Gee-1 Clinic - Final Report

ISDS 454-01, Group #1

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Introduction

Gee 1 Hospital is developing an appointment system in order to streamline its operations, improve productivity, and reduce mistakes. The appointment system will capture information on the hospital's employees, patients, appointments, doctors, payments, and medical records. The system will allow medical clinic employees to manage patients, appointments, payments, and track availability to help improve our patient care quality to provide the best service. The system is designed to be user-friendly for users.

The main user of our appointment system is the medical clinic employee who is required to maintain and ensure the confidentiality of all patients' medical records and information. Although the medical clinic employee will directly interact with the system, patients and other hospital care team members including doctors will still interact indirectly through emails sent by the system. For example, retrieving medical records would be initiated by the employee but sent to the doctor.

Employees may log into the system using their system login credentials. Once logged in, Employees can fully interact with the system. As part of the patient management function of the system, the employee will be able to create, update, and view patient accounts to better understand and improve our patient's well-being and health. Based on the medical history recorded, hospital employees and doctors will better be able to cater services to each client's unique needs. It will also allow staff to prepare in advance for appointments adequately.

Employees will receive phone call inquiries from patients and perform various administrative duties to get appointments scheduled. The prerequisite to having an appointment scheduled is to have a patient account present in the system. New/prospective patients can create accounts by providing necessary information to the attending employee.

Once a patient has an account, the account can be updated at any time. Employees may view patient accounts for various business purposes. Appointment(s) can be scheduled and viewed after creation. Additionally, appointments may be modified or canceled after creation. The system would allow employees to retrieve medical records as part of its patient medical records management capabilities with adherence to secure and proper policy procedures. The system would allow employees to share said records with doctors via encrypted emails to protect patient PII (personally identifying information).

The following sections of this report will provide a detailed overview of our proposed system and its key features.

Requirements Definition Document

Functional Requirements

1. Employee Authentication
   1.1 The system will validate the user's username and password before allowing access.
   1.2 The system will allow the user to reset their password if necessary or desired.

2. Patient Management
   2.1 The system will enable the user to input a patient's information to create an account.
   2.2 The system will allow the user to search and view patient information by ID.
   2.3 The system will allow the user to update the patient's account
   2.4 The system will record and store the patient information.

3. Appointment Management
   3.1 The system will allow the user to create appointments.
   3.2 The system will allow the user to view appointments.
   3.3 The system will allow the user to modify appointments.
   3.4 The system will allow the user to cancel appointments.

4. Check Doctors' Availabilities and Appointments
   4.2 The system will allow the user to search whether a doctor is available depending on the patient's preferences.
   4.2 The system will allow the user to view all appointments on a master calendar.

5. Report Generation
   5.1 The system will extract historical data depending on the employee's specifications.

6. Track Payment
   6.1 The system will allow the user to record the patient's insurance/payment details.
   6.2 The system will email the bill and receipt to the patient.

Nonfunctional Requirements

1. Operational
   1.1 The system will run on most Web browsers e.g. Google Chrome, Microsoft Edge, Firefox, Safari, etc.

2. Performance
   2.1 The system should be available 24/7, except during scheduled maintenance periods.
   2.2 Scheduled maintenance should take between 4-6 hours per month.
   2.3 The system will support at least 6 simultaneous users
   2.4 The system will update data in real-time.

2.5 The system should be able to handle high levels of workload
2.6 The load time for the system should take a maximum of 30 seconds.

3. Security
   3.1 Access to the system will require authentication with a username and password.
   3.2 All patient information will be encrypted and maintained securely to ensure confidentiality.
   3.3 All computers running the system must have virus protection/anti-virus software installed.

4. Cultural and Political
   4.1 The system will only operate in English.
   4.2 The date will be based on the US date format mm-dd-yy.
   4.3 Patient information is protected in compliance with the Health Insurance Portability and Accountability Act (HIPAA).

Use Cases

UC-1: Authenticate for System Access

Use Case Name: Authenticate for System Access	**ID:** UC-1	**Priority:** High
Actor: Employee		
Description: This activity describes how the employee will gain access to the system.		
Trigger: The employee needs to use the system for business operations.		
Type: ☑ External ☐ Temporal		
Preconditions: 1. Employee already has authorized login credentials 2. The system is ready to run		

Normal Course:	**Information for Steps:**
1.0 Log in system	
1. The system prompts user to enter a username (Alternative Course 1.1)	Username
2. The system verifies the username is valid	Username Verification
3. The system prompts user to enter a password (Alternative Course 1.2)	Password
4. The system verifies the password is correct	Password Verification
5. The system grants access to the user	System Access
Alternative Courses:	
1.1 Employee enters invalid username (branch at step 1)	
1. The system displays message “Incorrect username”	
2. The system asks the user to re-enter username or exit	Username or Cancellation
1.2 Employee enters invalid password (branch at step 3)	
1. The system displays message “Incorrect password”	
2. The system asks the user to re-enter password or to reset it	Password or Reset
3a. The system verifies re-entered password is valid	
4a. The system grants access to the system	System Access
3b. The system asks the manager for password reset request approval	Reset Approval
4b. The system sends an email to the employee for resetting	Approved Reset Email

Postconditions:
1. The employee is logged into the system has access to the system’s functions.
Exceptions: E1. Employee username or password entered incorrectly too many times (occurs at step 1 or 3) 1. The system displays message “Your account has reached the maximum number of failed login attempts” 2. The system asks the user if they would like to notify the manager or exit.

Summary Inputs	**Source**	**Outputs**	**Destination**
Username	Employee	Username Verification	Employee
Password	Employee	Password Verification	Employee
Username or Cancellation	Employee	System Access	Employee
	Employee	Reset Approval	Manager

Password or Reset		Approved Reset Email	Employee

UC-2: Create Patient Account

Use Case Name: Create Patient Account	**ID:** UC-2	**Priority:** High
Actor: Employee		
Description: This activity describes how the employee will register new patients into the hospital.		
Trigger: The patient requests a doctor appointment.		
Type: ☑ External ☐ Temporal		
Preconditions: 1. The employee's identity is authenticated and logged into the system. 2. The system is online. 3. The hospital's datastore is up to date.		
Normal Course: 1.0 Create an account for the patient. 1. The employee clicks on *Create New Patient Account* under *Patient Accounts* 2. The system prompts the user to input the patient's information 3. The system verifies patient's information is valid (Alternative Course 1.1) 4. The employee confirms the account creation 5. The system generates a unique patient ID 6. The system stores the patient's information	**Information for Steps:** Patient Details (name, address, phone number, SSN) Account Confirmation Request Account Confirmation Patient ID Patient Account	
Alternative Courses: 1.1 Patient already has an existing account (branch at step 2) 1. The system displays message "Patient account already exists" 2. The system pulls up the matching patient account 3. The system asks the user if they would like to update the patient's information or cancel the registration 4a. The system runs the "Update Patient Account" use case 4b. The system terminates the use case	Update or Cancellation	
Postconditions: 1. The patient account is created and stored in the system. 2. Patients are assigned a unique ID number.		
Exceptions: E1. Employee enters invalid information (occurs at step 2) 1. The system displays message "Invalid information" 2. The system prompts user to re-enter patient information or exit		
Summary Inputs **Source**	**Outputs**	**Destination**

Patient details (name, address, phone number, SSN) Account Confirmation Update or Cancellation	Employee Employee Employee	Account Confirmation Request Patient ID Patient Account	Employee Employee Patient Datastore

UC-3: Update Patient Account

Use Case Name: Update Patient Account	**ID:** UC-3	**Priority:** High
Actor: Employee		
Description: This activity describes how the employee will update existing patients' information.		
Trigger: The patient wishes to change or update their information.		
Type: ☑ External ☐ Temporal		
Preconditions: 1. The employee's identity is authenticated and logged into the system. 2. The system is online. 3. Patient already has an existing account.		
Normal Course: 1.0 Update the patient's account. 1. The employee clicks on *Update Patient Account* under *Patient Accounts* 2. The system prompts the employee to enter the patient's ID or Name 3. The system displays the corresponding patient's account 4. The employee makes desired changes to the account 5. The system verifies changes and asks the user to confirm (Alternative Course 1.1) 6. User confirms the change 7. The system saves the changes to the patient account		**Information for Steps:** Patient ID or Name Patient Account Desired Changes Update Confirmation Request Update Confirmation Updated Patient Account
Alternative Courses: 1.1 The employee enters invalid information (branch at step 4) 1. The system displays message "Invalid information" 2. The system provides reasons as to why information is invalid 3. The system asks user to re-enter patient information or exit 4a. The employee adjusts the changes 5a. The system verifies the changes and asks the user to confirm 4b. The system terminates the use case		 Adjust Change or Cancellation Updated Patient Account
Postconditions: 1. Patient's account is updated to reflect the changes in the system.		
Exceptions: E1. Patient does not have a valid account (occurs at step 2) 1. The system displays message "No account found" 2. The system asks the user if they would like to create a new account or exit.		

Summary Inputs	Source	Outputs	Destination
Patient ID or Name Desired Changes Update Confirmation Adjust Change or Cancellation	Employee Employee Employee Employee	Patient Account Updated Confirmation Request Updated Patient Account	Employee Employee Patient Datastore

UC-4: View Patient Account

Use Case Name: View patient account	**ID:** UC-4	**Priority:** High
Actor: Employee		
Description: This activity describes how the employee will view patient accounts.		
Trigger: The employee wishes to view patient account.		
Type: ☑ External ☐ Temporal		
Preconditions: 1. The employee's identity is authenticated and logged into the system. 2. The system is online. 3. The hospital's datastore is up to date.		
Normal Course: 1.0 View patient account. 1. The employee clicks on *View Patient Accounts under Patient Accounts* 2. The system prompts the user to input the patient's information 3. The system verifies patient's information is valid 4. The system queries specified patient account information (Alternative Course 1.1) 5. The employee clicks *View* under *Press to View* 6. The system pulls patient account information	**Information for Steps:** Patient ID or Name Patient Information Patient Details Patient Account	
Alternative Courses: 1.1 Multiple patient accounts returned due to non-unique patient account search (branch at step 4) 1. The system displays list of patient accounts 2. Employee selects appropriate account 3. Employee re-searches for patient using more unique information 4. System pulls up patient's medical record	 Patient ID Patient Medical Records	
Postconditions: 1. Access to patient records including personal and medical information - medical history, appointment history, upcoming appointments, assigned doctor 2. Patient information should only be used for legitimate business operations		
Exceptions: E1. Employee enters invalid information (occurs at step 3) 1. The system displays message "Invalid information"		

2. The system prompts user to re-enter patient information or exit

Summary Inputs	**Source**	**Outputs**	**Destination**
Patient ID or Name Patient ID	Employee Employee	Patient Information Patient Details Patient Account Patient Medical Record	Patient Datastore Employee Employee Employee

UC-5: Book New Appointment

Use Case Name: Book New Appointment	**ID:** UC-5	**Priority:** High
Actor: Employee		
Description: This activity describes how appointments will be created.		
Trigger: The patient requests a new appointment.		
Type: ☑ External ☐ Temporal		
Preconditions: 1. The employee's identity is authenticated and logged into the system. 2. The system is online. 3. Patient has an existing Patient ID.		
Normal Course: 1.0 Create Appointment 1. The employee clicks on *Book New Appointment* under *Appointments* 2. The employee enters Patient ID or name (Alternative Course 1.1) 3. The system prompts the user to enter appointment time and appointment details (Alternative Course 1.2) 4. The system prompts user to enter payment information 5. System sends confirmation email to patient		**Information for Steps:** Patient ID or Name Appointment Time and Details Appointment Information Payment information Confirmation Email
Alternative Courses: 1.1 Employee enters invalid Patient ID (branch at step 2) 1. The system displays message "Invalid Patient ID" 2. The system asks the user to re-enter patient ID or name or exit 1.2 Employee enters invalid appointment time (branch at step 3) 1. The system displays message "Invalid appointment time" 2. The system asks the user to re-enter an appointment time		 Patient ID or Name or Cancel Appointment Time
Postconditions: 1. Appointment information is confirmed and stored by the system. 2. Appointment time availability is updated to reflect new available times.		
Exceptions: E1. The appointment time is booked. 1. The system will display an error message, "The requested appointment time is already booked."		

2. The system will prompt the user to enter another appointment time or exit the system.			
Summary Inputs	**Source**	**Outputs**	**Destination**
Patient ID or Name Appointment Time and Details Patient ID or Name or Cancel Appointment Time	Employee Employee Employee Employee	Appointment Information Confirmation Email	Appointment Datastore Patient

UC-6: View Appointment

Use Case Name: View Appointment	**ID:** UC-6	**Priority:** High
Actor: Employee		
Description: This activity describes how the employee will view appointments.		
Trigger: The employee wishes to view an appointment.		
Type: ☑ External ☐ Temporal		
Preconditions: 1. The employee's identity is authenticated and logged into the system. 2. The system is online. 3. Patient already has an appointment.		
Normal Course: 1.0 View Appointment 1. The employee searches for the patient 2. The employee selects the patient 3. The system displays patient's account information 4. The employee clicks on *Appointments* 5. The system lists historical/upcoming appointments 6. The employee selects desired appointment 7. The system displays appointment details	**Information for Steps:** Patient ID or Name Patient Appointments Appointment ID, Patient ID, location, date/time, duration, assigned employee, notes	
Alternative Courses: 1.1 The employee views appointment from the system's master calendar 1. The employee clicks *View* from the homepage 2. The employee selects *Master Calendar* from dropdown 3. The system displays its calendar with scheduled appointments 4. Employee clicks *View* button on desired appointment 5. The system displays appointment details	 Visual overview of scheduled appointments Appointment ID, Patient ID, location, date/time, duration, assigned employee, notes	
Postconditions: 1. Knowledge of scheduled appointments 2. Ability to coordinate schedules and schedule conflicts		

Exceptions:
E1. Patient does not have a valid account (occurs at step 2)
1. The system displays message "No account found"
2. The system displays "No appointments found"

Summary Inputs	Source	Outputs	Destination
Patient ID or Name Viewed appointment Viewed calendar Viewed scheduled appointment	Employee Employee Employee Employee	Patient Appointments Appointment ID, Patient ID, location, date/time, duration, assigned employee, notes Visual overview of scheduled appointments	Employee Employee Employee

UC-7: Modify Appointment

Use Case Name: Modify Appointment	**ID:** UC-7	**Priority:** High
Actor: Employee		
Description: This activity describes how appointments will be modified or edited.		
Trigger: The patient requests changes to an appointment.		
Type: ☑ External ☐ Temporal		
Preconditions: 1. The employee's identity is authenticated and logged into the system. 2. The system is online. 3. Patient has an existing Patient ID. 4. Patient has already chosen a new appointment date.		

Normal Course:	**Information for Steps:**
1.0 Modify Appointment	
1. The employee confirms the appointment details are accurate and validates the customer's identity	Appointment Time
2. The patient must provide a reason for modification and what must be updated to the appointment, including: a. New date & time for the appointment if needed. b. Any updated billing requirements.	
3. The employee clicks *Modify Appointment* under *Appointments* allowing them to record the new changes in the System.	Desired Modifications
4. The system will generate a new form to create an appointment with data entered from the previous step.	
5. Appointment application verifies availability.	
6. Employee enters Patient ID information or Name	Patient ID or Name
7. System stores and displays appointment information.	Modified Appointment
8. System sends confirmation email to patient.	Confirmation Email

Postconditions:

1. System will assign a new Reservation ID to the modified appointment.
2. System will reflect changes accordingly.
3. A new appointment confirmation email will be generated and sent to the email provided by the patient with the updated appointment information.

Exceptions:

E1. The appointment can't be modified because all appointment times are booked.

1. The system will display an error message, "The requested appointment time is already booked."
2. The system will prompt the user to enter another appointment time or exit the system.

Summary Inputs	Source	Outputs	Destination
Appointment Time Desired Modifications Patient ID or Name	Employee Employee Employee	Modified Appointment Confirmation Email	Appointment Datastore Patient

UC-8: Cancel Appointment

Use Case Name: Cancel Appointment	**ID:** UC-8	**Priority:** High

Actor: Employee

Description: This activity describes how an appointment will be cancelled.

Trigger: The patient requests cancellation on their appointment by phone or face-to-face.

Type: ☑ External ☐ Temporal

Preconditions:

1. The employee's identity is authenticated and logged into the system.
2. The system is online.
3. Patient has an existing Patient ID.
4. Patient has an existing appointment confirmation.

Normal Course:

1.0 Cancel an existing appointment.

1. The patient must inform the Employee of their wish to cancel their appointment via phone or in person.
2. The patient will supply a valid Patient ID or their name that will be input into the system.
3. Inform the patient that their appointment will no longer be available after cancellation unless another one is made.
4. The Employee selects the "Cancel" button next to the Appointment date/ time column.
5. System requests Employee ID for acknowledgment and confirmation on cancellation.

Information for Steps:

- Appointment Time
- Patient ID or Name
- Updated Appointment Information
- Confirmation Email

6. The system updates the cancelled appointment time and allocates it as an open session.	

Postconditions:
1. The system will update and maintain current patient appointment availability.
2. The system will email the patient confirmation of the cancellation.

Exceptions:
E1. The Patient ID is invalid in the database.
1. The system notifies the Employee about the invalid ID.
2. System requests the patient's appointment date and time, and first and last name.
3. The system requests the patient's contact number.
4. The Employee checks the accuracy of the entry of information.

Summary Inputs	Source	Outputs	Destination
Appointment Time Patient ID or Name	Employee Employee	Updated Appointment Information Confirmation Email	Appointment Datastore Patient

UC-9: Check Doctor Availability

Use Case Name: Check Doctor Availability	**ID:** UC-9	**Priority:** High

Actor: Employee

Description: This activity describes how the employee will check a doctor's availability schedule.

Trigger: The patient requests a specific doctor for their appointment.

Type: ☑ External ☐ Temporal

Preconditions:
1. The employee's identity is authenticated and logged into the system.
2. The system is online.
3. Patient has a specific doctor they would like to make an appointment with.
4. Doctor availability is up to date in the system.

Normal Course:	**Information for Steps:**
1.0 Check Doctor Availability	
1. The employee clicks on *View Doctor Availability* under *View*	
2. The system prompts the employee to enter the doctor's ID or details (Alternative Course 1.1)	Doctor ID/Details
3. The system lists and displays the corresponding doctor's available time slots	Doctor Availability

Alternative Courses: 1.1 No doctor match (branch at step 3) 1. The system displays message "Cannot find any doctor according to those specifications" 2. The system asks user to re-enter doctor information or exit 3a. The employee searches for a different doctor 3b. The system terminates the use case	← Doctor ID/Details or Cancellation

Postconditions:
1. Employee can create an appointment according to the patient's preference.

Exceptions:
E1. No available appointment times for patient's desired doctor at specific time frame
1. The system displays no available times.
2. The system asks the user if they would like to search for a different doctor or exit.

Summary Inputs	Source	Outputs	Destination
Doctor ID/Details Doctor ID/Details or Cancellation	Employee Employee	Doctor Availability	Employee

UC-10: Retrieve Medical Record

Use Case Name: Retrieve Medical Records	**ID:** UC-10	**Priority:** High
Actor: Employee		
Description: This activity describes how patient medical records are retrieved.		
Trigger: Doctor wishes to view patient medical records.		
Type: ☑ External ☐ Temporal		
Preconditions: 1. The employee's identity is authenticated and logged into the system. 2. The system is online. 3. System must be updated with all relevant patient, appointment, employee, and Doctor data.		

Normal Course:	**Information for Steps:**
1.0 Retrieve Medical Records	
1. Employee opens medical records tab under patient portal.	
2. Employee enters patient ID or Name (Alternative Course 1.1)	← Patient ID or Name
3. Employee selects desired record date range	← Date Range
4. System displays selected medical records range	← Medical Records
5. System asks user if they want to share the medical records (Alternative Course 1.2)	← Record Share Confirmation
6. Employee enters doctor's email address (Alternative Course 1.3)	← Email Address
7. System sends medical records PDF to designated email address	← Medical Records PDF

Alternative Courses:

1.1 Employee enters invalid patient ID (branch at step 2)
1. The system displays message “Invalid Patient ID”
2. The system asks the user to re-enter patient ID or Name → Patient ID or Name

1.2 Employee decides not to share medical records (branch at step 5)
1. System closes records and returns to patient portal

1.3 Employee enters invalid doctor email address (branch at step 6)
1. The system displays message “Invalid email address”
2. The system asks the user to re-enter doctor’s email address → Email Address

Postconditions:

1. Medical records sent by email are sent as attachments which can be viewed as a preview, downloaded as a PDF, or opened on the doctor’s booking software on their computer.

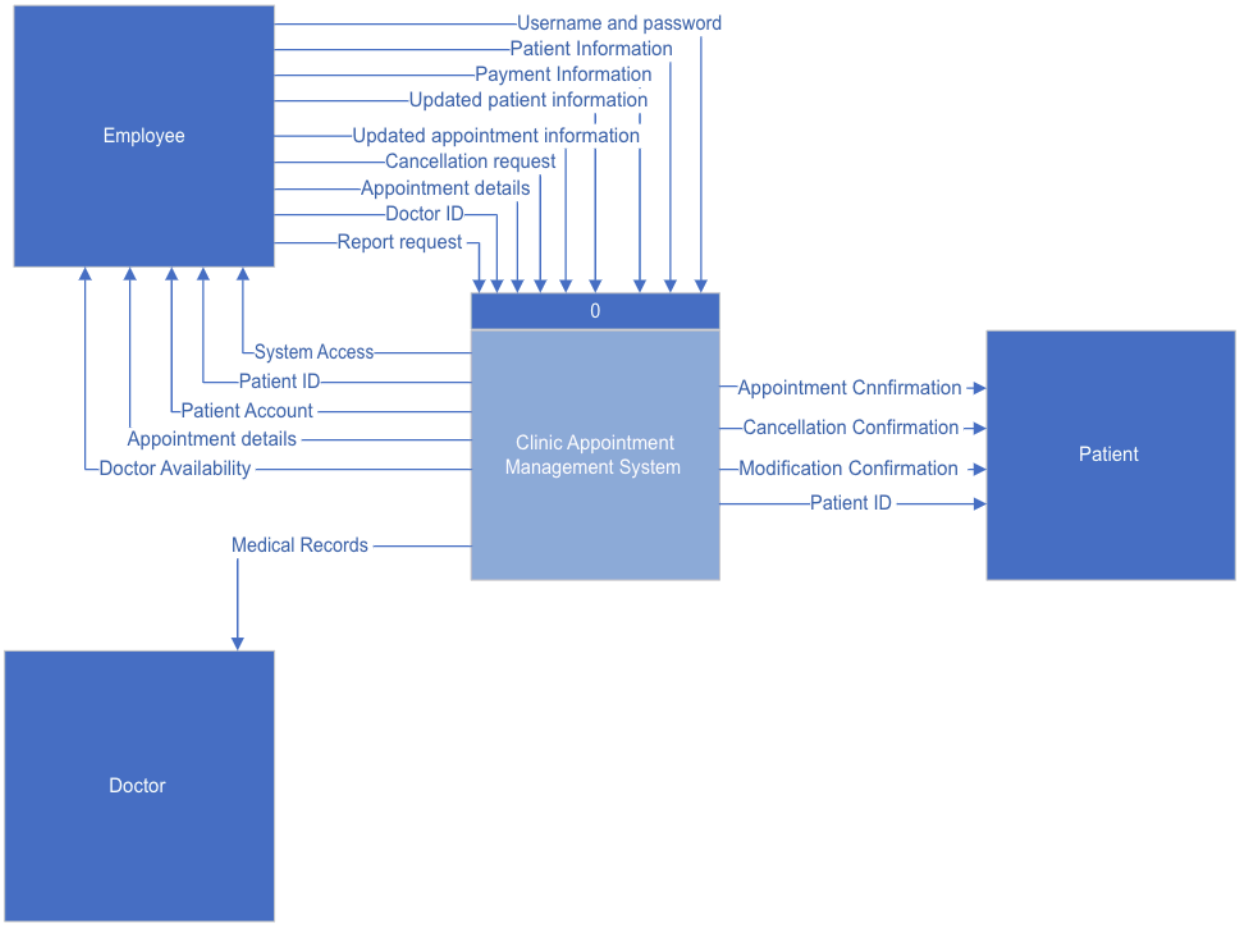
Exceptions:

E1. The desired record date range does not exist for the patient.
1. The system will display an error message, “No records for selected date range.”
2. The system will prompt the user to enter another date range or exit the system.

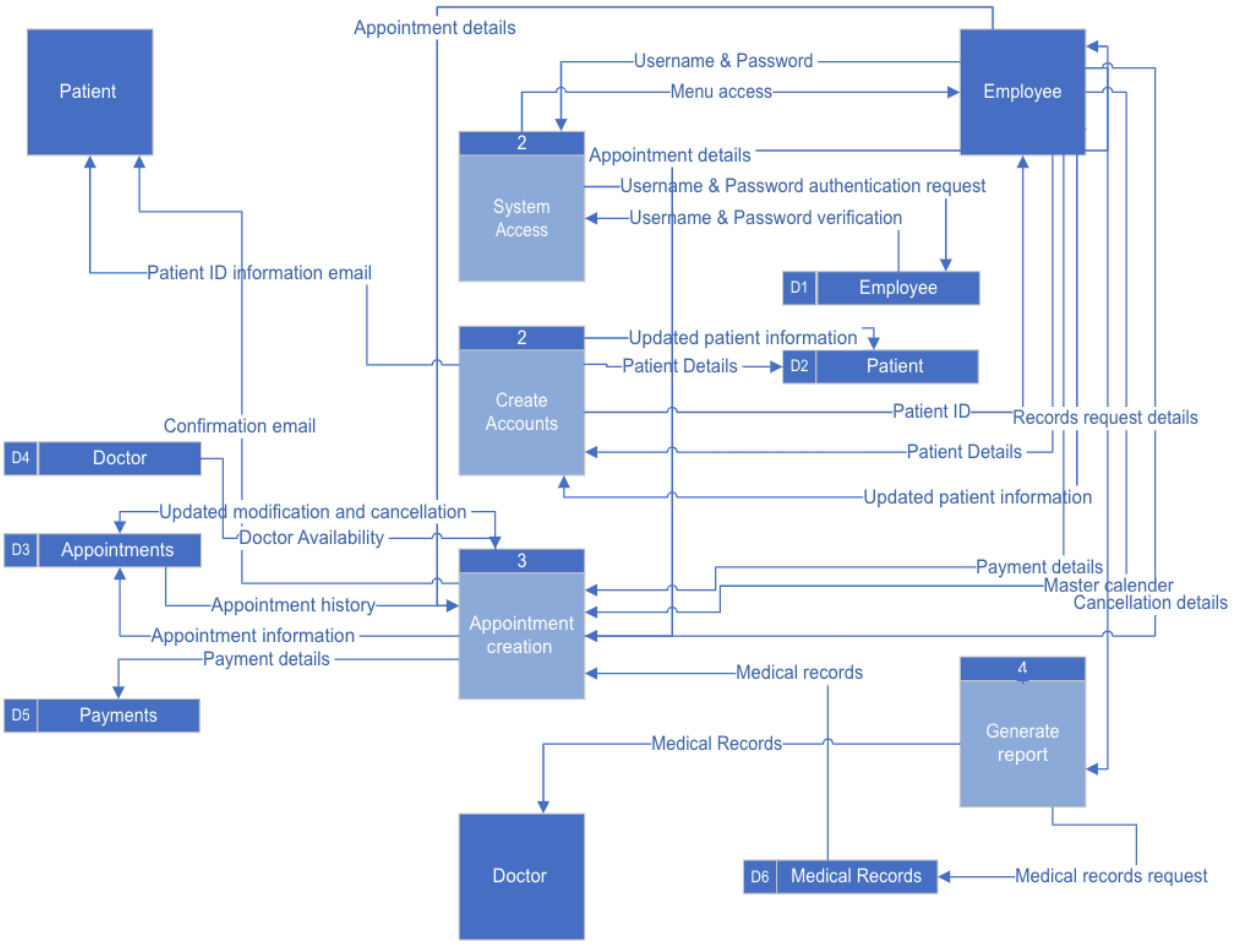
Summary Inputs	Source	Outputs	Destination
Patient ID or Name Date Range Record Share Confirmation Email Address	Employee Employee Employee Employee	Medical Records Medical Records PDF	Employee Doctor

Data Flow Diagrams

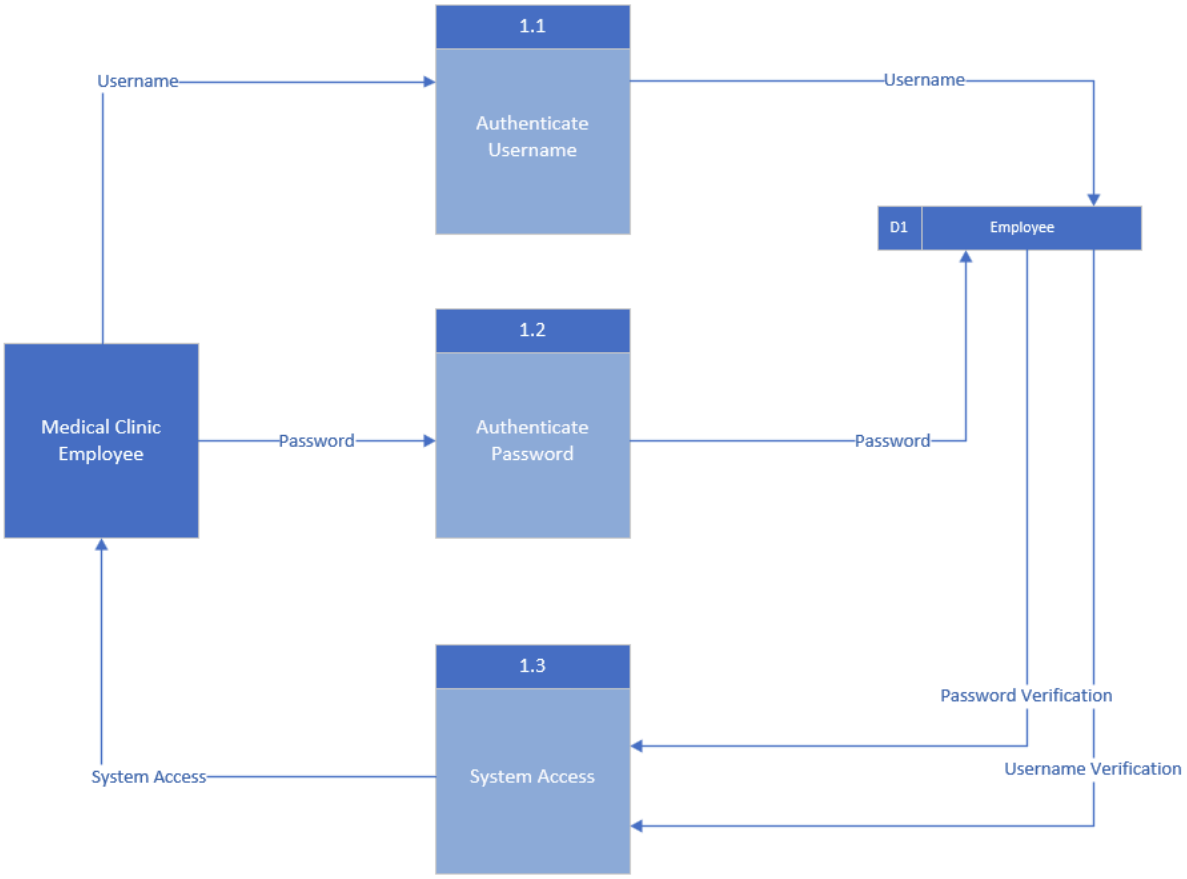
Context Diagram



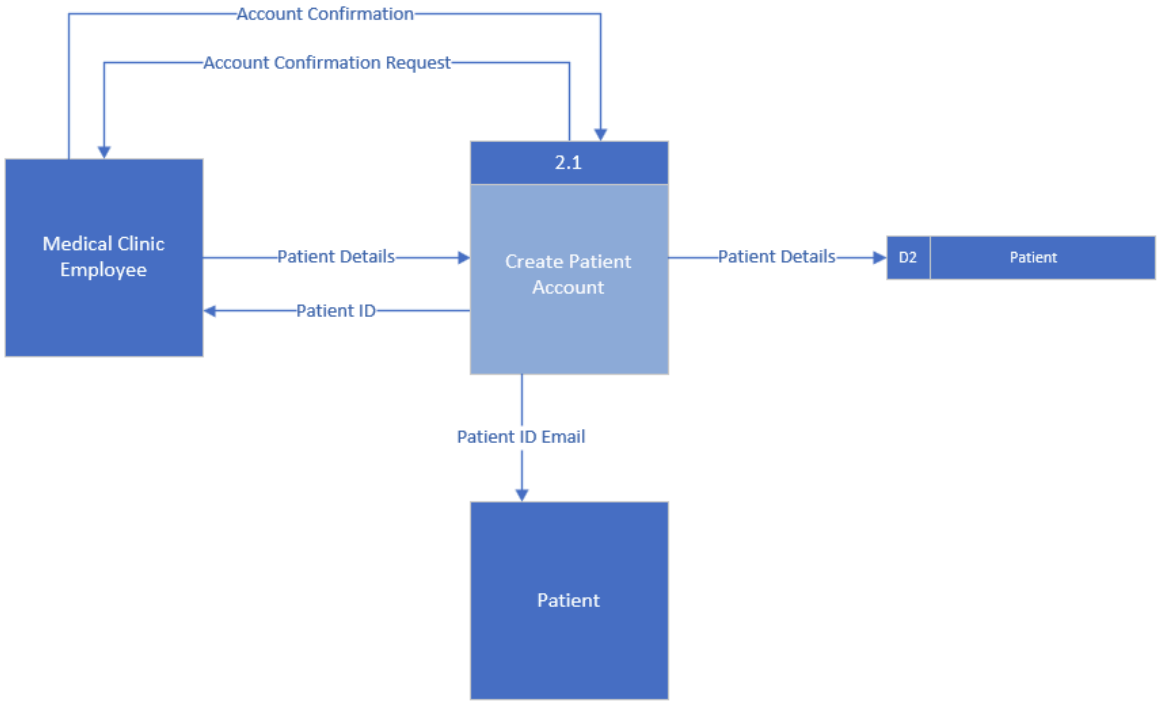
Level 0 Diagram



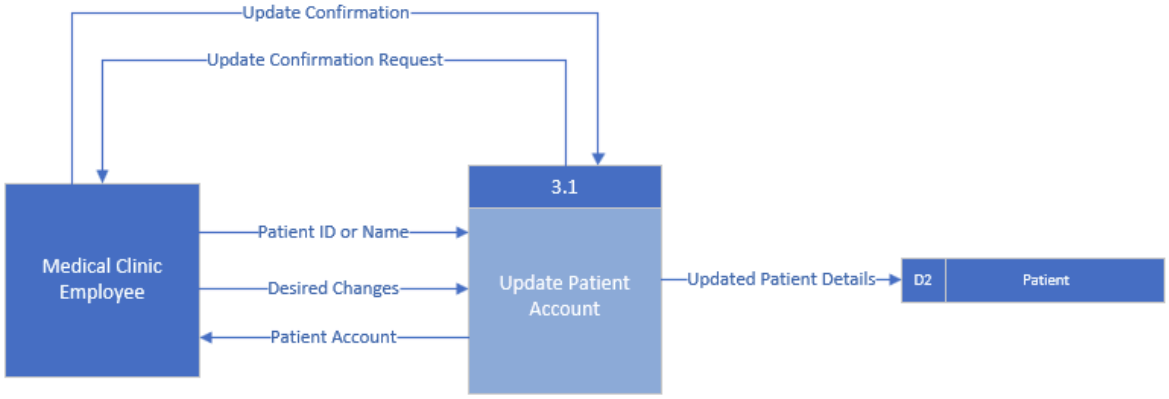
Level 1 Process 1: Authenticate for System Access



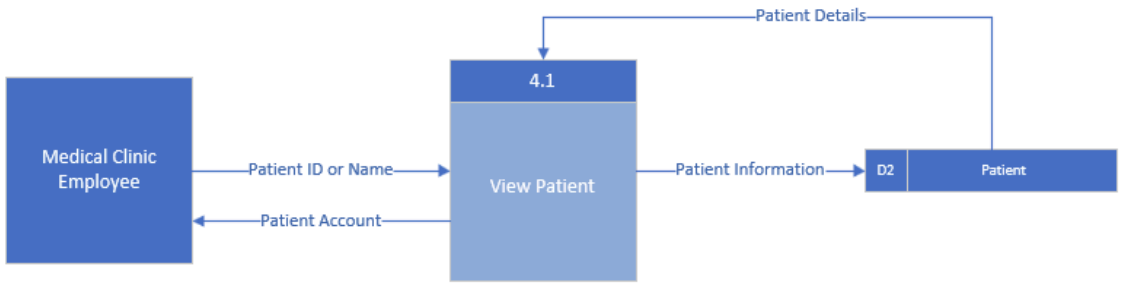
Level 1 Process 2: Create Patient Account



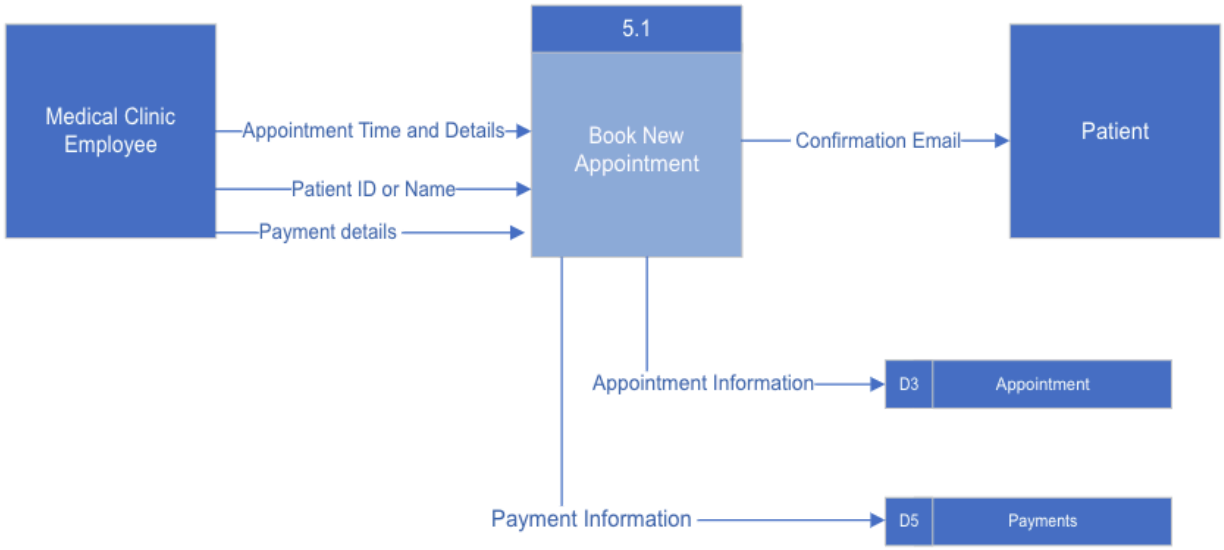
Level 1 Process 3: Update Patient Account



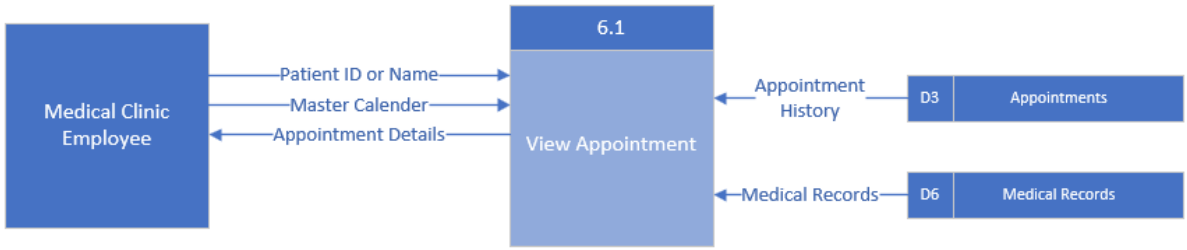
Level 1 Process 4: View Patient Account



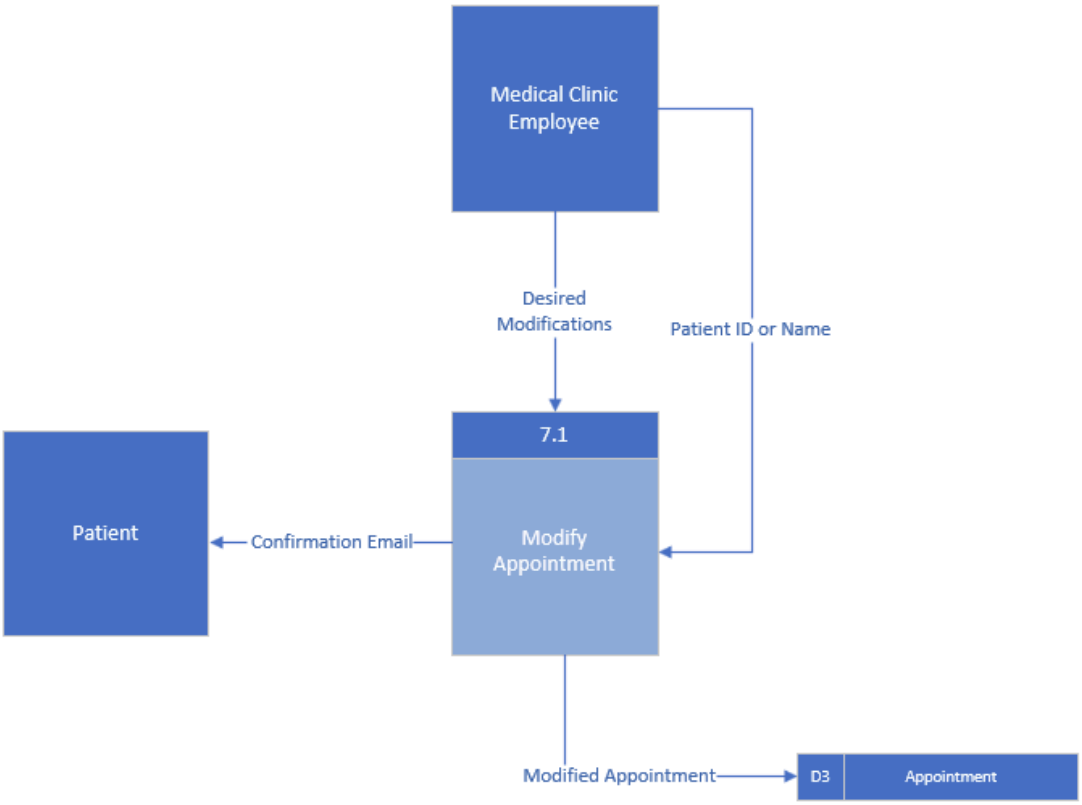
Level 1 Process 5: Book New Appointment



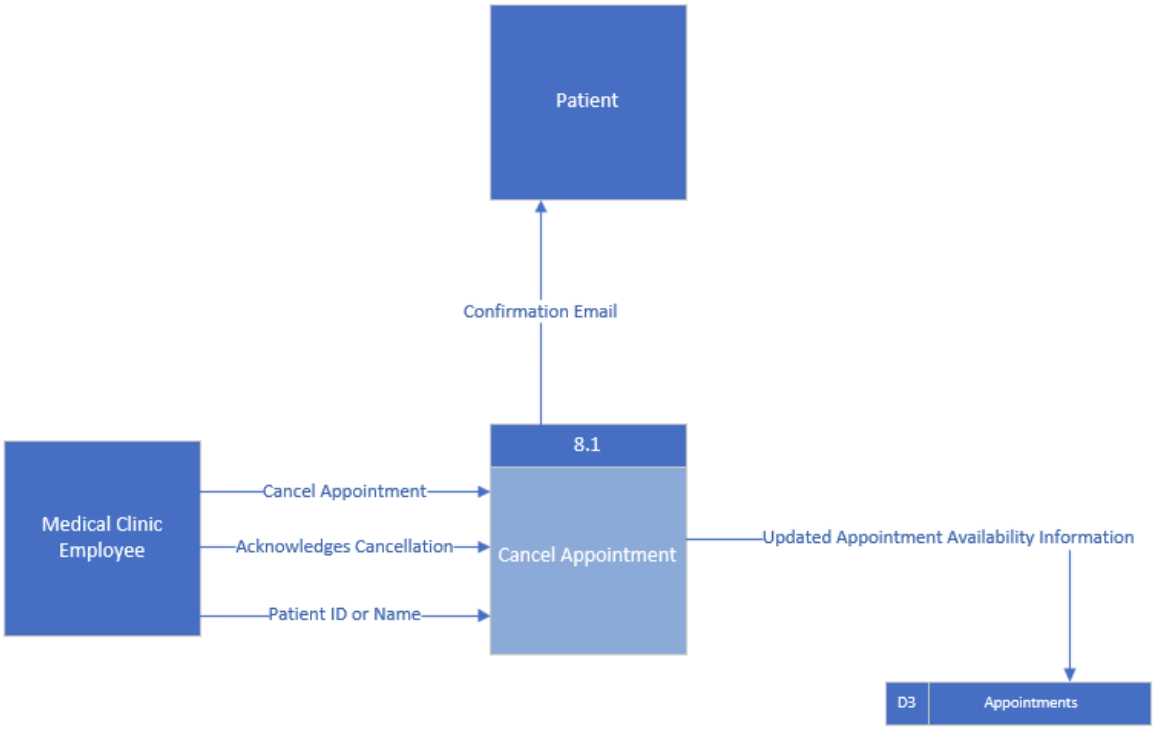
Level 1 Process 6: View Appointment



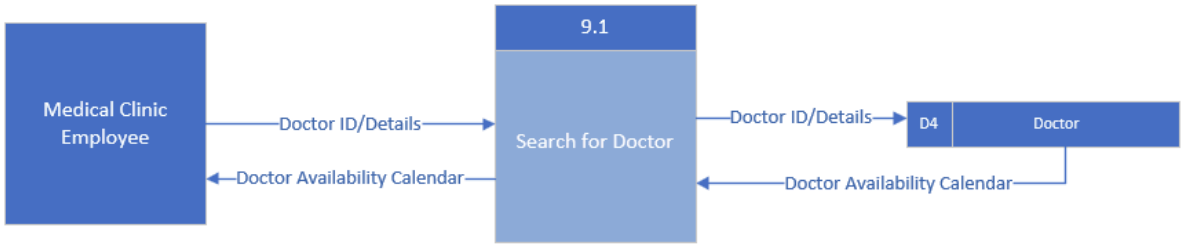
Level 1 Process 7: Modify Appointment



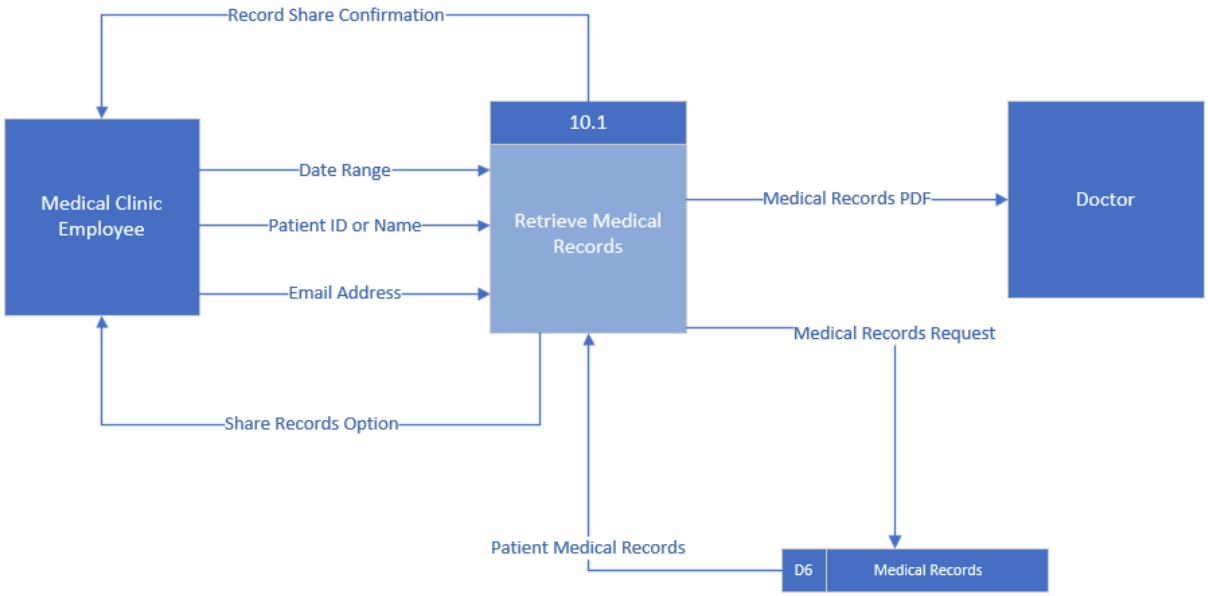
Level 1 Process 8: Cancel Appointment



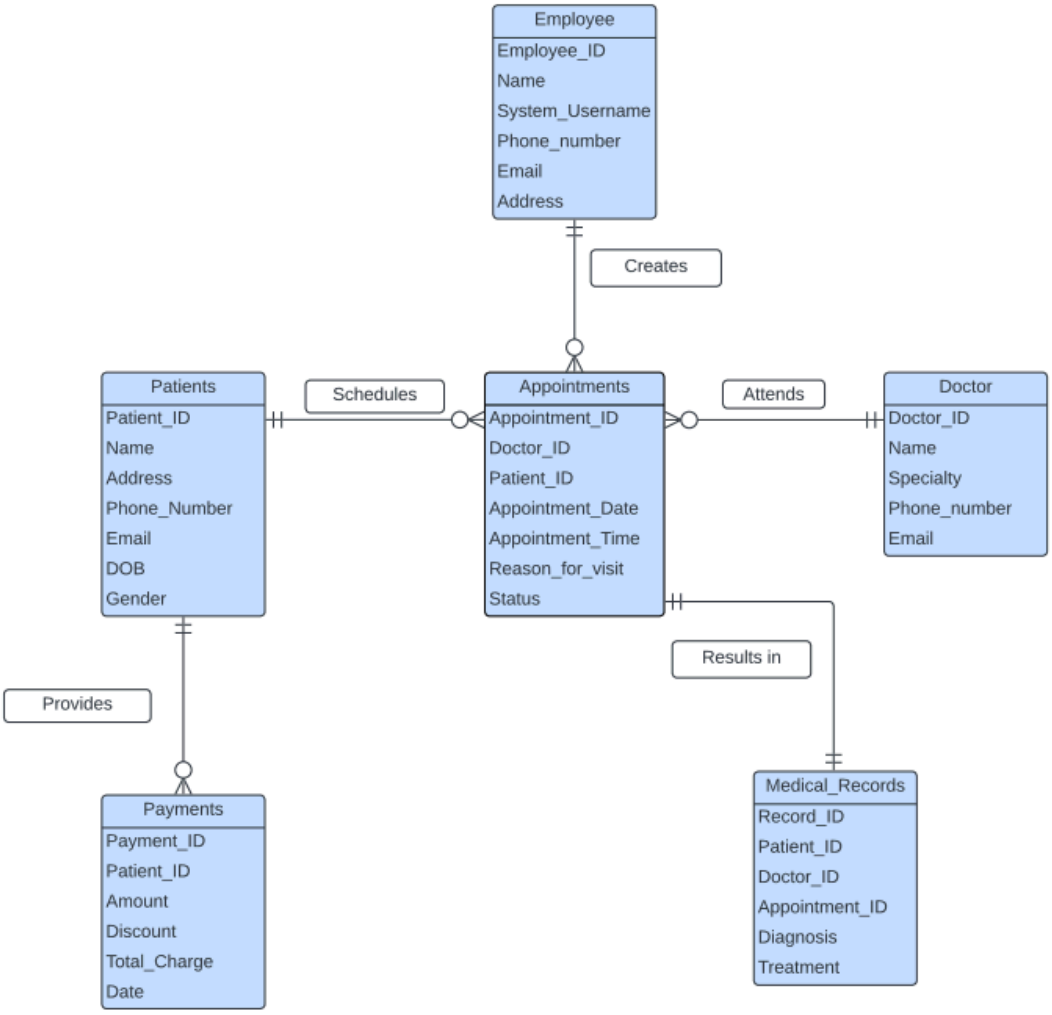
Level 1 Process 9: Check Doctor Availability



Level 1 Process 10: Retrieve Medical Records



Logical Entity Relationship Diagram



Data Dictionary

Employee (Gains access to the system and will input information)	
Employee_ID (Unique Identifier)	
Name (The employee's full name)	
System_Username (The credentials used to access the system)	
Phone_Number (Contact Information method)	Relationhip in the ERD: An employee creates many appointment, but an appointment can onlu be created by one employee
Email (Secondary form contact method)	
Address (Employee's address)	

Patients (A patient triggers the process of making an appointment	
Patient_ID (Unique Identifier) Name (The patients full name) Address (The patients preffered home address) Phone_Number (Contact Information method) Email (Secondary form contact method) DOB (The patients date of birth) Gender (The patients gender)	Relationhip in the ERD: The patient can have none or many appointments but an appointment can only have one patient

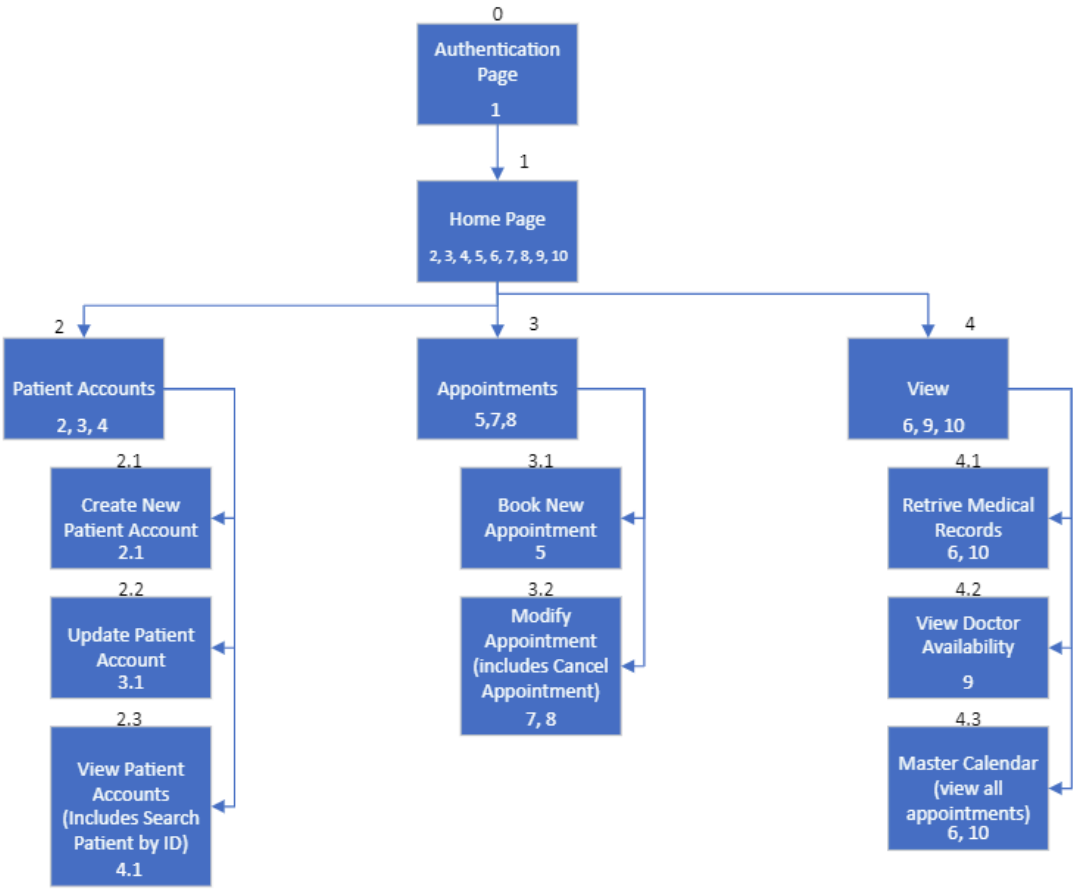
Appointments (The relevant details of the appointment will be stored)	
Appointment_ID (Unique Identifier) Doctor_ID (The doctor that attended the appointment) Patient_ID (The patient that attended the appointent) Appointment_date (The date of the appointment) Appointment_time (Time of appointment) Reason_for_visit (text explaining appointment reason) Status (Appointment status, canceled,scheduled, etc.)	Relationhip in the ERD: Appointment can have only 1 instance of an attendee. This results in a medical record after the process.

Doctor (The doctor will attend and help a patient)	
Doctor_ID (Unique Identifier) Name (Full name of doctor) Specialty (The specialty the doctor practices) Phone_number (Doctor's phone number) Email (Doctor's email)	Relationhip in the ERD: A doctor can have many appointments. An appointment can only have one doctor

Payments (The tracked billing process of a patient)	
Payment_ID (Unique Identifier) Patient_ID (The patient being billed) Amount (Payment amount the patient has made) Discount (If applicable, the discount of the bill) Date (The date of the payment)	Relationhip in the ERD: A payment belongs to only one patient. A patient can make many payments

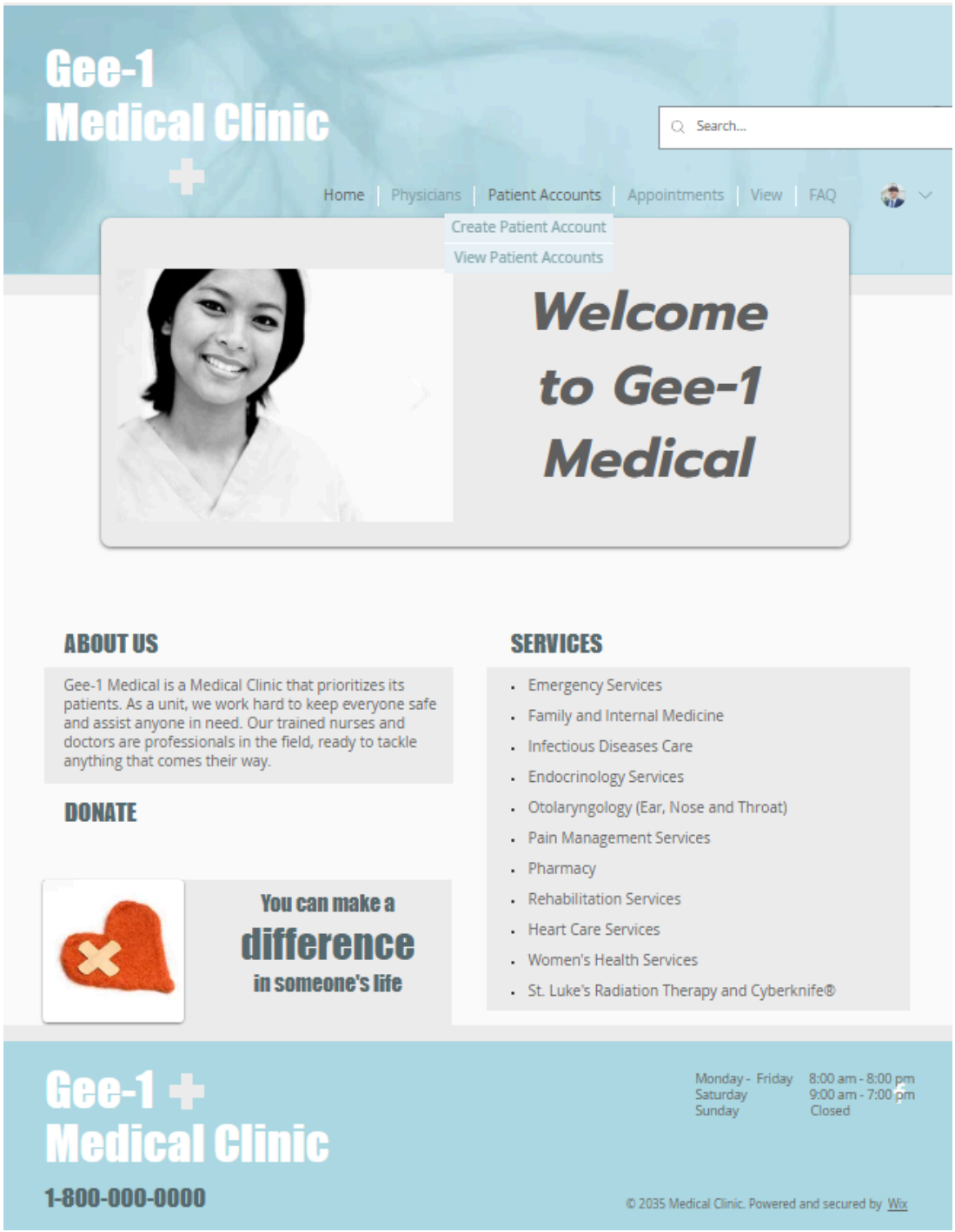
Medical_Records (The records produced by an appoinment visit)	
Record_ID (unique Identifier) Patient_ID (The patient that the records belong to) Doctor_ID (Doctor that gave the diagnosis and treatment) Appointment_ID (The appointment relating to record) Diagnosis (The diagnosis given to the patient) Treatment (Treatment plan given to the patient)	Relationhip in the ERD: A medical record is a part of one appointment and an appointment can only have one record

Interface Structure Diagram

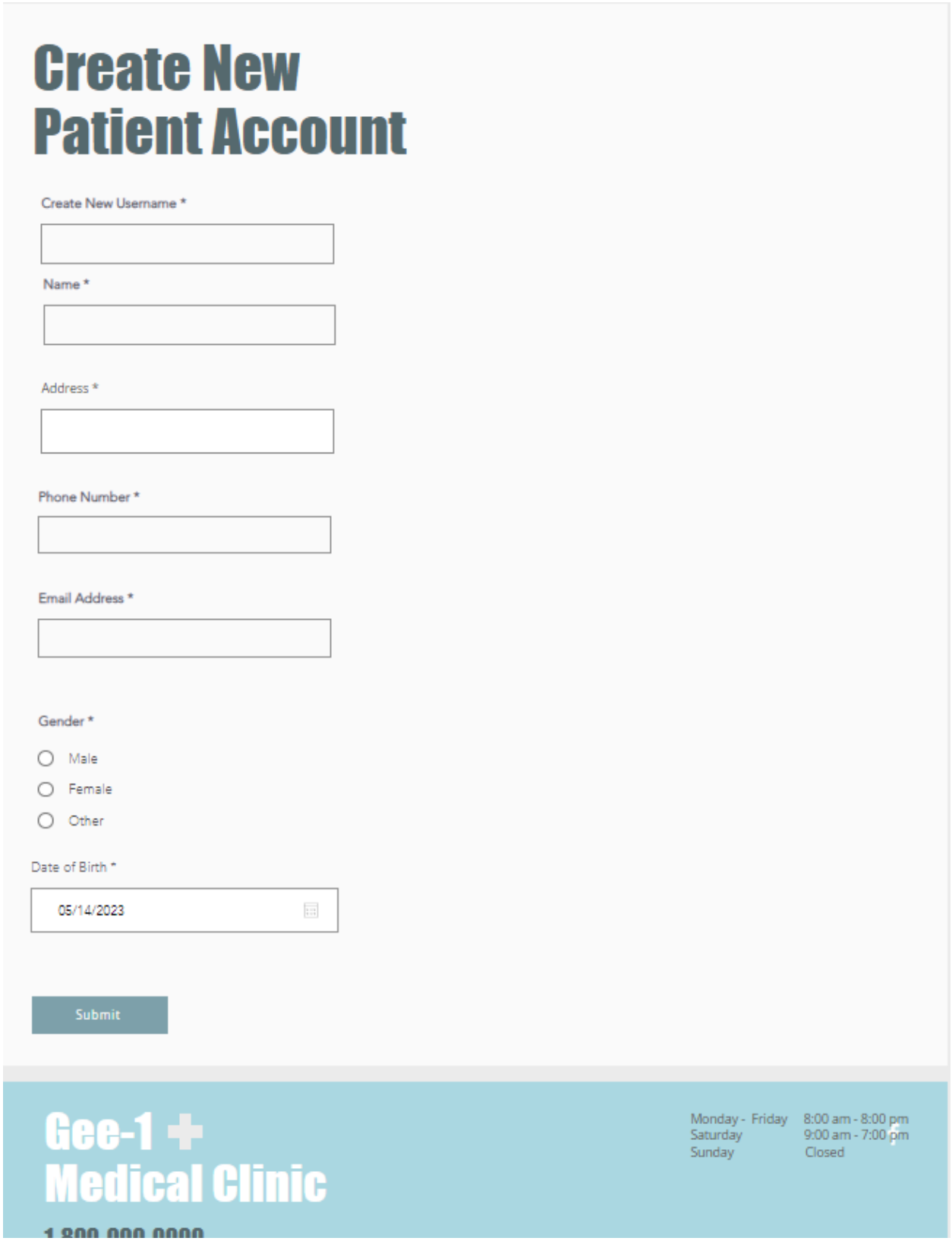


Virtual User Interface

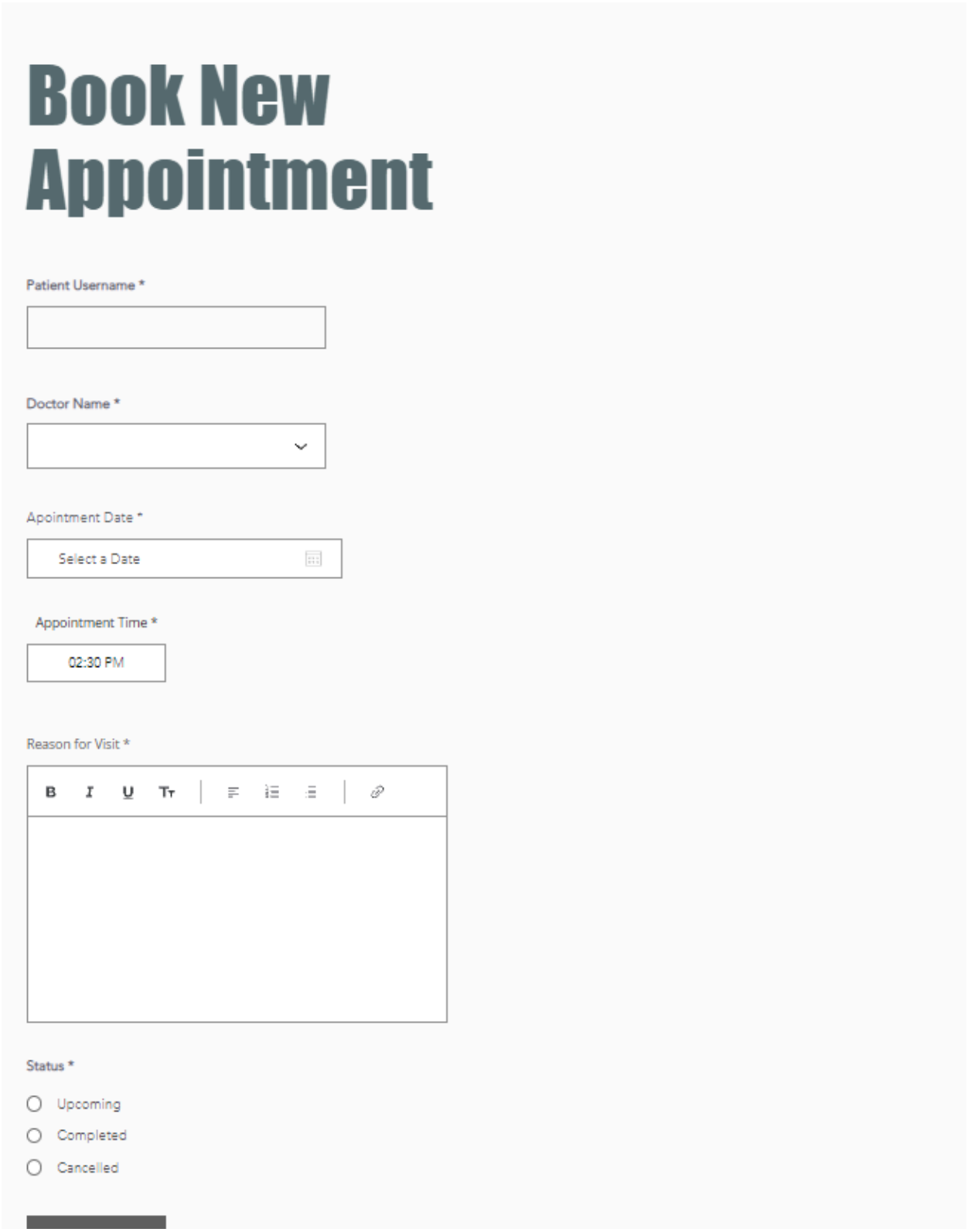
Home Screen (also shows Patient Accounts drop-down menu):



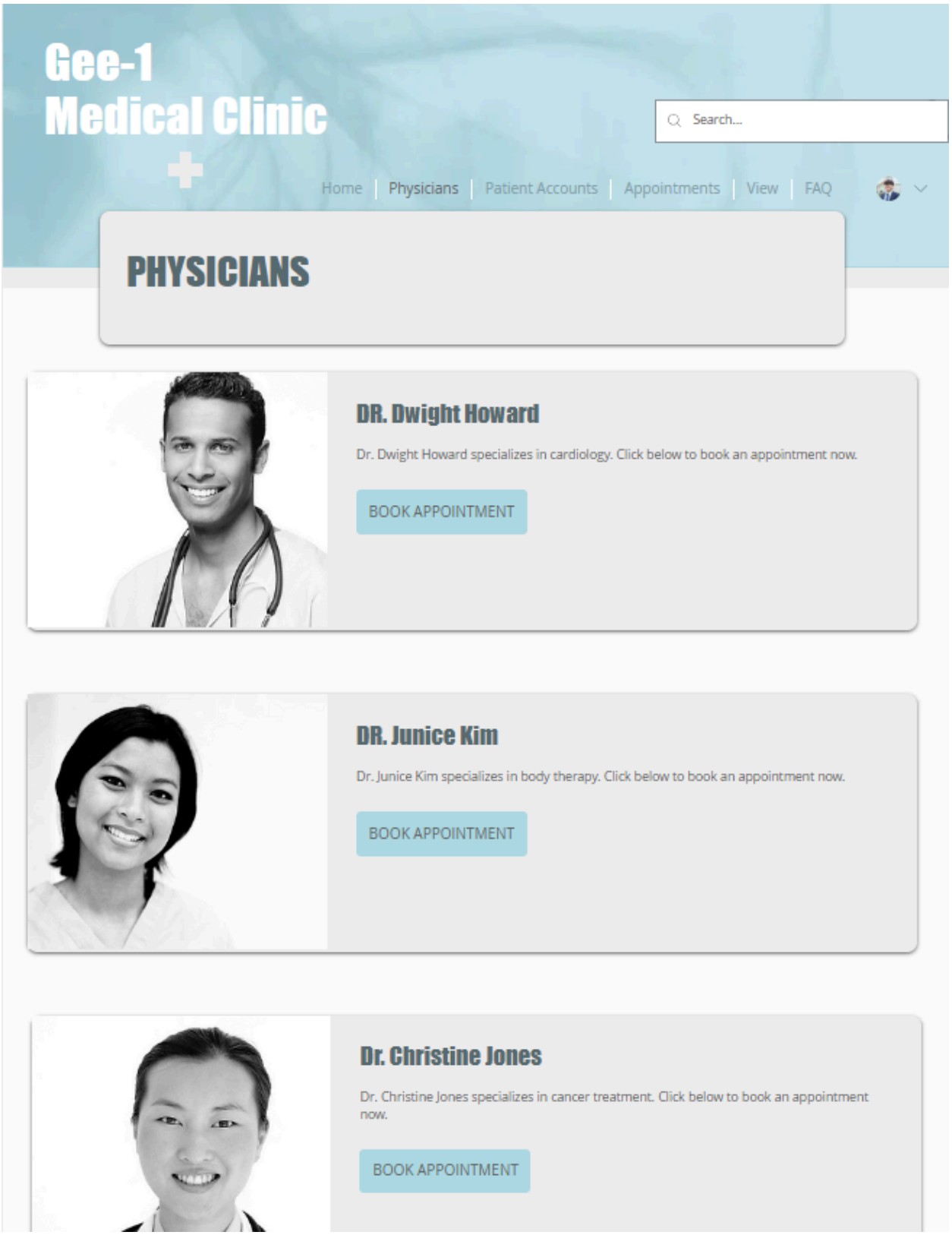
Create New Patient Account Form:



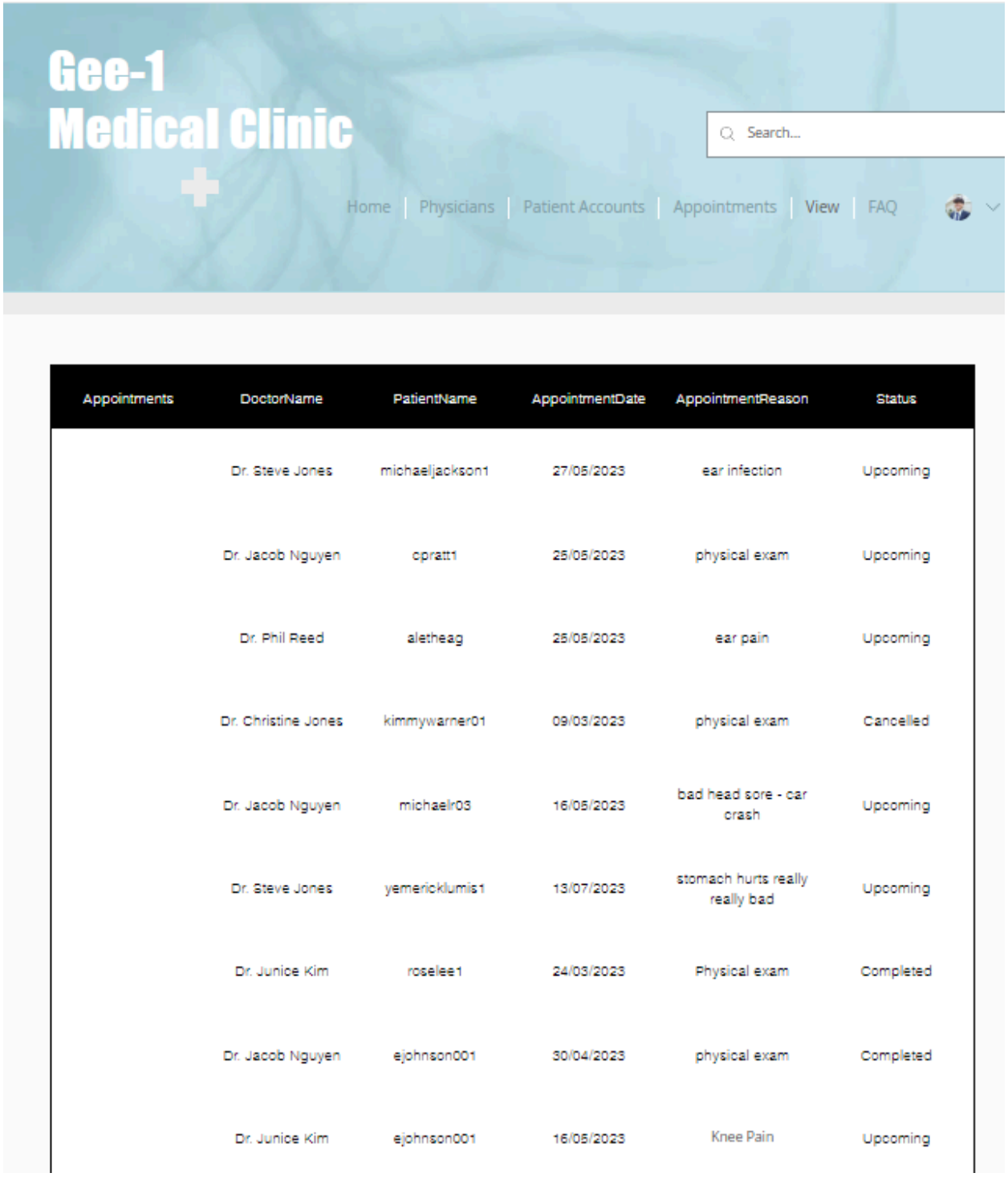
Book New Appointment:



Physicians Screen:

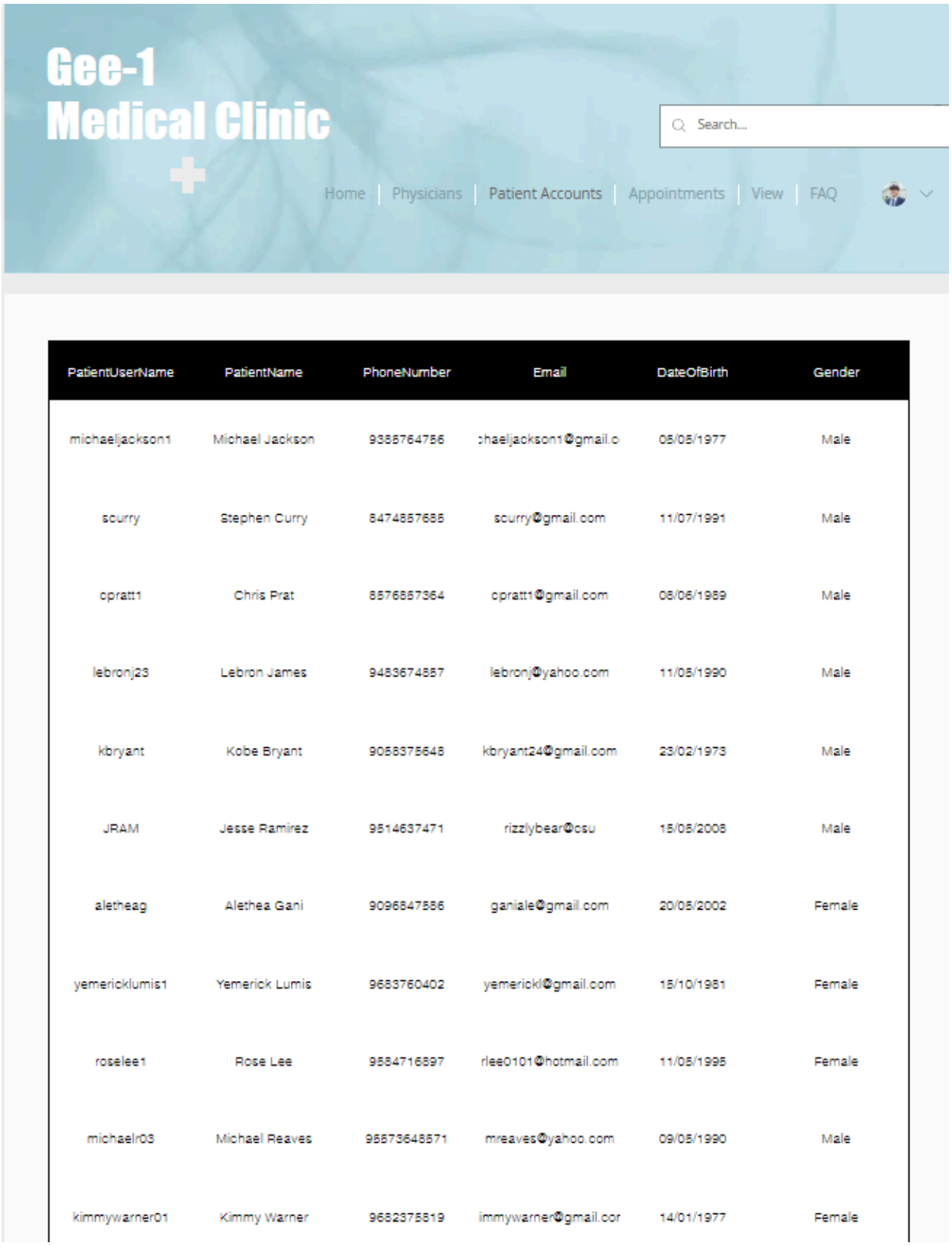


View All Appointments:



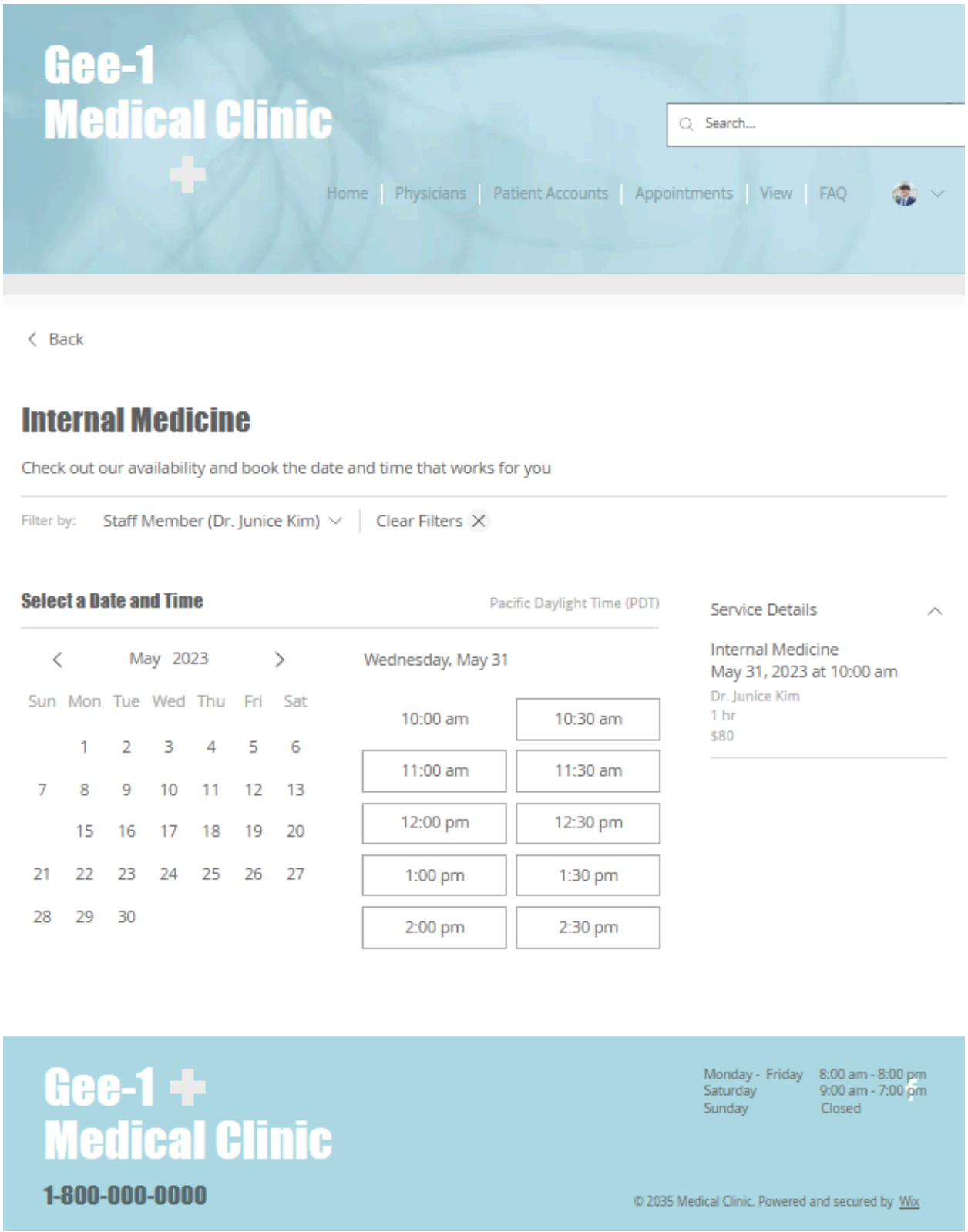
Appointments	DoctorName	PatientName	AppointmentDate	AppointmentReason	Status
	Dr. Steve Jones	michaeljackson1	27/05/2023	ear infection	Upcoming
	Dr. Jacob Nguyen	cpratt1	25/05/2023	physical exam	Upcoming
	Dr. Phil Reed	aletheag	25/05/2023	ear pain	Upcoming
	Dr. Christine Jones	kimmywarner01	09/03/2023	physical exam	Cancelled
	Dr. Jacob Nguyen	michaelr03	16/05/2023	bad head sore - car crash	Upcoming
	Dr. Steve Jones	yemericklumis1	13/07/2023	stomach hurts really really bad	Upcoming
	Dr. Junice Kim	roselee1	24/03/2023	Physical exam	Completed
	Dr. Jacob Nguyen	ejohnson001	30/04/2023	physical exam	Completed
	Dr. Junice Kim	ejohnson001	16/05/2023	Knee Pain	Upcoming

View Patient Accounts:

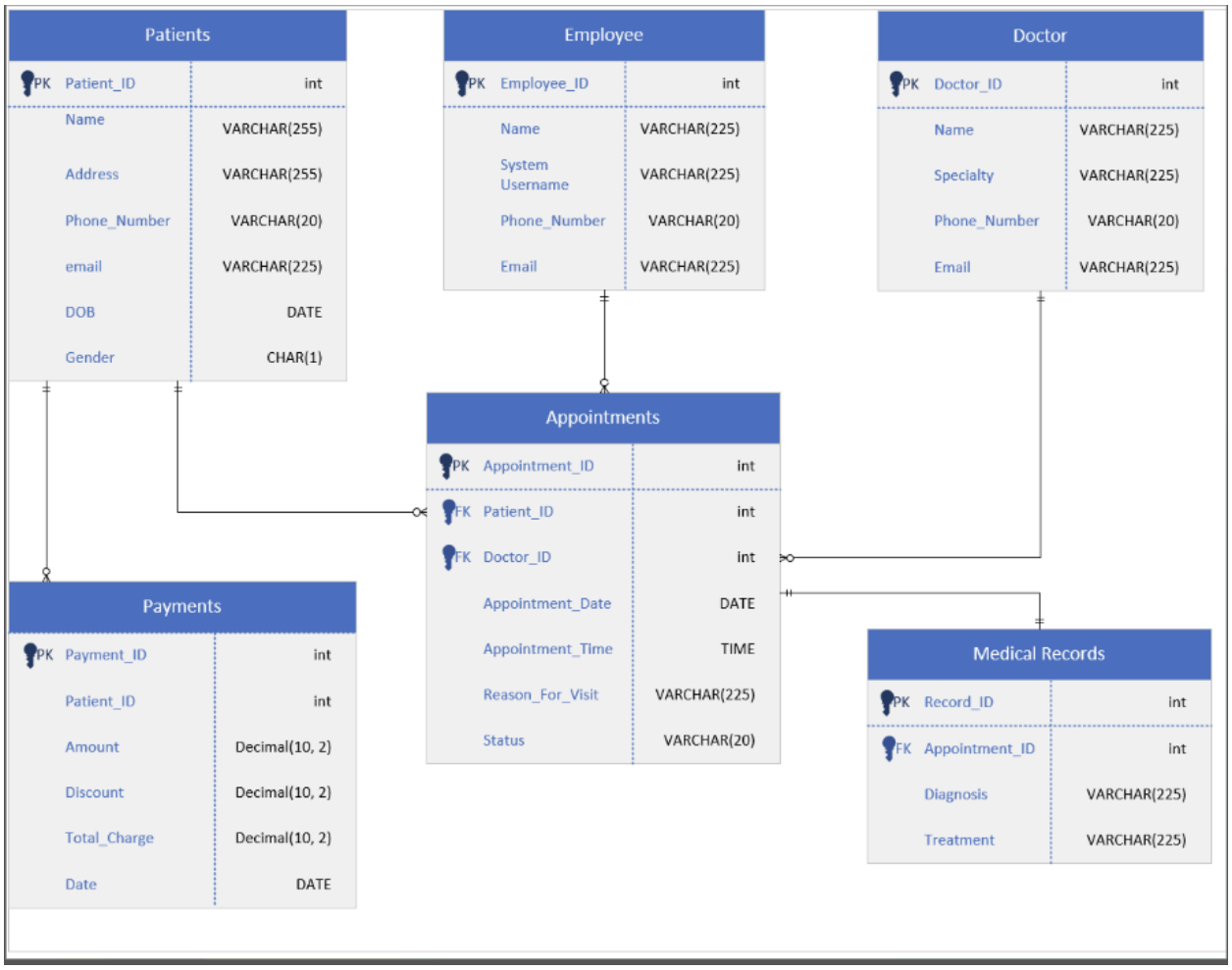


PatientUserName	PatientName	PhoneNumber	Email	DateOfBirth	Gender
michaeljackson1	Michael Jackson	9385764756	chaeljackson1@gmail.c	05/05/1977	Male
scurry	Stephen Curry	8474857655	scurry@gmail.com	11/07/1991	Male
cpratt1	Chris Prat	8576857364	cpratt1@gmail.com	08/06/1989	Male
lebronj23	Lebron James	9483674857	lebronj@yahoo.com	11/05/1990	Male
kbryant	Kobe Bryant	9058375648	kbryant24@gmail.com	23/02/1973	Male
JRAM	Jesse Ramirez	9514637471	rizzlybear@csu	15/05/2008	Male
aletheag	Alethea Gani	9096847586	ganiale@gmail.com	20/05/2002	Female
yemericklumis1	Yemerick Lumis	9683760402	yemerickl@gmail.com	15/10/1981	Female
roselee1	Rose Lee	9584716897	rlee0101@hotmail.com	11/05/1995	Female
michaelr03	Michael Reaves	95573648571	mreaves@yahoo.com	09/05/1990	Male
kimmywarner01	Kimmy Warner	9652375819	immywarner@gmail.cor	14/01/1977	Female

View Doctor Availability:



Physical ERD



Summary

Gee 1 Hospital developed a user-friendly appointment system to streamline operations, improve productivity, and reduce errors. The system captures and manages information on employees, patients, appointments, doctors, payments, and medical records. Medical clinic employees use the system to manage patients, appointments, payments, and track availability, while patients and other team members interact indirectly through system-generated emails. Employees can create, update, and view patient accounts, enabling personalized care based on medical history. The system allows for appointment scheduling, modification, and cancellation. It also facilitates the retrieval and secures sharing of medical records with doctors via encrypted emails. The rest of the report was dedicated to providing a deep dive into the proposed system and its features.

The system's functional requirements include employee authentication, patient management, appointment management, checking doctors' availabilities, report generation, and payment tracking. The non-functional requirements cover operational compatibility, performance, security measures, and adherence to industry norms/standards.

We decided to use WIX to implement and develop our website. Initially, we developed a SQL database to incorporate into WIX. However, unbeknownst to us at the time: WIX does not have SQL support/compatibility! Rather, WIX has its own database/data store system. WIX's data store design function isn't code/syntax-based like SQL. Instead, we have to input the information to create the tables manually through its UI. Since the WIX database is modeled after our SQL design, and we already put in the effort for SQL, explanations on our database from this point forth are about both WIX's and SQL databases and their project deliverables.

The database(s) enables Gee 1 Hospital to efficiently handle large amounts of data and ensure all data is up to date in order to deliver quality patient care. To ensure the hospital's data is of the utmost quality by eliminating redundancy and improving data integrity, the database was normalized by first identifying any functional dependencies and then further refined by separating the tables.

Gee 1 Hospital's SQL Database schema is comprised of 6 key tables: employees, patients, doctors, appointments, payments, and medical records. By splitting the data into multiple related tables, employees will be able to access the information they need quickly, thus expediting operations and their daily tasks.

Gee 1 Hospital's new system can perform various functions including creating and viewing patient accounts, booking, modifying, and canceling appointments and viewing room occupancy, doctor availability, and the master calendar. The use cases explained the aforementioned functions in detail. The system also features additional information such as a FAQ for the customer to view.

Logical dataflow diagrams were included to help visualize how data flows through the system. An interface structure diagram was included to give insight into the design consistencies/elements of the system's UI. Screenshots of the system prototype were included to give a sneak peek at the final design. Lastly, a physical ERD is included to show the details of the database design and relationships between the tables.