vace

virtually hang out with
friends in augmented reality

Ryan Parajas
Spring 2021

DSGD 132
Project 1
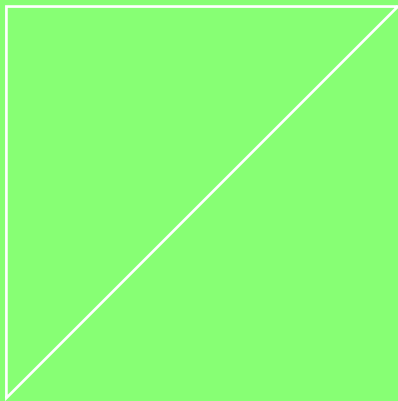
Table of Contents

Problem Statement

For many years, some people miss hanging out with a friend or a loved one because they moved away. They would miss the presence, atmosphere, and environment of being with them. Ever since the pandemic of last year, it now affects nearly everyone. My solution to this is to emulate being together again virtually using just a smartphone.

I asked 10 people

# When was the last time you had fun?
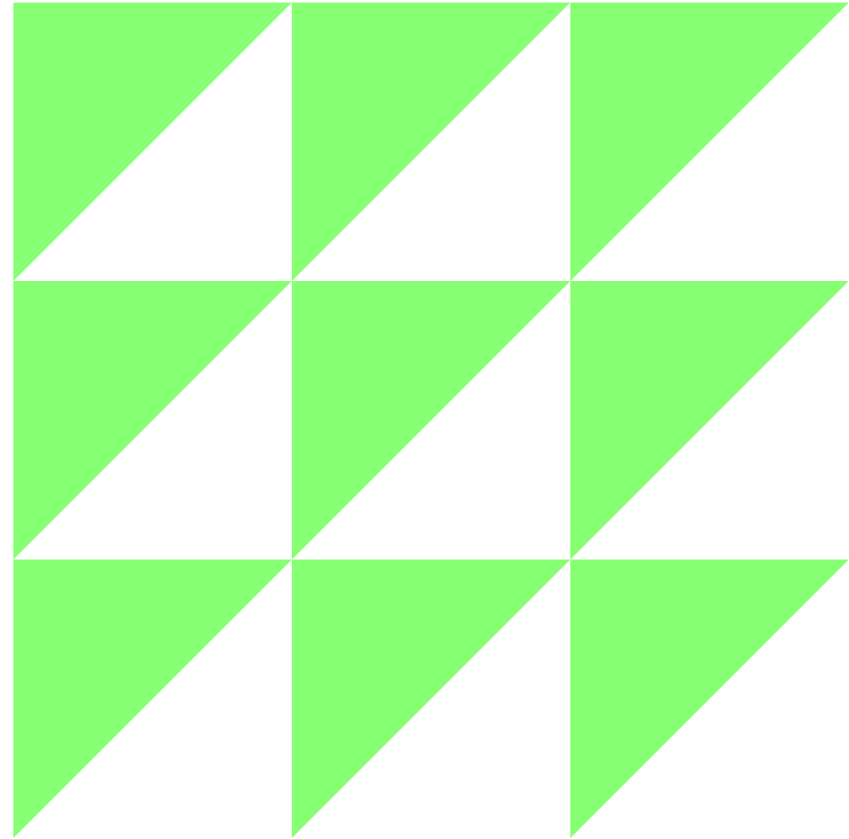
Interviews

I asked 10 people, "When was the last you had fun?" using who, what, when, where, why, and how to get a detailed responded.

Interviews were conducted between February 1 and February 3, 2021.

	Person 1	Person 2	Person 3
What	Playing "Dungeons and Dragons" with acquaintances over the internet.	Sees a duck at the park and tries to play with it.	Hiking with a friend.
How	In a Discord voice call and playing using a mobile app.	Tries to walk towards to duck.	Drove with her friend to the park.
Who	Himself and 4 others. people. All are in the U.S. except one.	Herself and her boyfriend.	Herself and her friend.
Where	All were at home in front of their computer and phone.	At a park in San José.	Mission Peak, Fremont.
When	Last Saturday (1/30) 3 to 6:30pm.	Last Sunday (1/31) Betwwen 3 and 4pm.	Last Saturday (1/30) afternoon.
Duration	3.5 hours.	30 minutes.	2 hours.
During	No breaks. Occasionally drank water.	Talking with her boyfriend.	Talked about what has happened in the past year.
Why	Played as a de-stressor from school and life.	Feel stress-free.	First time going hiking since the pandemic started.
	Build people skills.	Wanted to be outside because she's always indoor.	Wanted her see an old friend in person.
	Get inspiration for his writing.	Wanted to feel like a kid again.	Wanted to exercise.

	Person 4	Person 5	Person 6	Person 7	Person 8
What	Read a Manga, "The Duchess' 50 Tea Recipes."	Played the board game "Avalon" with friends.	Celebrating own birthday with friends.	Celebrating the holidays with family and relatives. Did Secret Santa.	Playing an online game called "Spelunky 2" with friends.
How	Read Manga on her phone using an app called "MangaMan."	Played in a circle.	Celebrated outdoors.	Everyone where in a zoom call with webcams on.	Discord voice call. Played on their computers.
Who	By herself.	Him and his 6 friends.	Hiking with a friend.	Herself, family, and relatives. 10 total.	Herself and her 3 friends.
Where	At home, mostly in her bedroom.	At his friend's apartment in the living room.	Rose garden in San José.	At home in their living room.	At home in her room in front of a computer.
When	Last Saturday (1/30).	Thanksgiving 2020 at night.	January 15, 2021 on his birthday.	First week of January.	Winter break 2020-2021.
Duration	8 am to 12 midnight.	Couple of hours. Lost task of time.	Couple of hours. Lost task of time.	2 hours.	Several hours per session at night.
During	Sometimes would eat during the read.	Didn't eat during game, even though food was provided.	Talking with old friends he hasn't seen in-person for a long time.	Talking and opening presents.	Just talking, laughing, and having fun
Why	Been over a year since she read a really good Manga. Wanted to relieve stress. Wanted to get inspiration to draw.	Wanted to take a break from school. Learn his friends' mind and their thinking process. Wanted to try the new game he bought.	Never done this before: picnic. Fun because they got to see his friends. Fun connecting with each other (venting) and catching up.	Tradition to celebrate the holidays with family. Love seeing people's reactions when they open their gifts. Celebrating late because one of them had COVID.	Talking to old friends and catching up was fun. Feeling of nostalgia because they used to played the first game. Being in a call with friends made it fun.

	Person 9	Person 10
What	Vacation to Asia with family.	Playing Dungeons and Dragons online with friends.
How	Flew.	Discord call. Used a website on their computer called "role20" to play.
Who	Him and his family.	Herself and 3 friends.
Where	South Korea and Hong Kong.	At home in front of a computer.
When	Before pandemic.	Near the end of winter break 2021.
Duration	Couple of weeks	Few hours. Lost track of time.
During	Sight-seeing, meeting relatives he never met.	Laughing, being creative, role playing.
Why	Enjoys going to trips (road trips or flying).	Prefers role playing over combat.
	Reconnect with family is fun.	Wanted to host a D&D game for the first.
	Forget about the bad things in the past and live in the moment.	Fulfilling a goal was fun.
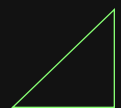
Synthesis

Clustering

After conducting all 10 interviews, I noticed some patterns within their responses. I clustered majority of the responses and choose 4 responses per category that best suits the category.

Gathering

Person 1
Himself and 4 other. people. All are in the U.S. except one.

Person 2
Herself and her boyfriend.

Person 5
Him and his 6 friends.

Person 7
Herself, family, and relatives. 10 people total.

Person 3
Wanted her see an old friend in person.

Person 6
Fun connecting with each other (venting) and catching up.

Person 8
Talking to old friends and catching up was fun.

Person 9
Reconnect with family is fun.

De-stressor

Person 1
Played as a de-stressor from school and life.

Person 2
Feel stress-free.

Person 4
Wanted to relieve stress.

Person 5
Wanted to take a break from school.

Long Lasting

Person 1
3.5 hours.

Person 3
2 hours.

Person 4
8 am to 12 midnight.

Person 6
Couple of hours. Lost task of time.

Distancing

Person 1
All were at home in front of their computer and phone.

Person 4
At home, mostly in her bedroom.

Person 7
At home in their living room.

Person 10
At home in front of a computer.

Online

Person 1
In a Discord voice call and playing using a mobile app.

Person 7
Everyone where in a zoom call with webcams on.

Person 8
Discord voice call. Played on their computers.

Person 10
Discord call. Used a website on their computer called "role20" to play.

Synthesis

Themes

After categoring their responses, the definition of their themes can be determined and their reasonings become obvious.

Gathering

Majority of the interviewee said that in order to have fun, they have to enjoy it with one or more people.

De-stresser

Everyone had to deal with school and/or work. Being away from school or work allows them to relax and enjoy the moment.

Long Lasting

Having fun usually take hours, even days. Some lost track of time because they were too busy having fun.

Distancing

Over half of the interviewees had fun at the comfort of their home.

Online

Due to a pandemic, being in a call over the interview was a common way to connect with friends.

Behavior & Needs

After having noticing these patterns in my research, their behavior and needs come more apparent. This is the final step before coming up with app ideas.

■ Behavior
■ Needs

People play games together
to accomplish something together.

People communicate over the internet
to feel less lonely at home.

People vocally speak to friends in person
or online to relieve stress.

People enjoys going on vacation to forget
the past.

People take risks together to try
something new.

People enjoy every second together in
person because the pandemic separated
each other.

Brainstorm

Nostalgia App

Nostalgia app that makes you feel like a kid again by displaying old websites, images, videos, and songs you might or might not remember and even taking quizzes on them.

Inspiration: Reddit

AR Sports/Activities

Virtually play sports activities such as ping pong, table hockey, and even beer pong with friends or strangers online. Move your phone to adjust you point of view and use the appropriate tap or gesture.

Drawing with Daily Challenges

Social app that creates a theme every day and you get to create a simple drawing or story and people get to vote on the best one

Final Idea

AR Video Calling

Be in a virtual room with friends or with strangers. With AR, the user can move around with their phone to see the people around them.

Inspiration: Omegle, VRChat, Discord

Introducing

vace

virtual + space = vace

AR video calling app that allows you to hang out with friends or with new people in a virtual room.

App Features

AR View

Move phone around to see everyone in the room. Option to turn off AR and choose to swipe to rotate.

Stereo Audio

Audio will line will align with point of view. If someone is more to the right, audio will be louder on the right speaker/headphone.

Wide Selection of Rooms

Ability to choose a type of room, such as bedroom, living room, and even a movie theater.

Media Share

Each room has a virtual screen and virtual speaker where anyone can share photos, play videos from YouTube or own device and music from Spotify or own device.

User Persona

Name: Scarlett Lever

Demographic

Age: **18**
Gender: **Female**
Occupation: **Student**
Location: **Santa Cruz, CA**

Bio

She is freshman at UCSC, majoring in business. She still lives with parents. She is not in a relationship. She has a dog. She also works part-time at a coffee shop. During her free time, she likes to read books, cook, drawing, watch shows, and paint. She loves hanging out with 3 of her closest friends she met in high school. Normally, they would meet up in person every Friday night.

Personality

- Social butterfly
- Ambitious
- Creative

Needs

- Needs of socializing.
- Wants to hang out with friends in person without restrictions.
- Wants to watching videos and talk with friends in the same room.

Frustrations

- The pandemic/COVID restrictions has disconnected them.
- Tired of feeling alone.

Storyboard (Draft)

Scarlett is an 18-year-old college student who misses the days where she and her friends would hang out every Friday at one of their houses.

One Thursday evening, she learns that she is finally free on Friday. She decides to set up a meet up with friends on Friday using the AR video calling app.
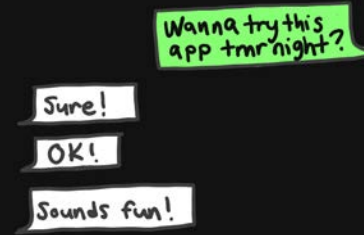
She texts she friends and asked his everyone wants to get on the app together Friday night. Everyone approves.
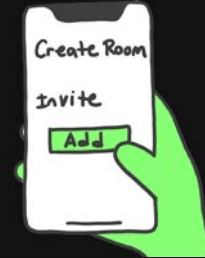

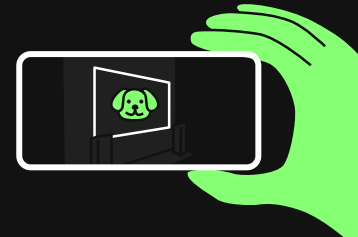On Friday night, she creates a private virtual room with her friends. She picks a spot in the virtual room to sit and activates her selfie camera.


She rotates her phone landscape and moves her phone around to see everyone. They talked for 15 minutes, catching up with that was happening in their life.

To lighten up the mood, she links her Spotify account and plays a playlist on the virtual speaker.
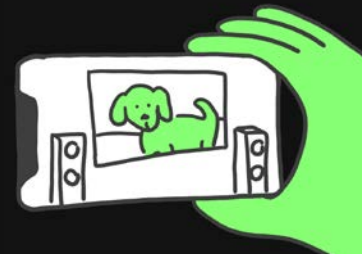
After talking and listening to music together for 45 minutes, she and her friends begin sharing photos and videos on the virtual TV screen.

20 minutes after talking and sharing, they decide to end the meeting and schedule another session next Friday, same time.

Storyboard (Final)
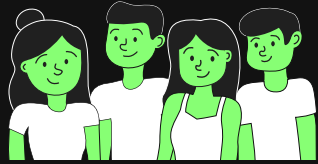
Scarlett is an 18-year-old college student who misses the days where she would hang out with her friends every Friday. This changed when they started to use "Vace," an AR video calling app.

One Thursday evening, she learns that she is finally free on Friday. She wants to set up a virtual meet up with friends on Friday using the app Vace.

Wanna get on vace tomorrow night?

Yes! It's been a while 😄

Yo I'm down 👍

Heck yes!!!

She texts her friends and asks if they want to get on Vace together Friday night. Everyone approves.

Add Friends

On Friday night, she creates a private virtual room with her friends. She picks a spot to sit in the virtual room.

She moves her phone around to see everyone. They talked for 20 minutes, catching up with that was happening in their life.

Link

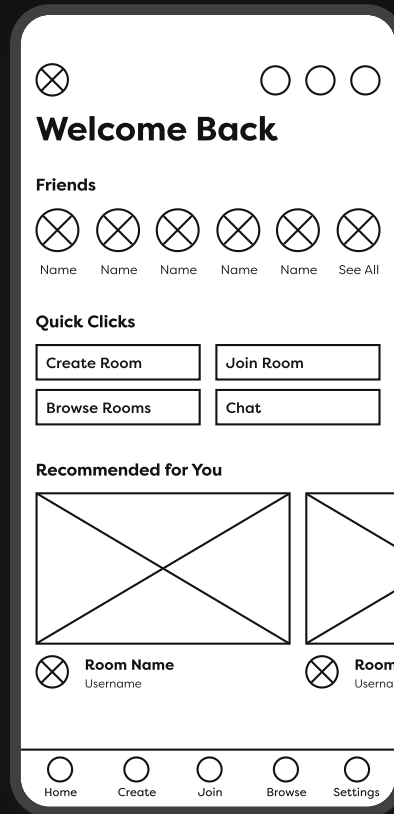To lighten up the mood, she links her Spotify account and plays a playlist on the virtual speaker.

Moments later, she and her friends begin sharing photos and video on the virtual TV screen. One of them adopted a dog recently so she showed many photos and video.
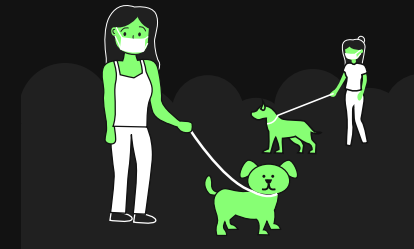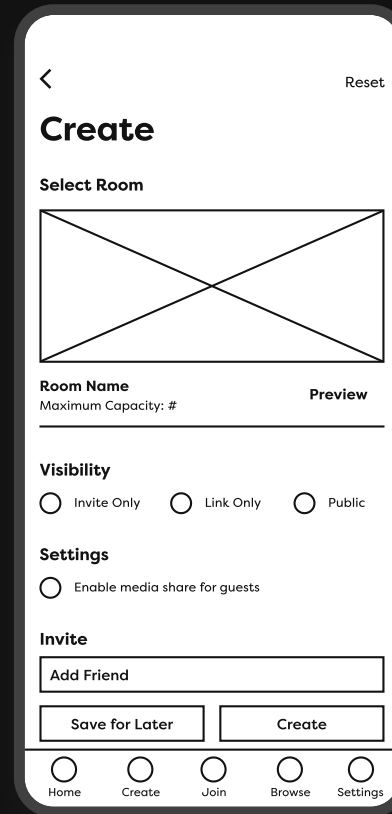
After seeing their dog photos and video, they decided to meet up in the real life the next day with their dogs and went to a dog park.
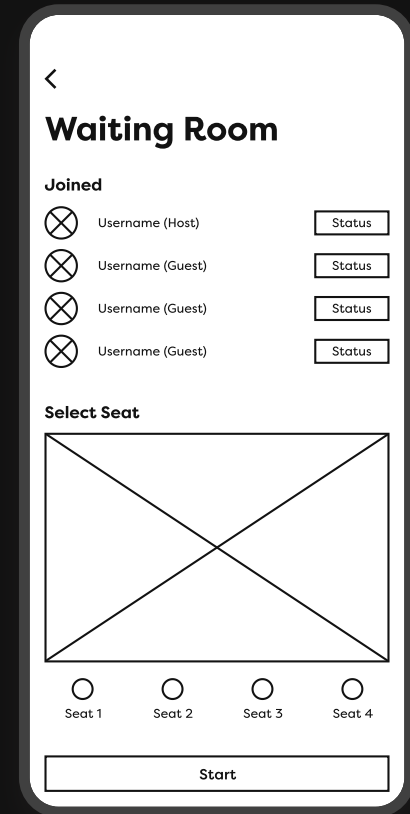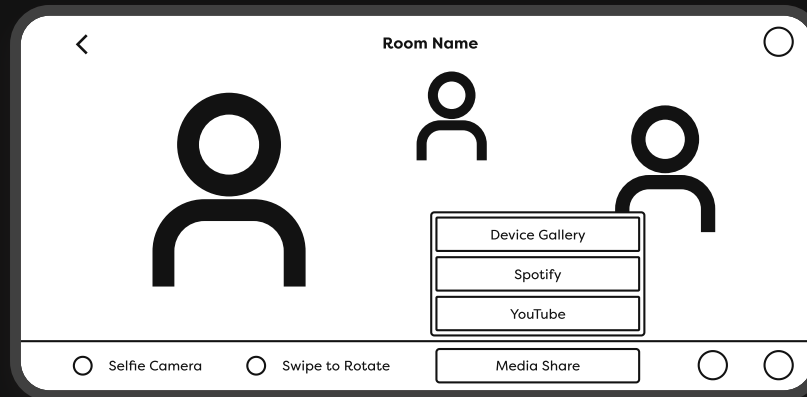
Low Fidelity Wireframes

Home Page

Welcome Back
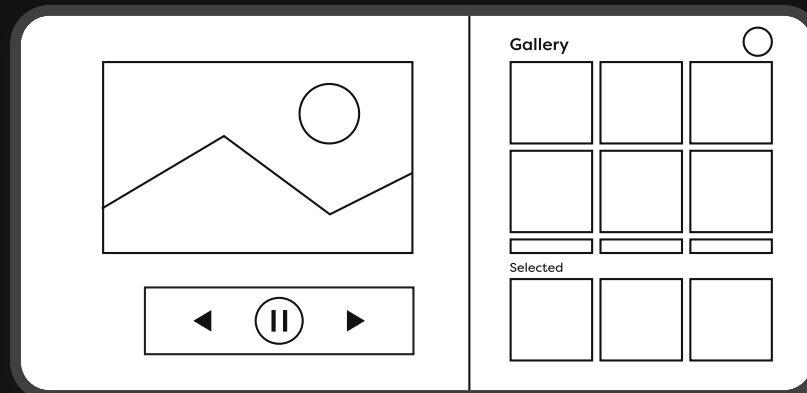
Friends

Name Name Name Name Name See All

Quick Clicks

| Create Room | Join Room |
| Browse Rooms | Chat |

Recommended for You

Room Name
Username

Room
Usernam

Home Create Join Browse Settings

Create Room

Reset

Create

Select Room

Room Name
Maximum Capacity: #

Preview

Visibility

Invite Only   Link Only   Public

Settings

Enable media share for guests

Invite

Add Friend

| Save for Later | Create |

Home Create Join Browse Settings

Waiting Room

Waiting Room

Joined

Username (Host)   Status
Username (Guest)   Status
Username (Guest)   Status
Username (Guest)   Status

Select Seat

Seat 1   Seat 2   Seat 3   Seat 4

Start

Low Fidelity Wireframes

Home Page

Create Room

High Fidelity Wireframes

I asked 10 people, "When was the last you had fun?" using who, what, when, where, why, and how to get a detailed responded.

Home Page

Profile button, message, notifications, and search.

See active friends or view all your friends.

Four quick options a user might want to do in the app.

Go to public rooms suggested by popularity or previous visited rooms.

Home button, create a public or private room, join a public room, browse public rooms,

OS: Android
Style: Material Design (Dark)
Phone: Samsung Galaxy S10

Create Room

Waiting Room
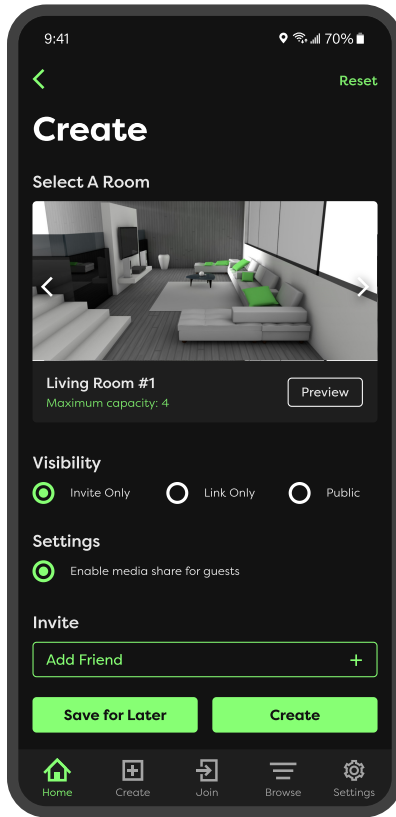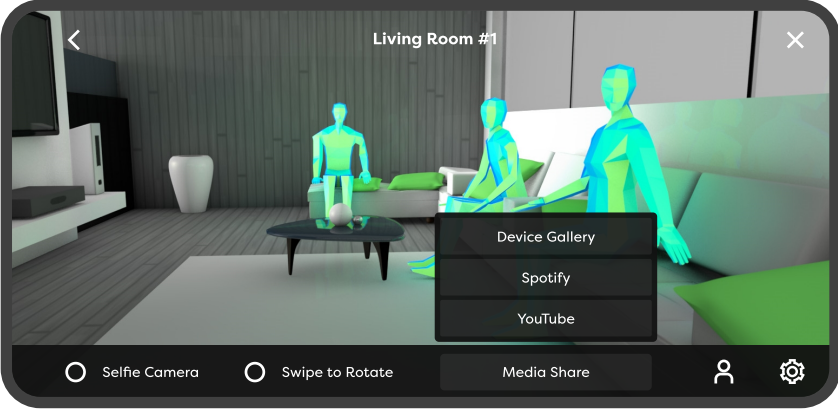
Go back or reset settings.

Swipe to browse through the rooms.

Press preview to go into fullscreen AR view.

Make room private or public.

Allow/disallow guests from sharing their media.

Add friend from your list or add anyone by searching username.

Save for later or go to waiting room.
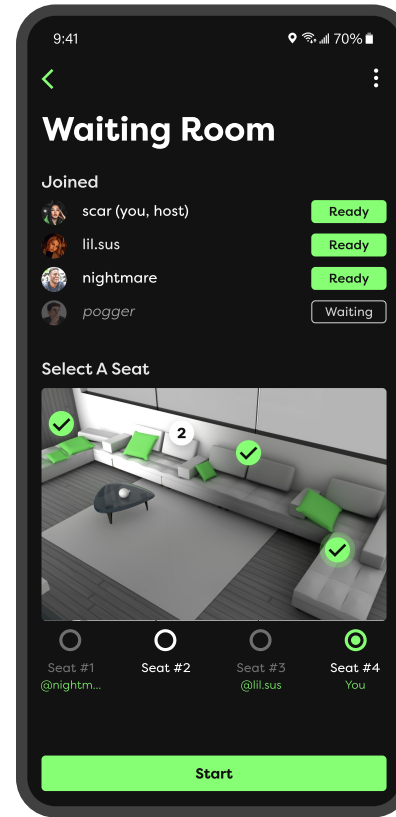
Waiting room menu/settings.

See who has joined and see who has chosen their seat.

Tap on the seat.

Or tap on one of these buttons to choose a seat.

Start when everyone is ready.

AR View (with Menu)

Go back

Close menu

Living Room #1

Turn off/on selfie camera.

Choose to swipe to rotate instead of rotating device.

Device Gallery

Spotify

YouTube

Selfie Camera

Swipe to Rotate

Media Share

AR or camera settings

View, add, or kick users in virtual room.

Media share device gallery, Spotify, or YouTube.

AR View (Media Share Gallery)

Gallery

Close gallery

Scroll and tap on the images to show on virtual TV.

Selected

Media controls: pause slideshow, skip or go back to the previous photo. Or close media controls.

See which photo has been selected and that will be shown next.

Prototype

https://xd.adobe.com/view/8ab676e8-2e8f-425b-914f-254ca34343d3-dfe5/

References

ibra1991. "Living Room 3D Model." *Free3D*, 20 Nov. 2019.

Igor. "Stylish Woman Leaning on Wall with Letters." *Pexels*, 29 Dec. 2020.

Igor. "Young stylish woman sitting at table." *Pexels*, 29 Dec. 2020.

nappy. "Laughing Man Wearing Gray V-neck T-shirt." *Pexels*, 13 Mar. 2018.

Péchy, Martin. "Man Wearing A Jacket Sitting On Brown Wooden Crate." *Pexels*, 26 Sept. 2018.

Pixar. "Inside Out." *Disney*, 2015.

Sony Pictures. "Jeopardy." *Sony*.

onmioji. "Low poly male base mesh." *Sketchfab*, 2013.

Vasques, Osmar. "Woman Wearing Red Lipstick Sitting Near Piano." *Pexels*, 04 Feb. 2019.