STEP-CARE

HOSPITAL MANAGEMENT SYSTEM

By Kumari Pallavi Dwivedi
Interaction Design, B.Des 2021- 25

Faculty Guide - Pritam Singh

Sponsor- STEP-CONSULTANCY

JK Lakshmipat University

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JK LAKSHMIPAT UNIVERSITY
Institute of Design
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Hospital Management System
Based Digital Ecosystem for Indian Hospitals

Vol. 1/1

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Programme :

Bachelor of Design (B.Des)
Interaction Design

THE GRADUATION PROJECT 2025

The Evaluation Jury has recommended **Kumari Pallavi Dwivedi**
for graduation from **Institute of Design, JK LAKSHMIPAT UNIVERSITY**
with specialisation in **Interaction Design**

Herewith, for the project titled “Full Title with Subtitles”
on fulfillment of requirement by

Jury Chairman

Jury Member

Jury Member

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Date **10 June 2025**

Place **Areraj, East Champaran, Bihar**

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Student Name in Full **Kumari Pallavi Dwivedi**

Signature

Date **10 June 2025**

01

Project proposal

- Define the core problem in existing hospital systems.
- Set the objective of building a streamlined, patient-centric hospital management system.
- Highlight expected outcomes

02

Project Methodology

- Requirement Gathering.
- User Research
- Design Thinking

03

Research & analysis

- Deep dive into how hospitals currently manage operations.
- Collect data from user interviews and surveys.
- Study competitor systems or existing hospital software.
- Identify gaps

04

Ideation & development

- Brainstorm solutions
- Begin actual development

05

UI Design

- Create high-fidelity UI screens.
- Ensure accessibility, clarity, and smooth user experience.

06

Future Scope

07

Learning

ACKNOWLEDGMENT

Acknowledgment
This project report is a culmination of my work on Step-Care: Hospital Management System, developed as part of a collaborative and research-intensive endeavor. This project has provided me with invaluable hands-on experience in understanding real-world hospital operations and translating those insights into a digital solution through thoughtful design and system thinking.

I would like to express my sincere gratitude to **Mr. Sanskar Dubey**, **Founder of Step Consultancy**, for providing me with this opportunity and for his consistent support and guidance throughout the project. His vision and practical insights played a critical role in shaping the direction of this system.

I am deeply thankful to **Mr. Pritam Singh, my faculty guide**, for his mentorship and constant encouragement at every stage of this journey. His feedback and advice helped refine my approach and pushed me toward more strategic design thinking.

My heartfelt thanks also go to the employees of Step Consultancy, who contributed their time, shared their experiences, and helped me understand the real challenges within hospital administration and operations. Their practical inputs were vital in grounding the features and flow of the system in reality.

Lastly, I am truly grateful to my family and friends for their unwavering support, motivation, and patience during the entire course of this project. Their belief in me gave me the strength to pursue and complete this endeavor with dedication.

This project would not have been possible without the collective support of all these individuals.

-Thank you

PROJECT SYNOPSIS

Overview:
This project aims to address the deeply rooted operational, ethical, and communication challenges within Indian hospitals by designing a phased, digital-first Hospital Management System (HMS). The focus is on reducing manual workload, improving stakeholder experience, and building a scalable digital foundation starting with private hospitals.

Problem Statement:
India's hospitals, especially private institutions, suffer from inefficiencies like task duplication, poor visibility, manual workflows, and emotional burnout among staff. Stakeholders such as receptionists, doctors, and admins operate under pressure with limited real-time tools, resulting in delays, miscommunication, and at times, unethical practices.

Objective:
To digitize hospital workflows, starting with a user-friendly system that:

- Minimizes manual effort
- Streamlines outpatient and resource tasks
- Improves visibility for operational decisions
- Empowers key stakeholders with role-specific tools

Methodology:

- Qualitative research: Stakeholder interviews, observational studies, and field-based insights
- System design: UX-focused dashboards, process mapping, and digitization flows
- Use case modeling: Focusing on real hospital pain points like time-wasting, repetitive tasks, delayed communication, and admin overload

Key Innovations:

- Designed with non-technical hospital staff in mind
- Grounded in human-centered insights, not just technical optimization
- Emphasizes ethical care, transparency, and mental well-being in healthcare systems
- Built on the principle that even small tech interventions can trigger large systemic improvements

Expected Impact:

- Faster patient onboarding and reduced wait times
- Less friction between departments
- Higher satisfaction among doctors and staff
- Better decision-making through real-time data visibility

Project
Proposal

BRIEF :

Designing a Hospital Management System means creating an integrated digital platform that simplifies patient care, staff coordination, and administrative tasks. It ensures smooth, error-free operations by connecting departments like OPD, IPD, pharmacy, billing, and diagnostics

LITERATURE REVIEW

Designing a Hospital Management System means creating an integrated digital platform that simplifies patient care, staff coordination, and administrative tasks. It ensures smooth, error-free operations by connecting departments like OPD, IPD, pharmacy, billing, and diagnostics

OBJECTIVES

Designing a Hospital Management System means creating an integrated digital platform that simplifies patient care, staff coordination, and administrative tasks. It ensures smooth, error-free operations by connecting departments like OPD, IPD, pharmacy, billing, and diagnostics

DELIVERABLES

System Understanding & Simplification

- Studied existing complex processes
- Identified usability bottlenecks
- Simplified workflows for better user interaction

UIUX

- Created Design system, wireframes and interactive prototypes
- Designed intuitive and responsive interfaces
- Ensured alignment with user goals and system logic

Collaboration with Tech Team

- Worked closely with developers for feasible implementation
- Suggested improvements during integration
- Ensured design-to-deployment consistency

Deployment Support

- Participated in user testing and iteration cycles
- Provided handoff assets and documentation
- Verified end-user satisfaction and ease of use

Documentation

- Research insights
- User journey and pain points
- Final solution rationale & outcomes

RESEARCH QUESTION:

Can you describe how patient records are currently maintained in your hospital, and what challenges you face with this system on a daily basis?

How do you handle interdepartmental coordination (e.g., between OPD, IPD, pharmacy, and diagnostics) in the absence of an integrated software system? What are the common communication gaps?

Have there been any critical incidents (e.g., delay in care, wrong medication, misdiagnosis) due to manual or paper-based processes? Can you walk me through what happened and how it was resolved?

How does your current system affect your ability to manage time between administrative tasks and patient care?

Can you share examples of how delays in accessing patient history or test results affected treatment quality or outcomes?

From your interaction with patients, what are the most common complaints or frustrations they express regarding hospital processes?

In your opinion, how much does wait time (registration, billing, test results, etc.) affect patient satisfaction and return rates?

Project
Methodology

I'm using **qualitative research** for this project because researchers rely on qualitative techniques when they need to capture accurate, in-depth insights. It's especially helpful in collecting "factual data." I've chosen this method because I'm working on developing a new product or generating an idea.



Empathise



User Interview



Contextual Inquiry



Process Of Observation



Record keeping



Focus Group

STAKEHOLDER

Internal Hospital Stakeholders

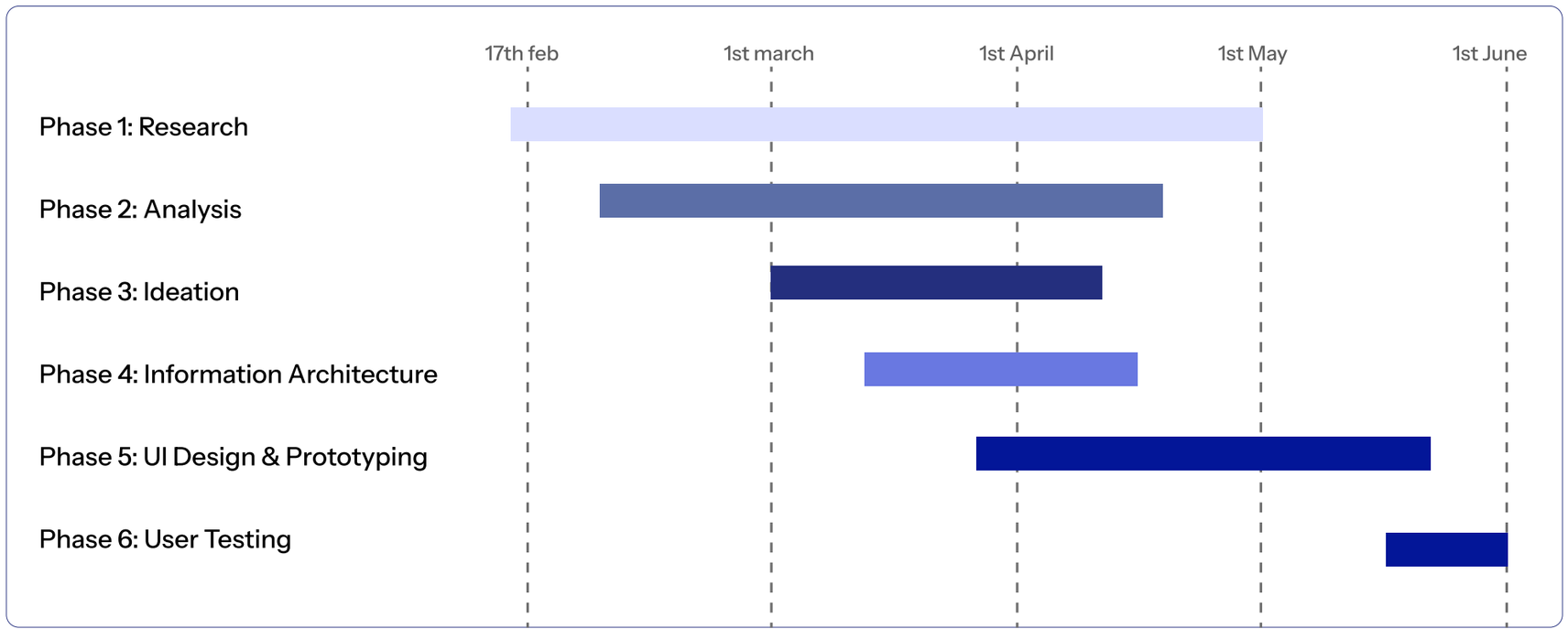
- Doctors
- Reception/Front Desk Staff
- Hospital Administrator
- Medical Record Clerks
- Nurses
- Housekeeping Supervisors

External Stakeholders

- Patients (Inpatient & Outpatient)
- Family Members/ Caregivers
- Health Informatics Experts

Project
Timeline

Designing a Hospital Management System means creating an integrated digital platform that simplifies patient care, staff coordination, and administrative tasks. It ensures smooth, error-free operations by connecting departments like OPD, IPD, pharmacy, billing, and diagnostics



CLIENT & DESIGN BRIEF

Client:
Private Multi-Specialty Hospital (Mid-sized), Tier 2 City, India
Stakeholders:
Hospital Administrator, OPD Reception Team, In-house Doctors, patient and staff.

Background:
The client operates a 100+ bedded hospital with growing OPD and IPD load. Their existing processes are largely manual or semi-digital, leading to operational bottlenecks, patient dissatisfaction, and revenue leakage.

Objective:
To design and implement a robust Hospital Management System that streamlines day-to-day operations, reduces cognitive and administrative overload, ensures transparency, and enhances the overall patient and staff experience while remaining scalable for future AI integration.
Pain Points Highlighted by Client:
Overcrowding and miscommunication at reception
Fragmented patient data across departments
Manual appointment scheduling
No centralized system to track doctor activity, bed availability, or patient status
Lack of insight into revenue, inventory, insurance, and financial planning
Client Expectations:

- A modular, user-friendly system with separate panels for Admin, Doctor, and Reception
- Real-time updates and centralized EMR
- Role-based access to ensure security and integrity
- Support for future AI-based features like diagnostics and queue management

Design Brief
Project Title:
Hospital Management System – A Role-Based Digital Ecosystem for Indian Hospitals
Design Objective:
To conceptualize and develop a digital hospital management ecosystem with a human-centered approach that solves operational inefficiencies, supports medical decision-making, and improves the patient journey.
Design Scope:

- Design three distinct portals: Admin Panel, Doctor Panel, Reception Panel
- Ensure seamless user experience.

Project
Introduction

This report presents a comprehensive analysis of Hospital Management Systems (HMS) within the Indian healthcare landscape, highlighting current challenges, digital interventions, and stakeholder implications. Hospitals across both public and private sectors face persistent issues such as operational inefficiencies, data fragmentation, administrative overload, and patient dissatisfaction largely due to outdated or manual management systems.

This project addresses these systemic challenges through the design and development of a robust, future-ready HMS. Through secondary research (via peer-reviewed journals, ResearchGate, PubMed) and primary research through real-time observations (covering admin, reception, and doctor workflows), the study identifies critical gaps in patient record handling, interdepartmental coordination, inventory control, billing, appointment scheduling, patient interaction, and cognitive pressure within current systems. More than 70% of hospitals in Tier 2 and Tier 3 cities still rely on paper-based systems or fragmented semi-digital tools, leading to delays, miscommunication, and revenue leakage. To address these gaps, a robust, integrated HMS is proposed offering real-time patient tracking, centralized Electronic Medical Records (EMRs), intelligent scheduling, bed management, automated billing, inventory linkage, and seamless integration with diagnostic and pharmacy systems.

Key differentiators include a platform-independent patient journey, intuitive UI/UX design, and a roadmap for AI-powered features such as predictive triaging and remote patient monitoring. The system supports streamlined multi-department workflows, enabling smoother coordination between reception, doctors, diagnostics, pharmacy, and administration. It has been validated against actual operational pain points specific to the Indian healthcare context. Emphasis is also placed on role-based access control to ensure data security and functional integrity.

The report concludes that a unified HMS is not only essential for improving clinical efficiency and patient experience but also critical for building a data-driven, future-ready Indian healthcare ecosystem. Moreover, the system is designed for scalability, with a long-term roadmap that includes AI-powered diagnostics, predictive analytics, and remote patient care.

The implementation of this HMS is not just a digital upgrade it represents a foundational shift toward a more efficient, secure, and patient-centric hospital ecosystem. This project demonstrates that with the right technological intervention, even resource-constrained hospitals can achieve operational excellence, reduce errors, improve patient outcomes, and future-proof their infrastructure.

India’s **Healthcare System**

India’s healthcare system is vast, fragmented, and dual in nature: public vs private, rural vs urban, insured vs out-of-pocket, and primary vs tertiary care. But beneath its infrastructure and data lies a web of lived struggles of patients, doctors, nurses, administrators, and families.

The Indian healthcare system functions not by design, but by the resilience of its people patients who endure indignity, doctors who push through fatigue, and nurses who show up despite silence.
The system is not broken it’s overburdened, underloved, and structurally unequal.

1. Healthcare in India is deeply caste-class coded.
   - Private hospitals offer services; public hospitals offer survival.
   - Rich patients get empathy and choices; poor patients get queues and suspicion.
2. Everyone in the system is overworked, but only some are underpaid.
   - The stress of shortage is shared, but the power to rest is not.
3. The real currency in Indian hospitals is access, not infrastructure.
   - Who you know, how loud you shout, or how much you bribe often decides how fast you get treated.
4. Technology is not a substitute for trust.
   - EMRs, health IDs, AI tools can't compensate for the lack of human connection and accountability.
5. The patient’s pain starts long before entering the hospital and stays long after.

Before initiating primary research, I conducted secondary research to build a foundational understanding of the Indian hospital ecosystem. This process involved analyzing academic articles, news reports, case studies.

According to Indian medical association more than 75% of doctors have faced voilence in india.

Doctors have faced while working in emergency services . 48.8% cases are reported from ICU'S.

RElatives and attendants of patients are found guilty in this.

According to the past 5 years data . Escorts of patients have commited 63.3% voilence.

"Experts say the findings don't reflect the true extent of the problem, as many cases go unreported. Doctors often empathize with distressed relatives and report only when there's a serious threat."

"One study found that only 44.2% of doctors reported incidents to authorities, highlighting underreporting as a major barrier to addressing the issue. Another study showed just 26% of physicians and 30% of nurses report such events, as healthcare culture often views violence as 'part of the job'

Problems doctors face in Indian Hospitals.


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THIS STORY IS FROM MAY 4, 2015

Over 75% of doctors have faced violence at work, study finds

Sushmi Dey / TNN / Updated: May 4, 2015, 12:11 IST

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Those who save lives are themselves at risk. More than 75% of doctors across the country have faced at least some form of violence, initial findings of an ongoing study by the Indian Medical Association (IMA) have revealed.

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NEW DELHI: Those who save lives are themselves at risk. More than 75% of doctors across the country have faced at least some form of violence, initial findings of an ongoing study by the Indian Medical Association (IMA) have revealed. Doctors faced maximum violence when providing emergency services, with as many as 48.8% of such incidents reported from intensive care units (ICUs) or after a patient had undergone surgery,

Article | PDF Available

Factors Contributing to Workplace Violence Against Doctors in a Tertiary Care Teaching Hospital in South India

January 2019 · Indian Journal of Forensic Medicine and Toxicology 13(3):108

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Based on my secondary research, several critical questions emerged in my mind. These questions have shaped the direction of my primary research, where I aim to explore and find answers through on-ground investigation and real user interactions.

Why are patients often dissatisfied with the healthcare experience?

Is there a major systemic loophole that leads to violence, and who is truly at fault in such situations?

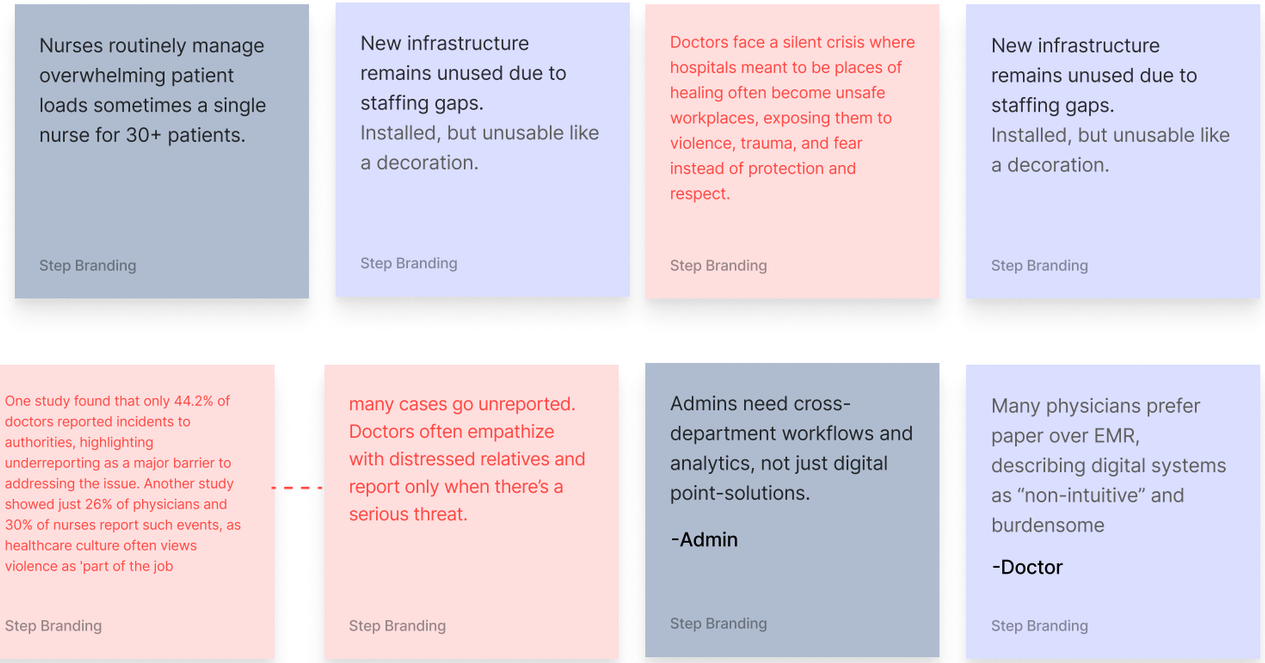
What are the reasons behind miscommunication in hospitals?

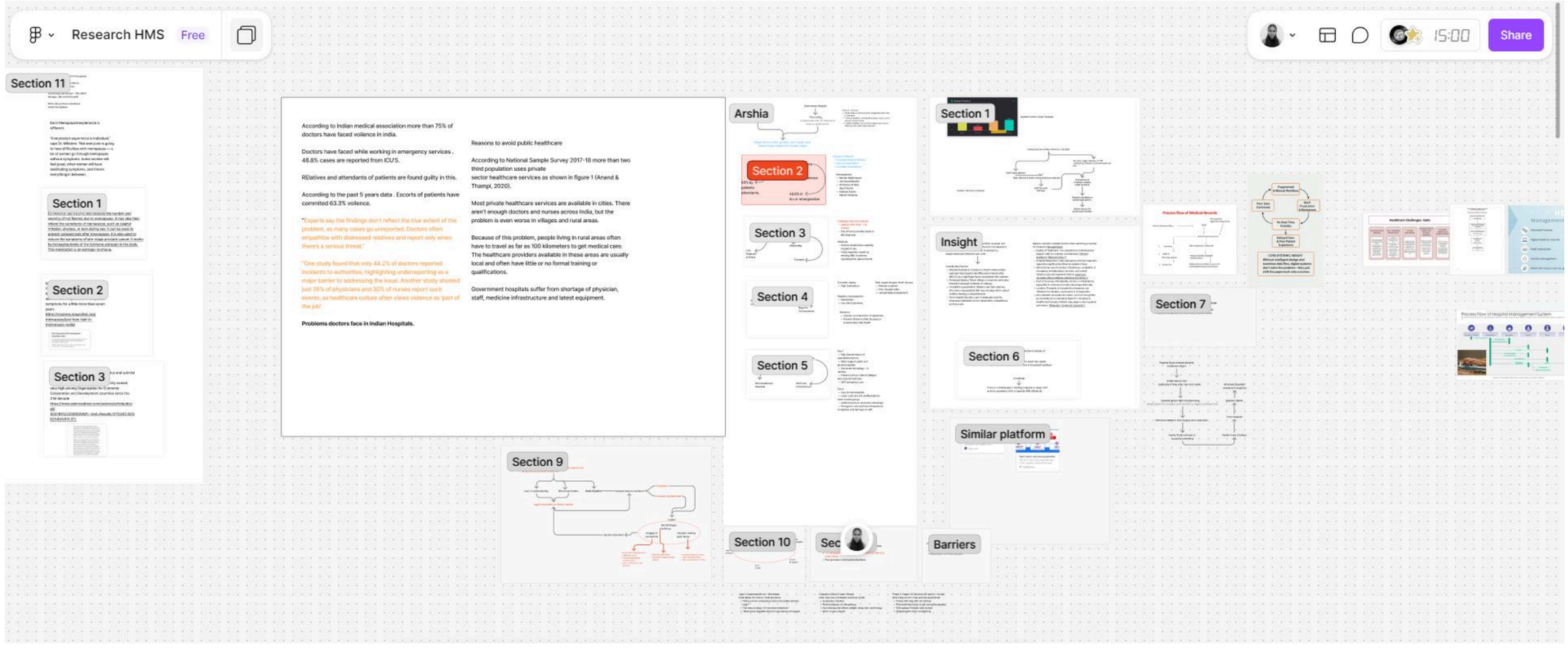
why is the safety of doctors often questioned?

Is it only the patient who suffers because of the healthcare system?

Primary Research

To understand the entire system, we conducted several interviews and surveys. Through this process, we gathered a lot of valuable insights. These insights are not only helping us in our current design and strategy, but they can also be used in future improvements and decision-making. They've given us a clearer picture of real user pain points, system gaps, and opportunities for innovation within the hospital ecosystem.

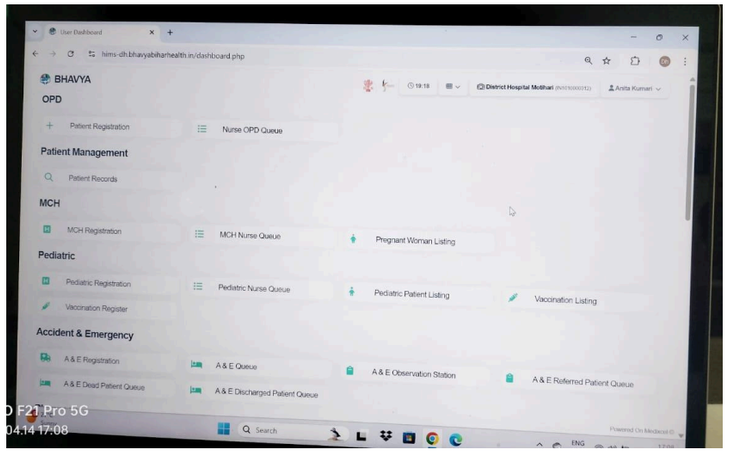




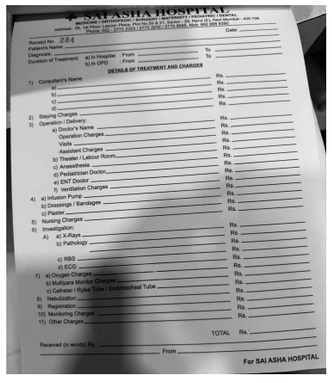
As part of my primary research, I visited several hospitals in East Champaran (Bihar) and Mumbai. These visits revealed significantly different perspectives and experiences. The photos shown here capture the current state of their digital systems, which, as observed, did not provide a satisfactory user experience for staff or patients. To deepen our understanding, we analyzed the hospital environments through multiple lenses, focusing on system workflow gaps, and real-time user interactions.

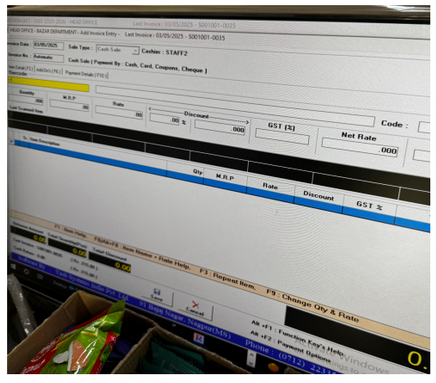






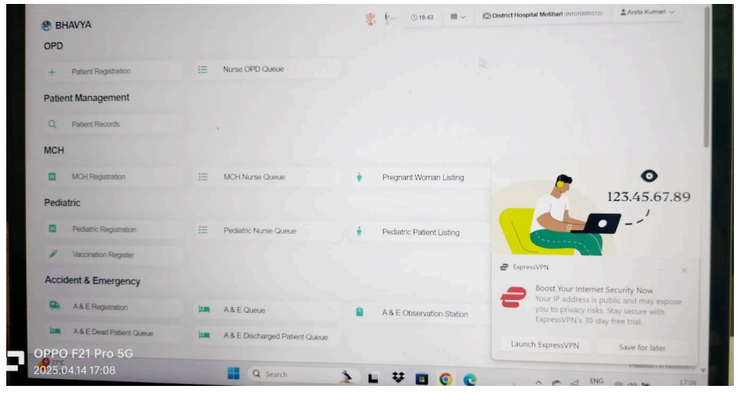












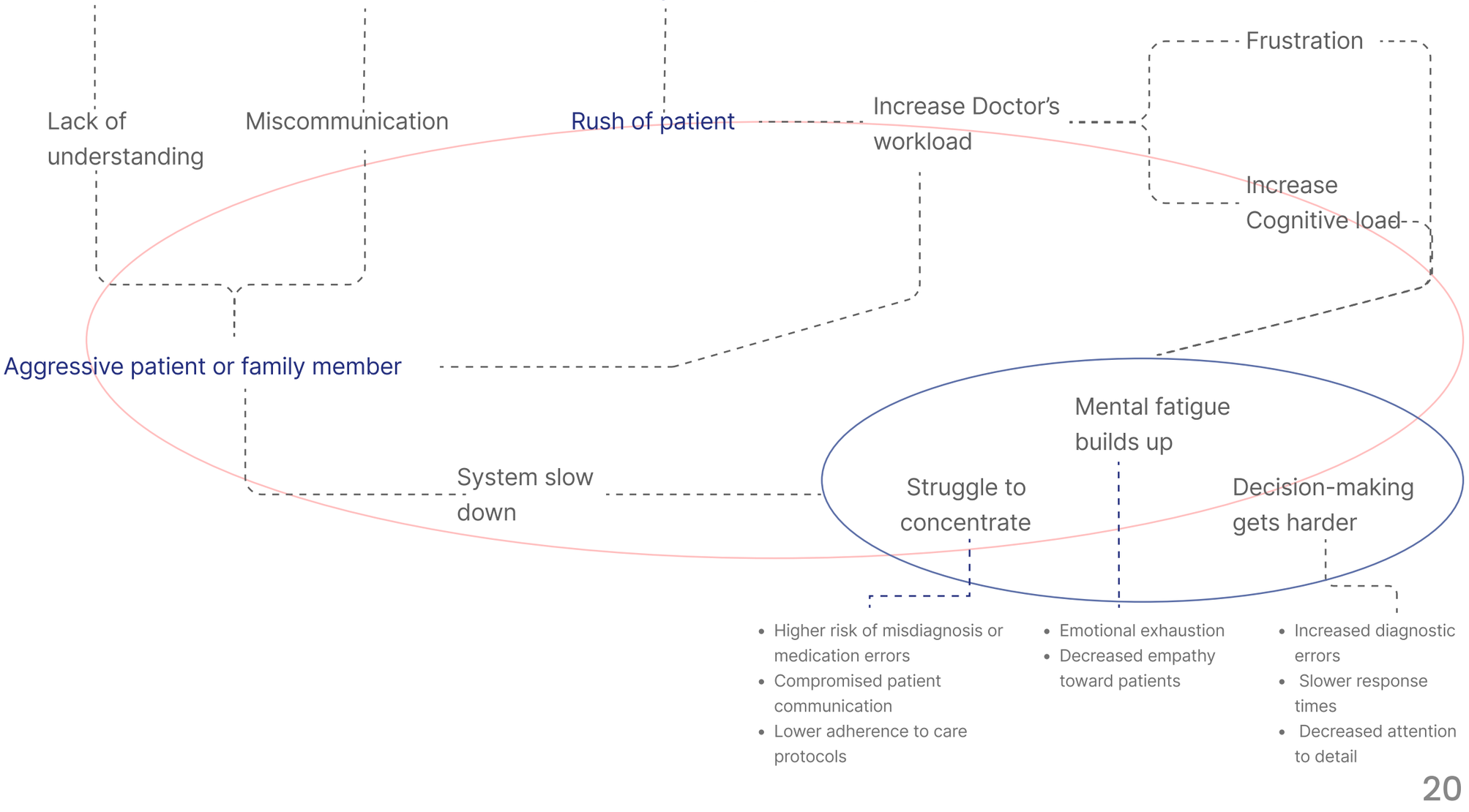




INTERVIEW OBSERVATION ANALYSIS

This loop demonstrates how cognitive overload, emotional exhaustion, and external aggression reinforce one another in hospitals leading to a silent collapse in decision quality, empathy, and safety.

More than 75% of doctors face voilence. 63% voilence are being done by patients attendants.



Digital & Operational Dysfunction in Hospitals

Without intelligent design and seamless data flow , digital systems don’t solve the problem they just shift the paperwork onto screen

- Patient registration, billing, and appointments are often paper-based or semi-digital.
- Leads to duplicate records, manual errors, and long queues.

Poor Data Continuity

When systems are hard to use, or don’t “talk to each other,” staff revert to manual logs

I’m using this system only because the hospital has asked me to, but honestly, it feels like more work than doing things manually. Sometimes I feel it’s easier to just write things down. In fact, many times I write everything by hand first, and then we have a staff member who fills it into the system later.

Staff Frustration & Resistance

Increase workload

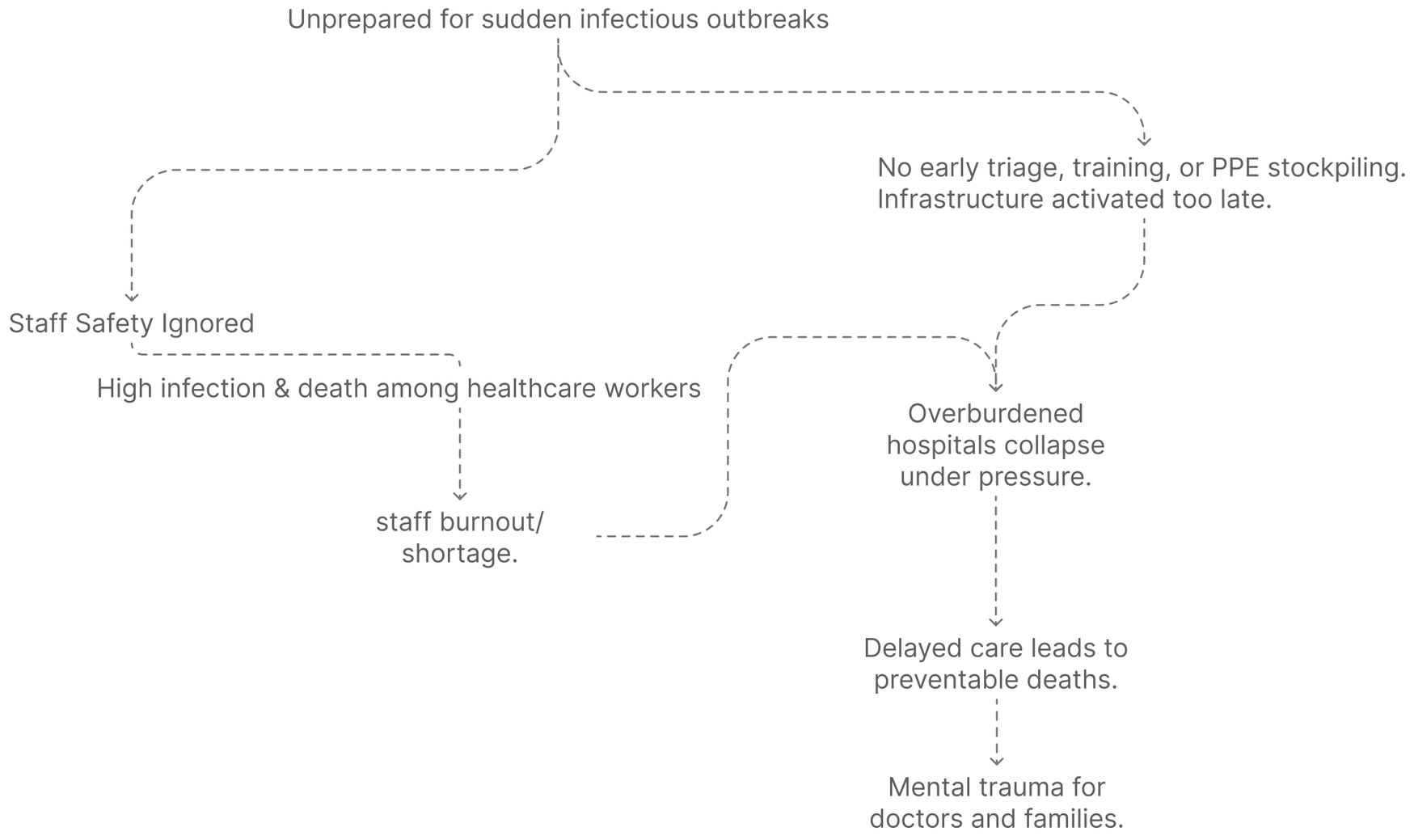
System slow down

Delayerd care & poor patient experience

Adoption fails

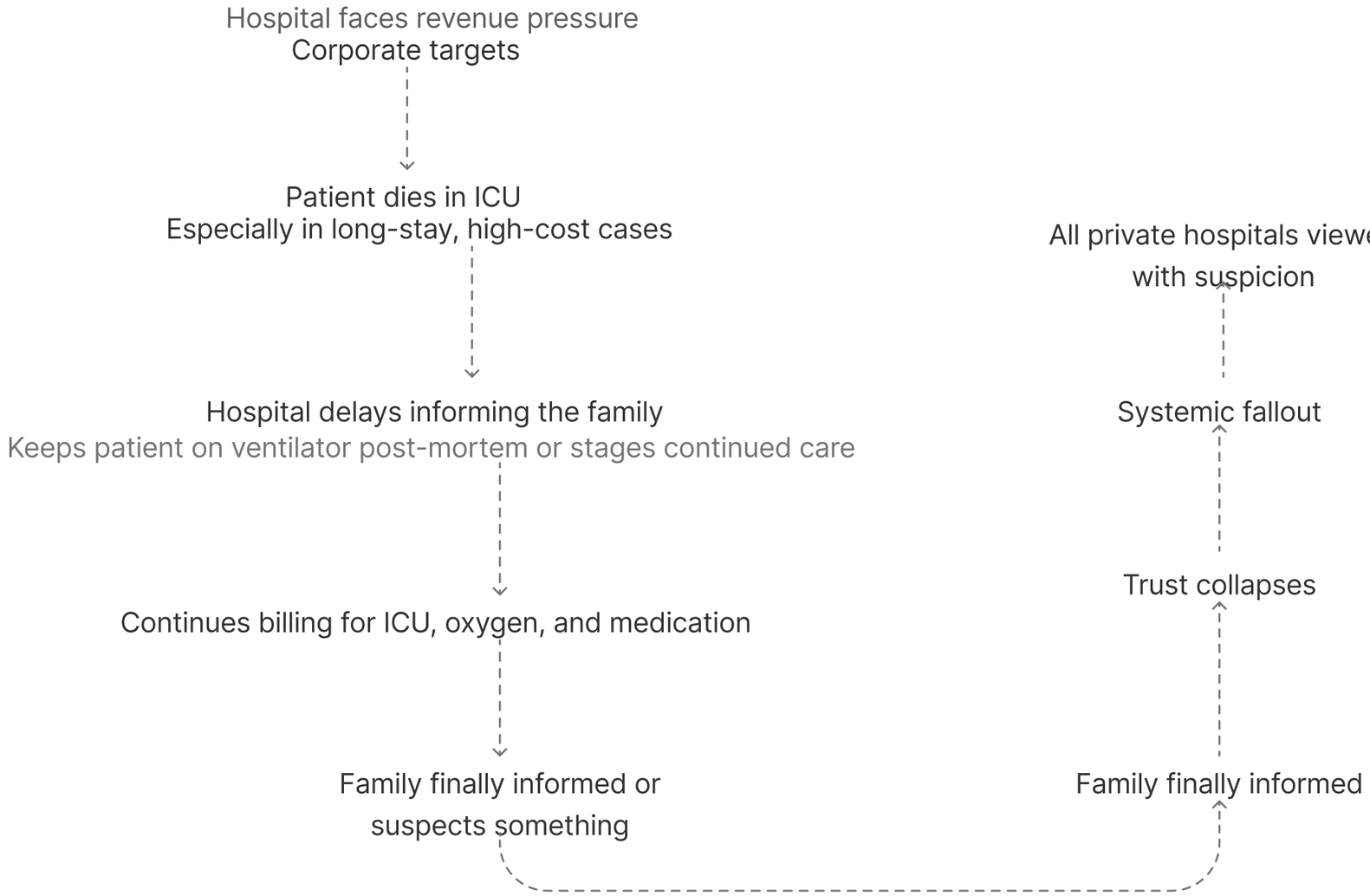
One task is requiring two staff members to complete it.

Public and private, are consistently **underprepared for sudden infectious outbreaks**, resulting in significant consequences for both infrastructure weakness and staff safety.



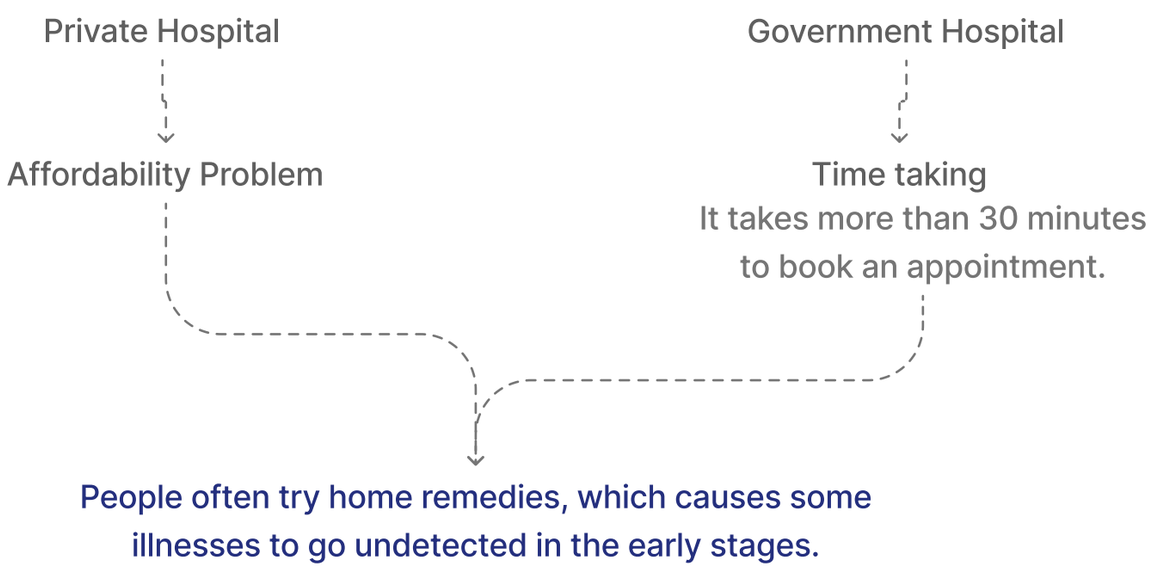
Concealed Patient Deaths for Financial Gain in Private Hospitals.

In rare but serious cases, private hospitals have been found delaying the declaration of a patient's death sometimes for 2–3 days to continue charging ICU or ventilator fees.



When hospitals prioritise profits over morality, even death turns become a business.

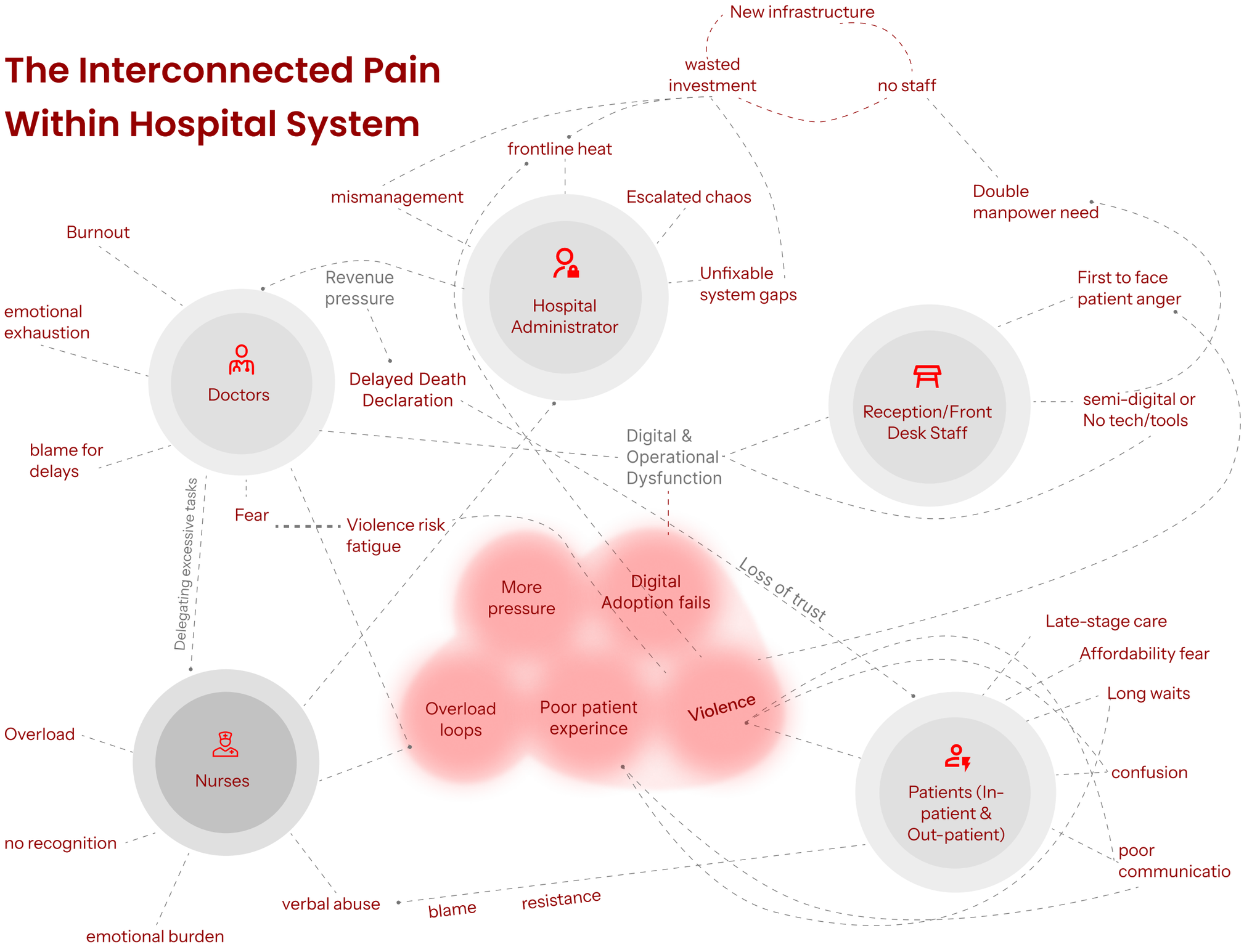
People often resort to home remedies, self-medication, or ignoring symptoms, which causes many illnesses to go undetected in early stages.



Cost Fear and Delay

- People delay or avoid care until emergencies arise due to cost fears.
- In private hospitals, surprise billing (tests, rooms, scans) creates financial trauma.
- In public hospitals, care is free but dignity costs extra—bribes for beds, tests, faster attention.

The Interconnected Pain Within Hospital System



Within the walls of every hospital, no matter how modern or under-resourced, every individual is carrying some form of pain be it physical, emotional, ethical, or professional.

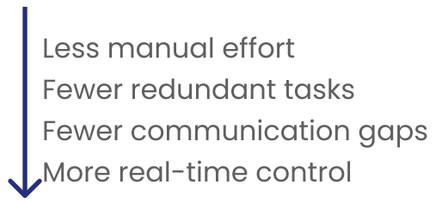
Our research has taken us deep into the heart of the Indian healthcare system. We've listened to the silent exhaustion of nurses, the moral weight doctors carry, the helplessness of families, and the quiet frustration of administrators. We've mapped the bureaucracy, the ethical gray zones, and the emotional disconnects.

And yet… it still feels like we've only scratched the surface.

Because the deeper you look, the more you realize:
This isn't just a system it's a living, breathing web of people, each one tied to another.

A nurse's burnout can affect a patient's care.
A doctor's silence can delay closure for a grieving family.
A misstep at the reception can echo all the way to the ICU.
Every small gap can trigger a chain reaction sometimes tragic, often irreversible.
The system is deeply interconnected.
And in that complexity lies both its fragility and its power.
This is our honest truth:
To heal healthcare, we must first understand how everyone hurts within it.

We’ve divided the hospital management system overhaul into three strategic phases to ensure smooth adoption, reduce resistance to change, and build a strong, scalable foundation.
By starting with essential digitization (Phase 1), we first solve day-to-day pain points for key staff. This builds trust and familiarity.
Phase 2 then introduces intelligent automation and AI-powered care, and Phase 3 evolves into predictive, resource management ensuring each step is sustainable, adaptive, Staff Safety and deeply human-centric.



Phase 1

Foundational Digitization & Operational Ease

- User-Friendly Digitization
- Process Automation
- Visibility & Communication
- Reception Efficiency
- Doctor Empowerment
- Admin Clarity

Phase 2

Strong digital foundation for future AI-based automation

- AI-based vitals assessment.
- Enhanced diagnostic tools.
- Visibility & Communication
- Streamline Workflows
- In-patient system flow
- Integration into specialized clinical modules

Phase 3

- Staff-first safety framework
- Healthcare more reachable nd affordable
- Profitable
Death

Ideation &

development

Streamlining Initial Hospital Operations

Our goal is Taking care of every stakeholder's mental, emotional, and operational journey.

Manages out-patient flow, keeps track of all patient movements, and ensures everyone is updated on their status. They are responsible for efficiently handling all front desk operations.

Reception/Front Desk Staff

Our Hospital Management System (HMS) boasts an intelligent login. Users just enter their unique ID, and the system instantly customizes their dashboard to their specific role. This means a personalized, efficient experience right from the start, automatically adapting to each user's unique needs.

Doctors

Ensures the overall safety of the hospital and proactively anticipates patient needs and influx. This role involves patient handling, managing the consultation rooms, and effectively managing their own time.

Hospital Administrator

Provides a bird's-eye view of all hospital operations, overseeing and managing various aspects to ensure smooth functioning. Their focus is on high-level control and strategic oversight.

Patients (In-patient & Out-patient)

Improving internal workflows to naturally enhance patient care.

INFORMATION ARCHITENCTURE

Ensure clarity, usability, and efficiency in how users navigate and interact with the system.

Reception Panel – Entry Point & Coordination

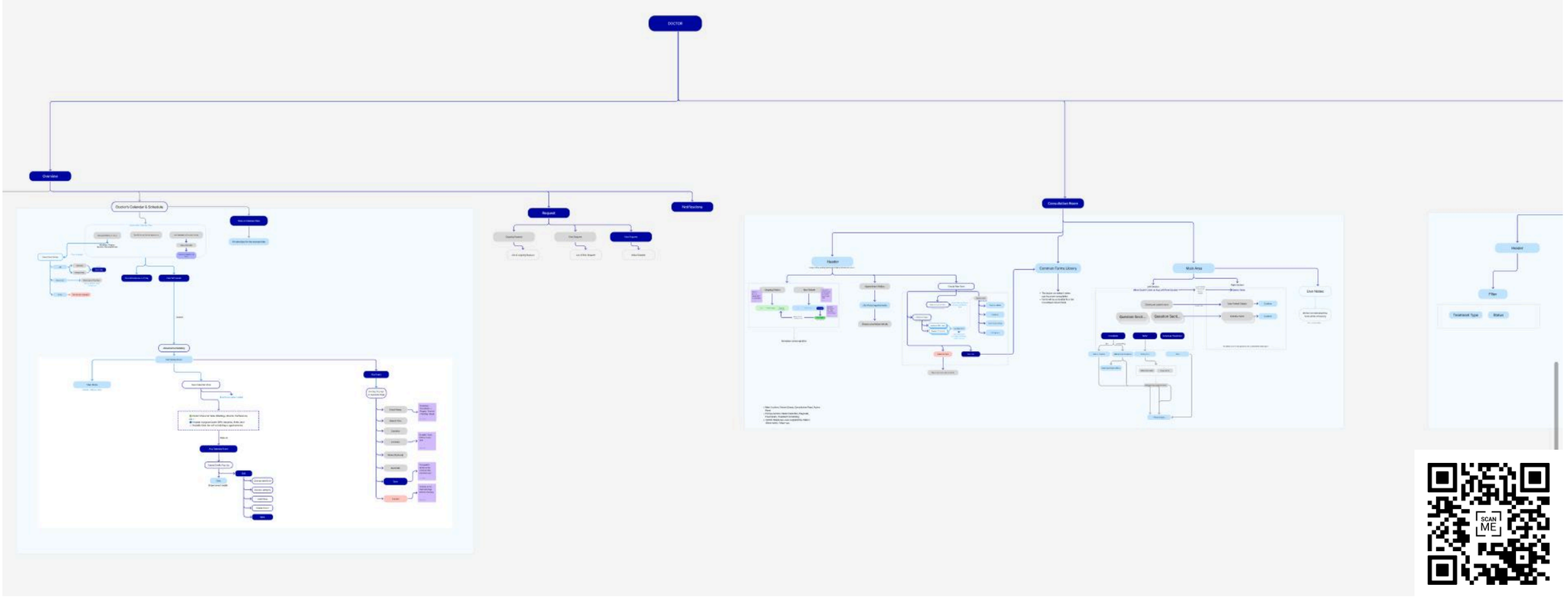
The receptionist begins by registering patients—capturing their personal details, symptoms, and assigning them to the right doctor based on availability and department. The system streamlines patient inflow, manages appointments, and ensures each entry automatically updates availability, queue, and patient logs in real time.

Doctor Panel – A Flow of Focused Care

Doctors receive a structured dashboard showing their patient queue, case history, vitals, and ongoing treatment plans. They can prescribe medication, request tests, update progress, and communicate directly with other departments creating a continuous, traceable treatment journey and Inpatient management system.

Admin Panel – Oversight & Operational Control

The admin oversees the entire hospital operation, with visibility into daily patient flow, resource usage, staff efficiency, and financial summaries. The system flags bottlenecks (e.g., overbooked doctors or low stock), predicts future needs, and enables decision-making to keep hospital functioning lean and responsive.

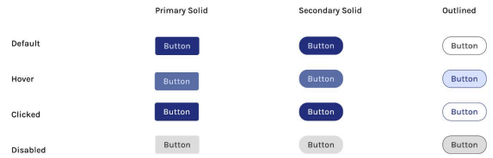


COMPONENTS

Buttons



Default



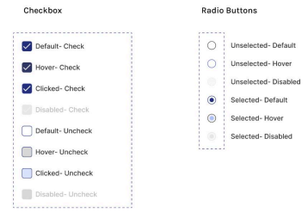
With Icon



Icon only

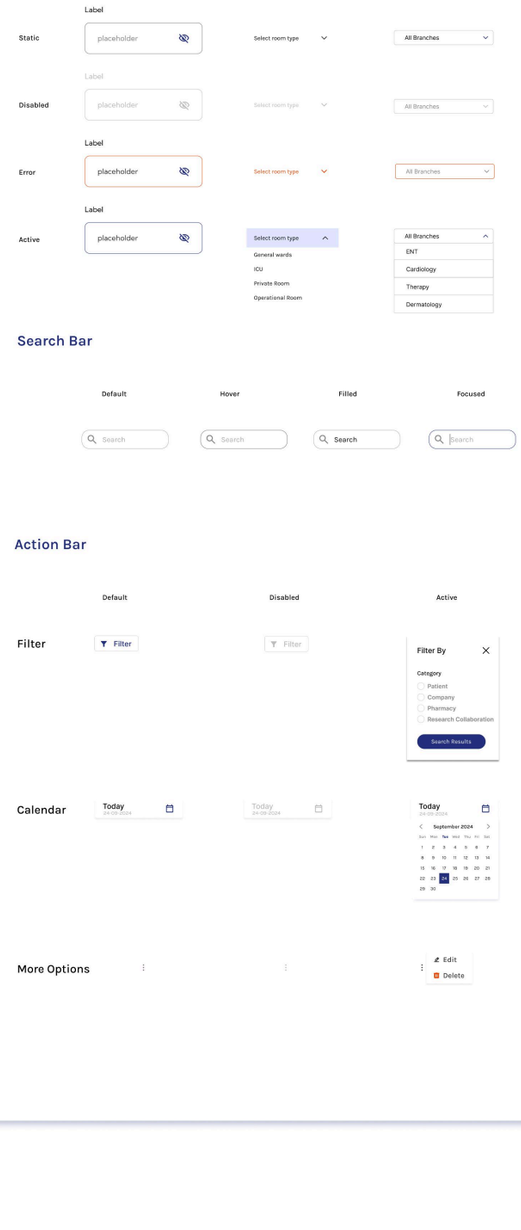


Controls



Inputs

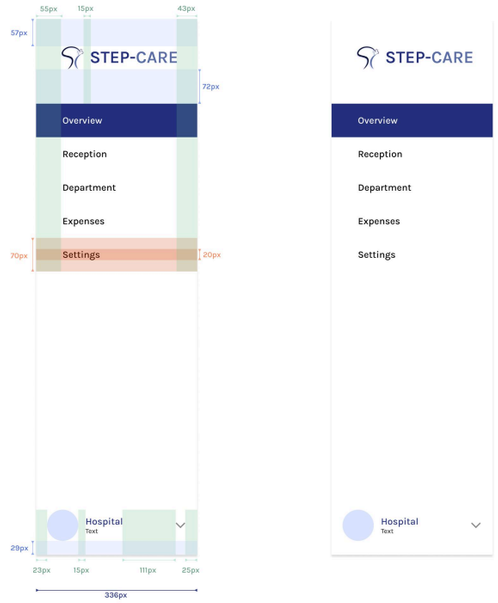




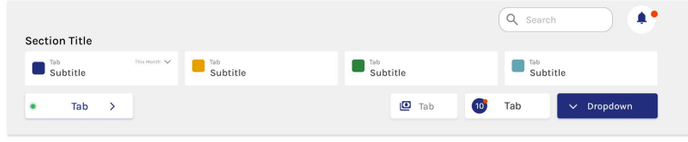
Search Bar

Action Bar

Sidebar Menu



Header



DESIGN SYSTEM

Color Palette

Brand Colours

Cosmic Cobalt
#25307F

Dark Blue Gray
#5C6EA7

Neutrals

Text primary

Neutral_100	Neutral_90	Neutral_80	Neutral_70	Neutral_60	Neutral_50	Neutral_40	Neutral_30	Neutral_20	Neutral_10
#171717	#202E2E	#424244	#585958	#6D6E72	#828388	#9B9A9F	#AEB0B6	#C3C8CD	#D0D8E3

Subtext

Neutral_100	Neutral_90	Neutral_80	Neutral_70	Neutral_60	Neutral_50	Neutral_40	Neutral_30	Neutral_20	Neutral_10
#575757	#666767	#767678	#585958	#939498	#A2A3A8	#B2B4B9	#C1C3C9	#CFD2D9	#E0E3EA

Background

#F1F1F1 #FFFFFF

Alerts and Notifications

Ongoing	Occupied	On leave	Inactive
#2E823B	#EAA000	#E1473D	#878787

Effects

Drop Shadow

ICONS

Solid icons

16px
20px
24px

Typography

TITLES-HEADINGS

NUMERIC HEADING H1
Karla
Medium
40

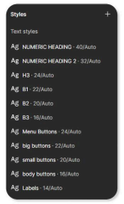
HOSPITAL MANAGEMENT SYSTEM

NUMERIC HEADING H2
Hanken Grotesk
Semi bold
32

HOSPITAL MANAGEMENT SYSTEM

HEADING H3
Hanken Grotesk
Medium
24

HOSPITAL MANAGEMENT SYSTEM



BODY

Body text B1
Karla
Semi bold
22

HOSPITAL MANAGEMENT SYSTEM

Body text B2
Karla
Medium
20

HOSPITAL MANAGEMENT SYSTEM

Body Text B3
Karla
Semi Bold
16

HOSPITAL MANAGEMENT SYSTEM

BUTTON AND LABELS

Menu Buttons
Karla
Medium
24

HOSPITAL MANAGEMENT SYSTEM

Big Buttons
Karla
Medium
22

HOSPITAL MANAGEMENT SYSTEM

Small Buttons
Karla
Medium
20

HOSPITAL MANAGEMENT SYSTEM

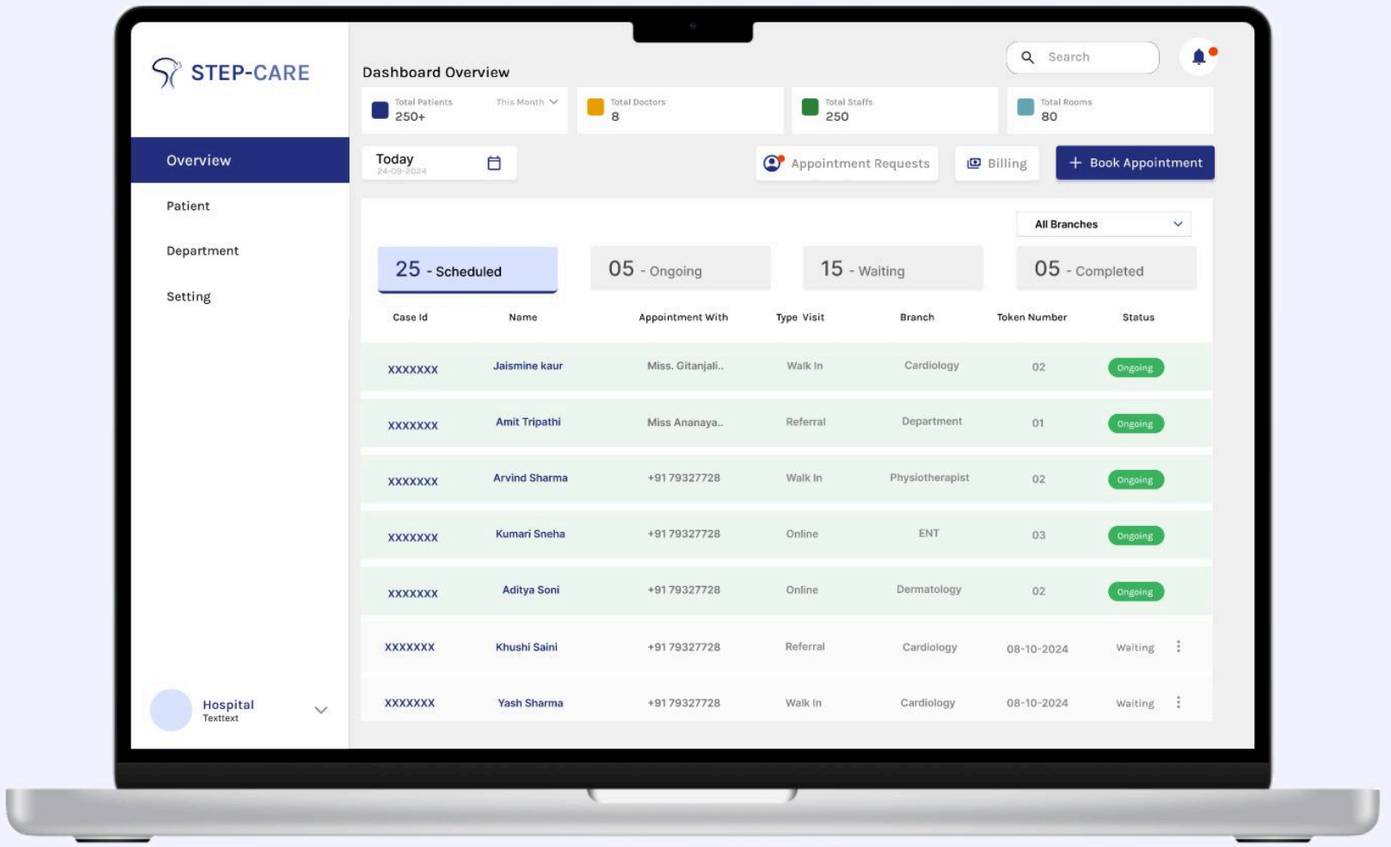
Body Buttons
Karla
Medium
16

HOSPITAL MANAGEMENT SYSTEM

Labels
Karla
Medium
14

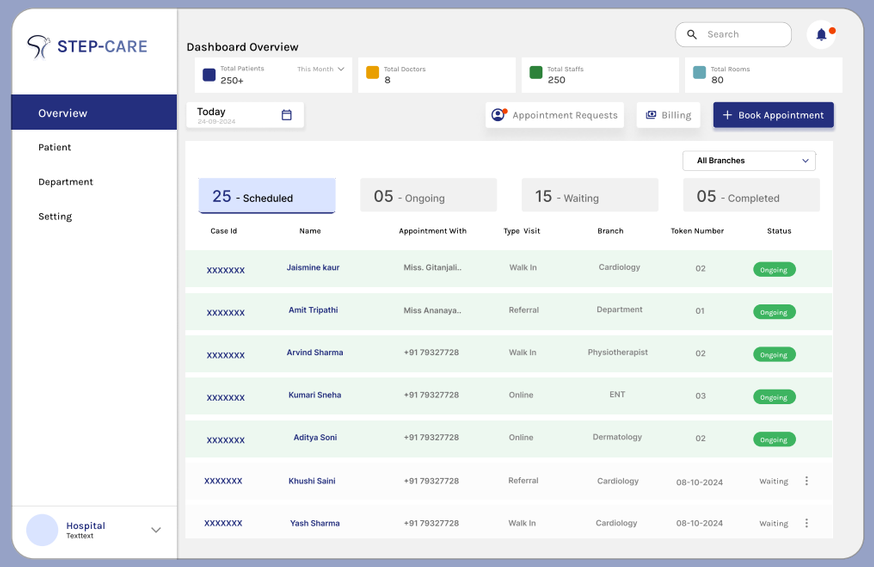
HOSPITAL MANAGEMENT SYSTEM

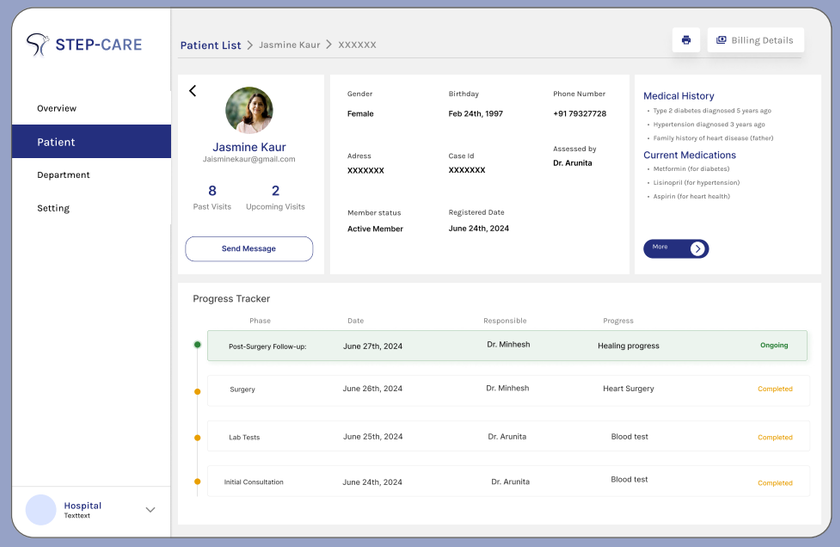
RECEPTION

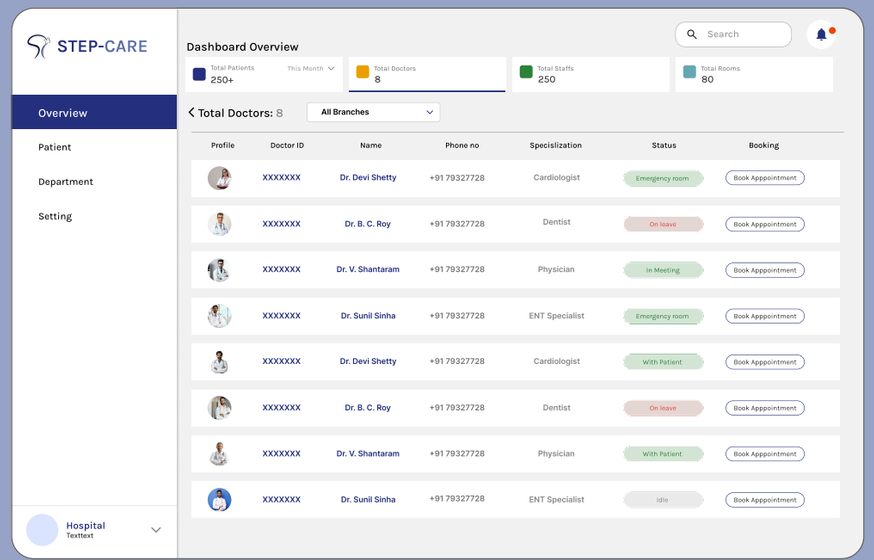


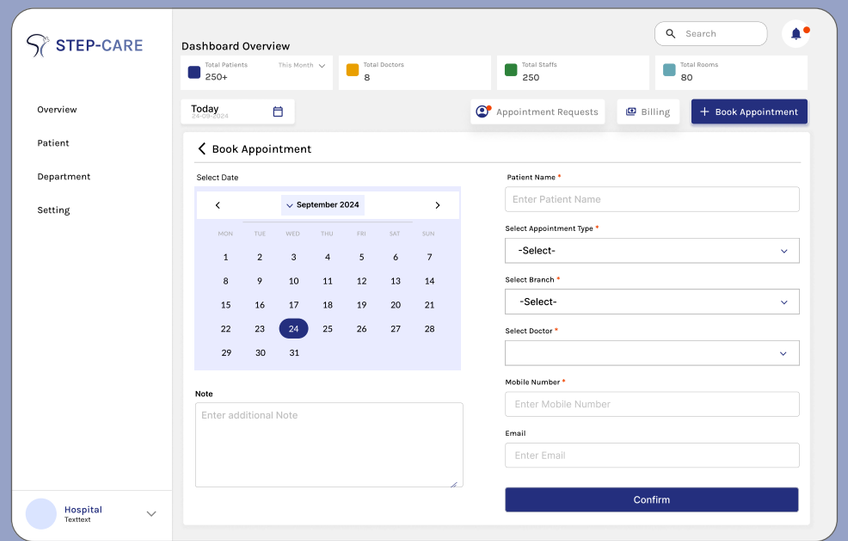
The HMS simplifies and organizes the patient check-in process, reduces chaos in queues, and improves patient communication through multilingual and voice-assisted tools, making front-desk operations fast, clear, and patient-friendly.

Reception Flow link


STEP-CARE
Overview
Patient
Department
Setting
Hospital
Texttext
Dashboard Overview
Search
Total Patients
250+
This Month
Total Doctors
8
Total Staffs
250
Total Rooms
80
Today
24-09-2024
Appointment Requests
Billing
Book Appointment
All Branches
25 - Scheduled
05 - Ongoing
15 - Waiting
05 - Completed
Case Id
Name
Appointment With
Type Visit
Branch
Token Number
Status
XXXXXXX
Jaismine kaur
Miss. Gitanjali..
Walk In
Cardiology
02
Ongoing
XXXXXXX
Amit Tripathi
Miss Ananaya..
Referral
Department
01
Ongoing
XXXXXXX
Arvind Sharma
+91 79327728
Walk In
Physiotherapist
02
Ongoing
XXXXXXX
Kumari Sneha
+91 79327728
Online
ENT
03
Ongoing
XXXXXXX
Aditya Soni
+91 79327728
Online
Dermatology
02
Ongoing
XXXXXXX
Khushi Saini
+91 79327728
Referral
Cardiology
08-10-2024
Waiting
XXXXXXX
Yash Sharma
+91 79327728
Walk In
Cardiology
08-10-2024
Waiting


STEP-CARE
Overview
Patient
Department
Setting
Hospital
Texttext
Patient List
Jasmine Kaur
XXXXXX
Billing Details
Jasmine Kaur
Jaismine kaur@gmail.com
8
Past Visits
2
Upcoming Visits
Send Message
Gender
Female
Birthday
Feb 24th, 1997
Phone Number
+91 79327728
Adress
XXXXXXX
Case Id
XXXXXXX
Assessed by
Dr. Arunita
Member status
Active Member
Registered Date
June 24th, 2024
Medical History
Type 2 diabetes diagnosed 5 years ago
Hypertension diagnosed 3 years ago
Family history of heart disease (father)
Current Medications
Metformin (for diabetes)
Lisinopril (for hypertension)
Aspirin (for heart health)
More
Progress Tracker
Phase
Date
Responsible
Progress
Post-Surgery Follow-up:
June 27th, 2024
Dr. Minhesh
Healing progress
Ongoing
Surgery
June 26th, 2024
Dr. Minhesh
Heart Surgery
Completed
Lab Tests
June 25th, 2024
Dr. Arunita
Blood test
Completed
Initial Consultation
June 24th, 2024
Dr. Arunita
Blood test
Completed

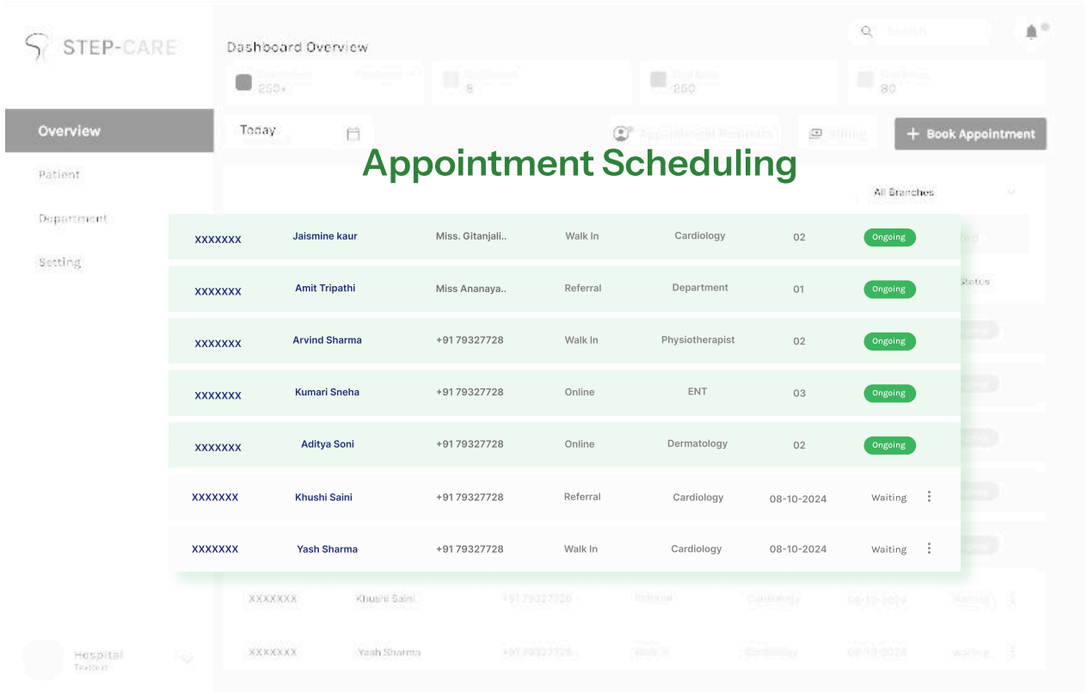

STEP-CARE
Overview
Patient
Department
Setting
Hospital
Texttext
Dashboard Overview
Search
Total Patients
250+
This Month
Total Doctors
8
Total Staffs
250
Total Rooms
80
Total Doctors: 8
All Branches
Profile
Doctor ID
Name
Phone no
Specislization
Status
Booking
XXXXXXX
Dr. Devi Shetty
+91 79327728
Cardiologist
Emergency room
Book Apppointment
XXXXXXX
Dr. B. C. Roy
+91 79327728
Dentist
On leave
Book Apppointment
XXXXXXX
Dr. V. Shantaram
+91 79327728
Physician
In Meeting
Book Apppointment
XXXXXXX
Dr. Sunil Sinha
+91 79327728
ENT Specialist
Emergency room
Book Apppointment
XXXXXXX
Dr. Devi Shetty
+91 79327728
Cardiologist
With Patient
Book Apppointment
XXXXXXX
Dr. B. C. Roy
+91 79327728
Dentist
On leave
Book Apppointment
XXXXXXX
Dr. V. Shantaram
+91 79327728
Physician
With Patient
Book Apppointment
XXXXXXX
Dr. Sunil Sinha
+91 79327728
ENT Specialist
Idle
Book Apppointment

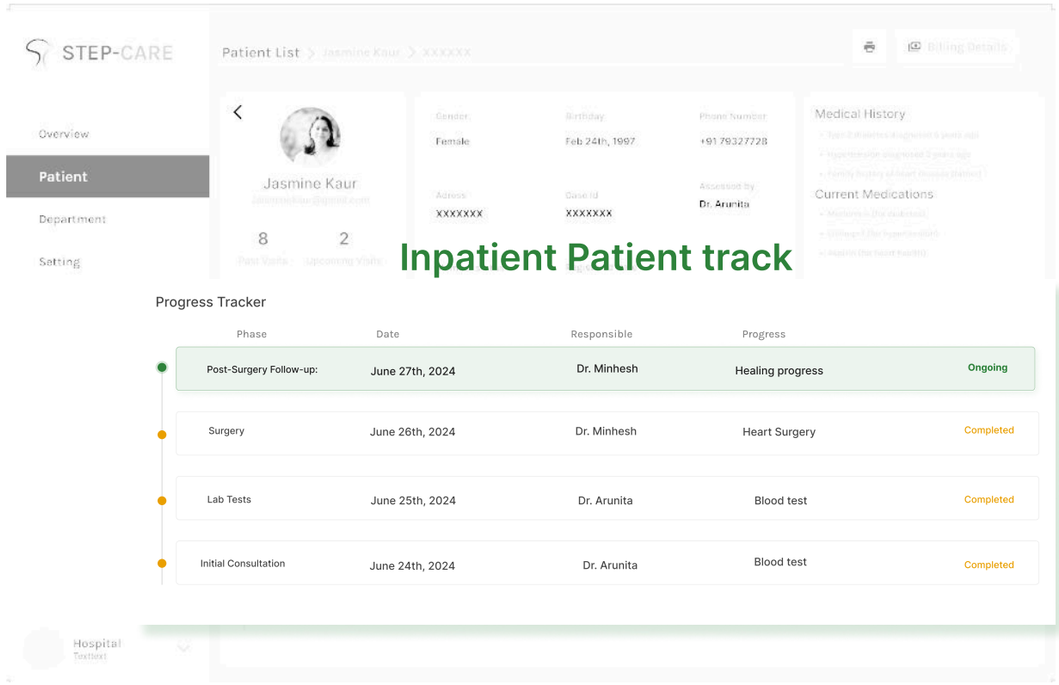

STEP-CARE
Overview
Patient
Department
Setting
Hospital
Texttext
Dashboard Overview
Search
Total Patients
250+
This Month
Total Doctors
8
Total Staffs
250
Total Rooms
80
Today
24-09-2024
Appointment Requests
Billing
Book Appointment
Book Appointment
Select Date
September 2024
MON
TUE
WED
THU
FRI
SAT
SUN
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
Note
Enter additional Note
Patient Name *
Enter Patient Name
Select Appointment Type *
-Select-
Select Branch *
-Select-
Select Doctor *
Mobile Number *
Enter Mobile Number
Email
Enter Email
Confirm

Reception Panel

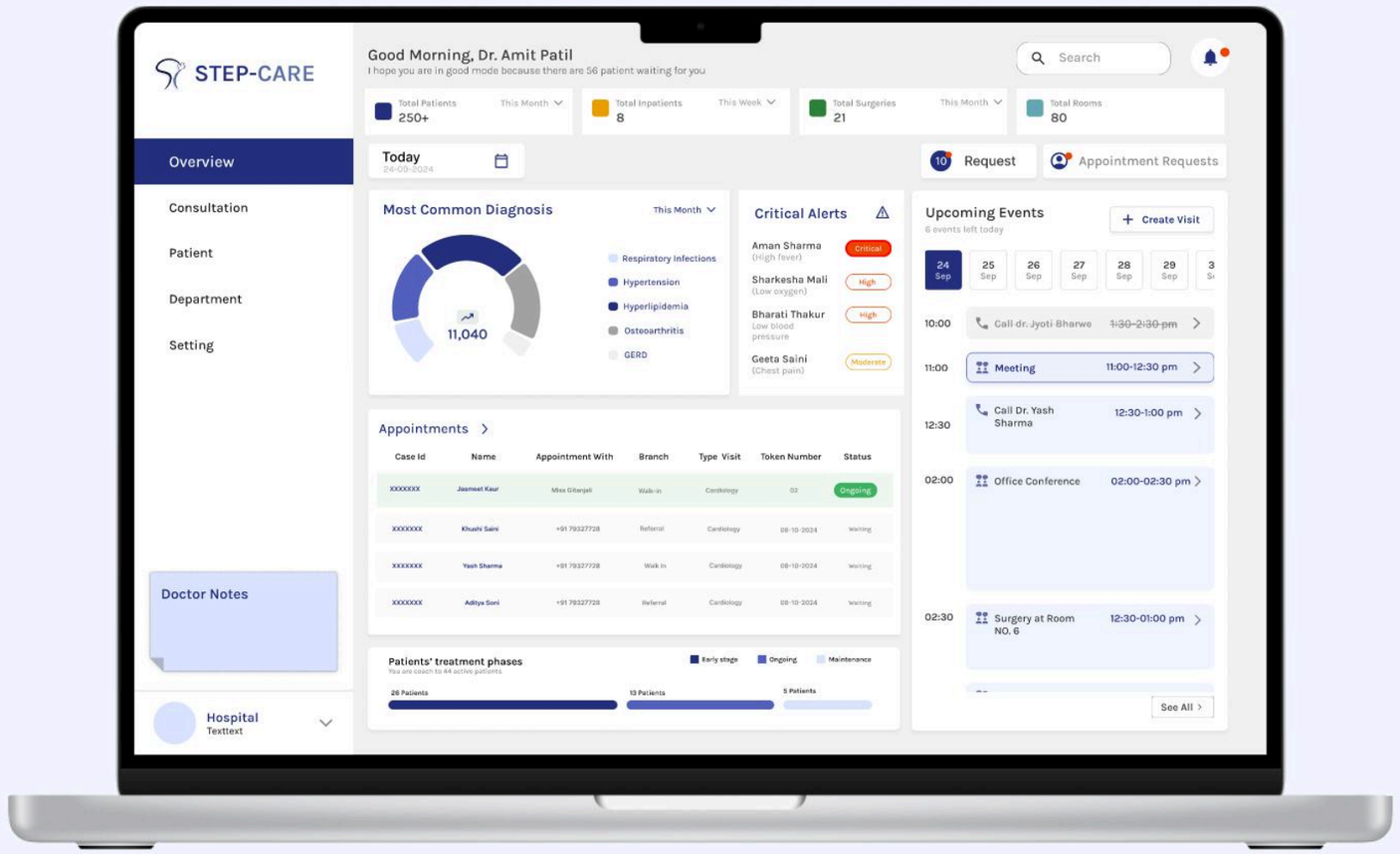
Feature list

- Efficient OPD Registration
- Appointment Scheduling
- Voice Announcements
- Inpatient Patient track
- Department Update
- Stats on Total Patients, Doctors, Staff, and Rooms
- Billing



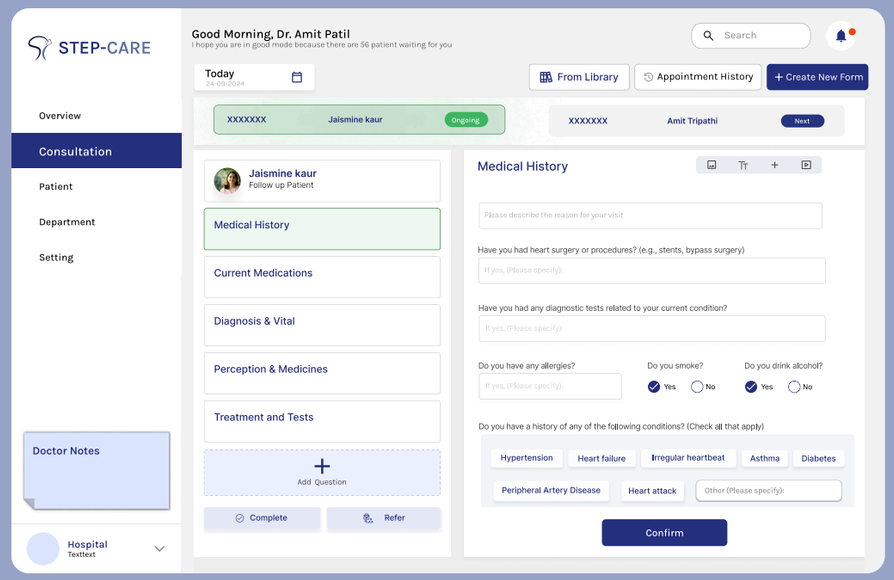


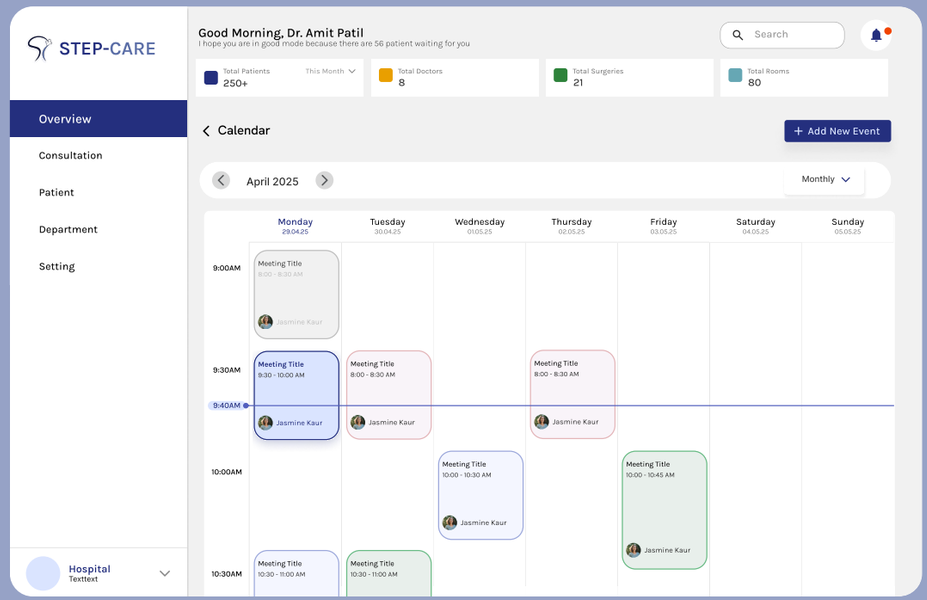
DOCTOR

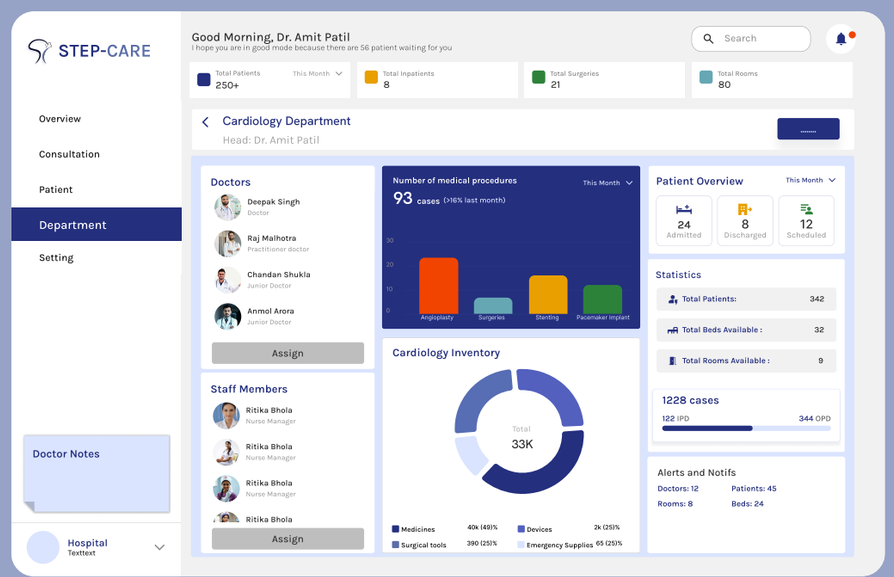


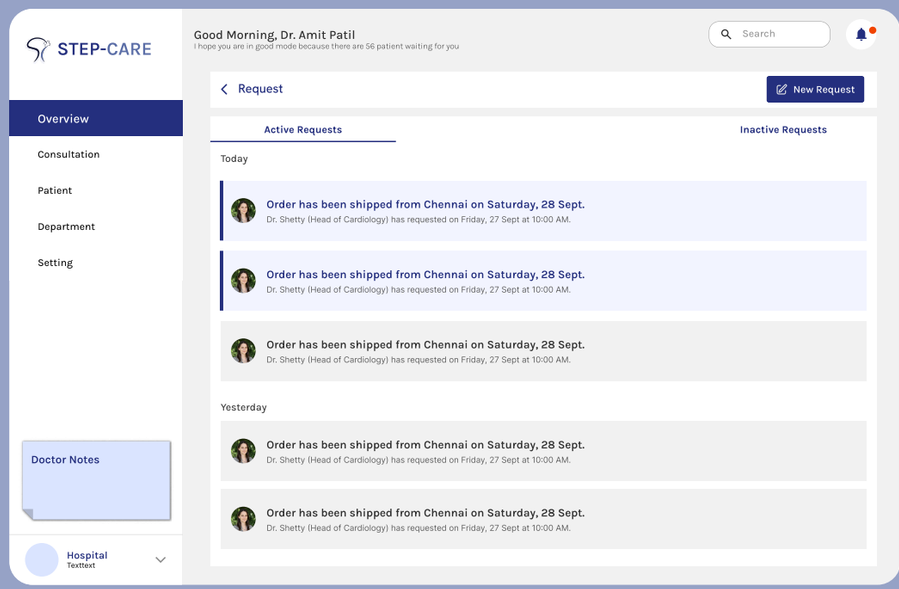
The doctor panel reduces cognitive overload, supports decision-making with AI tools, and improves documentation efficiency, enabling doctors to focus more on care while minimizing administrative hassle and burnout.

Doctor Flow link


STEP-CARE
Good Morning, Dr. Amit Patil
I hope you are in good mode because there are 56 patient waiting for you
Search
Today
From Library
Appointment History
+ Create New Form
XXXXXXX
Jaismine kaur
Ongoing
XXXXXXX
Amit Tripathi
Next
Overview
Consultation
Patient
Department
Setting
Jaismine kaur
Follow up Patient
Medical History
Current Medications
Diagnosis & Vital
Perception & Medicines
Treatment and Tests
Add Question
Complete
Refer
Doctor Notes
Hospital
Textext
Medical History
Please describe the reason for your visit
Have you had heart surgery or procedures? (e.g., stents, bypass surgery)
If yes, (Please specify):
Have you had any diagnostic tests related to your current condition?
If yes, (Please specify):
Do you have any allergies?
If yes, (Please specify):
Do you smoke?
Yes
No
Do you drink alcohol?
Yes
No
Do you have a history of any of the following conditions? (Check all that apply)
Hypertension
Heart failure
Irregular heartbeat
Asthma
Diabetes
Peripheral Artery Disease
Heart attack
Other (Please specify):
Confirm


STEP-CARE
Good Morning, Dr. Amit Patil
I hope you are in good mode because there are 56 patient waiting for you
Search
Total Patients
250+
This Month
Total Doctors
8
Total Surgeries
21
Total Rooms
80
Overview
Consultation
Patient
Department
Setting
Calendar
+ Add New Event
April 2025
Monthly
Monday
29.04.25
Tuesday
30.04.25
Wednesday
01.05.25
Thursday
02.05.25
Friday
03.05.25
Saturday
04.05.25
Sunday
05.05.25
9:00AM
9:30AM
9:40AM
10:00AM
10:30AM
Meeting Title
8:00 - 8:30 AM
Jasmine Kaur
Meeting Title
9:30 - 10:00 AM
Jasmine Kaur
Meeting Title
8:00 - 8:30 AM
Jasmine Kaur
Meeting Title
8:00 - 8:30 AM
Jasmine Kaur
Meeting Title
10:00 - 10:30 AM
Jasmine Kaur
Meeting Title
10:00 - 10:45 AM
Jasmine Kaur
Meeting Title
10:30 - 11:00 AM
Meeting Title
10:30 - 11:00 AM
Doctor Notes
Hospital
Textext

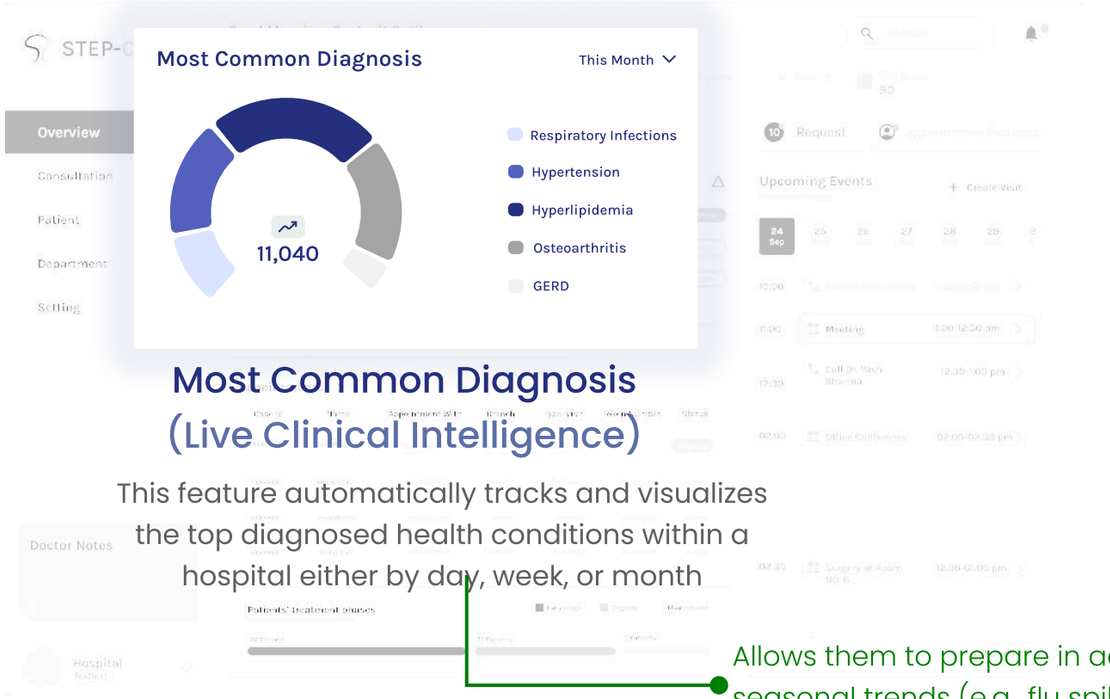

STEP-CARE
Good Morning, Dr. Amit Patil
I hope you are in good mode because there are 56 patient waiting for you
Search
Total Patients
250+
This Month
Total Inpatients
8
Total Surgeries
21
Total Rooms
80
Overview
Consultation
Patient
Department
Setting
Cardiology Department
Head: Dr. Amit Patil
Doctors
Deepak Singh
Doctor
Raj Malhotra
Practitioner doctor
Chandan Shukla
Junior Doctor
Anmol Arora
Junior Doctor
Assign
Staff Members
Ritika Bhola
Nurse Manager
Ritika Bhola
Nurse Manager
Ritika Bhola
Nurse Manager
Ritika Bhola
Assign
Number of medical procedures
93 cases (>16% last month)
This Month
Angioplasty
Surgeries
Stenting
Pacemaker Implant
Cardiology Inventory
Total
33K
Medicines
40k (49)%
Surgical tools
390 (25)%
Devices
2k (25)%
Emergency Supplies
65 (25)%
Patient Overview
This Month
24
Admitted
8
Discharged
12
Scheduled
Statistics
Total Patients:
342
Total Beds Available :
32
Total Rooms Available :
9
1228 cases
122 IPD
344 OPD
Alerts and Notifs
Doctors: 12
Patients: 45
Rooms: 8
Beds: 24
Doctor Notes
Hospital
Textext


STEP-CARE
Good Morning, Dr. Amit Patil
I hope you are in good mode because there are 56 patient waiting for you
Search
Overview
Consultation
Patient
Department
Setting
Request
New Request
Active Requests
Inactive Requests
Today
Order has been shipped from Chennai on Saturday, 28 Sept.
Dr. Shetty (Head of Cardiology) has requested on Friday, 27 Sept at 10:00 AM.
Order has been shipped from Chennai on Saturday, 28 Sept.
Dr. Shetty (Head of Cardiology) has requested on Friday, 27 Sept at 10:00 AM.
Order has been shipped from Chennai on Saturday, 28 Sept.
Dr. Shetty (Head of Cardiology) has requested on Friday, 27 Sept at 10:00 AM.
Yesterday
Order has been shipped from Chennai on Saturday, 28 Sept.
Dr. Shetty (Head of Cardiology) has requested on Friday, 27 Sept at 10:00 AM.
Order has been shipped from Chennai on Saturday, 28 Sept.
Dr. Shetty (Head of Cardiology) has requested on Friday, 27 Sept at 10:00 AM.
Doctor Notes
Hospital
Textext

Doctor

Feature list

- Consultation Room
- AI Diagnosis Suggestions
- Voice Dictation of Notes
- Most Common Diagnosis (Live Clinical Intelligence)
- Department Management
- Request Thread System
- In-patient Management

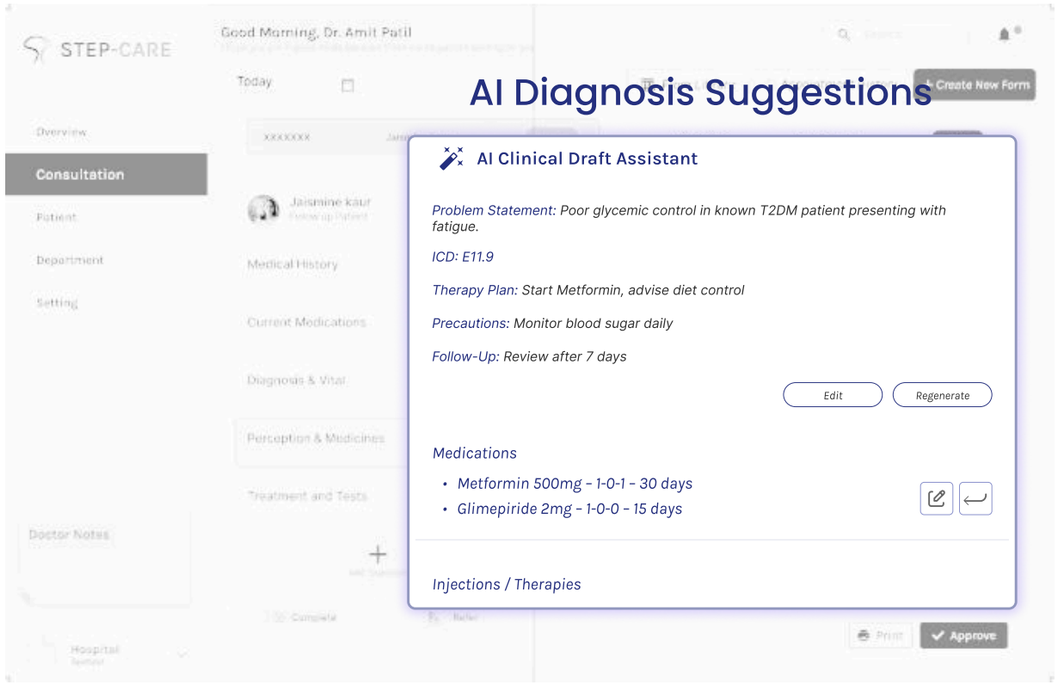


Most Common Diagnosis (Live Clinical Intelligence)

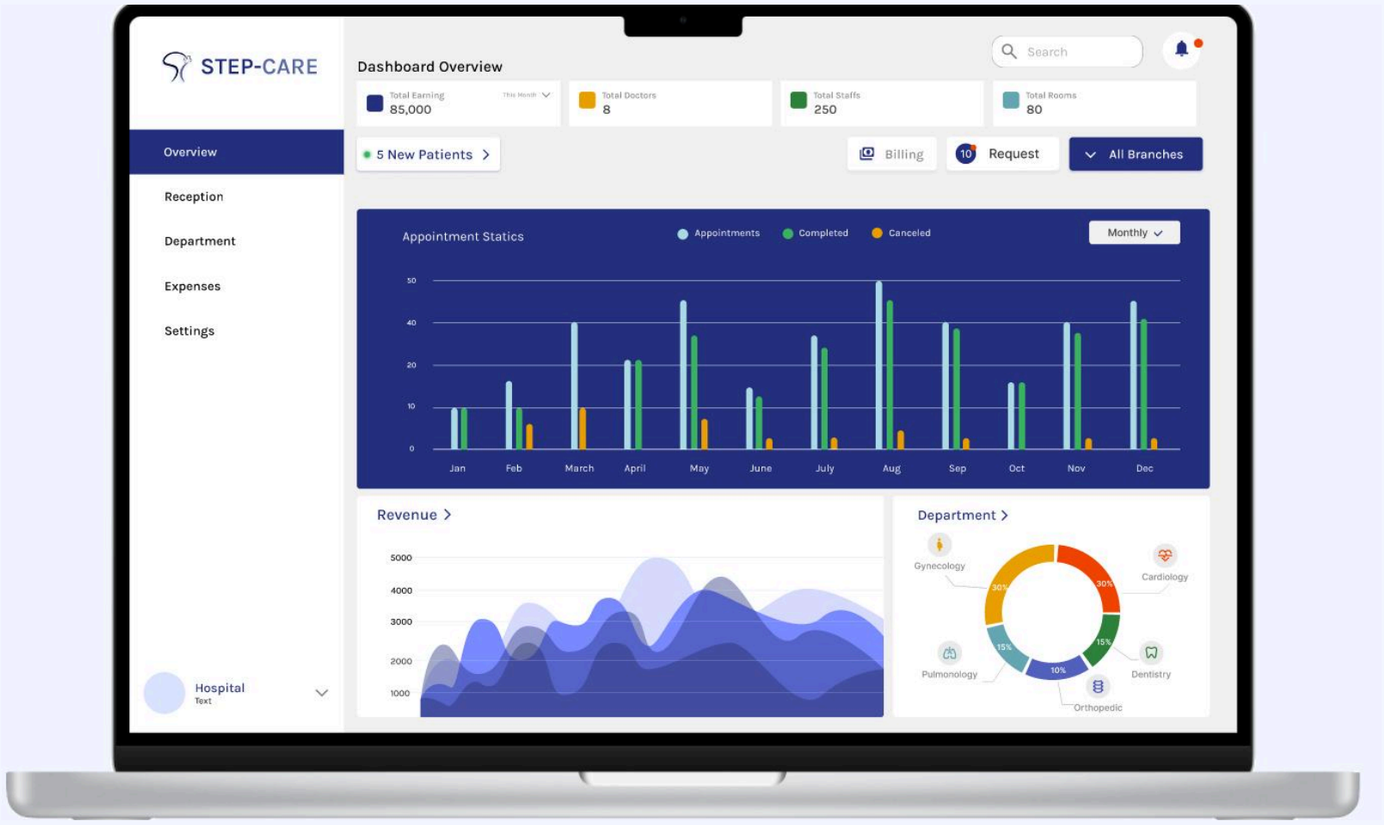
This feature automatically tracks and visualizes the top diagnosed health conditions within a hospital either by day, week, or month

Allows them to prepare in advance for seasonal trends (e.g., flu spikes, dengue season)
Helps in early detection of clusters/outbreaks
Enables preventive measures to be advised to patients more confidently

AI Diagnosis Suggestions

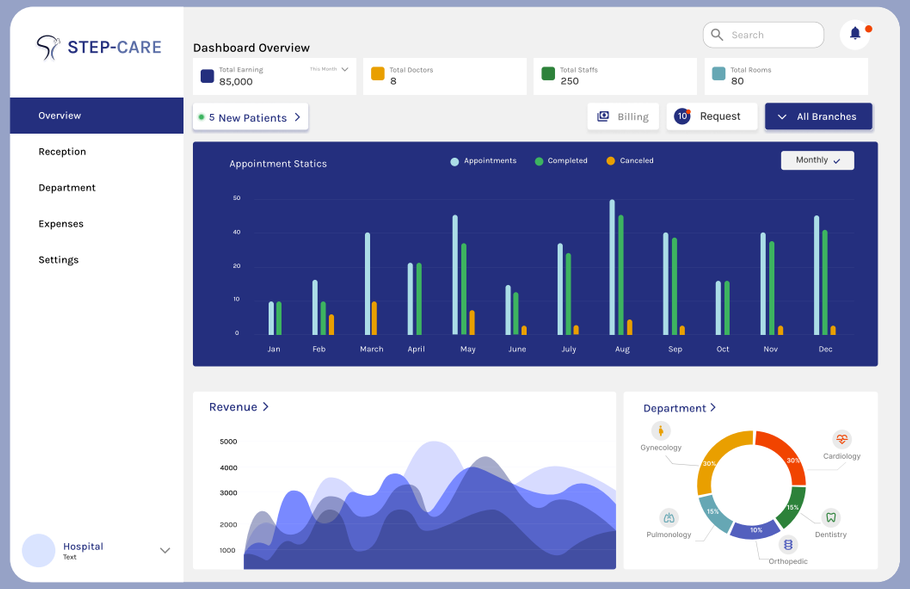


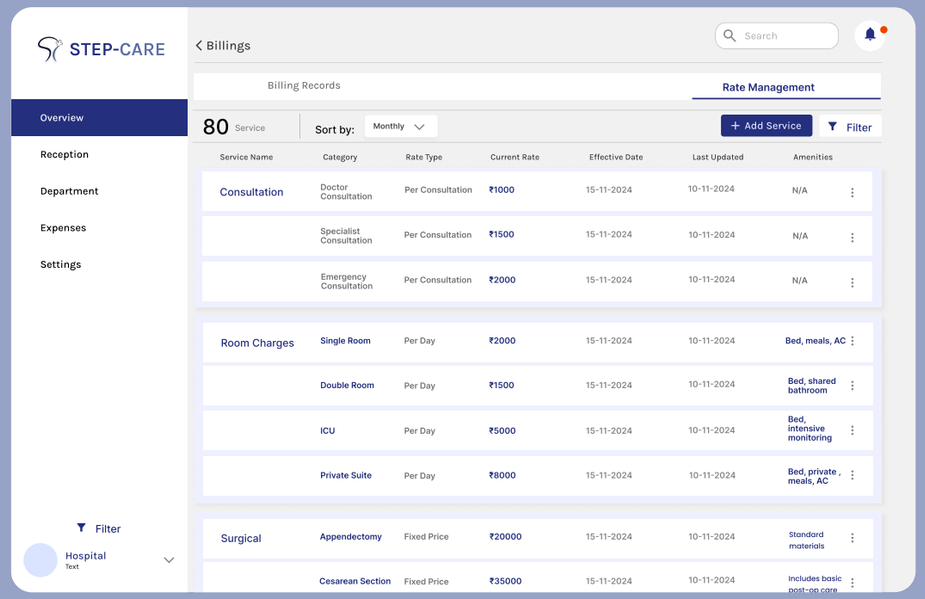
ADMIN

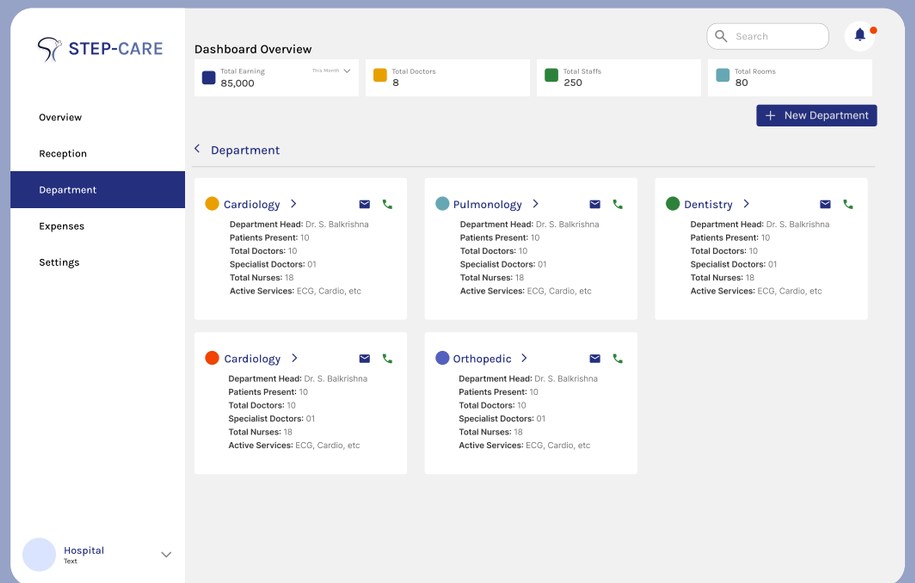


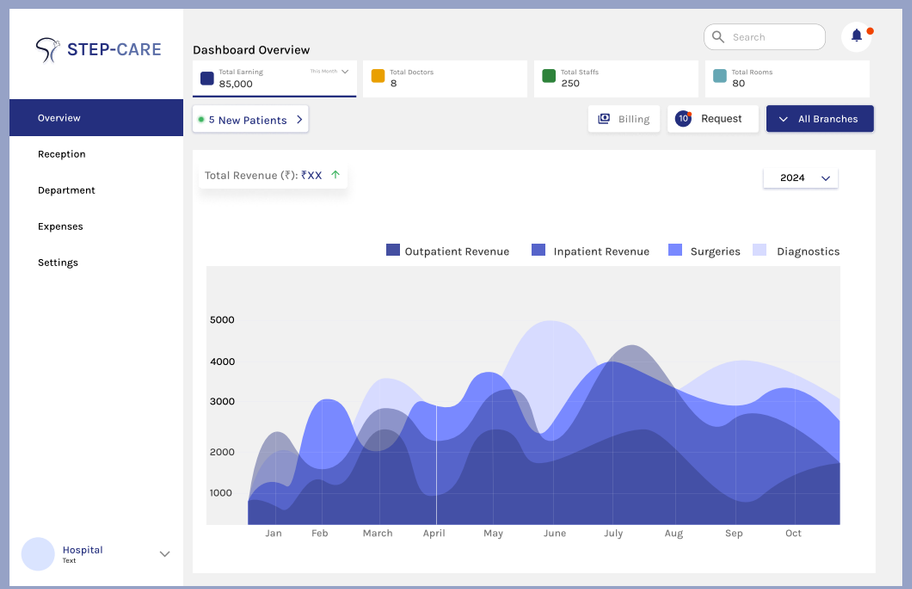
The admin panel centralizes hospital operations, from staff management to finance and inventory, offering a data-driven, real-time overview that supports proactive decision-making and reduces manual errors or resource wastage.

Admin Flow link


STEP-CARE
Dashboard Overview
Search
Total Earning
85,000
This Month
Total Doctors
8
Total Staffs
250
Total Rooms
80
Overview
Reception
Department
Expenses
Settings
5 New Patients
Billing
Request
All Branches
Appointment Statics
Appointments
Completed
Canceled
Monthly
50
40
20
10
0
Jan
Feb
March
April
May
June
July
Aug
Sep
Oct
Nov
Dec
Revenue
5000
4000
3000
2000
1000
Department
Gynecology
Cardiology
Pulmonology
Dentistry
Orthopedic
30%
30%
15%
15%
10%
Hospital
Text


STEP-CARE
Billings
Search
Billing Records
Rate Management
Overview
Reception
Department
Expenses
Settings
80 Service
Sort by:
Monthly
Add Service
Filter
Service Name
Category
Rate Type
Current Rate
Effective Date
Last Updated
Amenities
Consultation
Doctor Consultation
Per Consultation
₹1000
15-11-2024
10-11-2024
N/A
Specialist Consultation
Per Consultation
₹1500
15-11-2024
10-11-2024
N/A
Emergency Consultation
Per Consultation
₹2000
15-11-2024
10-11-2024
N/A
Room Charges
Single Room
Per Day
₹2000
15-11-2024
10-11-2024
Bed, meals, AC
Double Room
Per Day
₹1500
15-11-2024
10-11-2024
Bed, shared bathroom
ICU
Per Day
₹5000
15-11-2024
10-11-2024
Bed, intensive monitoring
Private Suite
Per Day
₹8000
15-11-2024
10-11-2024
Bed, private , meals, AC
Surgical
Appendectomy
Fixed Price
₹20000
15-11-2024
10-11-2024
Standard materials
Cesarean Section
Fixed Price
₹35000
15-11-2024
10-11-2024
Includes basic post-op care
Filter
Hospital
Text


STEP-CARE
Dashboard Overview
Search
Total Earning
85,000
This Month
Total Doctors
8
Total Staffs
250
Total Rooms
80
Overview
Reception
Department
Expenses
Settings
New Department
Department
Cardiology
Department Head: Dr. S. Balkrishna
Patients Present: 10
Total Doctors: 10
Specialist Doctors: 01
Total Nurses: 18
Active Services: ECG, Cardio, etc
Pulmonology
Department Head: Dr. S. Balkrishna
Patients Present: 10
Total Doctors: 10
Specialist Doctors: 01
Total Nurses: 18
Active Services: ECG, Cardio, etc
Dentistry
Department Head: Dr. S. Balkrishna
Patients Present: 10
Total Doctors: 10
Specialist Doctors: 01
Total Nurses: 18
Active Services: ECG, Cardio, etc
Cardiology
Department Head: Dr. S. Balkrishna
Patients Present: 10
Total Doctors: 10
Specialist Doctors: 01
Total Nurses: 18
Active Services: ECG, Cardio, etc
Orthopedic
Department Head: Dr. S. Balkrishna
Patients Present: 10
Total Doctors: 10
Specialist Doctors: 01
Total Nurses: 18
Active Services: ECG, Cardio, etc
Hospital
Text


STEP-CARE
Dashboard Overview
Search
Total Earning
85,000
This Month
Total Doctors
8
Total Staffs
250
Total Rooms
80
Overview
Reception
Department
Expenses
Settings
5 New Patients
Billing
Request
All Branches
Total Revenue (₹): ₹XX
2024
Outpatient Revenue
Inpatient Revenue
Surgeries
Diagnostics
5000
4000
3000
2000
1000
Jan
Feb
March
April
May
June
July
Aug
Sep
Oct
Hospital
Text

Admin Panel

Feature list

Stats overview - Appointment, revenue, total patient department

Total Earning

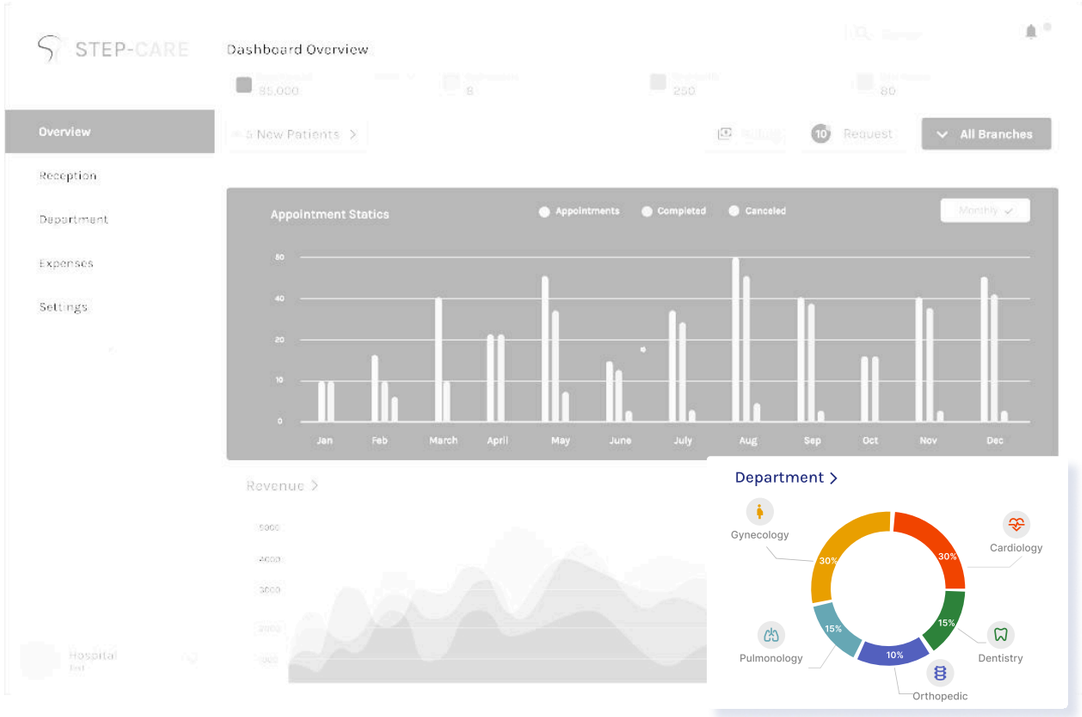
Billing record & Rate management

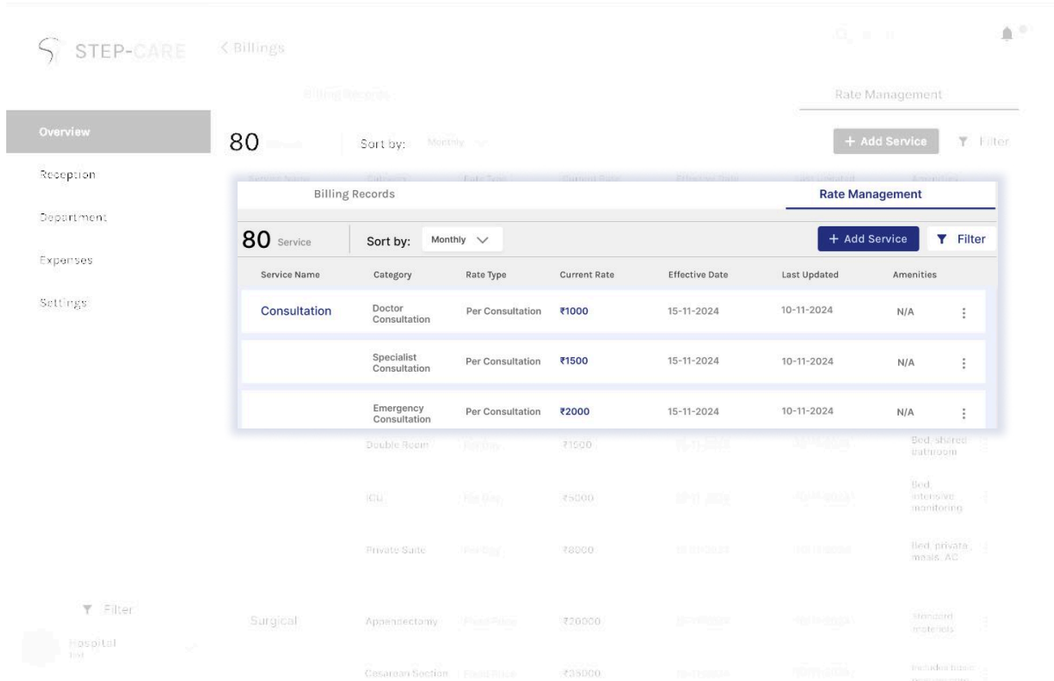
Reception view

Department update

Stats of Total Patients, Doctors, Staff, and Rooms

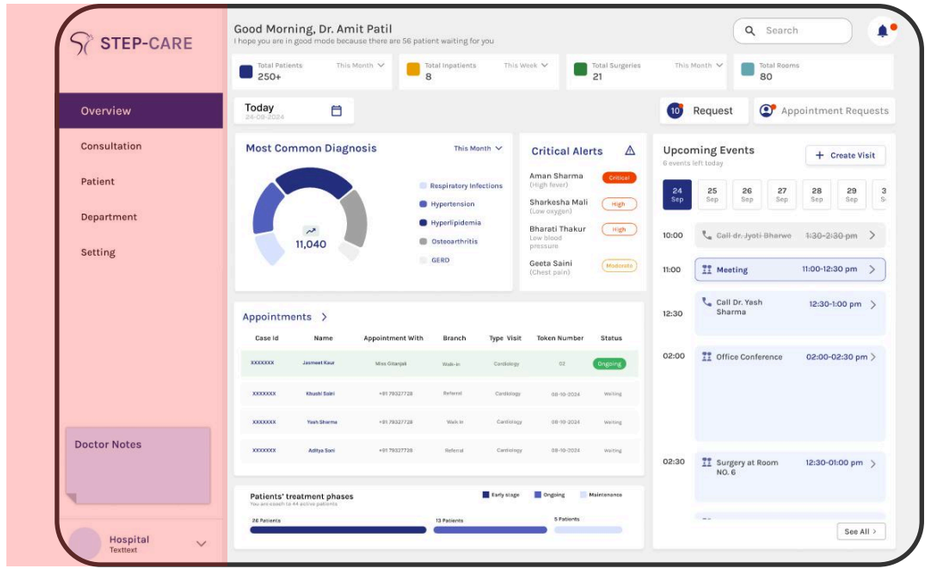
Billing





User
Testing

As a System Thinker, UX Designer, and Researcher, I worked across all levels of this project. When I conducted a usability testing , we discovered that despite all our planning and effort there were still critical gaps in the system. These insights helped us better understand the user experience and identify key moments in the user journey that needed to be simplified and improved.
So, I then conducted Research 2.0 to deeply understand the flow of Inpatient management.



verbatim

In this, the patient isn't even getting directly admitted through the Process.

Everything is fine, but there are gaps in Inpatient Management.

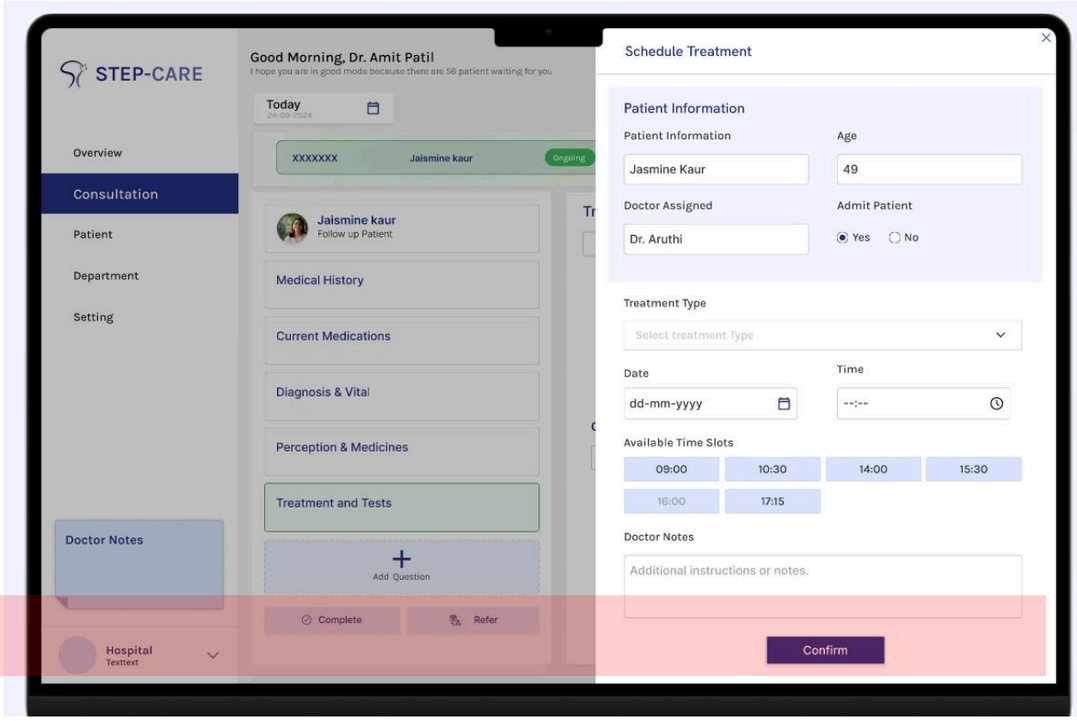
What will the doctor do with a desktop system? He can't carry it everywhere just to record data.

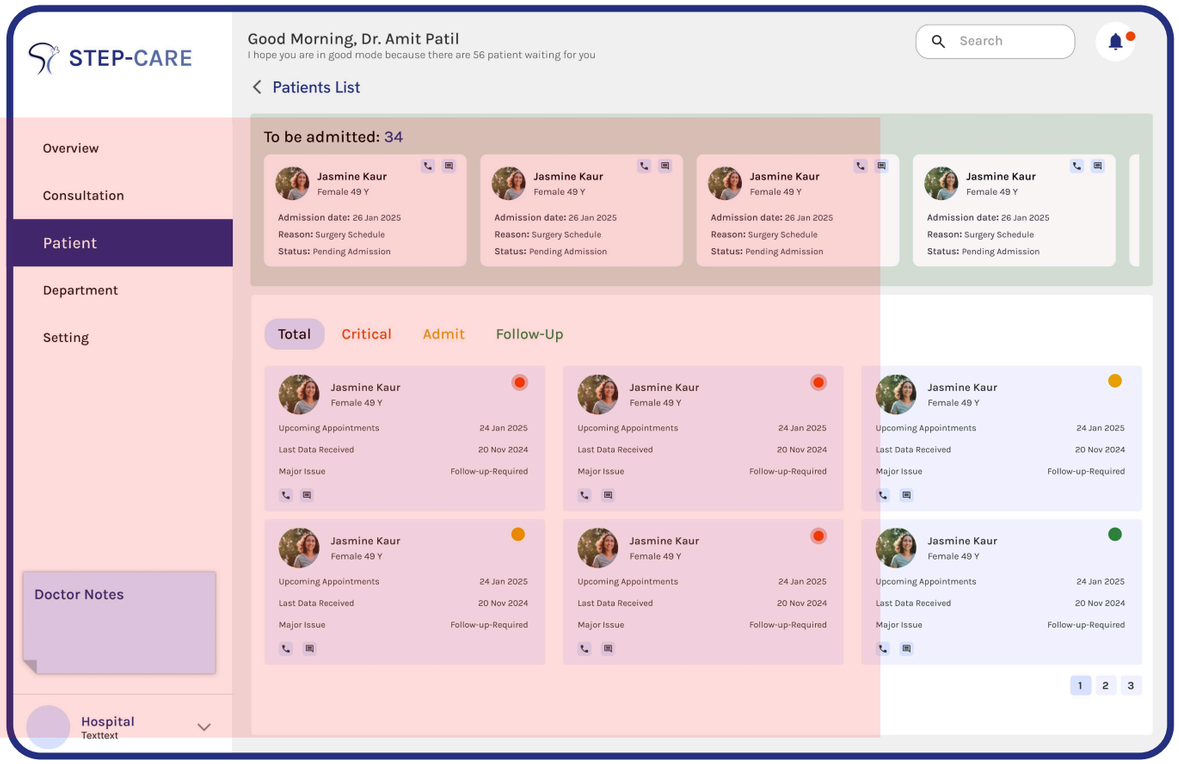
It's difficult for us to manage admitted patients and instantly remember all their data.

Gaps in Inpatient Admission & Treatment Flow – Key Observations & Requirements

Issues:

- Current process of admitting/scheduling patients lacks structure and clarity.
- Must prioritize inpatient management with detailed flow.
- A designated staff must have role-based access to admit patients.
- A designated staff must have role-based access to admit patients.





Future Scope

Phase- 2

- AI-based vitals assessment.
- Enhanced diagnostic tools.
- Visibility & Communication
- Streamline Workflows
- In-patient system flow
- Integration into specialized clinical modules

Our goal is to train an AI bot to become an indispensable and always-available assistant for doctors, receptionists, and administrators. This bot will be highly specialized to support them in all aspects of their daily tasks and information needs.





Bot Design by- Arsalan Ansari

Learning

While working on this project, I came to understand that research, analysis, and design aren't steps you complete once they're part of a loop that keeps going and evolving. The more I explored the system, the more I realized that every insight led to new questions, and every solution uncovered deeper layers of complexity.

I began to see the system as a network where everything is connected, and even the smallest inefficiencies can cause bigger issues. Talking to doctors, staff, and patients helped me truly understand their struggles, and that shifted my approach to designing with more empathy and clarity.

Research wasn't just something I did at the beginning it became a continuous part of the process. I kept observing, gathering feedback, spotting patterns, and tweaking my designs. This helped me stay grounded in real user needs instead of assumptions.

Working on healthcare systems also taught me the power of simplicity. I focused on making things easy to use, especially for people who aren't very tech-savvy. I also learned that breaking down complex ideas into smaller phases made the process easier to manage and helped build trust with the users.

Facing emotional and ethical situations like seeing overworked staff or delays in urgent decisions made me realize that technology should care about people. It's not just about making things faster, but about making them kinder and more respectful too.

In the end, this project helped me grow not just as a designer, but as a person. It taught me to think more deeply, be more responsible, and to create designs that make a real, meaningful difference.

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THANK YOU