GB
- Web Browser

1.2 Software Requirement

Client and Lawyer Side

- Browser: Any Browser.
- Version: Latest stable release

Admin

- OS: Windows

Chapter 2 Literature survey

2.1 Existing System

- lawrato.com
- legalserviceindia.com
- legalconclave.com
- Others

2.1.1 Working and Shortcoming of Current System

- The existing system doesn't give all the lawyers and justice firm information in one place, if a user wants to obtain the lawyers' information, then the user has to search on internet.
- Even then he/she is only able to get lawyers' information belonging to a particular law firm, if he/she logins to the corresponding law firm website. Such websites do not list all the available lawyers from different law firms across the nation, only the one lawyers specific to that law firm.
- Then if one gets the lawyer and legal firm information then they have to search again to get the location and route to the advocate office separately.
- This takes a lot of time in order to search all this information and this process also is hectic and complicated.

2.2 Existing Site Survey

Features	Justice Firm	lawrato.com	legalserviceindia.com	legalconclave.com
Open source project, to be made available on GitHub	✓	Proprietary	Proprietary	Proprietary
Client can hire lawyer from across the nation, on basis of their needs and requirement	✓	✓	✓	✓
Client can see all details of lawyer on that base client can hire the lawyers	✓	✓	✓	✓
Password protected secure and confidential	✓	✓	✗	✓
Categorized identification of all registered lawyers	✓	✓	✓	✓
Statistical analysis of registered members and website visitors using graphical charts	✓	✗	✗	✗
Google Maps & HTML5 Geolocation	✓	✗	✗	✗
Chat-bot help for website visitors	✓	✓	✗	✓

Table: 2

LawRato: lawrato.com

LawRato.com is an interactive online platform that makes it faster and easier to find and hire Top Rated Lawyers in any city / court in India, because clients deserve access to first-rate, professional legal advice from Top Rated Lawyers. It makes the legal experience remarkable by making legal services high quality, cost-effective and on-demand for every need.

Home Page

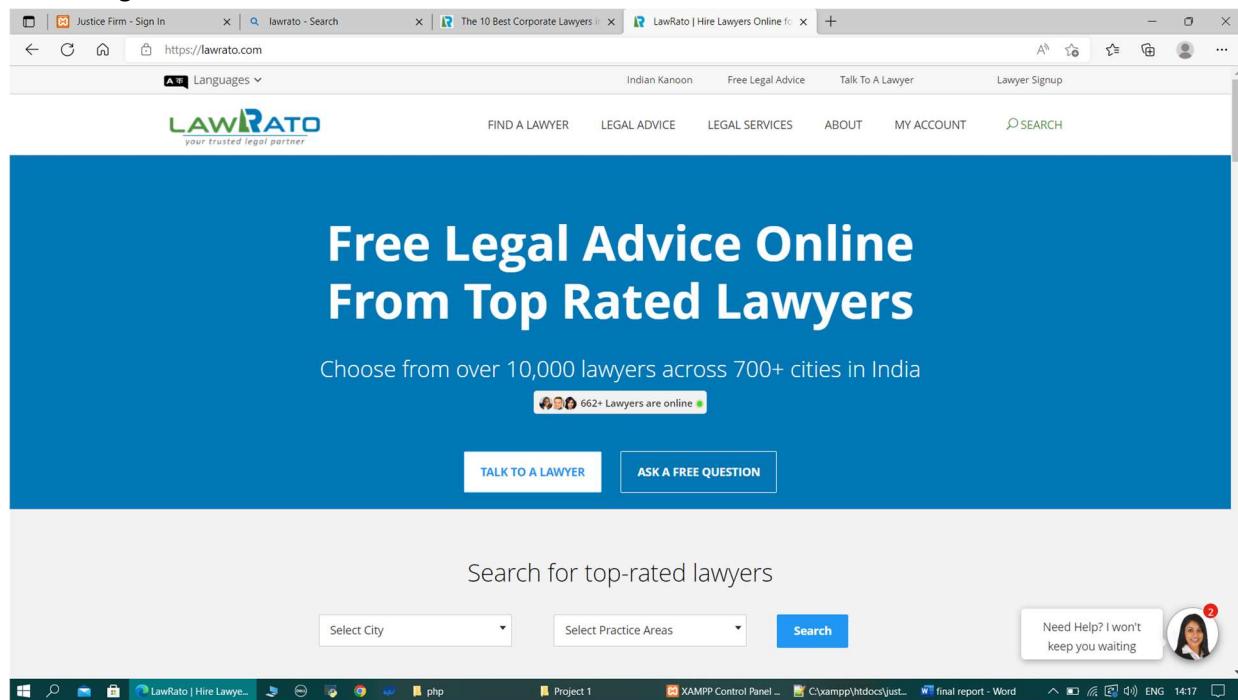


Figure:1.1

Search page:

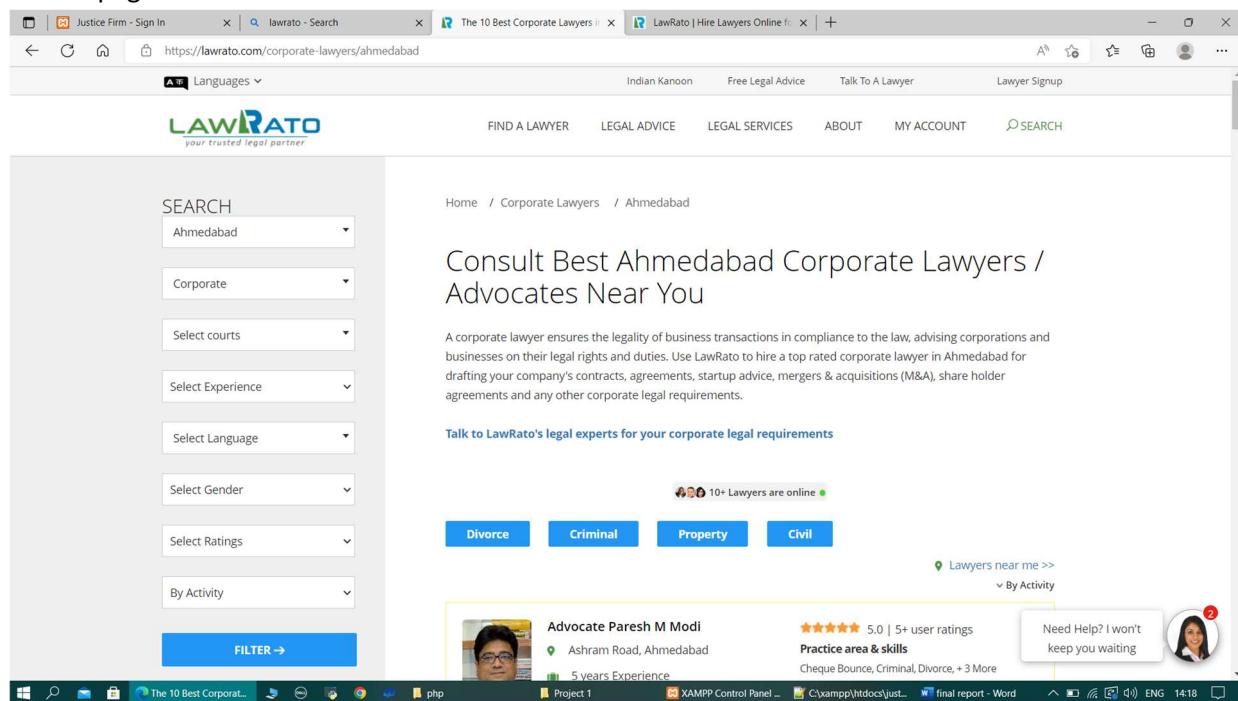


Figure:1.2

Search results:

The screenshot shows a search results page for corporate lawyers in Ahmedabad on the LawRato platform. The profiles listed are:

- Advocate Pares M Modi**: Located at Ashram Road, Ahmedabad, with 5 years of experience. Rated 5.0 based on 5+ user ratings. Practice areas include Cheque Bounce, Criminal, Divorce, and more. Contact now.
- Advocate Shalvi S Mehta**: Located at Thaltej, Ahmedabad, with 7 years of experience. Rated 4.0 based on 5+ user ratings. Practice areas include Arbitration, Documentation, Startup, and more. Contact now.
- Advocate Athar Amaan Hava**: Located at Juhapura, Ahmedabad, with 17 years of experience. Rated 4.3 based on 5+ user ratings. Practice areas include Arbitration, Consumer Court, Trademark & Copyright, and more. View profile.
- Advocate Vivek Mapara**: Located at Suramya Complex, Ahmedabad, with 16 years of experience. Rated 4.4 based on 10+ user ratings. Practice areas include Arbitration, Bankruptcy / Insolvency, Breach of Contract, Corporate, Customs & Central Excise, Cyber Crime, High Court, International Law, Media and Entertainment, Medical Negligence, Patent, Trademark & Copyright. View profile.

Figure:1.3

Lawyer profile:

The screenshot shows the detailed profile of Advocate Vivek Mapara on the LawRato platform. Key details from the profile are:

- Advocate Vivek Mapara**: Verified profile, 4.4 rating based on 10+ user ratings.
- Languages**: English, Gujarati, Hindi.
- Practice areas**: Arbitration, Bankruptcy / Insolvency, Breach of Contract, Corporate, Customs & Central Excise, Cyber Crime, High Court, International Law, Media and Entertainment, Medical Negligence, Patent, Trademark & Copyright.
- Summary**: Advocate Vivek Mapara has been practicing and handling cases independently with a result oriented approach, both professionally and ethically and has now acquired over 16 years of professional experience in providing legal consultancy and advisory services. Advocate Vivek Mapara's office is in Suramya Complex, Ahmedabad.

Recently Contacted Lawyers in Ahmedabad:

- Advocate Shivang Lalani
- Advocate Brijendra Singh
- Advocate Abhishek Mukherjee

Figure:1.4

Legal Service India: legalserviceindia.com

Legal Service India is the premier and leading Indian Legal portal focused on law and government. It provides access to an extensive and fast-growing online library of free legal resources for use by Legal Professionals, Students, Consumers and Businesses.

It provides a comprehensive and easy-to-understand legal information to users and make such information easy to find on the Internet. It contains a wide range of features that include lawyers directory, discussion forum, legal advice, codes and cases, web search utilities, mailing lists, articles, etc.

Home page

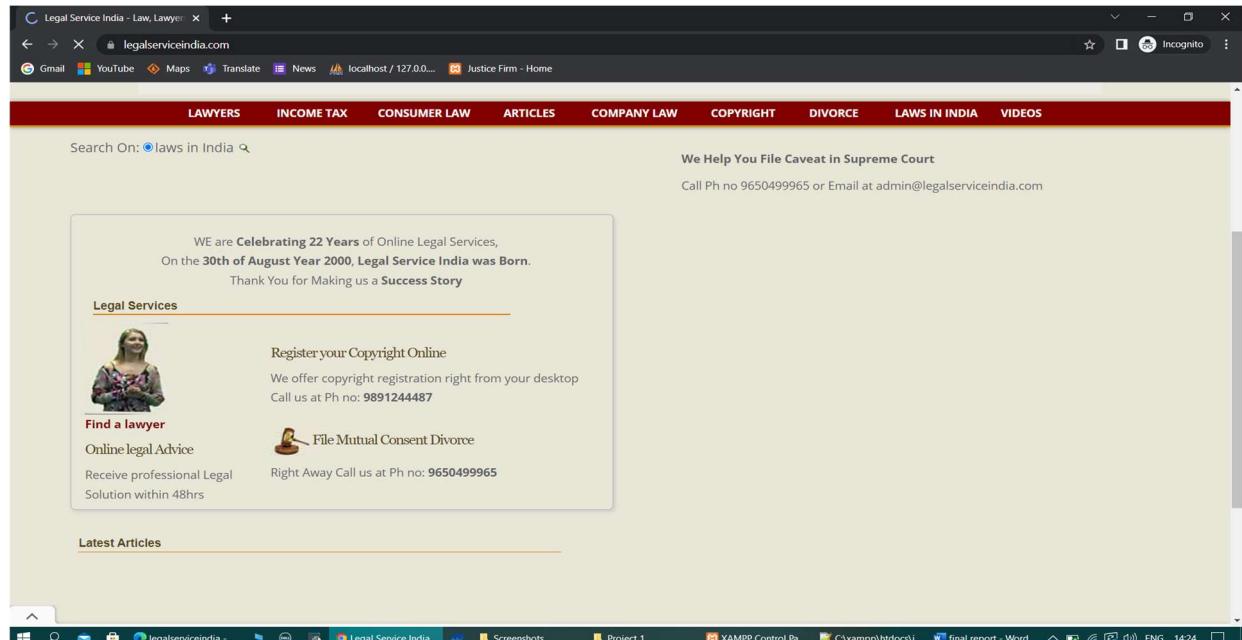


Figure:1.5

Filter page:

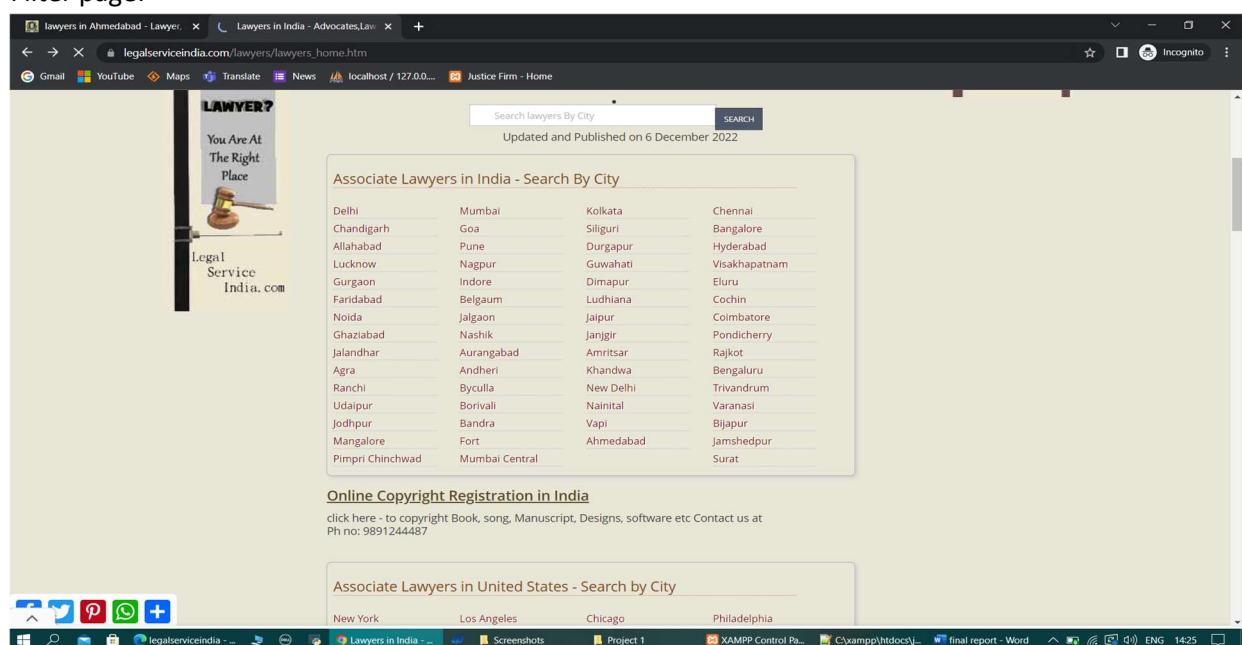


Figure:1.6

Search results:

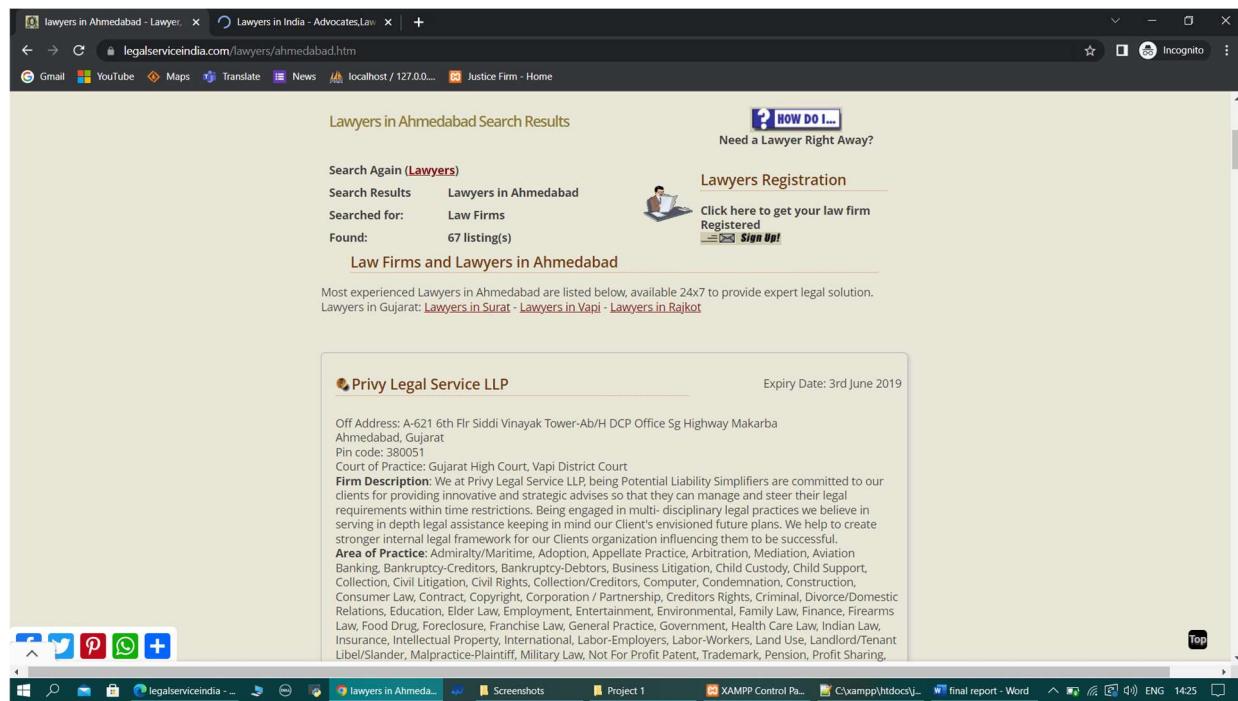


Figure:1.7

Legal conclave: legalconclave.com

Legal conclave allows searching for advocates according to their category or specialisation which relating to one's issues, one can also select an advocate based on their location, experience, and budget, it is very easy to book an appointment of your convenient time and place.

Legal conclave's Services' section allows clients to get agreements drawn up while sitting in the comfort of their homes or offices. They do not need to run around to buy stamp paper, register the contract or to get something notarized. Legal conclave legal experts will be available to draft the documents as per the client's requirements. Clients can submit the documents(s) online or the website's representative will pick it up from their doorstep.

Home page

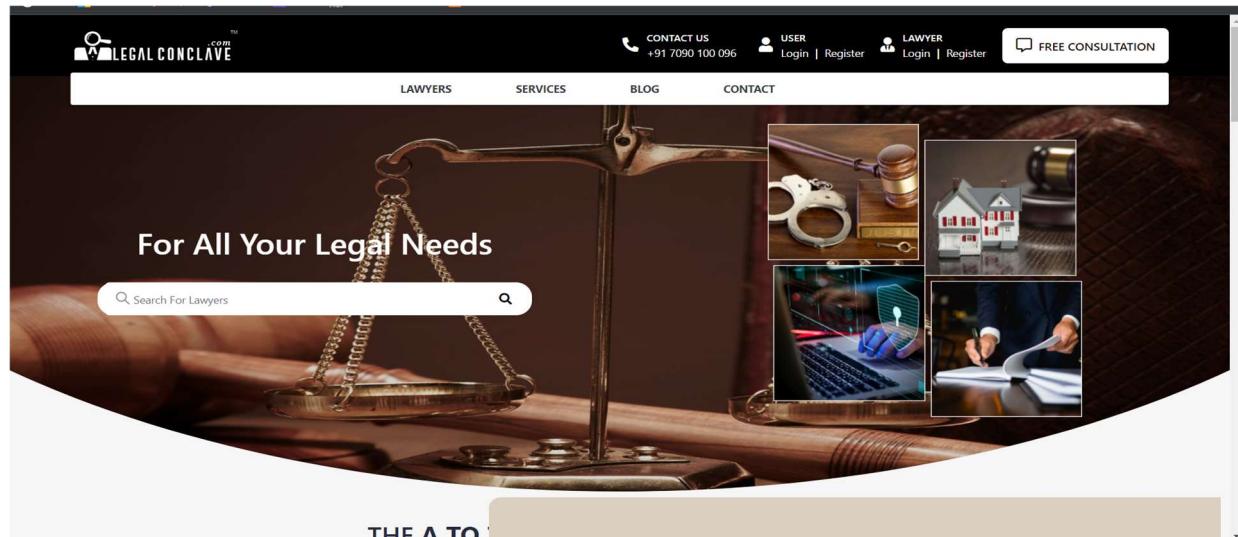


Figure:1.8

Search results:

The screenshot shows a search results page for lawyers on the Legal Conclave website. On the left, there is a 'Search Filter' sidebar with various legal categories like Academic Laws, Animal Laws, Banking Laws, etc. The main area displays four lawyer profiles in a grid:

- Abhishek Dutta** (Kolkata / West Bengal) - Started from 2010. Practice Areas: Banking Laws, Civil Laws, Family Laws. Rating: ★★★★☆.
- Natesan K K** (Coimbatore / Tamil Nadu) - Started from 1994. Practice Areas: Banking Laws, Company Law, Business Law. Rating: ★★★★☆.
- Ramakanta Sarangi** (Cuttack / Odisha) - Started from 2000. Practice Areas: Banking Laws, Civil Laws, Criminal Laws. Rating: ★★★★☆.
- Devy A.C** (Kochi / Ernakulam / Kerala) - Started from 1995. Practice Areas: Banking Laws, Civil Laws, Family Laws. Rating: ★★★★★.

Each profile includes a 'View Profile' and 'Book Now' button. At the bottom right of the grid, there is a 'Quick Question? Chat with US!' button.

Figure:1.9

Lawyer profile:

The screenshot shows a detailed lawyer profile for **R. Jagannatha**. The top navigation bar includes links for LAWYERS, SERVICES, BLOG, and CONTACT. The profile section features a photo of R. Jagannatha, his name, and a brief bio indicating he started from 2005 and is a verified lawyer. It also lists his practice areas: Banking Laws, Company Law, Business Laws, Civil Laws, Torts, Motor Vehicle Accidents Cases, and Taxation. He speaks Kannada, English, and Hindi. His rating is 0 stars. To the right, there are buttons for 'Phone Consultation' (₹500.00/0mins) and 'Direct Consultation' (₹500.00/0mins). Below this is a date range selector showing 'MON 12 DEC, 2022' and a time '11:00 PM'. A large 'BOOK APPOINTMENT' button is at the bottom. The footer contains the Legal Conclave logo, address (#1569, 2nd Floor, 7th Main 4th Cross, RPC Layout, Vijayanagar Bangalore - 560104), social media links, and a footer note: 'Copyright © 2017 Legalconclave.com. All Rights Reserved'. It also features security badges for Comodo, MasterCard, Visa, and PCI DSS.

Figure:1.10

Chapter 3 Proposed System

3.1 Introduction

- Justice Firm is a website where lawyers can register and people/corporations can hire them according to their needs and requirement. Client can see all basic details on based on that client can hire the lawyer.
- The proposed system gives a convenient and time saving solution for the existing system.
- It provides a facility to search all the law firms and lawyers' information in a single consolidated location.
- It also provides the time schedule for the availability of the lawyers and allows for a prospective client to book an appointment with a lawyer based on the clients' requirements.
- The application also has the ability to find your current location using HTML5 Geolocation and then sort lawyers based on that without putting any extra effort.

3.2 Functionality

1) Client

Register/ Login

- Input: Email-id, Create Password, Permanent Address, Mobile Number, Username.
- Output: Registration Successful.
- Constraints: All section required.

Find Lawyer

- Input: Select case type, Select location
- Output: Finding lawyer
- Constraints: Location must be correct

Heiring Lawyer

- Input: Select your lawyer and Hire
- Output: Request will be proceeding for hire
- Constraint: When lawyer accept your request then you hire process successful.

Appointment

- Input: Client can access the lawyer details
- Output: Client can contact the lawyer and discuss.

Logout

- Input: Click on logout.
- Output: Logout Successful.

2) Lawyer

Register/ Login

- Input: Email-id, Create Password, Permanent Address, Mobile Number, Qualification, Username.
- Output: Registration Successful.
- Constraints: All section required.

Verification

- Input: Add your legal document to verify lawyer.
- Output: Submit your document.
- Constraints: Approval will be done by Admins.

Write off Request

- Input: Click on all requests
- Output: All clients request appears there.

Appointment

- Input: Lawyer can access the client details
- Output: Lawyer can contact the client and discuss.

Logout

- Input: Click on Logout.
- Output: Logout Successful.

3) Admin

Register/ Login

- Input: Email-id, Create Password, Mobile Number, Username.
- Output: Registration Successful.
- Constraints: All section required.

Write off request

- Input: Check the documents of Lawyers if documents are correct then lawyer will verify.
- Output: Verify/ Non-Verify Successfully.
- Constraints: Admin have to check correctly.

Update Changes

- Input: New Changes, Solve any bug and issues.
- Output: Changes successful.

View Clients

- Input: Select client details.
- Output: Display the details of lawyers.
- Constraints: No changes will be done by admin.

View Lawyer

- Input: Select lawyer details.
- Output: Display the details of lawyers.
- Constraints: No changes will be done by admin.

3.3 Advantages

- It provides a facility to search all the law firms and lawyers' information in a single consolidated location.
- The application has the ability to find a user's current location using HTML5 Geolocation when searching for lawyers and then sorts lawyers based on the distance of their office to the user's current location, so that the user sees the closest lawyers first.
- The system supports the ability to upload images & documents relevant to a case in a single consolidated repository.
- The system supports a simple in-application chat messaging system that a lawyer & client can use to discuss the preliminary details about an appointment (i.e., the appointment's time

3.4 System Modules

- Client module: Used by the clients to search for and book lawyers.
 1. Register / Login
 2. Edit details / password
 3. Search lawyer by name
 4. Search lawyer by location
 5. Book appointment with lawyer
 6. View appointment bookings
 7. Hire lawyer
 8. Logout
- Lawyer module: Used by the lawyers to view and confirm appointment booking of clients as per their schedule
 1. Register / Login
 2. Edit details / location / password
 3. Submit papers for verification
 4. View client booking requests
 5. Confirm appointment booking of client
 6. Logout
- Administrator module: Used by the System Administrators to manage and track the operation and usage of the system and prevent misuse.
 1. Register / Login
 2. Edit details / password
 3. View clients
 4. View lawyers
 5. Verify and confirm legal documents of lawyers
 6. View statistics
 7. Logout

Chapter: 4 system Design

4.1 System flow diagram

4.1.1 Client registration flowchart

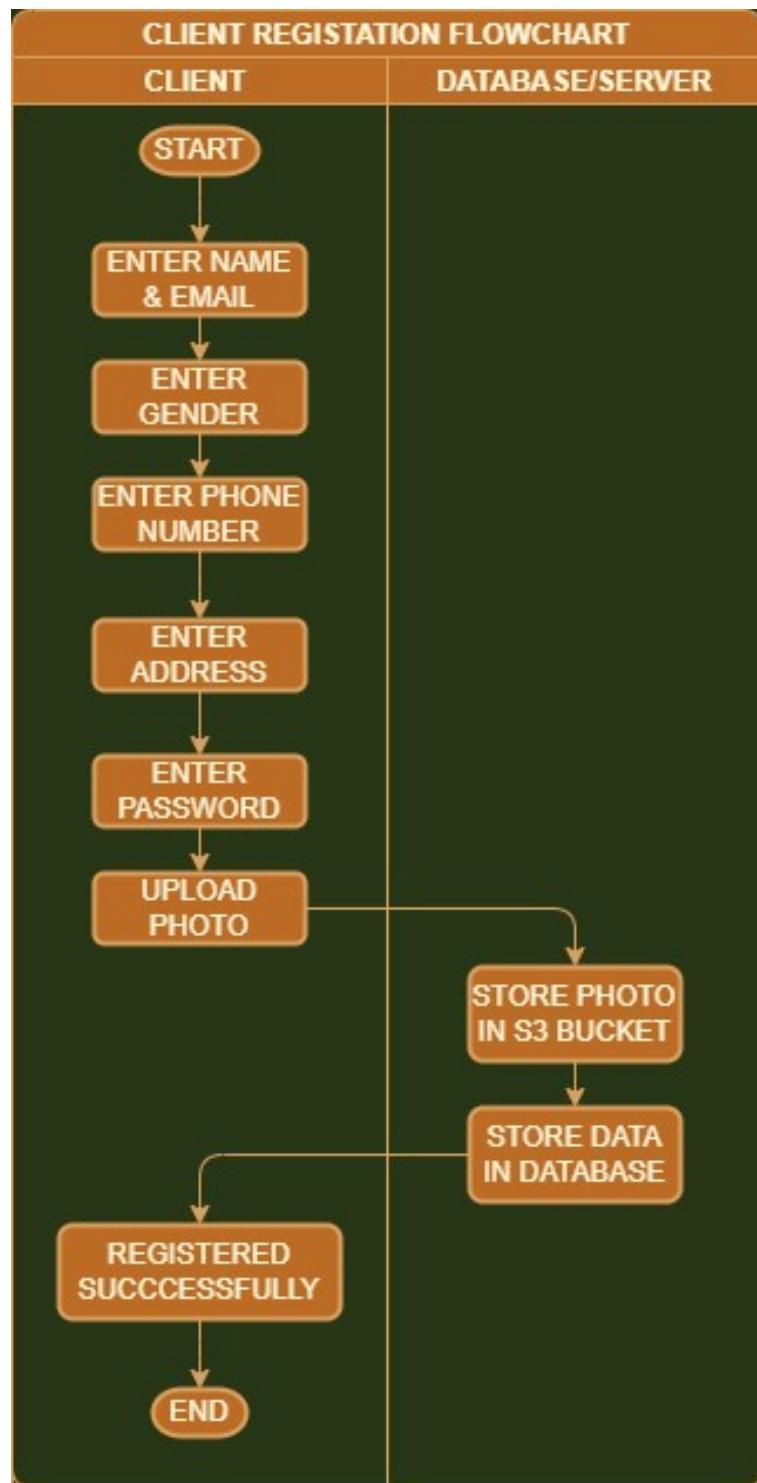


Figure 4.1.1

4.1.2 Lawyer registration flowchart

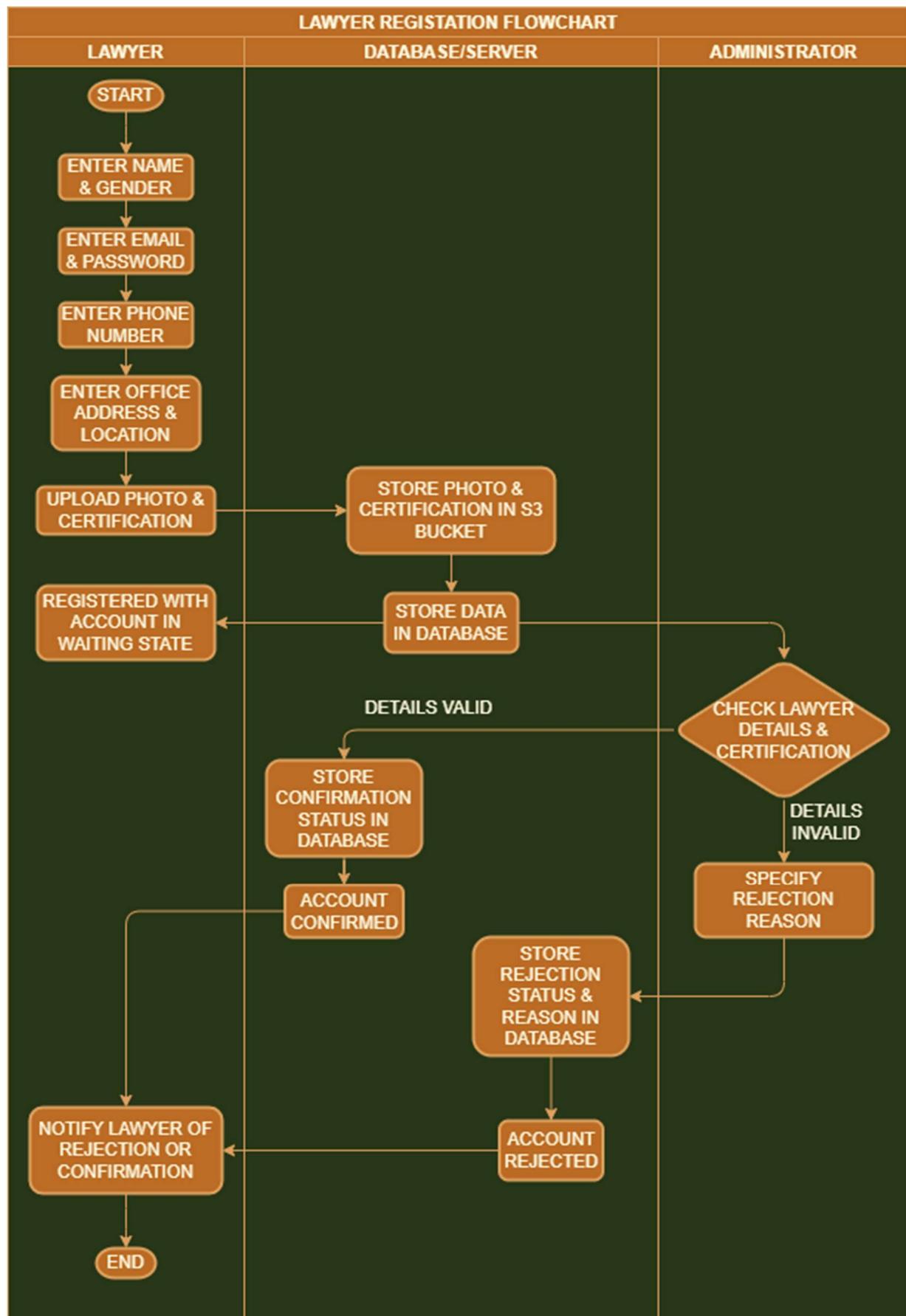


Figure 4.1.2

4.1.4 Appointment flowchart

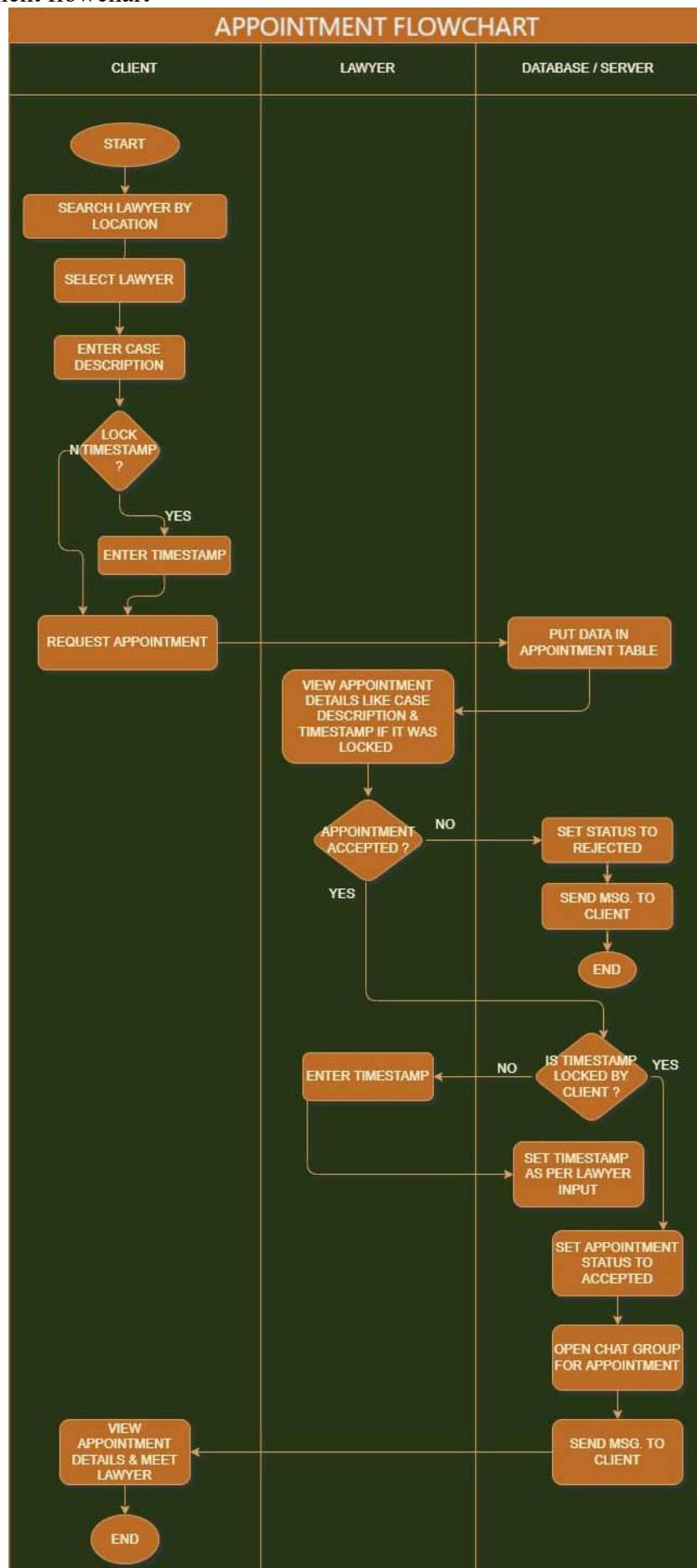


Figure 4.1.3

4.1.3 Case flowchart



Figure 4.1.3

4.1.4 Chat System flowchart

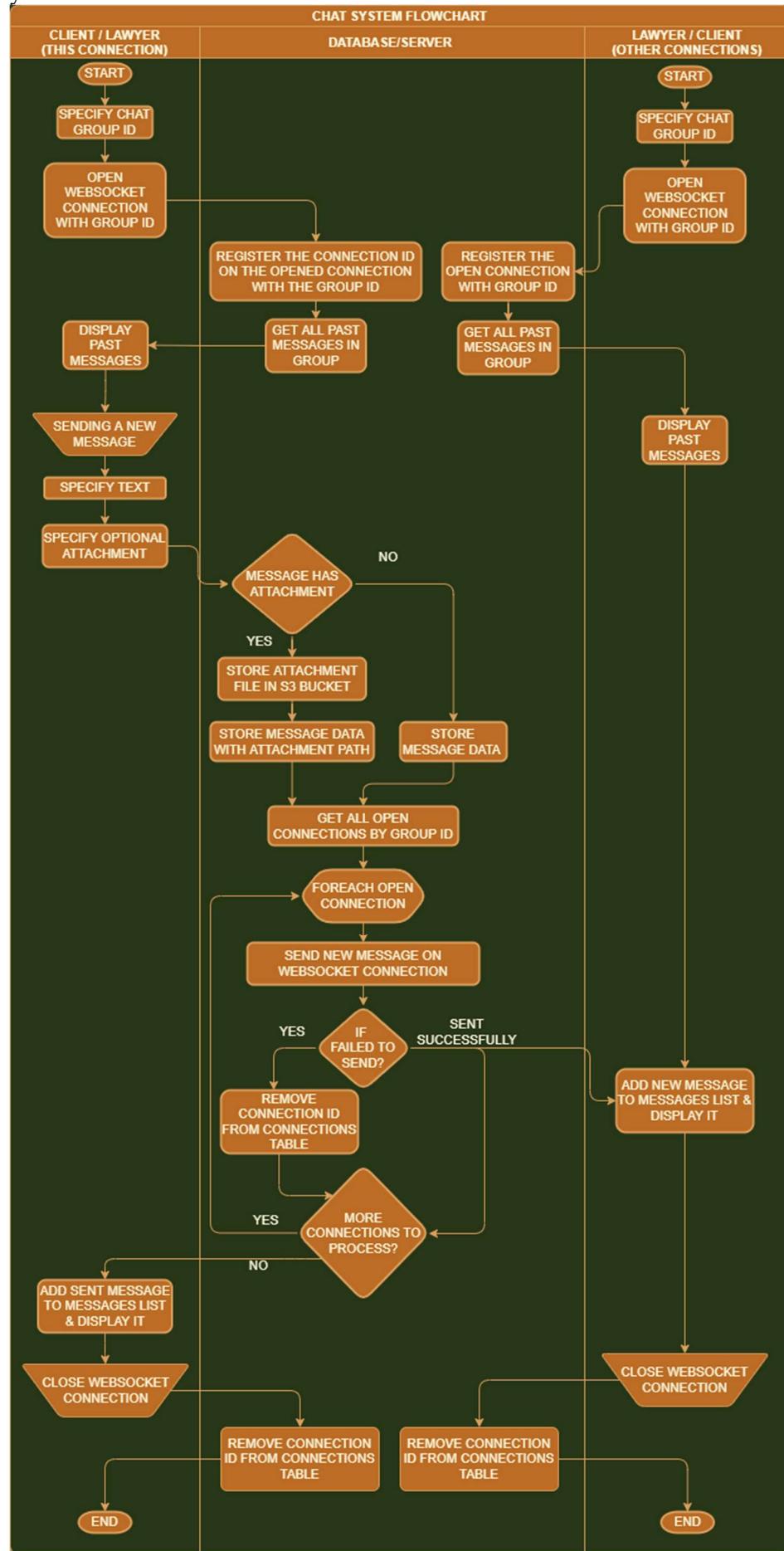


Figure 4.1.4

4.2 Use Case Diagram

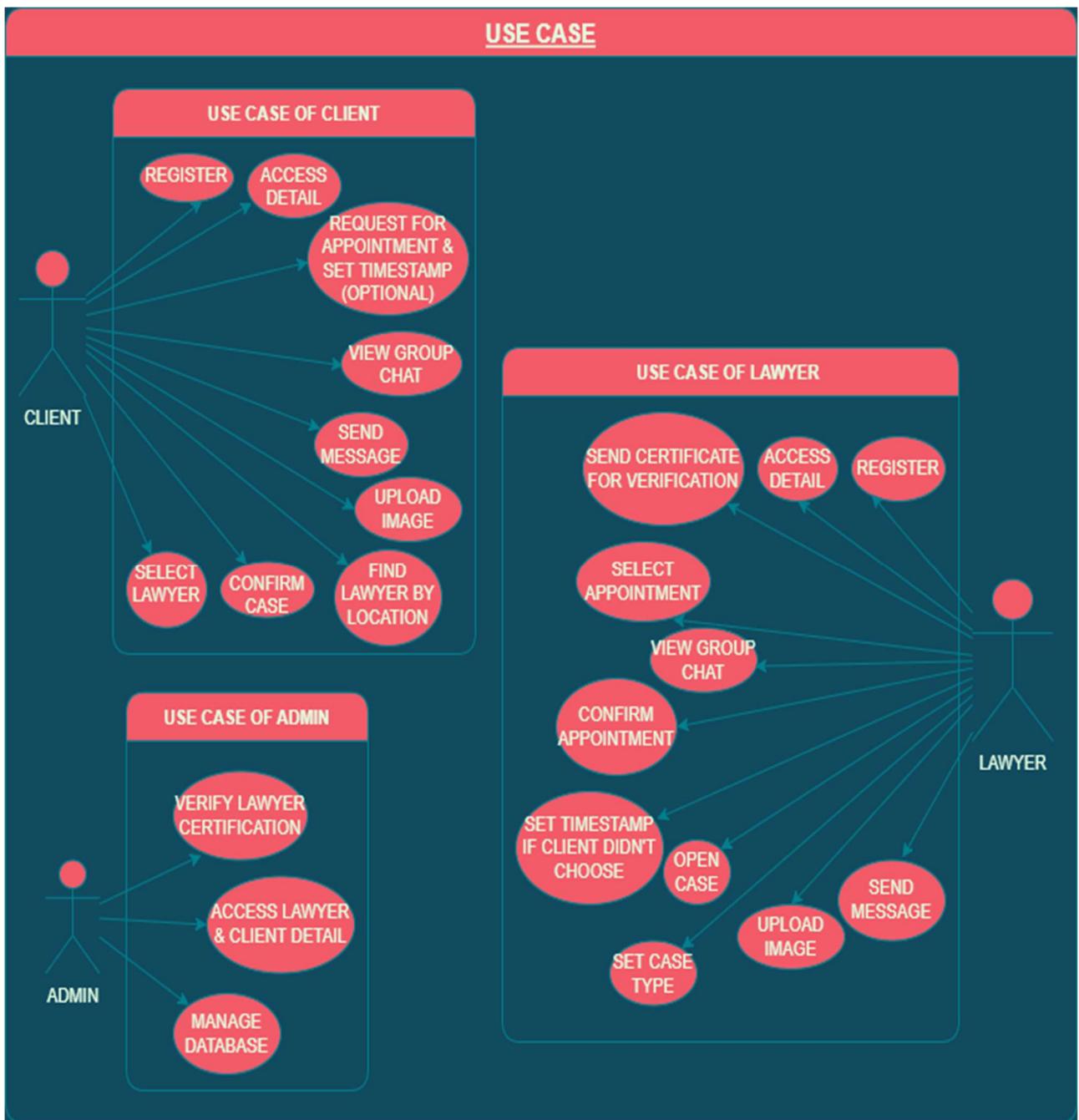


Figure: 4.2

4.3 DFD Diagrams

4.3.1 Context Level DFD

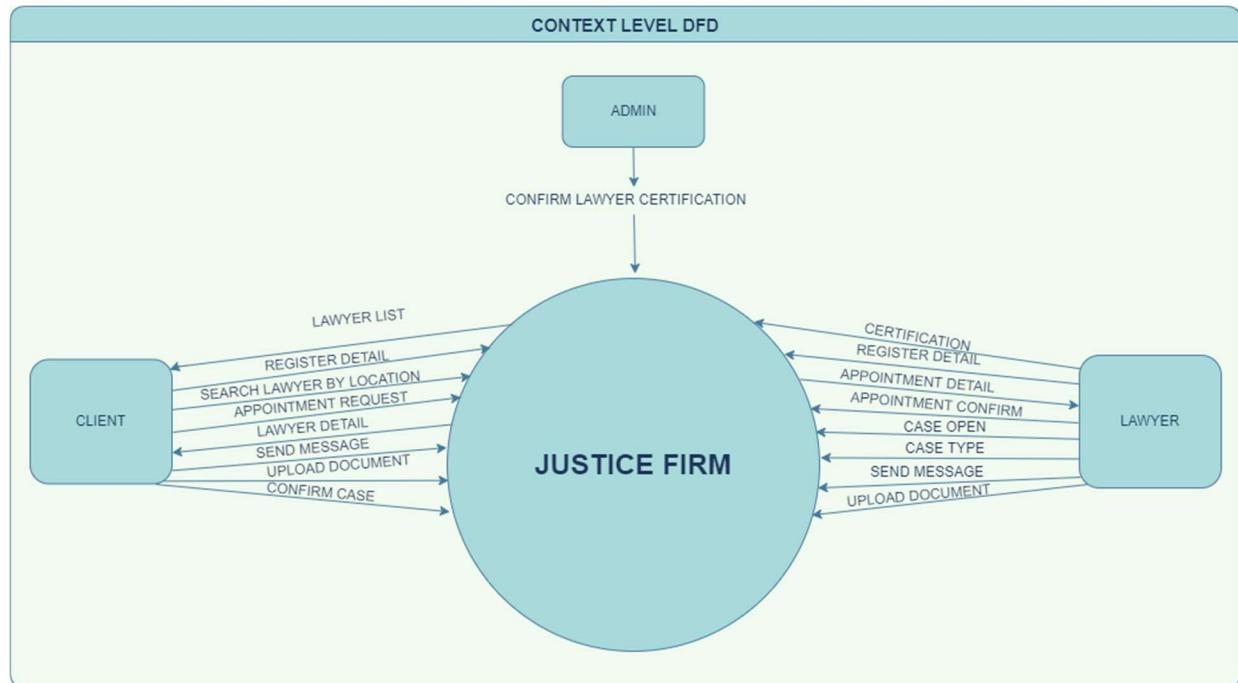


Figure 4.3.1

4.3.2 Level 1 DFD

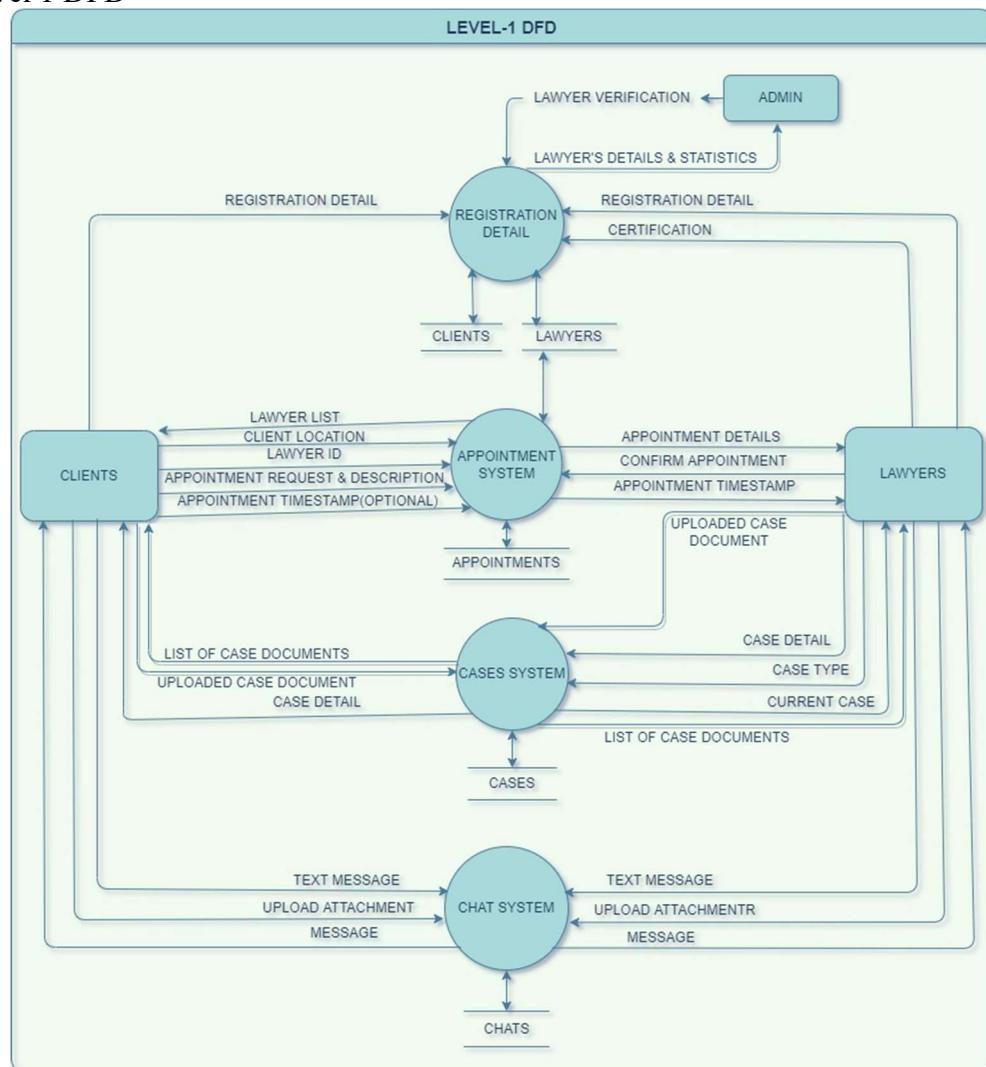


Figure 4.3.2

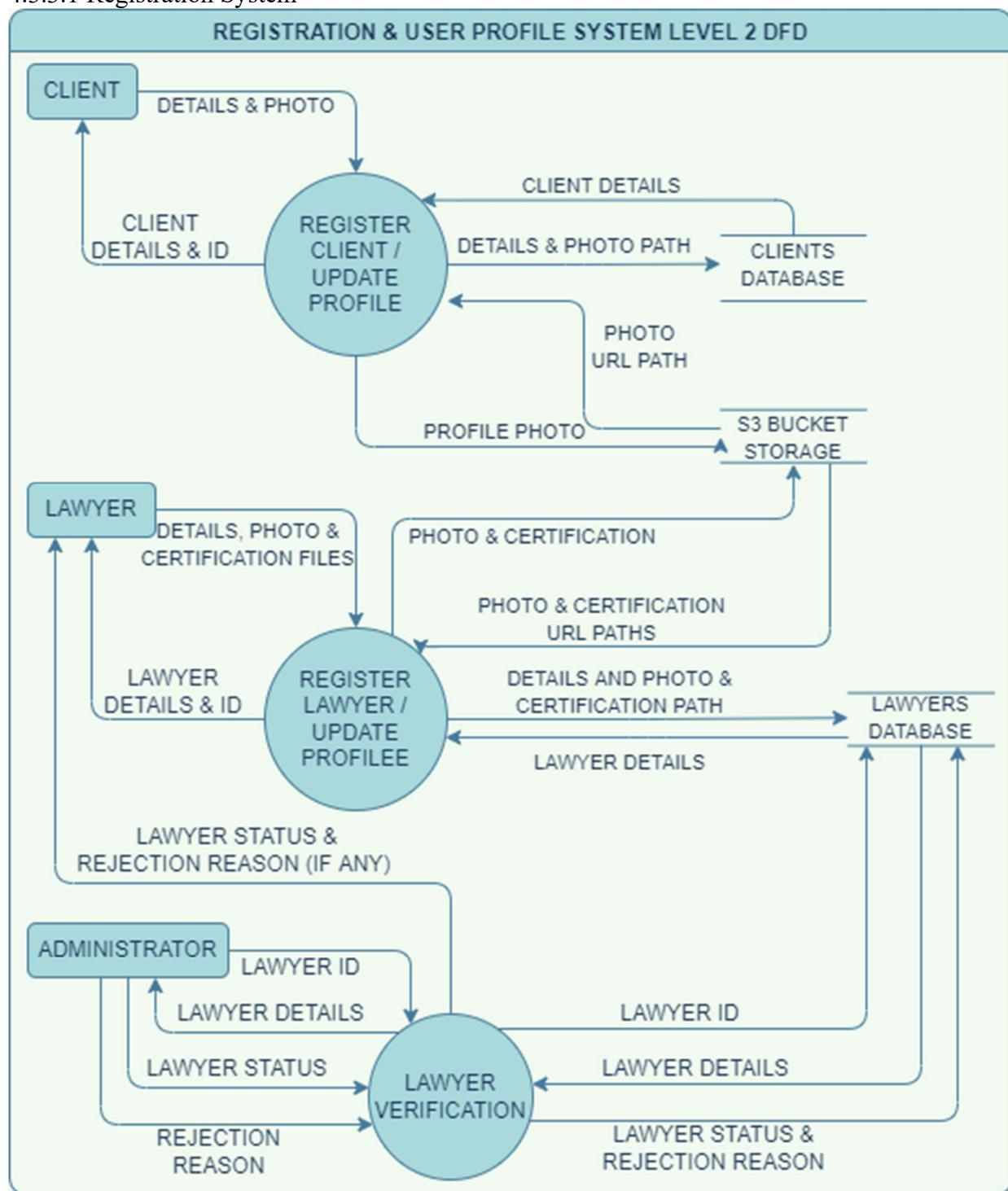


Figure 4.3.3.1

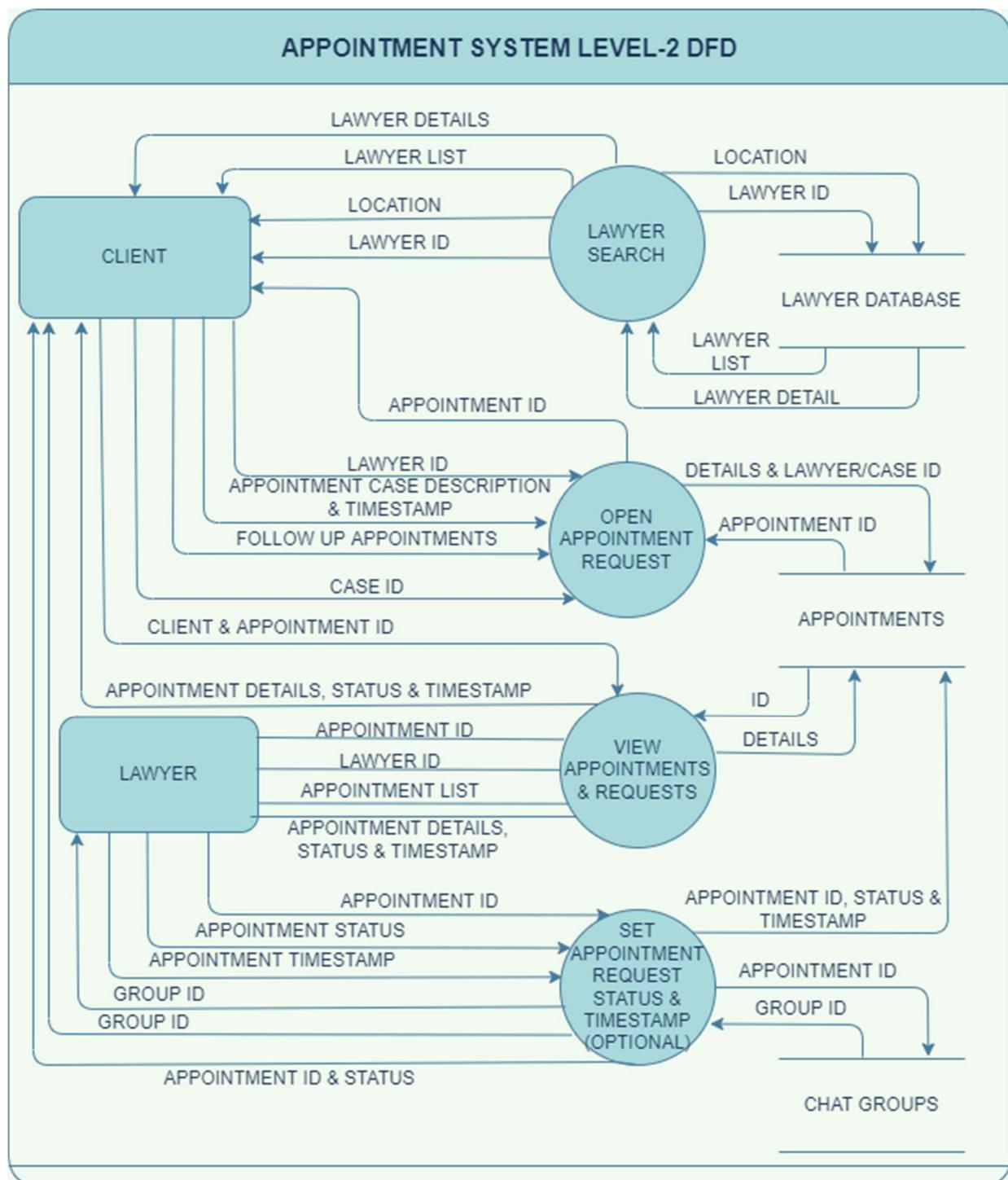


Figure 4.3.3.2

4.3.3.3 Case System

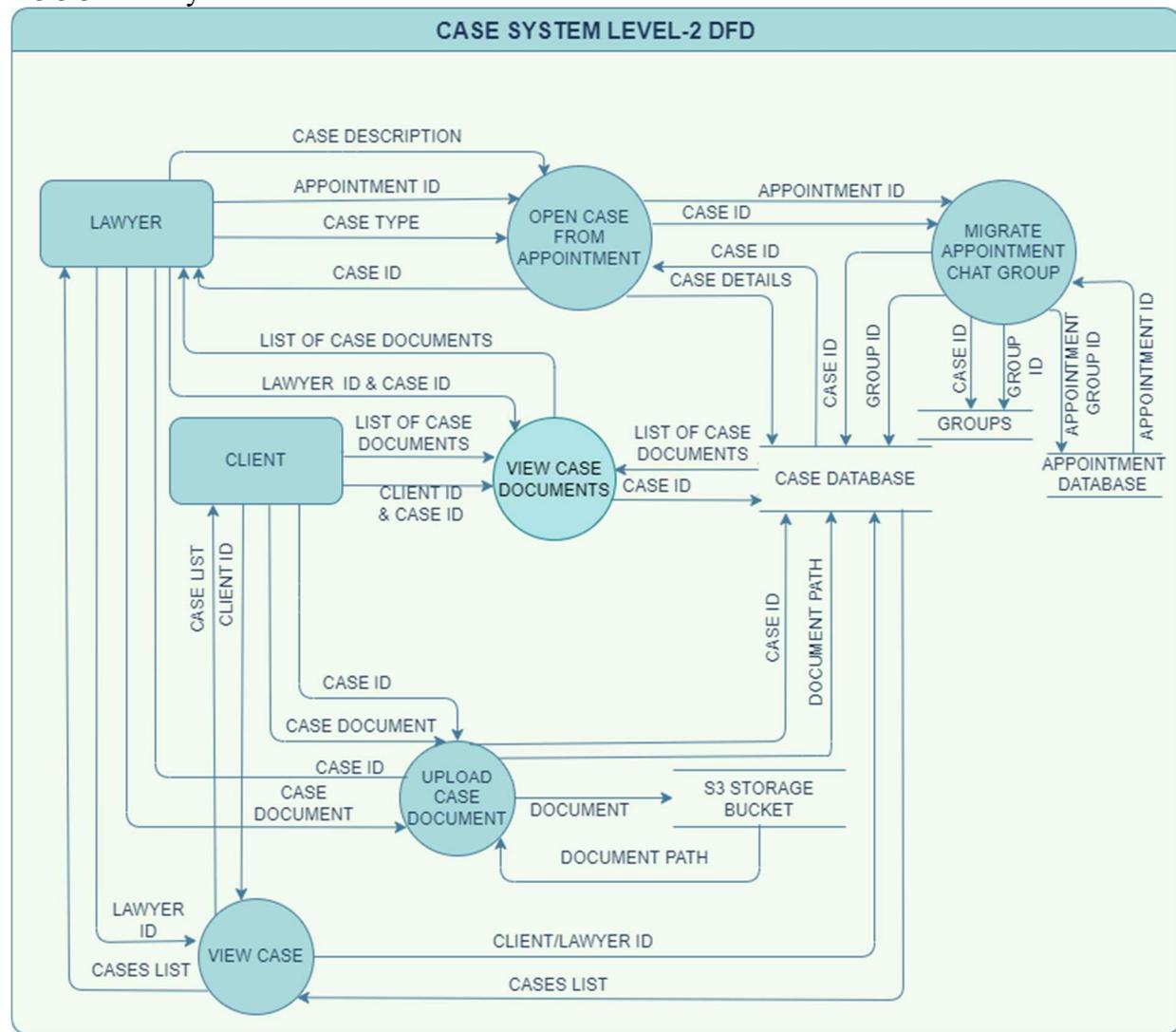


Figure 4.3.3.3

4.3.3.4 Chat System

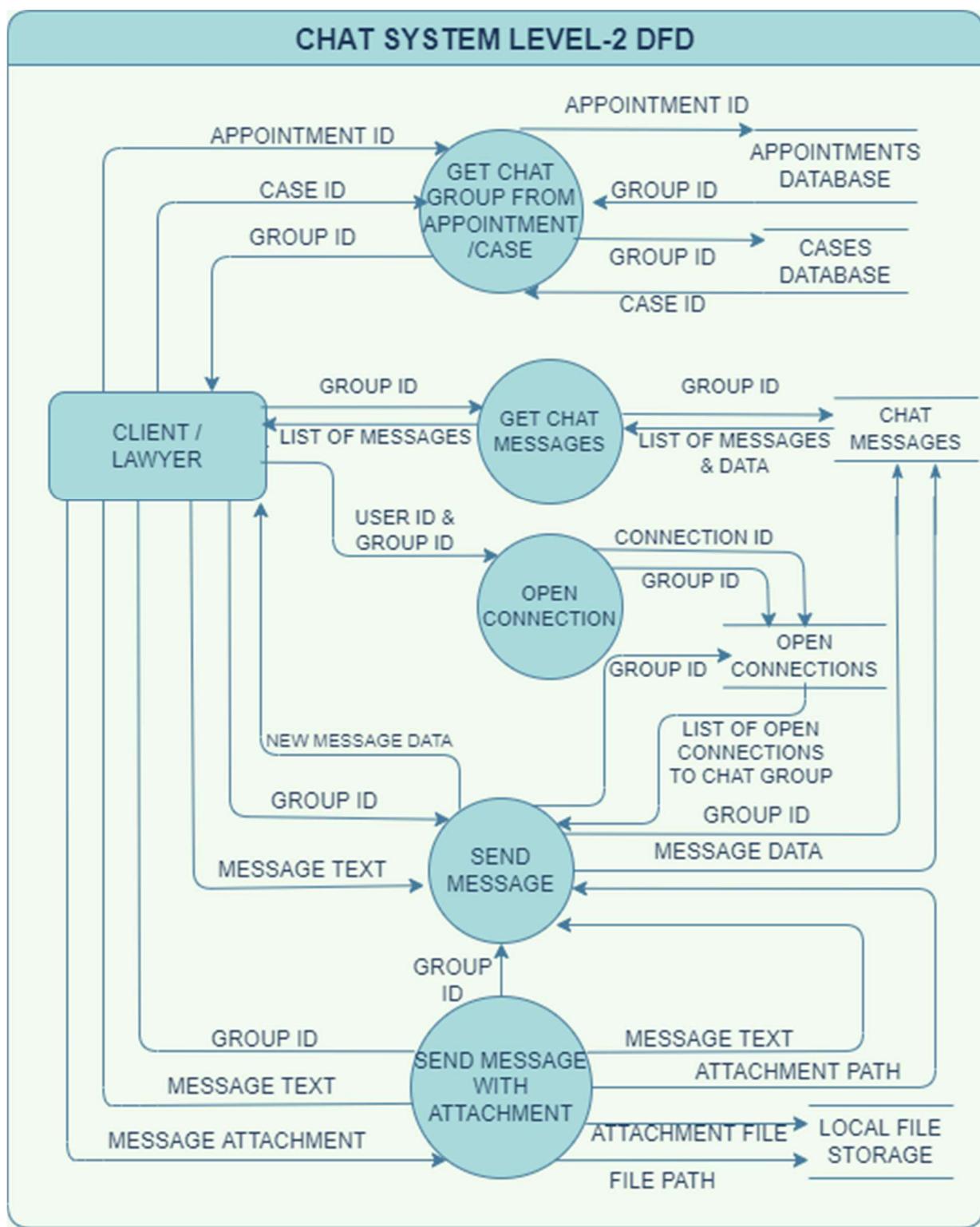


Figure: 4.3.3.4

4.4 Entity Relationship Diagram

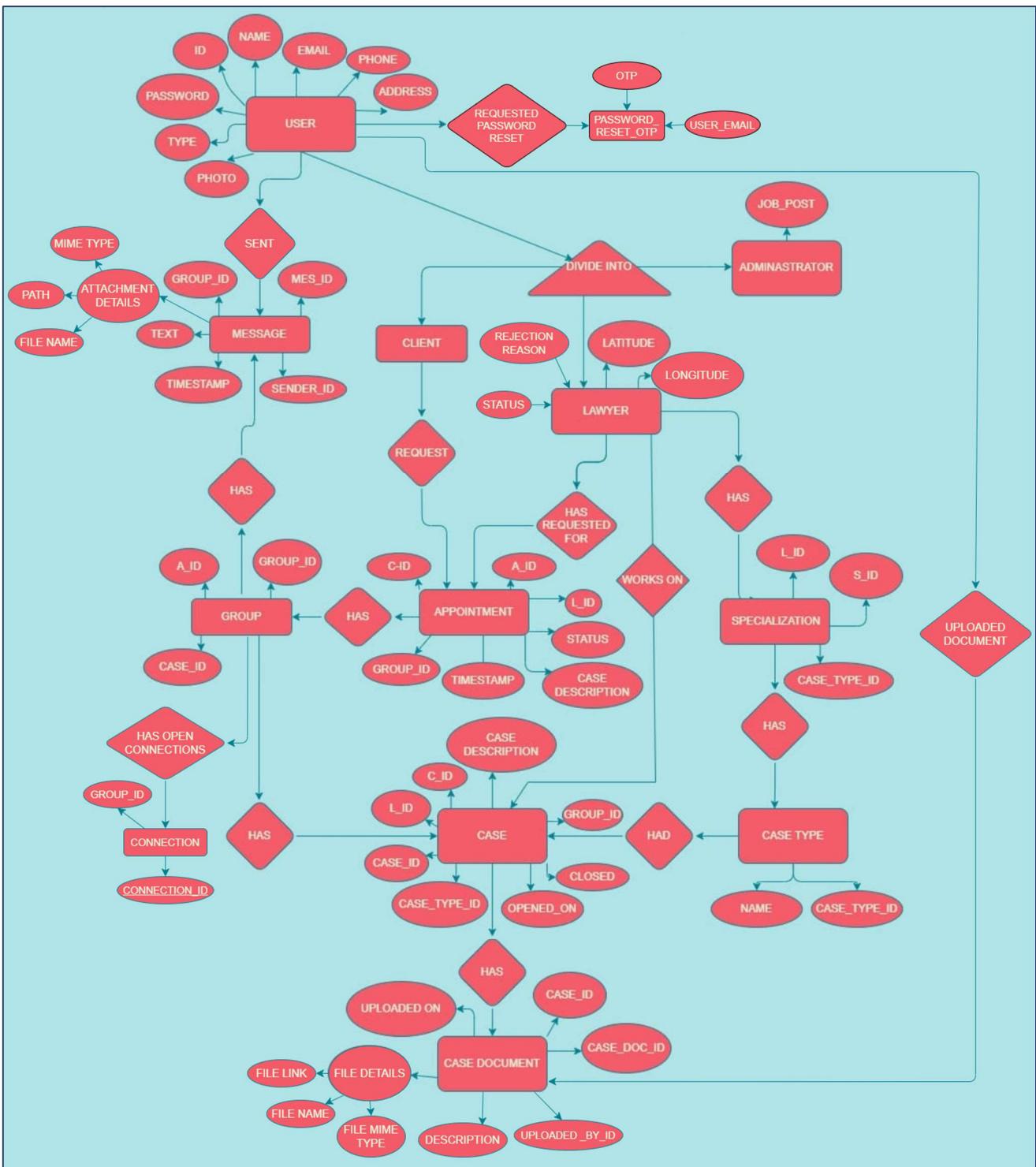


Figure 4.4

4.4.1 Extended Entity Relationship Diagram

Automatically generated by MySQL workbench.

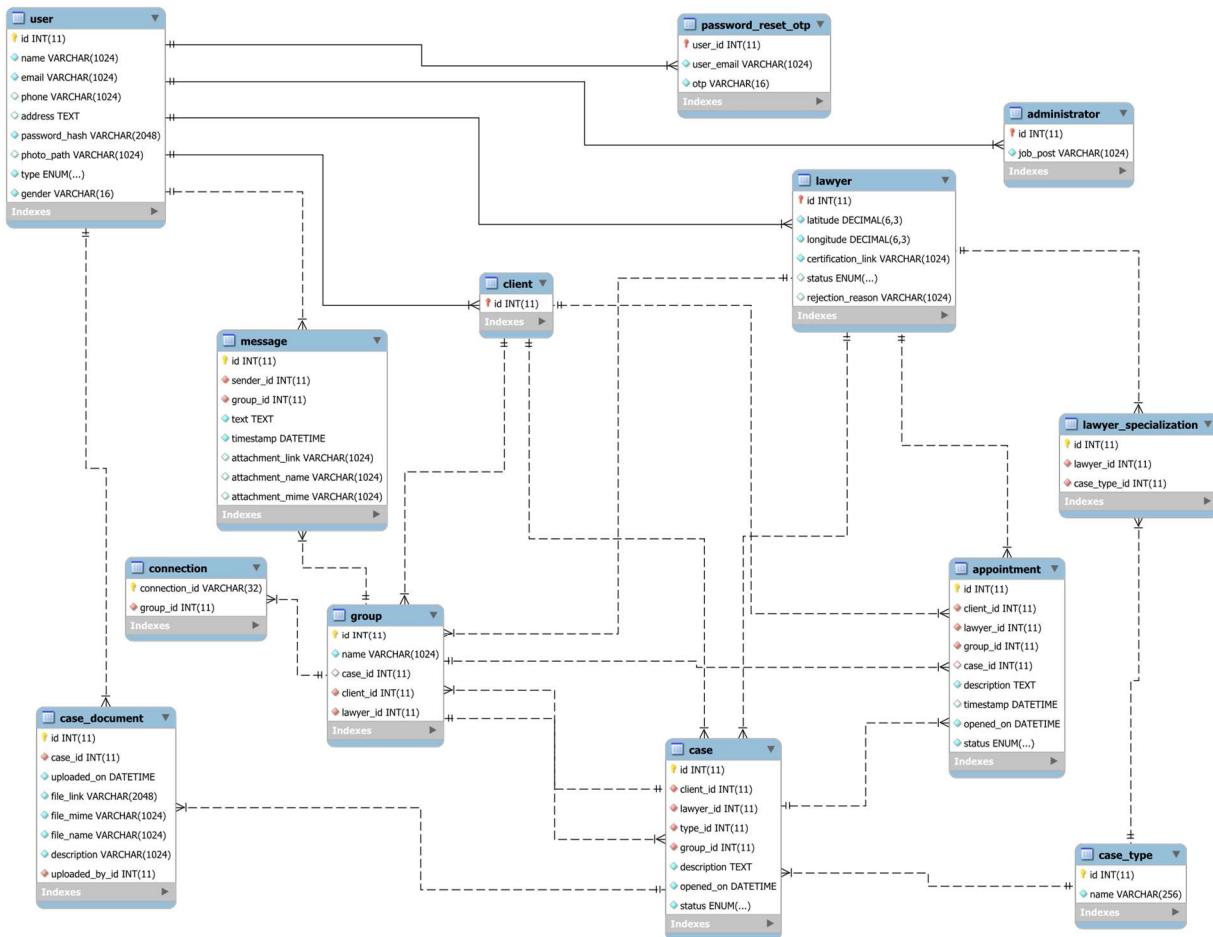


Figure 4.4.1

4.5 Data Dictionary

USER

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	id	int(11)			No	None		AUTO_INCREMENT	Change Drop More
2	name	varchar(1024)	utf8mb4_general_ci		No	None			Change Drop More
3	email	varchar(1024)	utf8mb4_general_ci		No	None			Change Drop More
4	phone	varchar(1024)	utf8mb4_general_ci		Yes	NULL			Change Drop More
5	address	text	utf8mb4_general_ci		Yes	NULL			Change Drop More
6	password_hash	varchar(2048)	utf8mb4_general_ci		No	None			Change Drop More
7	photo_path	varchar(1024)	utf8mb4_general_ci		Yes	NULL			Change Drop More
8	type	enum('client', 'lawyer', 'admin')	utf8mb4_general_ci		No	client			Change Drop More

Figure: 4.5.1

USER table's column Remarks:

password_hash	The hash value of the password, as generated by Blowfish algorithm
----------------------	--

CLIENT

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action	
<input type="checkbox"/>	1	id	int(11)		No	None		Change	Drop	More

Figure: 4.5.1

CLIENT table's column remarks:

id	Primary key. Also foreign key to the Id key of the User table.
-----------	--

ADMINISTRATOR

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action	
<input type="checkbox"/>	1	id	int(11)		No	None		Change	Drop	More
<input type="checkbox"/>	2	job_post	varchar(1024)	utf8mb4_general_ci	No	None		Change	Drop	More

Figure: 4.5.2

ADMINISTRATOR table's column remarks:

id	Primary key. Also foreign key to the Id key of the User table.
-----------	--

LAWYER

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action	
<input type="checkbox"/>	1	id	int(11)		No	None		Change	Drop	More
<input type="checkbox"/>	2	latitude	decimal(6,3)		No	None		Change	Drop	More
<input type="checkbox"/>	3	longitude	decimal(6,3)		No	None		Change	Drop	More
<input type="checkbox"/>	4	certification_link	varchar(1024)	utf8mb4_general_ci	No	None		Change	Drop	More
<input type="checkbox"/>	5	status	enum('waiting', 'rejected', 'confirmed')	utf8mb4_general_ci	Yes	waiting		Change	Drop	More
<input type="checkbox"/>	6	rejection_reason	varchar(1024)	utf8mb4_general_ci	Yes	NULL		Change	Drop	More

Figure: 4.5.1

LAWYER table's column remarks:

id	Primary key. Also foreign key to the Id key of the User table.
status	Whether the lawyer's details were confirmed by an administrator.

CASE TYPE

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action	
<input type="checkbox"/>	1	id	int(11)		No	None	AUTO_INCREMENT	Change	Drop	More
<input type="checkbox"/>	2	name	varchar(256)	utf8mb4_general_ci	No	None		Change	Drop	More

Figure: 4.5.1

LAWYER SPECIALIZATION

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action	
<input type="checkbox"/>	1	id	int(11)		No	None	AUTO_INCREMENT	Change	Drop	More
<input type="checkbox"/>	2	lawyer_id	int(11)		No	None		Change	Drop	More
<input type="checkbox"/>	3	case_type_id	int(11)		No	None		Change	Drop	More

Figure: 4.5.1

LAWYER SPECIALIZATION table's column remarks:

Is a join table i.e., that the lawyer with the given Id specialized in the given case type

lawyer_id Foreign key to the Id key of the Lawyer table

case_type_id Foreign key to the Id key of the Case Type table

APPOINTMENT

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	id	int(11)		No	None		AUTO_INCREMENT	Change Drop More	
2	client_id	int(11)		No	None			Change Drop More	
3	lawyer_id	int(11)		No	None			Change Drop More	
4	group_id	int(11)		No	None			Change Drop More	
5	case_id	int(11)		Yes	NULL			Change Drop More	
6	description	text	utf8mb4_general_ci	No	None			Change Drop More	
7	timestamp	datetime		Yes	NULL			Change Drop More	
8	status	enum('waiting', 'rejected', 'confirmed')	utf8mb4_general_ci	No	waiting			Change Drop More	

Figure: 4.5.1

APPOINTMENT table's column remarks:

client_id Foreign key to the Id key of the Client table. Represents the client registered for the appointment.

lawyer_id Foreign key to the Id key of the Lawyer table. Represents the lawyer registered for the appointment.

group_id Foreign key to the Id key of the Group table. Represents the chat group for the appointment.

case_id Foreign key to the Id key of the Case table. Represents the case finalized from the appointment

description The user's reasons for contacting the lawyer.

timestamp The appointment date and time.

CASE

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	id	int(11)		No	None		AUTO_INCREMENT	Change Drop More	
2	client_id	int(11)		No	None			Change Drop More	
3	lawyer_id	int(11)		No	None			Change Drop More	
4	type_id	int(11)		No	None			Change Drop More	
5	group_id	int(11)		No	None			Change Drop More	
6	description	text	utf8mb4_general_ci	No	None			Change Drop More	
7	opened_on	datetime		No	current_timestamp()			Change Drop More	
8	status	enum('waiting', 'open', 'closed')	utf8mb4_general_ci	No	waiting			Change Drop More	

Figure: 4.5.1

CASE table's column remarks:

client_id Foreign key to the Id key of the Client table. Represents the client registered for the case.

lawyer_id Foreign key to the Id key of the Lawyer table. Represents the lawyer registered for the case.

group_id Foreign key to the Id key of the Group table. Represents the chat group for the case.

type_id Foreign key to the Id key of the Type table. Represents the case type.

description The user's reasons for opening the case.

opened_on The date and time the case was opened.

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	id 🔑	int(11)			No	None		AUTO_INCREMENT	Change Drop More
2	case_id 🔑	int(11)			No	None			Change Drop More
3	uploaded_on	datetime			No	current_timestamp()			Change Drop More
4	file_link	varchar(2048)	utf8mb4_general_ci		No	None			Change Drop More
5	file_mime	varchar(1024)	utf8mb4_general_ci		No	None			Change Drop More
6	file_name	varchar(1024)	utf8mb4_general_ci		No	None			Change Drop More
7	description	varchar(1024)	utf8mb4_general_ci		No	None			Change Drop More
8	uploaded_by_id 🔑	int(11)			No	None			Change Drop More

Figure: 4.5.1

CASE DOCUMENT table's column remarks:

case_id	Foreign key to the Id key of the Case table.
file_link	A link to case document file
file_name	The name of the document file
file_mime	The MIME type of the document file

GROUP

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	id 🔑	int(11)			No	None		AUTO_INCREMENT	Change Drop More
2	case_id 🔑	int(11)			Yes	NULL			Change Drop More
3	client_id 🔑	int(11)			No	None			Change Drop More
4	lawyer_id 🔑	int(11)			No	None			Change Drop More

Figure: 4.5.1

GROUP table's column remarks:

client_id	Foreign key to the Id key of the Client table. Represents the client in the group.
lawyer_id	Foreign key to the Id key of the Lawyer table. Represents the lawyer in the group.
case_id	Foreign key to the Id key of the Case table. Represents the case corresponding to the chat group.

Note: The CONNECTION, PASSWORD_RESET_OTP and MESSAGE tables' given below are stored in AWS DynamoDB, a NoSQL database that stores data as key-value pairs. In DynamoDB tables have no definite schema except the primary key, which must be defined at creation time and can take one of two forms:

1. A single-attribute primary key is known as the table's "partition key", which determines the partition that a record hashes to, so an ideal partition key has a uniform distribution over its range.
2. A primary key can also have a second attribute, called the "sort key". In this case, partition keys do not have to be unique; they are paired with sort keys to make the primary key. The partition key is still used to determine which partition the item is stored in, but within each partition, items are sorted by the sort key.

CONNECTION

Name	Type	Remarks
connection_id	string (not null)	Partition & Primary key. Auto generated by AWS APIGateway's WebSocket connections API.
group_id	string	The Chat Group ID associated WebSocket Connection.

PASSWORD_RESET OTP

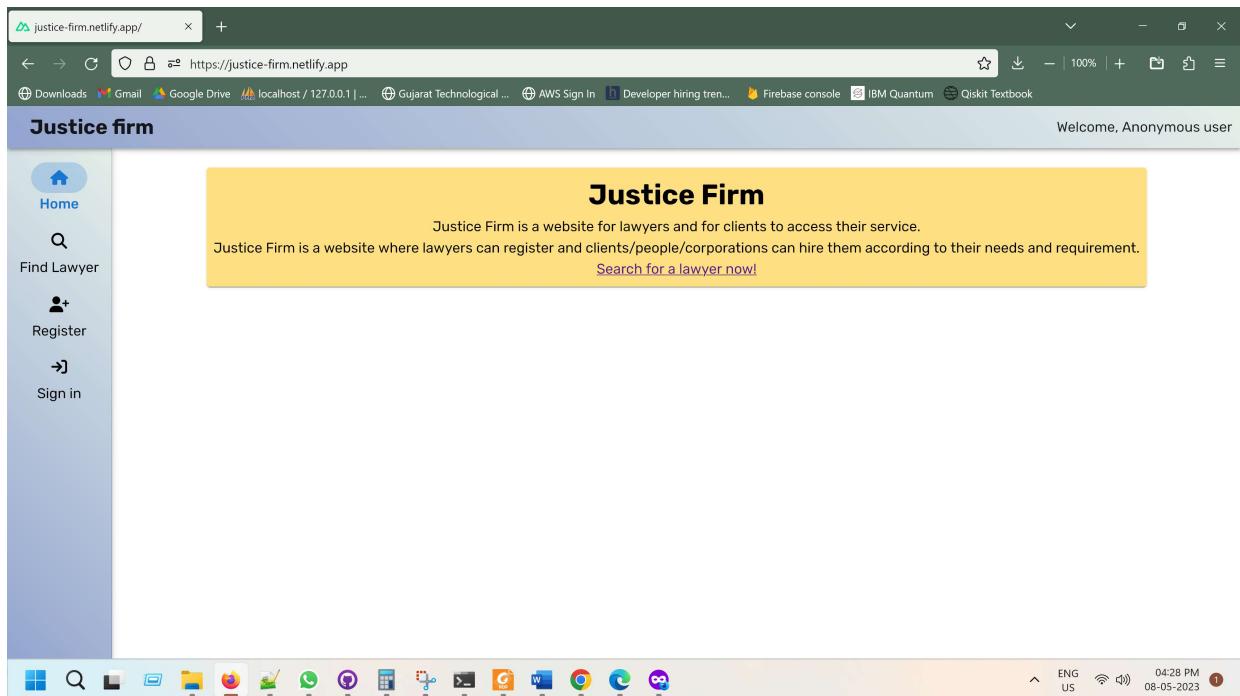
Name	Type	Remarks
email	string (not null)	Partition key. Represents the User who requested the password reset.
otp	string (not null)	Sort key. Represents the OTP sent to the user's email account.
email, otp	(not null)	Primary key. The partition and sort key make up the primary key for a DynamoDB table.

MESSAGE

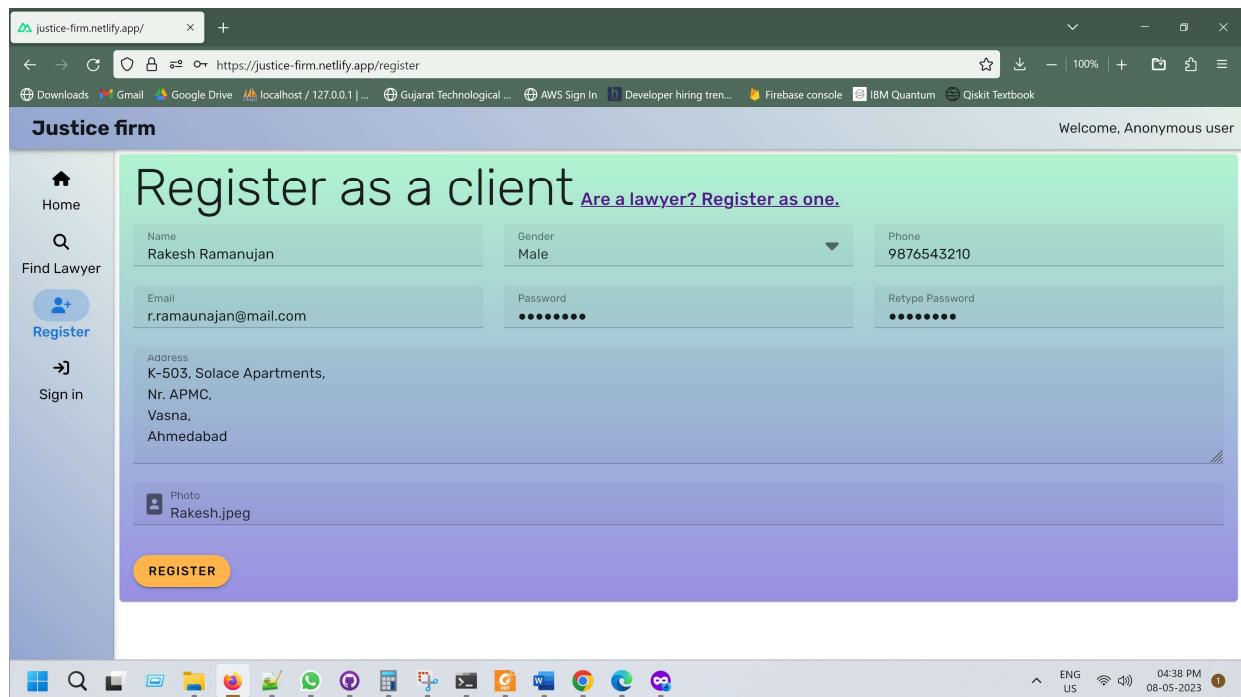
Name	Type	Remarks
group_id	string (not null)	Partition key. Represents the group the message is in.
timestamp	string (not null)	Sort key. The date and time the message was sent in.
group_id, timestamp		Primary key.
id	string	Unique ID for each message.
text	string	The message text
sender_id	string	Represents the client or lawyer who sent the message.
attachment_link	string	A link to the attachment to the current message. Can be null.
attachment_name	string	The name of the attachment file
attachment_mime	string	The MIME type of the attachment file

4.6 System Design

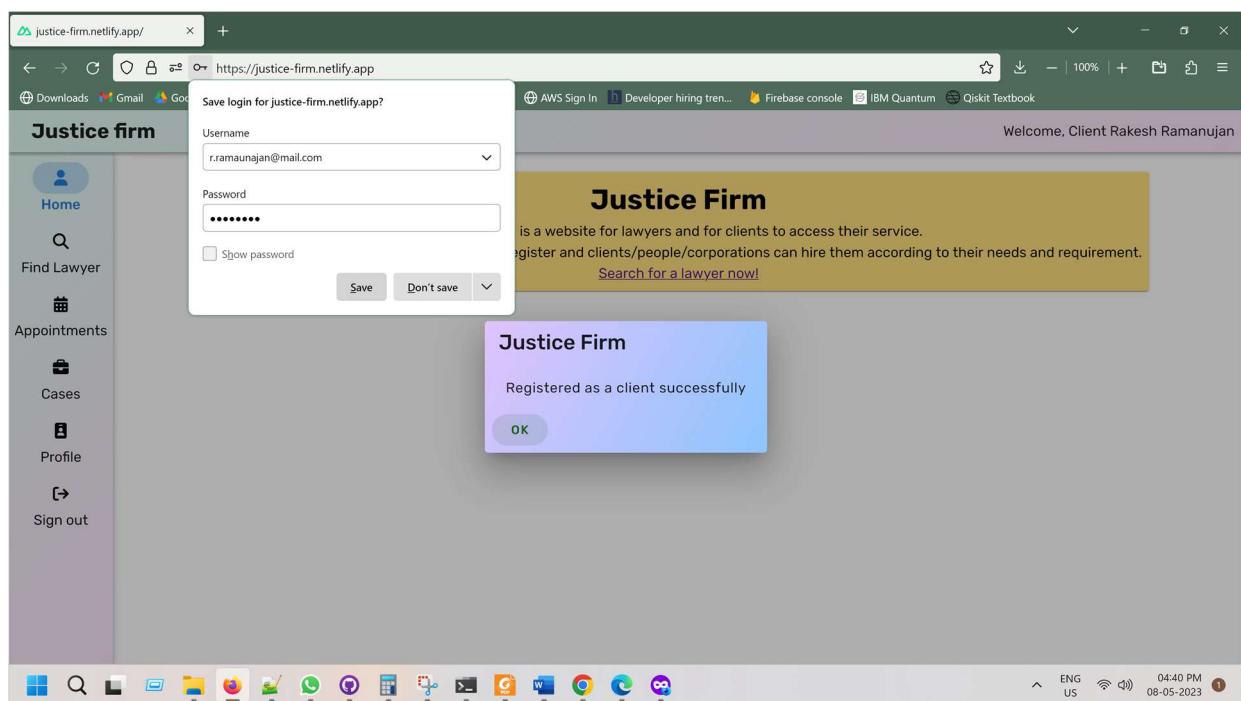
Notice that the top navbar shows the currently signed in user's name on the top right corner.



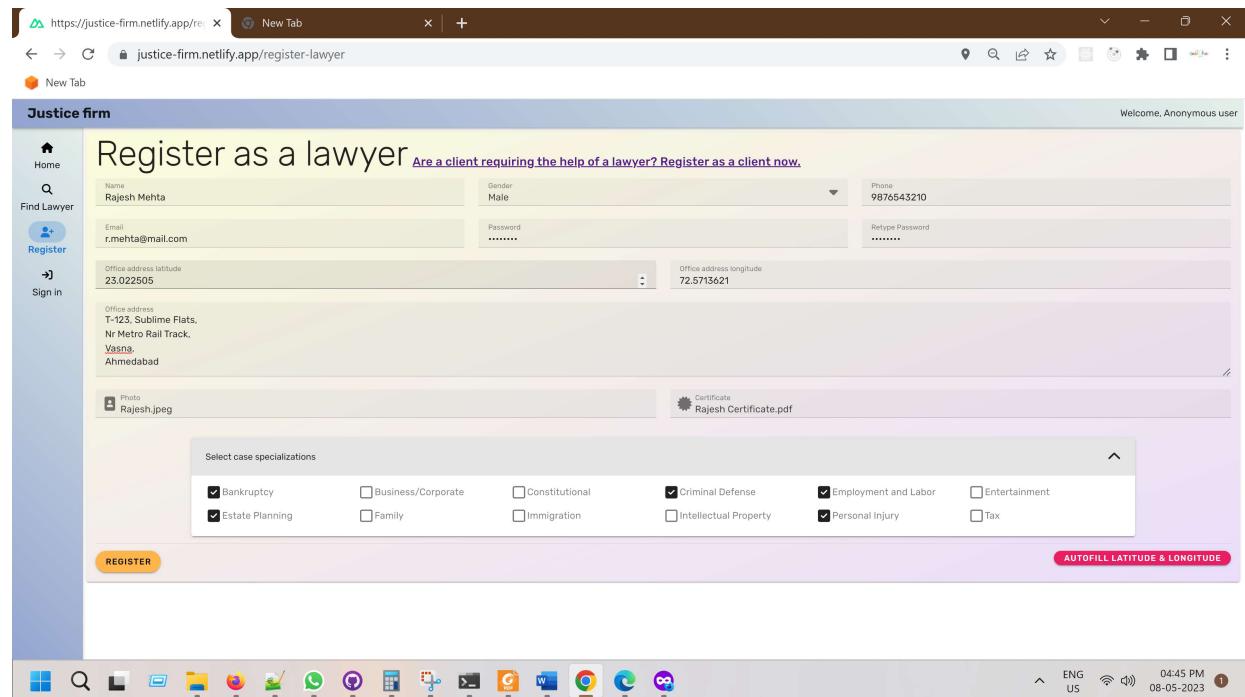
Picture 4.6.1. Front page



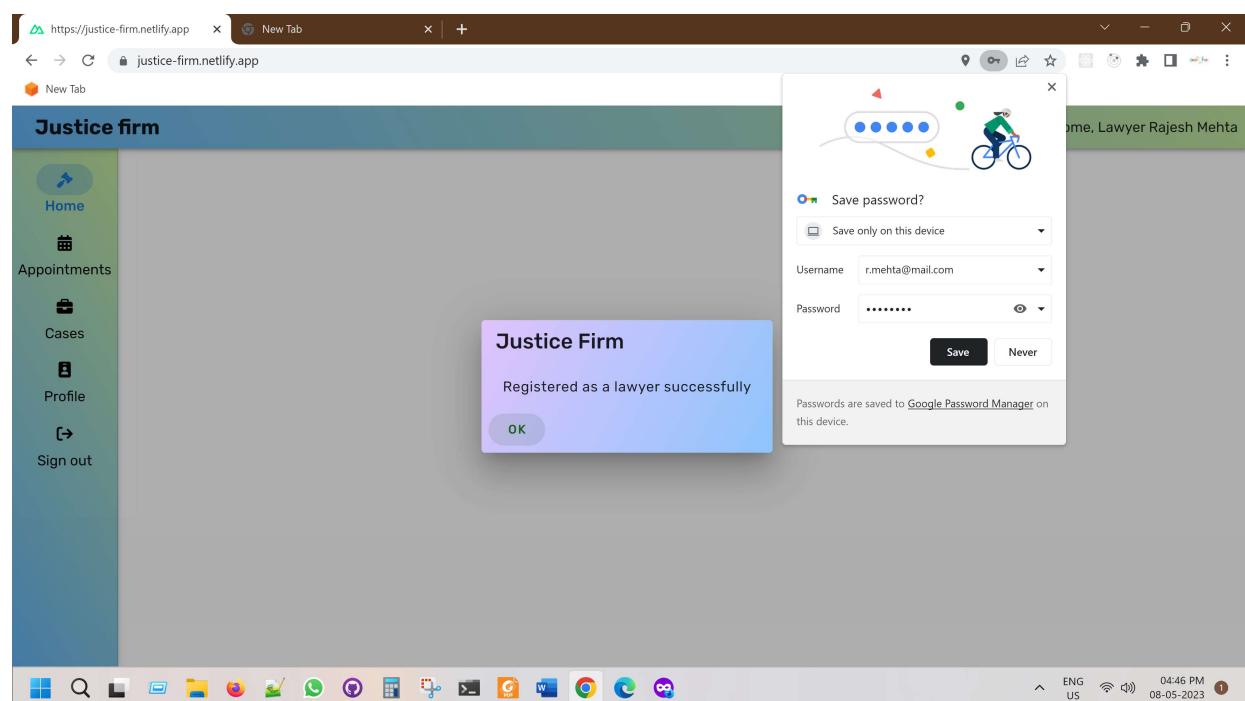
Picture 4.6.2. Client Registration Page



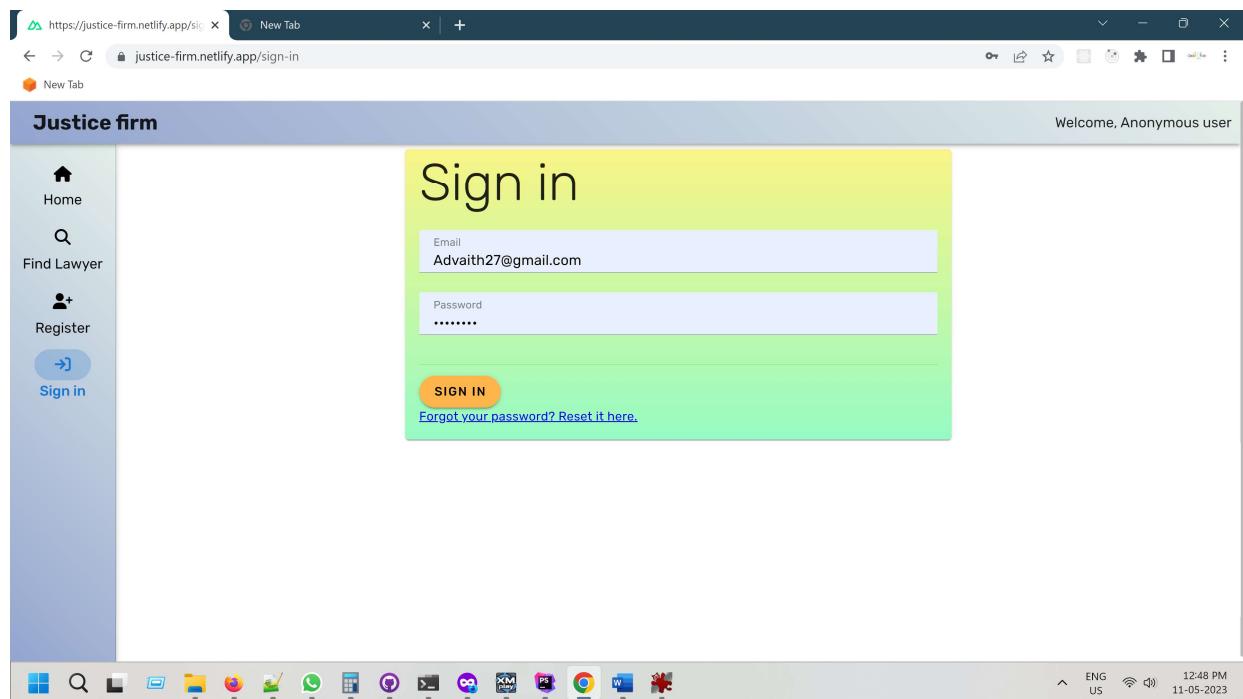
Picture 4.6.3. Client Registration Success



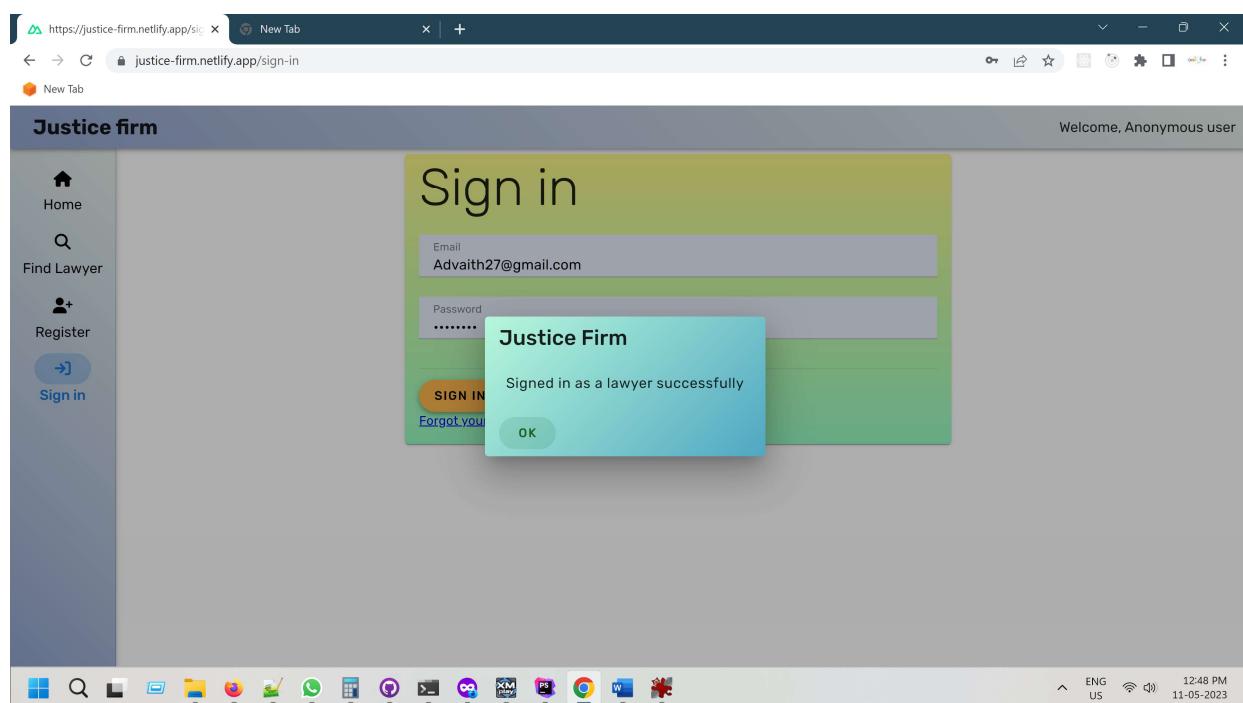
Picture 4.6.4. Lawyer Registration Page



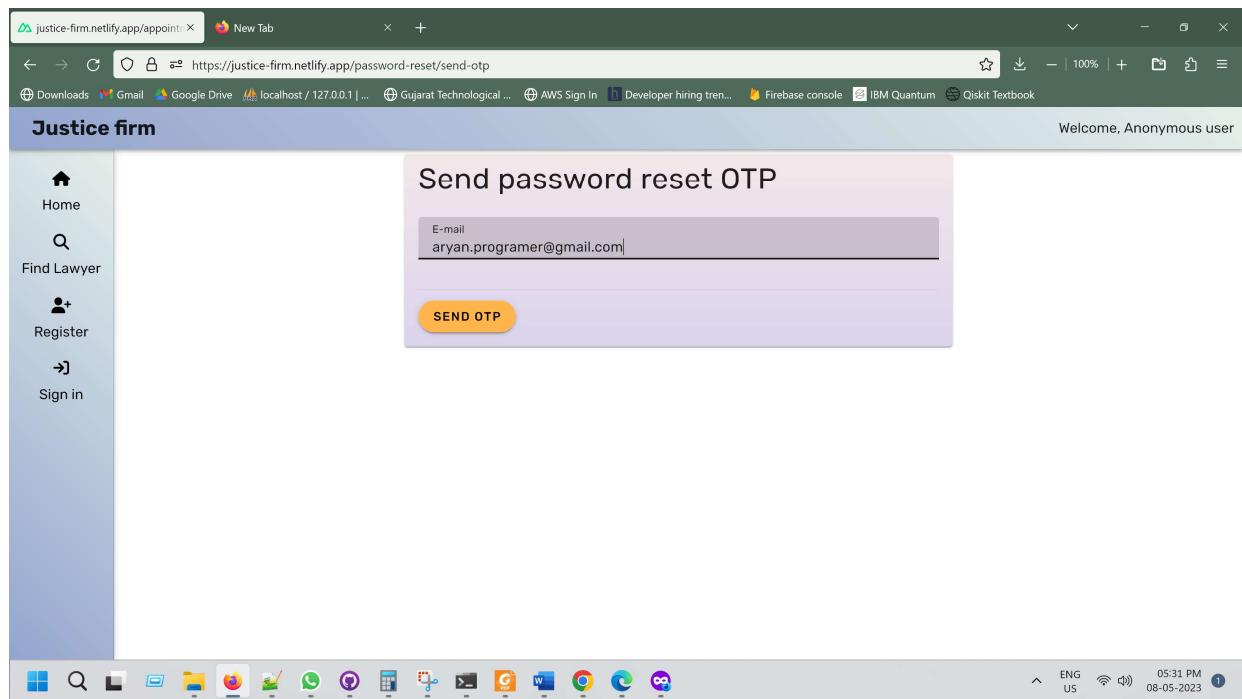
Picture 4.6.5. Lawyer Registration Success



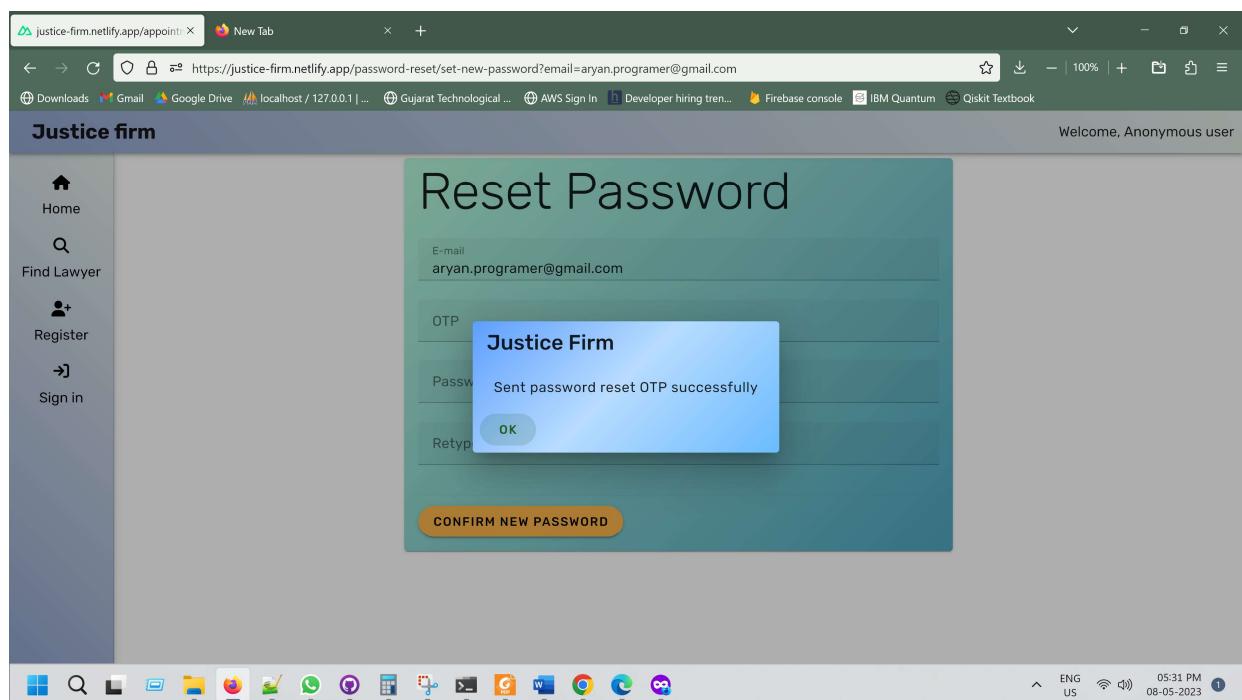
Picture 4.6.6. Sign In Page



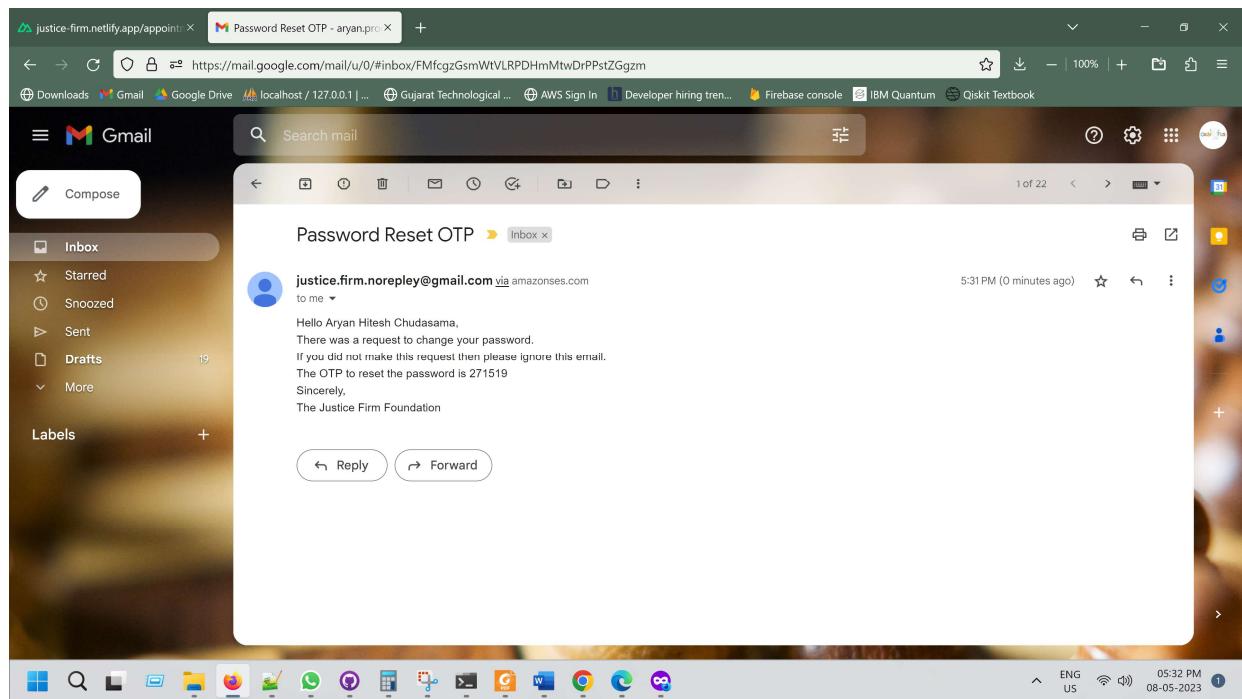
Picture 4.6.7. Sign in success message



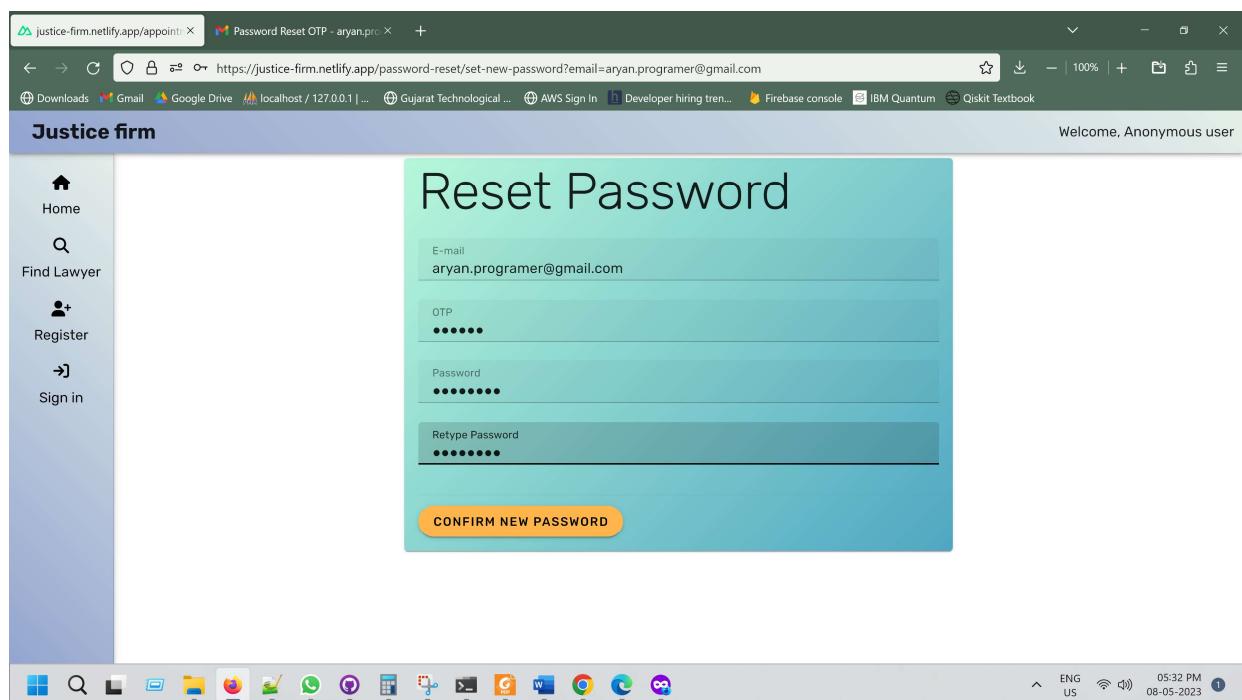
Picture 4.6.8. Forgot Password Workflow: Send OTP page



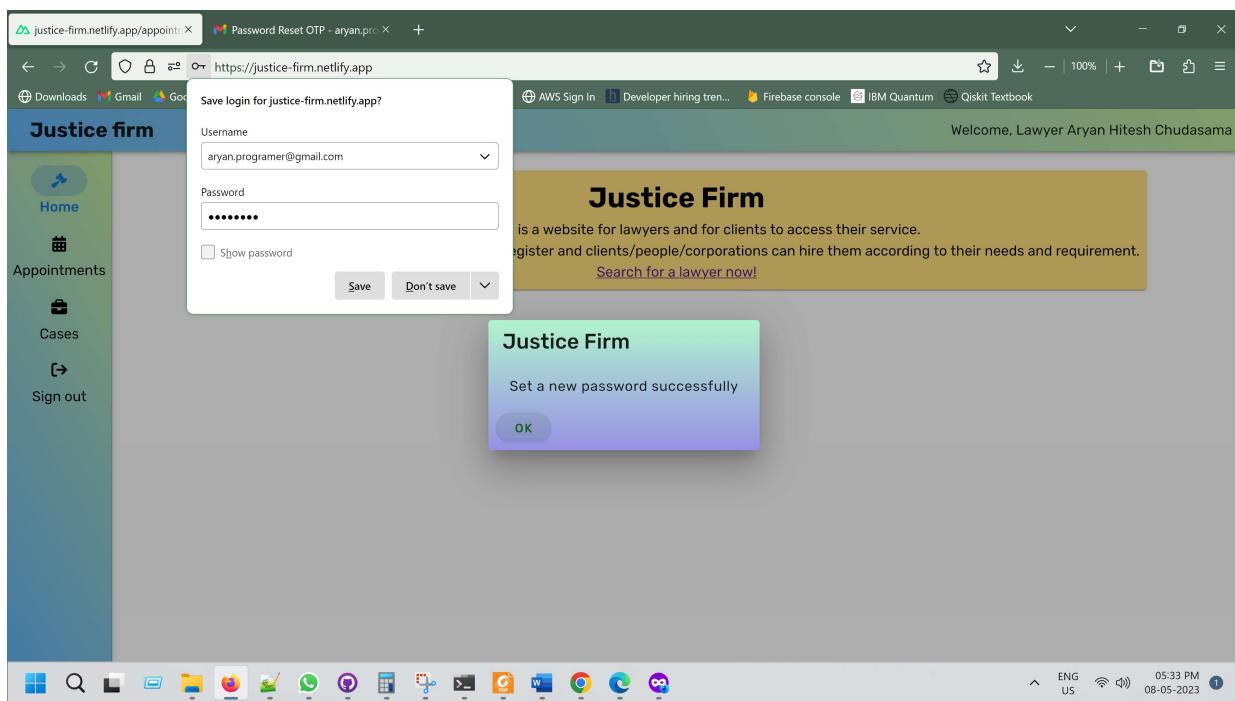
Picture 4.6.9. OPT sending success page



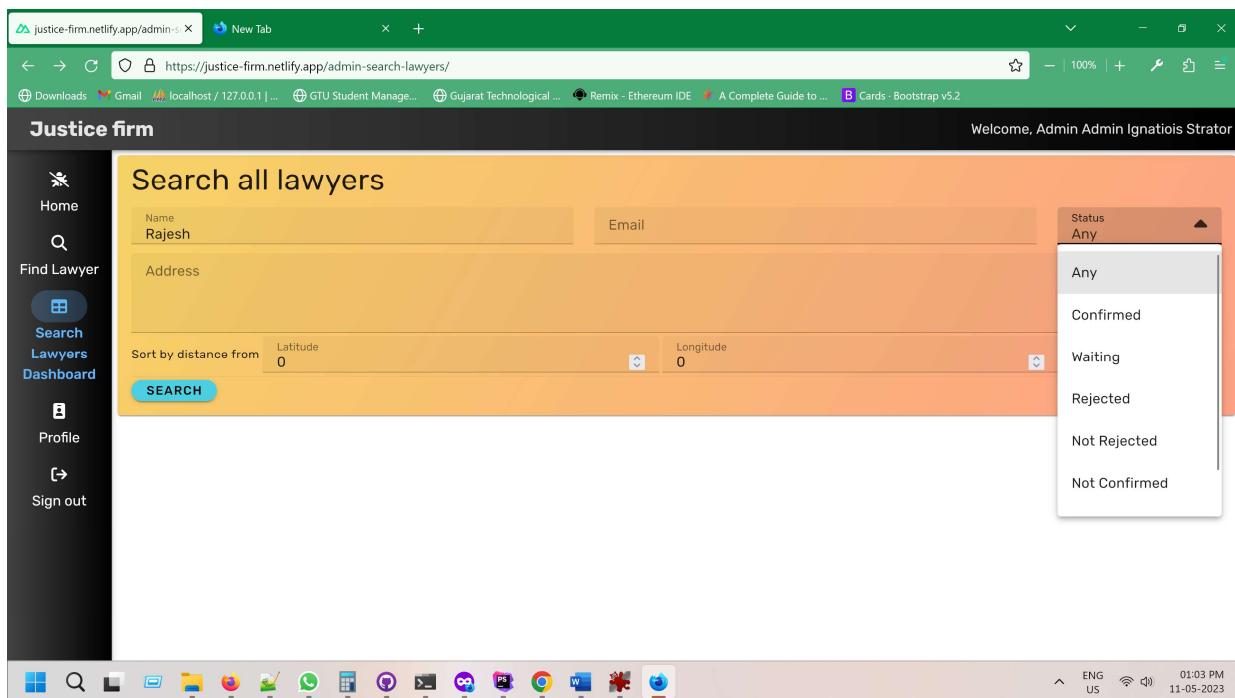
Picture 4.6.10. Received email with OTP



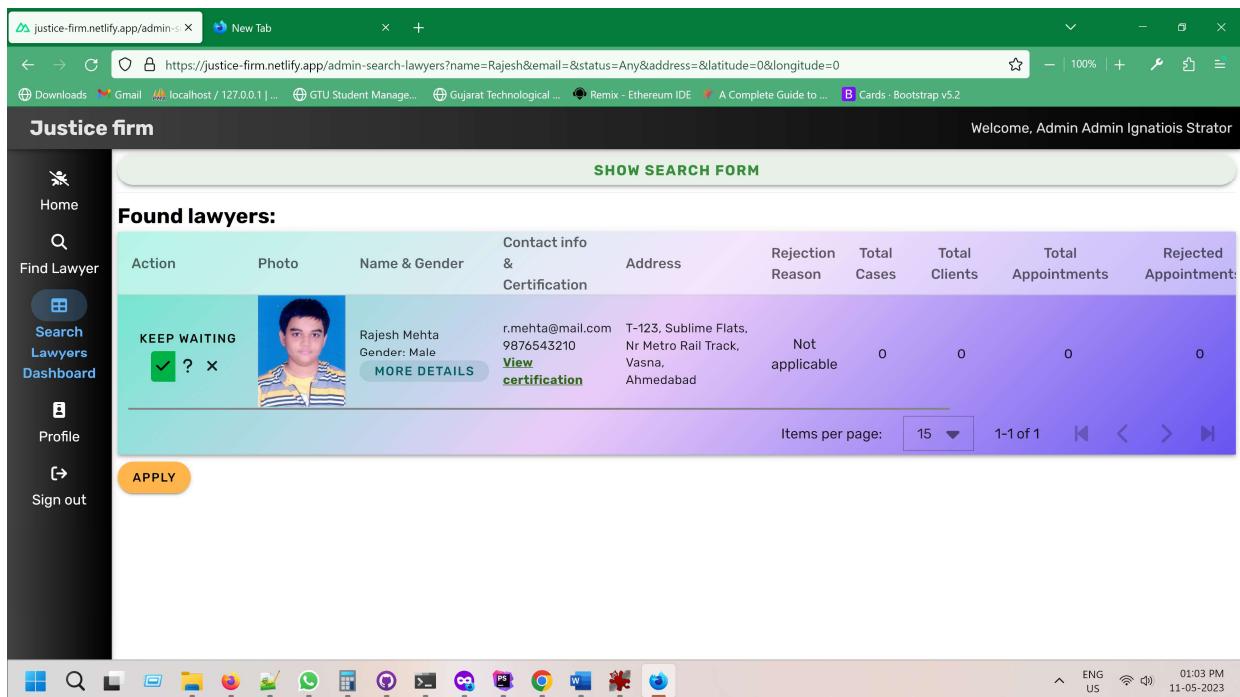
Picture 4.6.11. Entering the OTP and new password



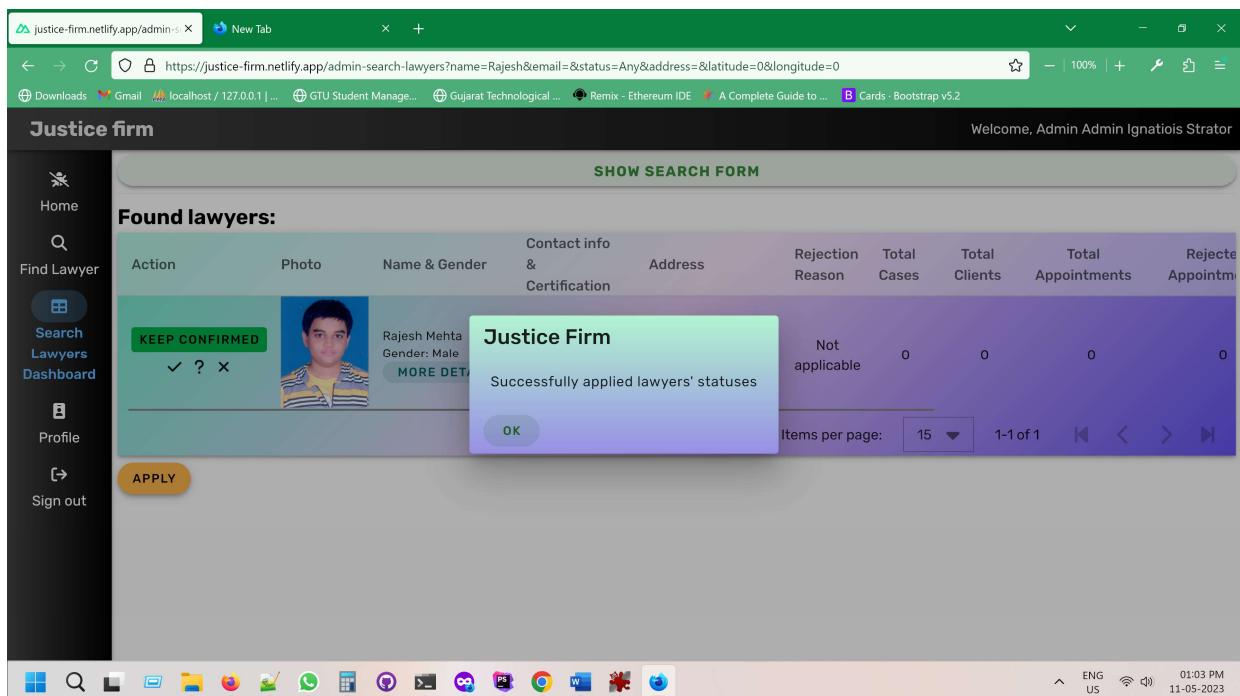
Picture 4.6.12. Signed in successfully after setting new password



Picture 4.6.13. Admin Dashboard on Administrator's Side, allows for searching of lawyers by name, email & status



Picture 4.6.14. Search results



Picture 4.6.15. Lawyer Status Application Success

SHOW SEARCH FORM												
Action	Photo	Name & Gender	Contact info & Certification	Address	Rejection Reason	Total Cases	Total Clients	Total Appointments	Rejected Appointments	Confirmed Appointments	Waiting Appointments	
KEEP CONFIRMED		Aadvith Santos Sharma Gender: Male	Aadvith27@gmail.com +91775-819-3646 View certification	Apt. 421, Piles Court Near Tara Village, Srivilliputhur, Gujarat	Not applicable	1	1	2	0	1	1	
KEEP CONFIRMED		Aryan Hitesh Chudasama Gender: Male	aryan.programer@gmail.com 9773470217 View certification	Apt. 745, Guneta Light, Near Akshainie Point, Phalodi, Gujarat	Not applicable	2	1	3	0	3	0	
KEEP CONFIRMED		Eva Jana Mehrotra Gender: Female	Eva.Mehrotra98@hotmail.com +91-815-0079317 View certification	Apt. 329, Udit Unions, Near Balachandra Rest, Anand, Gujarat Suite 513, Gandhi Fields Near Rageshwari Harbors, Kovur, Gujarat	Not applicable	0	0	3	0	0	3	
KEEP CONFIRMED		Eva Megan Joshi Gender: Female	Eva19@gmail.com +919764879651 View certification	Apt. 255, Damayanti Ville, Near Chanda Plain, Anantapur, Gujarat	Not applicable	0	0	0	0	0	0	
KEEP CONFIRMED		Prisha Khan Gender: Female	Prisha..._Khan7@yahoo.co.in +91662-758-9999 View certification	T-123, Sublime Flats, Nr Metro Rail Track, Vasna, Ahmedabad	Not applicable	5	2	8	1	5	2	
KEEP CONFIRMED		Rajesh Mehta Gender: Male	r.menya@gmail.com 9876543210 View certification	Office 41B, Johar Shore, Near Kartik Dale, Sadasivpet, Gujarat	Not applicable	0	0	0	0	0	0	
KEEP CONFIRMED		Ritvik Mathew Adiga Gender: Prefer to not specify	Ritvik_Adiga45@gmail.com +919999999999 View certification	T-123, Sublime Flats, Nr Metro Rail Track, Vasna, Ahmedabad	Not applicable	0	0	0	0	0	0	

Picture 4.6.16. Administrator side search results for all lawyers, can also be used to change status

The screenshot shows a detailed view of a lawyer's profile. The top navigation bar includes links for Home, Find Lawyer, Search Lawyers Dashboard, Profile, and Sign out. The main content area displays the following information for Aryan Hitesh Chudasama:

- User ID: 17
- Email: aryan.programer@gmail.com
- Phone: 9773470217
- Gender: Male
- Latitude & Longitude: (22, 72)
- Office Address: Apt. 745, Guneta Light, Near Akshainie Point, Phalodi, Gujarat
- Status: Confirmed
- View case specializations: Bankruptcy, Entertainment, Family
- VIEW CERTIFICATION button

On the right side, there is a large thumbnail image of Aryan Hitesh Chudasama. Below the profile, a section titled "Lawyer's Current Open Cases" is visible.

Picture 4.6.17. Administrator side lawyer details page

The screenshot shows the 'Lawyer's Current Open Cases' section with two entries:

Case. ID	Client ID	Client	Case Type	Opened on
6	1	Aryan Jesse Nehru	Business/Corporate	Thu, 13 Apr, 2023, 02:26:33 pm
7	1	Aryan Jesse Nehru	Immigration	Thu, 13 Apr, 2023, 04:33:55 pm

Items per page: 5 | 1-2 of 2 | < > |

Lawyer's Appointment Requests

Confirmed appointment requests

Appt. ID	Client ID	Client	Timestamp	Opened on	Case ID
7	1	Aryan Jesse Nehru	Sat, 25 Mar, 2023, 07:51:00 pm	Wed, 15 Feb, 2023, 10:40:24 am	6
10	54	Prisha Henrietta Pilla	Wed, 22 Mar, 2023, 08:28:00 pm	Wed, 22 Mar, 2023, 02:58:53 pm	
14	1	Aryan Jesse Nehru	Sat, 22 Apr, 2023, 09:34:00 pm	Thu, 13 Apr, 2023, 04:25:10 pm	7

Items per page: 5 | 1-3 of 3 | < > |

Pending appointment requests

No data found

Rejected appointment requests

No data found

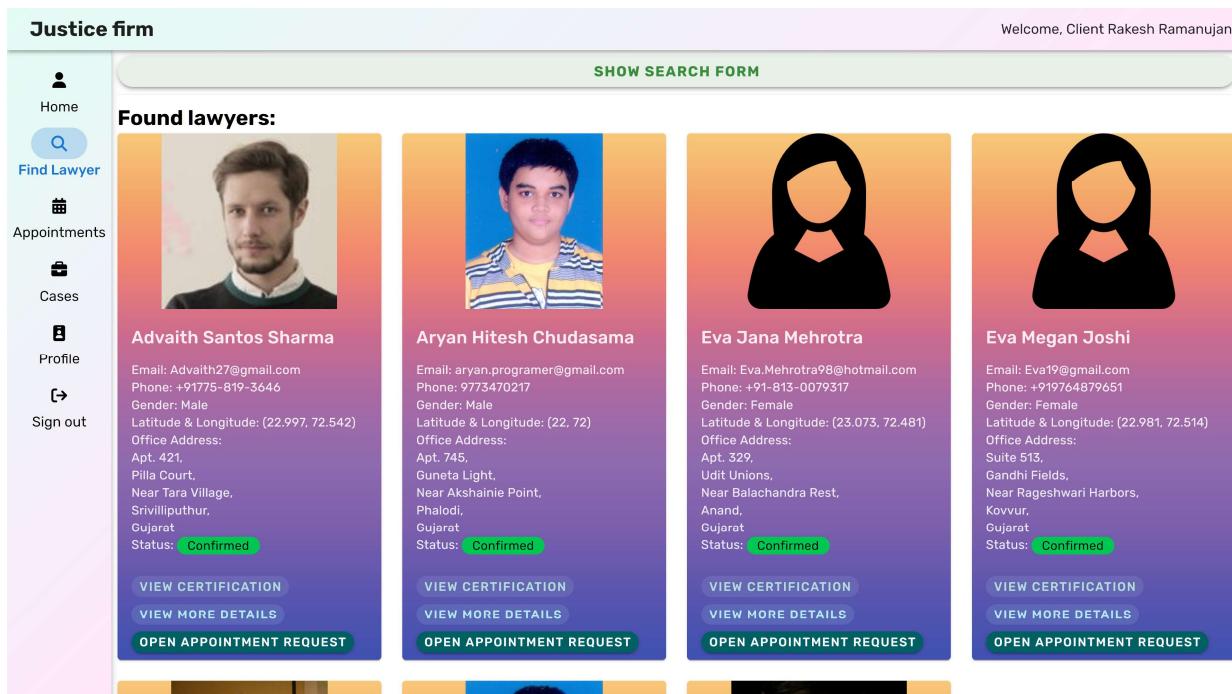
Picture 4.6.1. Administrator side lawyer details page showing current cases & appointments

The screenshot shows the 'Find a lawyer' search form with the following fields:

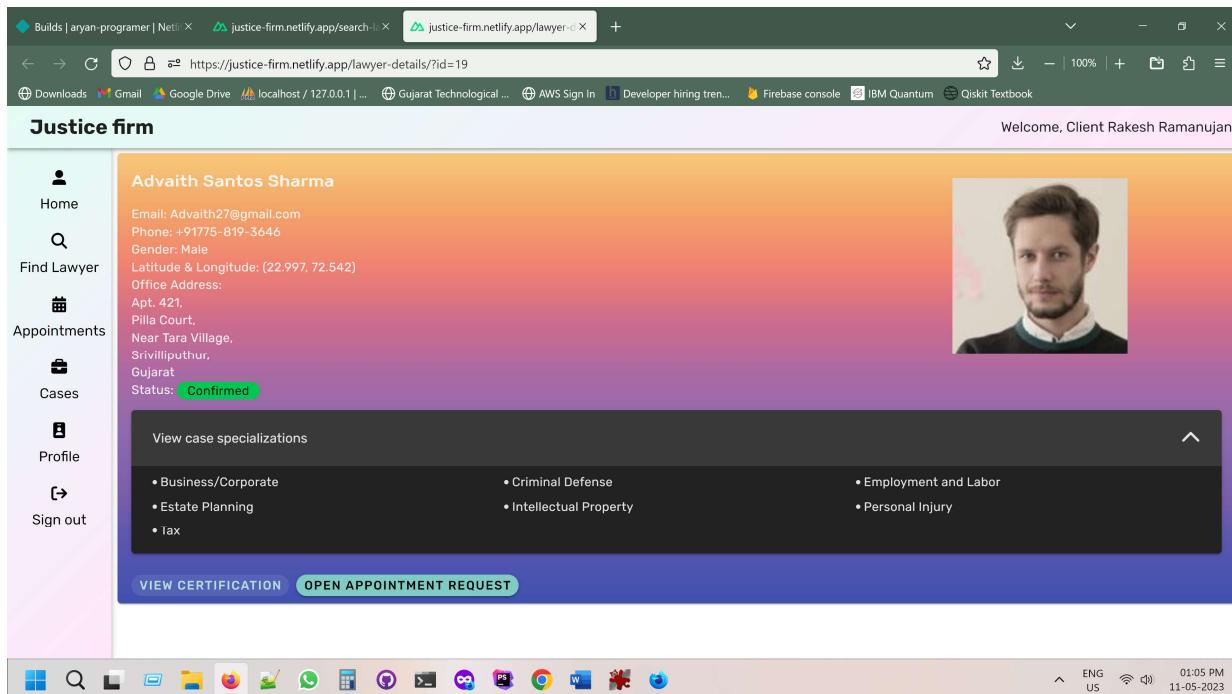
- Name: [Input field]
- Email: [Input field]
- Address: [Input field]
- Sort by distance from: Latitude 0, Longitude 0 [Input fields]
- SEARCH button
- AUTOFILL button

Below the form is a Windows taskbar with various icons.

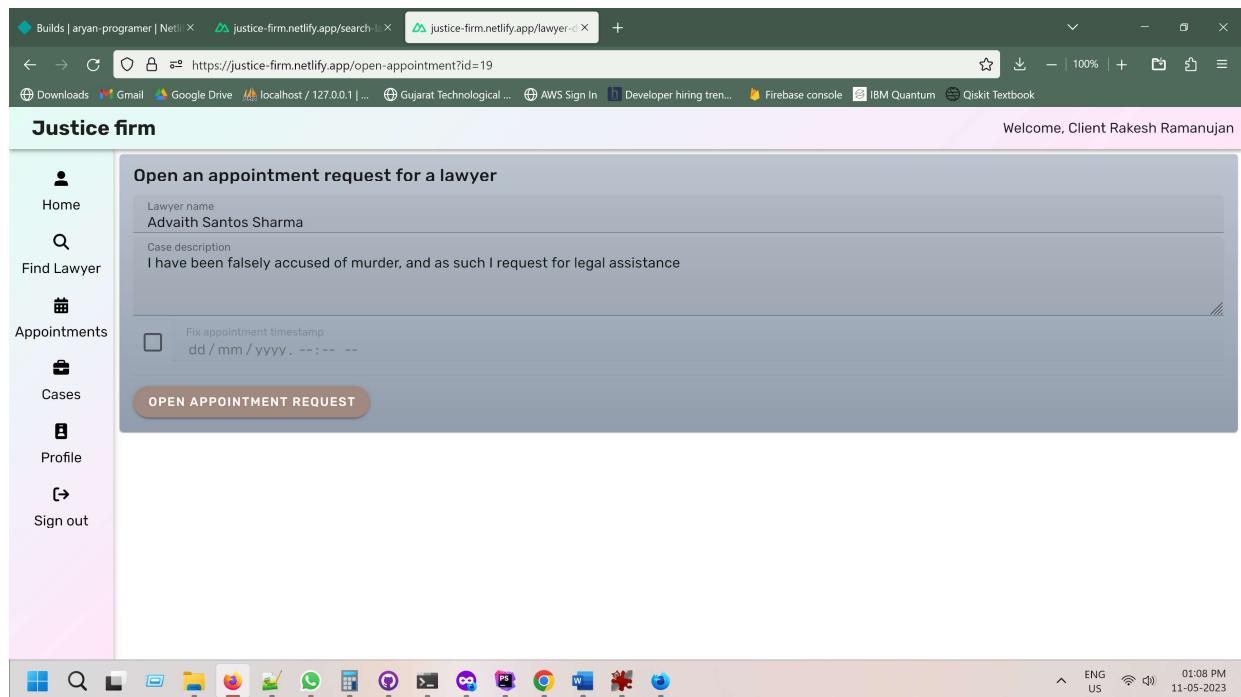
Picture 4.6.2. Search Form on Client Side



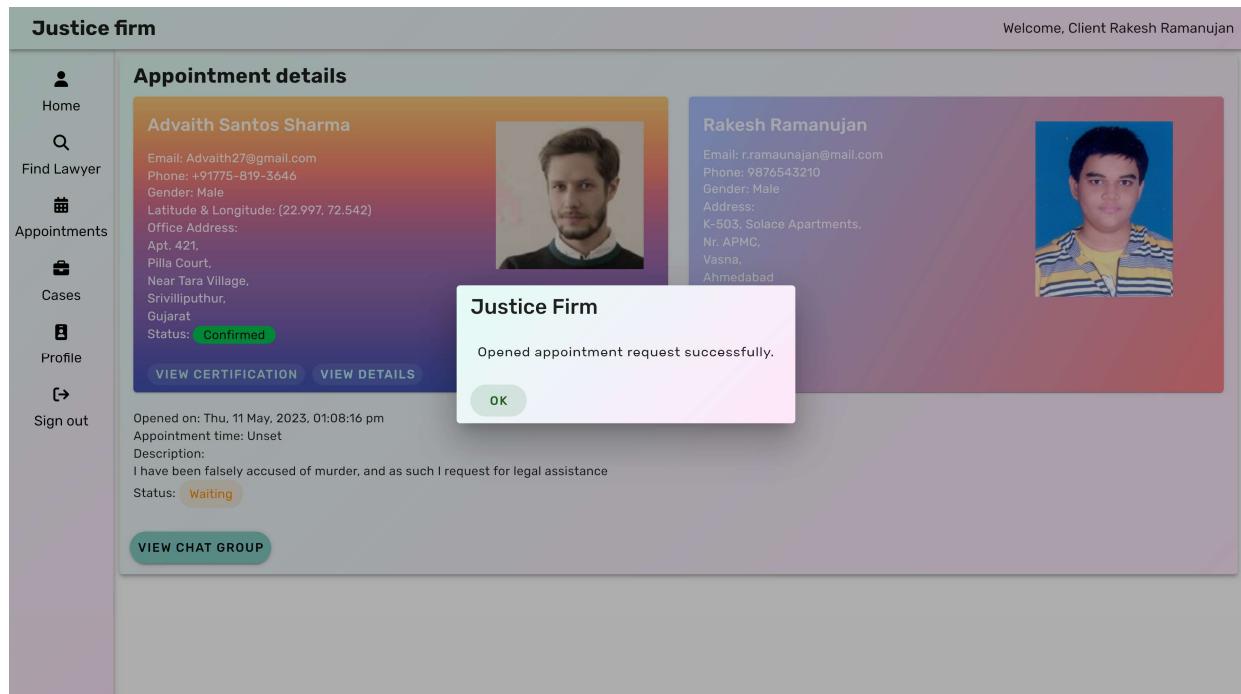
Picture 4.6.3. Lawyer Search Results



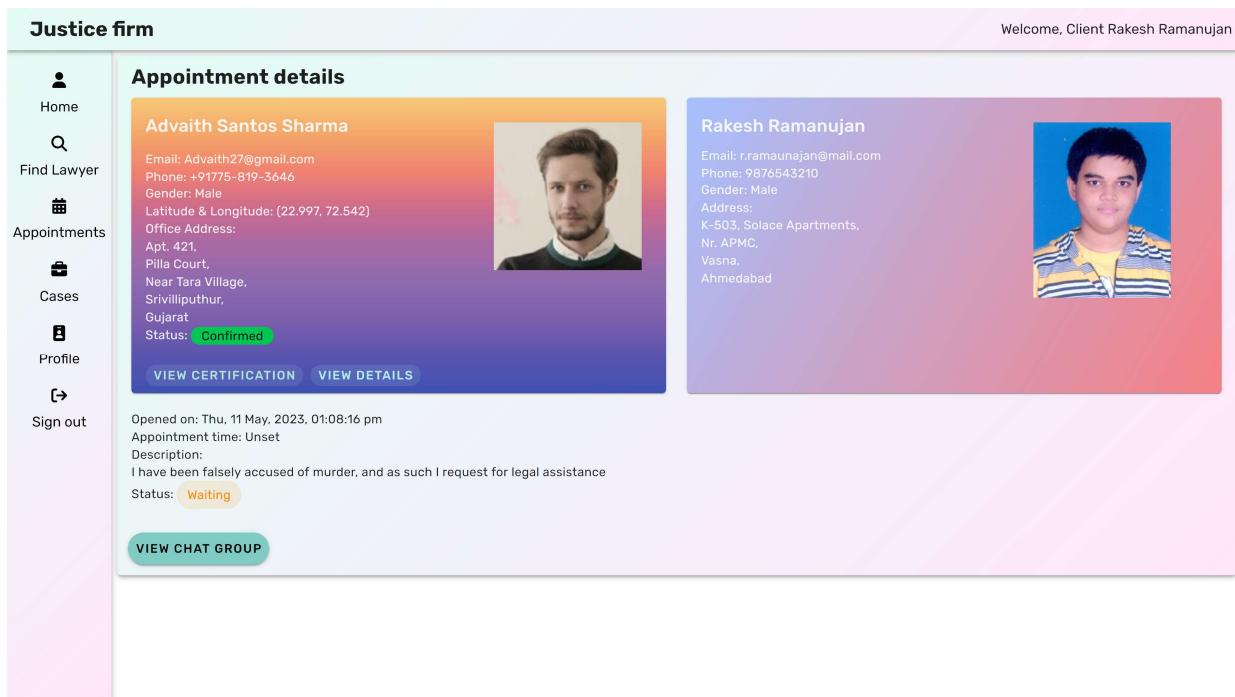
Picture 4.6.4. Lawyer Details Page



Picture 4.6.5. Open Appointment Request Page



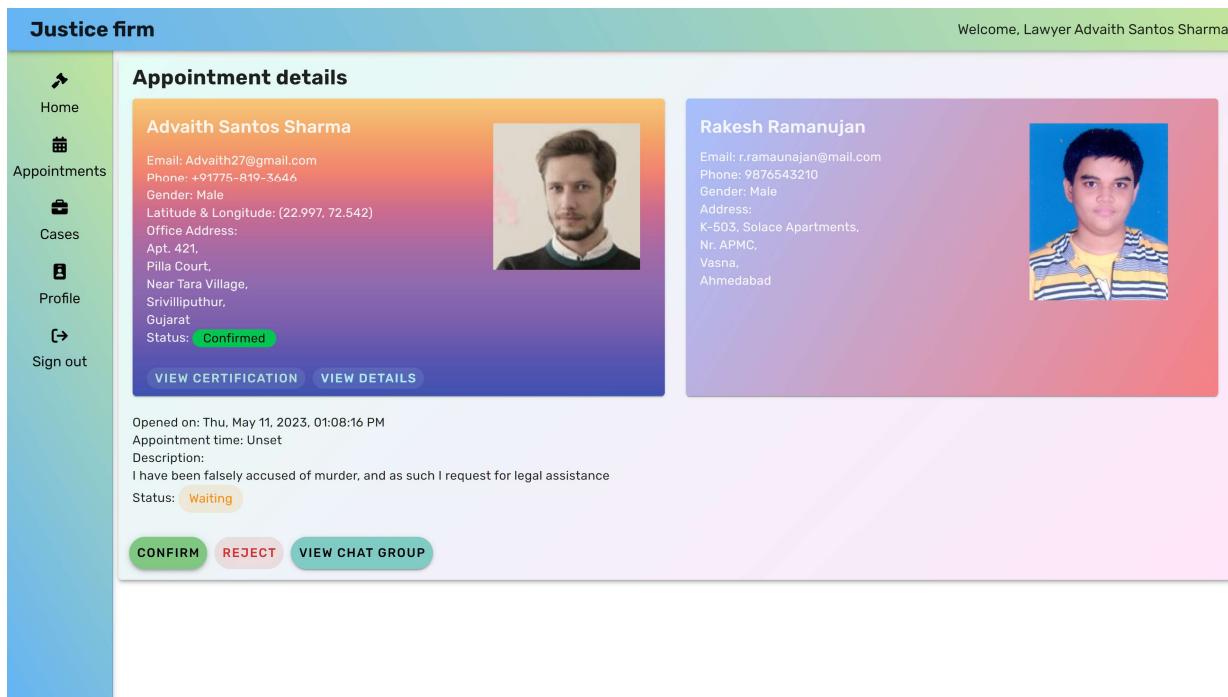
Picture 4.6.6. Appointment request success page



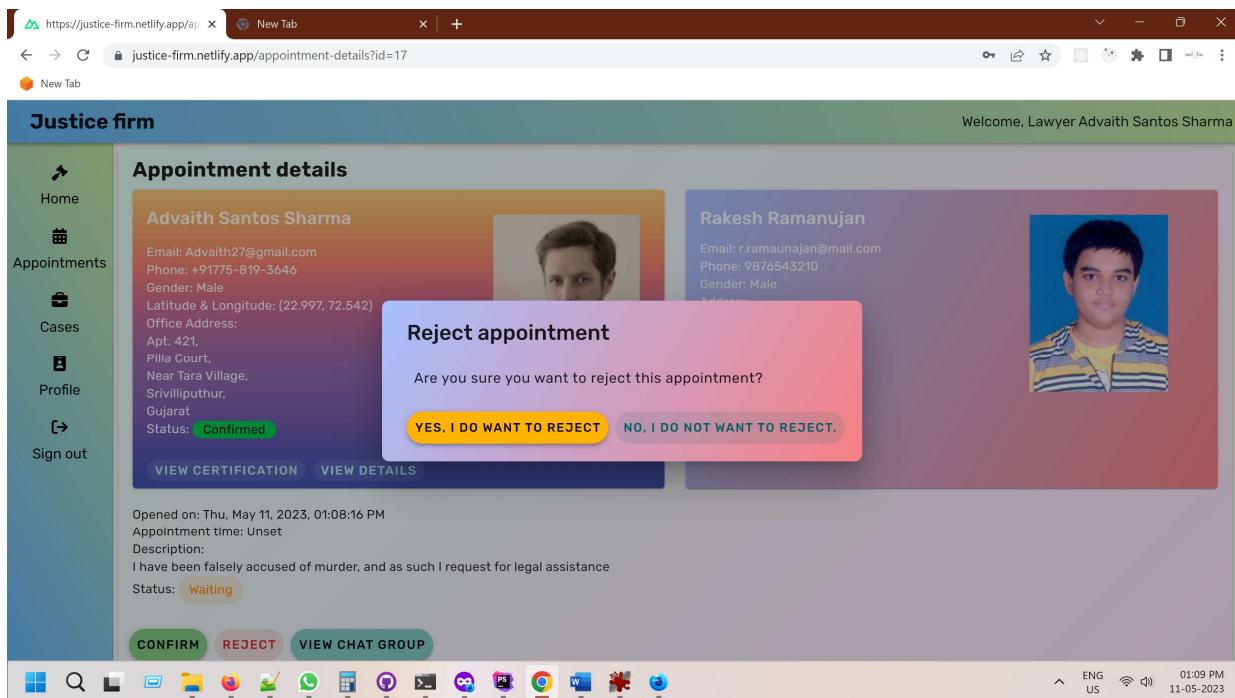
Picture 4.6.7. Appointment Details Page

The screenshot shows the 'View appointments' section on the Lawyer Side. The left sidebar has links for Home, Appointments, Cases, Profile, and Sign out. The main content is divided into three sections: 'Pending appointment requests', 'Confirmed appointment requests', and 'Rejected appointment requests'. The 'Pending appointment requests' section lists two entries: 'Aryan Jesse Nehru' and 'Rakesh Ramanujan'. The 'Confirmed appointment requests' section lists one entry: 'Rakesh Ramanujan'. The 'Rejected appointment requests' section shows a message: 'No data found'. At the bottom, there is a toolbar with various application icons and system status indicators (ENG US, 01:09 PM, 11-05-2023).

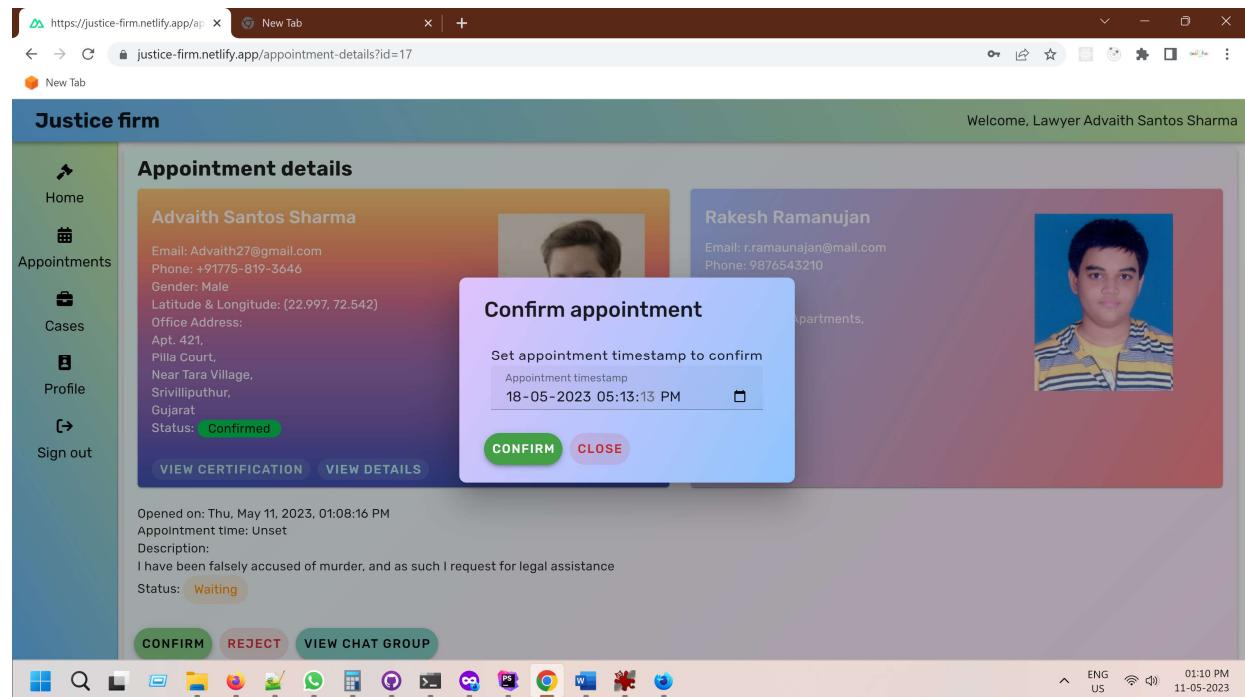
Picture 4.6.8. Appointments listing page on Lawyer Side



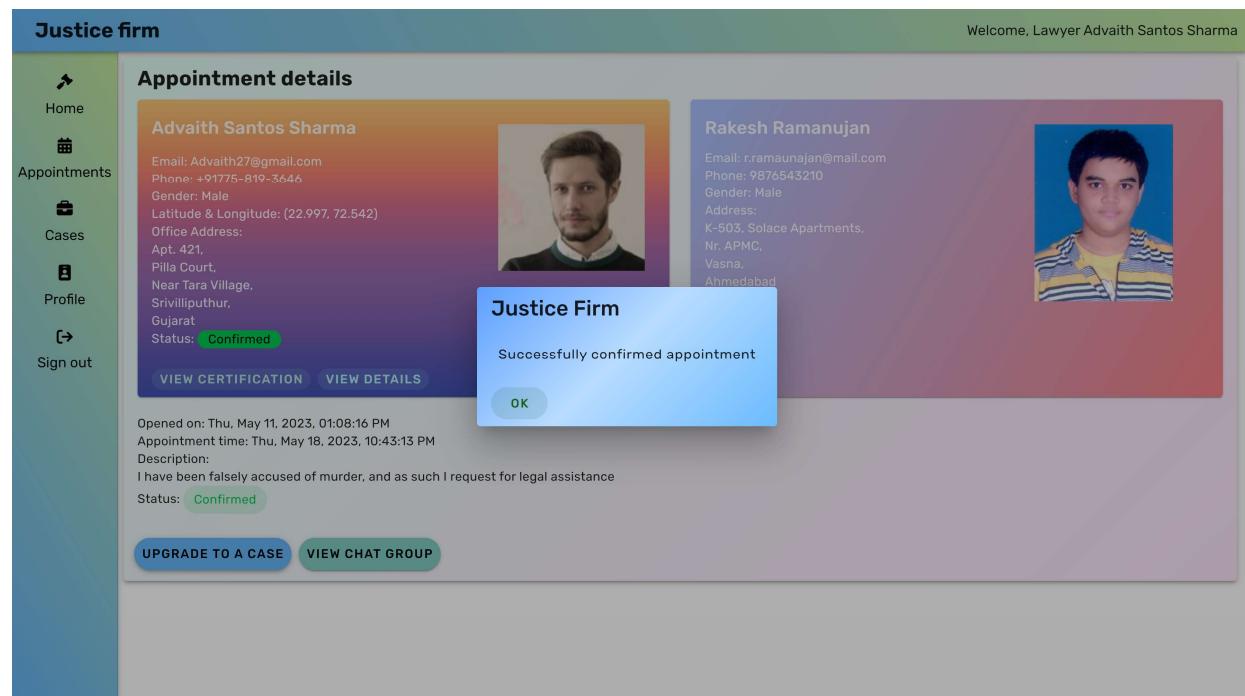
Picture 4.6.9. Appointment details page on Lawyer Side



Picture 4.6.10. Appointment rejection confirmation dialog



Picture 4.6.11. Appointment Confirmation Dialog



Picture 4.6.12. Confirmation Success message

Welcome, Lawyer Advaith Santos Sharma

Appointment details

Advaith Santos Sharma

- Email: Advaith27@gmail.com
- Phone: +91775-819-3646
- Gender: Male
- Latitude & Longitude: (22.997, 72.542)
- Office Address:
- Apt. 421,
Pilla Court,
Near Tara Village,
Srivilliputhur,
Gujarat
- Status: Confirmed

Rakesh Ramanujan

- Email: r.ramaunajan@mail.com
- Phone: 9876543210
- Gender: Male
- Address:
- K-503, Solace Apartments,
Nr. APMC,
Vasna,
Ahmedabad

Opened on: Thu, May 11, 2023, 01:08:16 PM
Appointment time: Thu, May 18, 2023, 10:43:13 PM
Description:
I have been falsely accused of murder, and as such I request for legal assistance
Status: Confirmed

VIEW CERTIFICATION **VIEW DETAILS**

UPGRADE TO A CASE **VIEW CHAT GROUP**

Picture 4.6.13. Appointment details page

Welcome, Client Rakesh Ramanujan

Appointment details

Advaith Santos Sharma

- Email: Advaith27@gmail.com
- Phone: +91775-819-3646
- Gender: Male
- Latitude & Longitude: (22.997, 72.542)
- Office Address:
- Apt. 421,
Pilla Court,
Near Tara Village,
Srivilliputhur,
Gujarat
- Status: Confirmed

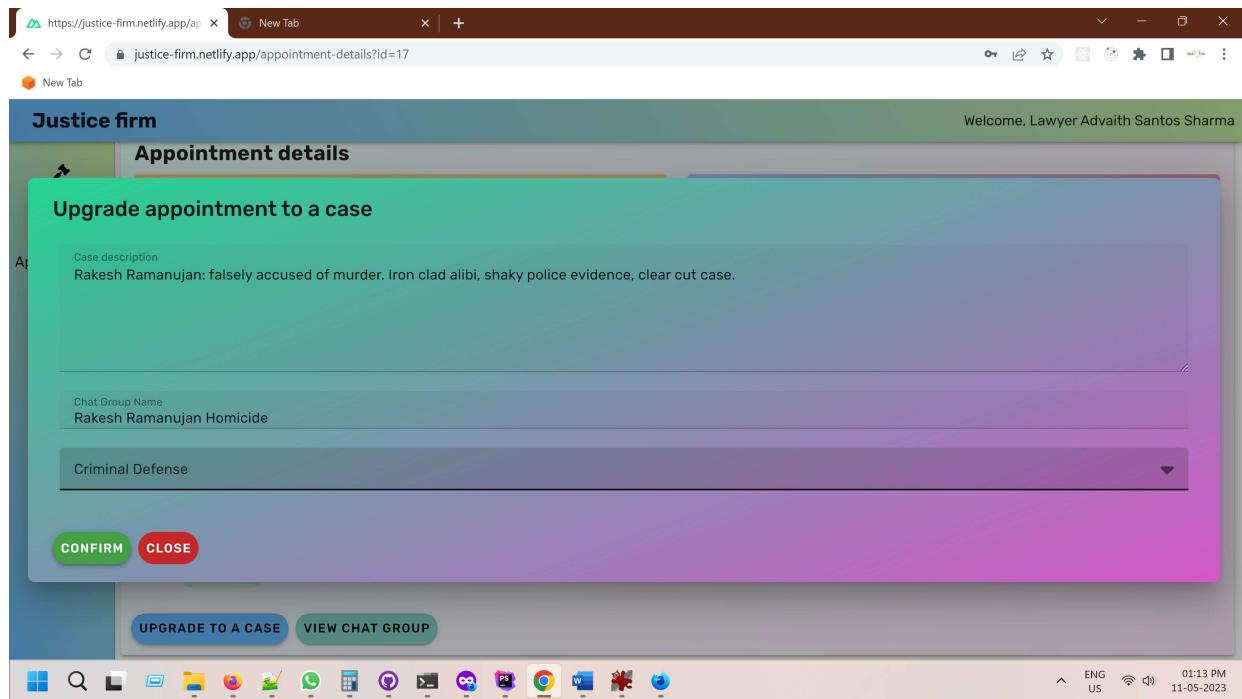
Rakesh Ramanujan

- Email: r.ramaunajan@mail.com
- Phone: 9876543210
- Gender: Male
- Address:
- K-503, Solace Apartments,
Nr. APMC,
Vasna,
Ahmedabad

Opened on: Thu, 11 May, 2023, 01:08:16 pm
Appointment time: Thu, 18 May, 2023, 10:43:13 pm
Description:
I have been falsely accused of murder, and as such I request for legal assistance
Status: Confirmed

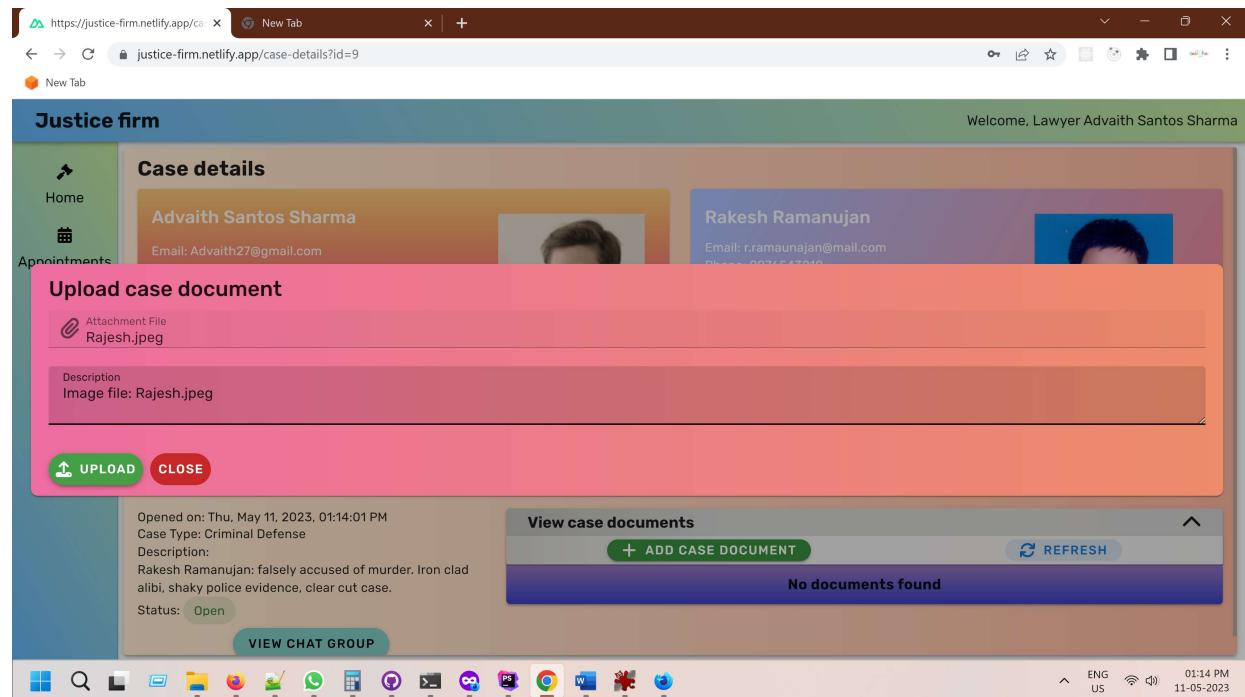
VIEW CHAT GROUP

Picture 4.6.14. Corresponding Appointment details page on client side, notice the Status and Appointment Time fields

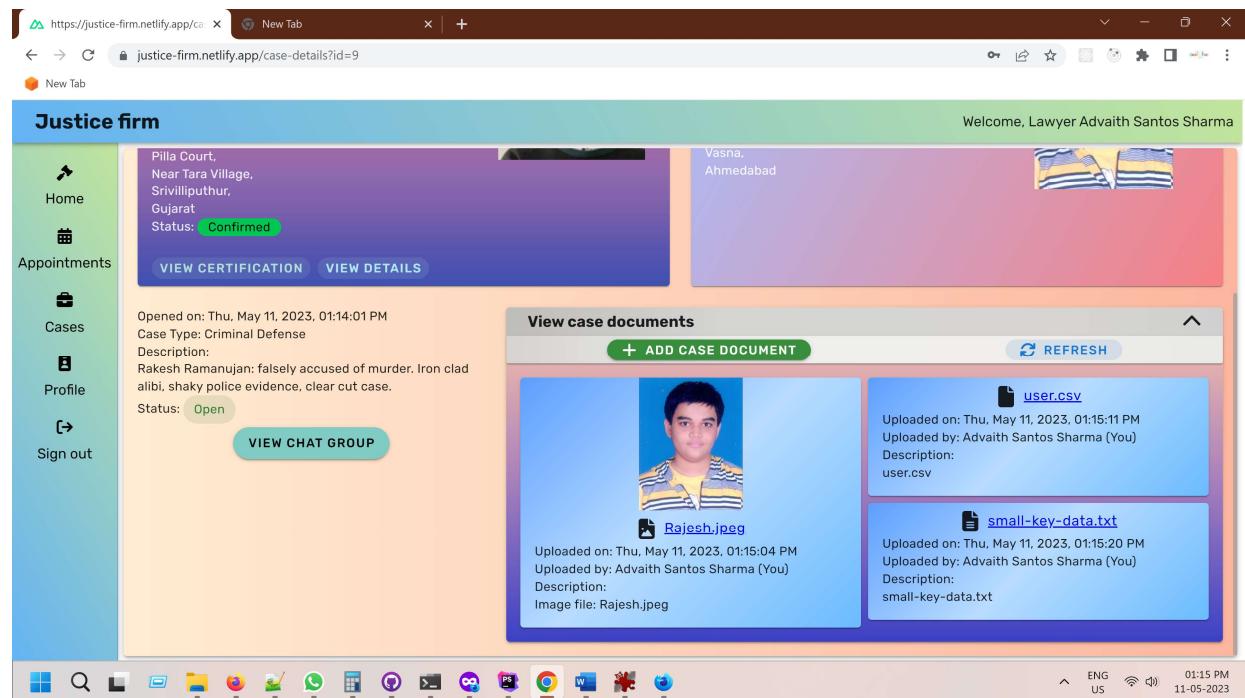


Picture 4.6.15. Upgrade to case dialog on lawyer side

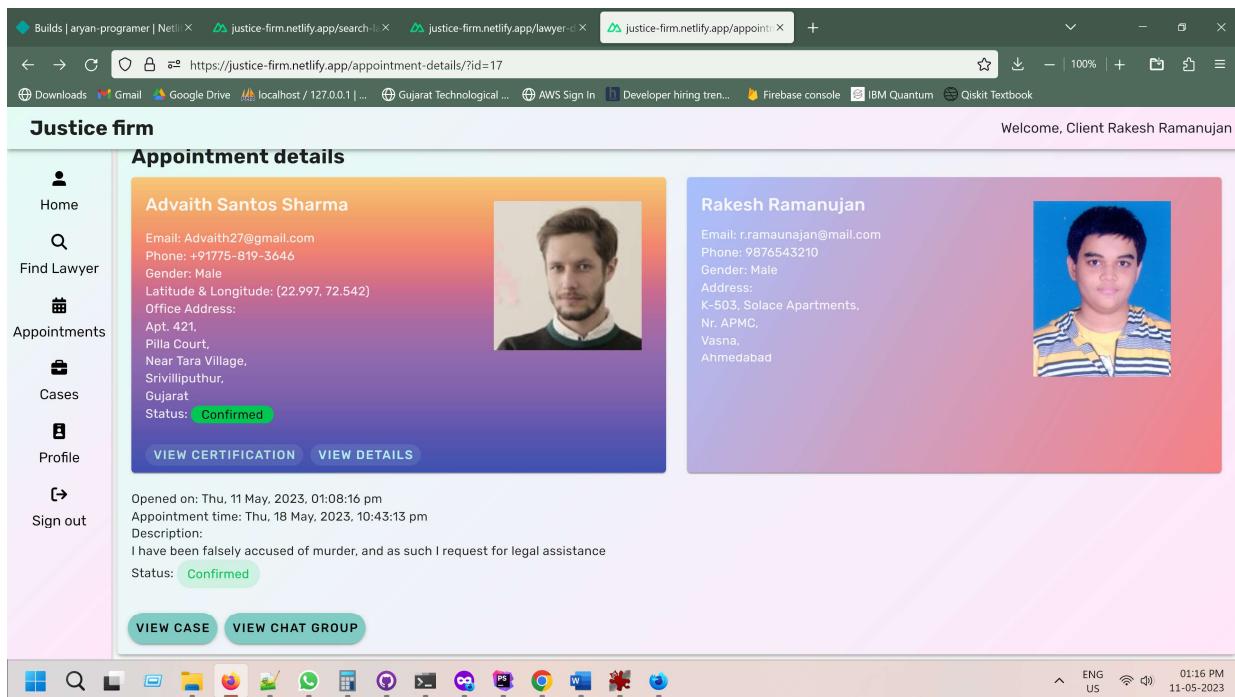
Picture 4.6.16. Case Details Page



Picture 4.6.17. Upload case document page

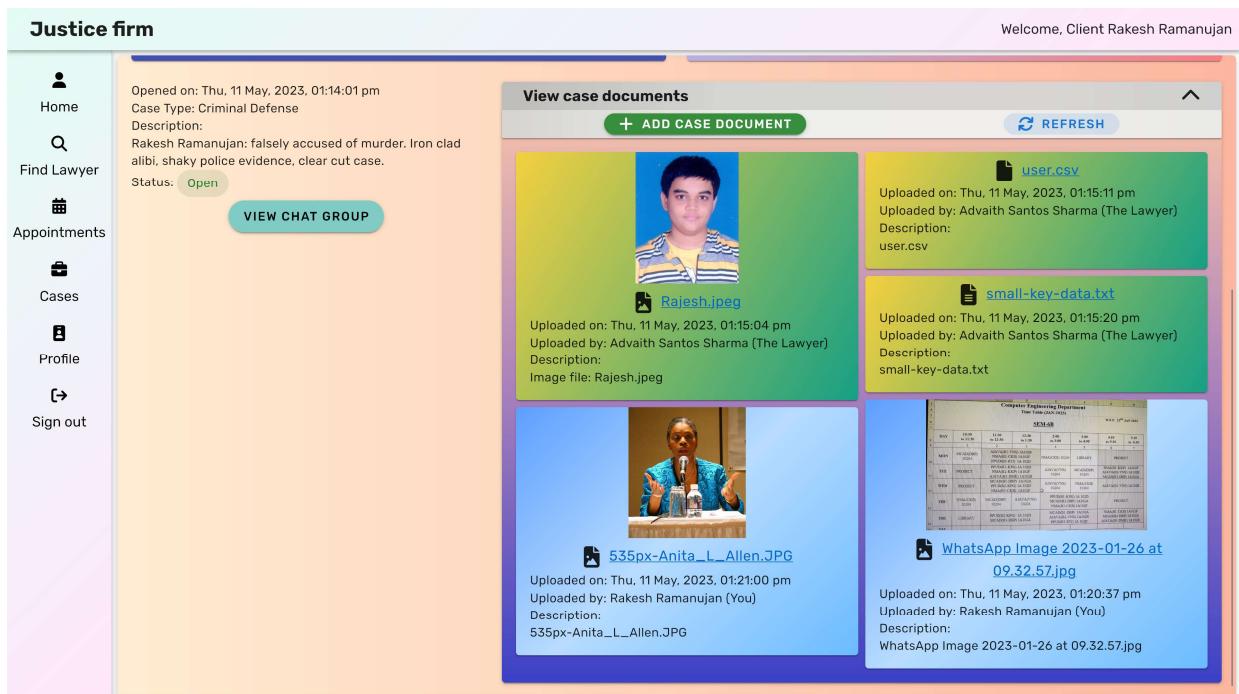


Picture 4.6.18. Case details page after uploading a few more files

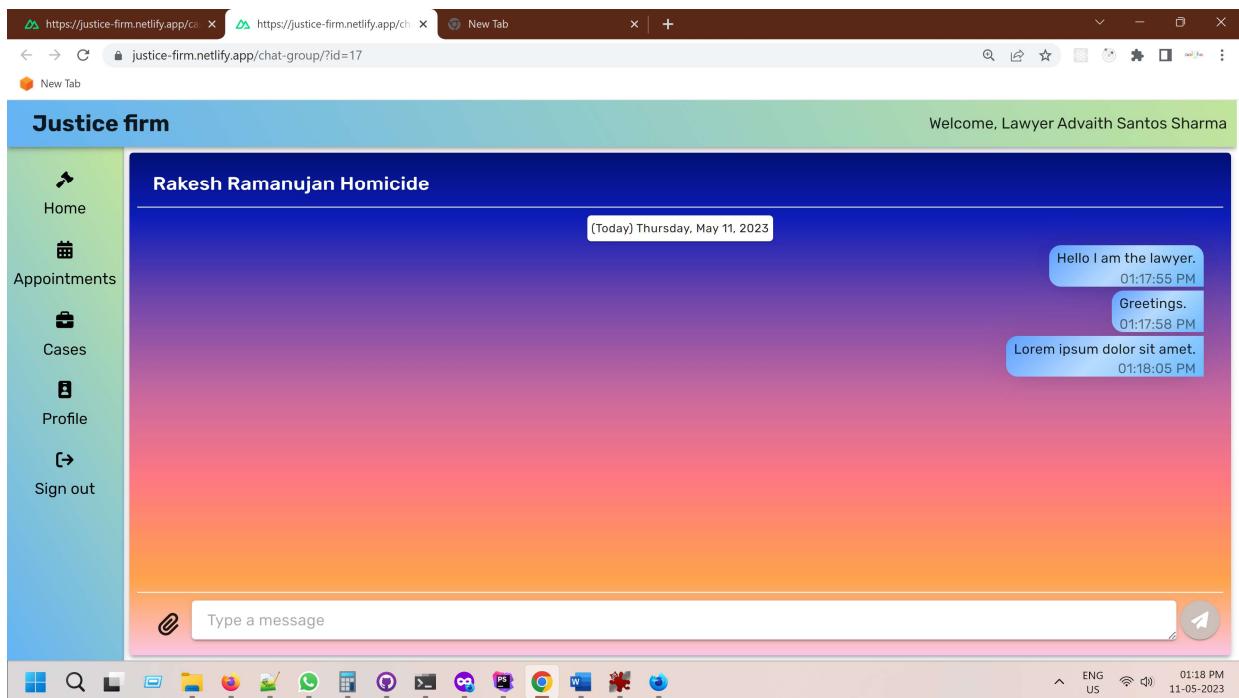


Picture 4.6.19. Appointment Details Page on Client Side after Confirmation & upgradation to a Case

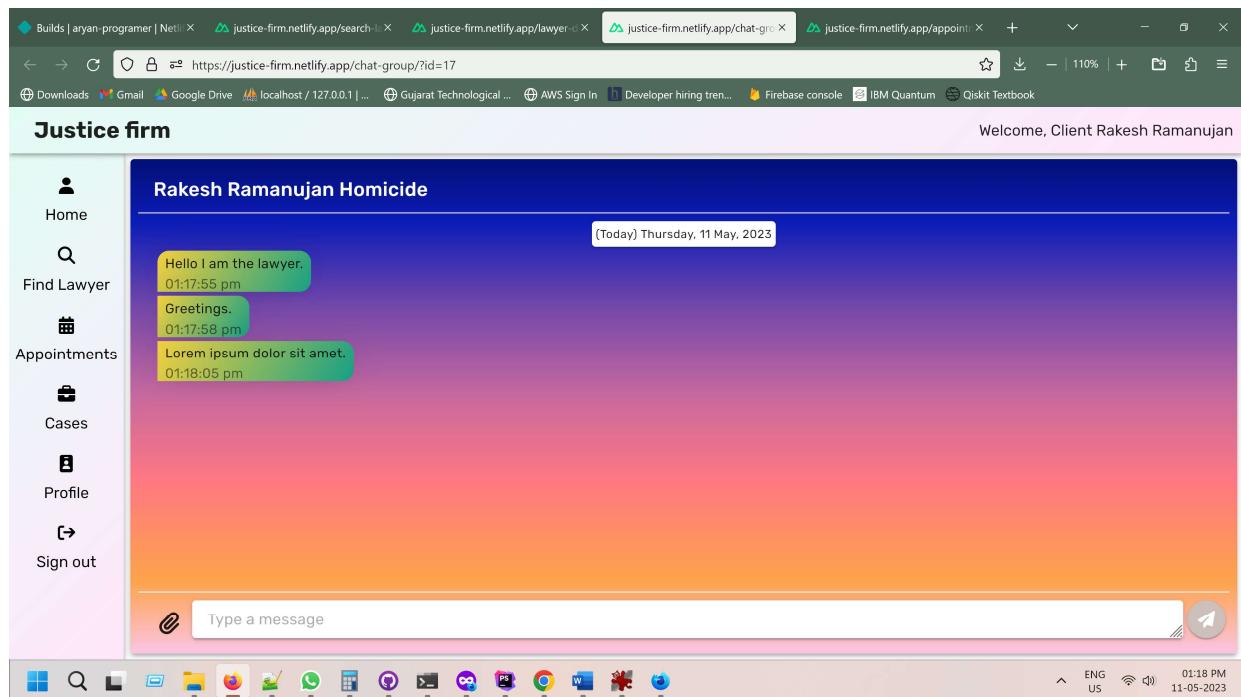
Picture 4.6.20. Corresponding case details page on client side



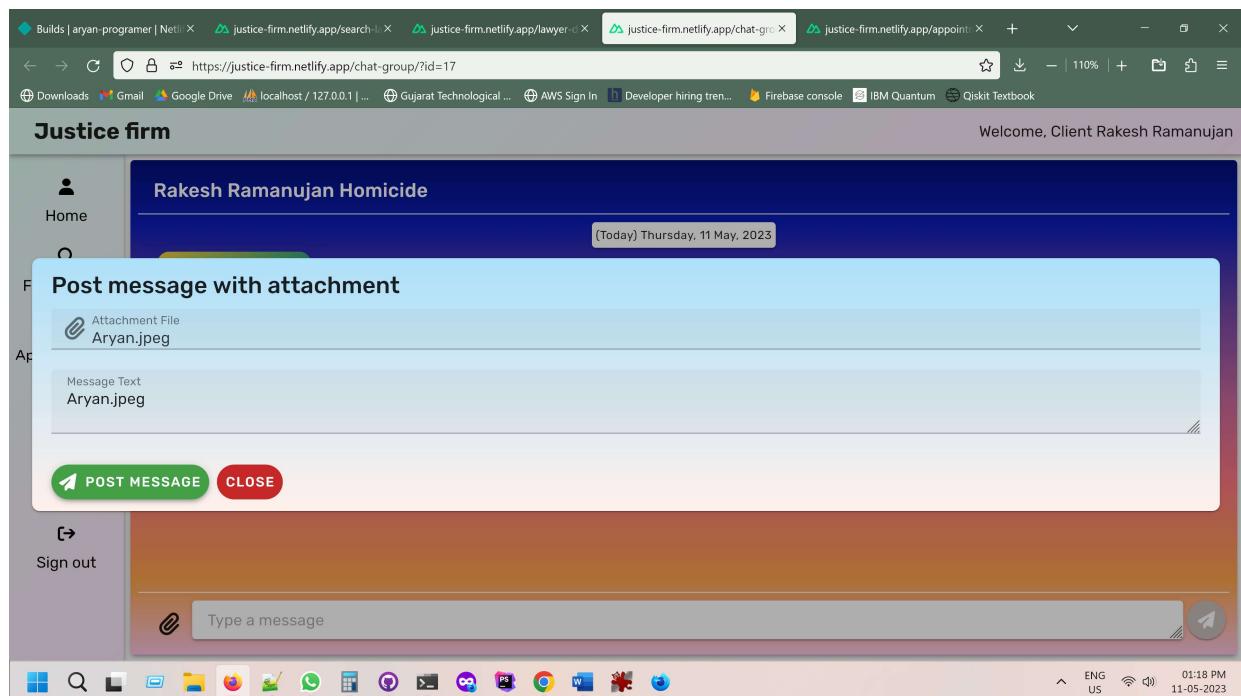
Picture 4.6.21. Case documents uploaded by the client in blue



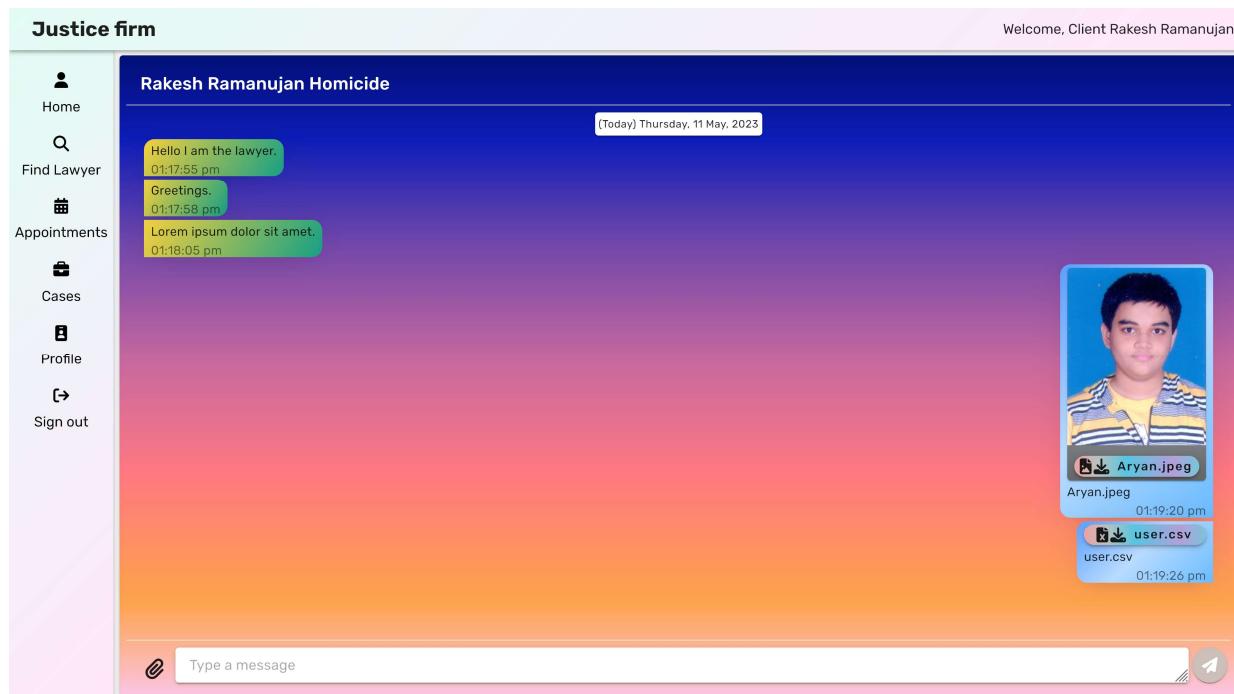
Picture 4.6.22. Chat group on lawyer side after sending a few messages



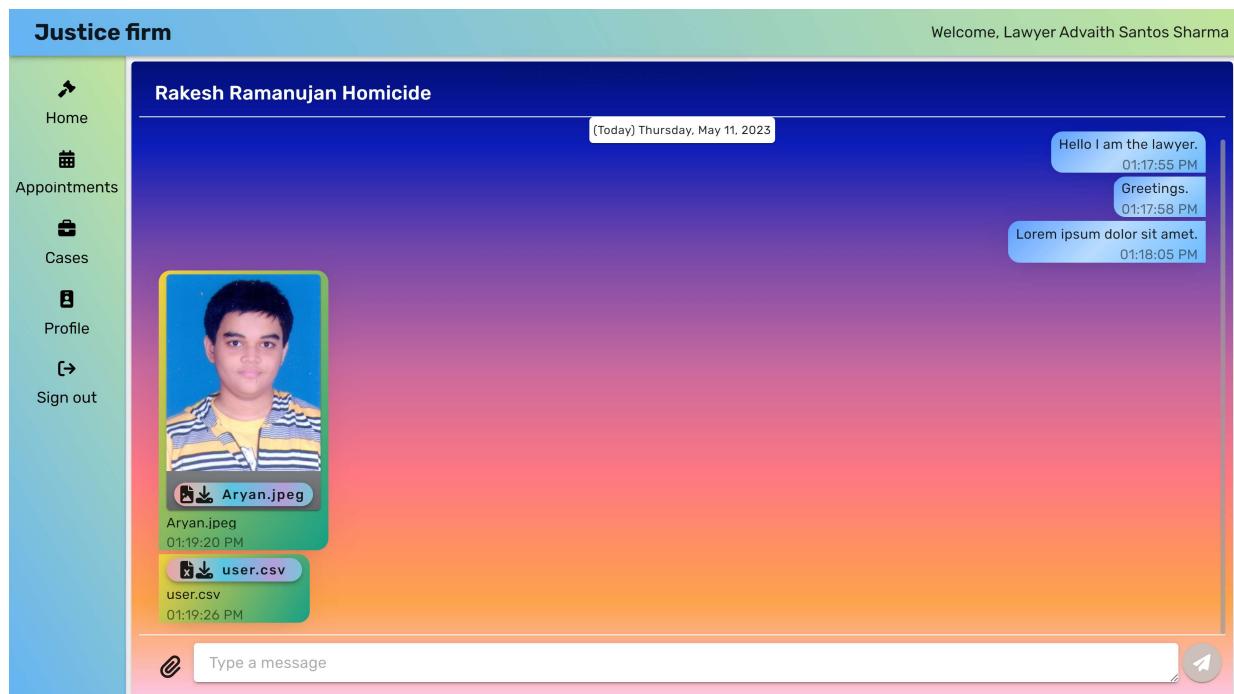
Picture 4.6.23. Corresponding chat group on client side



Picture 4.6.24. Post Attachment dialog



Picture 4.6.25. Results after sending some files



Picture 4.6.26. Corresponding view on lawyer side

View Cases

Client	Description	Case Type	Opened on	View more
Rakesh Ramanujan	Case description for insurance tax inquiry, lorem...	Tax	Mon, May 8, 2023, 05:13:32 PM	View more
Rakesh Ramanujan	Rakesh Ramanujan: falsely accused of murder. Iron...	Criminal Defense	Thu, May 11, 2023, 01:14:01 PM	View more

Items per page: 5 | 1-2 of 2

Picture 4.6.27. Cases list on lawyer side

Advaith Santos Sharma

User ID: 19
Email: Advaith27@gmail.com
Phone: +91775-819-3646
Gender: Male
Latitude & Longitude: (22.997, 72.542)
Office Address:
Apt. 421,
Pilla Court,
Near Tara Village.
Srivilliputhur,
Gujarat
Status: Confirmed

Total Cases: 2
Total Clients: 1
Total Appointments: 3
Waiting Appointments: 1
Rejected Appointments: 0
Confirmed Appointments: 2

View case specializations

- Business/Corporate
- Estate Planning
- Tax
- Criminal Defense
- Intellectual Property
- Employment and Labor
- Personal Injury

[VIEW CERTIFICATION](#) [EDIT PROFILE](#)

Picture 4.6.28. Self-profile page on lawyer side

Welcome, Lawyer Advaith Santos Sharma

Register as a lawyer [Are a client requiring the help of a lawyer? Register as a client now.](#)

Name: Advaith Sonubhai Sharma

Gender: Male

Email: Advaith27@gmail.com

Phone: +91775-819-9999

Password

Retype Password

Office address latitude: 23.022505

Office address longitude: 72.5713621

Office address: Apt. 666, Pilla Court, Near Tara Village.

Photo: g3GhTRny.jpeg

Certificate

Select case specializations

- Update case specializations
- Bankruptcy
- Business/Corporate
- Constitutional
- Criminal Defense
- Employment and Labor
- Entertainment
- Estate Planning
- Family
- Immigration
- Intellectual Property
- Personal Injury
- Tax

UPDATE PROFILE

AUTOFILL LATITUDE & LONGITUDE

Picture 4.6.29. Updating the profile (Changing the name, phone, address, photo and case specializations)

Welcome, Lawyer Advaith Sonubhai Sharma

Advaith Sonubhai Sharma

User ID: 19
Email: Advaith27@gmail.com
Phone: +91775-819-9999
Gender: Male
Latitude & Longitude: (22.993, 72.539)
Office Address:
Apt. 666,
Pilla Court,
Near Tara Village.
Srivilliputhur,
Gujarat
Status: Confirmed

Total Cases: 2
Total Clients: 1
Total Appointments: 3
Waiting Appointments: 1
Rejected Appointments: 0
Confirmed Appointments: 2

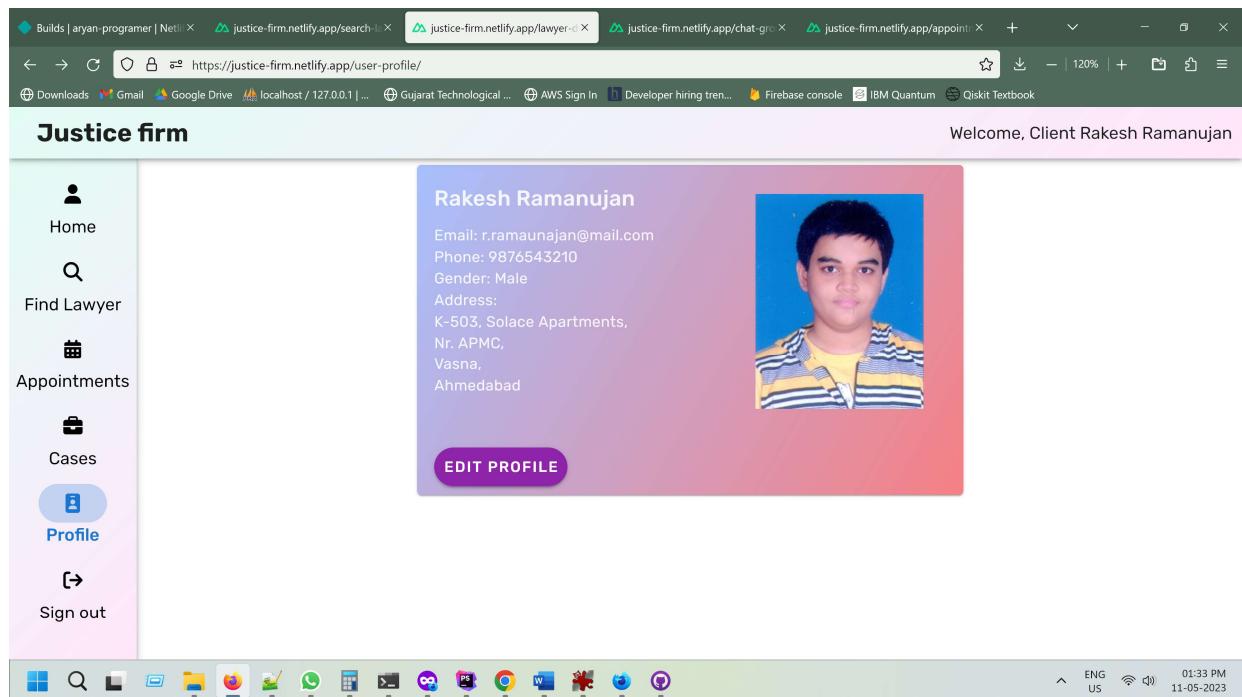
View case specializations

- Bankruptcy
- Employment and Labor
- Intellectual Property
- Constitutional
- Estate Planning
- Personal Injury
- Criminal Defense
- Immigration
- Tax

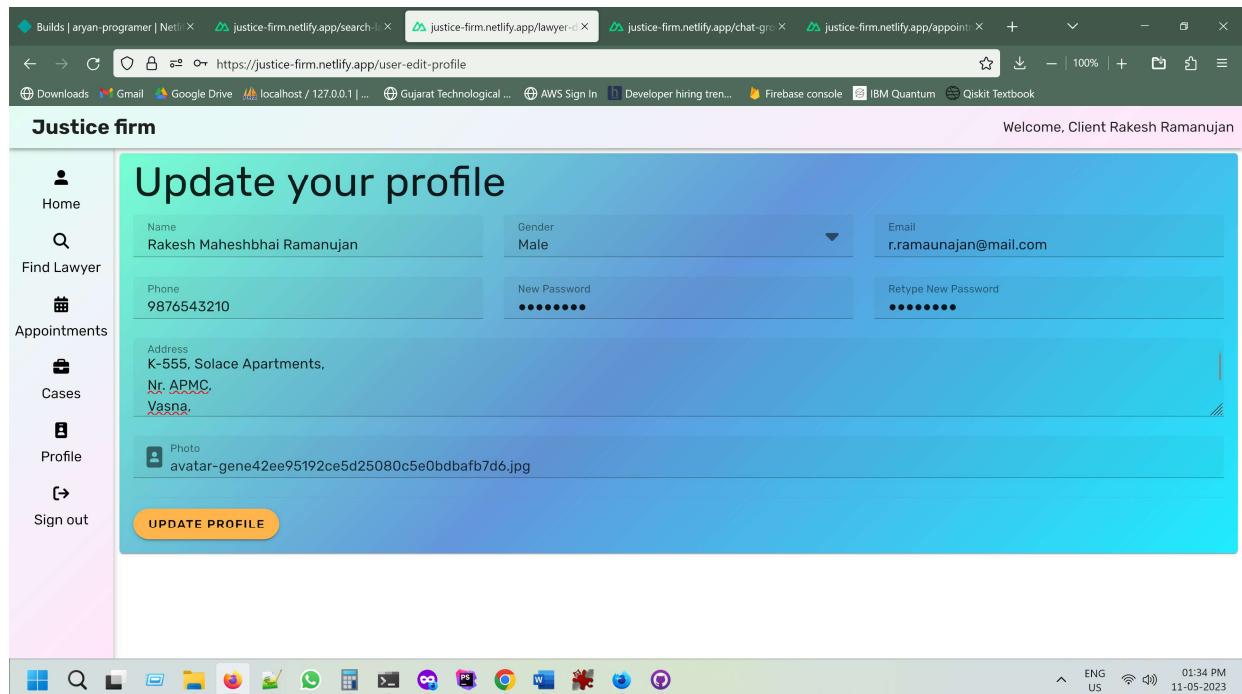
VIEW CERTIFICATION

EDIT PROFILE

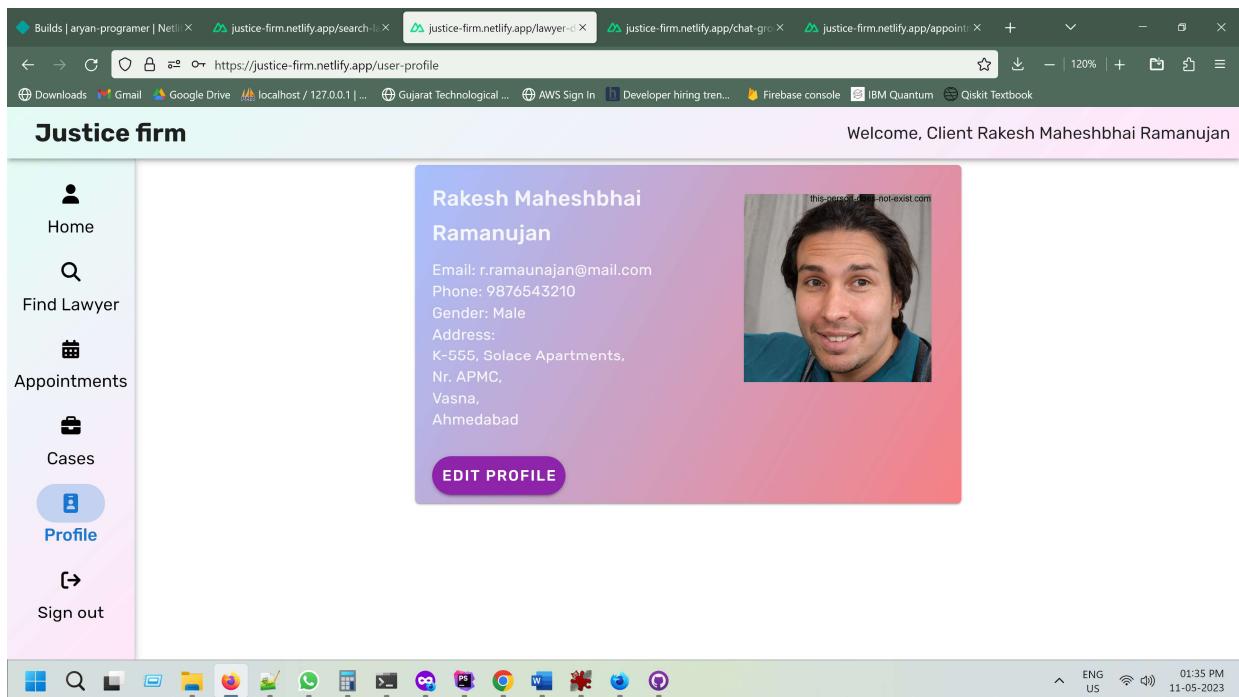
Picture 4.6.30. Profile edited successfully



Picture 4.6.31. Client profile page



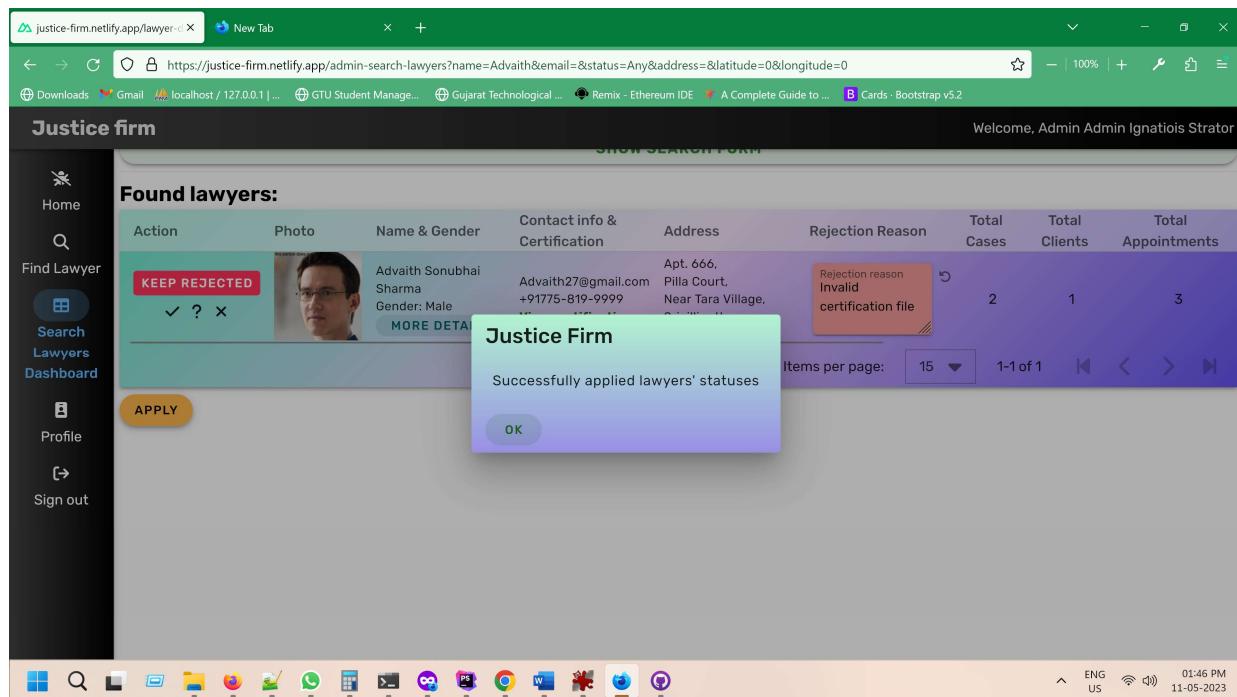
Picture 4.6.32. Updating client profile (here name, password and photo)



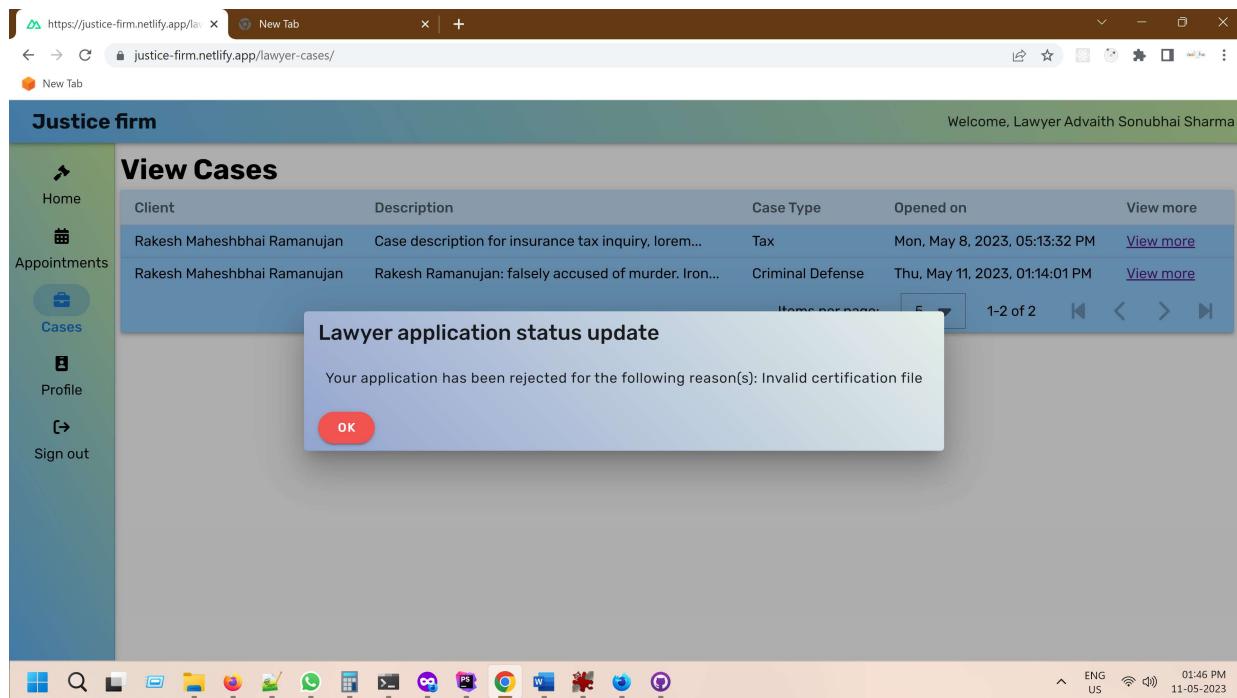
Picture 4.6.33. Client profile updated successfully

The screenshot shows a search results page for lawyers. The search bar has 'Name' set to 'Advaith'. The search results table is titled 'Found lawyers:' and lists one result: 'Advaith Sonubhai Sharma'. The table columns include Action, Photo, Name & Gender, Contact info & Certification, Address, Rejection Reason, Total Cases, Total Clients, and Total Appointments. The 'Action' column for Advaith Sonubhai Sharma shows a green 'KEEP CONFIRMED' button with a checkmark icon, a question mark icon, and a red 'X' icon. The 'Contact info & Certification' row for him shows 'Advaith27@gmail.com' and '+91775-819-9999'. The 'View certification' link is visible. The 'Address' row shows 'Apt. 666, Pilla Court, Near Tara Village, Srivilliputhur, Gujarat'. The 'Rejection Reason' row contains a red box with the text 'Rejection reason Invalid certification file'. The 'Total Cases' column shows '2', 'Total Clients' shows '1', and 'Total Appointments' shows '3'. At the bottom, there are buttons for 'APPLY', 'Items per page: 15', and navigation arrows.

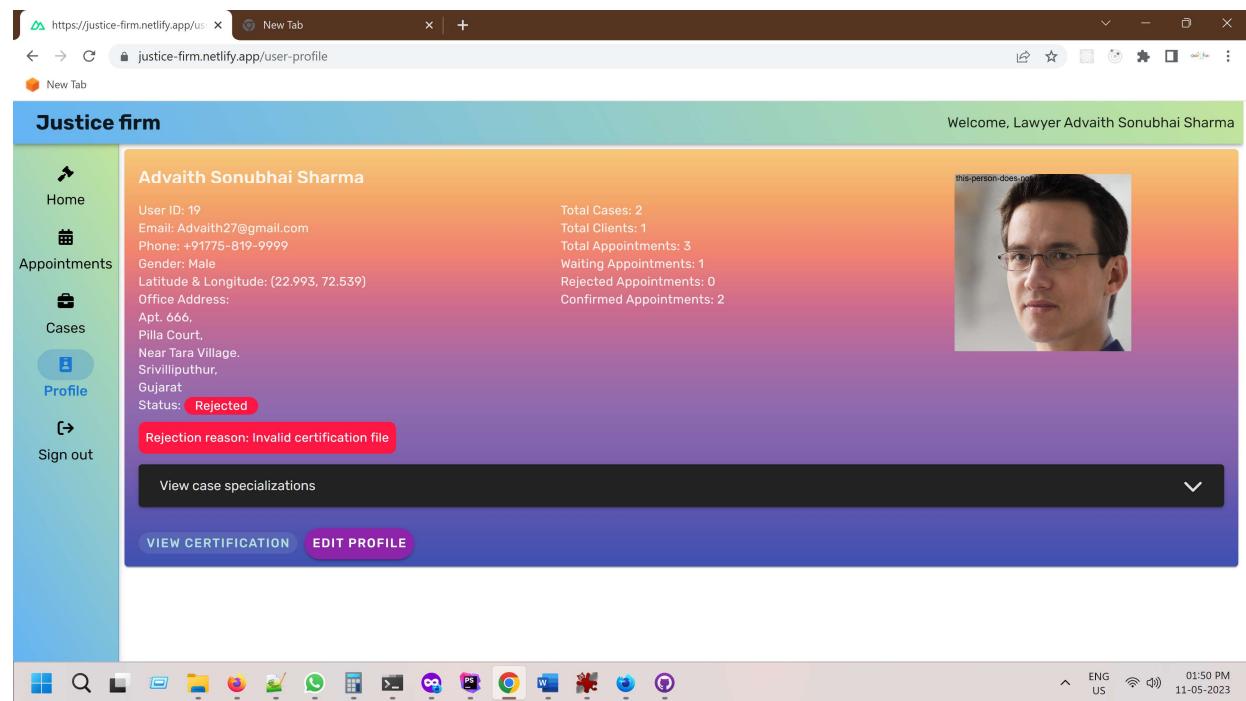
Picture 4.6.34. Administrator rejecting a lawyer that had been confirmed before



Picture 4.6.35. Rejection successful



Picture 4.6.36. Lawyer status update i.e., rejection notification



Picture 4.6.37. Rejection status visible in the profile page, it is also visible publicly

Chapter 5 Conclusion and Future Scope

5.1 Limitation of Project

- The application does not show a map (using a service Google Maps) when latitude & longitude input is necessary. It will automatically find the user's current location and uses that to fill in the latitude & longitude input. This is because to use the Google Maps API, a billing account needs to be set up, for which a credit card is needed.

5.2 Conclusion

- The Justice Firm application gives a convenient and time saving solution for implementing a lawyer directory.
- It implements a viable method & easy to use form to search the list of all lawyers by name & sort by distance from the user's current location.
- The application stores comprehensive details about the lawyer, including his/her lawyer certification, so that a client may know the details about the lawyer.
- It implements an appealing & pleasing UI using a customized version of the Vuetify 3 components library/framework for the Vue framework.

5.3 Future Scope

- It will use the Google Maps service in addition HTML5 Geolocation, to display a map of the user's vicinity so that the user can set the location in an easier manner. Currently the application uses HTML5 Geolocation to find the user's current location with a GPS, which is a non-invasive method i.e., requires explicit permission from the user, but its fallback systems are mildly inaccurate in case the GPS is disabled.
- HTTPS i.e., HTTP over TLS, and client and/or server-side data & file encryption is also imperative to implement to provide a higher level of security.

Chapter 6 Bibliography and Reference

Websites

1. <https://developer.mozilla.org/>: MDN Web Docs for detailed documentation of HTML, CSS & JS
2. <https://vuejs.org/guide/introduction.html>: Vue 3 Documentation
3. <https://pinia.vuejs.org/>: Pinia state management library for VueJS
4. <https://vuetifyjs.com/en/>: Vuetify component framework documentation
5. <https://getbootstrap.com/docs/5.2>: Bootstrap 5.2 a web UI framework, used mainly for inspiration and a gold standard for web frameworks
6. <https://sass-lang.com/>: Sass CSS preprocessor, used to customize Vuetify
7. <https://dev.mysql.com/doc/>: MySQL documentation
8. <https://www.apachefriends.org/download.html>: XAMPP server for PHP, MySQL (MariaDB) & PHP
9. <https://www.jetbrains.com/phpstorm/>: A fully fledged IDE for development in PHP, JS & TS, MySQL
10. <https://code.visualstudio.com/>: A general IDE for useful development in many programming languages.
11. <https://stackoverflow.com/>: Stack overflow for general information & guidance, mainly helpful for debugging & resolution of errors.
12. <https://lawrato.com/>, <https://www.legalserviceindia.com>, <https://legalconclave.com>: For inspiration on the basic functionality of a lawyer directory website.
13. <https://css-tricks.com/snippets/css/a-guide-to-flexbox/>: A comprehensive guide on how to use CSS flexboxes.

Books

1. Head First PHP & MySQL
2. CSS: The Definitive Guide by O'Reilly
3. Learning PHP, MySQL, JavaScript, & CSS: A Step-by-Step Guide to Creating Dynamic Websites by O'Reilly
4. You Don't Know JS (book series) - 1st Edition: <https://github.com/getify/You-Dont-Know-JS/blob/1st-ed/README.md>