



UX/UI Take Home Design Challenge

CareNurse Case Study

Duration: 6 days

Tools: Figma



Two screenshots of the CareNurse application. The left screenshot shows a mobile phone displaying a dashboard with patient names (Olivia Rhye, Penn Baker, Jimmy Khula, Ronald Keagan) and their room numbers (101, 102, 104, 106). The right screenshot shows a detailed nurse profile for Sherry Jones, including her photo, ID number (75746), phone number ((646) 659 9089), and status ('Clocked in'). The profile also includes sections for Demographics (Female, DOB 09/30/1974, Age 50, Cardiology, Charge Nurse Nancy Drebin, RN, sherry.jones), Workload (Hours/wk 36, Sick 7%, No show 2%, Late 15%), and Quality of Care Records. The Quality of Care Records section includes tabs for Patient Care Metrics, Quality & Safety (highlighting a note about workload), Clinical Outcomes, and Feedback. A callout box in the Quality of Care Records section notes that assigning 5+ patients to one provider can affect performance and suggests easing the nurse's workload. Another callout in the Workload section notes that Sherry has been spending less time with patients recently and suggests reaching out to her.

Project Brief

We need you to design a 2 part application

1. Design an app to help nurses stay on top of their patients and patient requirements.

Screen Requirements:

- Full list of patients
- Screen for individual patients: include whatever the nurse needs to know about each patient.
- Must be a mobile app

2. We need to create an app for the Director of Nursing to track all patients and nurses.

Screen Requirements:

- Dashboard to track nurse performance.
- Table of patients and their assigned nurses
- This needs to be a desktop app

Bonuses:

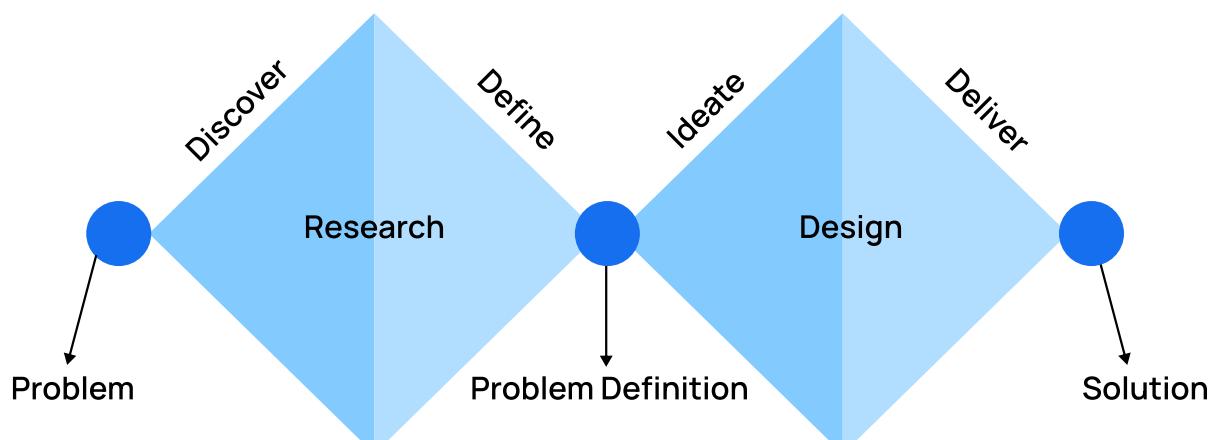
Not required but extra if you'd like.

1. Patient floor plan

Please keep in mind, according to our research, a significant number of users are not technologically savvy.

Plan of Attack

Utilizing the **double diamond strategy** gave me a framework to work with in order to deliver a truly user-centered solution.



Step 1: Discover- 4 hours

Before setting out on the discovery phase, I laid out a couple of research goals to keep in mind. The overall goal of this step was to walk away with answers to the 5 “W” questions:

Who, When, What, Where, and Why?

Research Goals

1. Learn as much as possible about our potential users.
2. Understand current solutions and the competitive landscape.
3. What type of digital solution is desired and what makes the most sense?
4. Determine if and how we can leverage new technology.

Most of my research was gathered from a couple of interviews (more like conversations) with people I know that work in healthcare facilities. The rest of the information I got from online, trying to gather as much insights into the problem space in the narrow time frame.

Insights

Insights- Nurses

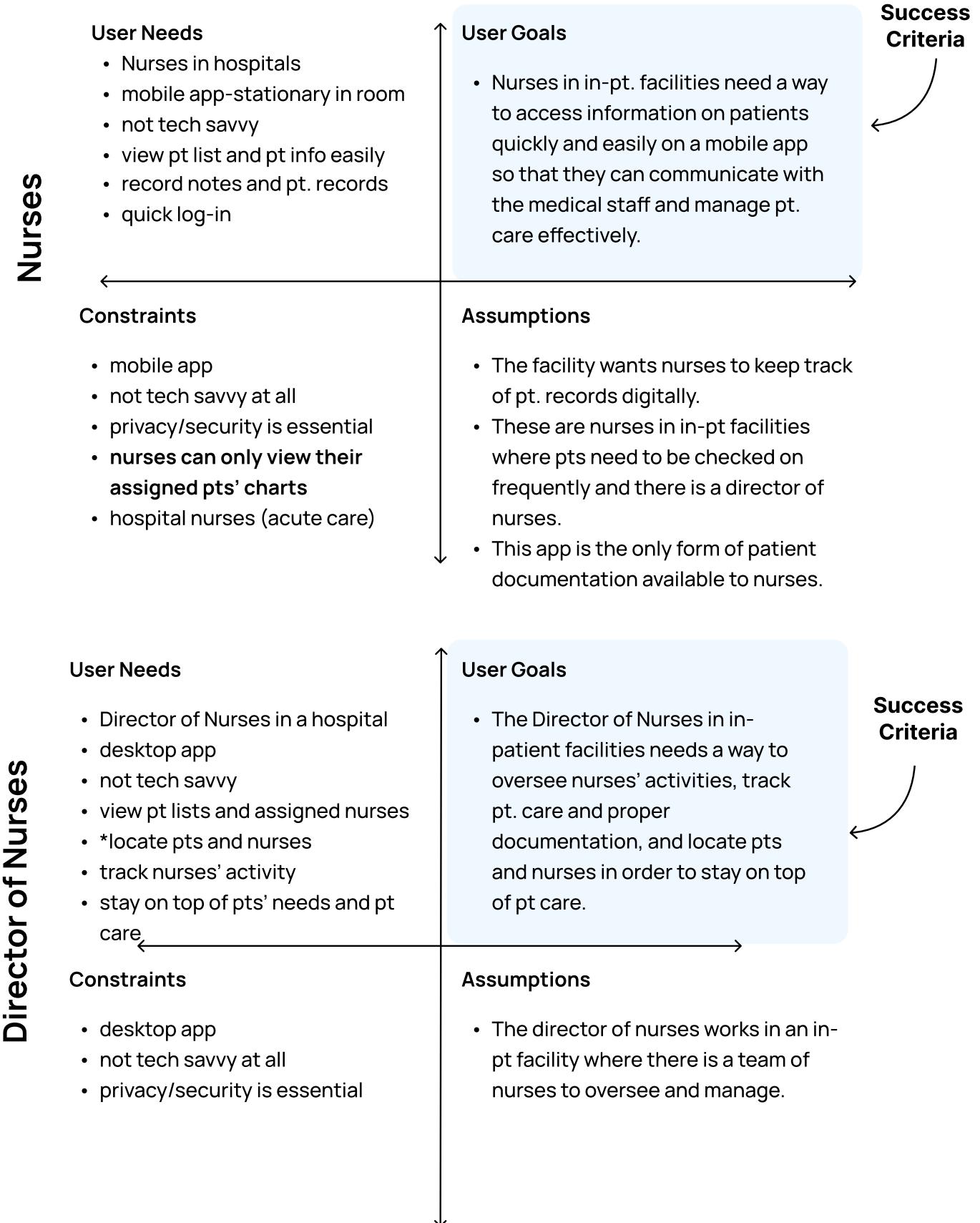
- In most facilities, nurses are not permitted to use their cell phone during shift. (Distraction, Hipaa, and infection control)
- A charge nurse generally checks in on pts to record vitals, administer medication, check on resident's condition, and document accordingly. (maintenance and treatment)
- Privacy/security is top priority in healthcare facilities
- A critical change in condition is something that the DON needs to be notified of so that she can follow up accordingly
- Sometimes it takes time before the nurse can document a critical change in behavior or other documentation (if the computer is outside of room)
- "We don't sit down, we don't talk to the patients because we are so busy"
- "Because you're a nurse, you're there for the patients, not the computer."
- Nurses are frustrated when EHR systems are difficult to navigate bc of crowded interfaces and lengthy logins, causing them to take away time from their patients.
- EHRs greatly improve communication between departments
- Accurate and timely documentation is so important because nurses work together to provide patient care and there needs to be constant communication on the well-being of a patient.
- Nurses can only have access to their patient's information
 - Who?
 - Nurses in inpatient facilities (specifically hospitals)
 - What?
 - A mobile app that allows them to record and retrieve patient information
 - Why?
 - So that they can properly treat patient
 - A mobile app is simpler to use than a desktop EHR
 - So that any critical changes in conditions or other red flags can be recorded right away
 - When?/Where?
 - Mounted on the wall in each hospital room
 - Nurses sign in upon entering room and document information as they evaluate and treat patients.
 - How?
 - Using a mobile app with an intuitive, simple interface, nurses will log in using a pin or facial ID, check on patient's recent activity, assessment and plan of care, and document any information they need as they assess patient.

Insights- Director of Nursing (DON)

- The Director of Nursing (DON) in any inpatient facility has the responsibility of overseeing and managing all the nurses and their patients quality of care.
- The DON needs an efficient way to review past 24hour notes for high priority alerts/red flags.
- The DON is responsible to follow up on high priority alerts (a patient's health or safety is at risk)
- It is important for the DON to be notified as soon as possible when there is an alert to prevent the problem from growing.
- The DON needs to oversee the nurses and ensure that they are adhering to protocol, documenting accurately, delivering high quality of care, administering meds correctly, and generally working efficiently and responsibly
 - Who?
 - The Director of Nursing (DON) in inpatient facilities (specifically hospitals)
 - What?
 - A desktop app that allows her to oversee nurses' activity, be informed of any red flags, and retrieve patient information
 - Why?
 - She needs to oversee all nurses and their patients to ensure quality of care.
 - One integrated platform is the easiest way to stay on top of the facility's operations and respond in real time,
 - When?/Where?
 - A desktop app in her office/home office
 - At the beginning of her shift and throughout the day.
 - How?
 - Using a desktop app, the DON can access an overview of the past 24 hour notes and be notified of any red flags or high priority alerts.
 - Throughout the day, she can be notified right away of a high priority alert so that she can respond in real time

Framework

With my 5 ws answered, I built a framework based on my research, constraints, and assumptions. I used this framework throughout my entire process to ensure that my designs were aligned with my research.



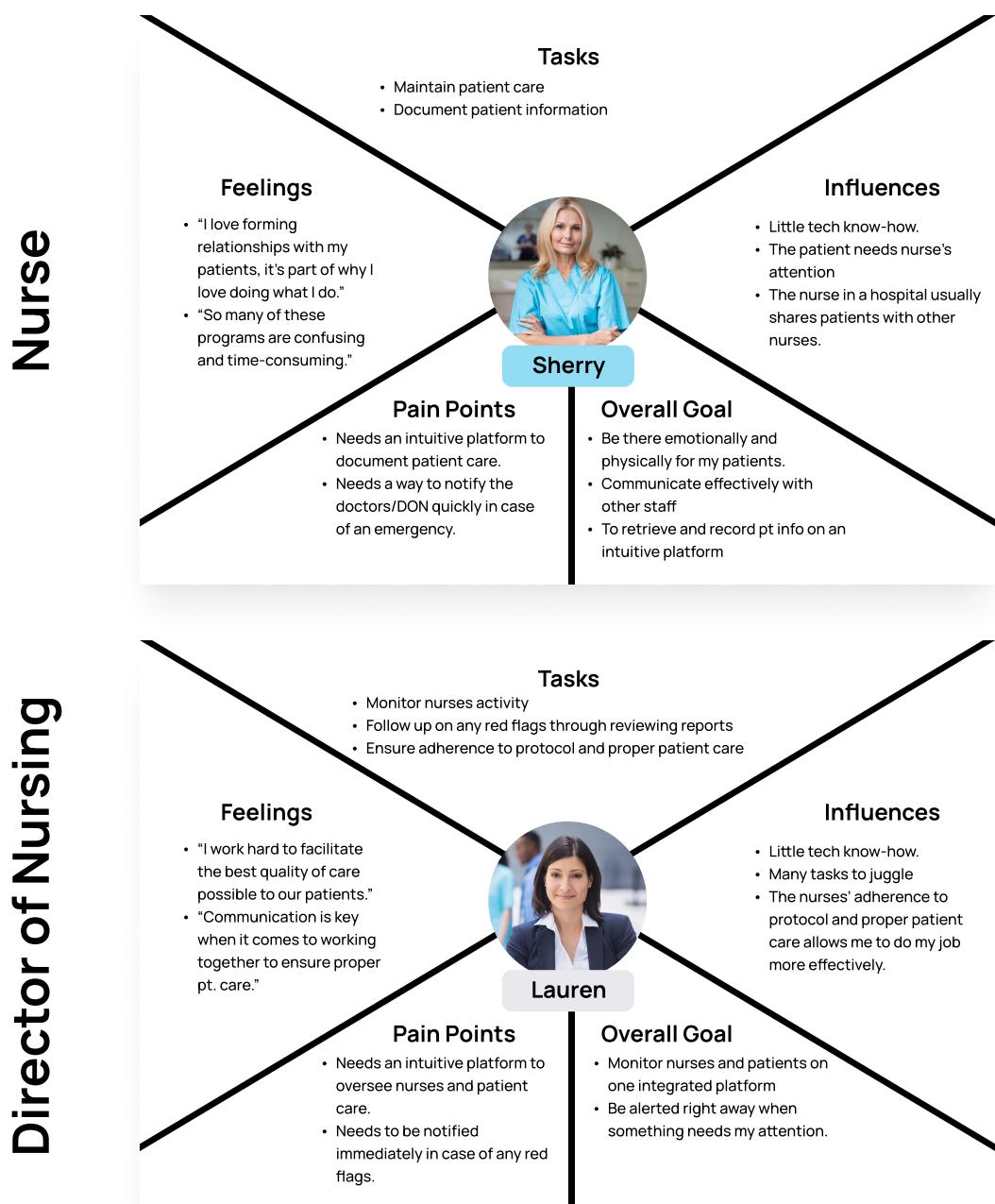
Step 2: Define- 2 hours

The next step is to define the user problem we are working to solve. This is where I narrow down on the first diamond (the research phase) and empathize with the potential users to define the **problem statement**.

For me, this step included 2 strategies:

1. Empathy Mapping
2. User Journey Mapping

I used an adapted version of the original **Empathy Map** because I felt that this would be the best way to get into the headspace of the 2 kinds of potential users and understand the context in which they would use this app.



User Journey Mapping is my favorite part of the research/definition process because you get a glimpse of how our app can bridge some of the gaps in our users' lives by analyzing the tasks they perform to achieve a goal and identifying opportunities to aid their journeys.

With each persona I created, I chose one of their goals to analyze the way they usually achieve it.

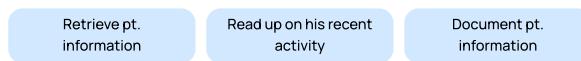
Sherry

Nurse, age 51, NJ

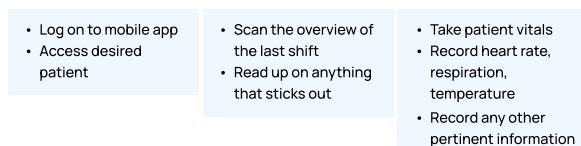
Goal: To retrieve and record patient information on an intuitive platform.

Scenario: Sherry begins her shift at 8 AM. She needs to be updated on the patient's past 12 hours, and continue treatment accordingly.

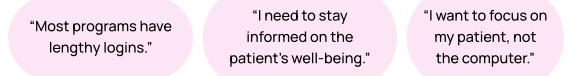
Phases:



Tasks:



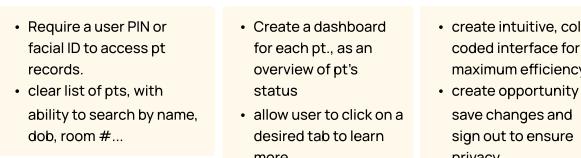
Thoughts:



Emotions:



Opportunities:



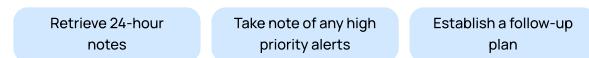
Lauren

Director of Nursing, age 36, NJ

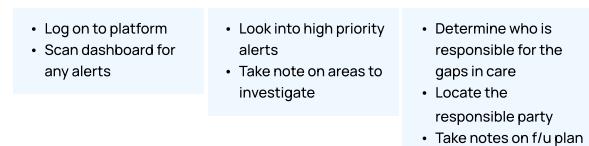
Goal: Monitor nurses and patients on one integrated platform.

Scenario: Lauren begins her shift at 8 AM. She needs to review the past 24 hour reports and follow up on any red flags/

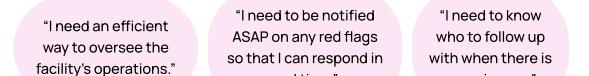
Phases:



Tasks:



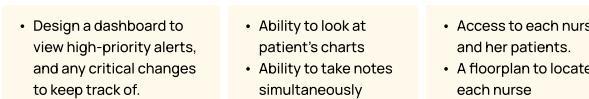
Thoughts:



Emotions:



Opportunities:



Problem statements:

As a **nurse in a busy hospital**, I want to quickly and easily document patient information so that I can communicate with the rest of the medical staff while ensuring quality patient care.

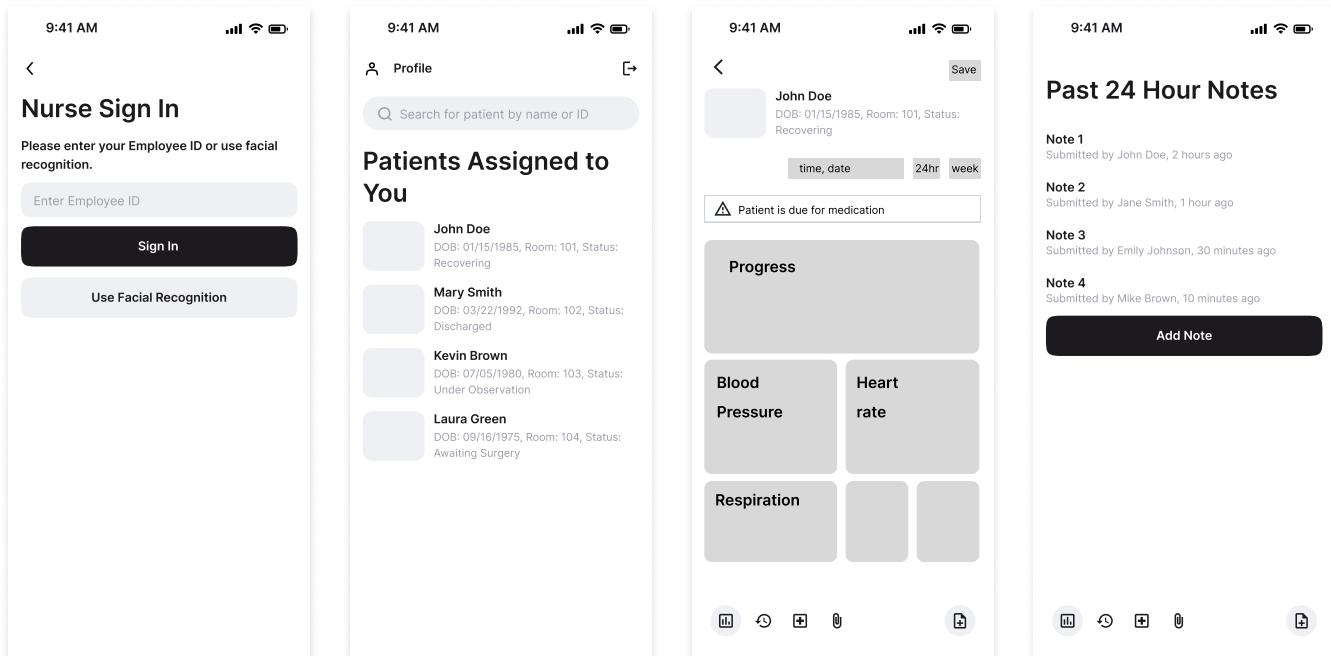
As the **Director of Nursing in a busy hospital**, I want to oversee patient care and the facility's operations to ensure that everyone is doing their best to deliver quality of care.

Step 3: Ideate- 2 hours

For the ideation step, I wanted to get all my ideas out quickly so that I could focus on the UI and visuals for the final deliverable. Below are my digital rough wireframes.

Wireframes

1. Nurses' mobile app



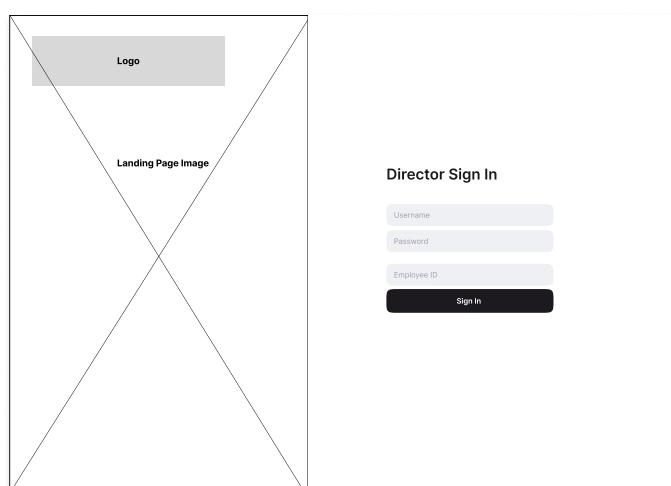
Sign in- quick and easy with PIN or face ID

landing page- List of patients and primary details at a glance, with search capability

Patient chart- overview of patient's vitals and alerts

access to notes submitted within the last 24 hours, and option to add new note.

2. Director of Nurses (DON)'s desktop app



sign in page- quick, easy, yet secure with extra verification (employee id)

Shift November 20, 2024
07:00-19:00

Nurses	Assigned Patients	Status	Room #	Last Updated	Notes
name on shift	name, id	green	101	10:02	Pt. last received meds 09:45
name on shift		green	102	11:13	Heart rate is stable, no signs...
name on shift		green	103	06:17	⚠️ Pt. is due for meds
name on shift		light blue	110	10:45	Pt. is lethargic, appears st...
name on shift		light blue	112	10:02	Heart rate regained stability...
name on shift		yellow	113	11:13	Pt. complains of back pain...
name on shift		pink	104	06:17	⚠️ Pt. eval is overdue
name on shift		pink	105	10:45	Heart rate regained stability...
name on shift		pink	107	10:02	Pt. complains of back pain...
name on shift		green	109	11:13	Pt. is lethargic, appears st...
name on shift		pink	115	06:17	⚠️ Missing Documentation
name on shift		yellow	116	10:45	Pt. complains of back pain...
name on shift		light blue	117	10:02	Pt. is lethargic, appears st...
name on shift		light blue	120	11:13	Heart rate regained stability...

Dashboard- view every nurse, their assigned patients, statuses of nurses, time of last updated charts, and any alerts/ notifications that are high priority for DON to know.

Dashboard > Sherry Black

Nurse Name date of birth contact info	notification				
stat	notification				
Assigned Patients	Patient Care Metrics	Quality & Safety Indicators	Outcomes	Feedback	Training and Compliance

Nurse Profile- view specific nurse's profile, with demographics, and patient care metrics, with any high priority alerts standing out for the DON to be seen upon landing.

Step 4. Deliver- 10 hours

The final step definitely took the most time for me. It involved choosing typography, a color scheme, and creating components that are just right for this app. Designing for mobile and desktop was definitely challenging but I used the opportunity to practice my auto layout and component/variant skills. Overall, I am very happy with how my designs turned out.

Visual Design

Typography- I chose the modern yet elegant **manrope** to achieve a traditional, classy look while keeping interfaces refined and clean.

Aa

Manrope

Color Scheme

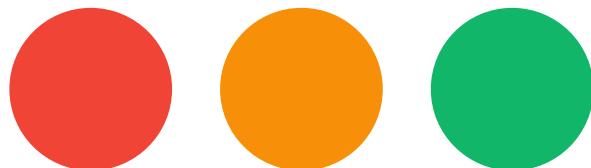
Brand



Grays



Status

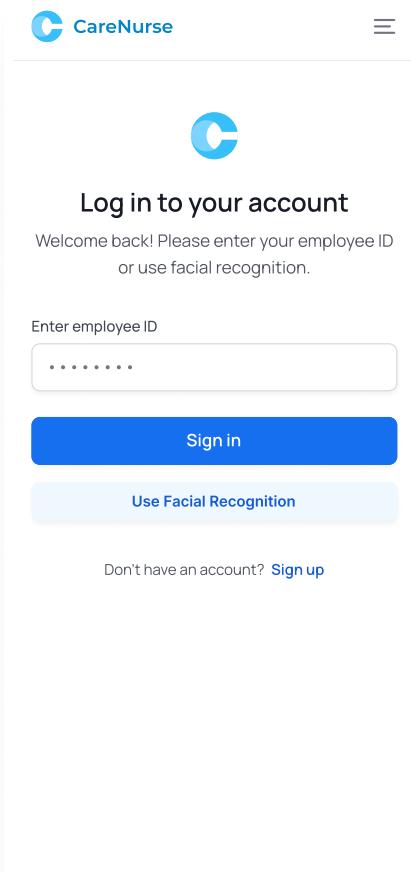


error

warning

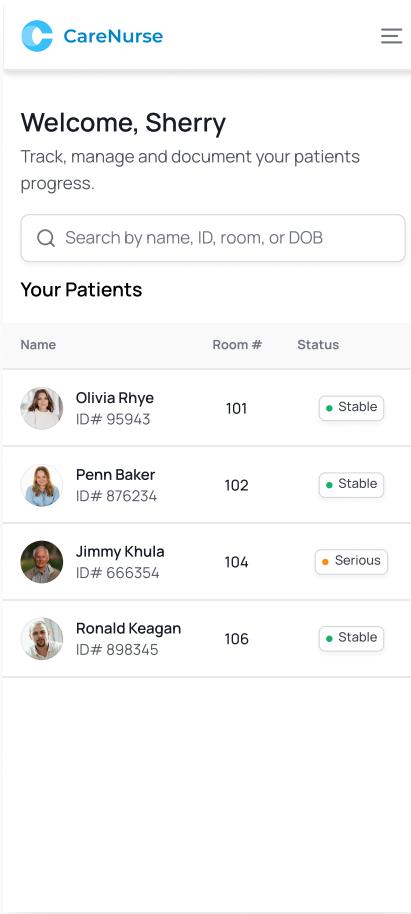
success

Mobile App Mockups



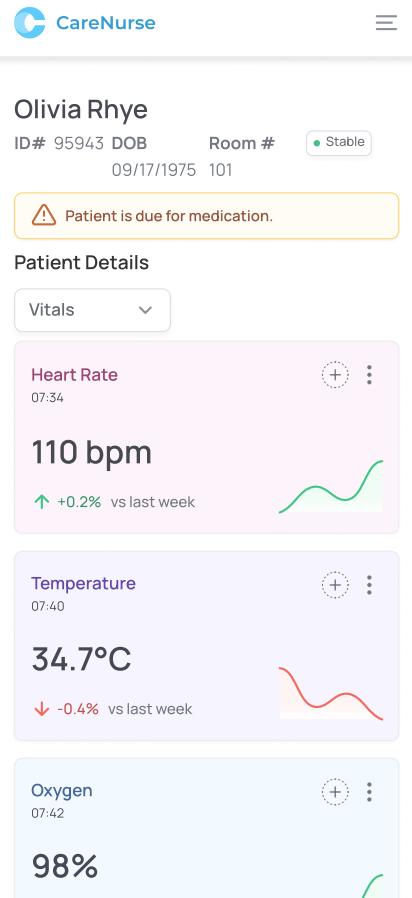
Sign in is required upon entering a patient's room in order to ensure privacy and security. (assuming every employee had a unique ID that is confidential)

The sign in flow is very straightforward so that nurses can get in right away, either enter employee ID or use facial recognition



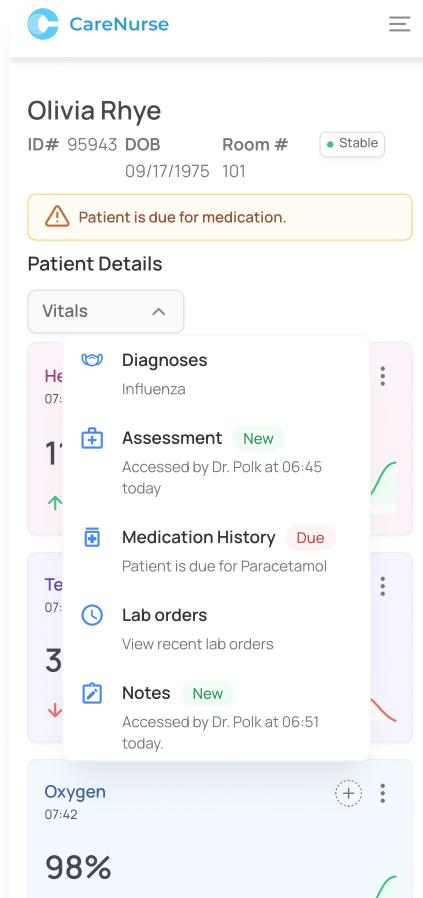
Once the nurse accesses her account, she sees the list of her assigned patients to choose from. This overview gives her the primary details (name, patient ID, room #, and status level). In case a nurse has a long list of assigned patients or she has inactive patients that are no longer in the facility but has not been updated in the system, I included a search feature that she can search by name, id, date of birth, etc.

Mobile App Mockups



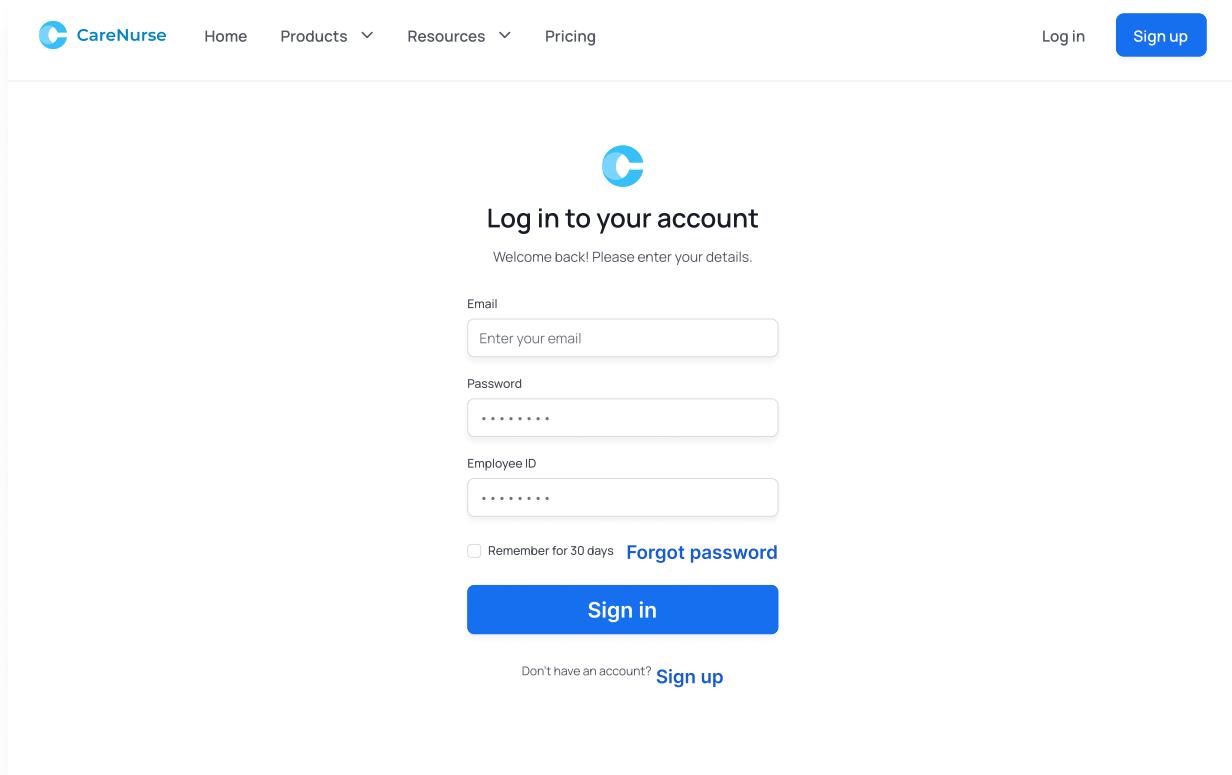
Patient's dashboard includes primary information at the top, any high-priority alerts or notifications pop up underneath. The first thing the nurse sees are the vitals because that shows the current condition of the patient as last documented. There is a dropdown menu where the nurse can access other details about the patient like diagnoses, assessments, medication history, lab orders, and notes submitted by the nurses and doctors. She can update vitals or anything else through navigating the other screens.

Assumptions: Doctors have their own way of accessing and documenting patient records.



This is the screen view with the dropdown menu opened. She can see at a glance most recent activity and if there are any new updates or alerts under the other categories.

Desktop Mockups



Log in flow is very straightforward. Extra input field for employee ID for extra security since all the information on this app is highly confidential.

Desktop Mockups

Dashboard

Shift: November 20, 2024 07:00-19:00

Search by name or ID

Name	Assigned Patients	Room #	Last Updated	Notes
Sherry Jones ID # 75746	Olivia Rhye	101	Yesterday, 21:10	Documentation missing. Pt. is due for meds +4
	Josh Keagen	102	07:45	Temperature is back down, patient is stable +1
	Florence Hyde	103	06:19	Pt. reacted well to last vaccine +3
Felicity Young ID # 980787	Polly Unger	104	Yesterday, 20:45	Documentation missing, safety warning +2
	Hugo Inber	105	Yesterday, 21:20	Documentation missing. Pt. is due for meds +4
	Candance Dun	106	Yesterday, 21:40	Documentation missing, Oxygen levels serious +4
Patty Hill ID # 00321	Jake Bilo	107	08:15	Blood pressure rising, irregular breathing, blurred vision +4
	Veronica Owens	108	08:40	Last dose administered successfully, patient is feeling... +4
	Idy Wake	109	07:50	Temperature rose to 101, dose administered successfully +4

Dashboard shows the list of nurses, their status, ID #'s and number of patients. Included on this table is also the room #'s of the individual patients, when each of their charts were last updated and any updates or high priority alerts related to specific patients. From the dashboard, the DON can navigate to a nurse's individual page, any patient's chart, the weekly schedule, and a floorplan to view patients' and nurses' location in real time. It's important for the DON to be notified of any gaps in documentation or any high priority alerts related to any patients. This is what she sees when she first logs in.

Desktop Mockups

The screenshot shows the 'Nurse Profile' page for Sherry Jones. On the left is a vertical sidebar with icons for Dashboard, Schedule, Charts, Floorplan, and a note icon. The main content area has a header 'Dashboard > Sherry Jones' and a back button. It features a profile card for Sherry Jones, ID # 75746, with a 'Clocked in' status. Below this are sections for 'Demographics' (Gender Female, DOB 09/30/1974, Age 50, Date of hire 11/23/2015, Department Cardiology, Position Charge Nurse, Supervisor Nancy Drebin, RN, Web meeting sherry.jones) and 'Schedule' (Shift 12 hrs, Hours/wk 36, with a donut chart showing Sick 7%, No show 2%, Late 15%). At the top right are three cards: 'Average response time 02m 34s', 'Reported falls 5', and 'Satisfaction rate 89%'. The main area is titled 'Quality of Care Records' with tabs for Patient Care Metrics (selected), Quality & Safety, Clinical Outcomes, Feedback, and Training & Compliance. Under 'Patient Care Metrics', there are two sections: 'Average Assigned Patients' (7 patients, note: Assigning 5+ patients to one provider can affect the nurse's performance and overall well-being. Consider easing her workload by reducing the amount of assigned patient.) and 'Average Time Spent with Patient' (4m 35s, note: Sherry has been spending less time with her patients recently. This can cause patients to feel not properly cared for, even neglected. Consider reaching out to Sherry about this issue.). A bar chart shows average time spent per month from December to November.

The Nurse Profile page allows the DON to keep track of her nurses' performance. With patient care, safety measures, clinical outcomes, feedback, training, and compliance being tracked and reported in real time, the DON can ensure that her nurses are delivering the best quality of care they can. Any concerns or red flags immediately notify the DON if there are issues with the nurse's schedule, workload, or position. At the top, some data is highlighted to give an overview of this particular nurse's performance. On the left is the patient's general information like demographics and work schedule for the DON to have on command.

Final Thoughts

If I had more time on this project, I would spend time finishing up the other screens for the patient charts on mobile and desktop as well as the desktop screens for the other nurses' metrics. I would also take the time to test out a prototype on potential users to evaluate and iterate my designs.

Overall, it was fun to use this opportunity to practice my design thinking and UI skills!