

# Haven

Design your spaces with familiar faces

# The Team



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BA - Linguistics



# Agenda

01. **Problem + Solution**

03. **Low-fi Prototype**

05. **Results**

02. **Sketching**

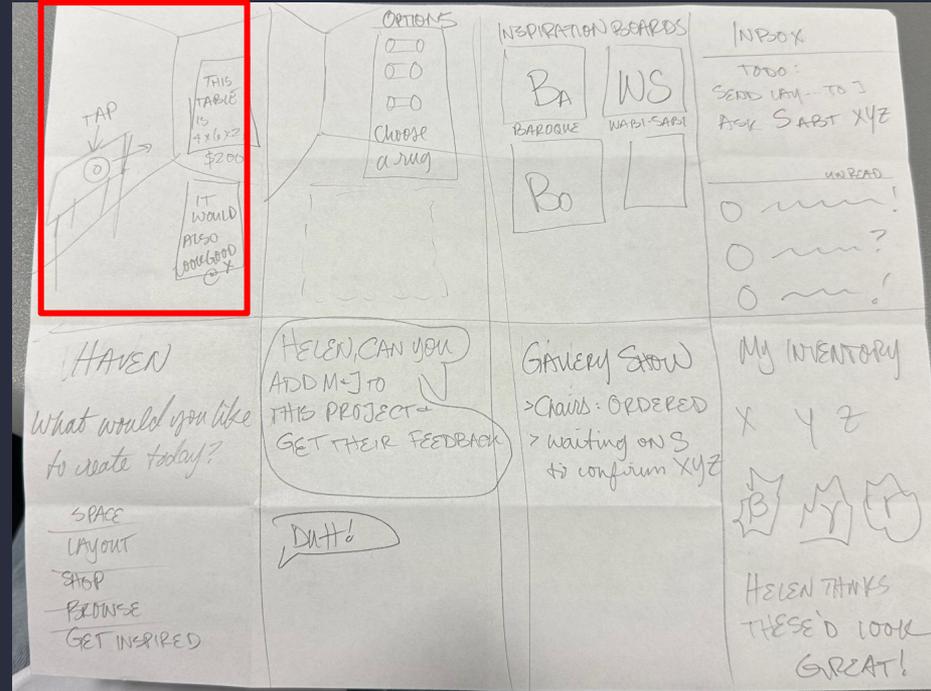
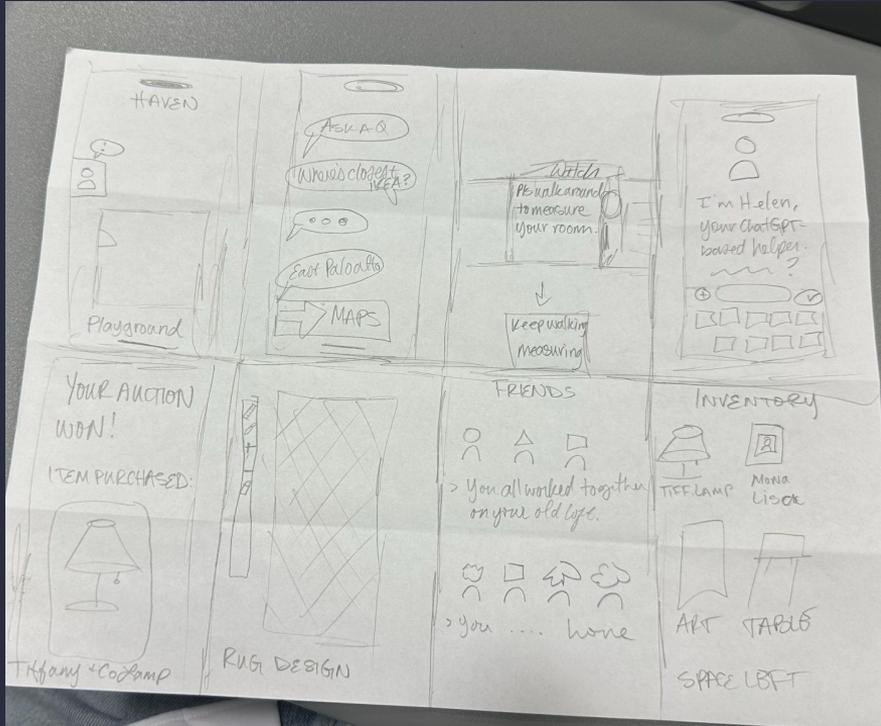
04. **Testing Methodology**

06. **Discussion**

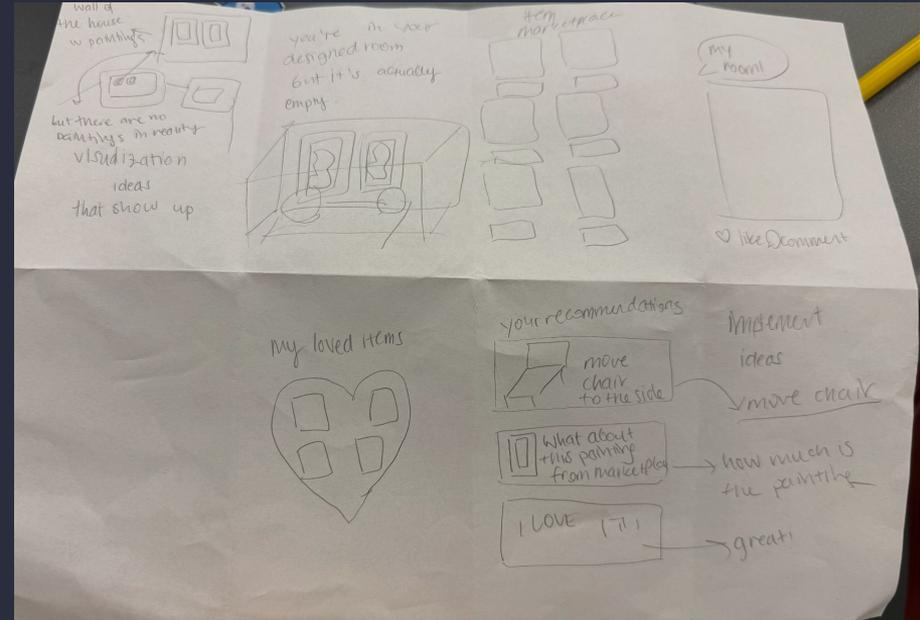
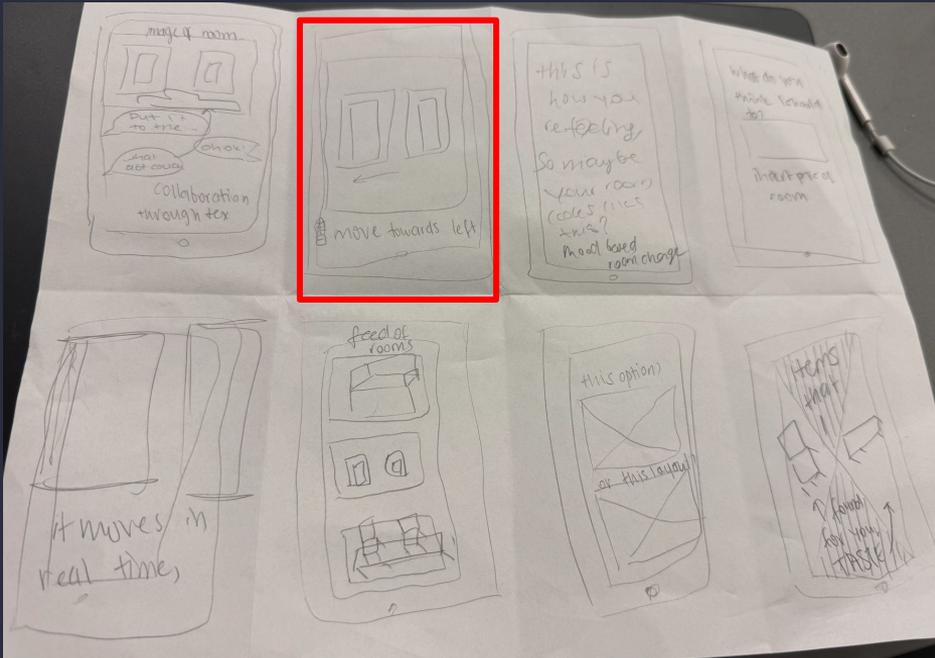
**Problem** – Gen Z and digital natives want beautifully designed spaces but lack accessible tools for collaboration, making idea-sharing with friends fragmented and unstructured.

**Solution** – An app that friends and collaborators can use to design indoor spaces together

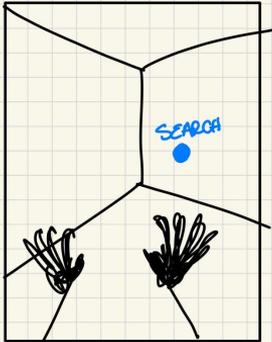
# Sketching (Part 1)



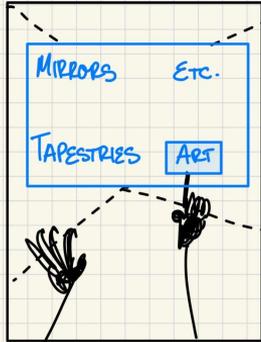
# Sketching (Part 2)



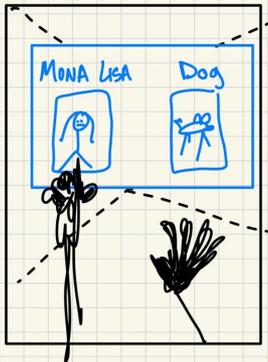
# Realizations



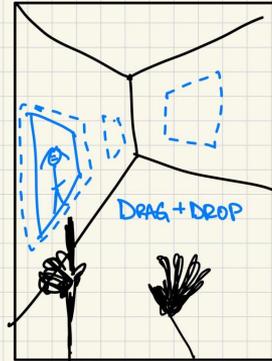
VR VIEW FROM HEADSET



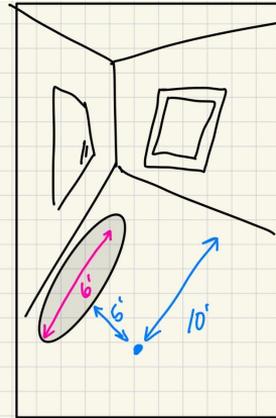
SEARCH FOR FURNITURE



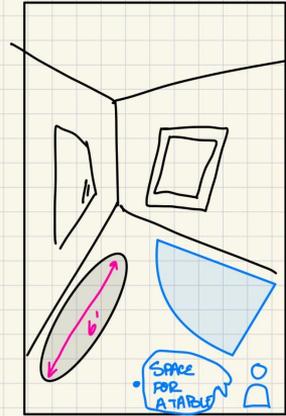
BROWSE INVENTORY



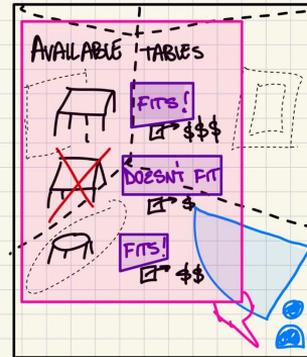
TRY DIFFERENT OPTIONS



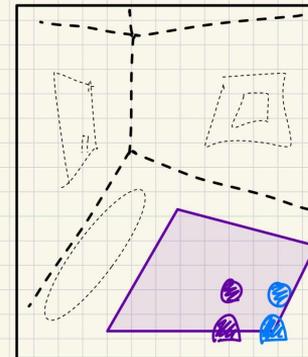
AR VIEW FROM CAMERA



COLLABORATE LIVE w/ FRIENDS



PULL UP INVENTORY/WISH LIST



COLLABORATE w/ 2+ FRIENDS

# VR

## Pros

Fully immersive! Users can walk through and experience their designed space.

Enables real-time multi-user collaboration.

Accurate visualization of scale, lighting and layout.

Makes feedback intuitive and spatial, letting users point, move and edit more naturally.

## Cons

Requires VR headset, which increases cost and reduces accessibility.

Longer setup time; less convenient for casual users.

Less suited for quick design edits or quick interactions.

Doesn't directly integrate with users' real physical rooms without additional modeling.

# AR

## Pros

Easily accessible, people can design from their phone, tablet

Allows viewing furniture and layouts in their actual space, providing real-world context.

Great for quick tests and minor adjustments (e.g., color, fit, or placement).

Low barrier to entry and familiar interface for most users.

## Cons

Limited immersion, users can't fully experience the designed space.

Collaboration feels fragmented; hard to align multiple users' views.

Designs can appear flat or imprecise due to tracking issues.

Creativity limited by your room's current layout and lighting.

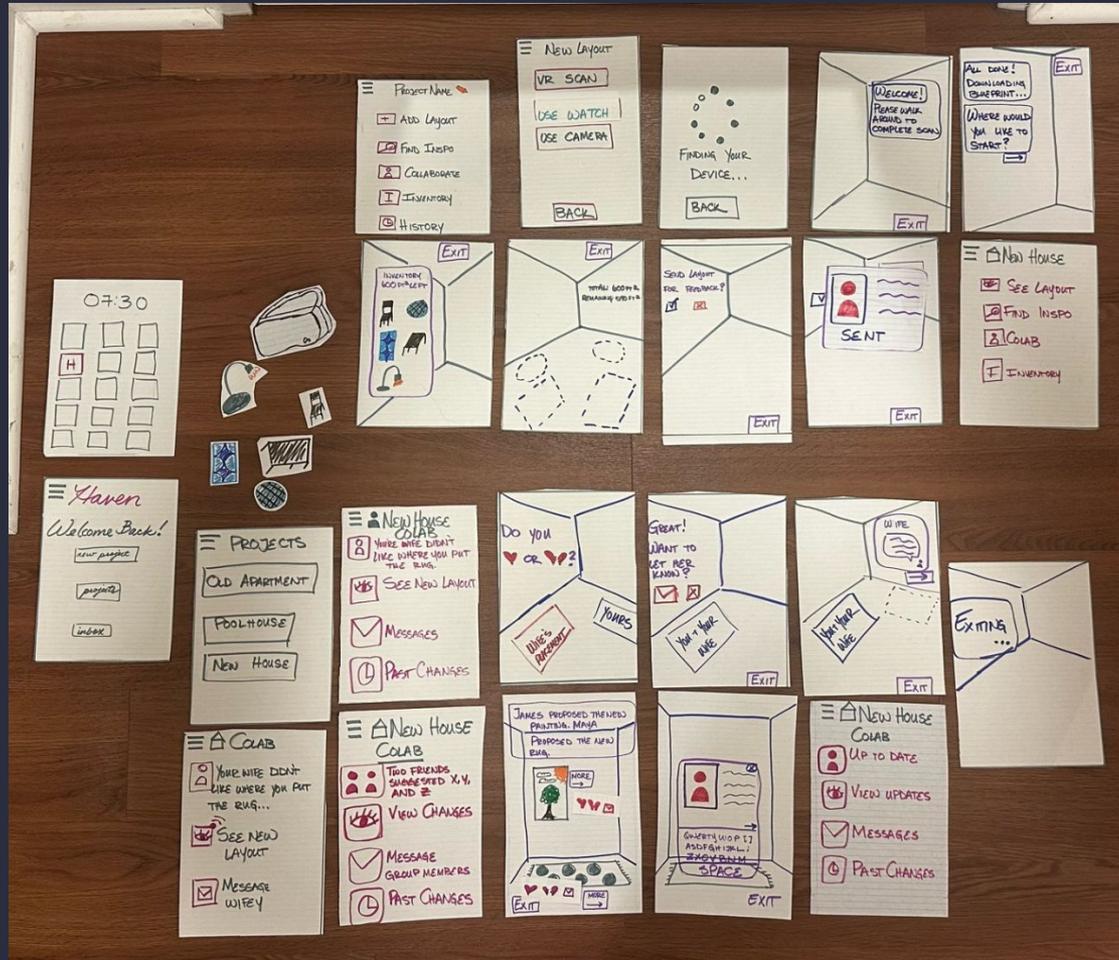
VR best captures our app's goal, making collaborative interior design feel like *being in the same room*, exploring ideas side by side in a shared creative space.

Marker/pencil on paper

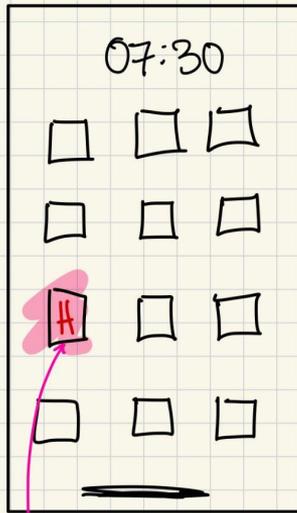
Loose paper > first try with stapling bad for iterating

Changeable parts (furniture, goggles, button toggles, dialogue menus)

From Snyder: Speed, flexibility, realism in early stages



# Task 1 (Simple): Plan an interior design layout

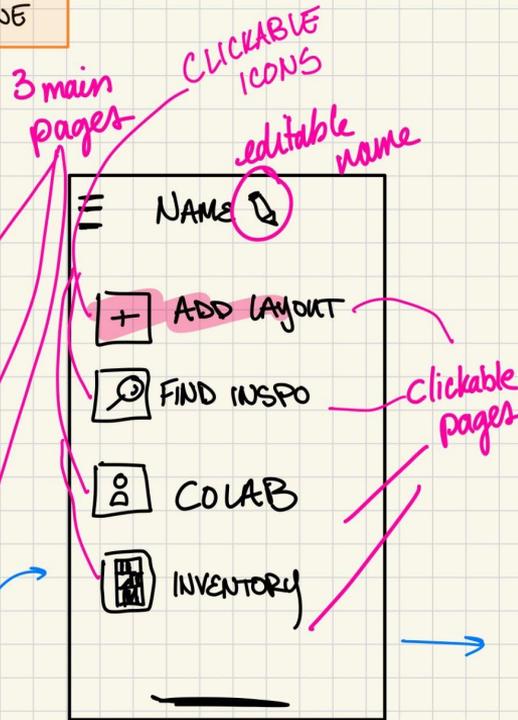


TAP HAVEN APP  
logo (TBD)

### TASK FLOW ONE

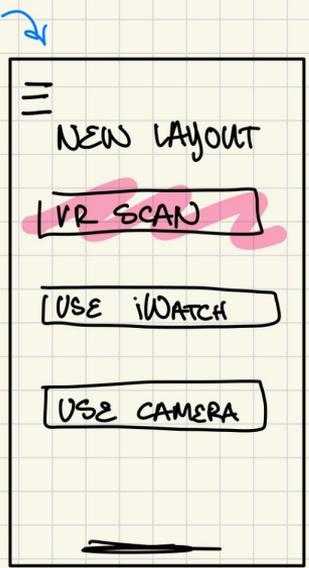


LANDING/WELCOME PAGE w/  
PAGES FOR NEW PROJECT,  
EXISTING PROJECTS, AND  
INBOX. USER TAPS  
"New Project".

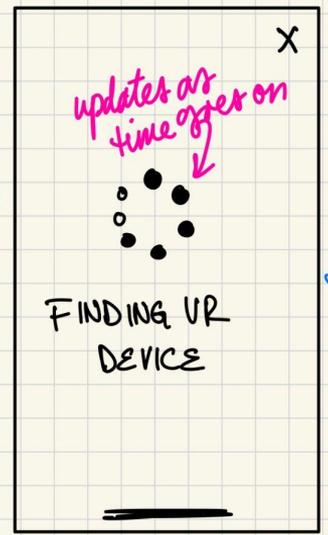


MANY WAYS TO START, INCLUDING  
w/ A LAYOUT. USER TAPS  
EITHER  OR "ADD LAYOUT"

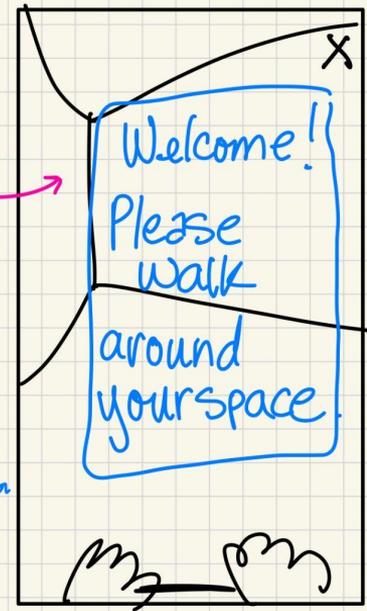
TASK FLOW ONE



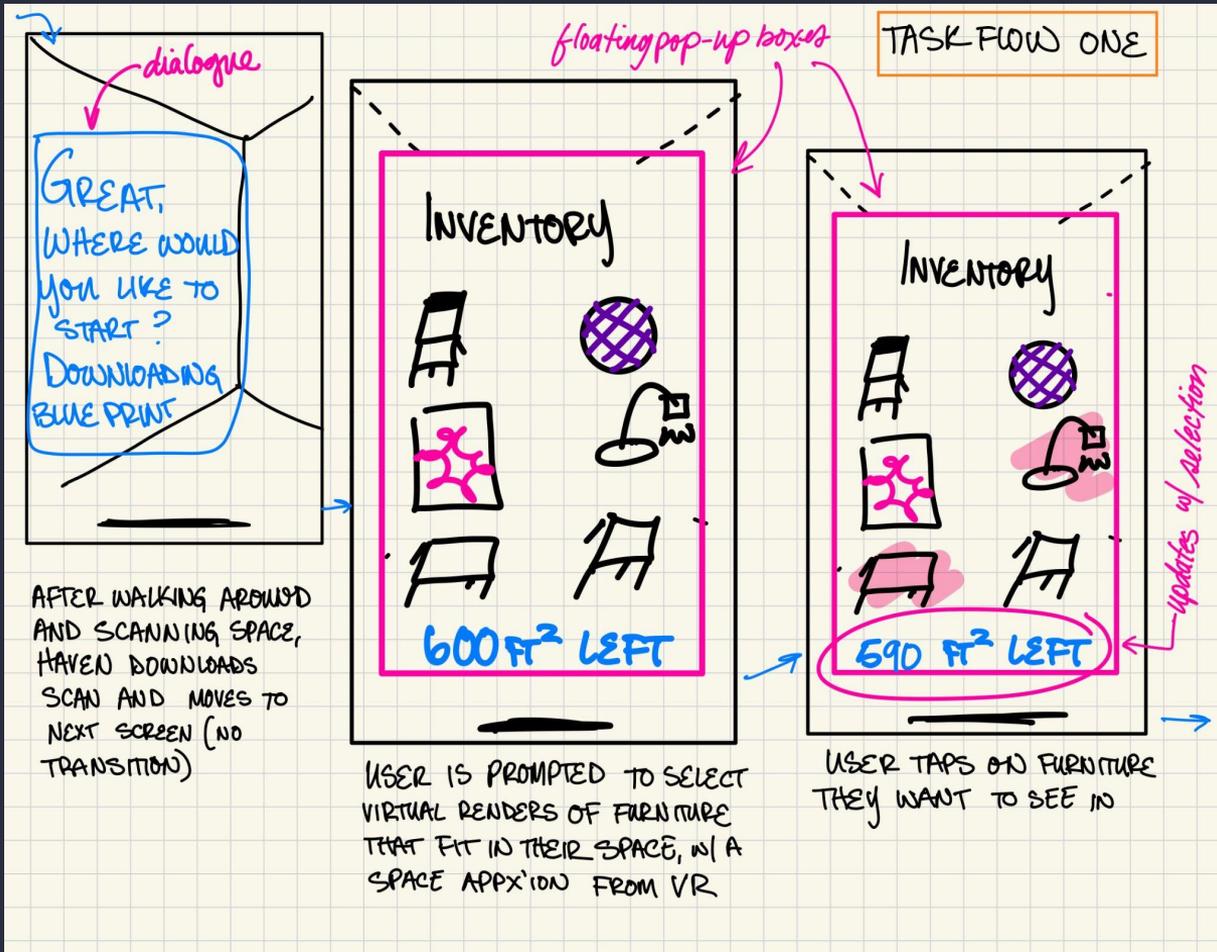
USER TAPS VR SCAN,  
w/ OPTIONS FOR LAYOUTS  
USING WATCH (WEARABLE,  
YOU WALK AROUND), OR  
YOUR PHONE CAMERA  
(BASICALLY AR)

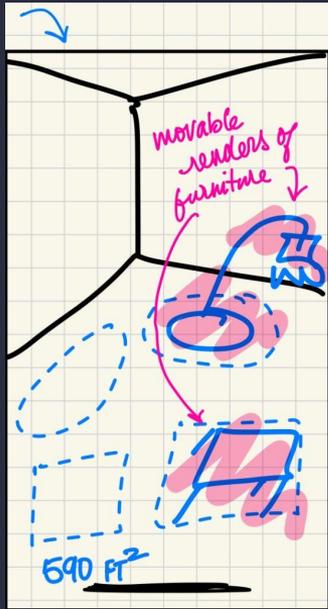


SIMPLE LOADING SCREEN  
AS HAVEN FOUND VR  
APPARATUS.

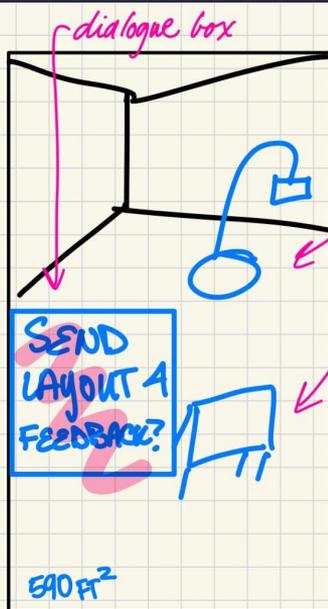


w/ GOGGLES/GLASSES ON,  
USER GETS WELCOME  
+ BEGINNING OF  
INSTRUCTIONS



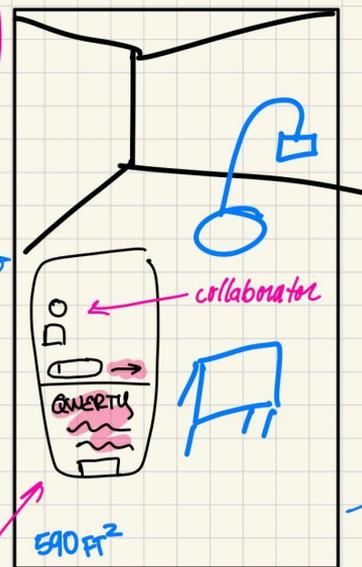


USER DRAG/DROPS FURNITURE INTO VR-DESIGNATED SPACES WHERE THEY WOULD FIT.

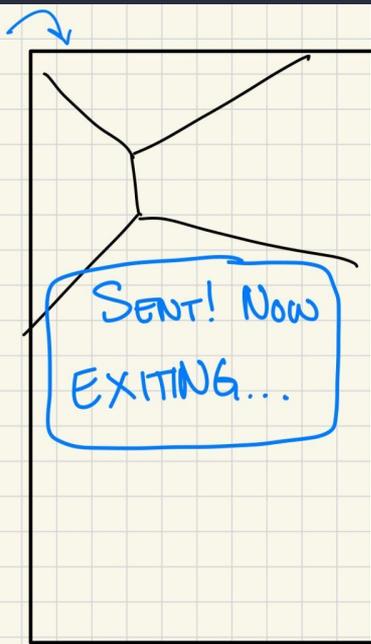


ONCE PLACED, DIALOGUE BOX w/ FEEDBACK OPTION

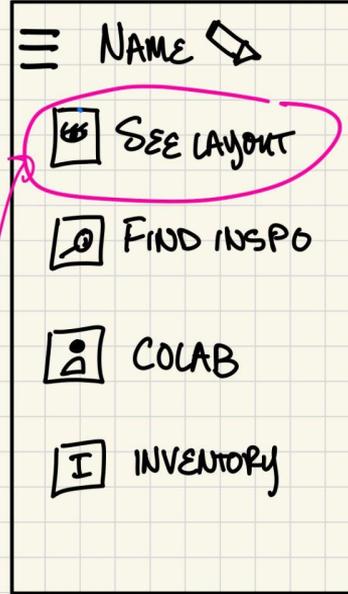
renders, now static



USER GETS POP-UP DIALOGUE BOX. THEY USE VR KEYBOARD TO TYPE, THEN PRESS → TO SEND.



MESSAGE SENT, USER  
GETS "EXITING" DIALOGUE  
BOX AND IS TAKEN BACK  
TO PROJECT SCREEN



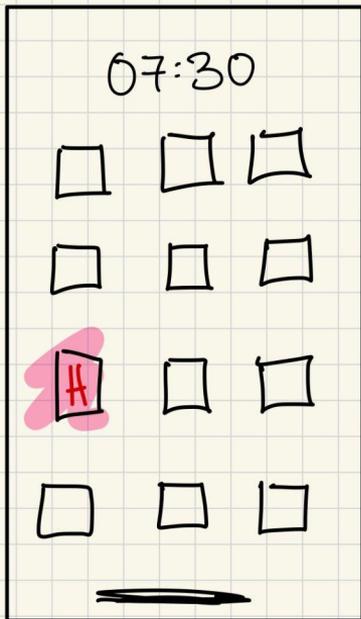
*changed  
since last  
visit to  
this page.*

BACK @ PROJECT PAGE,  
[magnifying glass icon] NOW IN PLACE OF [person icon]  
AND USER CAN SEE  
LAYOUT.

TASK COMPLETE

# Task 2 (Moderate): Get/give design feedback

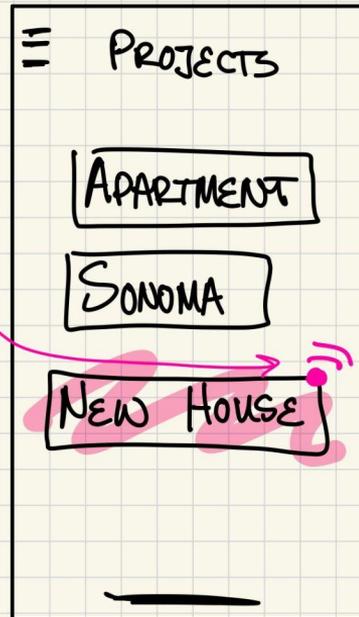
TASK FLOW 2



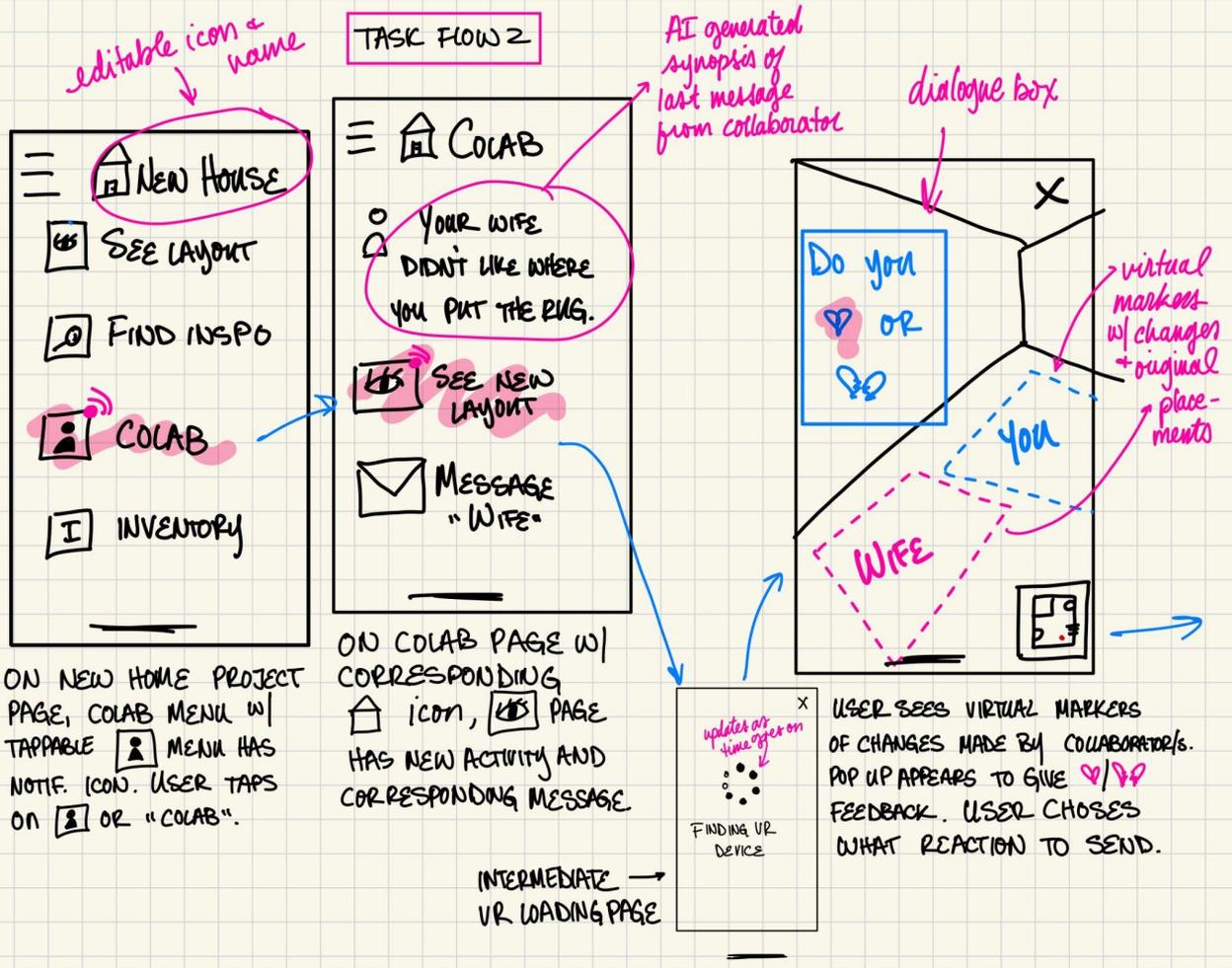
OPEN HAVEN

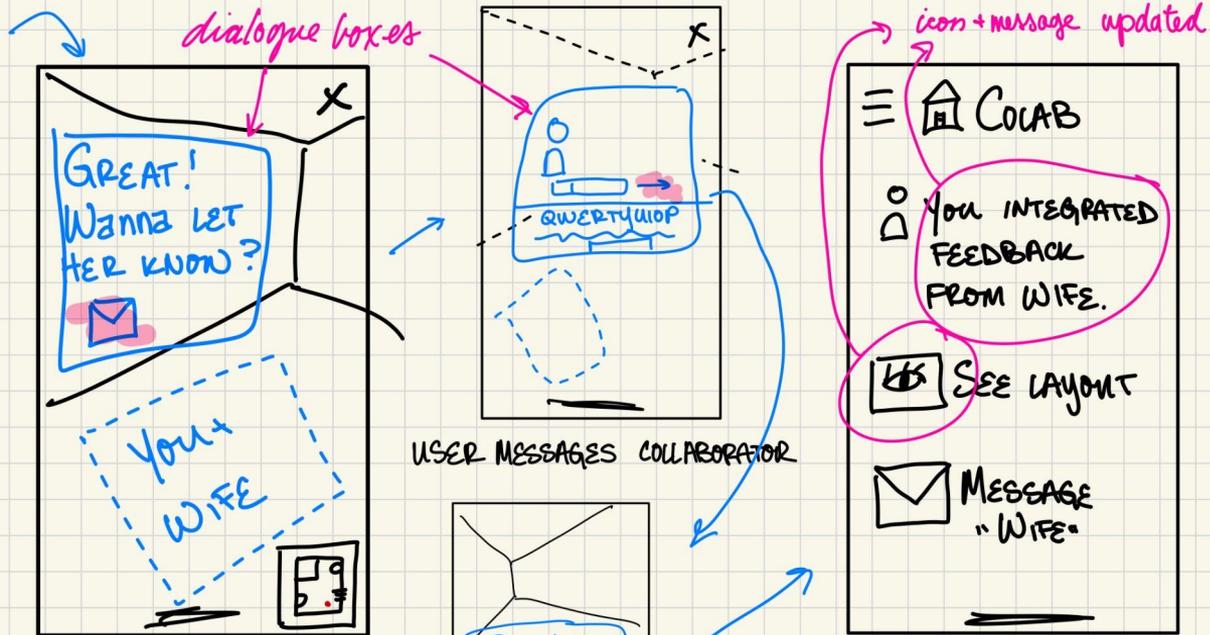


LANDING PAGE  
(SAME AS TASK 1)  
USER SEES ACTIVITY  
SIGNAL ON PROJECTS  
TAB. USER TAPS "PROJECTS"



PROJECT PAGE w/  
ONE PROJECT THEY  
HAVE ACTIVITY  
NOTIF. ON.  
USER TAPS "NEW  
HOUSE"





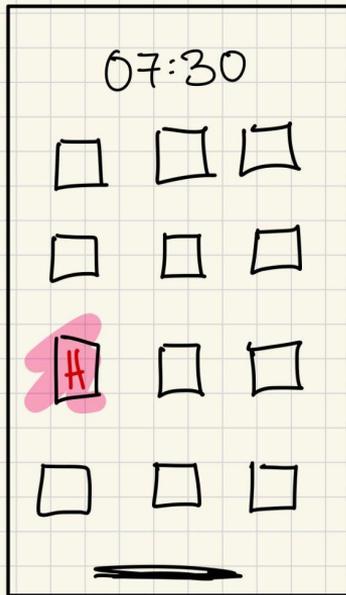
BASED ON USER OPINION  
OF PROPOSED CHANGES,  
VR LAYOUT HAS VIRTUAL  
FURNITURE PLACEMENT CHANGE  
DIALOGUE BOX APPEARS TO  
SEND FEEDBACK TO USERS.  
USER SELECTS  ICON  
TO SEND TEXT MESSAGE.

MESSAGE SENT, USER  
GETS "EXITING" DIALOGUE  
BOX AND IS TAKEN BACK  
TO PROJECT SCREEN

BACK TO UPDATED PROJECT  
FACE, TASK COMPLETED,  
ICONS + MESSAGE UPDATED,  
NOTIFICATION  GONE.

# **Task 3 (Complex): Organize feedback from multiple people**

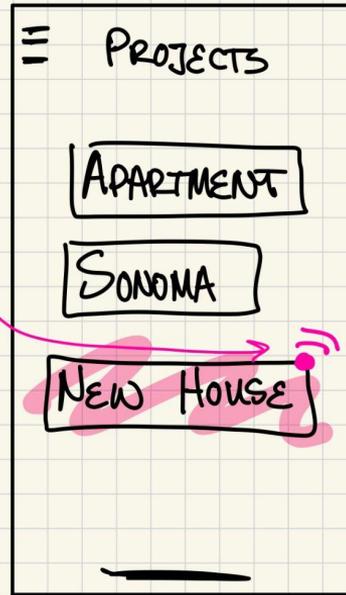
TASK FLOW 3



OPEN HAVEN

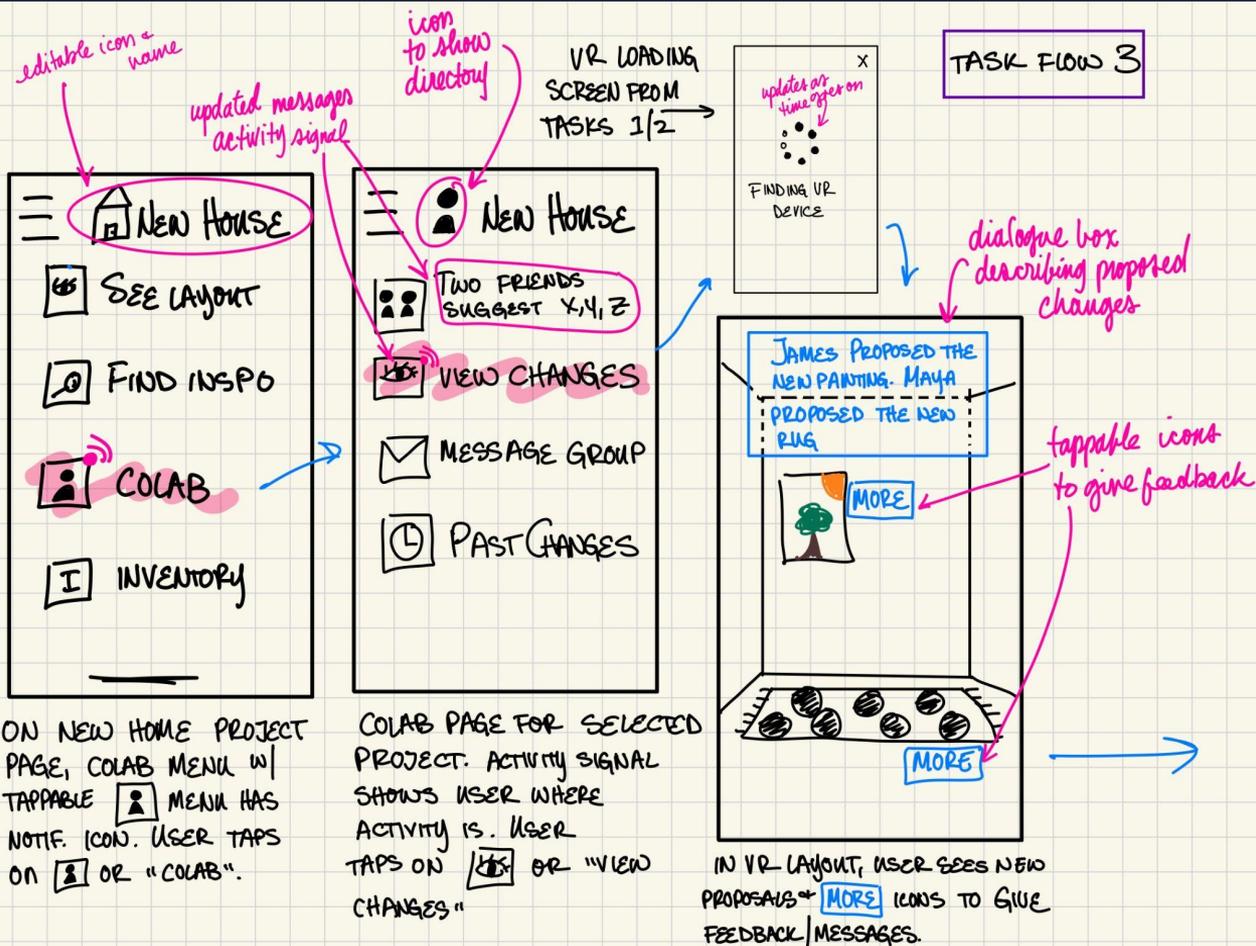


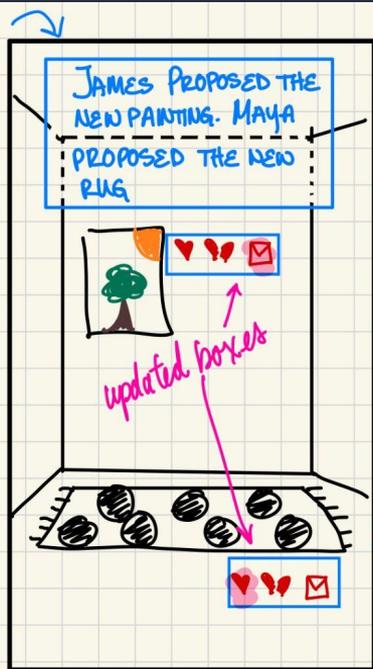
LANDING PAGE  
(SAME AS TASKS 1/2)  
USER SEES ACTIVITY  
SIGNAL ON PROJECTS  
TAB. USER TAPS "PROJECTS"



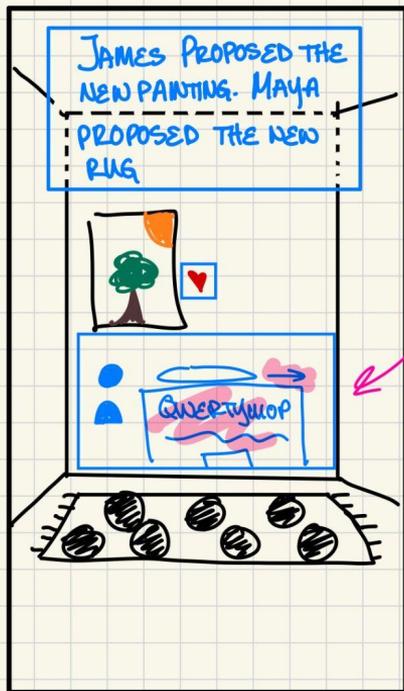
PROJECT PAGE w/  
ONE PROJECT THEY  
HAVE ACTIVITY  
NOTIF. ON.  
USER TAPS "NEW  
HOUSE"

activity  
signal





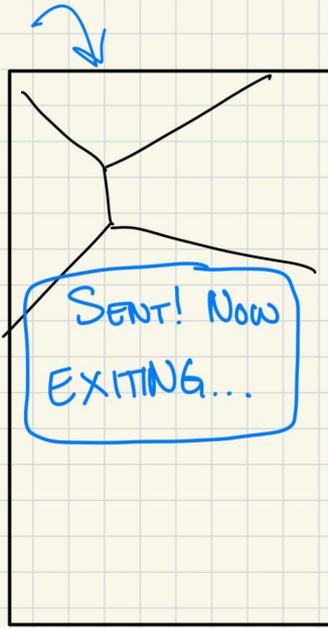
By INTERACTING w/ **MORE**, ICONS CHANGE TO GIVE ♥, ♥♥, OR TO SEND A MESSAGE ☑



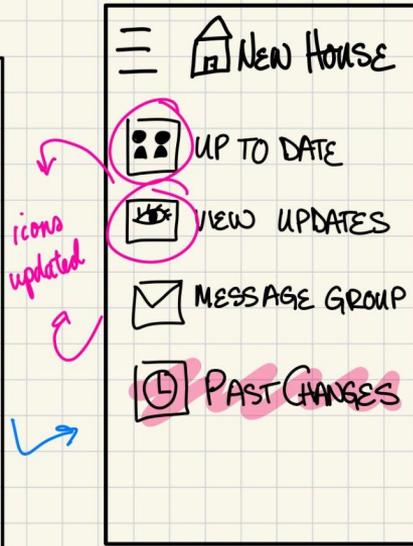
FEEDBACK BOX CHANGES TO SHOW ♥, MESSAGE DIALOGUE BOX APPEARS WHEN TOGGLED. USER TYPES w/ VR KEYBOARD + SENDS MESSAGE →

message box shows up to send feedback



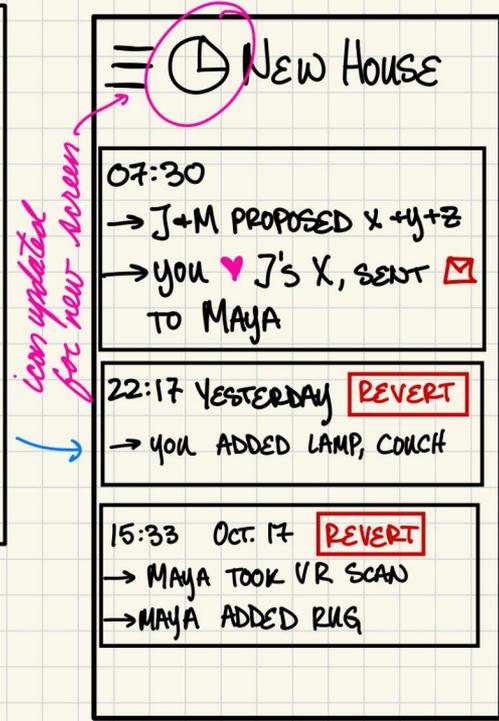


MESSAGE SENT, USER GETS "EXITING" DIALOGUE BOX AND IS TAKEN BACK TO PROJECT SCREEN



BACK AT PROJECT PAGE, ICONS HAVE CHANGED TO REFLECT UPDATES. TO GET OVERVIEW OF CHANGES, USER TAPS

🕒 OR "PAST CHANGES"



SCREEN FOR USER TO VIEW CHANGES. **REVERT** ICON FOR VERSION CONTROL. TIMES, USERS, ITEMS LISTED @ ENTRIES.

TASK COMPLETE

# Participants



**Jayashri V.**  
New Grad

Former Stanford student, works in tech, enjoys interior design and often seeks help.



**Filip O.**  
Venture Capitalist

Swedish venture capitalist in Palo Alto, recently moved into a new home and is designing it.



**Muhammed O.**  
Engineer

Turkish engineer at AMD, little to no experience with interior design or related tools.

Approached all in downtown palo alto at various coffee shops.



# Procedure

**Location:** Coffee shops in Palo Alto. (Verve, Oklava, Coupa)

**Setup:** Paper prototypes with 3 task flows (simple, moderate, complex).

## Team Roles

**Facilitator:** Reid – guided session and explained testing boundaries.

**Observer/Note-taker:** Greg – recorded feedback and observations.

**Computer:** Sera – changed prototype screens based on user input.

## Process

- Used the same testing script across all participants for consistency.
- Gave an overview of possible actions without revealing task flow solutions.
- Encouraged participants to “think aloud”

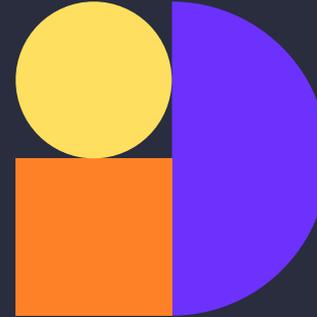
# Usability Goals



## Goal 1: Faster Task Completion

**Measurement:** Time taken to complete each task flow.

**Rationale:** Efficiency is key for encouraging frequent use of the app during collaborative design sessions.



## Goal 2: More Fun in Designing

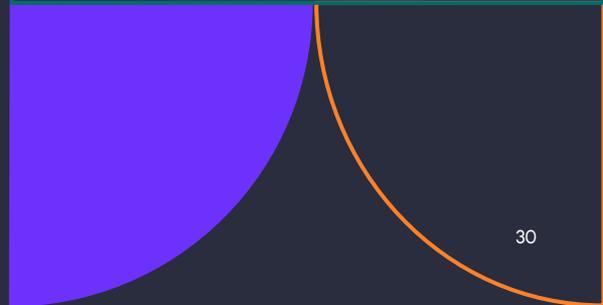
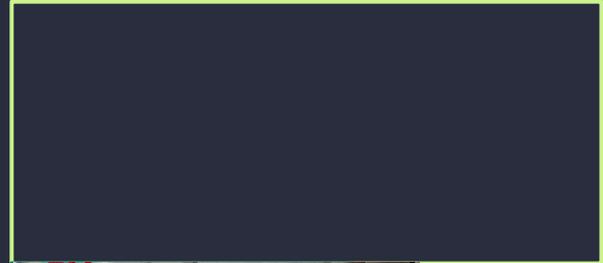
**Measurement:** Post-test 1–10 “fun” rating from each participant.

**Rationale:** Engagement and enjoyment increase motivation for collaborative creativity and sustained usage.



# Results

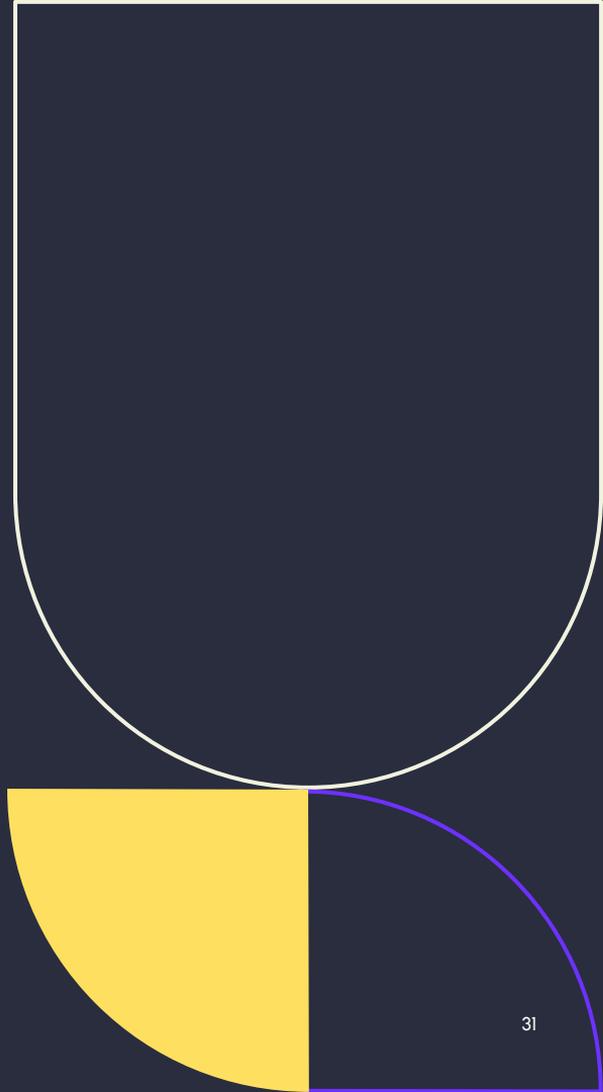
- **Process data:**
  - **Task 1 (Easy):** All participants successfully scanned and selected furniture, but differed in efficiency; Muhammed moved quickly and confidently, while Jayashri hesitated slightly more on navigation steps
  - **Task 2 (Medium):** Participants understood how to review single-person feedback and make edits; most comments centered on clarity of the edit confirmation and what sending did.
  - **Task 3 (Complex):** Managing and prioritizing feedback from multiple sources caused more cognitive load; participants paused to interpret overlapping suggestions and were more hesitant about next steps
- **Bottom-line data:**
  - Average easy task duration: **32.3s**
  - Average medium task duration: **28s**
  - Average complex task duration: **41.3s**
  - Average fun score (1-10): **8.3**
- We met our usability goals, as participants completed tasks efficiently and rated the experience as highly enjoyable





# Discussion

- **Implications:** Our participants found the core flow intuitive but struggled more in understanding how to manage feedback from multiple collaborators, showing us that we need clearer organization.
- **Design Changes:** We should add visual grouping and filtering of comments, color-coded collaborator tags, and confirmation cues after edits to reduce confusion and simplify collaboration steps.
- **Testing Limits:** Short, individual paper sessions couldn't capture the aspects real-time collaboration with friends or long-term engagement with designs.



**Any  
questions?**



# Appendix



# Critical Incident Log

#	#	Screen / Task	Observation (user behavior or quote)	Severity	Justification	Implication
1		Welcome Back! → "Add Layout"	"Is this where I start scanning?"	3 – Major	Required facilitator clarification. Indicates unclear mapping between button label and user goal.	Rename to "Start Scan / Create Layout" to better match first-time users' mental model.
2		VR Scan screen	"So...am I supposed to move?"	3 – Major	Confusion about system feedback and user action shows visibility issue.	Add progress cue ("Scanning..." bar or moving dots).
3		Send Layout for Feedback?	"I don't want to send it yet, does this just save?"	4 – Catastrophic	Recurrent misunderstanding of the key collaborative feature; required explanation every time.	Introduce confirmation screen or dual buttons: "Save Draft" / "Share with Team."
4		Exit button	Two users tapped the paper's border instead of the "Exit" box.	2 – Minor	Recognition error; they recovered quickly once pointed out.	Use a standard "X" icon or reposition top-right consistently.
5		Colab View	User said, "I thought this was just a message," didn't realize it was an editable scene.	3 – Major	Misinterpreted interaction type (informational vs editable).	Distinguish static vs active zones via color/shading.
6		Want to Let Her Know?	User: "Does this tick mean I'm sending it right away?"	3 – Major	Hesitation in action confidence; facilitator had to clarify.	Add microcopy like "Confirm to send message."
7		Message Screen	User: "Oh, is this supposed to be the text message?"	2 – Minor	Recognition issue; quickly understood after hint.	Redesign as familiar chat bubble layout.
8		Inventory capacity	User smiled: "600 sq ft left. that's helpful."	0 – Positive	Immediate comprehension; no facilitation needed.	Keep quantitative cues as they support spatial reasoning.
9		Sent confirmation card	"Nice, it tells me it's sent."	0 – Positive	Clear closure; reduced uncertainty.	Maintain success confirmation element.
10		Wife liked the rug	"That's cute but maybe not for everyone."	1 – Cosmetic	Positive engagement, slight social inclusivity concern.	Retain playful tone, but allow personalization.

## Artifacts from Prototype Testing



## VR Pros

- Users can fully step inside and explore their designed space at true scale.
- Multiple users can meet in the same virtual room to co-design and give feedback.
- VR provides natural depth perception and spatial awareness for furniture placement and room flow.
- Gestural controls and spatial feedback make actions like moving, rotating, or selecting objects feel natural.
- Users can experiment freely without real-world limitations or costs.
- Lighting, textures, and materials can be accurately previewed for more confident design choices.
- The immersive nature makes the process fun and motivating, increasing user retention.
- Removes distractions from the physical world, keeping users immersed in the creative process.
- Multi-source feedback can be spatially visualized, helping users organize and prioritize changes.
- Experiencing a design from within fosters a deeper sense of ownership and satisfaction.

## VR Cons

- Requires users to own or access a VR headset, limiting adoption.
- VR systems remain expensive for casual users or students.
- Calibration, sensors, and space requirements can slow down onboarding.
- Some users may need time to adapt to VR controls and spatial interactions.
- Extended use can cause dizziness or fatigue for some participants.
- Not ideal for spontaneous design sessions or quick mobile interactions.
- Multi-user sessions depend on network stability and device compatibility.
- Requires 3D modeling of rooms and objects before they can be visualized.
- Unlike AR, VR doesn't show how furniture fits within the user's actual room.
- Software and hardware require frequent updates, which may create friction in testing and iteration.

# Full Script