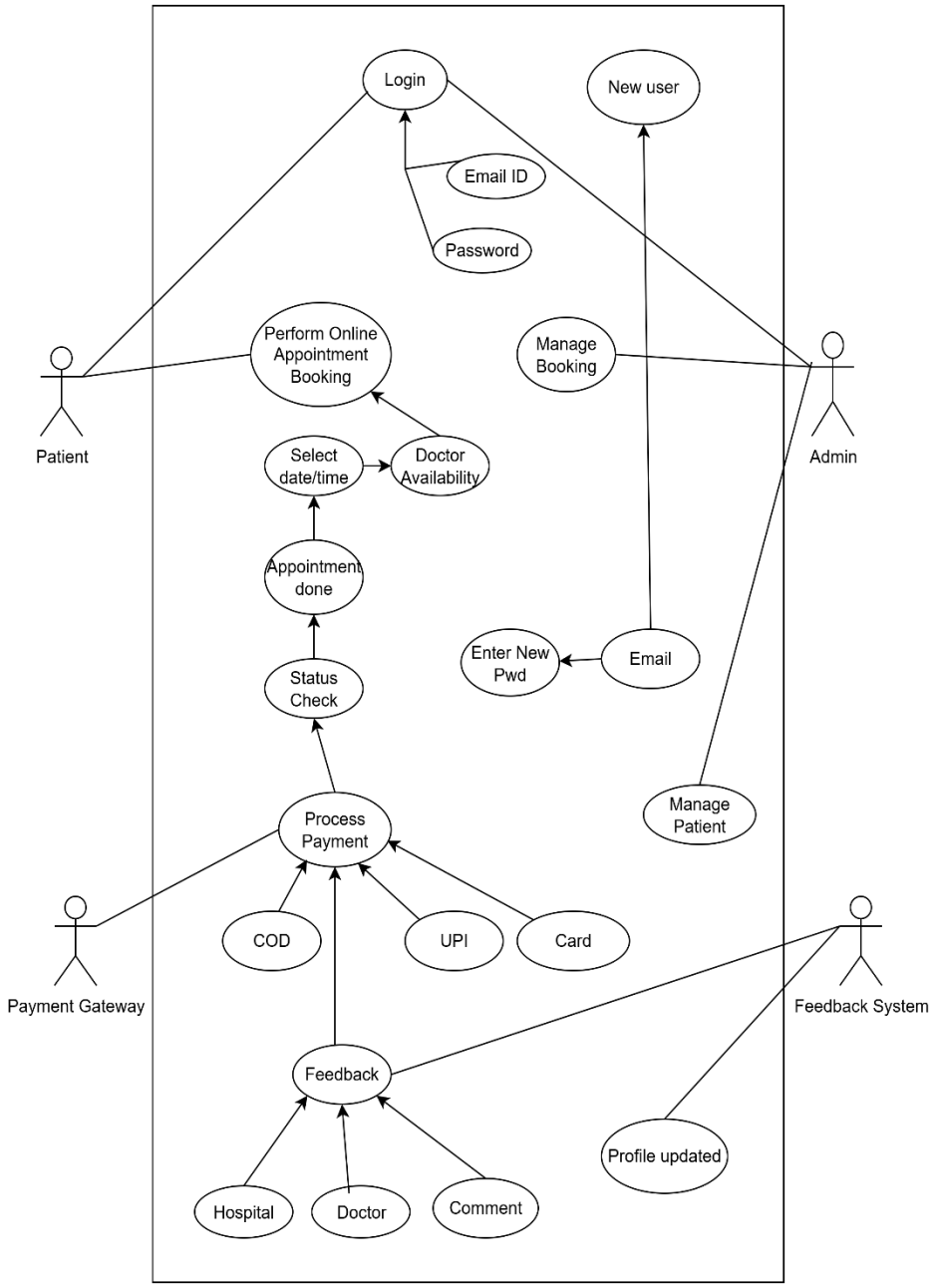
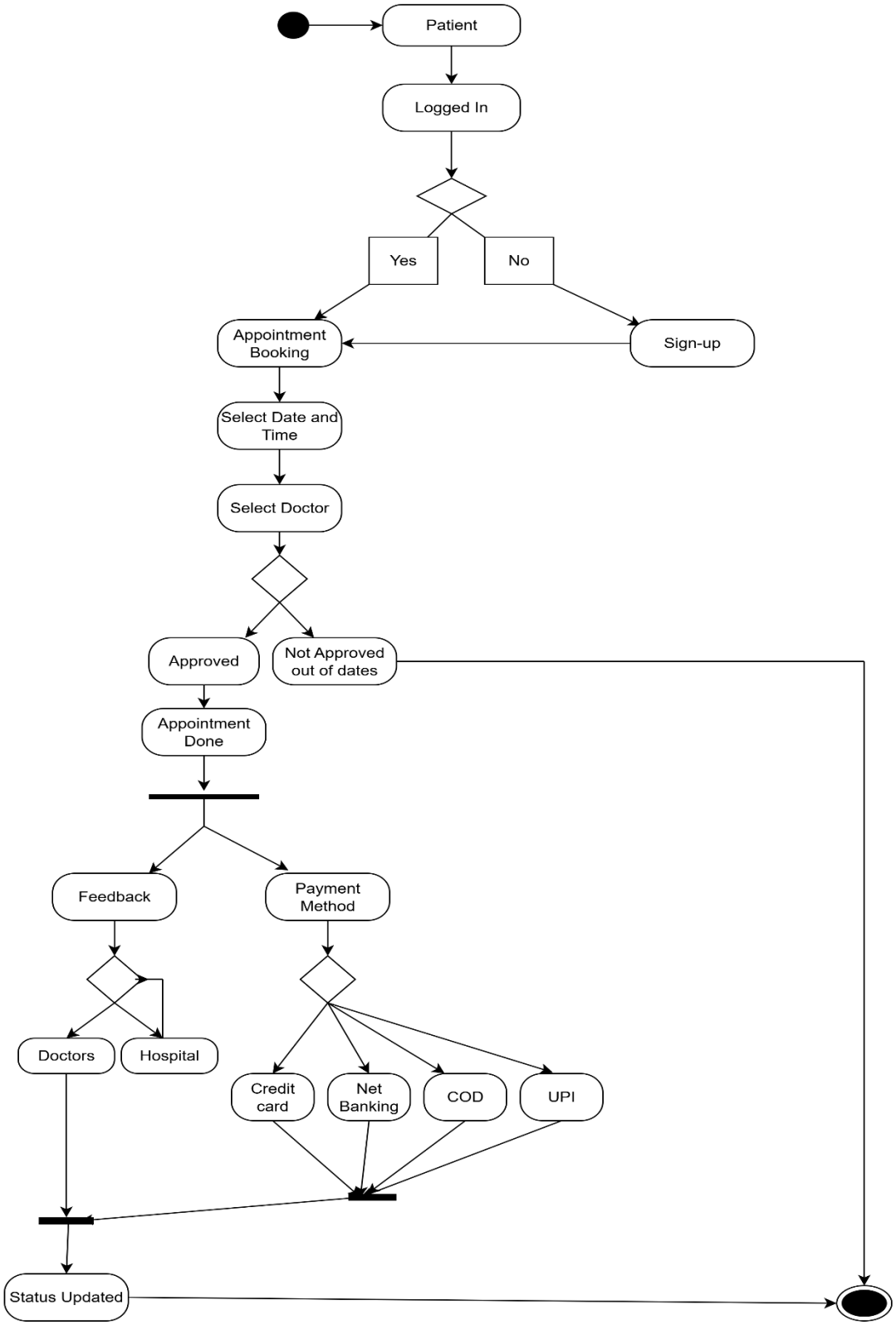
Document 6- Please prepare a use case diagram, activity diagram and a use case specification document.

Use case Diagram For (PAT)



Activity Diagram for PAT



Use Case Specifications -

1. **Patient Registration**

Field	**Details**
Use Case Name	Patient Registration
Use Case Description	Allows new Patient to create an account on PAT.
Actors	**Primary:** Patients **Secondary:** System (automated email service)
Basic Flow	1. patient clicks on "Sign Up". 2. Patient enters required details (name, email, password, etc.). 3. System validates inputs and creates an account. 4. System sends an email verification link. 5. patient verifies email and account is activated.
Alternate Flow	If the Patient does not verify their email, the account remains inactive.
Exceptional Flow	If the email is already registered, an error message is displayed.
Pre-Conditions	Patient must have a valid email and internet access.
Post-Conditions	Account is created, and the patient can log in.
Assumptions	Patient provide correct information.
Constraints	Password must meet security guidelines.
Dependencies	Email verification service.
Inputs and Outputs	**Input:** patient details **Output:** Account confirmation email
Business Rules	Duplicate emails are not allowed.
Miscellaneous Information	None

2. **Patient Login**

Field	Details
Use Case Name	Patient Login
Use Case Description	Allows registered Patient to log in.
Actors	**Primary:** Patients **Secondary:** System (to verify credentials and manage sessions)
Basic Flow	1. Patient enters email and password. 2. System validates credentials. 3. Patient is redirected to the home page.
Alternate Flow	If the Patient forgets their password, they can reset it.
Exceptional Flow	If credentials are incorrect, an error message is shown.
Pre-Conditions	Patient must be registered.
Post-Conditions	Patient is logged in successfully.
Assumptions	Patient remember their credentials.
Constraints	Password retry limit: 3 attempts.
Dependencies	Authentication system.
Inputs and Outputs	**Input:** Login credentials **Output:** User authentication status
Business Rules	Locked out after 3 failed attempts.
Miscellaneous Information	All login attempts (both successful and failed) must be logged with a timestamp and IP address for security auditing purpose.

3. Patient appointment booking.

Field	Details
Use Case Name	Book a New Appointment
Use Case Description	Allow registered patient to book an appointment
Actors	**Primary:** Patient **Secondary:** System (the Backend application handling logic and data)
Basic Flow	1. Patient navigate to the "Book Appointment" section of the application 2. Patient selects the available time slots 3. The Patient Confirms the booking.
Alternate Flow	If no results are found, Patients select upcoming appointments and choose reschedule.
Exceptional Flow	If Dates are locked, system finds no available slots for the selected creteria.
Pre-Conditions	The patient must be a registered user of the application
Post-Conditions	Patient's appointment record is created in the system with a Book Status.
Assumptions	Healthcare providers manage their availability calenders within the system, and this data is accurate and up to date.
Constraints	Appointments can only be booked during the providers define working hours
Dependencies	To verify the patient's login status
Inputs and Outputs	**Input:** Patient user ID **Output:** Appointment confirmation number
Business Rules	A patient can only have one upcoming appointment per doctor per day.
Miscellaneous Information	Search for available slots should return results in less than 3 sec.

4. Patient Appointment Tracking

Field	Details
Use Case Name	Track Patient appointment
Use Case Description	Patient allows to view the details, status, and real-time progress of their upcoming and past schedule appointment.
Actors	**Primary:** Patient **Secondary:** System (Automatically updates status based on inputs from staff system)
Basic Flow	1. The Patient Navigates to the “My Appointment” section 2. The patient selects the upcoming appointment they wish to track 3. The system display appointment tracking screen
Alternate Flow	The real time tracking elements are not shown. The system displays the final details of the appointment, including its status, summary.
Exceptional Flow	Unauthorized access of person Access gets denied
Pre-Conditions	Patient must have registered and verified account on application
Post-Conditions	Patient is informed about the current status and progress of their appointment.
Assumptions	The patient understands the common status used in the tracking process.
Constraints	The application must comply with healthcare data regulation
Dependencies	User Authentication
Inputs and Outputs	**Input:** Patient user ID **Output:** Current appointment status
Business Rules	Patient can only view the status of their own appointment
Miscellaneous Information	The appointment tracking screen should load in under 3 sec.

5. Checkout and Payment

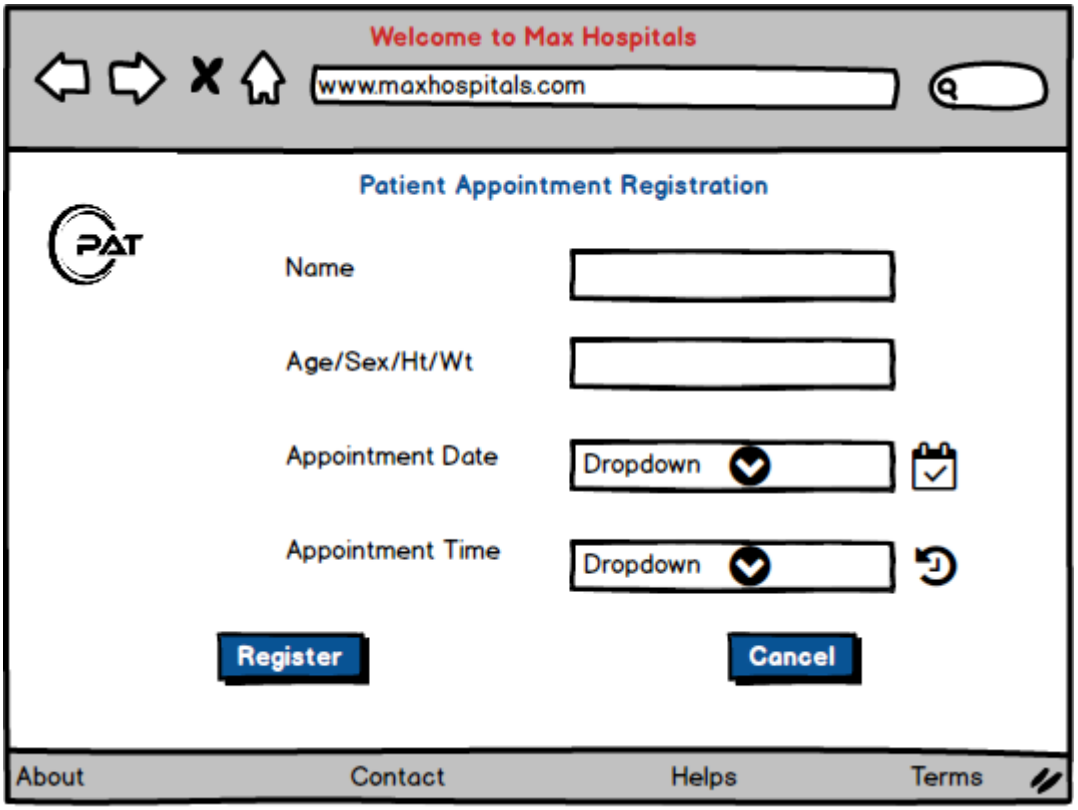
Field	Details
Use Case Name	Patient Checkout and Payment
Use Case Description	Patient complete visit and system calculating the amount /due
Actors	**Primary:** Front desk staff **Secondary:** Patient
Basic Flow	1. Patient proceeds to checkout. 2. Enters Payment details. 3. Selects payment method. 4. Completes payment.
Alternate Flow	If the payment fails, user can retry.
Exceptional Flow	If internet disconnects, transaction is canceled.
Pre-Conditions	User must have valid payment details.
Post-Conditions	The appointment status is updated to complete
Assumptions	Payment gateway is working.
Constraints	Payment processing time: < 10 seconds.
Dependencies	Payment service provider.
Inputs and Outputs	**Input:** Patient ID/ Appointment ID **Output:** Calculate amount due.
Business Rules	Secure payment required.
Miscellaneous Information	Credit card no. should not be stored in the system primary database.

6. Manage Appointments

Field	Details
Use Case Name	Manage Patient Appointment
Use Case Description	Allows admins to manage and cancel the appointments within the system, ensures appointment schedule efficiently, avoiding conflicts.
Actors	**Primary:** Hospital staff **Secondary:** Patient
Basic Flow	1. Admin logs into the system. 2. Admin navigates to the "Manage Appointment" section. 3. Admin views the appointment list 4. Admin selects an Appointment to update status. (Re-schedule efficiently) 5. If needed, admin can cancel Appointments and reschedule it with contact with patient. 6. Admin confirms the changes, and the system updates Appointment status.
Alternate Flow	If a Patient requests cancellation of Appointment, the admin reviews and approves or denies it.
Exceptional Flow	If the Patient ID is invalid, an error message is displayed. If the system fails to update Appointment status, an error log is generated.
Pre-Conditions	Admin must have the necessary access permissions. Appointments dates must be available in the system.
Post-Conditions	Appointment status is updated, and Patients receive notifications.
Assumptions	Admin has accurate Appointment details. Doctors have defined their working hours and availability in the system.
Constraints	Appointments history must be kept for a minimum 5 years.
Dependencies	To verify patient, identify and details
Inputs and Outputs	**Input:** Patient identifier, Doctor Identifier, Desired date and time. **Output:** Appointment confirmation details, success/errors messages.
Business Rules	Only admins with proper permissions can modify Appointments. An appointment must get schedule at least 24 hours in advanced.
Miscellaneous Information	Searching for available slots must be highly optimized to handle peak loads.

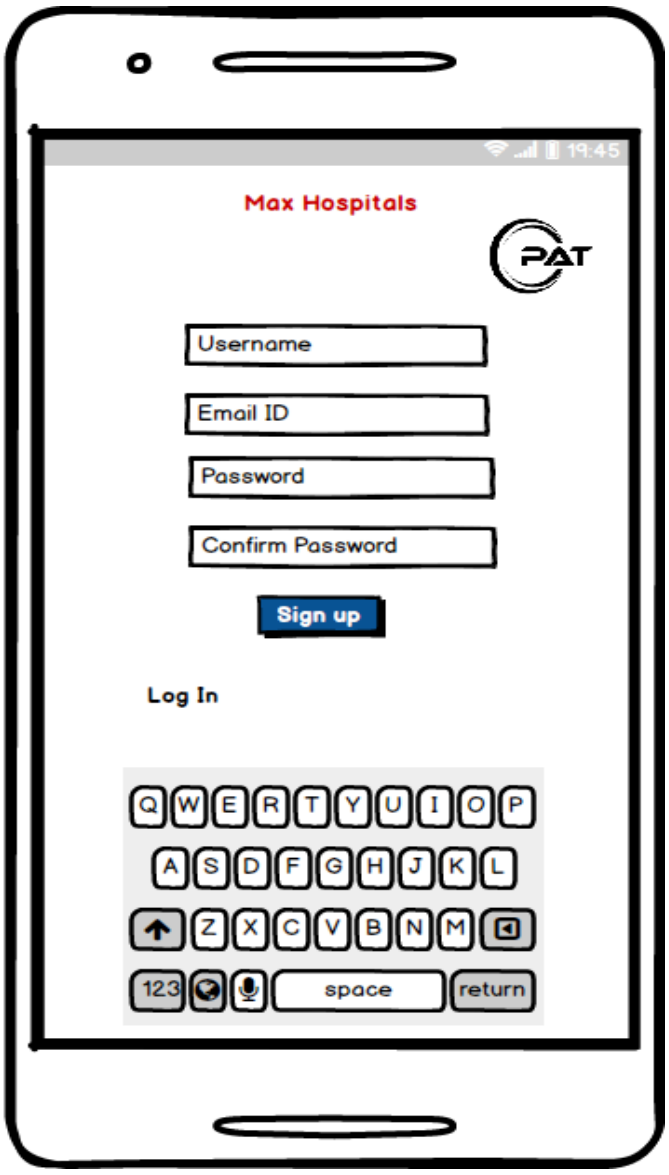
Document 7- Screens and pages

Home Page

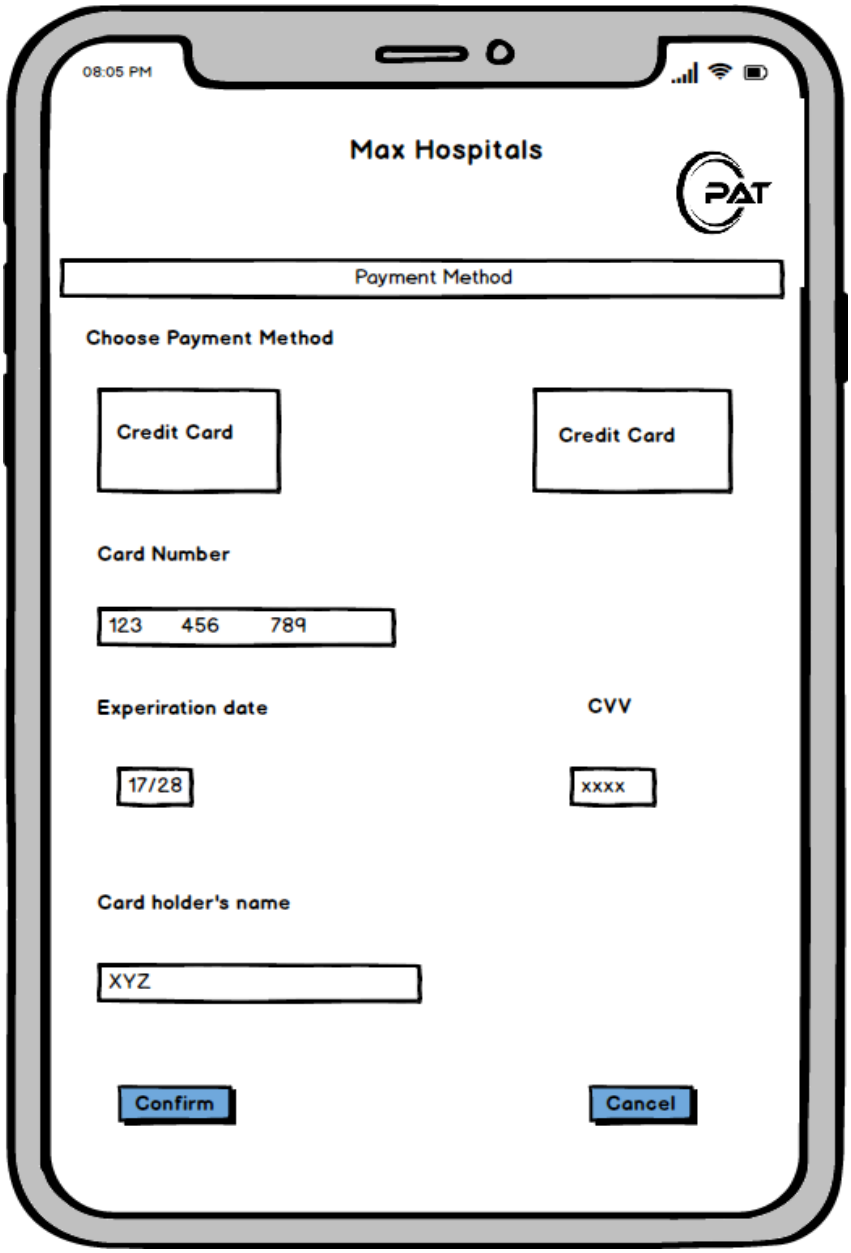


Login Page

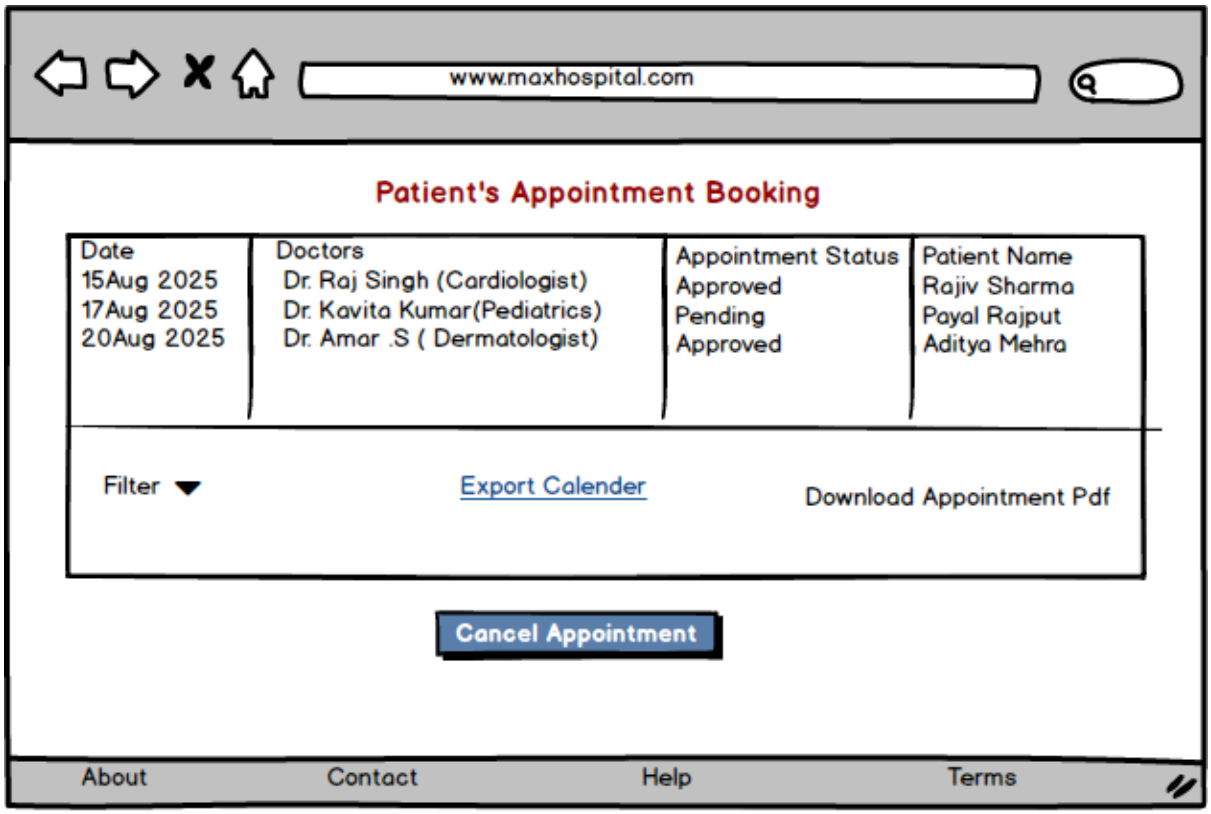

www.maxhospital.com
Welcome to Max hospitals
LOGIN
Patient ID
Mobile No./ Email
Password
Forget pwd?
About
Contact
Help
Terms


19:45
Max Hospitals
PAT
Username
Email ID
Password
Confirm Password
Sign up
Log In
Q W E R T Y U I O P
A S D F G H J K L
Z X C V B N M
123
space
return

Payment page



Add to cart / Patient Appointment booking



Document 8- Tools-Visio and Axure

I used Visio and Axure for the project. Visio helped me draw diagrams and flowcharts. It was easy to put shapes and lines together to show how things work. Axure let me make prototypes of the app. I created screens and buttons that looked real. Both tools were simple to use and made my work easier.

When I am working on a project, tools like Visio and Axure help me a lot. They make it easy to share ideas and plans with others.

Document 9- BA experience

My experience as BA in following phases:

1. Requirement Gathering

1. Conducted stakeholder meetings using MoSCoW prioritization and FURPS validation.
2. Created the Business Requirement Document (BRD) and gathered inputs via prototyping.
3. Managed stakeholder unavailability by sourcing alternative contacts.

Challenges:

Handled requirement conflicts through impact analysis.

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2. Requirement Analysis

1. Created Use Case Diagrams, Activity Diagrams, and RTM to track requirements.
2. Finalized functional/non-functional requirements in the Functional Specification Document (FSD).
3. Conducted peer reviews to align with stakeholders.

Challenges:

Managed mid-phase requirement changes via structured Change Requests (CRF).

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3. Design

1. Collaborated with UI/UX designers using Axure to create wireframes & mockups.
2. Ensured easy navigation, accessibility, and responsive UI in the design phase.
3. Created test case scenarios from Use Case Diagrams.

Challenges:

Balanced UI expectations vs. technical feasibility through discussions with designers & developers.

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4. Development

1. Conducted JAD sessions to ensure alignment between business and tech teams.
2. Verified business rules implementation and assisted in payment gateway integration.
3. Regularly reviewed progress and provided feedback.

Challenges:

Addressed misinterpretation of requirements through daily standups.

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5. Testing

1. Created test cases from use cases and ensured full functional coverage.
2. Assisted QA team with testing and conducted UAT with stakeholders.
3. Verified error handling & security measures before deployment.

Challenges:

Managed post-UAT defect fixes with a prioritized bug resolution approach.

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6. Deployment

1. Coordinated training sessions & user manuals for smooth onboarding.
2. Ensured compliance with GDPR & PCI DSS before launch.
3. Planned post-deployment monitoring and resolved user adaptation challenges.

Challenges:

Addressed post-launch bugs via a structured tracking system.