**Sysadmin Adds Internal Users**

Functionality: Add new users to the system (doctors, pharmacists, receptionists, lab workers).

Constraints: Role-based access control, validate unique identifiers, enforce secure password policies.

**Sysadmin Removes Internal Users**

Functionality: Remove existing users from the system.

Constraints: Ensure no active tasks are assigned to the user, log all deletions.

**Sysadmin Modifies Internal User Data**

Functionality: Update internal user information.

Constraints: Maintain audit logs, validate data integrity.

**Sysadmin Removes Patients**

Functionality: Remove patient records from the system.

Constraints: Ensure compliance with data retention policies, maintain audit logs.

**Sysadmin Manages Medicine Types**

Functionality: Add, update, or delete medicine types in the system.

Constraints: Ensure medicine data integrity, update inventory systems accordingly.

**Sysadmin Views Internal User Data**

Functionality: View information of internal users.

Constraints: Cannot view associated patient medical history or report data, maintain audit logs.

**Sysadmin Views Logs**

Functionality: Access system logs for monitoring and auditing purposes.

Constraints: Ensure logs are read-only, implement proper search and filter capabilities.

**Patient Signs on with NIC or Guardian's NIC**

Functionality: Register an account using their National Identity Card (NIC) or guardian’s NIC if a minor.

Constraints: Validate NIC, ensure guardian consent for minors, secure data storage.

**Patient Signs In with NIC**

Functionality: Authenticate using their NIC.

Constraints: Implement secure authentication mechanisms, session management.

**Patient Views Patients Associated with NIC**

Functionality: View other patients (e.g., minors) linked to their NIC.

Constraints: Ensure proper authorization, comply with privacy regulations.

**Patient Views Medical Reports**

Functionality: Access their medical reports.

Constraints: Secure data access, ensure data accuracy, comply with HIPAA or relevant regulations.

**Patient Views Medical History Data**

Functionality: View their medical history.

Constraints: Secure data access, ensure data accuracy, comply with HIPAA or relevant regulations.

**Patient Views Appointment History**

Functionality: View their past appointments.

Constraints: Secure data access, maintain accurate records.

**Patient Views Prescriptions**

Functionality: Access their prescriptions.

Constraints: Secure data access, ensure prescriptions are up to date.

**Patient Views Billing History**

Functionality: View their billing and payment history.

Constraints: Secure data access, ensure accurate billing records.

**Patient Books an Appointment**

Functionality: Schedule a new appointment with a doctor.

Constraints: Check doctor availability, prevent double bookings, send notifications.

**Patient Cancels an Appointment**

Functionality: Cancel an existing appointment.

Constraints: Implement cancellation policy, notify doctor.

**Patient Changes Information**

Functionality: Update their personal information.

Constraints: Validate data integrity, maintain audit logs.

**Patient Deletes Account**

Functionality: Remove their account from the system.

Constraints: Ensure compliance with data retention policies, maintain audit logs.

**Patient Sends Query to Sys Admins**

Functionality: Submit queries or issues to system administrators.

Constraints: Implement secure messaging, maintain response logs.

**Doctor Schedules a Time Slot**

Functionality: Set available time slots for appointments.

Constraints: Ensure no overlapping schedules, update availability in real-time.

**Doctor Removes a Scheduled Time Slot**

Functionality: Remove previously set available time slots.

Constraints: Notify affected patients, update availability in real-time.

**Doctor Attends to Patients**

Functionality: Mark appointments as attended.

Constraints: Real-time status updates, ensure accurate record-keeping.

**Doctor Updates Patient Appointment**

Functionality: Update the status or details of patient appointments.

Constraints: Notify patients of changes, maintain accurate records.

**Doctor Issues Lab Diagnostic Request**

Functionality: Request lab diagnostics for patients.

Constraints: Ensure proper authorization, notify lab workers.

**Doctor Views Patient Medical History**

Functionality: Access patient medical history.

Constraints: Secure data access, comply with privacy regulations.

**Doctor Updates Patient Medical History Data**

Functionality: Update medical history records for patients.

Constraints: Ensure data accuracy, maintain audit logs.

**Doctor Views Patient Lab Reports**

Functionality: Access lab reports of patients.

Constraints: Secure data access, ensure timely updates.

**Doctor Accepts or Rejects Report**

Functionality: Review and accept or reject lab reports.

Constraints: Notify lab workers, maintain accurate records.

**Doctor Provides New Prescription**

Functionality: Issue new prescriptions for patients.

Constraints: Ensure prescription legality, notify pharmacists.

**Doctor Renews Prescription**

Functionality: Renew existing prescriptions.

Constraints: Check patient medical history, ensure no conflicts with current medications.

**Doctor Modifies Existing Prescription**

Functionality: Update details of existing prescriptions.

Constraints: Notify patients and pharmacists, maintain accurate records.

**Doctor Removes Prescription**

Functionality: Delete an existing prescription.

Constraints: Notify patients and pharmacists, maintain audit logs.

**Doctor Sends Query to Sys Admins**

Functionality: Submit queries or issues to system administrators.

Constraints: Implement secure messaging, maintain response logs.

**Pharmacist Accepts Prescription**

Functionality: Verify and accept prescriptions from doctors.

Constraints: Check prescription validity, update status.

**Pharmacist Issues Medicine**

Functionality: Dispense prescribed medications to patients.

Constraints: Ensure accurate records, comply with pharmacy regulations.

**Pharmacist Issues Bill**

Functionality: Generate and issue bills for dispensed medications.

Constraints: Ensure accurate billing, update patient billing records.

**Pharmacist Rejects Prescription and Leaves Comment to Doctor**

Functionality: Reject a prescription with a reason and notify the doctor.

Constraints: Ensure clear communication, maintain audit logs.

**Pharmacist Accepts New Inventories**

Functionality: Receive and log new inventory items.

Constraints: Update inventory records, ensure proper storage.

**Pharmacist Marks Items to Dispose**

Functionality: Identify and mark expired or damaged items for disposal.

Constraints: Follow disposal regulations, update inventory records.

**Pharmacist Sends Query to Sys Admins**

Functionality: Submit queries or issues to system administrators.

Constraints: Implement secure messaging, maintain response logs.

**Lab Worker Issues Report**

Functionality: Generate and update lab test reports for patients.

Constraints: Ensure data accuracy, notify relevant doctors.

**Lab Worker Updates Patient Billing Information**

Functionality: Update billing details for lab services.

Constraints: Ensure accurate billing records, notify patients.

**Lab Worker Sends Query to Sys Admin**

Functionality: Submit queries or issues to system administrators.

Constraints: Implement secure messaging, maintain response logs.

**Receptionist Marks Patients as Arrived**

Functionality: Check in patients for their appointments.

Constraints: Real-time status updates, verify patient identity.

**Receptionist Collects Payments**

Functionality: Process payments for services.

Constraints: Secure handling of payment information, update billing records.

**Receptionist Updates Patient Billing Information**

Functionality: Modify patient billing details.

Constraints: Ensure accurate records, notify patients.

**Receptionist Marks Patient as Served**

Functionality: Update status to indicate patient has been served.

Constraints: Real-time status updates, maintain accurate records.

**Receptionist Sends Query to Sys Admins**

Functionality: Submit queries or issues to system administrators.

Constraints: Implement secure messaging, maintain response logs.