A

PROJECT REPORT

ON

Laboratory Management System

Submitted To

Hemchandracharya North Gujarat University

Patan

As a Part of

Third Year B.C.A. Course

Presented By

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(I. T. Sheliya Jafari B.C.A. Collage)

Index

Sr. No.	Contents	Page No.
1.	Overview of Project /preface	1
2.	Acknowledgement	2
3.	Tool & Technology	3
	• Software requirement • Hardware requirement	
4.	System analyst	4
	• introduction • Need for system development • Types of user • System investigation	6 7 8 9
4.	System design	
	• Data flow diagram • Data Dictionnary • Er-Diagram • Snapshot short	10 14 23 24

Overview of Project /Preface

“Learning is not merely about acquiring knowledge, but actively applying it in pursuit of understanding and growth”

- Laboratories are the crucibles of innovation, where ideas become reality and mysteries are unraveled through meticulous processes and expertise, driving scientific progress in our ever-evolving world.

- In today's complex, collaborative landscape, effective laboratory management is key. The Laboratory Management System (LMS) embodies efficiency, integrating technology and workflows to empower scientific exploration.

“Welcome to the Laboratory Management System – where innovation knows no bounds, and discovery knows no limits.”

Acknowledgement

“Success can never attained without valuable guidance”

Successful completion of a project of any size requires co-ordination and co-operation of all the team members. A successful project is a culmination of efforts by many people, some directly involved, other that quietly encouraged and extended this support while being in background.

We are grateful and thankful to professors of our college. Who give us a good guidance and give suggestions about each and every topic which we have study and research. They give us a guidance about are current project.

We thank from the bottom of our heart to our principal, Respected Mr. Ahesanali sir, and our professor Mr. Siraj sir, who helps us time to time.

With warmest regard,

Sabbirali H.B.

Ikramali H.A.

Tool & Technology

1. Software Requirement
    i. Platform: Windows 7+
    ii. Frontend Technologies: HTML, CSS, JavaScript
    iii. Backend Framework: PHP (with Laravel)
    iv. Preferred Browser: Google Chrome
2. Hardware Requirement
    i. Processor: Intel Core i3 or higher
    ii. RAM: 4 GB
    iii. Storage: 128 GB SSD

Description:

Our Laboratory Management System (LMS) harnesses Laravel's robust capabilities for seamless performance on Windows 7+. With HTML, CSS, and JavaScript, the frontend offers intuitive navigation. Backed by PHP integrated with Laravel, our LMS ensures efficient data management. For the best experience, we recommend using Google Chrome for compatibility and performance.

Introduction

- Pathology Lab Management System can be used in a pathology to book a test for the customer, enter customer's details and after conducting the test, give test reports to the customer.

- Pathology Lab Management System efficiently manages pathology lab records, including test results, customer information, and optimizing storage and retrieval processes for enhanced efficiency.

- The software facilitates the entry and management of customer details, ensuring accuracy and accessibility of information crucial for conducting tests and delivering results promptly.

Need for system development

- A database is created to store all user data.
- The Pathology Lab Management System can be utilized in any Pathology Center to book tests for customers.
- Detailed reagent management includes available stock information and alerts for planning purchases based on predefined minimum stock values.
- It reduces patient workload and saves patient time.
- Comprehensive reagent management features provide detailed insights into available stock levels and trigger alerts for timely procurement based on predefined thresholds.
- Users have the option to download test reports for easy access and reference.

Types of user

1. Administrator

- Responsible for overall system management and configuration.
- Grants access permissions to other users.
- Manages user accounts and roles.
- Monitors system performance and security.

2. Laboratory Technician

- Performs laboratory tests and analyses on samples.
- Enters test results into the system.
- Manages sample inventory and reagents.
- Generates test reports for review and interpretation.

3. IT Support Staff

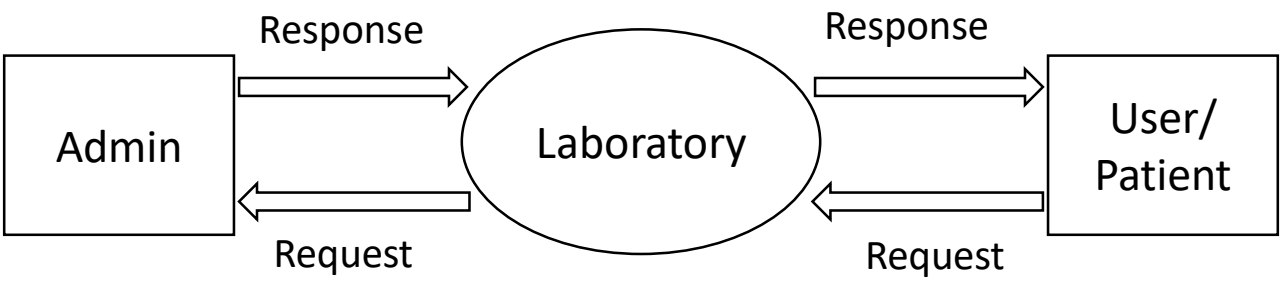
- Provides technical assistance and troubleshooting support.
- Ensures system availability and reliability.
- Performs system upgrades and maintenance tasks.
- Implements data security measures and backup procedures.

System investigation

- System testing is the first step in a system development project.
- The current project focuses on developing a website tailored for research laboratories, serving as a platform for both research activities and testing purposes.
- Database objects can be added ,A database is created so that all user data is stored in the database.
- Database management features enable the seamless addition of new database objects, reinforcing the scalability and adaptability of the system to accommodate evolving requirements.
- User access to the website is contingent upon the creation of a dedicated account, ensuring secure and authorized entry into the system while maintaining data integrity and confidentiality.

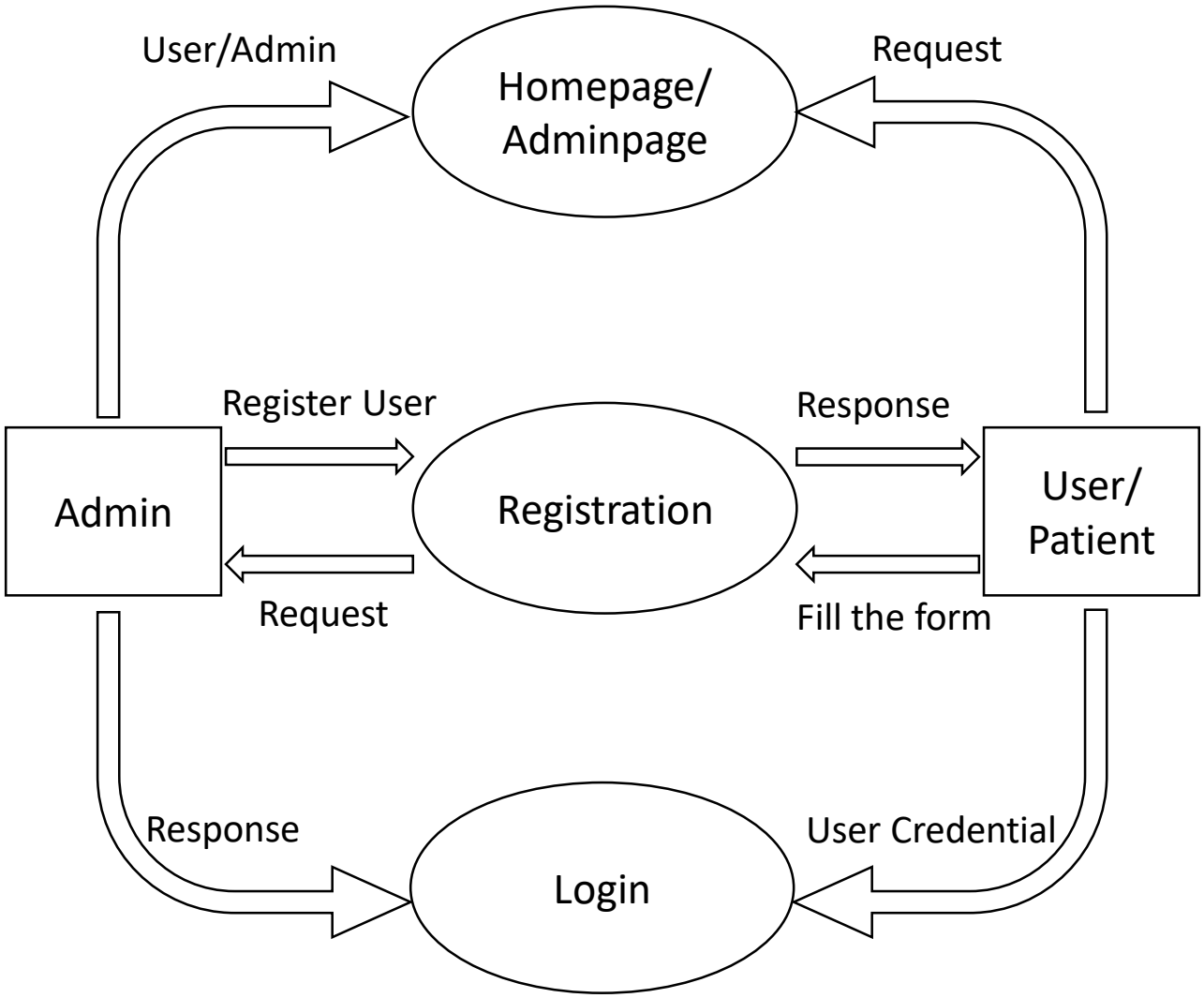
Data flow diagram

Context Level.



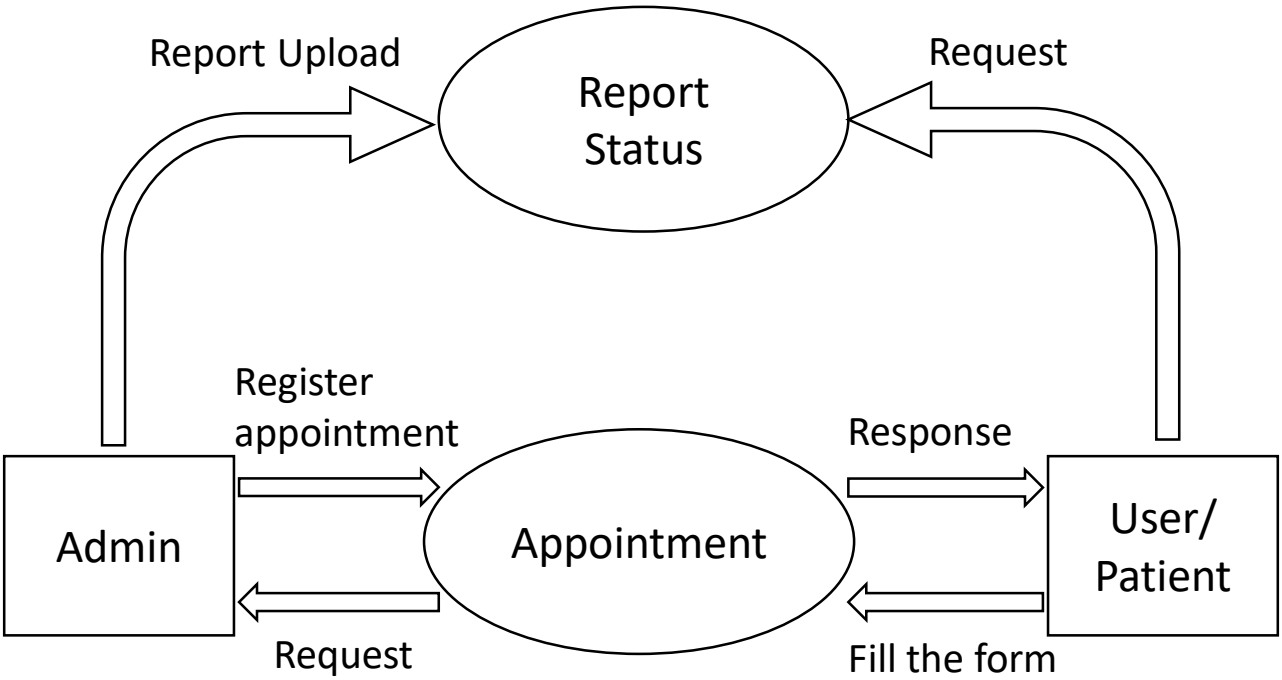
Data flow diagram

First Level.



Data flow diagram

Second Level.



- Admin possesses privileged access to user profiles and appointment data, facilitating efficient management and coordination within the laboratory ecosystem.

Data directory

No.	Table Name	Description
1	appointments	To store appointment information
2	contactus	To store contactus information
3	roles	To store roles information
4	roleuser	To store roleuser information
5	Users	To store user information

Appointments table

No.	Field Name	Data Type	Constraint	Description
1	id	bigint(20)	A.I/P.K	Appointment id
2	name	varchar(30)	Not null	Name of Patient
3	address	text	Not null	Patient Address
4	appointment_ date	date	Not null	Appointment Date
5	phone	varchar(30)	Not null	Patient Mobile No.
6	u_id	bigint(20)	Not null	Patient Id
7	status	enum('Pending', 'Rejected', 'Success')	Not null	Appointment Status
8	path	varchar(30)	nullable	Report Path
9	deleted_at	timestamp	nullable	Deleted or not
10	created_at	timestamp	nullable	Create date
11	updated_at	timestamp	nullable	Update date

Contactus table

No.	Field Name	Data Type	Constraint	Description
1	id	bigint(20)	A.I/P.K	Contact id
2	name	varchar(30)	Not null	Name of user
3	email	varchar(40)	Not null	User Email
4	number	varchar(30)	Not null	User Mobile No.
5	message	text	Not null	User Message
6	created_at	timestamp	Nullable	Create date
7	updated_at	timestamp	Nullable	Update date

Roles table

No.	Field Name	Data Type	Constraint	Description
1	id	bigint(20)	A.I/P.K	role id
2	name	varchar(20)	Not null	Name of role
6	created_at	timestamp	nullable	Create date
7	updated_at	timestamp	nullable	Update date

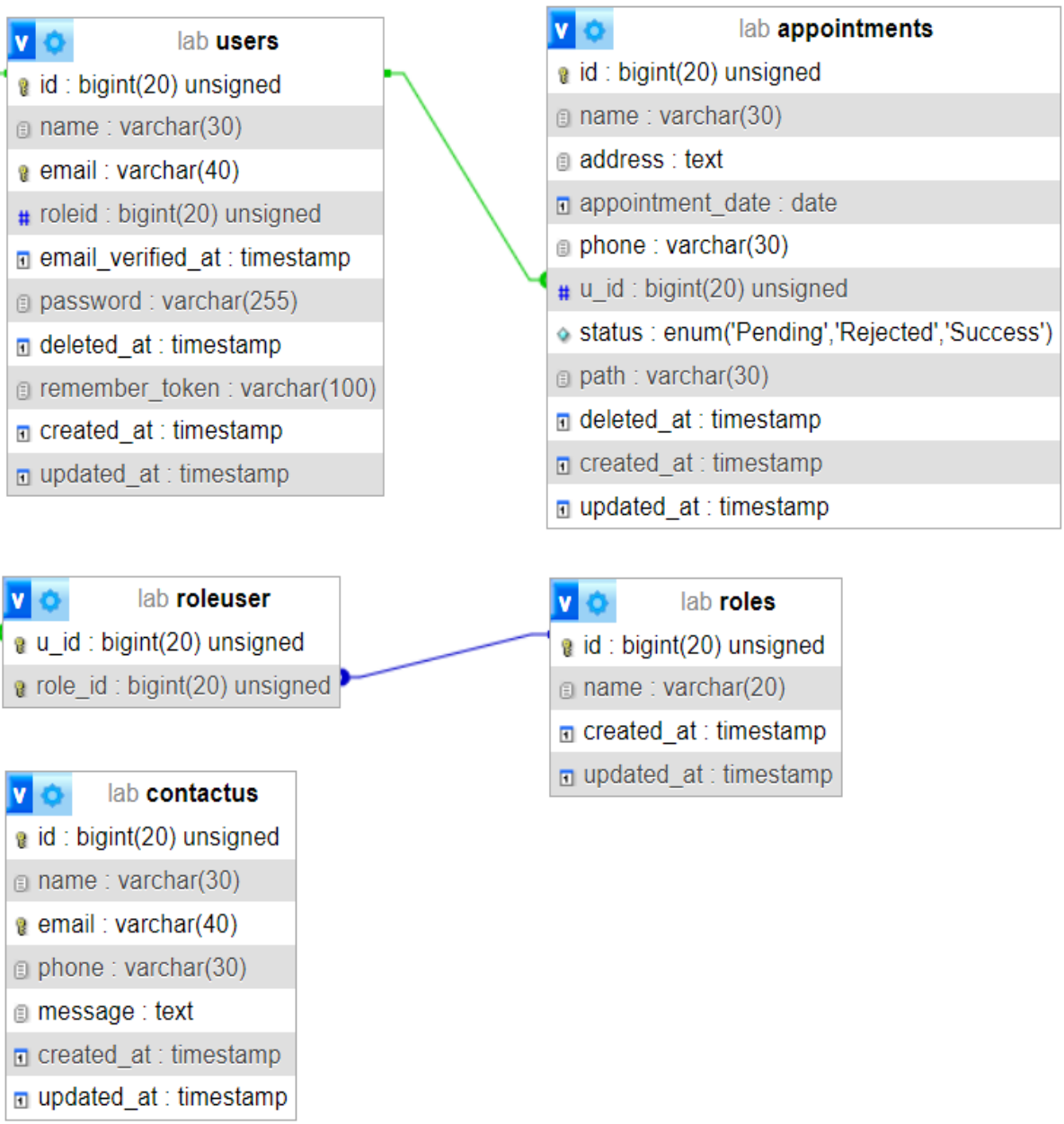
Roleuser table

No.	Field Name	Data Type	Constraint	Description
1	u_id	bigint(20)	P.K	user id
2	role_id	bigint(20)	P.K	role id

User table

No.	Field Name	Data Type	Constraint	Description
1	id	bigint(20)	A.I/P.K	user id
2	name	varchar(30)	Not null	Name of User
3	email	varchar(40)	Not null	User email
4	roleid	bigint(20)	Not null	Role id
5	email_verified_at	timestamp	nullable	Email verification date
6	password	varchar(255)	Not null	password
7	deleted_at	timestamp	nullable	Deleted or not
8	remember_token	varchar(100)	nullable	Remember token
9	created_at	timestamp	nullable	Create date
10	updated_at	timestamp	nullable	Update date

Er-Diagram


lab users
id : bigint(20) unsigned
name : varchar(30)
email : varchar(40)
roleid : bigint(20) unsigned
email_verified_at : timestamp
password : varchar(255)
deleted_at : timestamp
remember_token : varchar(100)
created_at : timestamp
updated_at : timestamp
lab appointments
id : bigint(20) unsigned
name : varchar(30)
address : text
appointment_date : date
phone : varchar(30)
u_id : bigint(20) unsigned
status : enum('Pending','Rejected','Success')
path : varchar(30)
deleted_at : timestamp
created_at : timestamp
updated_at : timestamp
lab roleuser
u_id : bigint(20) unsigned
role_id : bigint(20) unsigned
lab roles
id : bigint(20) unsigned
name : varchar(20)
created_at : timestamp
updated_at : timestamp
lab contactus
id : bigint(20) unsigned
name : varchar(30)
email : varchar(40)
phone : varchar(30)
message : text
created_at : timestamp
updated_at : timestamp

Snapshort

User

- Login
- Sign up
- Homepage
- About page
- Contact page
- Appointment page
- Profile page
- Report PDF

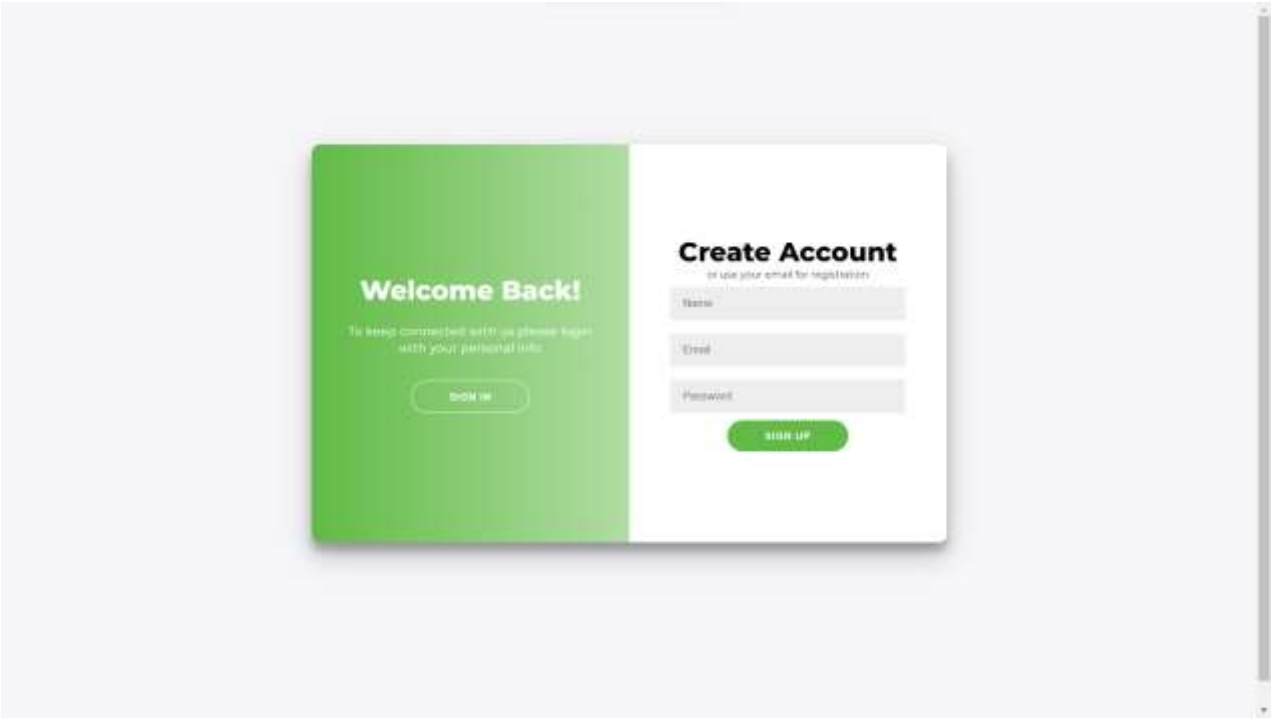
Admin

- Dashboard
- User details
- Appointment details
- Contect details

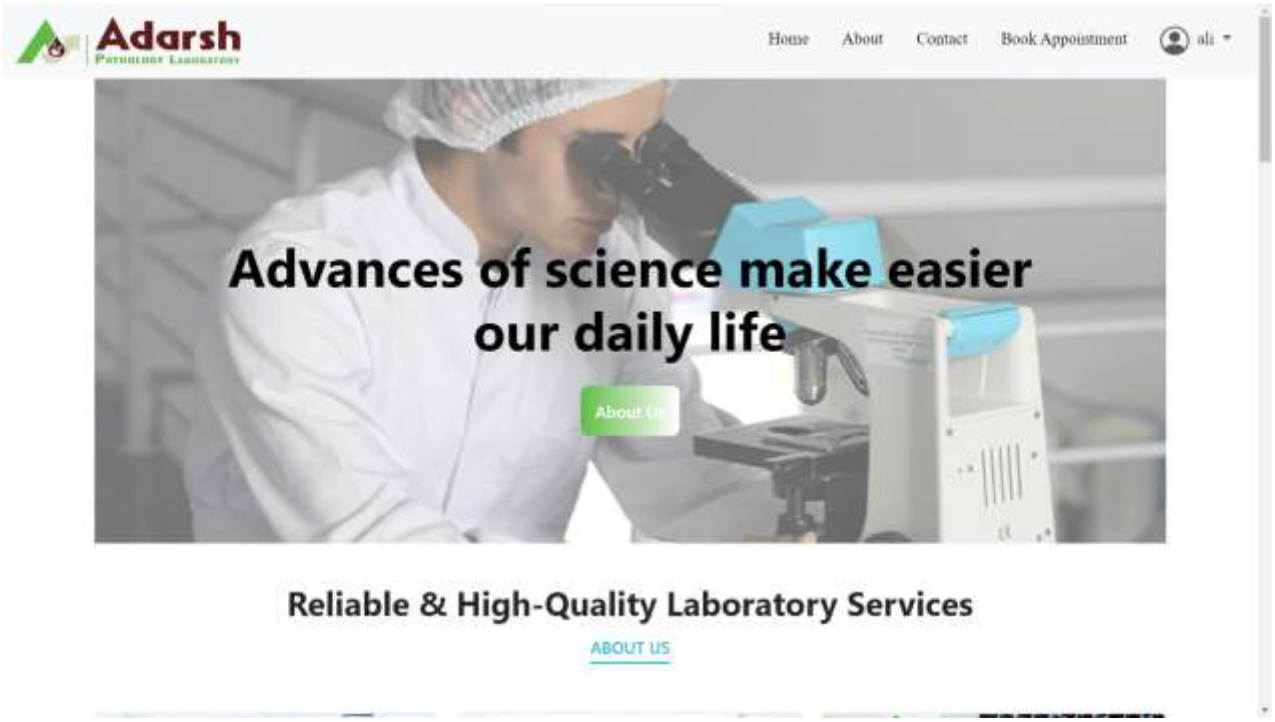
Login page

Sign in
Email
Password
Forgot your password?
SIGN IN
Hello, Friend!
Enter your personal details and start the journey with us
SIGN UP

Signup page


Welcome Back!
SIGN IN
Create Account
Name
Email
Password
SIGN UP

Home page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Advances of science make easier our daily life
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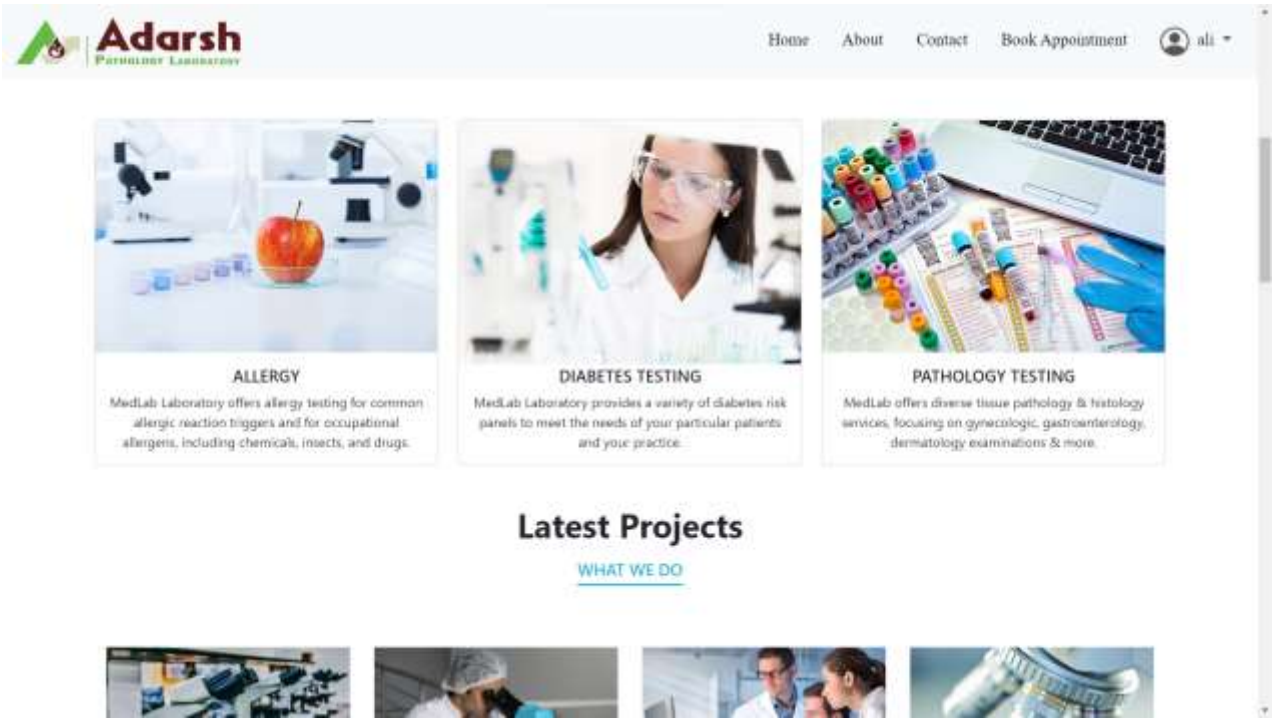
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ALLERGY
MedLab Laboratory offers allergy testing for common allergic reaction triggers and for occupational allergens, including chemicals, insects, and drugs.
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MedLab Laboratory provides a variety of diabetes risk panels to meet the needs of your particular patients and your practice.
PATHOLOGY TESTING
MedLab offers diverse tissue pathology & histology services, focusing on gynecologic, gastroenterology, dermatology examinations & more.
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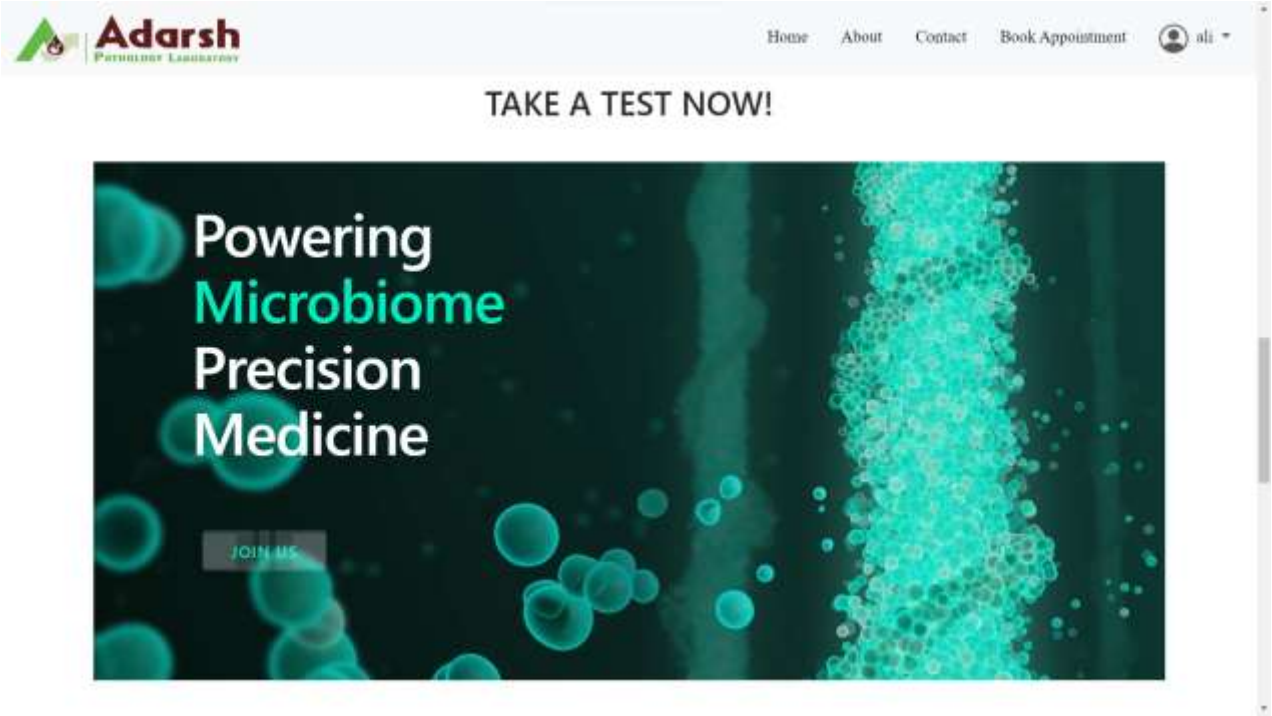
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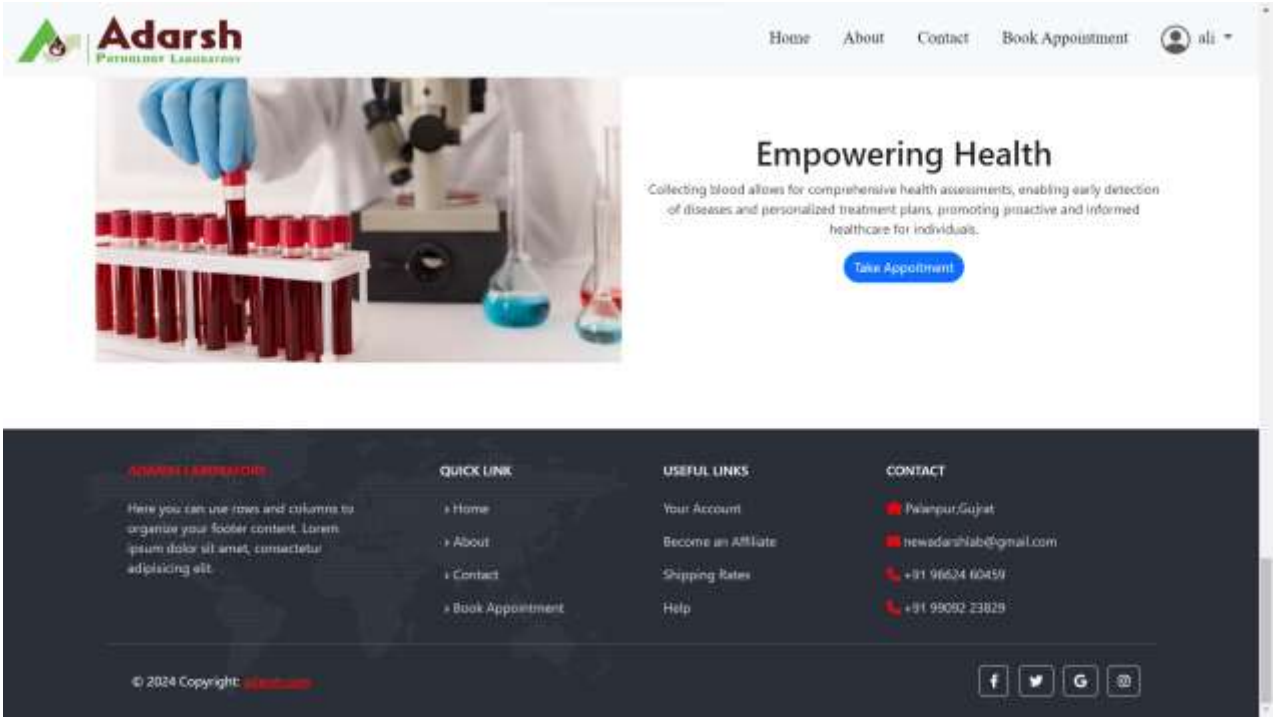
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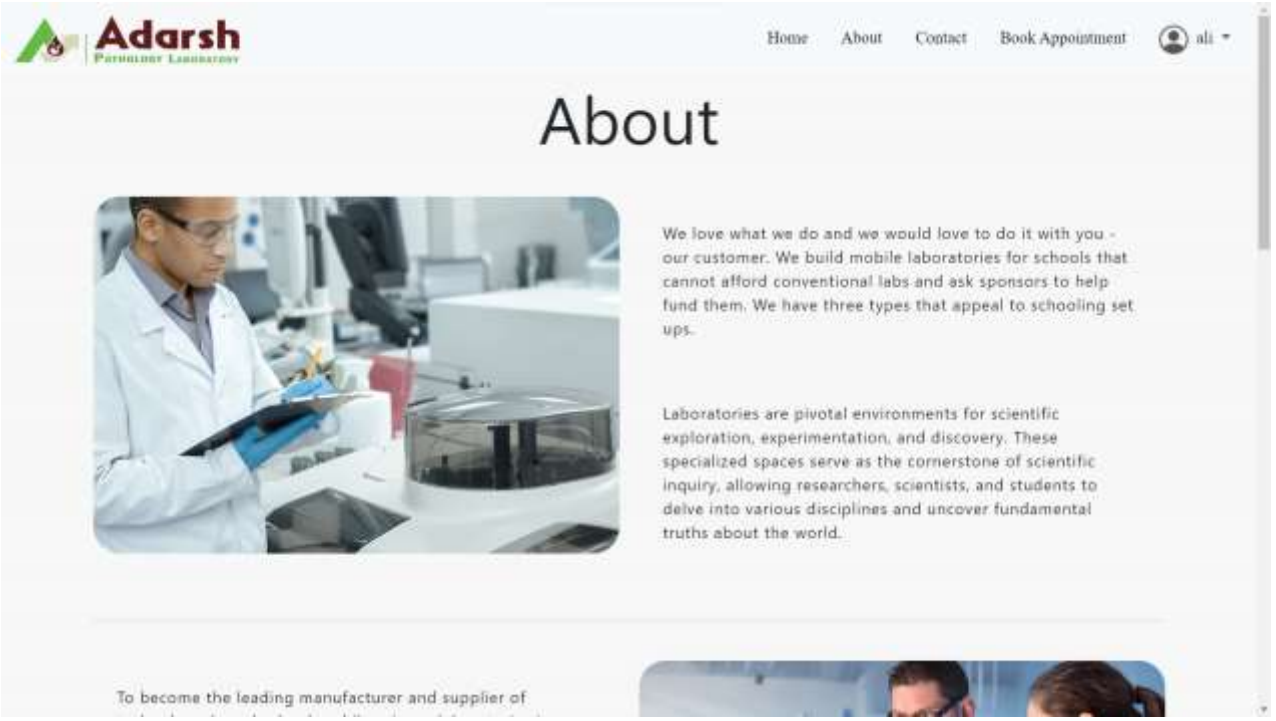
About page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About
We love what we do and we would love to do it with you - our customer. We build mobile laboratories for schools that cannot afford conventional labs and ask sponsors to help fund them. We have three types that appeal to schooling set ups.
Laboratories are pivotal environments for scientific exploration, experimentation, and discovery. These specialized spaces serve as the cornerstone of scientific inquiry, allowing researchers, scientists, and students to delve into various disciplines and uncover fundamental truths about the world.
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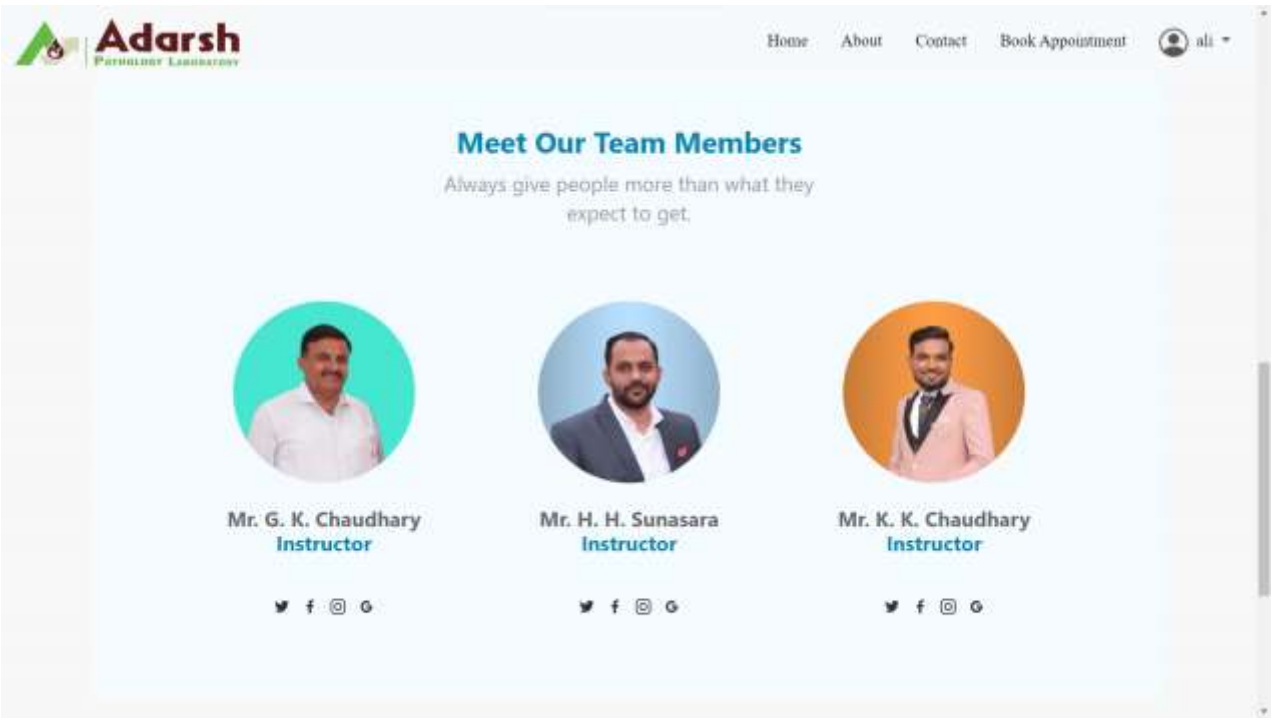
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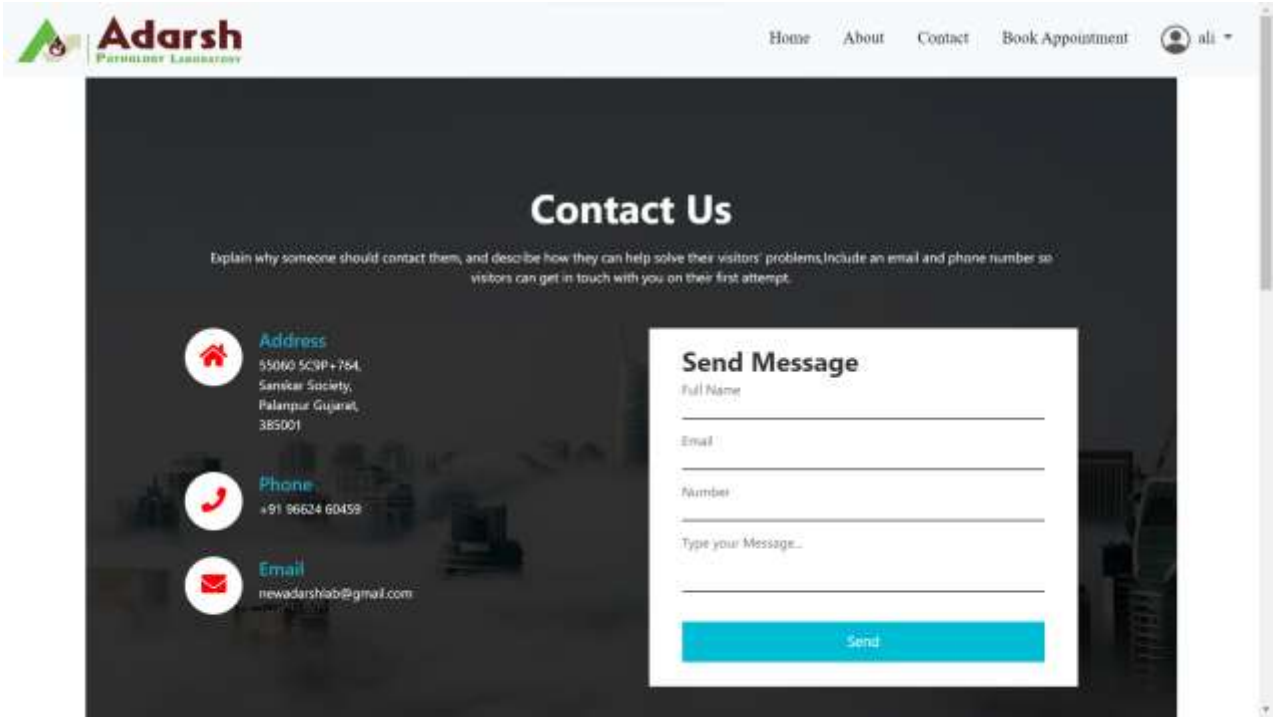
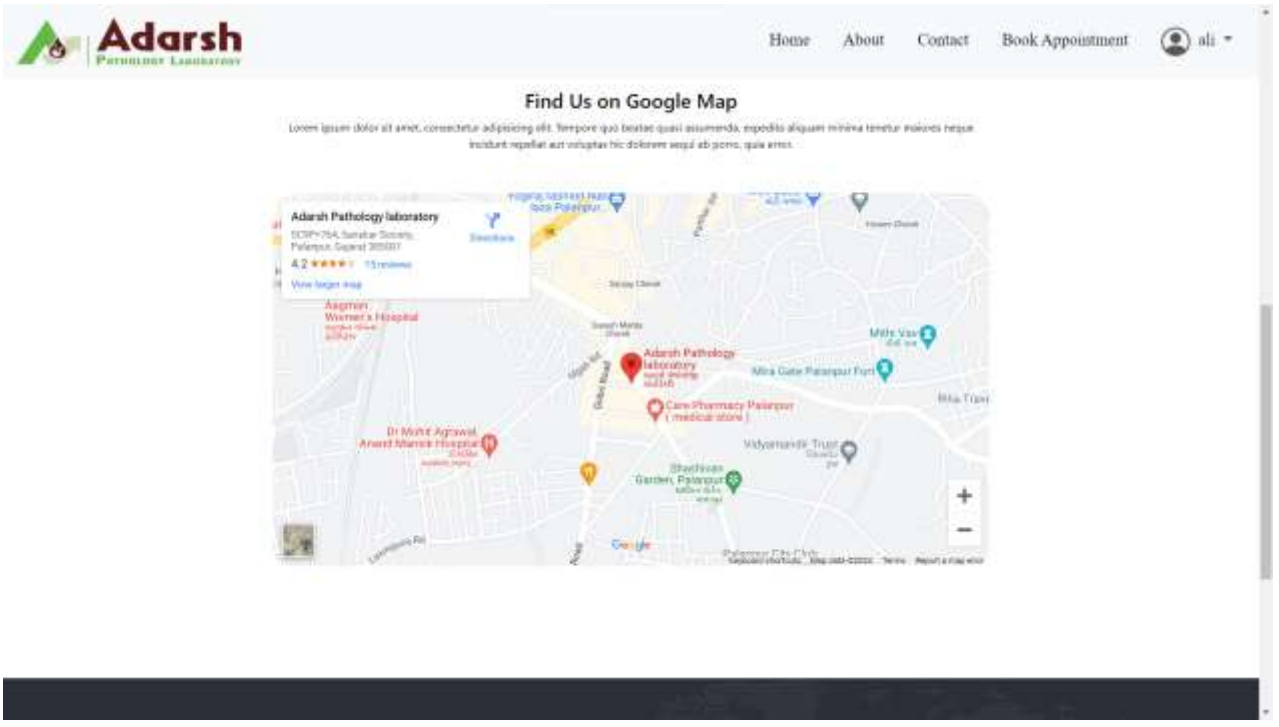
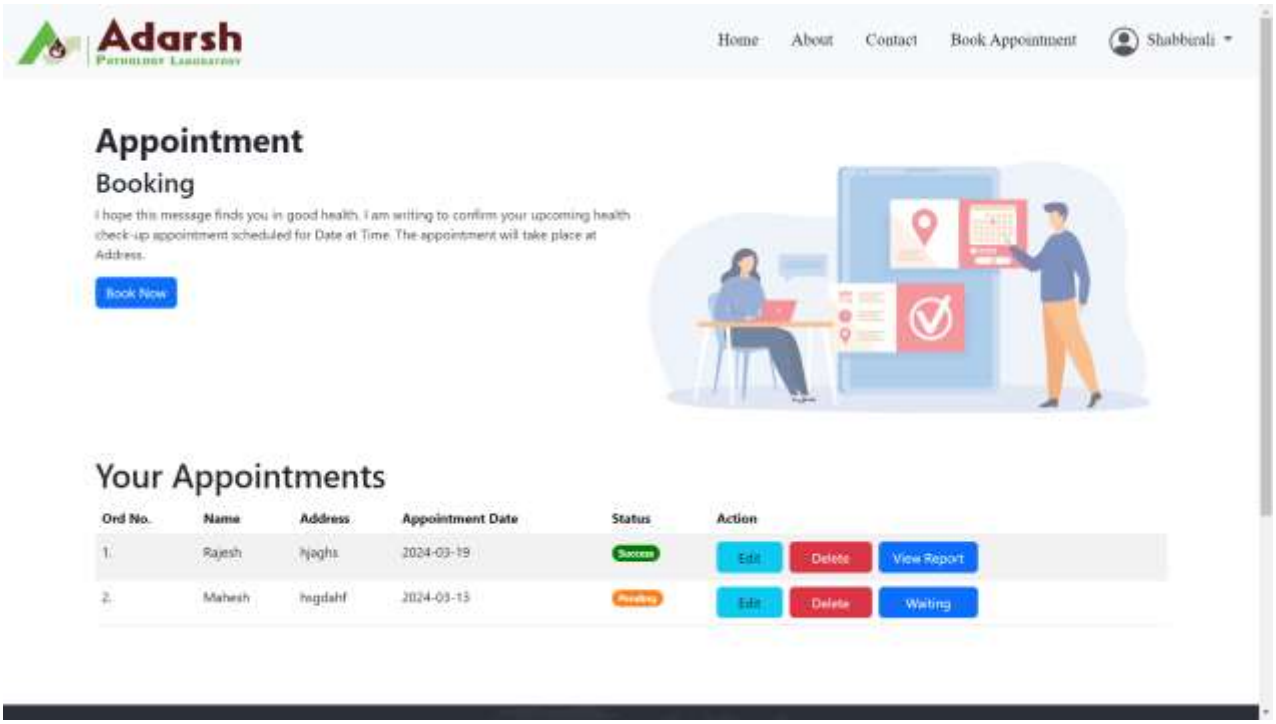
Meet Our Team Members
Always give people more than what they expect to get.
Mr. G. K. Chaudhary
Instructor
Mr. H. H. Sunasara
Instructor
Mr. K. K. Chaudhary
Instructor

Contact page





Appointment page



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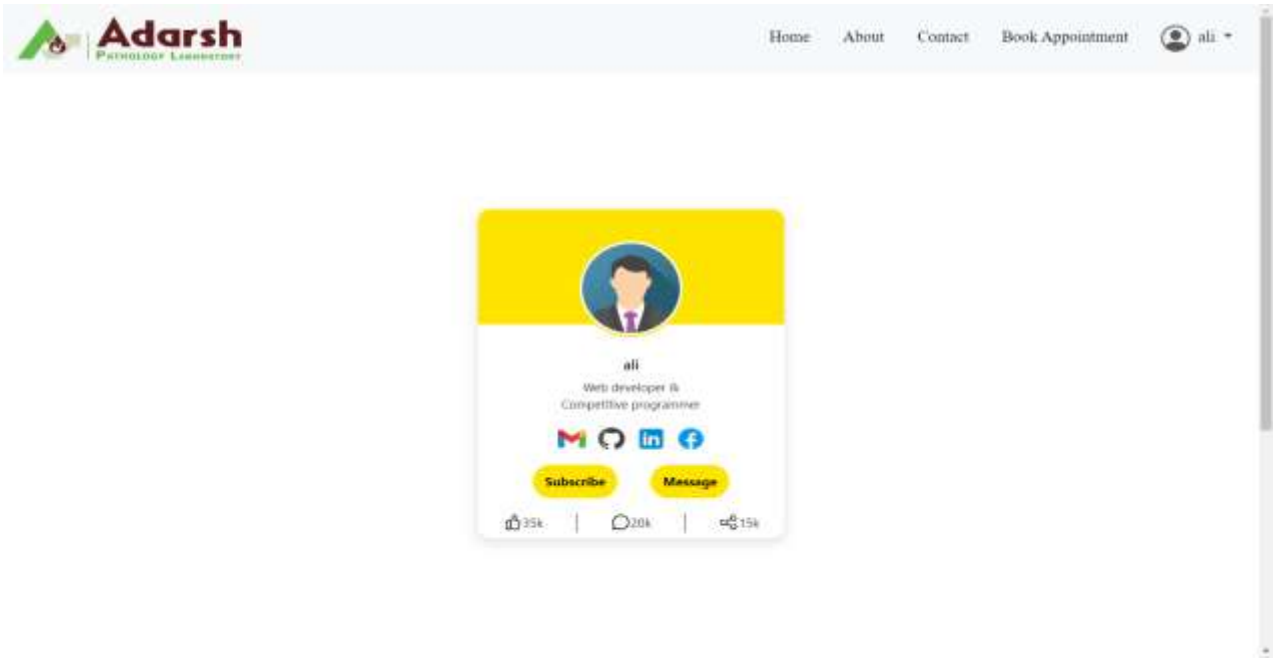

Report PDF

Dr. Ronak B. Sathvara
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Consultant Pathologist

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B.Sc.(Chemistry) P.G.D.M.L.T.

Mr. G. K. Chaudhary
B.Sc. (Micro) P.G.D.M.L.T.
D.T.A. (Bombay)

Mr. Hasan S. Sunasara
B.Sc. (Micro) P.G.D.M.L.T.

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Main Bajar, Behind Sahkari Dairy, Above New Gujrat Pashu Aahar, At. Basu, Ta. Vadgam, Dist-B.K. - 385520 E-mail:adarshlabbasu@gmail.com

Patient's Name : HASANBHAI BHORANIYA
Age/Sex : 45 Years/Male
Ref. No. : 4
Ref by : SELF [ ]
Date : 15/02/2024

LIPID PROFILE

TEST	RESULT		REFERENCE RANGE
Serum Cholesterol	: 152.2	mg%	<170 mg% : Excellent <200 mg% : Desireble 200 - 239 mg% :Borderline High
Serum Triglyceride	: 159.7	mg%	>240 mg% : High Risk <150 mg% : Normal 150 - 199 mg% :Desireble 200 - 239 mg% :Border LIne High
S. HDL Cholesterol	: 38.1	mg%	35 -70 mg/dl Prognostically Favorable More than 55 mg % Risk indicator
S. LDL Cholesterol	: 82.16	mg%	Up to 130 mg% Normal 130 - 159 mg% Borderline High 160 mg% High Risk
S. VLDL Cholesterol	: 31.94	mg%	15.00 - 30.00
Cholesterol/HDL	: 3.99		Normal upto 5
LDL/HDL	: 2.15		Upto 3.5

Checked By
Mr.Kurbanhusain K. Chaudhary
B.Sc.(Chemistry) P.G.D.M.L.T.

Checked By
Mr.Hasanabbas S. Sunasara
B.Sc.(Micro) P.G.D.M.L.T.

Pathologist
Dr.Ronak B. Sathwara
M.D. (Pathology)

Thanks ---------- ***End of Report*** ----------

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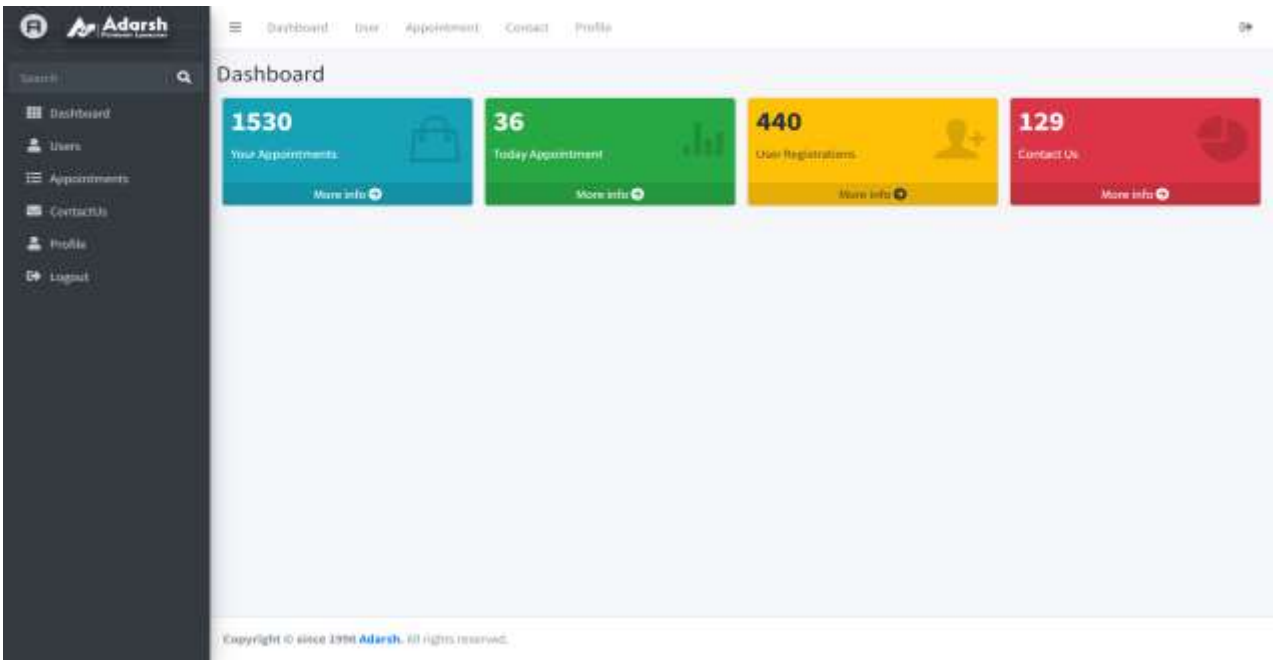
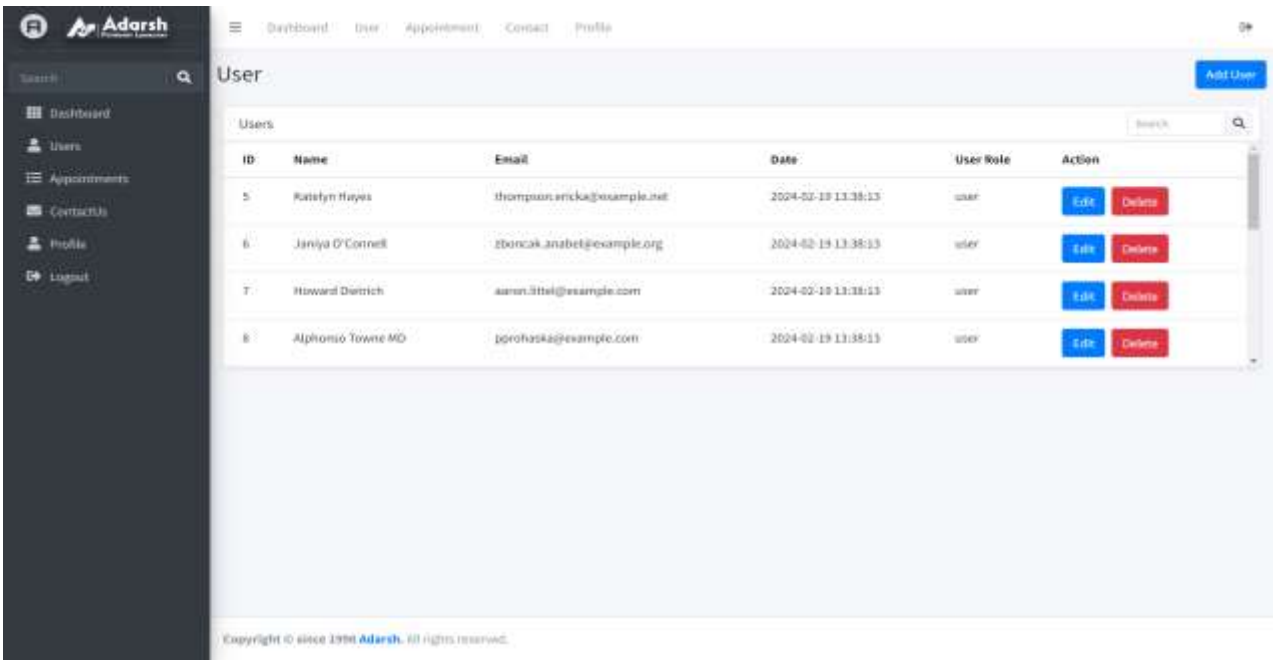
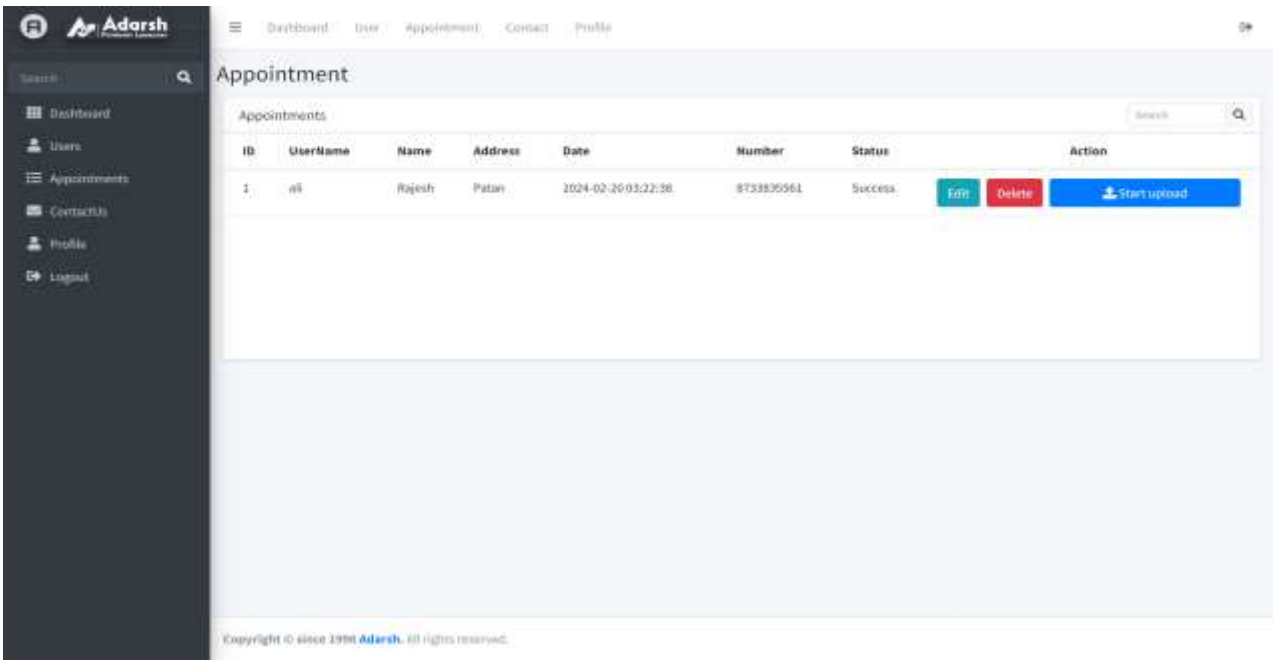
Dashboard page



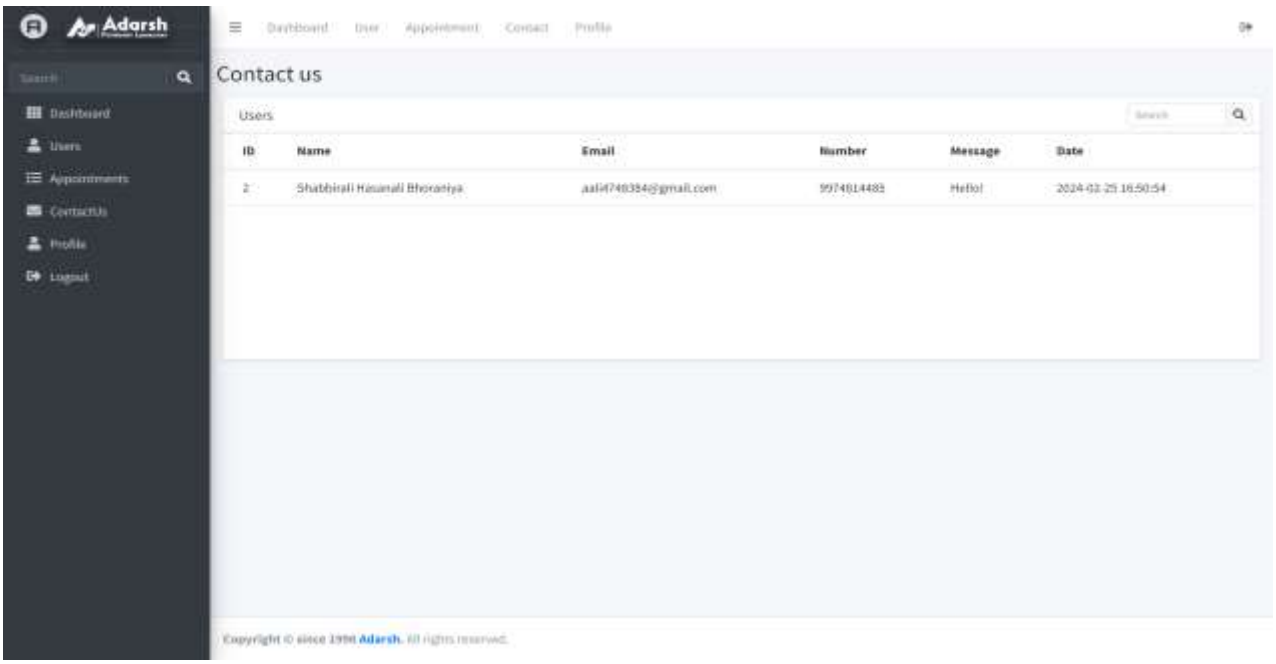
User details page



Appointment details page



Contact details page



Thank You!

Do you have any questions?

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