

## MED-TECH CONNECT

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### ABSTRACT

Med-Tech Connect also termed as Smart Health System is an organized computerized system designed and programmed to deal with day-to-day operations and management of hospital activities. The software system is designed to manage inpatients and outpatients, maintain records, handle treatment databases, track illness status, process pharmacy billings, and manage lab operations, ensuring efficient hospital management. Currently, a significant challenge faced by patients is accessing their medical reports post-consultation. Although many hospitals maintain these reports within their systems, patients often encounter difficulty retrieving them while outside the hospital premises. In addition, the system maintains patient data in a structured format. As part of this project, we aim to enhance functionality by enabling storage of reports in the database, facilitating access from any location worldwide.

**Keywords:** Machine Learning, Database management, Web UI, Modules.

## 1. INTRODUCTION

### 1.1 Project Overview:

Our application comprises three modules: the admin module, the doctor module, and the patient module. The admin module not only enables administrators to review monthly and yearly data but also facilitates editing, adding, or updating records. Additionally, it assists administrators in monitoring patient transactions and generating confirmations for them. Administrators can manage and update information about doctors as well. Within the doctor module, doctors can confirm or cancel appointments and add prescriptions for their patients. Patients, within their module, can apply for appointments, make transactions, and cancel appointments. They can also track details of their previous medical history.

### 1.2 Project Deliverables:

This software will help the user to be more efficient in registration of their health checkups and manage appointments, records of their complete medical history. It enables doctors and admin even patient to view and modify

their appointments schedules if required only through their accounts. The objective of this project is to computerize all details regarding patient details, hospital details and is to describe in a precise manner all the capabilities that will be provided by the Software Application "MED-TECH CONNECT". It also states the various security measures which the system will be abide to. It further leads to clear vision of the software requirements, specifications and capabilities. This information is intended for dissemination to the development, testing team, and end users of the software.

Main objectives of a MED-TECH CONNECT are:

- ✚ Design a system for better patient care.
- ✚ Reduce hospital operating costs.
- ✚ Provide MIS (Management Information management for better decision-making System) report.
- ✚ Better co-ordination among the different departments.
- ✚ Provide top management a restricted point of control.

## 2. Project Scope

The system will serve hospitals and patients as an application aiming to enhance the capacity for treating and managing patients effectively. In a file-based hospital management system, considerable effort is required to secure files, which are susceptible to damage from fire, insects, and natural disasters. Additionally, there is a risk of data loss or misplacement, necessitating diligent management. The proposed software product, MED-TECH CONNECT, is designed to address these challenges. It will be implemented across various healthcare facilities, including hospitals, clinics, dispensaries, and pathology labs, facilitating the collection and storage of patient information for future use.

The current paper-based system is characterized by slow processes and an inability to provide updated patient lists promptly. The system's objectives include reducing overtime expenses and enhancing the accuracy and efficiency of patient treatment.

## I. METHODOLOGIES

- [1] **Data Collection:** Gather patient records, medical reports, and treatment history.
- [2] **Database Management:** Store patient data securely and ensure efficient retrieval.

- [3] **Web UI Development:** Create a user-friendly interface for access from anywhere.
- [4] **Report Accessibility:** Enable patients to access their reports remotely worldwide.
- [5] **Self-monitoring medical records:** Can monitor records by comparing previous records.

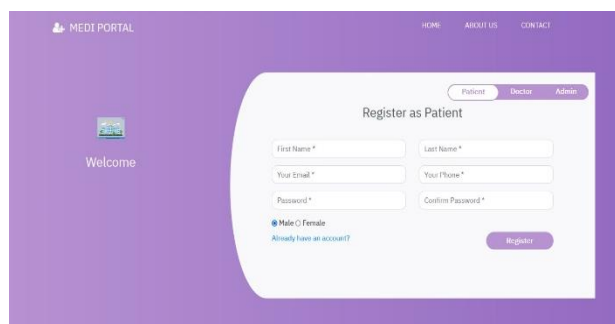
## II. RESULTS AND DISCUSSION

Every module gives unique results according to its functionalities, usages and user requirements. The three modules' output is resulted as follows:

### A. Patient Module

#### Registration Page:

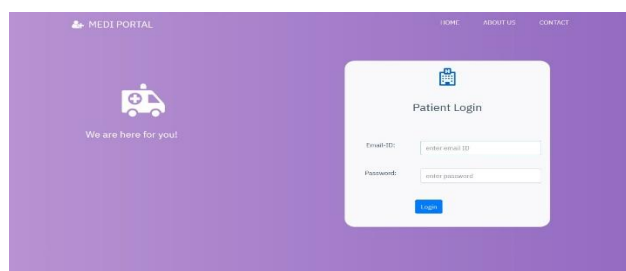
In patient module, the registration page is used to obtain login credentials of the patient.



The registration page for a patient. It features a purple header with 'MEDI PORTAL' and navigation links. The main content area has a 'Register as Patient' form with fields for First Name, Last Name, Your Email, Your Phone, Password, and Confirm Password. There are also checkboxes for gender and a 'Remember me' option. A 'Register' button is at the bottom right.

#### Login Page:

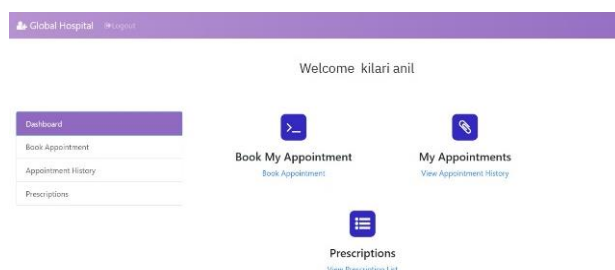
If the user already has an account, then the login page is used for opening the patient's account.



The login page for a patient. It features a purple header with 'MEDI PORTAL' and navigation links. The main content area has a 'Patient Login' form with fields for Email ID and Password. A 'Login' button is at the bottom right.

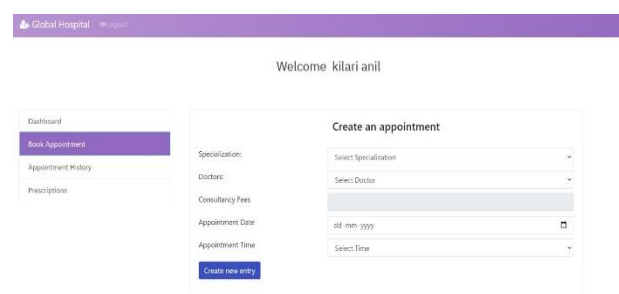
After logging into the account, the patient can access to their required functionality.

#### Dashboard:



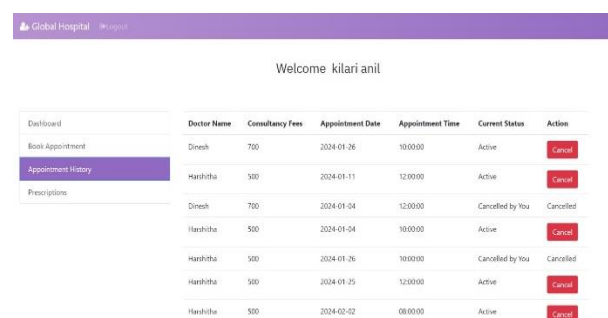
The patient dashboard. It features a purple header with 'Global Hospital' and 'Welcome kilari anil'. The main content area has a sidebar with links to Dashboard, Book Appointment, Appointment History, and Prescriptions. The main area shows a 'Book My Appointment' button and a 'My Appointments' section with a 'View Appointment History' link. There is also a 'Prescriptions' section with a 'View Prescription List' link.

### Book an Appointment:



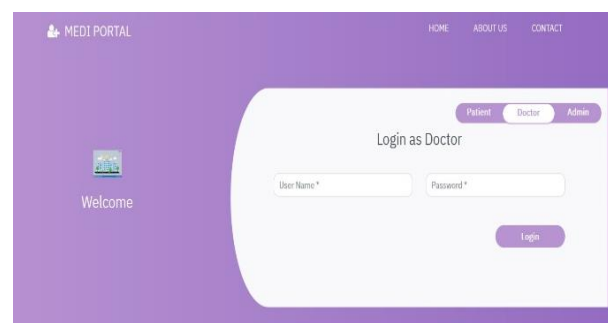
The 'Book an Appointment' page. It features a purple header with 'Global Hospital' and 'Welcome kilari anil'. The main content area has a 'Create an appointment' form with fields for Specialization, Doctor, Consultancy Fees, Appointment Date, and Appointment Time. A 'Create new entry' button is at the bottom.

### Patient Appointment history:



Doctor Name	Consultancy Fees	Appointment Date	Appointment Time	Current Status	Action
Dinesh	700	2024-01-26	10:00:00	Active	<a href="#">Cancel</a>
Harshitha	500	2024-01-11	12:00:00	Active	<a href="#">Cancel</a>
Dinesh	700	2024-01-04	12:00:00	Cancelled by You	<a href="#">Cancelled</a>
Harshitha	500	2024-01-04	10:00:00	Active	<a href="#">Cancel</a>
Harshitha	500	2024-01-26	10:00:00	Cancelled by You	<a href="#">Cancelled</a>
Harshitha	500	2024-01-25	12:00:00	Active	<a href="#">Cancel</a>
Harshitha	500	2024-02-02	08:00:00	Active	<a href="#">Cancel</a>

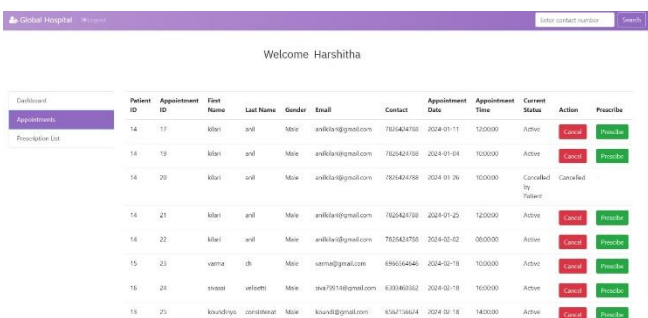
### B. Doctor Module:



The login page for a doctor. It features a purple header with 'MEDI PORTAL' and navigation links. The main content area has a 'Login as Doctor' form with fields for User Name and Password. A 'Login' button is at the bottom right.

#### View Appointments of Doctor:

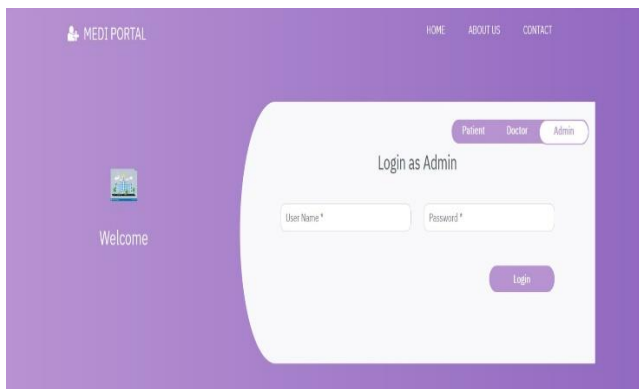
In the Doctor module, the doctor can cancel the appointments prior to the appointment timings.



Patient ID	Appointment ID	First Name	Last Name	Gender	Email	Contact	Appointment Date	Appointment Time	Current Status	Action	Prescribe
14	13	kilari	anil	Male	anilkilari@gmail.com	7815424758	2024-01-11	12:00:00	Active	<a href="#">Cancel</a>	<a href="#">Prescribe</a>
14	19	kilari	anil	Male	anilkilari@gmail.com	7815424758	2024-01-04	10:00:00	Active	<a href="#">Cancel</a>	<a href="#">Prescribe</a>
14	20	kilari	anil	Male	anilkilari@gmail.com	7815424758	2024-01-26	10:00:00	Cancelled by Patient	<a href="#">Cancelled</a>	
14	21	kilari	anil	Male	anilkilari@gmail.com	7815424758	2024-01-25	12:00:00	Active	<a href="#">Cancel</a>	<a href="#">Prescribe</a>
14	22	kilari	anil	Male	anilkilari@gmail.com	7815424758	2024-02-02	08:00:00	Active	<a href="#">Cancel</a>	<a href="#">Prescribe</a>
15	23	varma	dh	Male	varmad@gmail.com	6965544546	2024-02-19	10:00:00	Active	<a href="#">Cancel</a>	<a href="#">Prescribe</a>
16	24	shree	venkatesh	Male	shree7914@gmail.com	6330460352	2024-02-18	10:00:00	Active	<a href="#">Cancel</a>	<a href="#">Prescribe</a>
19	25	krishna	coranatal	Male	krishna@gmail.com	6584718824	2024-02-18	14:00:00	Active	<a href="#">Cancel</a>	<a href="#">Prescribe</a>

### C. Admin Module

The Admin module has the complete details of the users of all the functionalities of all the modules. The admin has the access to check all the details of all the users of the Medi-Portal.



## Doctors' list:

Global Hospital <span>Logout</span>					
ADMIN PORTAL					
Dashboard	<input type="text" value="Enter Email ID"/> <span>Search</span>				
Doctor List	Doctor Name	Specialization	Email	Password	Fees
Patient List	Dinesh	General	dinesh@gmail.com	dinesh123	700
Appointment Details	Ganesh	Pediatrician	ganesh@gmail.com	ganesh123	550
Prescription List	Kumar	Pediatrician	kumar@gmail.com	kumar123	800
Add Doctor	Harshitha	General	Harshitha@gmail.com	Harshitha123	500
Delete Doctor	Anil	Cardiologist	Anil@gmail.com	Anil123	400
Queries	Teja	Neurologist	Teja@gmail.com	Teja123	1000
	manikayan	General	man@gmail.com	man123	1000
	sai	General	sai@gmail.com	sai123	700
	chaitanya	Cardiologist	chai@gmail.com	chai123	500
	hemdas	Cardiologist	hemdas@gmail.com	hemdas123	500

## Patients' List:

Global Hospital <span>Logout</span>							
ADMIN PORTAL							
Dashboard	<input type="text" value="Enter Contact"/> <span>Search</span>						
Doctor List	Patient ID	First Name	Last Name	Gender	Email	Contact	Password
Patient List	1	Ram	Kumar	Male	ram@gmail.com	9876543210	ram123
Appointment Details	2	Alia	Bhatt	Female	alia@gmail.com	8976897689	alia123
Prescription List	3	Shahrukh	khan	Male	shahrukh@gmail.com	8976898463	shahrukh123
Add Doctor	4	Kishan	Lal	Male	kishanm10@gmail.com	8838485464	kishan123
Delete Doctor	5	Gautam	Shankaram	Male	gautam@gmail.com	9070897653	gautam123
Queries	6	Sushant	Singh	Male	sushant@gmail.com	9059988865	sushant123
	7	Nancy	Deborah	Female	nancy@gmail.com	9128972454	nancy123
	8	Kenny	Sebastian	Male	kenny@gmail.com	9809879868	kenny123
	9	William	Blake	Male	william@gmail.com	8883679153	william123
	10	Peter	Norvik	Male	peter@gmail.com	9609362815	peter123

## Appointment Details:

Global Hospital <span>Logout</span>										
ADMIN PORTAL										
Dashboard	<input type="text" value="Enter Contact"/> <span>Search</span>									
Doctor List	Appointment ID	Patient ID	First Name	Last Name	Gender	Email	Doctor Name	Consultancy Fees	Appointment Date	Appointment Time
Patient List	1	4	Kishan	Lal	Male	kishanm10@gmail.com	8838485464	Ganesh	550	2023-02-14
Appointment Details	2	4	Kishan	Lal	Male	kishanm10@gmail.com	8838485464	Dinesh	700	2023-02-28
Prescription List	3	4	Kishan	Lal	Male	kishanm10@gmail.com	8838485464	Anil	1000	2023-02-19
Add Doctor	4	11	Shraddha	Kapoor	Female	shraddha@gmail.com	9780946262	ashok	500	2023-02-25
Delete Doctor	5	4	Kishan	Lal	Male	kishanm10@gmail.com	8838485464	Ganesh	550	2023-02-28
Queries	6	4	Kishan	Lal	Male	kishanm10@gmail.com	8838485464	Ganesh	550	2023-02-25
	9	2	Alia	Bhatt	Female	alia@gmail.com	8976897689	Ganesh	550	2023-03-21
	9	5	Gautam	Shankaram	Male	gautam@gmail.com	9070897653	Ganesh	550	2023-02-19

## Prescription list for patients:

Global Hospital <span>Logout</span>									
ADMIN PORTAL									
Dashboard	Doctor	Patient ID	Appointment ID	First Name	Last Name	Appointment Date	Appointment Time	Disease	Allergy
Doctor List	Dinesh	4	11	Kishan	Lal	2023-03-27	15:00:00	Cough	Nothing
Patient List	Ganesh	2	8	Alia	Bhatt	2023-03-21	10:00:00	Severe Fever	Nothing
Appointment Details	Kumar	9	12	William	Blake	2023-03-26	12:00:00	Severe fever	nothing
Prescription List	Twary	9	13	William	Blake	2023-03-26	14:00:00	Cough	Skin dryness
Add Doctor	ashok	11	4	Shraddha	Kapoor	2023-02-29	20:00:00	cold	cold
Delete Doctor									
Queries									

## Add Doctors:

Global Hospital <span>Logout</span>				
ADMIN PORTAL				
Dashboard	Doctor Name:	<input type="text"/>		
Doctor List	Specialization:	Select Specialization		
Patient List	Email ID:	<input type="text"/>		
Appointment Details	Password:	<input type="text"/>		
Prescription List	Confirm Password:	<input type="text"/>		
Add Doctor	Consultancy Fees:	<input type="text"/>		
Delete Doctor		<input type="text"/>		
Queries		<input type="text"/>		

## Output:

Global Hospitals	
Bill	
Patient ID : 14	
Appointment ID : 17	
Patient Name : kilani anil	
Doctor Name : Harshitha	
Appointment Date : 2024-01-11	
Appointment Time : 12:00:00	
Disease : Disease: Type 2 diabetes Type 2 diabetes is a chronic condition where the body does not properly use or produce insulin, leading to high blood sugar levels. Risk factors include being overweight, physically inactive, family history, and older age.	
Medicine : Metformin Metformin is an oral medication that helps control high blood sugar levels in those with type 2 diabetes. It works by decreasing glucose production in the liver, decreasing absorption of glucose in the intestines, and improving insulin s	
Prescription : Prescription: Metformin 500mg tablet Take 1 tablet twice daily with meals Dispense 60 tablets Refills: 3	
Fees Paid : 500	

## III. CONCLUSION

The project features three distinct modules: admin, doctor, and patient. The admin module empowers administrators with comprehensive control over data management, including review, editing, and updating records, as well as monitoring patient transactions. It facilitates seamless management of doctor information as well. In the doctor module, doctors can efficiently handle appointments, confirmations, cancellations, and

prescriptions for patients. Patients, through their module, can easily request appointments, conduct transactions, and manage their medical history. Overall, the application streamlines administrative tasks, enhances doctor-patient interactions, and empowers patients to take charge of their healthcare journey with convenience and efficiency.

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