

FINAL PROJECT: HOSPITAL MANAGEMENT SYSTEM

GROUP: 57

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Problem Statement:

Healthcare systems face significant challenges in managing diverse operational tasks such as patient care, diagnostics, appointment scheduling, and medicine stock tracking. The absence of an integrated platform often leads to inefficiencies, communication breakdowns, and delayed services. A lack of role-specific systems to address community health, lab diagnostics, IT troubleshooting, and pharmacy administration further exacerbates the problem. These issues hinder the ability of hospitals and healthcare networks to provide effective and timely care.

Solution Statement:

The Hospital Management System is a Java Swing-based desktop application that offers an integrated platform to manage healthcare operations seamlessly. The system provides role-specific functionalities for various stakeholders in a hospital ecosystem, ensuring streamlined communication and enhanced service delivery.

Admin Module:

- Manage doctors, patients, hospitals, and communities.
- Facilitate the addition and management of key stakeholders.

Doctor Module:

- View appointments.
- Access and update patients' vital signs and history.

Patient Module:

- View personal medical history.
- Book appointments with doctors.

Community Manager Module:

-Add and manage community households for effective public health monitoring.

Receptionist Module:

-Handles appointments, doctor and patient schedules, etc.

Staff Manager Module:

-Manage schedules of overall hospitals staff

-Also manages the list of staff's personal details

Pharmacy Module:

-Track and manage medicine stock details.

IT Technician Module:

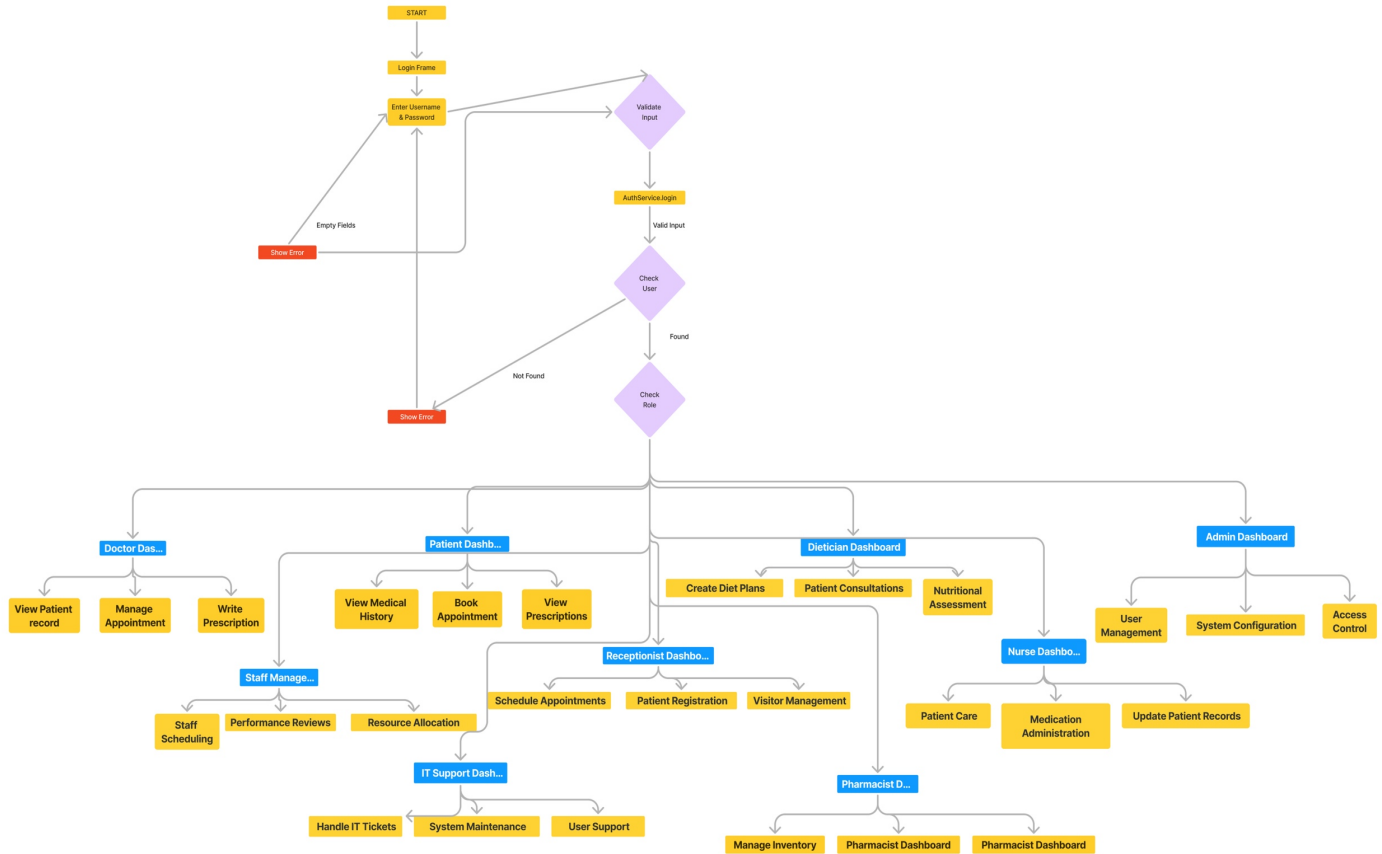
- Resolving software and hardware issues

Dietician Role:

- based on the patient's condition

-the dietician can prescribe a diet to the patient based on a fixed table of contents

Flow Diagram:



ROLES: System login, Doctor login, Patient login, Community login, Lab Technician, IT Support, Pharmacy management, Dietician, Staff management, receptionist login

- **Admin Login:** Manages hospitals, communities, doctors, and patients.
 - **Use Cases:**
 - Adding new patients to the system.
 - Adding new hospital to the system.
 - Adding new doctors to the system.
 - Adding new community to the system.
- **Doctor Login:** Enables healthcare providers to view appointments and access patient vital signs history.
 - **Use Cases:**
 - Reviewing patient data for diagnosis.

- Managing and scheduling appointments efficiently.
- Accessing vital sign trends to inform medical decisions.
- **Patient Login:** Empowers patients to book appointments, view their medical history.
 - **Use Cases:**
 - Scheduling consultations with doctors.
 - Accessing and updating historical medical records.
- **Community Login:** Supports localized community health management.
 - **Use Cases:**
 - Tracking community-level health metrics.
 - Managing data for public health initiatives like vaccination drives.
- **Receptionist Login:** Focuses on scheduling correctness of appointment and handling communication between doctor and patient.
 - **Use Cases:**
 - Managing communication required between doctor and patient.
- **Pharmacy Management:** Manages medication supplies for hospitals.
 - **Use Cases:**
 - Tracking and updating stock levels of medicines.
- **Staff Manager Login:** Handles overall hospital staff schedule for patients.
 - **Use Cases:**
 - Managing schedules of HMS to avoid conflict for patients.
- **IT Support Role:** Maintains and troubleshoots technical issues of the HMS.
 - **Use Cases:**
 - Resolving software and hardware issues.
 - Managing system updates and backups.
- **Dietician Role:**
 - **Use Cases:**
 - based on the patient's condition
 - The dietician can prescribe a diet to the patient based on a fixed table of contents

Healthcare Systems and Providers:

- Local/regional hospital networks
- Community health clinics
- Private healthcare providers

Professional Associations:

- American Hospital Association (AHA)
- Medical associations (e.g. American Medical Association)
- Nursing associations

Government/Regulatory Agencies:

- Centers for Medicare & Medicaid Services (CMS)
- State/local health departments
- Healthcare accreditation bodies

Technology Vendors:

- Electronic health record (EHR) software companies
- Hospital information system providers
- Telehealth/telemedicine platforms

Patient/Community Organizations:

- Local patient advocacy groups
- Community centers
- Senior citizen organizations

Pharmaceutical Companies:

- Partnering with hospitals to ensure medicine availability.
- Supporting research for new medical treatments.
- Offering training on proper medication use to healthcare staff.