Software Requirements Specification

for <Online Clinic

Management >

Version 1.0 approved

Prepared by <Brijesh Manvar

Bhaskar Pandav

Hiten Bheda>

<R.K University >

<23 – FEB - 2024 >

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Revision History

Name	Date	Reason For Changes	Version

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1. Introduction:

The primary aim of the Online Clinic Management System is to modernize and optimize the administrative and operational workflows within medical clinics. By leveraging ASP.NET Core MVC, the system intends to offer a scalable, secure, and user-friendly solution that caters to the unique needs of clinics.

Through efficient appointment scheduling, patient record management, and communication tools, the system strives to enhance patient care and overall clinic performance.

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2. Aim:

The primary aim of the Online Clinic Management System is to modernize and optimize the administrative and operational workflows within medical clinics. By

leveraging ASP.NET Core MVC, the system intends to offer a scalable, secure, and user-friendly solution that caters to the unique needs of clinics.

Through efficient appointment scheduling, patient record management, and communication tools, the system strives to enhance patient care and overall clinic performance.

3. Language Description:

The Online Clinic Management System is developed using modern web technologies, with a focus on:

The Online Clinic Management System is developed using ASP.NET Core MVC framework, which is a modern and robust web development framework provided by Microsoft. ASP.NET Core MVC offers a structured and scalable approach to building web applications, making it an ideal choice for projects requiring reliability, security, and performance.

The combination of ASP.NET Core MVC and C# enables developers to build scalable and maintainable web applications with ease. ASP.NET Core MVC follows the Model-View-Controller architectural pattern, which separates the application logic into three distinct components:

1. **Model: Represents the data and business logic of the application.**
2. **View: Represents the user interface and presentation logic of the application.**
3. **Controller: Handles user input, interacts with the model, and updates the view accordingly.**

This architectural pattern promotes code reusability, modularity, and testability, making it easier to develop and maintain complex web applications.

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4. Hardware and Software Requirements:

Requirements	Description
Hardware	Standard computing hardware capable of running ASP.NET Core applications.
	This may include servers or cloud-based infrastructure with adequate processing power, memory, and storage to support the application's data processing and storage requirements.
Software	- Operating System: Windows, Linux, or macOS
	- Web Server: IIS (Internet Information Services) or Apache
	- Database: SQL Server, MySQL, or PostgreSQL
	- Development Environment: Visual Studio or Visual Studio Code

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5. Objectives:

The primary objective of the Online Clinic Management System is to provide a comprehensive, intuitive, and secure platform for managing clinic operations. The system aims to achieve the following objectives:

- Digitize administrative tasks such as appointment scheduling, patient registration, and billing processes.
- Improve accuracy and accessibility of patient records and medical histories.
- Enhance communication and collaboration among clinic staff members.
- Optimize resource allocation and workflow efficiency within the clinic.

6. Module Descriptions:

The Online Clinic Management System comprises the following modules:

1. **Authentication:**
    - **User registration, login, and password management functionalities to ensure secure access to the system.**
2. **Receptionist Module:**
    - **Appointment scheduling, patient registration, billing management, and administrative tasks to streamline front desk operations.**
3. **Laboratories Module:**
    - **Management of laboratory tests, test results, sample tracking, and integration with patient records for comprehensive healthcare management.**
4. **Doctor Module:**
    - **Access to patient records, appointment schedules, medical histories, and communication tools for efficient diagnosis and treatment planning.**
5. **Contact Module:**
    - **Enables users to contact the clinic administration for inquiries, feedback, or support, ensuring smooth communication channels.**
6. **About Module:**
    - **Provides information about the clinic, its services, specialties, operating hours, and contact details to patients and visitors.**

7. Functional and Non-Functional Requirements:

Functional Requirements:

- *User Registration and Authentication: Secure registration and login functionalities for users with role-based access control.*
- *Appointment Scheduling and Management: Ability to schedule, modify, and cancel appointments with real-time updates.*
- *Patient Record Management: Comprehensive patient records management including demographics, medical history, and treatment plans.*
- *Laboratory Test Management: Integration with laboratory services for test requests, results, and sample tracking.*
- *Doctor-Patient Communication: Secure messaging and communication tools for doctors and patients to exchange information and inquiries.*
- *Contact and About Information Display: Display of contact information and details about the clinic's services, specialties, and policies.*

Non-Functional Requirements:

- *Security: Implementation of data encryption, secure authentication mechanisms, and role-based access control to protect sensitive patient information.*
- *Performance: Optimization of application performance for efficient data retrieval, processing, and response times.*
- *Scalability: Ability to accommodate a growing number of users, appointments, and records without compromising system performance.*
- *User Experience: Intuitive user interface design, responsive layout, and easy navigation for enhanced user experience.*
- *Reliability: Regular backups, system monitoring, and error handling mechanisms to ensure high availability and data integrity.*

8. Future Aspects:

In the future, the Online Clinic Management System can be enhanced with the following features:

- **Integration with telemedicine platforms for virtual consultations and remote patient monitoring.**
- **Electronic Health Record (EHR) management for comprehensive patient information and interoperability with other healthcare systems.**
- **Automated appointment reminders and notifications via email or SMS.**
- **Advanced analytics and reporting tools for performance analysis, resource optimization, and decision-making.**
- **Mobile application support for convenient access to clinic services on smartphones and tablets, enhancing patient engagement and accessibility.**

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9. Modules:

1. **Appointment Management**
2. **Patient Records**
3. **Billing and Invoicing**
4. **Inventory Management** 5. **Staff Management**
6. **Reporting and Analytics**
7. **Integration with External Systems**

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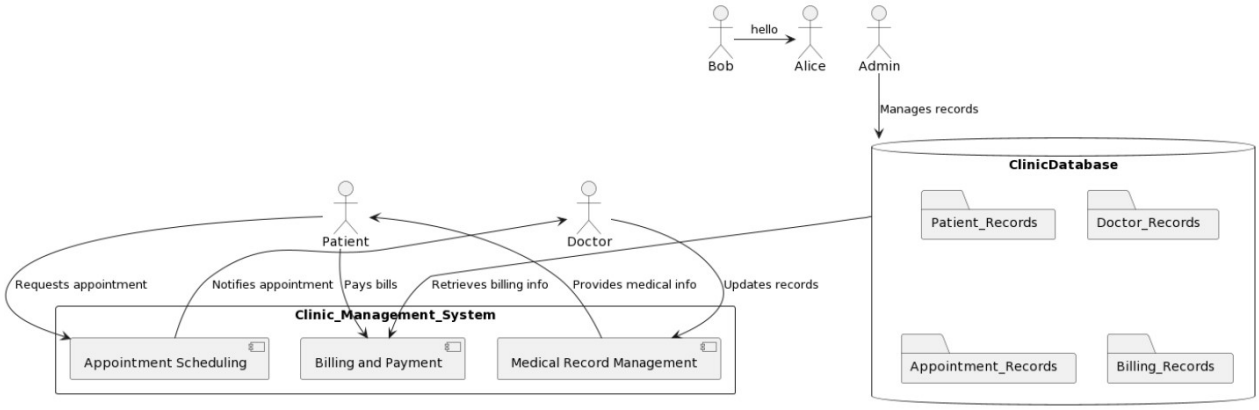
Bob
hello
Alice
Admin
Manages records
ClinicDatabase
Patient_Records
Doctor_Records
Patient
Doctor
Requests appointment
Notifies appointment
Pays bills
Retrieves billing info
Provides medical info
Updates records
Clinic_Management_System
Appointment Scheduling
Billing and Payment
Medical Record Management
Appointment_Records
Billing_Records

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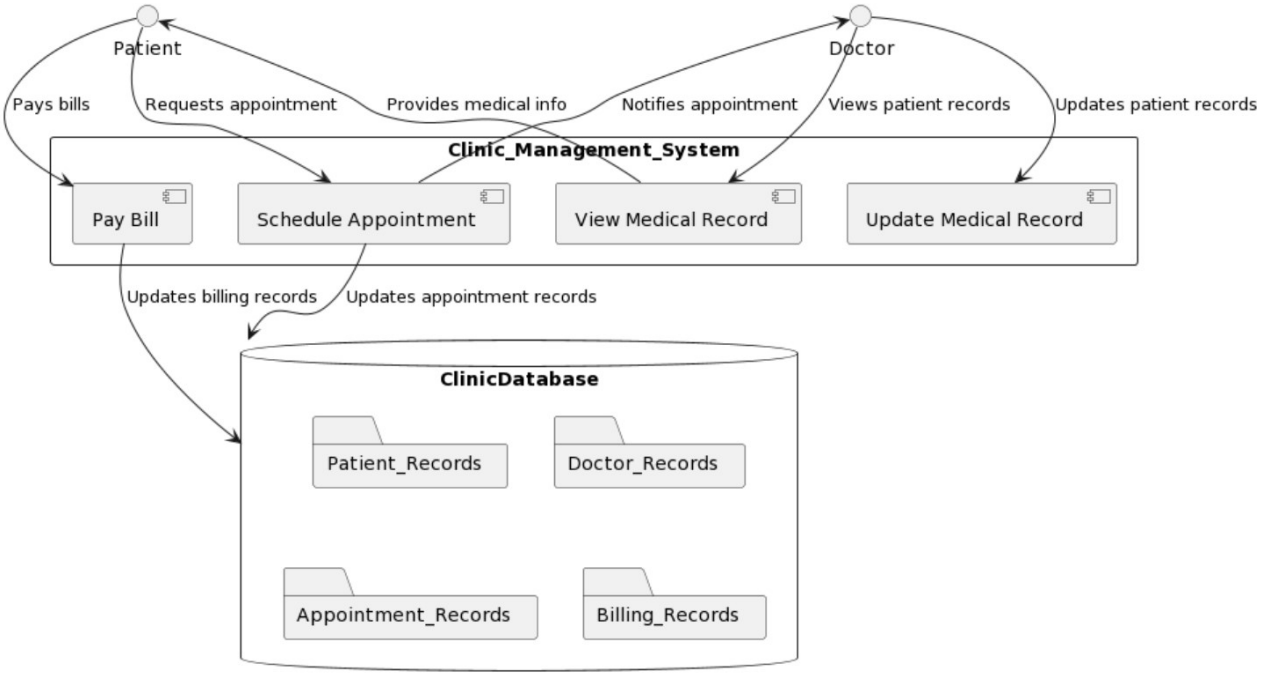
Patient
Doctor
Pays bills
Requests appointment
Provides medical info
Notifies appointment
Views patient records
Updates patient records
Clinic_Management_System
Pay Bill
Schedule Appointment
View Medical Record
Update Medical Record
Updates billing records
Updates appointment records
ClinicDatabase
Patient_Records
Doctor_Records
Appointment_Records
Billing_Records

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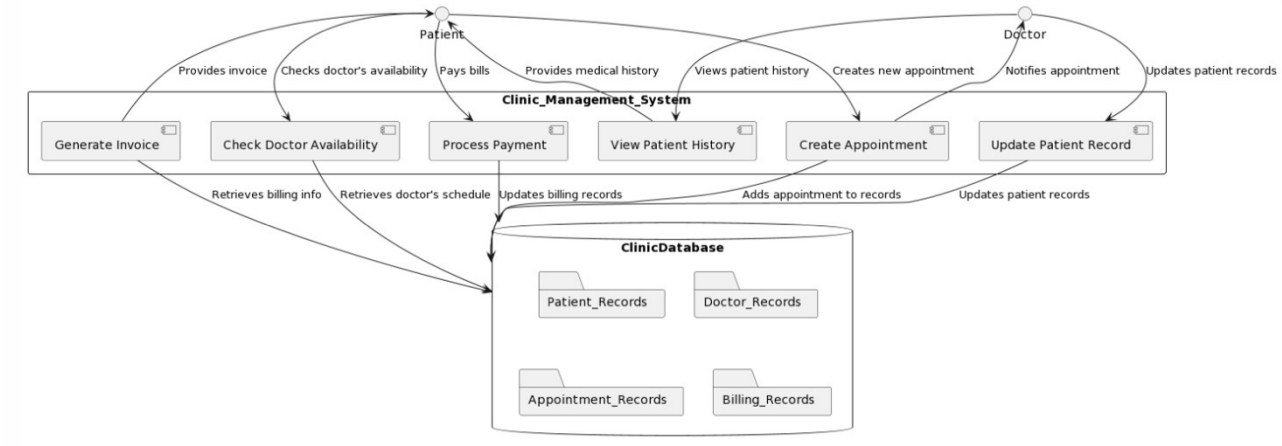
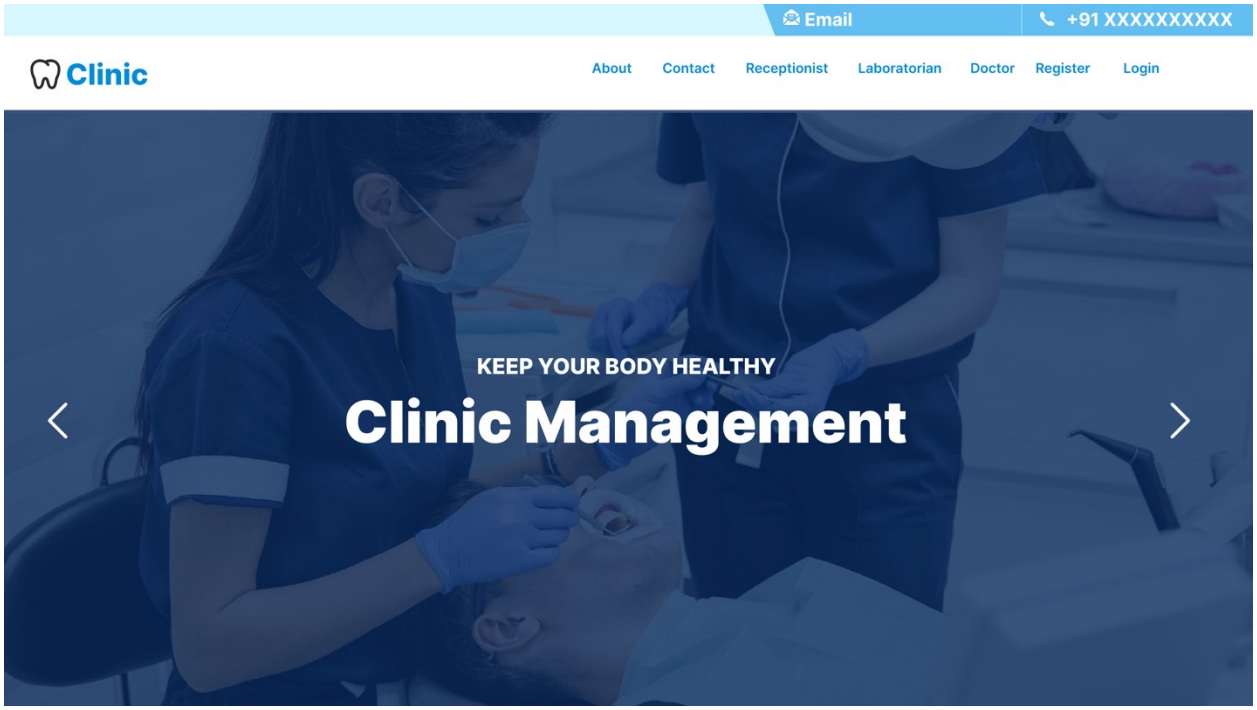
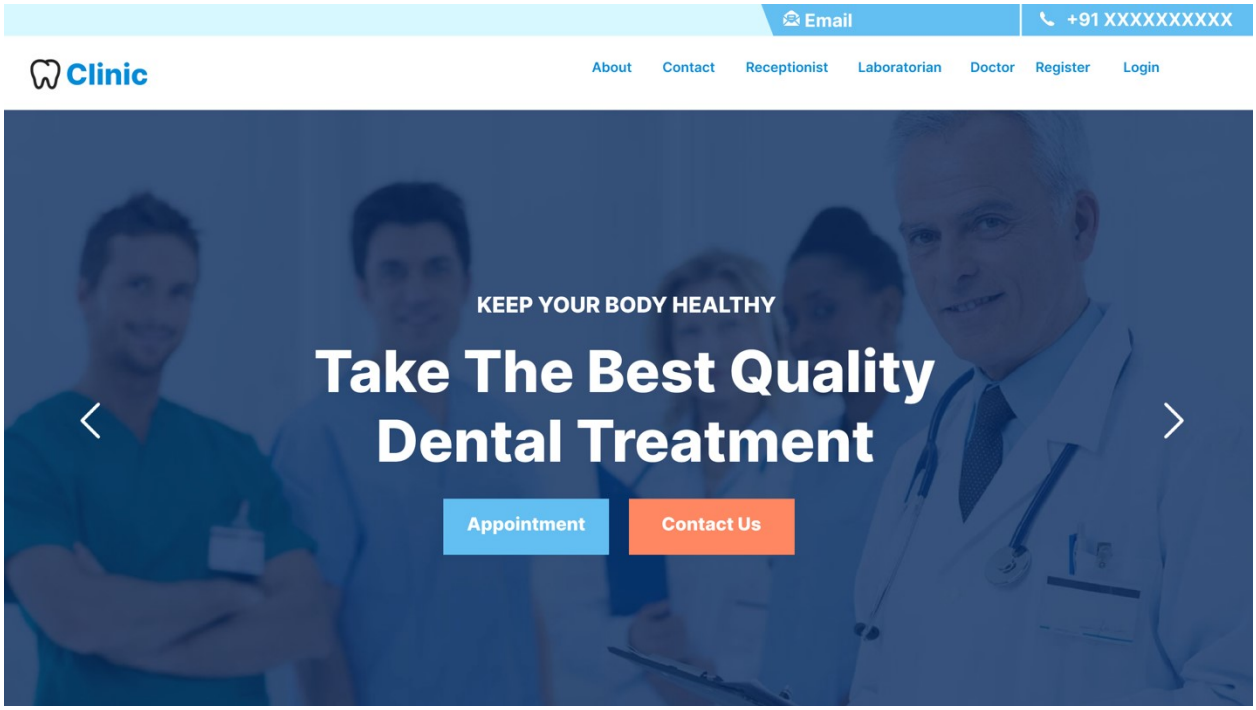

Patient
Doctor
Provides invoice
Checks doctor's availability
Pays bills
Provides medical history
Views patient history
Creates new appointment
Notifies appointment
Updates patient records
Clinic_Management_System
Generate Invoice
Check Doctor Availability
Process Payment
View Patient History
Create Appointment
Update Patient Record
Retrieves billing info
Retrieves doctor's schedule
Updates billing records
Adds appointment to records
Updates patient records
ClinicDatabase
Patient_Records
Doctor_Records
Appointment_Records
Billing_Records

1.


Email
+91 XXXXXXXXXX
Clinic
About
Contact
Receptionist
Laboratorian
Doctor
Register
Login
KEEP YOUR BODY HEALTHY
Clinic Management

2.


Email
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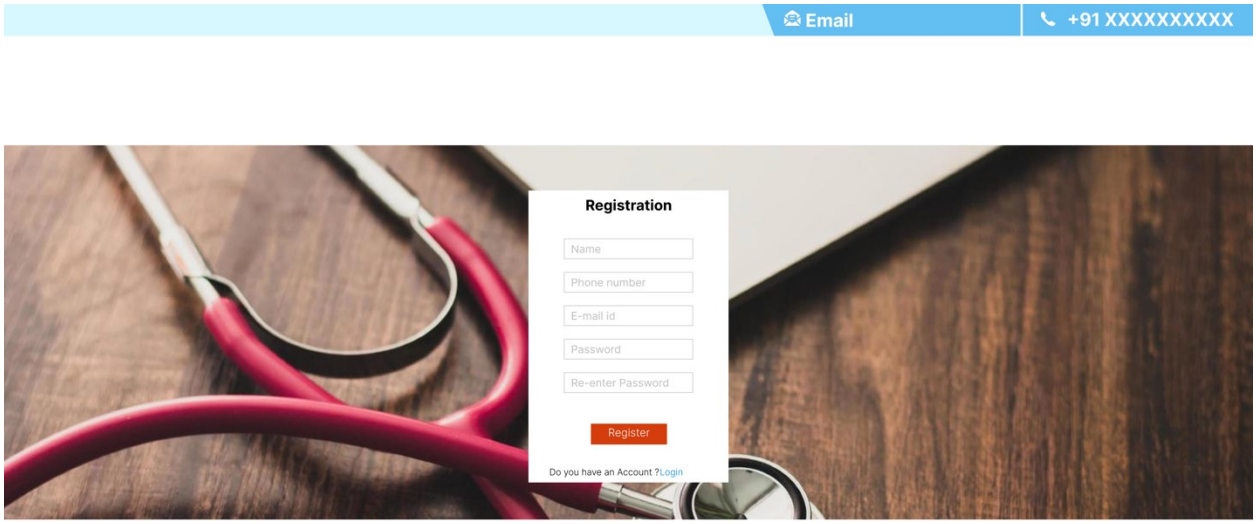
Clinic
About
Contact
Receptionist
Laboratorian
Doctor
Register
Login
KEEP YOUR BODY HEALTHY
Take The Best Quality Dental Treatment
Appointment
Contact Us

3.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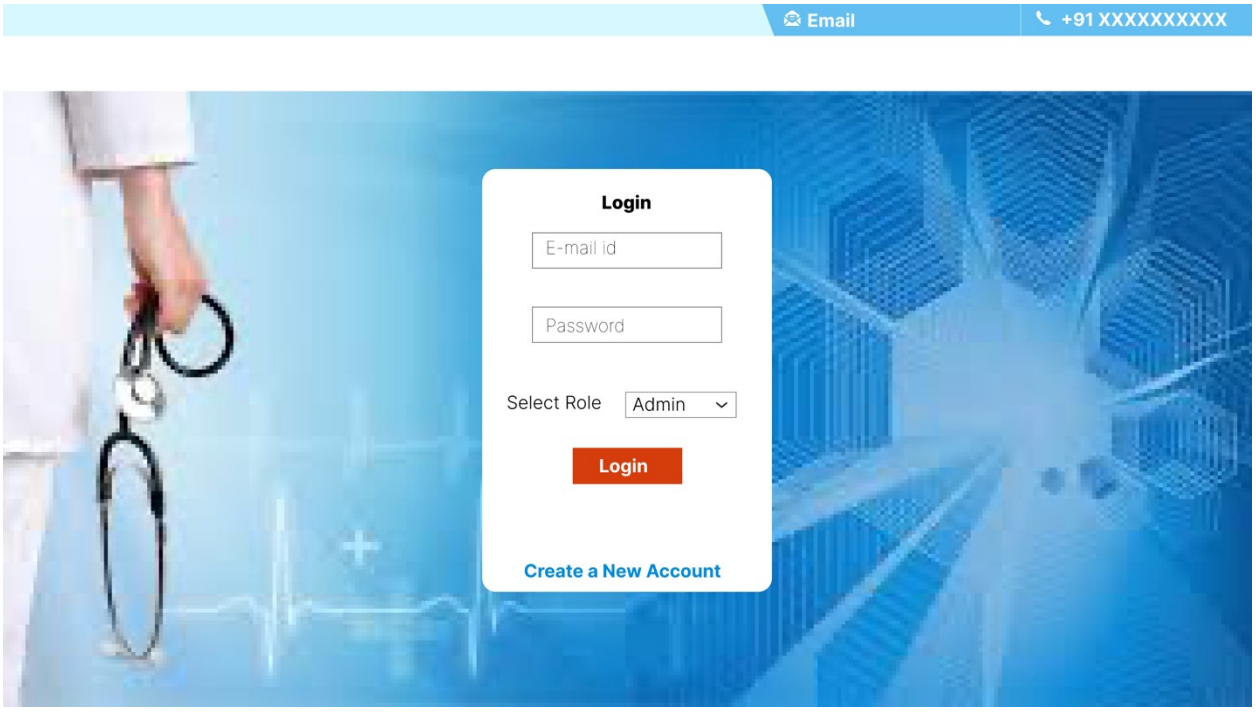
Registration
Name
Phone number
E-mail id
Password
Re-enter Password
Register
Do you have an Account ?Login

4.


Email
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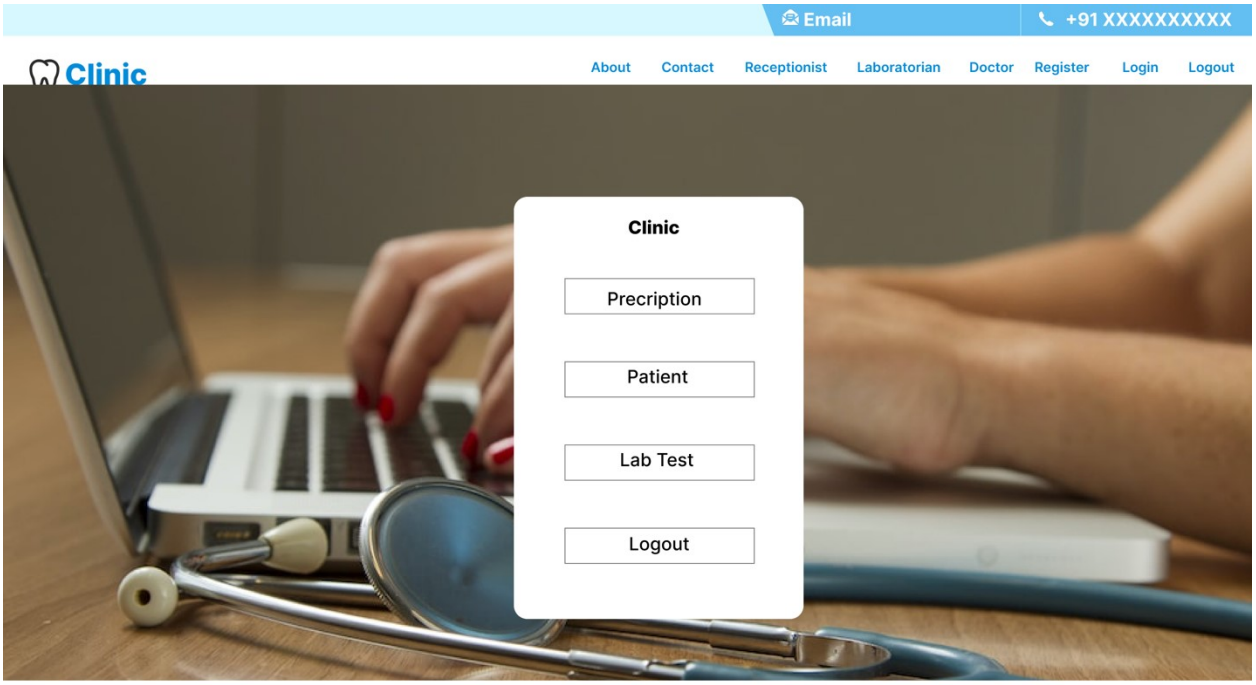
Login
E-mail id
Password
Select Role
Admin
Login
Create a New Account

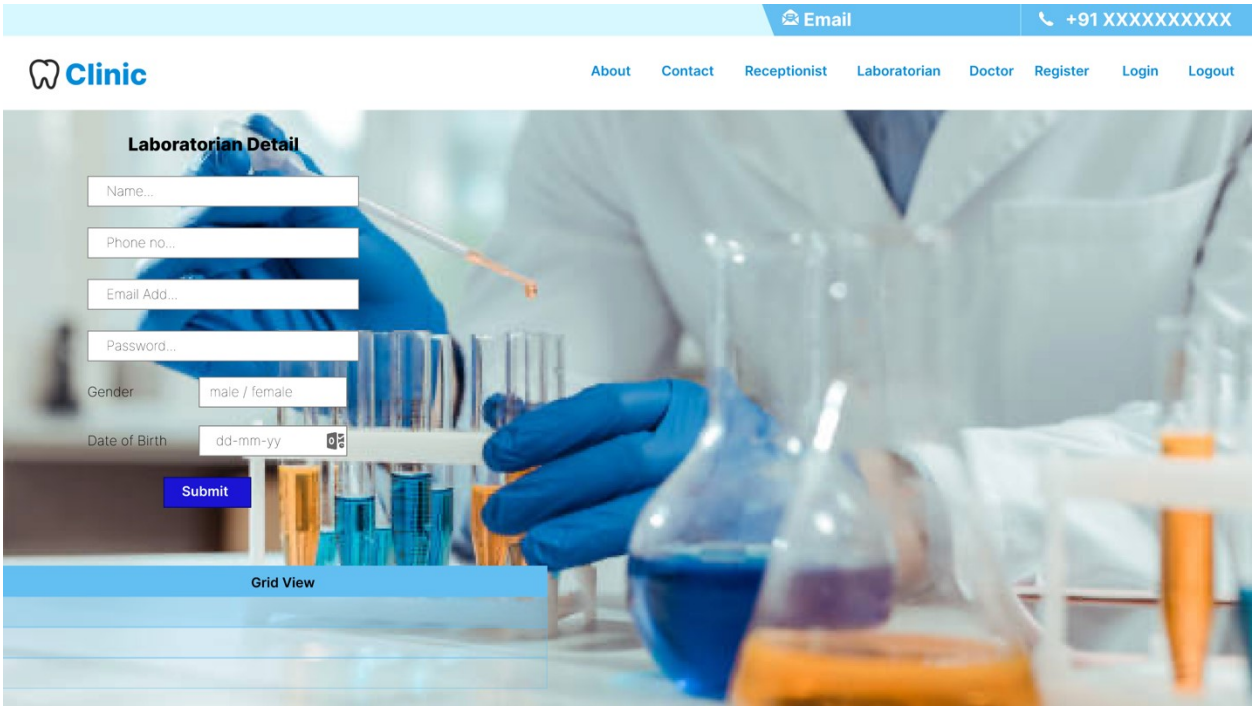
5.


Email
+91 XXXXXXXXXX
Clinic
About
Contact
Receptionist
Laboratorian
Doctor
Register
Login
Logout
Clinic
Precription
Patient
Lab Test
Logout

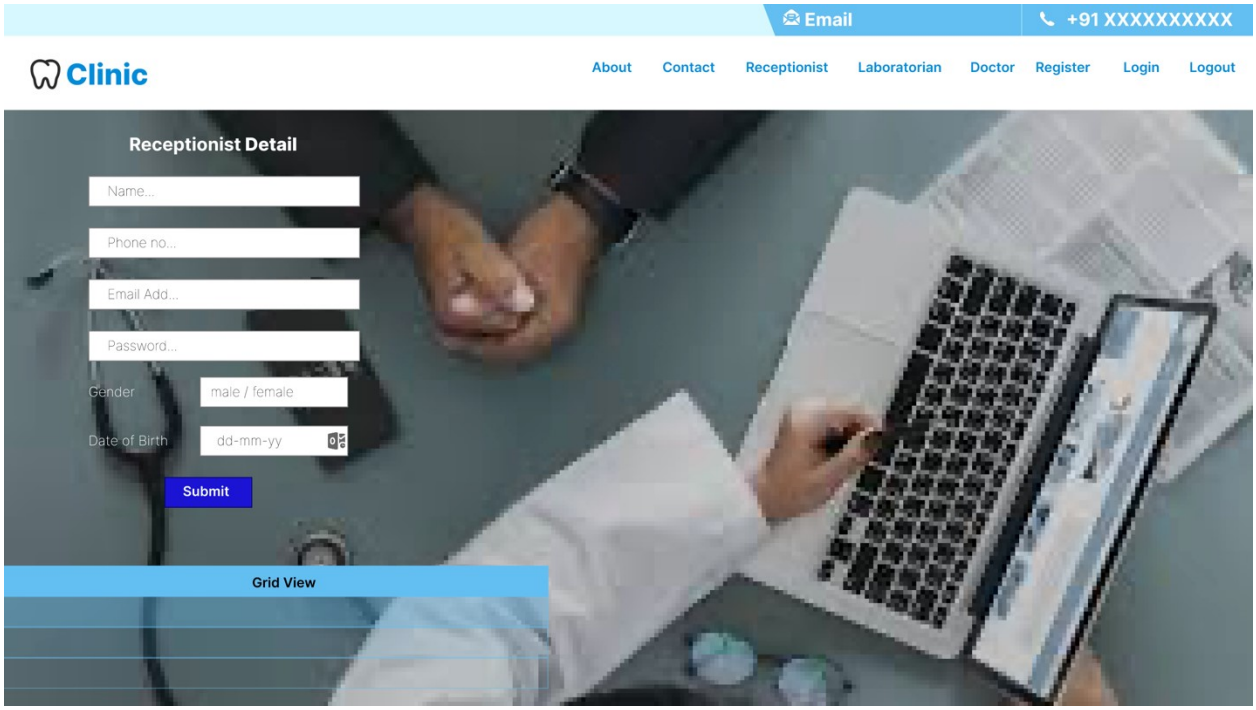
6.


Email
+91 XXXXXXXXXX
Clinic
About
Contact
Receptionist
Laboratorian
Doctor
Register
Login
Logout
Doctor Details
Name...
Phone no...
Experience...
Email Add...
Password...
Gender
male / female
Date of Birth
dd-mm-yy
Submit
Edit
Delete
Select
Select
Select
Select

7.


Email
+91 XXXXXXXXXX
Clinic
About
Contact
Receptionist
Laboratorian
Doctor
Register
Login
Logout
Laboratorian Detail
Name...
Phone no...
Email Add...
Password...
Gender
male / female
Date of Birth
dd-mm-yy
Submit
Grid View

8.


Email
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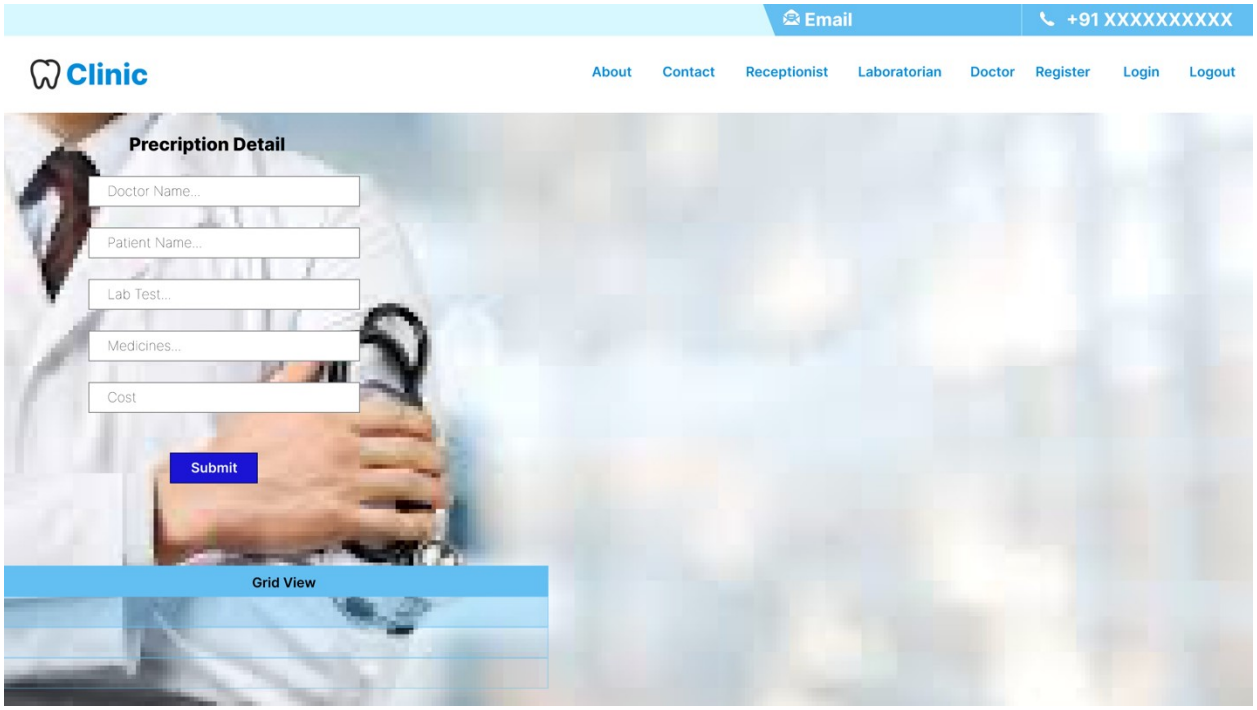
Clinic
About
Contact
Receptionist
Laboratorian
Doctor
Register
Login
Logout
Receptionist Detail
Name...
Phone no...
Email Add...
Password...
Gender
male / female
Date of Birth
dd-mm-yy
Submit
Grid View

9.


Email
+91 XXXXXXXXXX
Clinic
About
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Receptionist
Laboratorian
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Register
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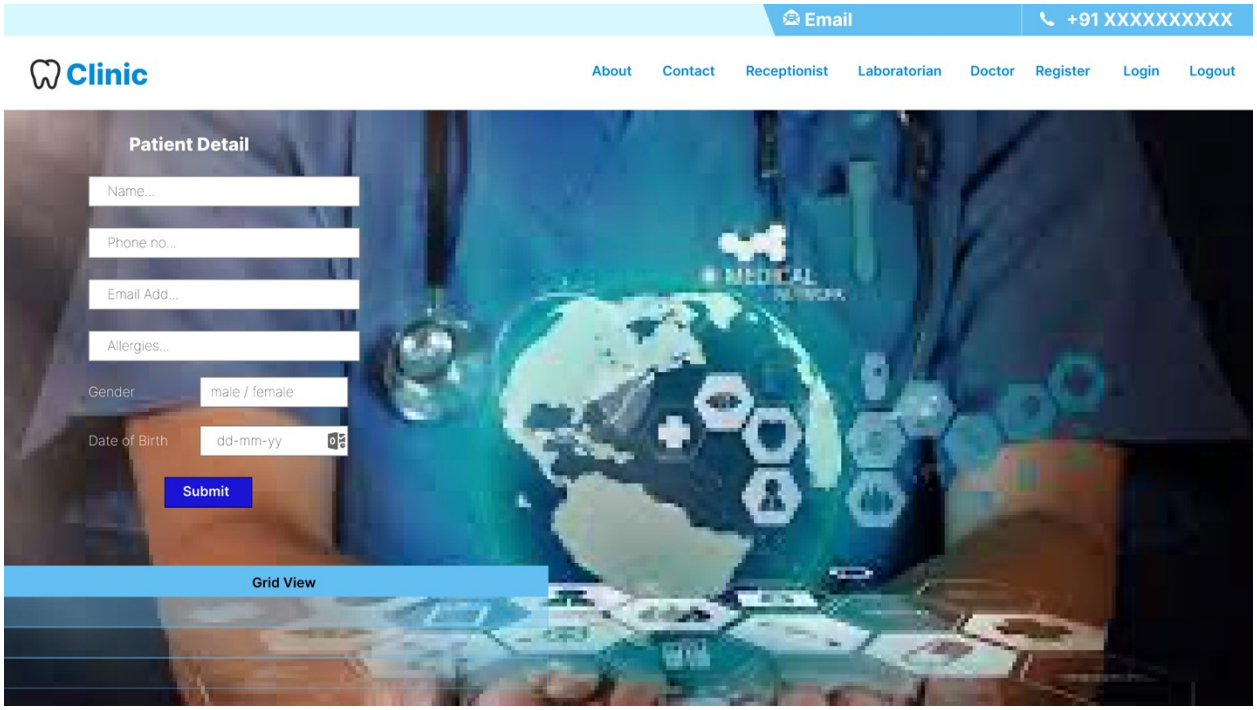
Logout
Precription Detail
Doctor Name...
Patient Name...
Lab Test...
Medicines...
Cost
Submit
Grid View

10.


Email
+91 XXXXXXXXXX
Clinic
About
Contact
Receptionist
Laboratorian
Doctor
Register
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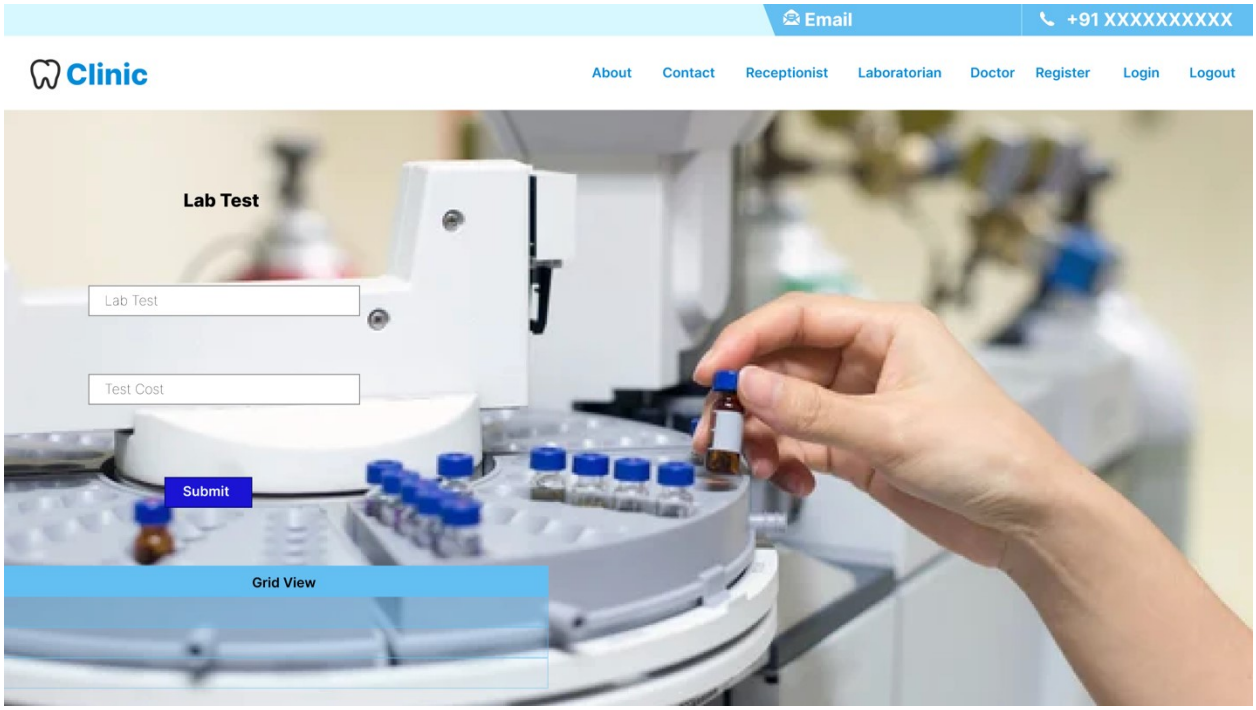
Logout
Patient Detail
Name...
Phone no...
Email Add...
Allergies...
Gender
male / female
Date of Birth
dd-mm-yy
Submit
Grid View

11.


Email
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Clinic
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Doctor
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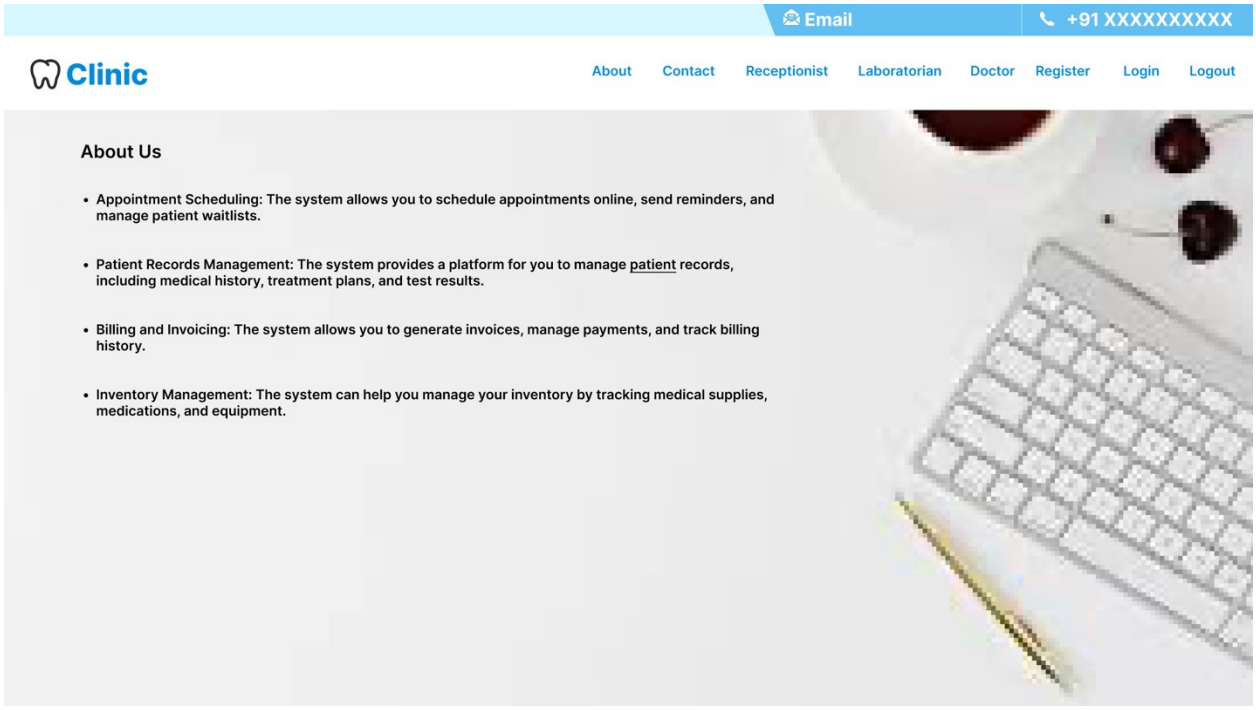
Lab Test
Lab Test
Test Cost
Submit
Grid View

12.


Email
+91 XXXXXXXXXX
Clinic
About
Contact
Receptionist
Laboratorian
Doctor
Register
Login
Logout
About Us
• Appointment Scheduling: The system allows you to schedule appointments online, send reminders, and manage patient waitlists.
• Patient Records Management: The system provides a platform for you to manage patient records, including medical history, treatment plans, and test results.
• Billing and Invoicing: The system allows you to generate invoices, manage payments, and track billing history.
• Inventory Management: The system can help you manage your inventory by tracking medical supplies, medications, and equipment.

13.

Contact Us

Address
R K University, Tramba, Rajkot
Gujarat, India

E-Mail
Clinic@gmail.com

Phone No.
+91 XXXXXXXXXX