Software Requirements Specification

for <Online Clinic Management >

Version 1.0 approved

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Revision History

Name	Date	Reason For Changes	Version

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.

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.

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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.

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

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:**

   o **User registration, login, and password management functionalities to ensure secure access to the system.**

2. **Receptionist Module:**

   o **Appointment scheduling, patient registration, billing management, and administrative tasks to streamline front desk operations.**

3. **Laboratories Module:**

   o **Management of laboratory tests, test results, sample tracking, and integration with patient records for comprehensive healthcare management.**

4. **Doctor Module:**

   o **Access to patient records, appointment schedules, medical histories, and communication tools for efficient diagnosis and treatment planning.**

5. **Contact Module:**

   o **Enables users to contact the clinic administration for inquiries, feedback, or support, ensuring smooth communication channels.**

6. **About Module:**

   o **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.

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

→ 0 DFD
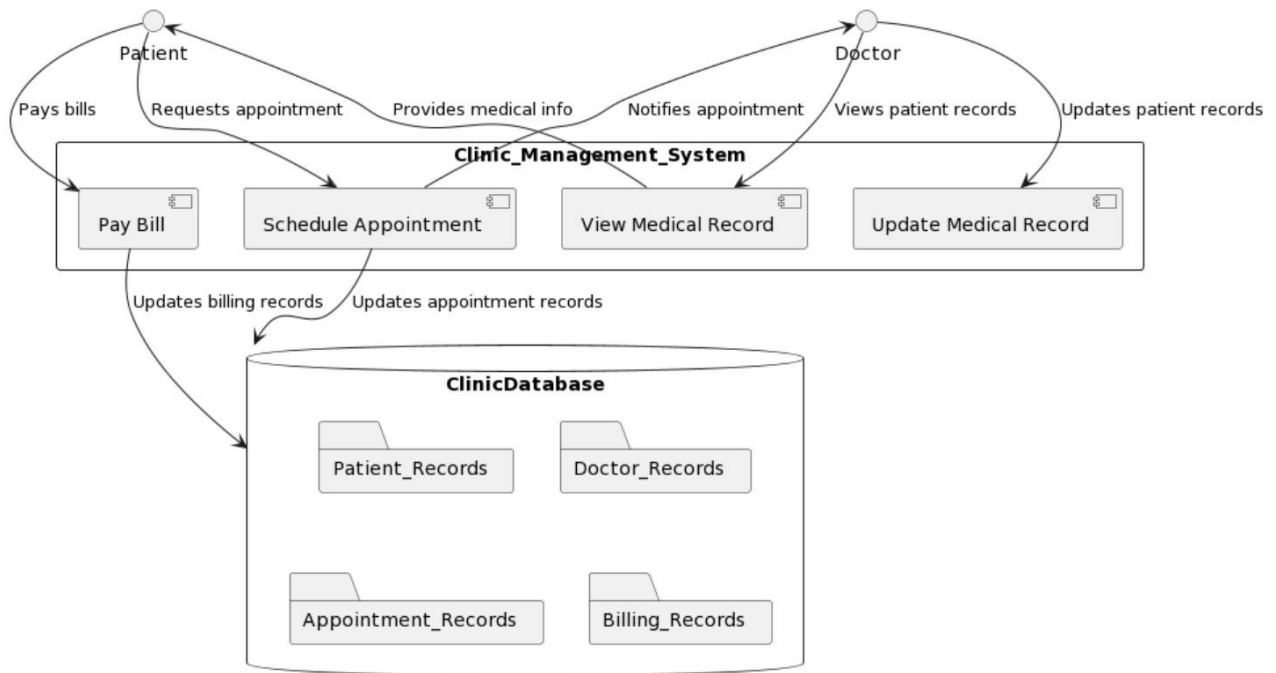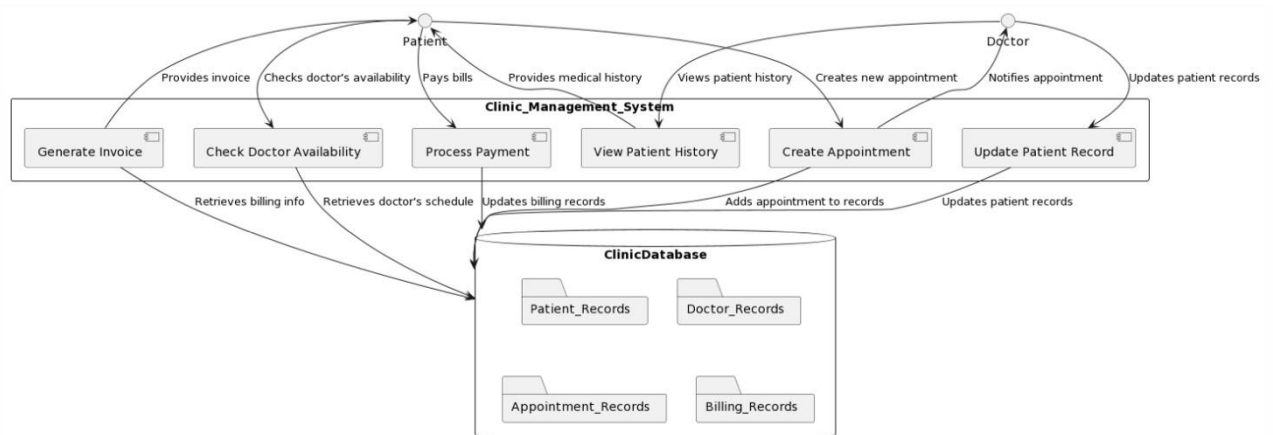
Bob —hello→ Alice   Admin

Admin — Manages records → ClinicDatabase

ClinicDatabase
- Patient_Records
- Doctor_Records
- Appointment_Records
- Billing_Records

Patient   Doctor

Clinic_Management_System
- Appointment Scheduling
- Billing and Payment
- Medical Record Management

Requests appointment   Notifies appointment   Pays bills   Retrieves billing info   Provides medical info   Updates records

→ 1 DFD

→ 2 DFD

Database :

Login :

	Email	Password
▷	aa@gmail.com	5555
	aaaa@gmail.co...	123456
	bb@gmail.com	5555
	brij@gmail.com	12345
	demo@gmail.c...	12345
	dev@gmail.com	909090
	devv	909090
	hitenn	hiten123
*	NULL	NULL

Register :

	Name	PhoneNumber	Email	Password	ConfirmPasswo...
▷	Bhaskar	1234567890	abc@gmail.com	12345	12345
	brijesh	9979594870	brij@gmail.com	12345	12345
	dfgh	12345	asdfg	12345	12345
	dsldslfkl	55555656	demo@gmail.c...	5555	5555
	hiten	123456789	abc@gmail.com	12345	12345
	mohit	55555656	demo@gmail.c...	5555	5555
*	NULL	NULL	NULL	NULL	NULL

Doctor :

	Name	PhoneNo	Experience	Email	Password	Gender	DateOfBirth
▷	Bhaskar	9979594870	2 Years	brij@gmail.com	5555	male	15-03-2003 00:...
	brijesh	1234567890	3 years	brij@gmail.com	909090	male	15-03-2003 00:...
	SDFG	9979594870	3 years	demo@gmail.c...	12345	male	15-03-2003 00:...
✱	NULL	NULL	NULL	NULL	NULL	NULL	NULL

Laboratorian :

	Name	PhoneNo	Experience	Email	Password	Gender
▷	Bhaskar	9979594870	3 years	1234567	123456	male
	ERTY	9979594870	3 years	demo@gmail.c...	12345	male
✱	NULL	NULL	NULL	NULL	NULL	NULL

Receptionist :

dbo.Receptionist [Data]   Index.cshtml   LoginController.cs   Index.cshtml   2024040214102

Max Rows: 1000

	Name	PhoneNumber	Email	Password	Gender	DateOfBirth
▷	Bhaskar	9979594870	demo@gmail.c...	909090	male	15-03-2003
	FGHJ	55555656	demo@gmail.c...	12345	male	15-03-2003
✱	NULL	NULL	NULL	NULL	NULL	NULL

Patient :

	Name	PhoneNo	Email	Allergies	Gender	DateOfBirth
▷	hiten	1234567890	h@gmail.com	yes	male	15-03-2003
*	NULL	NULL	NULL	NULL	NULL	NULL

Prescription :

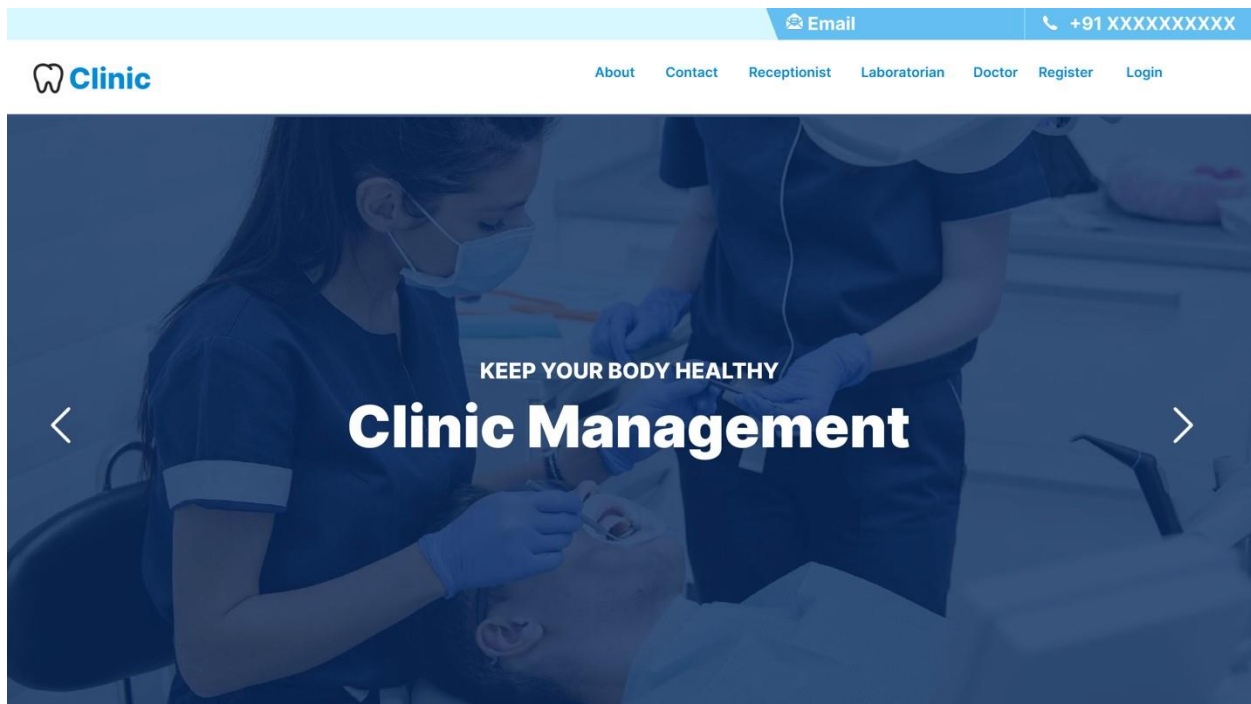|	DoctorName	PatientName	LabTest	Medicines	Cost
▷	Bhaskar	bhuro	fever	Paracitamol	1000.00
*	NULL	NULL	NULL	NULL	NULL

LabTest :

The following table is shown in the SQL Server Management Studio:

	LabTest	TestCost
▷	1	2000
	2	2000
	3	2000
✳	NULL	NULL

UI/UX

1.

KEEP YOUR BODY HEALTHY

Clinic Management

2.

3.

4.

5.

Clinic

About   Contact   Receptionist   Laboratorian   Doctor   Register   Login   Logout

Clinic

Precription

Patient

Lab Test

Logout

6.

Clinic

About   Contact   Receptionist   Laboratorian   Doctor   Register   Login   Logout
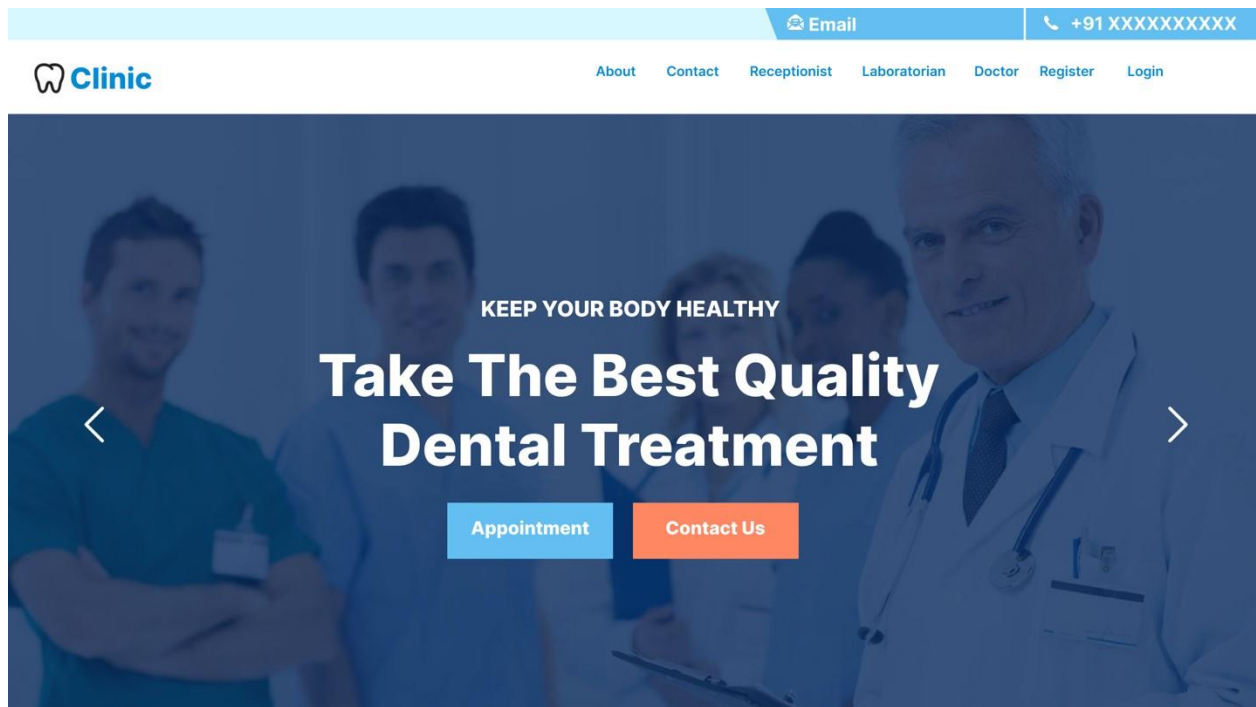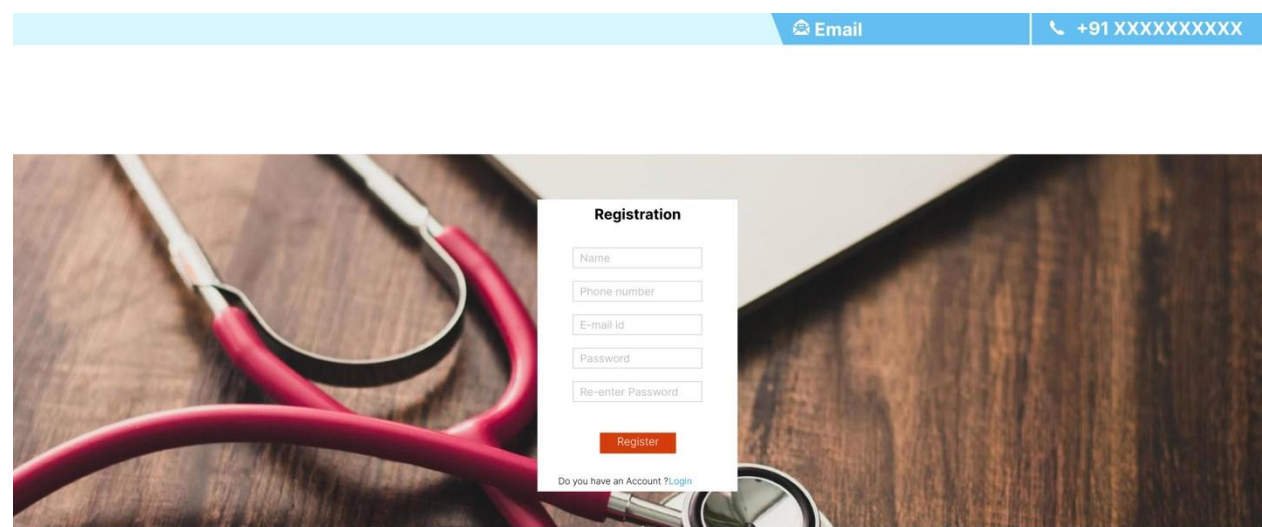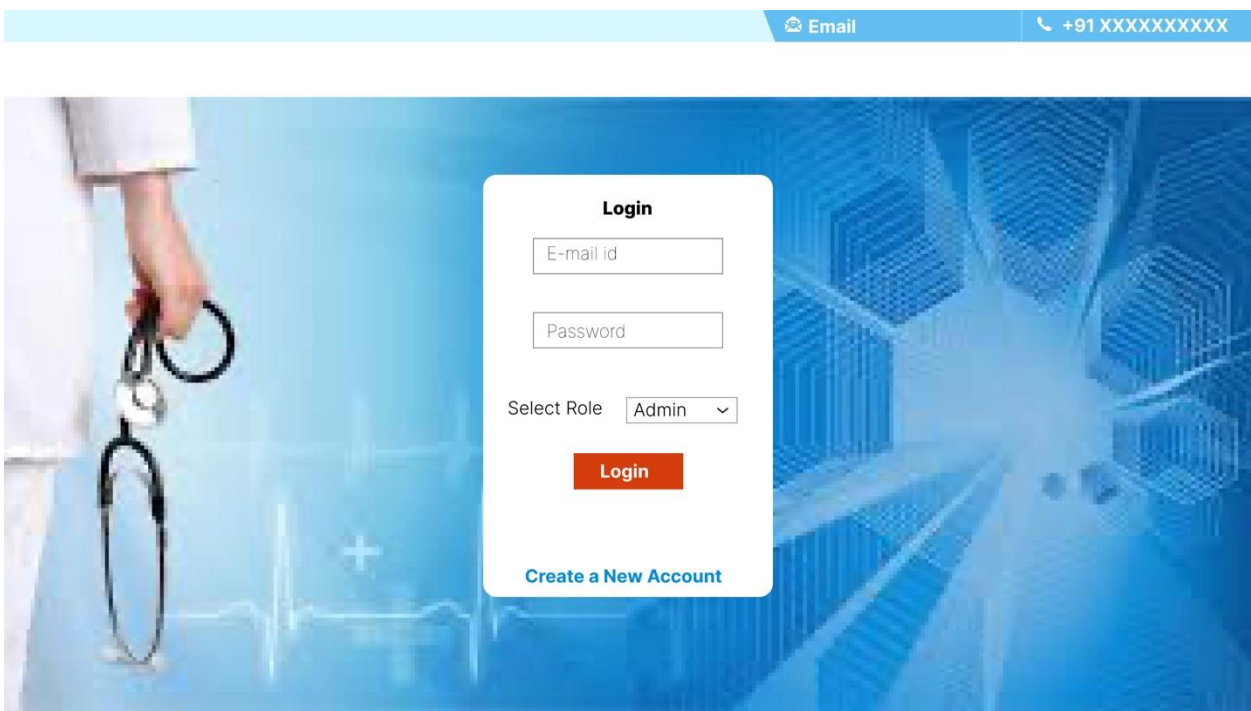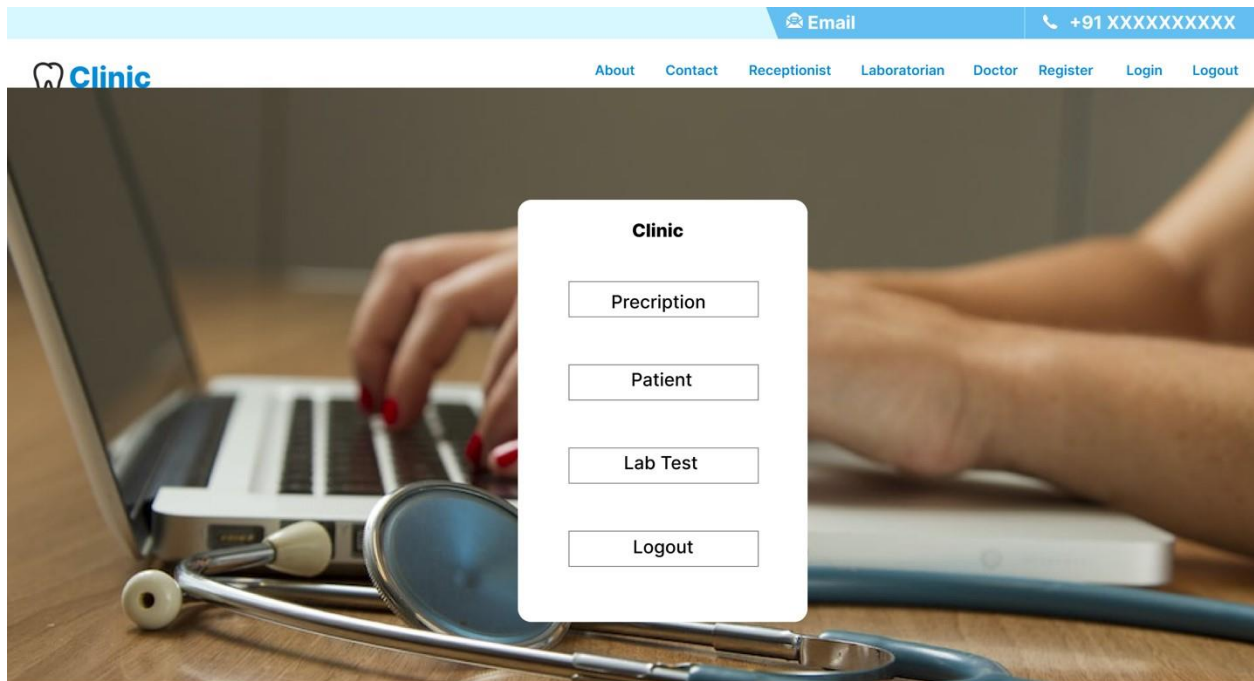
Doctor Details

Name...

Phone no...

Experience...

Email Add...

Password...

Gender   male / female

Date of Birth   dd-mm-yy

Submit   Edit   Delete

Select
Select
Select
Select

7.

8.

9.

10.

11.

Clinic

About   Contact   Receptionist   Laboratorian   Doctor   Register   Login   Logout

Lab Test

Lab Test

Test Cost

Submit

Grid View

12.

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.

Clinic

About   Contact   Receptionist   Laboratorian   Doctor   Register   Login   Logout

Contact Us
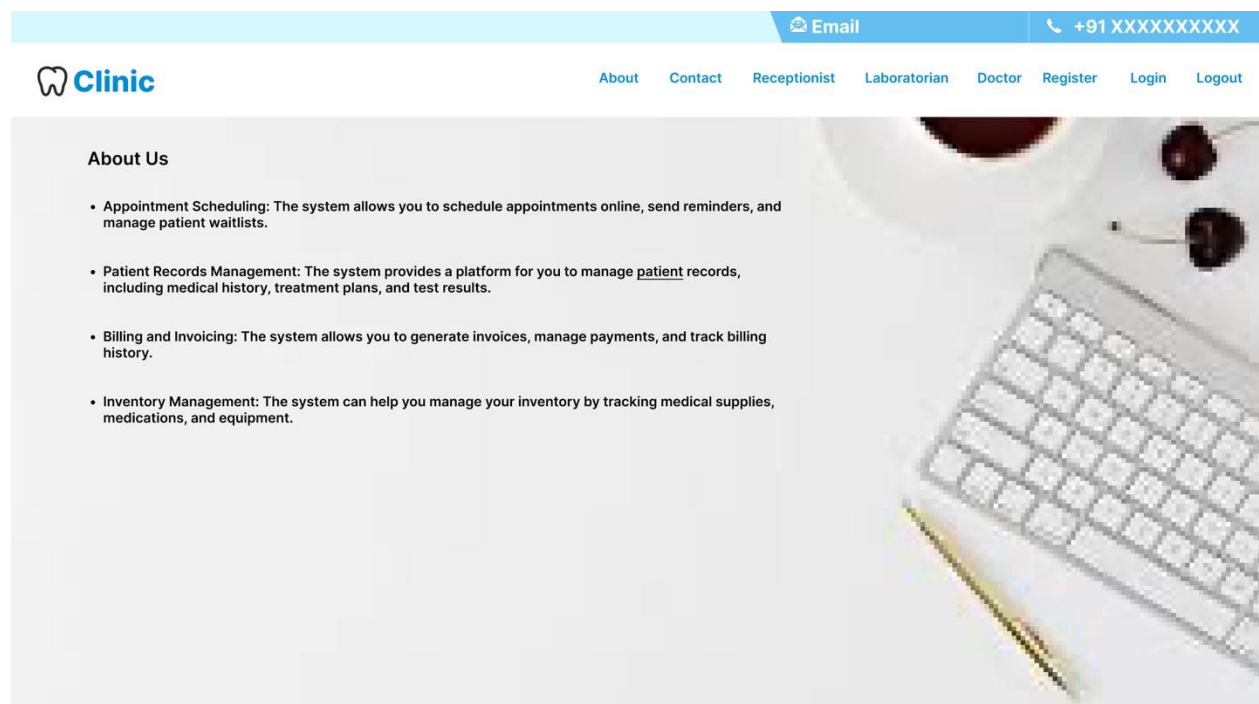
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