Berkeley Chandler
ID 6103
Spring 2024



Improved Hospitality for Visiting Family Members in Inpatient Hospital Rooms

Final Presentation

The Patient



Meet John. John is a 54 year old man who has been healthy his entire life, and has honestly **barely stepped foot into a hospital before**. At least, that was until he was **diagnosed with stage 4 cancer** a few months ago. Now, he's constantly in and out of the hospital for treatment and appointments. Sometimes, he's in and out in just a day; other times, **he's there for up to 3 weeks at a time**.

The Patient



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He's **terrified at the thought of facing his treatment alone**. Luckily, his friends and family have been by his side as much as possible, especially his wife Lila. He doesn't know what he would do without her. At the same time, **John sees the toll it's been taking on her having to drive back and forth to visit him every day**, and it fills him with guilt.

The Caregiver



Meet Lila. Lila is a 59 year old woman **whose husband, John**, was recently diagnosed with cancer. After hearing what his treatment plan needed to look like, she was **ready to drop anything to make it happen** in hopes that he could make a full recovery. She comes with him to check into every appointment and **visits him every day** he's at the hospital.

The Caregiver



Meet Lila. Lila is a 59 year old woman **whose husband, John**, was recently diagnosed with cancer. After hearing what his treatment plan needed to look like, she was **ready to drop anything to make it happen** in hopes that he could make a full recovery. She comes with him to check into every appointment and **visits him every day** he's at the hospital.

It's been hard trying to figure out **how to bring the rest of her life to the hospital with her**, but she knows how lonely and stressed John would be without her by his side. Still, **making the drive to the hospita**l each day to sit with him, then back home each night; **carrying her personal items back and forth** constantly; sitting in **a room with no personal touch** - all of it has been taking a toll on her and **restricting how much she can be there for him**.

One Story of Many



Design Opportunity

Multiple studies have shown a **positive relationship between family interactions and improved healing rates** for patients in hospital settings.



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Multiple studies have shown a **positive relationship between family interactions and improved healing rates** for patients in hospital settings.

Despite this, current hospital designs **don’t always create the most hospitable environment** within inpatient care rooms **for visitors to stay and visit with their loved ones** long-term.



Design Opportunity

Current efforts to increase hospitality within the healthcare field focus on improving waiting room areas or improving the patient care experience, but recent trends have **overlooked the importance of making visitors feel welcome beyond the waiting room.**



Visitor Pain Points

Some of the **most common issues** visitors face when staying with their loved ones in inpatient care include...

1. **inadequate seating and sleeping arrangements**



Visitor Pain Points

Some of the **most common issues** visitors face when staying with their loved ones in inpatient care include...

1. **inadequate seating and sleeping arrangements**

and

2. **not having enough storage for visitors to bring their personal items or forms of entertainment.**



Hospital Pain Points

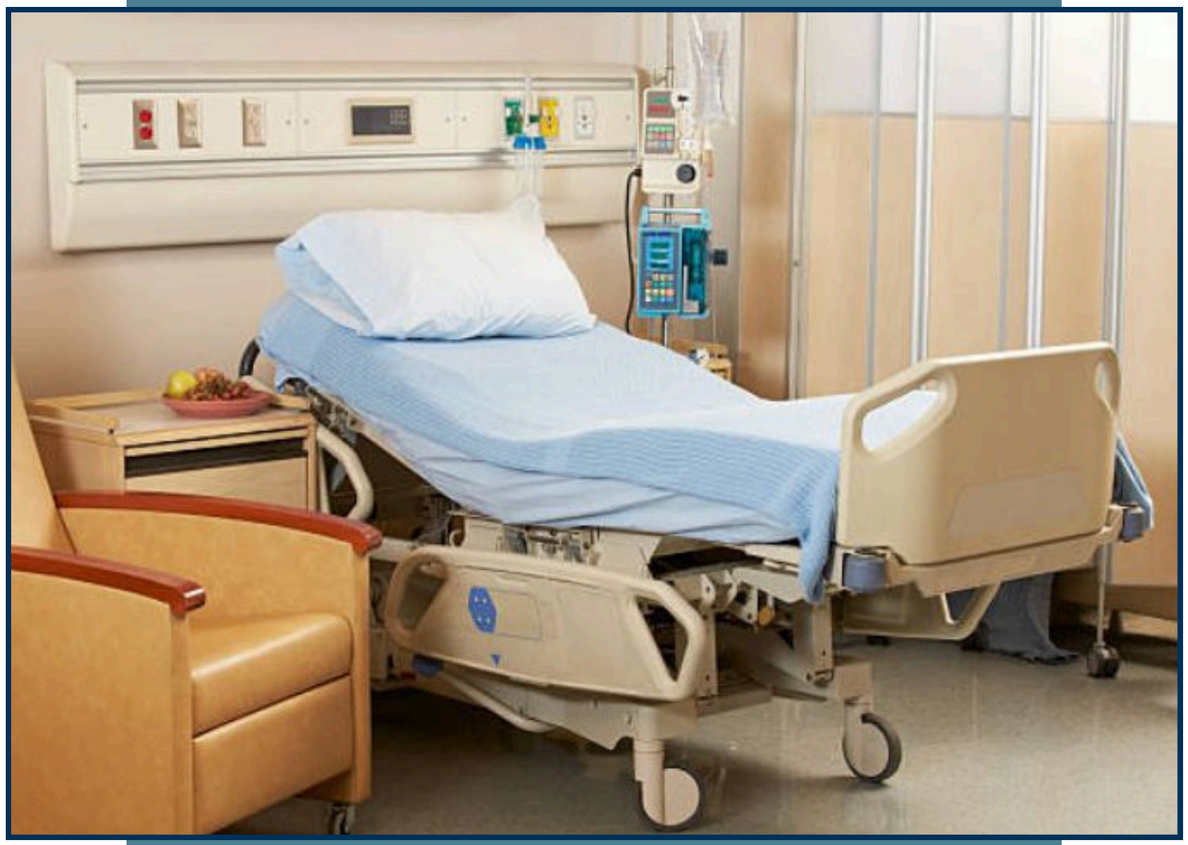
At the same time, **hospitals are busy enough as it is**, so any new products or systems introduced need to **not disrupt current systems of operating**.



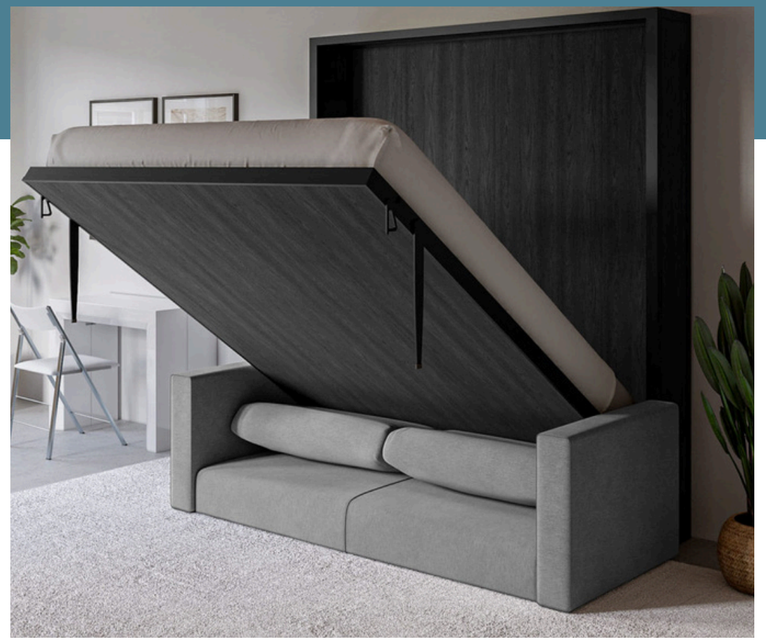
Hospital Pain Points

At the same time, **hospitals are busy enough as it is**, so any new products or systems introduced need to **not disrupt current systems of operating**.

Along with that, most **hospital rooms are small** and space allocated needs to **prioritize the patient's bed, monitor, and any other machines** needed.









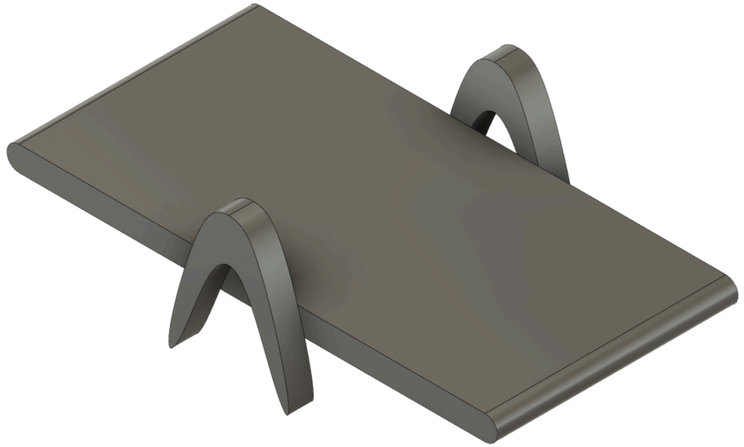
Proposed Concept

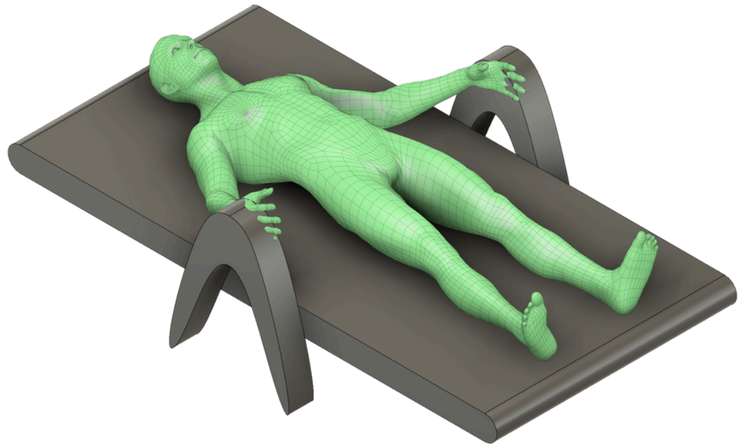
An **all in one sofa/bed system** to be used **in inpatient rooms**, allowing family members to **comfortably visit** with their loved ones in a variety of ways while still **best utilizing space.**

Concept Development / Folding Chair

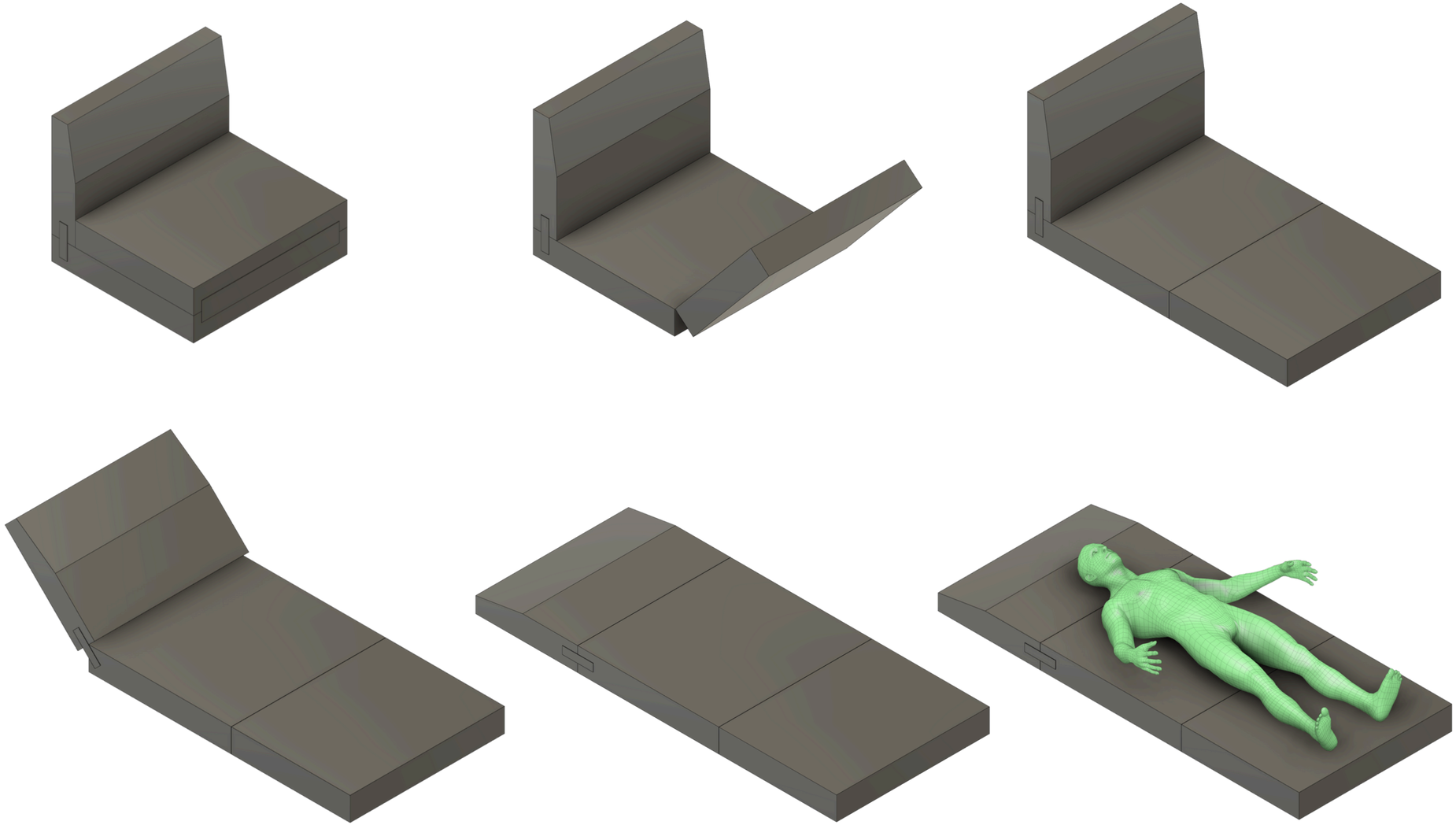




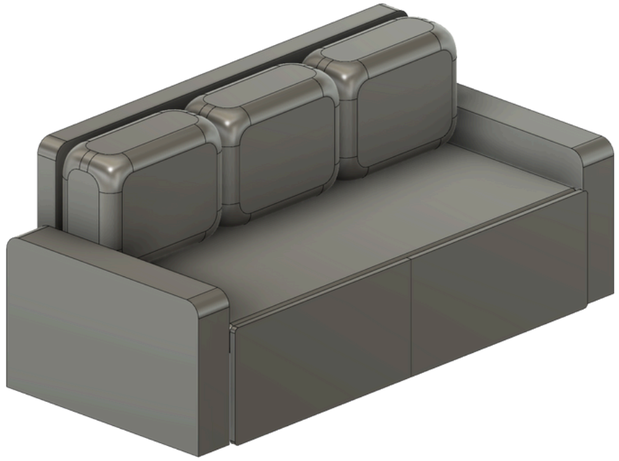


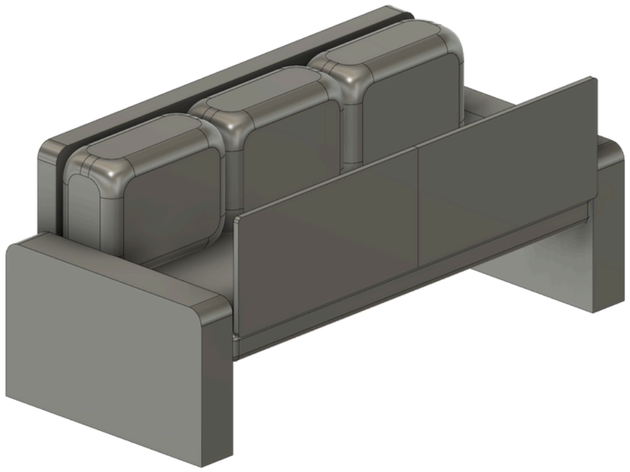


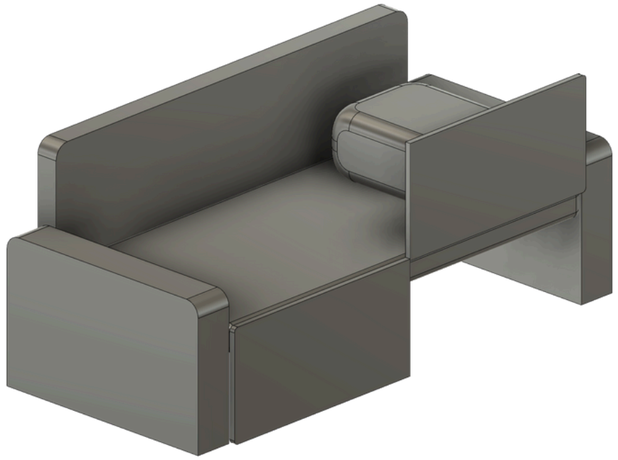
Concept Development / Folding Mat

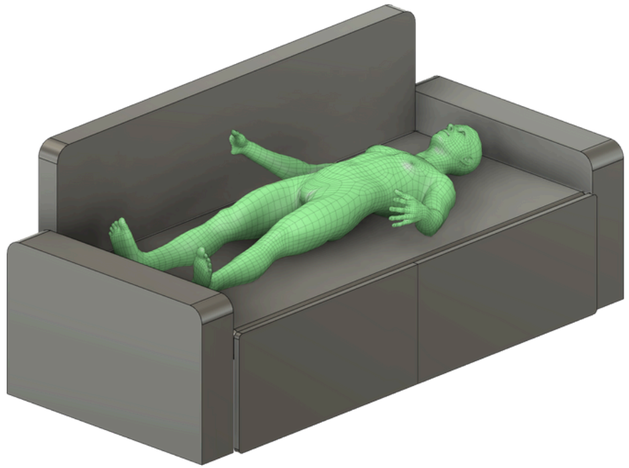


Concept Development / Sofa-Bed

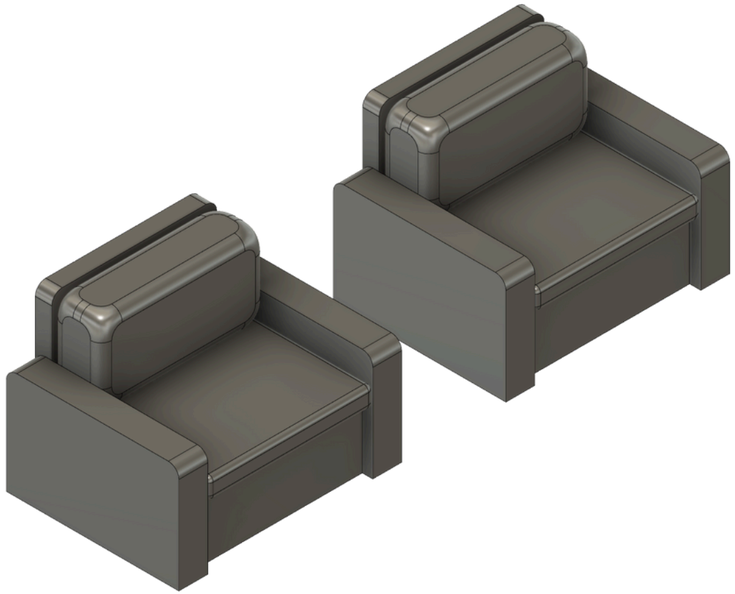


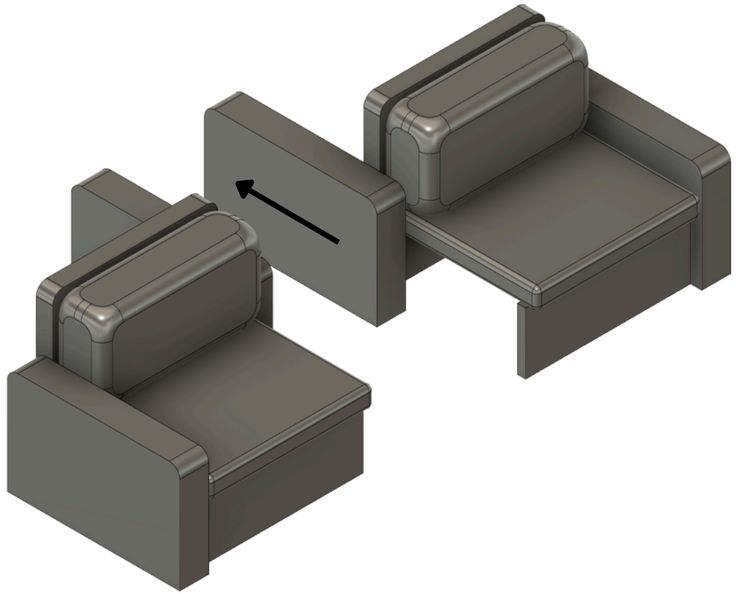


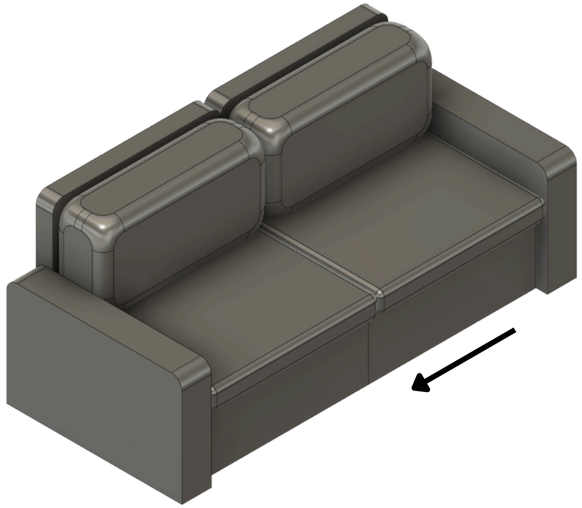




Concept Development / Modular Chair-Sofa-Bed









Ideation / Materials

Anti-Microbial Vinyl



High Density Polyethylene (HDPE) or
Acrylonitrile Butadiene Styrene (ABS) Plastic

Laminated Wood



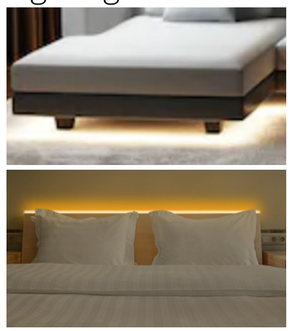
Stainless Steel

Ideation / Additional Features

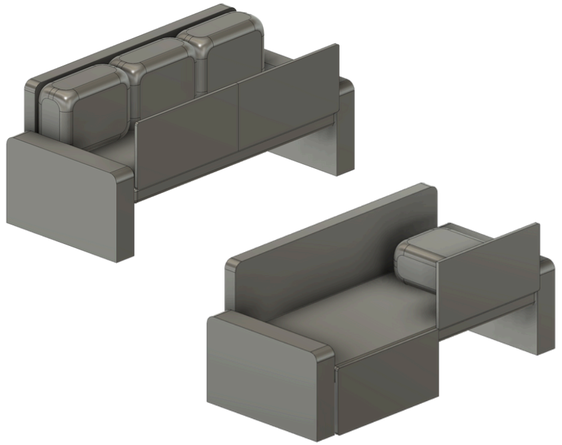
Built-In Chargers



Lighting



Slide-Up Panels for a Privacy Screen



Sliding Drawers Underneath



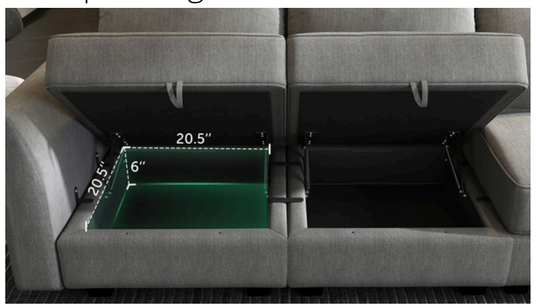
Cup Holders



Desk Attachment



Lift-Up Storage Inside



Built-In Storage



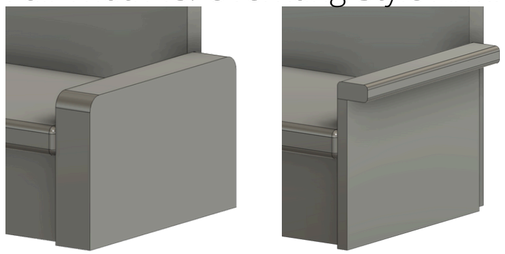
Side Table Built Into Armrest



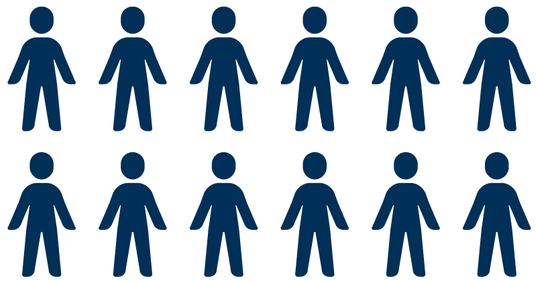
Sofa Arm Tray



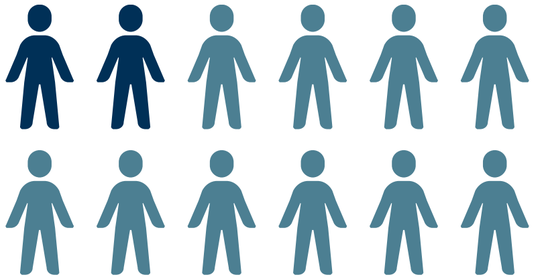
Full-Width vs. Overhang-Style Armrests



User Feedback

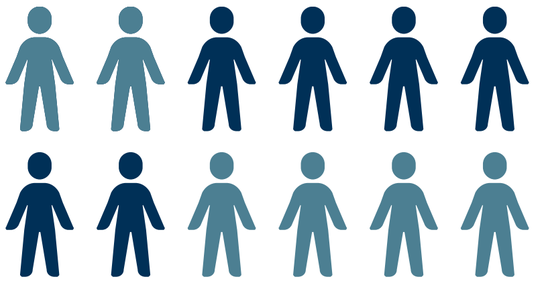


User Feedback



2 Individuals who have been in inpatient care for 6+months with hospital visits spanning at least one week

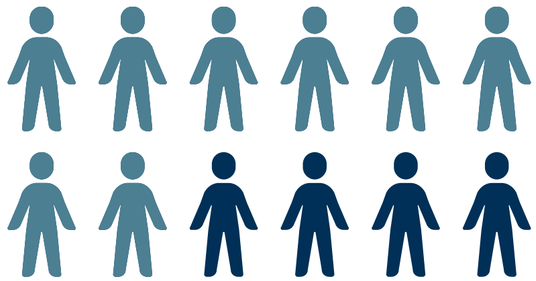
User Feedback



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6 Family members/caregivers of the individuals mentioned above

User Feedback

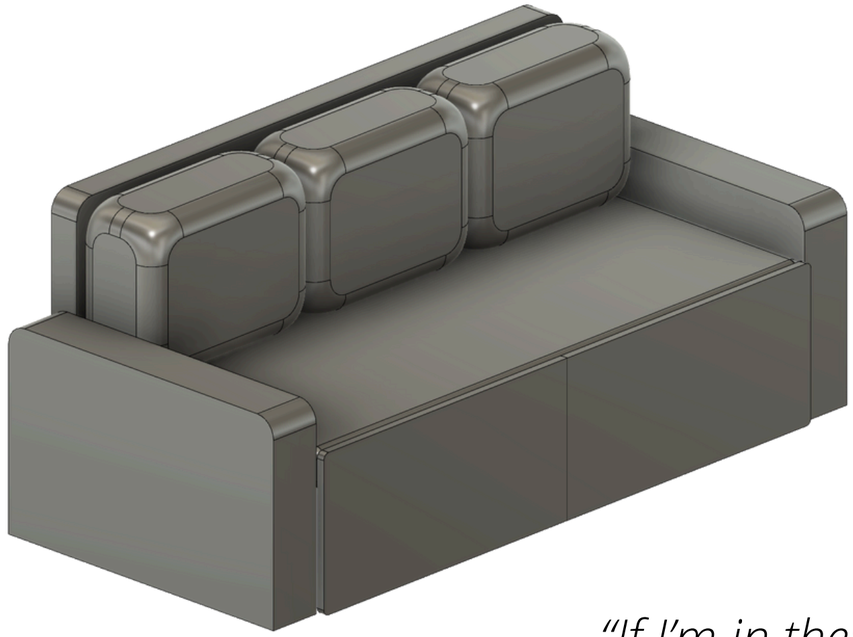


2 Individuals who have been in inpatient care for 6+months with hospital visits spanning at least one week

6 Family members/caregivers of the individuals mentioned above

4 Hospital workers from three different hospitals

User Feedback



*"When you take off the pillows people can tell that it's big enough to be a bed. It's **the most familiar design**."*

*"**I would feel secure** sleeping on that."*

*"This **looks the most comfortable**. It's already hard enough to sleep in a new place, so I definitely want it to feel good."*

*"It looks like it would have **a lot of storage space**."*

*"If I'm in there visiting someone I love, **I don't care if I have to share a couch with someone**. That's really not my concern at the moment."*

*"With this, **you can easily seat 3 or 4 people**. With the chairs, even though they were similar, you could probably only fit one person in each one."*

User Feedback

Sliding Drawers Underneath



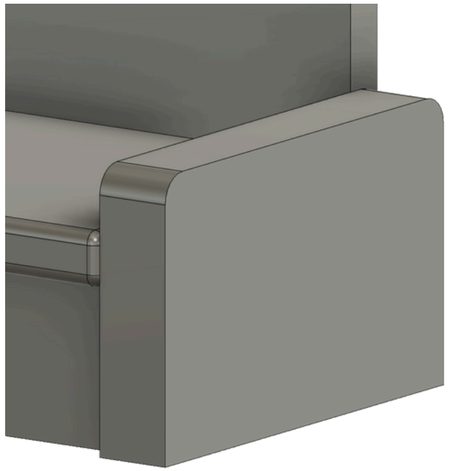
Side Table (Preferably not built in, but its own piece of furniture)







Full-Width Armrests



Lighting





Design Goals



Provide comfortable seating and sleeping arrangements

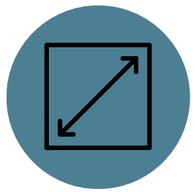


Provide adequate storage options within the design

Patient-Facing



Fit within current hospital sanitization practices



Make the most of the least amount of space possible

Hospital-Facing

Updated Design Concept



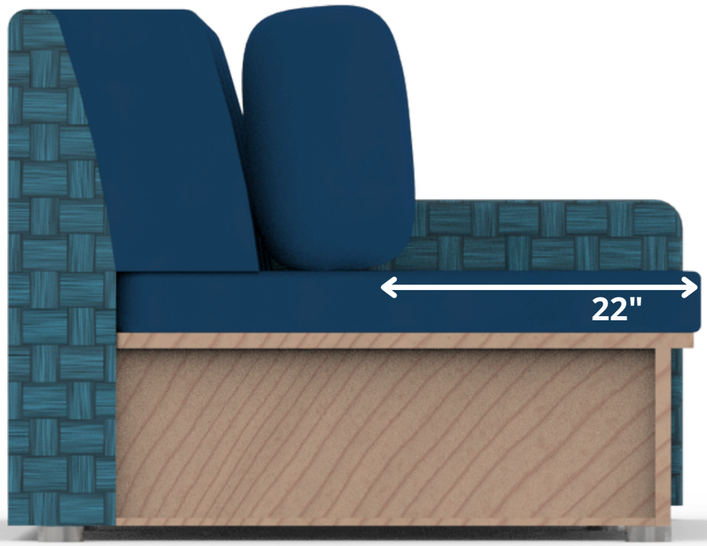


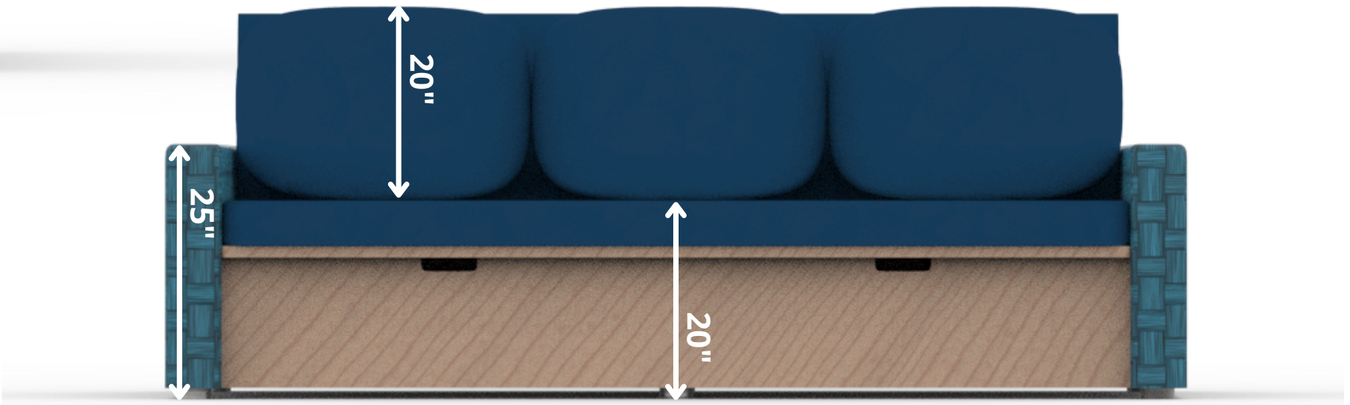
Demo



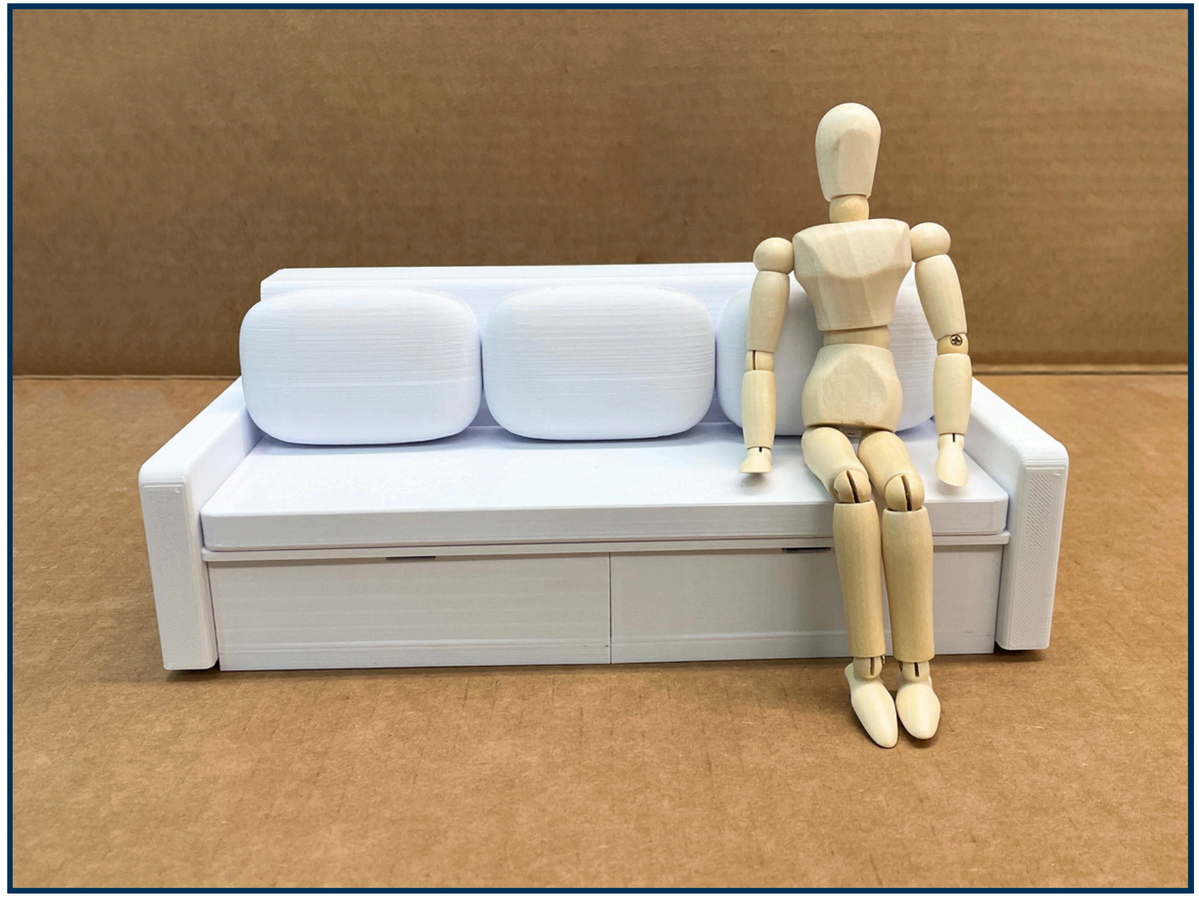
Seating Arrangements

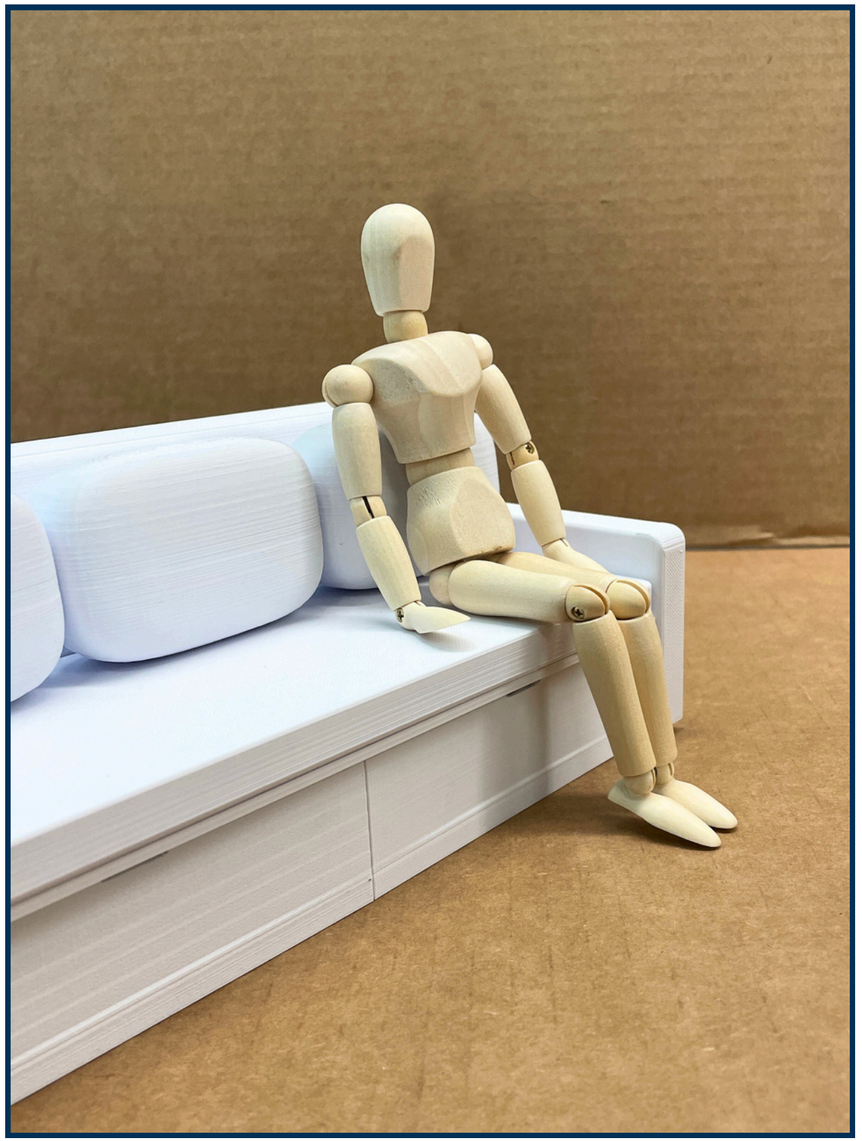
*Average dimensions for a sofa include a seat depth of 20"-25" and a seat height of 18"-22"; Recommended height for armrests is 5-8" above seat height





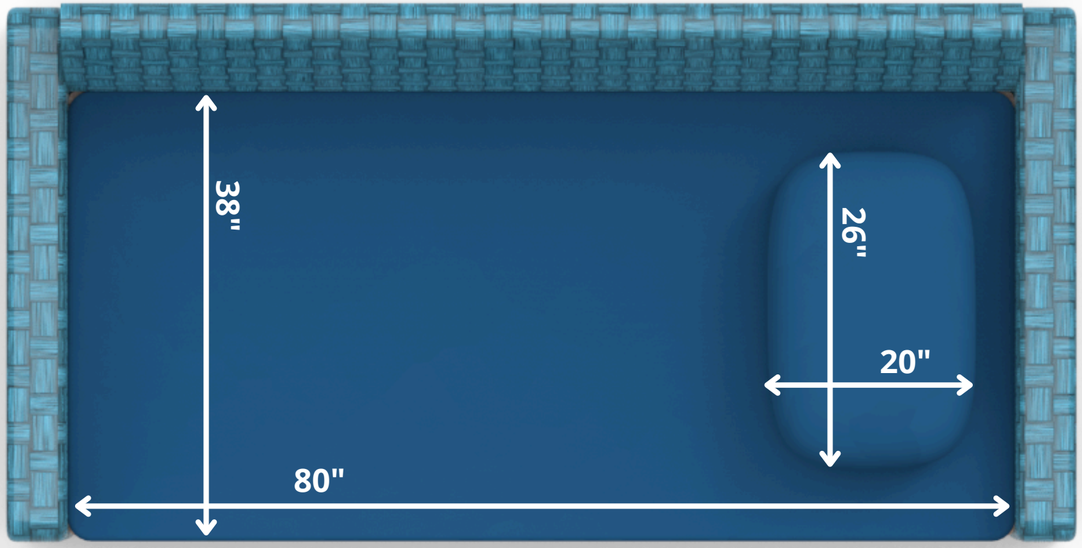
Seating Arrangements





Sleeping Arrangements

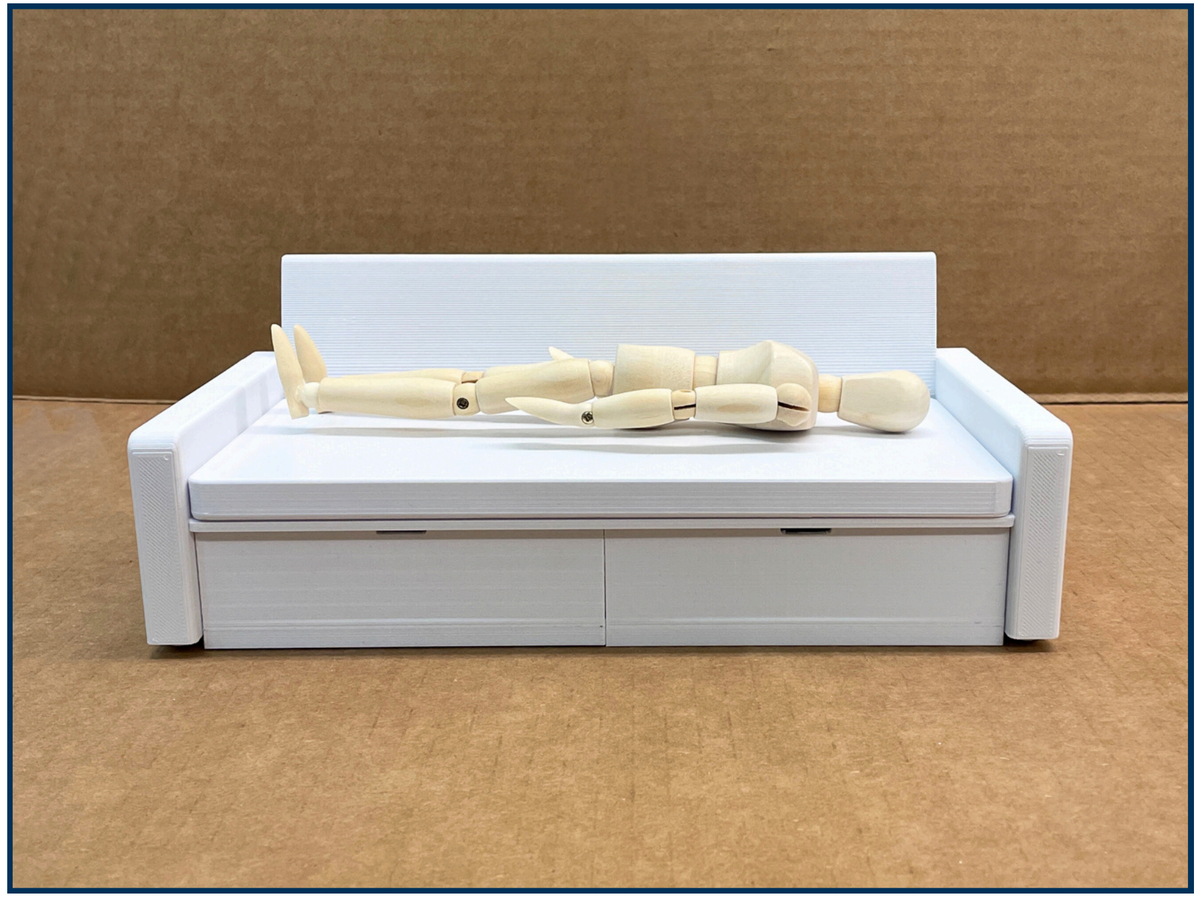
*Dimensions for a Twin XL mattress are 38" x 80" and those for a standard pillow are 20" x 26"; Depth varies across the market for both products



After removing the back pad and pillows from the original sofa design, Lila now has a Twin XL mattress to sleep on. Any of the seat pillows can also be used as a sleeping pillow.

The hospital will provide sheets, pillow cases, and a blanket to sleep with, all tucked neatly into one of the storage drawers below.

Sleeping Arrangements

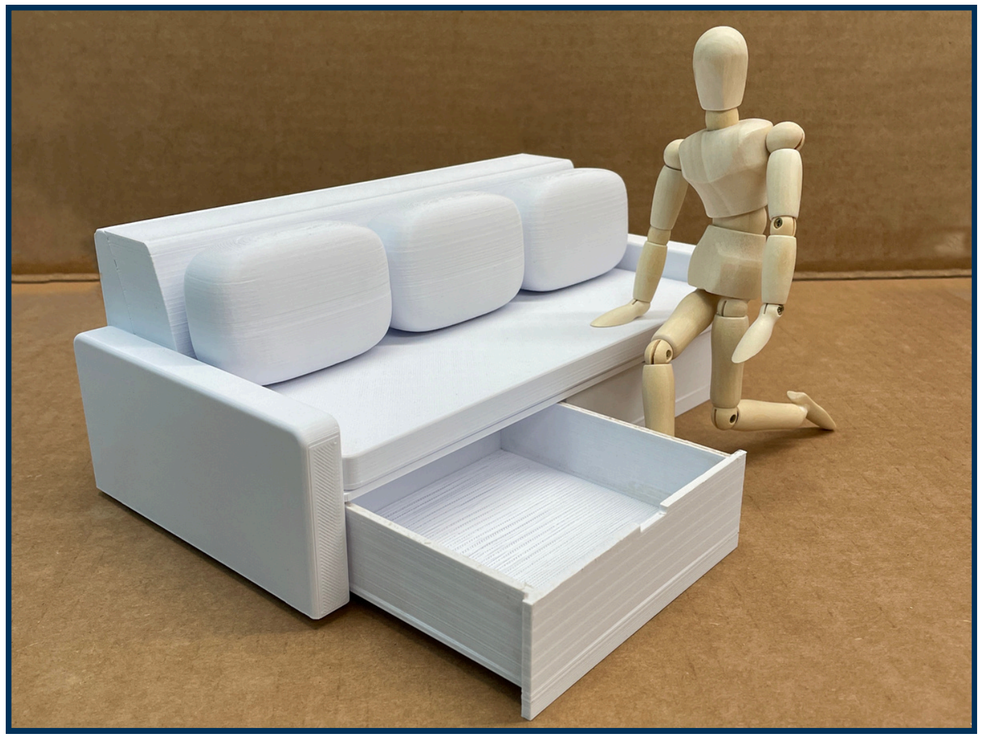




Storage



34" Depth x 35" Width x 10" Height



Storage

With these storage drawers, Lila can now easily bring with her...



toiletries and clothes to reduce the number of trips she needs to take back home between visits



personal items to help both her and John feel more at home during their stay



games and other forms of entertainment to pass the time

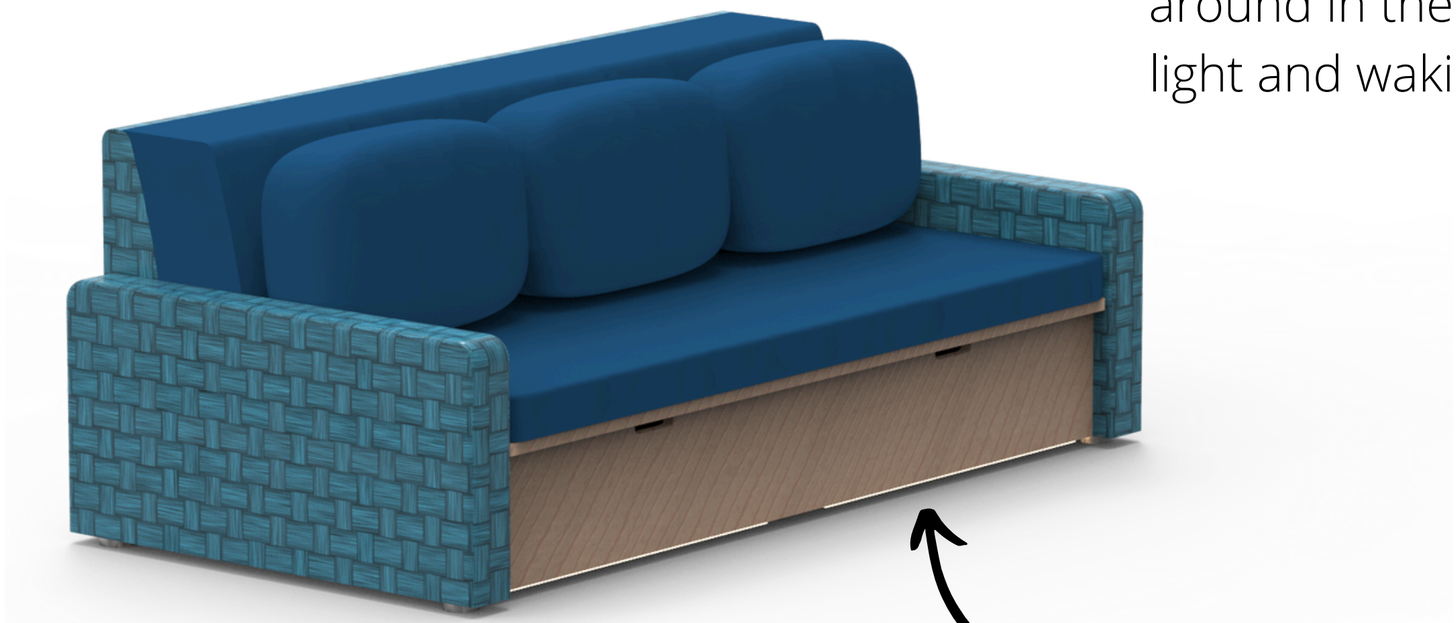


work/school items

...and the best part is, any of these can be kept in the room throughout the duration of John's stay, so Lila no longer needs to carry them back and forth. Along with that, as visitors switch in and out, they can use these same items too.

Lighting

Now, if Lila needs to get up and use the restroom in the middle of the night, she doesn't have to choose between stumbling around in the dark or turning on the overhead light and waking John up in the process.



LED panels underneath the edge of the storage drawers provide soft lighting when needed

Sanitization



Hospital staff can wash the bedding used on the sofa along with the patient's bedding when the rooms are turned over, and the sofa itself can be sanitized the same way all of the other surfaces in the room are. No major change in sanitation practices is required.

Back to John and Lila...

Thanks to the all-in-one, hospital-grade sofa bed...



Back to John and Lila...

Thanks to the all-in-one, hospital-grade sofa bed...

- Lila is able to **comfortably spend the night** in the hospital with John



Back to John and Lila...

Thanks to the all-in-one, hospital-grade sofa bed...

- Lila is able to **comfortably spend the night** in the hospital with John
- She's also able to **keep her personal belongings neatly organized** in the small room



Back to John and Lila...

Thanks to the all-in-one, hospital-grade sofa bed...

- Lila is able to **comfortably spend the night** in the hospital with John
- She's also able to **keep her personal belongings neatly organized** in the small room
- John is able to **enjoy her presence** without any **worry for her comfort**



Back to John and Lila...

Thanks to the all-in-one, hospital-grade sofa bed...

- Lila is able to **comfortably spend the night** in the hospital with John
- She's also able to **keep her personal belongings neatly organized** in the small room
- John is able to **enjoy her presence** without any **worry for her comfort**

...all while **fitting seamlessly into current hospital practices**, therefore adding little burden to hospital workers.



Design Goals

- Provide comfortable seating and sleeping arrangements
- Provide adequate storage options within the design

Patient-Facing

- Fit within current hospital sanitization practices
- Make the most of the least amount of space possible

Hospital-Facing

Thank you!

