

Storyboard



Emergency Department: A walk-in patient journey from check-in to discharge, with six robot roles supporting registration, navigation, supplies, discharge tasks, waiting-room experience and comfort.



Sleep Disorder Clinic: An in-clinic sleep study from check-in to overnight monitoring and discharge, mapping nine robot tasks across personalized education, task reminder, technician support, and exit assistance.



Long-term Rehabilitation Facility: A resident's daily routine, highlighting four robot roles that support identity access, schedule reminders, entertainment, and health data tracking.

Cardboard Prototype

Emergency Department



Relia



Bearer



Reliable

Role: Delivery system, storage system, tour guide

User group: Healthcare worker, patient

Capabilities: Deliver medical supplies, tour guide, store medical supplies and comfort items, dispense snacks and beverages

Interaction Modalities: Speech, touchscreen

Role: Storage system, delivery system, tour guide

User group: Healthcare worker, patient

Capabilities: Deliver medical supplies, store medical supplies, tour guide

Interaction Modalities: Speech, camera, facial expression

Role: Storage system, tour guide

User group: Healthcare worker, patient

Capabilities: Store medical supplies, tour guide, facial expressions, rotating face

Interaction Modalities: Speech, 360 degrees-of-freedom touchscreen

Sleep Disorder Clinic



Nebuchadnezzar



Dream-E

Role: Storage system, tour guide

User group: Healthcare worker, patient

Capabilities: Greet patients, tour guide, on-board data entry, question-answering, patient education

Interaction Modalities: Speech, videos, facility maps, tablet, touchscreen

Role: Delivery system, storage system, tour guide

User group: Patient

Capabilities: Tour guide on-board data entry, question-answering, gather patient information, store comfort items

Interaction Modalities: Facial expression, keyboard, touchscreen, sound

Long-term Rehabilitation Facility



Brockette

Role: Storage system, entertainment

User group: Healthcare worker, patient

Capabilities: Store art supplies, UV light sanitation, touch responsive hair, face expressions, display artwork, computer games, puzzles

Interaction Modalities: Keyboard, speech, touch sensors, facial expression



Roamin

Role: Delivery system, storage system, entertainment, tour guide

User group: Patient

Capabilities: Play music, deliver games, dispense snacks, tour guide

Interaction Modalities: Speech, facial expression

Full-Scale Prototype

Emergency Department (RELIA The BearER)



1. Mounted Speakers
2. Touchscreen
3. Storage Body / Vending System

A full-scale ED robot integrating medical-kit delivery, touchscreen guidance, and expressive cues to support registration, navigation, and discharge tasks. Designed for fast-paced workflows with secure access and clear communication signals.

Sleep Disorder Clinic (DreamE)



1. Touchscreen
2. Desk Surface
3. Storage Drums

A calm, concierge-style robot for sleep clinics featuring voice-controlled storage, soft lighting, and data-collection support. Its soothing embodiment assists check-in, overnight workflows, and patient comfort.

Long-term Rehabilitation Facility (RoamIN)



1. Mounted Speakers
2. Touchscreen
3. Vision Systems
4. Scrolling Display
5. Moving Hand
6. Tactile Interface

A mobile recreational and therapeutic companion for long-term care, combining entertainment, schedule reminders, and social-connection tools. Designed to support resident engagement and assist staff with structured activity insights.