



Assignment 5 – Interface Design Documentation

Systems Development Process

AIT 610

MICA Health Solutions

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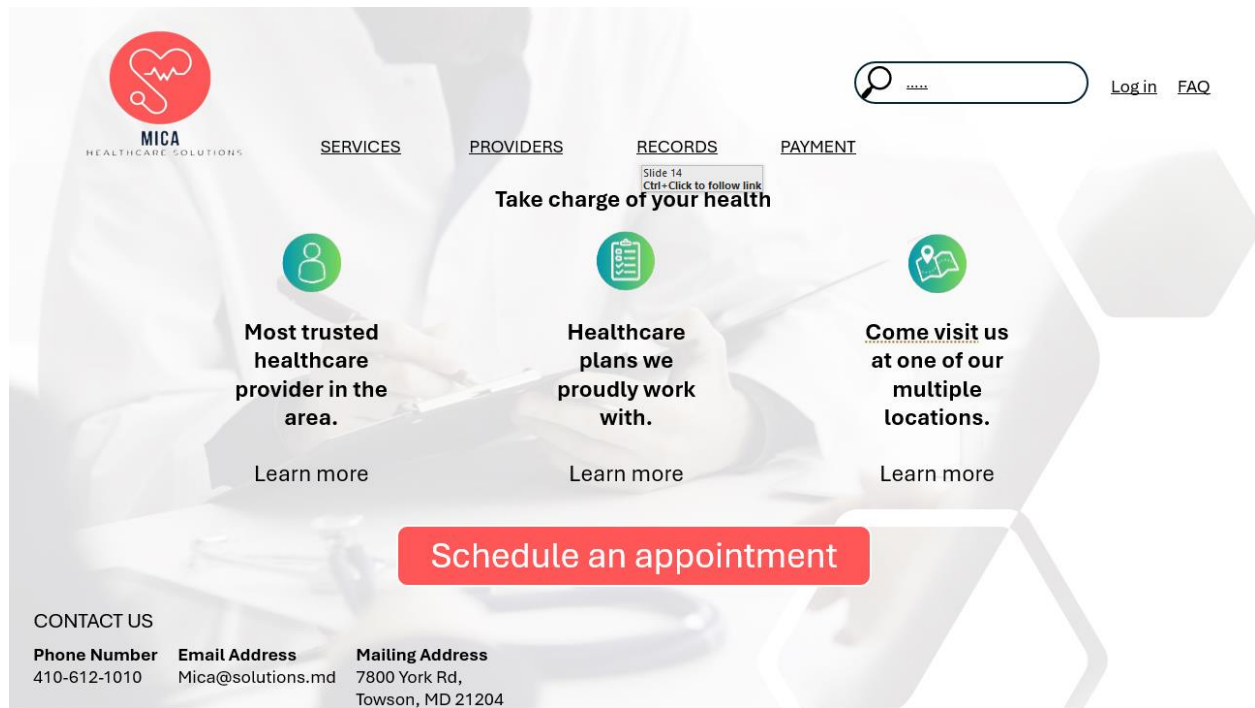
Instructor: Jeffrey Tirschman

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1 UI Designs

1.1 Homepage



Functionality:

- The homepage displays the header on all pages throughout the site which includes:
 - Logo – the clickable logo takes the user back to the homepage
 - Services – the service tab displays the different services available for customers
 - Providers – the provider tab generates a list of providers based on the criteria the user inserts
 - Records – the records tab displays different information based on the user:
 - Customer – only has the access to view own record
 - Provider – can access all records
 - Payment – the payment tab provides different options for users to pay medical bills
 - Search bar – a search engine for users to utilize to find information quickly
 - Login – this will show “login” until the user inputs their credentials to access their profile. Once logged in, this will change into “logout” for users to click to end their session.
 - FAQ – this tab lists the top questions that users ask

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- The homepage's body includes different main content that when users click brings them to the corresponding article. In this section, there is also a shortcut to schedule an appointment.
- The footer of the homepage includes contact information like phone number, email address, and mailing address for MICA Healthcare Solutions.

Tool Tips:

- None

Input Validation:

- None

Error Messages:

- When the user tries to access the website without the internet the following message will appear:

“No internet connection, please check your internet connection and try again.”
- When the user tries to access the website and it is down for maintenance, the following message will appear:

“Service currently unavailable, please try again later.”

2 Login

MICA
HEALTHCARE SOLUTIONS

[SERVICES](#) [PROVIDERS](#) [RECORDS](#) [PAYMENT](#)

[Log in](#) [FAQ](#)

Log in to your account

[New? Create an account.](#)

Username

Password

[Forgot username or password](#)

[Sign in](#)

Functionality:

- This will allow users to securely access personalized features and content by verifying their identity. “Forward username or password” is available for users to use if it is needed. For new users, they can click “New? Create an account” to be directed to another page for them to create an account.

Tool Tips:

- Username field: “Enter your registered email address.”
- Password field: “Enter your secured password, password is case sensitive.”
- Login button: “Click to sign in to your account.”
- Forgot username or password: “Click here to recover username or reset password.”

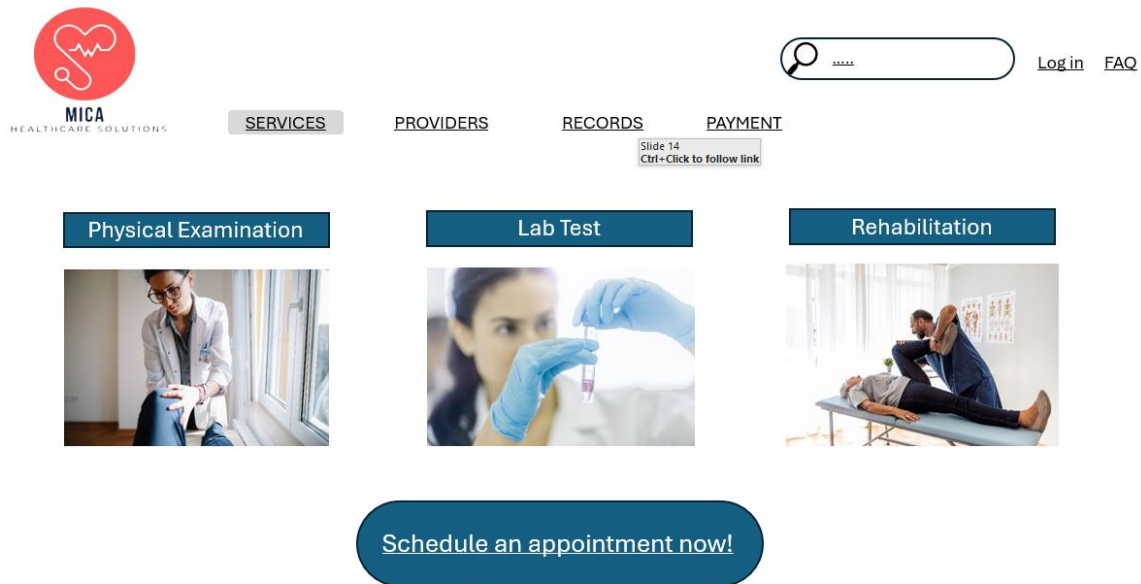
Input Validation:

- Username: Must be a valid email format (e.g, [user@example.com](#)).
- Password: Minimum 8 characters, must contain at least one uppercase letter, one special symbol, and one number.

Error Messages:

- When the user inputs the wrong username or password, the following message will appear:
“Invalid username or password, please try again.”
- When a new user creates a password that does not meet the password requirement, the following message will appear:
“Password does not meet the required format, please try again.”
- When the user attempts to log in more than five times and keeps failing, the following message will appear:
“Your account is locked due to multiple unsuccessful login attempts, please try again in 24 hours. If you need help accessing your account, you can call the customer service number.”

3 Services Tab



Functionality:

- This tab will display the different services being provided. The user can learn more information about the service by clicking on them and they also have the ability to schedule an appointment.

Tool Tips:

- None

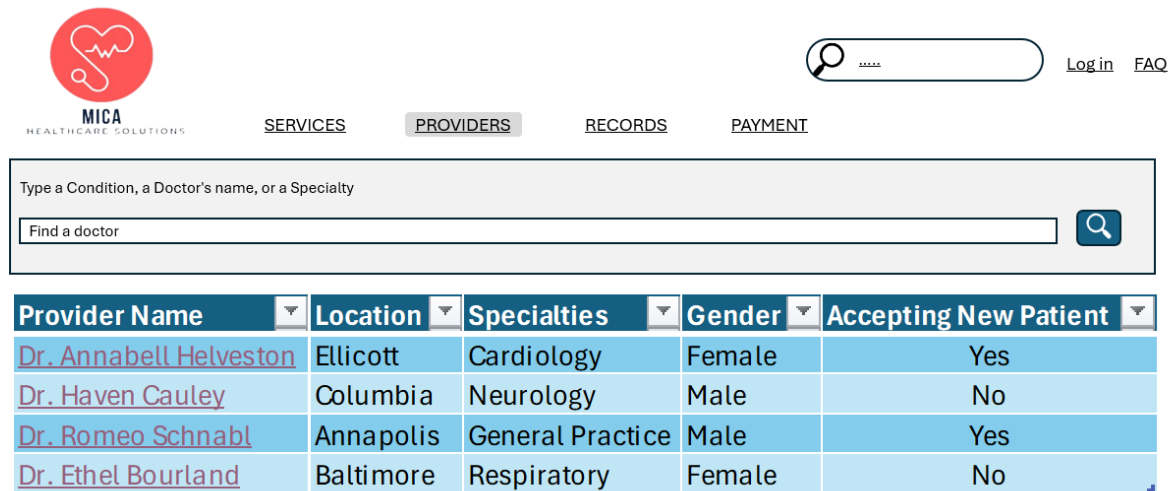
Input Validation:

- None

Error Messages:

- When a user tries to access this page and the service is currently unavailable, the following message will appear:
“Service details currently unavailable, please check back later.”

4 Providers tabs



Provider Name	Location	Specialties	Gender	Accepting New Patient
Dr. Annabell Helveston	Ellicott	Cardiology	Female	Yes
Dr. Haven Cauley	Columbia	Neurology	Male	No
Dr. Romeo Schnabl	Annapolis	General Practice	Male	Yes
Dr. Ethel Bourland	Baltimore	Respiratory	Female	No

Functionality:

- Users will be able to search for a provider using different filters such as location, specialty, gender, and availability.
- Users will also be able to view the provider's basic information along with their location of practice.

Tool Tips:

- Specialty Dropdown: “Select provider's area of expertise.”
- Location Filter: “Enter city or ZIP code.”

Input Validation:

- Location: Must be a valid city name or 5-digit ZIP code.

Error Messages:

- When the user inputs a filter that results in zero providers, the following message will appear:
“No providers found for the selected filters, please adjust your search and try again.”

5 Schedule an Appointment

Schedule an Appointment

Patient details:

Full name: Mica Solutions

Phone #: 1-410-612-1010

Email: Mica@solutions.md

Appointment details:

Month: November

Day: 18

Year: 2024

Time: 4:30 PM

Location: Ellicott

[Cancel](#) [Book Appointment](#)

Functionality:

- Users will be able to schedule an appointment with date and time selection. Upon scheduling, users will also be able to cancel any scheduled appointment or reschedule an appointment.

Tool Tips:

- Date Selection: "Choose a preferred date for your appointment."
- Time Slot Selection: "Select an available time slot."

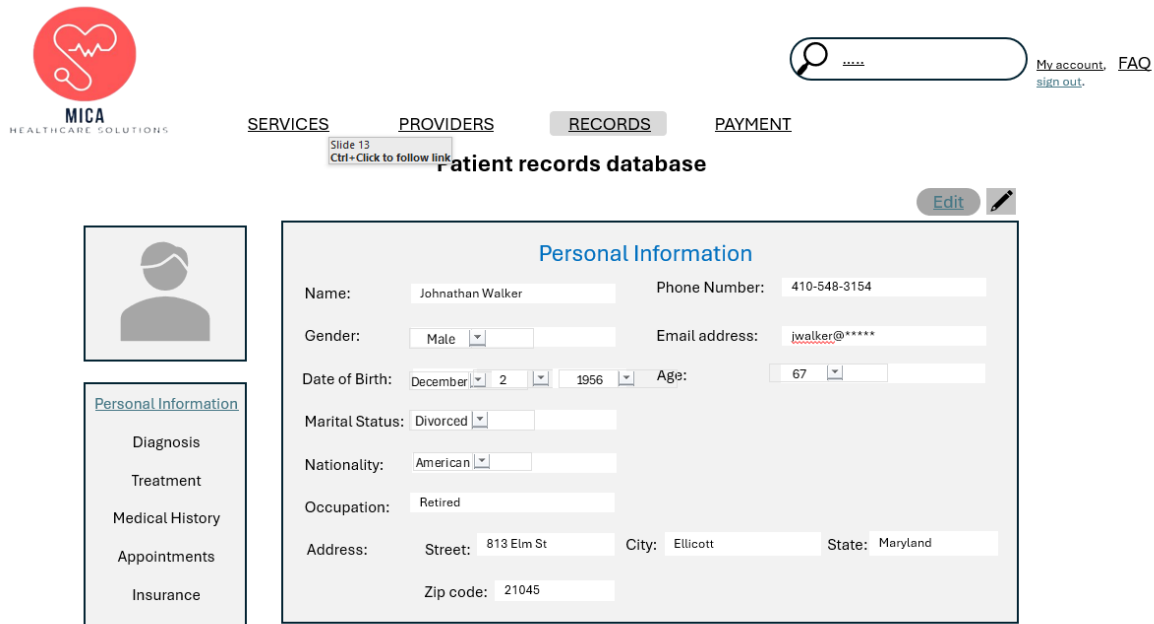
Input Validation:

- Date: This cannot be a past date and must be within the scheduling range.
- Time: Valid only if within the provider's availability.

Error Messages:

- When the user tries to book an appointment that is not available, the following message will appear:
"Selected date/time is not available, please choose another slot."
- When the user tries to select a past date, the following message will appear:
"Invalid date selection, please select a valid date."

6 Patient Record



Slide 13
Ctrl+Click to follow link

Patient records database

[Edit](#)

Personal Information

Name: Johnathan Walker Phone Number: 410-548-3154

Gender: Male Email address: jwalker@*****

Date of Birth: December 2 1956 Age: 67

Marital Status: Divorced

Nationality: American

Occupation: Retired

Address: Street: 813 Elm St City: Ellicott State: Maryland

Zip code: 21045

[Personal Information](#)

Diagnosis

Treatment

Medical History

Appointments

Insurance

Functionality:

- This tab displays different information based on the user's access permission.
 - Customers – can only view their own record
 - Providers – can view all records
- Displays patient's health records including personal information, diagnosis, treatment plan, medical history, and insurance information.
- Users can view and edit information on these fields.

Tool Tips:

- Each Record Entry: "Click to view details of this record."
- Edit button: "Click to make any adjustment on the record."

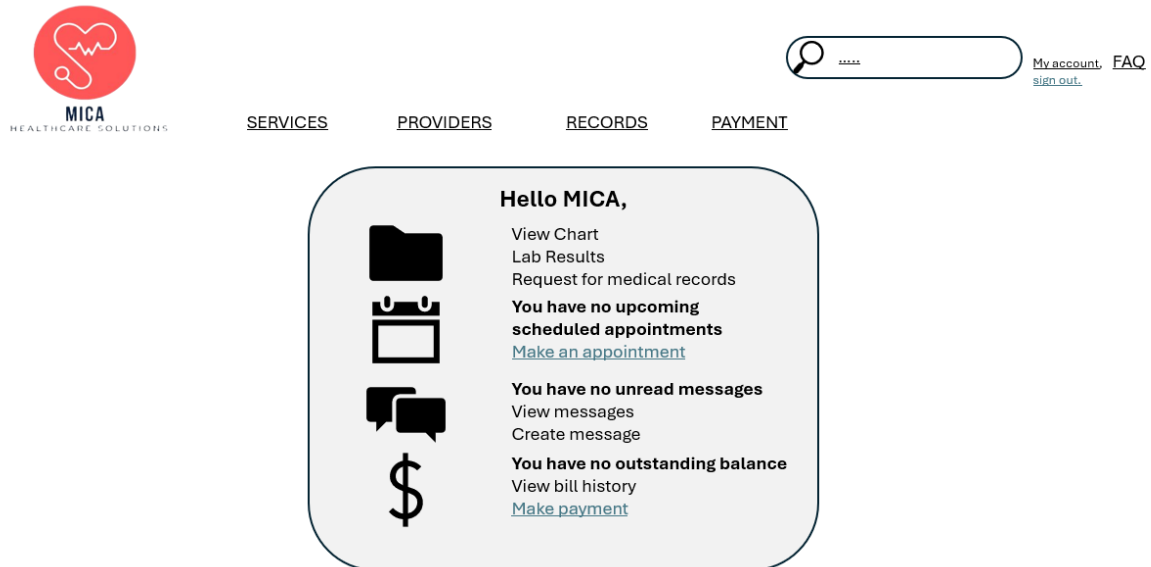
Input Validation:

- None

Error Messages:

- When the user tries to view a record that is currently being updated, the following message will appear:
“The patient’s record is currently unavailable, please try again later. If the issues continue to persist, please contact your IT department.”

7 My Account



Functionality:

- View Chart, Lab Results, and Request Medical Records.
- View and Schedule Appointment.
- View messages, create messages.
- View billing history, make payments.

Tool Tips:

- Clickable icon serves as shortcuts.

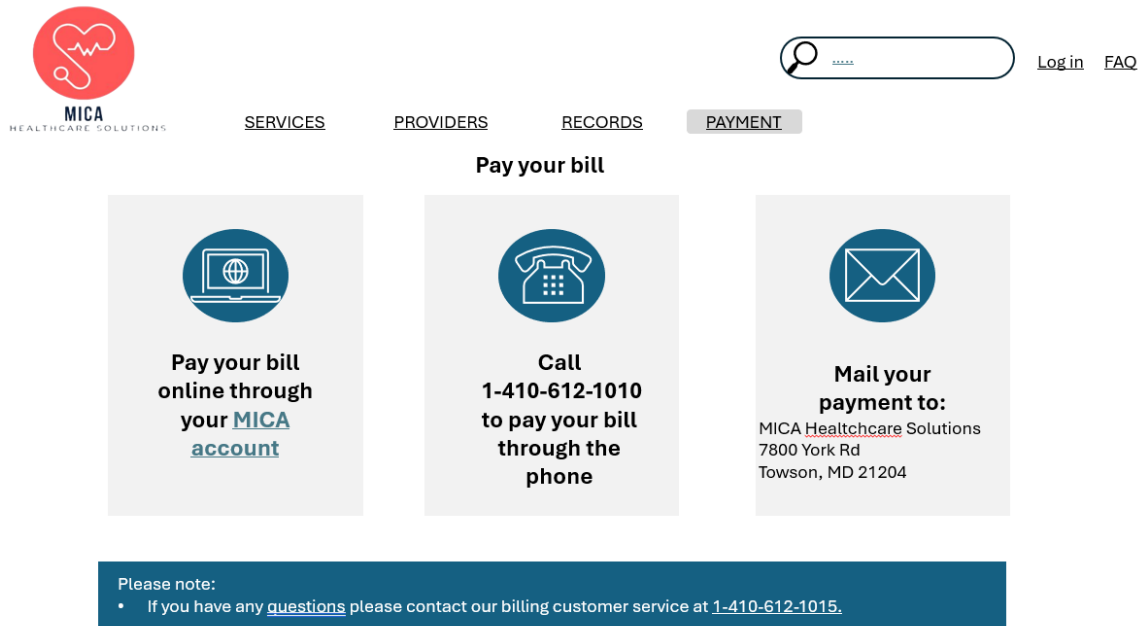
Input Validation:

- None

Error Messages:

- When the user tries to access their account while the website is down, the following message will appear:
“Service currently unavailable, please try again later.”

8 Payment Options



Functionality:

- The user can pick from the following options to pay their medical bills. They can either pay it online through their MICA account, by phone by calling the number listed, or by mail by sending it to the following mailing address.

Tool Tips:

- Each Bill Item: "Click to view details about this invoice."

Input Validation:

- None

Error Messages:

- When the invoice is unavailable, the following message will appear:
"Billing information not found, please contact customer support."

9 Payment Online Milepost

The screenshot shows the MICA Health Solutions website. The header includes the MICA logo, navigation links for SERVICES, PROVIDERS, RECORDS, and PAYMENT (which is highlighted), a search bar, and links for My account, sign out, and FAQ. Below the navigation bar, the heading "Pay your bill online" is displayed. A flow diagram shows three steps: "Payment Method" (in a blue box), "Billing Information", and "Confirm Payment" (both in grey boxes), connected by arrows. Below this, the text "Complete payment details below" is followed by "Pay using" and a row of payment method icons including Visa, Mastercard, American Express, Discover, and others. The payment form consists of three fields: "Card number" (with a card icon), "MM/YY" (with a calendar icon), and "Security code" (with a lock icon). A green "Continue" button is positioned at the bottom of the form.

Functionality:

- Payment gateway integration to pay bills, save payment methods, view payment status.

Tool Tips:

- Credit Card Field: "Enter your credit card number"
- CVV Field: "Enter the 3-digit code located in the back of your card."

Input Validation:

- Credit Card Number: Must be a valid 16-digit number.
- CVV: Must be 3 digits.
- Expiration Date: This cannot be a past date.

Error Messages:

- When the user inputs an invalid credit card number, the following message will appear:
"Invalid credit card number, please enter a 16-digit number."

- When the user tries to pay with a card that has insufficient balance, the following message will appear:
 “Transaction failed, please try again with a different payment method.”

2 Database Dictionary

Entity	Attribute	Description	Type	Size
Patient	PatientID (Primary Key)	Unique identifier for each patient.	Number (Auto-Generate)	10
	FullName	Patient's full name which comprises of Last Name and First Name	Variable Character	50
	DOB	Patient's date of birth.	Date	10
	Gender	Patient's gender. The domain for this entity is Female, Male	Variable Character	6
	Address	Patient's address.	Variable Character	50
	PhoneNumber	Patient's phone number.	Number	10
	EmailAddress	Patient's email address.	Variable Character	50
	EmergencyContactInfo	Information for the patient's emergency contact.	Variable Character	50
	MedicalHistory	Summary of the patient's medical history. System generated from the medical notes from health providers	Variable Character	250
	InsuranceProvider	Name of the patient's insurance provider.	Variable Character	50
	PolicyNumber (Foreign Key – Insurance Table)	Patient's insurance policy number.	Number	10
	GroupNumber	Group number for the insurance policy.	Number	10
	CoverageDetails	Details about insurance coverage.	Variable Character	250
Appointment	AppointmentID (Primary Key)	Unique identifier for an appointment made	Number (Auto-Generated)	10
	PatientID (Foreign Key – Patient Table)	Link to the patient's record	Number	10
	AppointmentTime	Unique identifier for the doctor	Time	5

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	AppointmentDate	Date of the appointment	Date	10
	ProviderID (Foreign Key – Health Providers Table)	The ID of the Health Provider assigned to the appointment	Number	10
	MeetingMedium	Status of the appointment. The domain is Physical, Virtual	Variable Character	10
	Status	Status of the appointment. The domain Schedule, Confirmed, Cancelled	Variable Character	10
Provider	ProviderID (Primary Key)	Unique identifier for each healthcare provider.	Number (Auto-Generate)	10
	FullName	Full name of the healthcare provider which comprises of Last Name and First Name	Variable Character	50
	Specialty	Medical specialty of the provider. The domain is Anesthesiology, Cardiology, Cardiothoracic Surgery, Dermatology, Emergency Medicine, Endocrinology, Family Medicine, Gastroenterology, Hematology, Infectious Disease, Internal Medicine, Neurology, Neurosurgery, Obstetrics and Gynecology (OB/GYN), Oncology, Ophthalmology, Orthopedic Surgery, Pediatrics, Plastic Surgery, Psychiatry Pulmonology, Radiology, Surgery, Urology	Variable Character	50
	PhoneNumber	Contact phone number of the provider.	Number	10
	EmailAddress	Contact email address of the provider.	Variable Character	50
	OfficeLocation	Location of the provider's office.	Variable Character	50

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Medication	MedicationID (Primary Key)	Unique identifier for each medication record.	Number (Auto-Generate)	10
	MedicationName	Name of the medication prescribed to the patient.	Variable Character	50
	Dosage	Dosage information (e.g., "500mg").	Number	4
	DosageFrequency	Frequency of medication (e.g., "Twice daily"). The domain is Once, Twice, Thrice, As Advised	Variable Character	5
	StartDate	Date when the medication was first prescribed.	Date	10
	EndDate	Date when the medication course ends (NULL if ongoing).	Date	10
	CreatesDate	Date when the medication record was created. Default Date is date of entry	Date (Auto-Generated)	10
Treatment	TreatmentID (Primary Key)	Unique identifier for treatments administered	Number (Auto-Generate)	10
	PatientID (Foreign Key – Patient Table)	Link to the patient's record	Number	10
	TreatmentType	Description of the treatment administered	Variable Character	50
	TreatmentDate	Date when the treatment was provided	Date	10
	Cost	Cost of the treatment received	Number	10
Payment	PaymentID (Primary Key)	Unique identifier for each payment transaction.	Number (Auto-Generate)	10
	PatientID (Foreign Key – Patient Table)	Links to the patient making the payment.	Number	10
	PaymentAmount	Amount paid by the patient.	Number	10
	PaymentDate	Date and time when the payment was made.	Time Stamp with Date	15

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	PaymentMethod	Method of payment. The domain is Credit Card, Cash, Insurance).	Variable Character	10
	PaymentStatus	Status of the payment transaction. The domain is Not Started, In-Progress, Processed, Refunded	Variable Character	10
	CreatedDate	Date when the payment record was created. Default is current date	Date (Auto-Generate)	10
LabTest	TestID (Primary Key)	Unique identifier for each lab test.	Number (Auto-Generate)	10
	CollectionDate	Date when the specimen was collected from the patient. Default is current date	Date (Auto-Generate)	10
	CompletionDate	Date when the test was completed and results were generated.	Date	10
	SpecimenType	Type of specimen collected for the test (e.g., blood, urine, tissue). The domain is Blood Specimen, Urine Specimen, Tissue Specimen, Sputum Specimen, Swab Specimen, Stool Specimen, Cerebrospinal Fluid Specimen, Synovial Fluid Specimen, Saliva Specimen, Hair and Nail Specimen	Variable Character	20
	PatientID (Foreign Key – Patient Table)	Links to the Patient table; identifies the patient undergoing the test.	Number	10
	ProviderID (Foreign Key – Provider Table)	Links to the Provider table; identifies the healthcare provider who ordered the test.	Number	10
	Etiology	Underlying cause or reason for conducting the test (e.g., suspected condition, diagnosis).	Variable Character	50
	Results	Findings or outcomes of the lab test (e.g., positive,	Variable Character	50

		negative, numerical values as per the test type).		
Insurance	PolicyNumber (Primary Key)	Unique identifier for the insurance policy associated with the patient.	Number (Auto-Generate)	10
	CompanyName	Name of the insurance company providing the policy.	Variable Character	50
	CompanyAddress	Address of the insurance company's main office or branch relevant to the policy.	Variable Character	250
	PlanType	Type of insurance plan (e.g., HMO, PPO, EPO) under which the patient is covered. The domain is Health Maintenance Organization, Preferred Provider Organization, Exclusive Provider Organization, Point of Service High Deductible Health Plan, Catastrophic Health Insurance, Medicare, Medicaid, Indemnity Plans	Variable Character	50
	PolicyEffectiveDate	Date when the insurance policy became effective for the patient.	Date	10
	PatientID (Foreign Key – Patients Table)	Links to the Patient table; identifies the patient covered under the insurance policy.	Number	10

3 Contribution Summary

Deliverables	Responsibilities	Team member
Application Screen Design	Interface screen creation	John/David
	Interface structure diagram	John/Chinonso
	Database elements integration	John/Yi-Jiun
	Documentation in Word	John/Yi-Jiun
Report Specifications	Lab test result	John
	Patient care report	John
	Medical invoice	Chinonso
	Appointment scheduling report	Chinonso

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	Patient satisfaction survey summary report	Yi-Jiun
Application Test Plan	Test plan template completion	David
Database Dictionary	Define all entities and attributes	Yi-Jiun
	Define all types and sizes	David