



TOGATHER

Kyungah Sohn

Mom, dad, and brother

Boyfriend Jaekyun

Togather-mates: Huisa, Eunjung, Seungju, Woojin

Thesis advisors: Paolo, Lusine, Scott

Grad ID 2020

Sarah, Rebeca, Charlotte, Jacob, Ashesh

Thank you for all your supports and loves

사랑합니다

Together: To gather together

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RISD MID 2020

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I believe that we can live healthier lives when we address both our mental health and our physical health at the same time, rather than when we focus on only one of them. Currently, however, mental and physical health are treated as separate issues, while actually they are closely connected to each other. In light of this, services and applications that address wellbeing should promote both physical and mental issues in a more integrated way.

As a result, I designed a holistic system where what we do for mental and physical health is intertwined. This is the premise for my application TOGATHER, which features an unusual combination of 1) gathering and 2) running. The gathering serves to motivate users to work out and to turn arduous experiences into enjoyable experiences. Running is a medium for getting together with friends, an excuse for keeping in touch, and a way to elevate one's mood.

Through using TOGATHER, users can run with their friends in real-time while talking over the phone though they are not physically together. TOGATHER facilitates appointment arrangements, making it easy for users to overcome distance barriers and go on runs together. In that sense, TOGATHER is a social platform but unlike usual social apps, it is for strengthening existing friend circles and relationships rather than making new connections so that users can take care of themselves and support each other in their comfort zone.

Togather [tə'gæðər]

noun

1. Togather is a wellbeing app that functions as both a social platform app and a fitness app.
2. Togather is a virtual gathering connected through the phone call where people meet up for running and chatting.

verb

1. If people togather, they talk over the phone while running simultaneously.

Hazel is a programmer who works remotely, usually at home. She had an online meeting with her team at 2:15 pm and had barely talked today until then. She recently moved with her boyfriend from Chicago to San Francisco(GMT-7) when he got a job. She loves the breezy weather and peacefulness of the city but feels bored and somewhat lonely as she has no friends.

A new message popped up in one of the group chats with Jason and Sam. The message was from the AI of TOGATHER.

AI: How is everyone doing? Are you ready to TOGATHER scheduled in 30 minutes? Feel free to let us know if you can't come!

Sam: I'm running 20-30 minutes late. You guys can start without me. Will join ASAP.

Jason: It's only a 45 min run man. What r u gonna do if you come 30 min late?

Sam: You can have a tea time or keep running while I run, dude.

Hazel: Haha take your time. We never start on time anyway. Tea time after run also sounds great.

Sam lives in Vancouver, Canada(GMT-7). Hazel and Sam were roommates when they were in university. Jason, who lives in Busan, Korea(GMT+9), is a friend of Sam. Hazel and Sam used to TOGATHER first and Jason joined later and that is when Hazel and Jason are introduced to each other. Technically, Hazel and Jason have not actually met but they run and talk three times every week when TOGATHER.

Hazel wrapped up her work and changed her clothes, walked to the park near her apartment, and started warming up.

Sam: Hey! Are you ready to run?

Hazel: Yeap. Are you?

Sam: Almost. I was gonna run outside today but it's raining now so I'm heading to the gym. I'm almost there. You can start first.

Hazel: I already started running slowly. No rush. So it's 45 minutes run today, right?

Sam: Yeah. But you know, we can do whatever we want. I'm just trying to run at least 30 minutes each time. It's amazing that now you can easily run for 45 minutes! You used to barely able to finish 15 minutes run when we first started TOGATHERing, remember?

Hazel: Well, it's still not easy, but yeah I improved a lot thanks to you and Jason.

It was two months ago when Sam reached out to Hazel and suggested to TOGATHER. Hazel never did running as an exercise before but the idea of running while calling sounded interesting and simple so she decided to give it a shot. At first, the main reason she decided to TOGATHER was to stay fit as it seemed to be nothing

more than just running. Of course she physically improved, however, now she uses TOGATHER less to stay fit but more to bring regularness in her life and to keep in touch with her friends.

Sam: Now I start running. You know, the new bookshelf I ordered like a month ago eventually came.

Hazel: (Gasping) Oh, nice. How's it?

Sam: My cats like it more than me. It's a bit wonky so I had to tie it up to the desk.

(Notification sound. Jason joined the call)

Jason: Tie what to desk?

Hazel: Hey!

Sam: The shelf slash cat tower I bought. You came early!

Jason: I'm not ready to run yet. I just joined the call first. My brother asked me for something and it took a while. Okay, now I'm wearing shoes.

Jason got to know Sam when he was studying abroad. They were roommates and cycling mates for 2 years when they were in college. But after Jason came back to his home country, they barely kept in touch. Jason tried to find a workout mate in Busan but it was not easy due to his working hours being different from usual commuters. Then he saw the commercial for TOGATHER. One of the app's features that intrigued him was that he could work out with friends living far away. He downloaded TOGATHER and after answering the onboarding personalization questions, the app suggested Sam to him as a TOGATHER-mate. Asking to work out was a great excuse to reach out to an old

friend whom he had not been talking to recently.

Hazel: How's the weather there Jason?

Jason: Quite chilly. The wind blows a lot. How's the weather there?

Hazel: Good! Breezy, cool, clear sky. Hold on a sec. I'll take a picture and send it to the group chat.

(Notification sound)

Sam: It's beautiful!

Jason: Look at the sunset! It's rad! Ugh, I wanna live on the West Coast some time in my life.

Hazel: Come!

Jason: Haha, maybe someday.

Sam: Let me know when you go so that I can join you.

Jason: Absolutely. How long have we run? I'm feeling dying.

Sam: Already? Hang in there! We're halfway done.

Hazel: We can do this!

(The end)

TOGATHER is a wellbeing app that is somewhere between social app and fitness app. Users run with their friends while talking over the phone. However, TOGATHER is not either the stereotypical 'fitness app', 'healthcare app', or 'social app'. TOGATHERing is shared time with your friends. It is an encouraging, elevating, relieving, active, supportive, refreshing experience.

Users can TOGATHER to- 1) to keep connected to their friends, 2) to be motivated to run, 3) to encourage habits of routine.

There are people who cannot meet up with friends often enough. There are people who need excuses to call their friends. There are people who do not enjoy talking over the phone. There are people who feel awkward and uneasy to make a phone call only to chat, but are lonely. What if there is a medium for them to talk over the phone with friends? What if there is an excuse for them to reach out to their friends? Run can be an excellent medium for phone calls. Running can be a perfect excuse to reach out and keep connected to friends.

In the sense that TOGATHER connects people together, it is a social app but unlike usual social apps, users do not have to show anything, neither their appearances or their performances. However, users still share their experiences with their friends through their voices. Even though users do not talk about the activity they do at the moment, they still feel supported, encouraged, and the bond through inconspicuous cues like the sound of breathing, voice tone, and etc.





It is also not for connecting users to anyone they do not already know. It is just for enhancing their pre-existing relationships that users might have difficulty maintaining due to the distance barrier. Users can take care of themselves and each other within their comfort zone. Through the research, I found that many people feel the need to exercise but not motivated enough to actually work out. At the same time, people tend to be easily charmed when their friends suggest to work out together. Once users start working out together with their friends and feel supported and encouraged, the support and encouragement naturally become the motivators for users to run more often.

In the sense that TOGATHER makes users work out, it is a fitness app but unlike usual fitness apps, users are not encouraged to make physical improvements. Users do not compete with themselves or with their friends. One of the interesting features of TOGATHER is that users with different pace can still run together. Through using TOGATHER, users can also overcome the exercise performance gap.

If users are in a condition to follow a regular routine, the app encourages them to set up the appointment as a regular schedule. Through the experiments and user testing, I confirmed that people tend to TOGATHER more often when it is a regular schedule. The users who have difficulty following the regular routine can be benefited from this feature of the app.

This is Sam and Hazel. I will demonstrate how the app works from their point of view.

Hazel



Ugh, I feel bored and lethargic

Sam



Hmm.. Whom should I ask to Together?



Hazel! Would you like to run together?

Hey! Long time no see! R u in San Francisco?

No I'm in Vancouver. Have you heard of Together?

It's an app where we can talk over the phone while running together

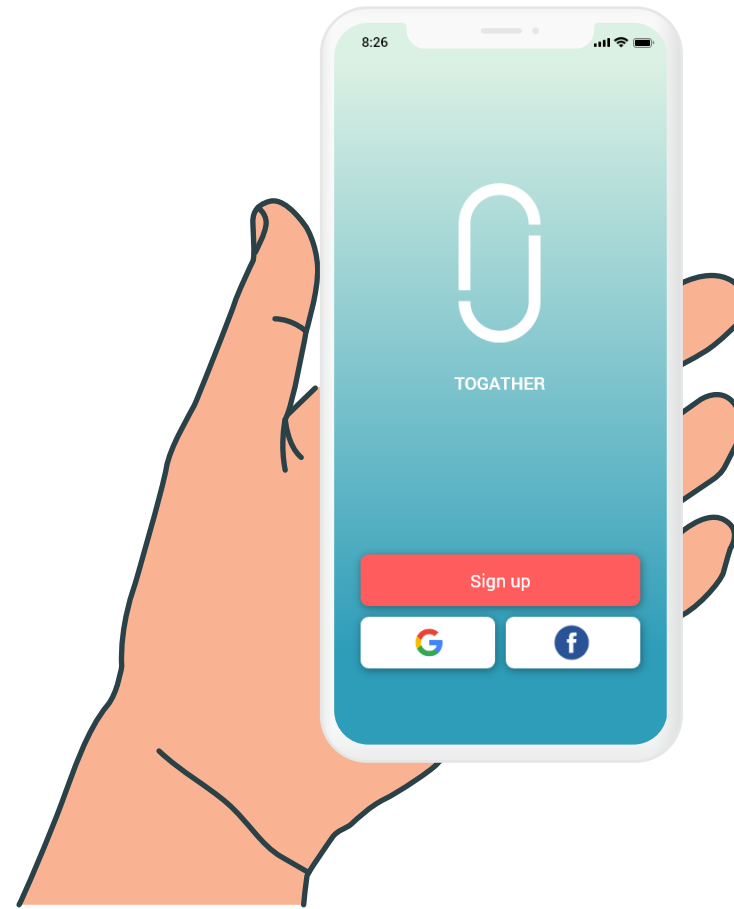
Sounds interesting

Though I'm not sure if I'd be able to talk while running haha

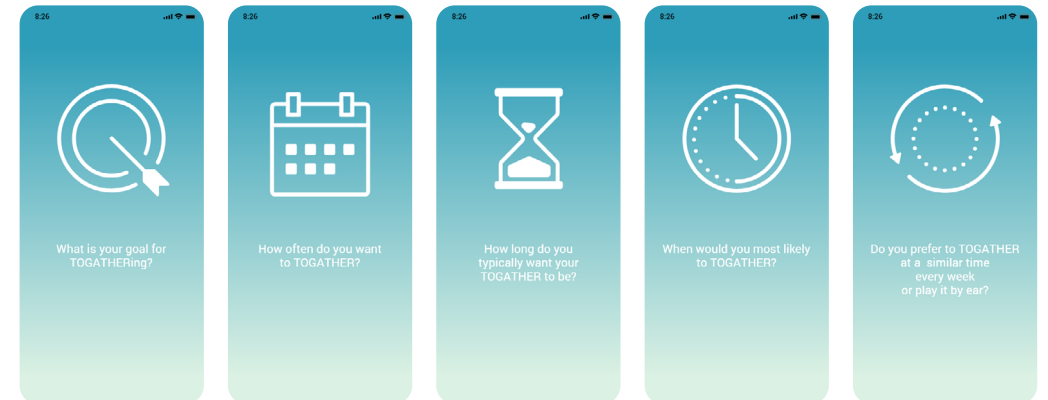
Want to try it out?

Give me a sec. I'll download it right now

Sure! Let me know



Onboarding

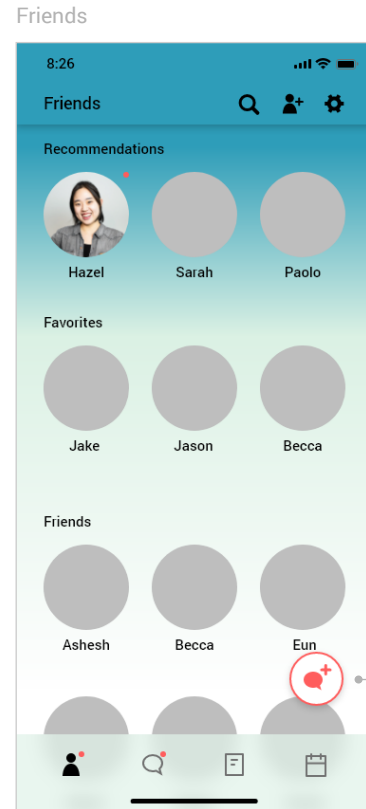


Onboarding questions are to understand users' objectives schedule availabilities. Based on this information, the app suggests to users those who would be good Together-mates among their friends list.

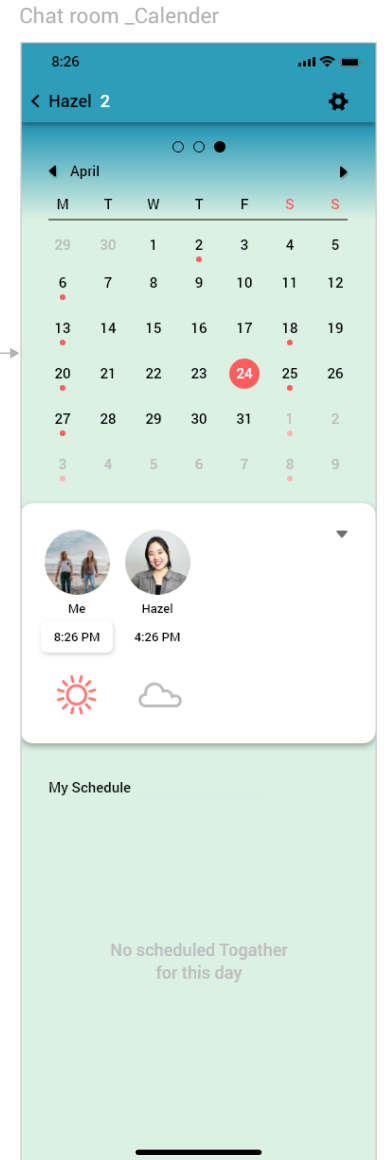
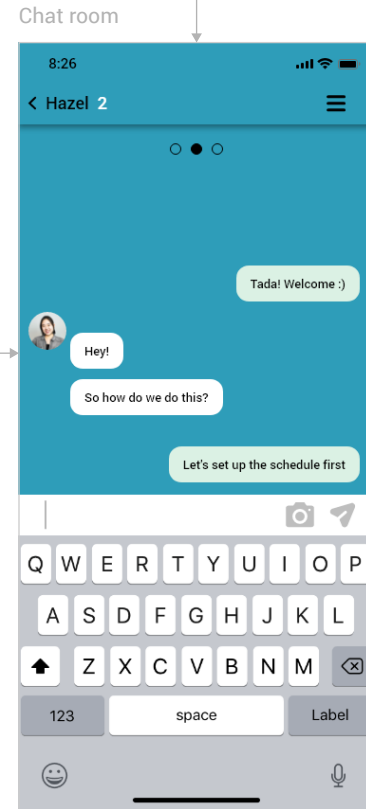
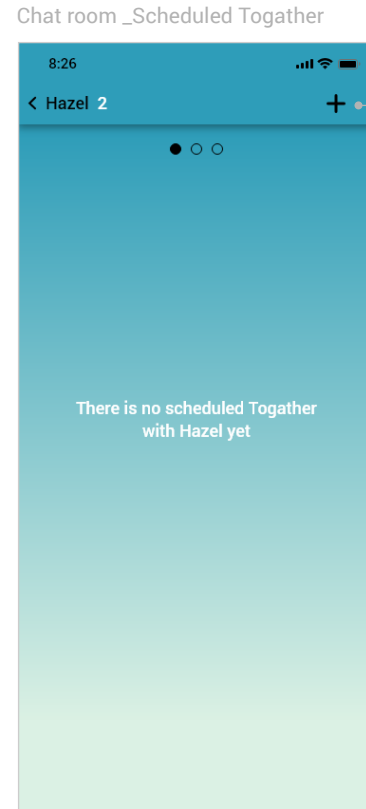


Great. Let me see if you appear on my Together.

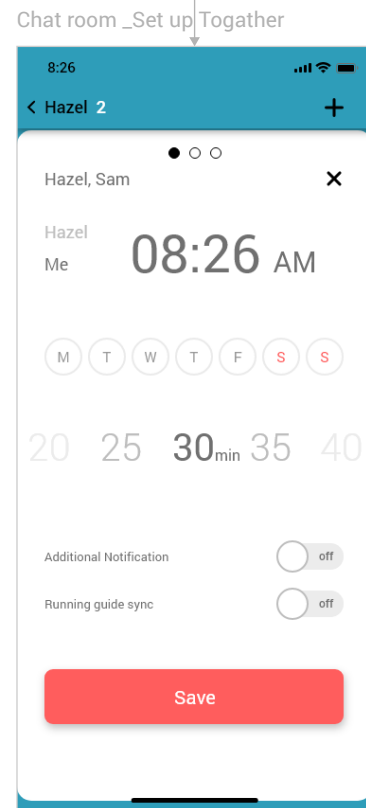
I'm ready!

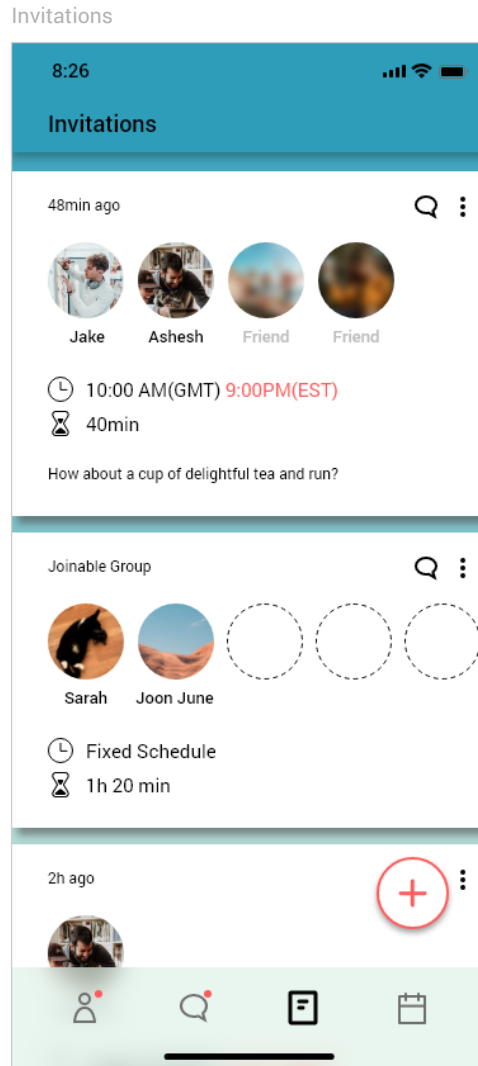
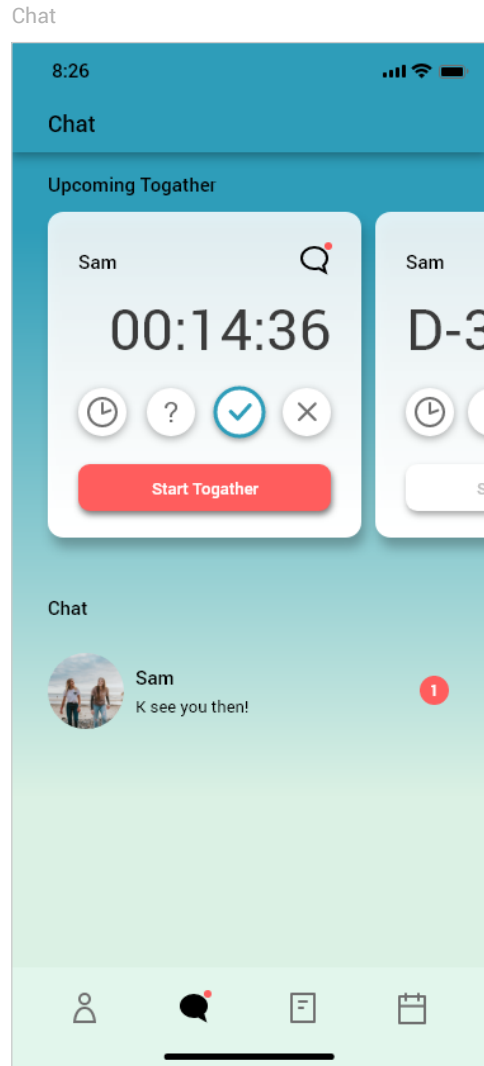


If users sign in with their Google or Facebook ID, their friends who also have Together account will be automatically added to the list



In the chatroom, users can set up appointments while checking their schedule, weather, and time differences among group members.

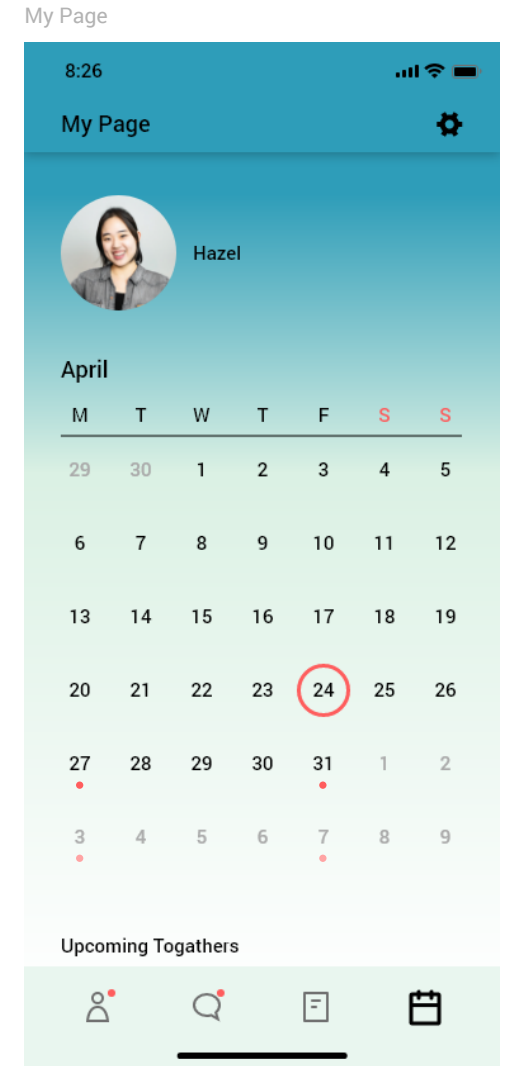




There are two types of posts at the invitation feed.

1. Invitation of users
: Users can ask their friends to join an unscheduled Together. Users who have irregular schedules can benefit from this feature.

2. Suggestion from the app
: Users can make their group either private or public and if the group is public, the users' friends will be suggested to join. Users cannot directly join the group but have to ask their friends for an invitation.



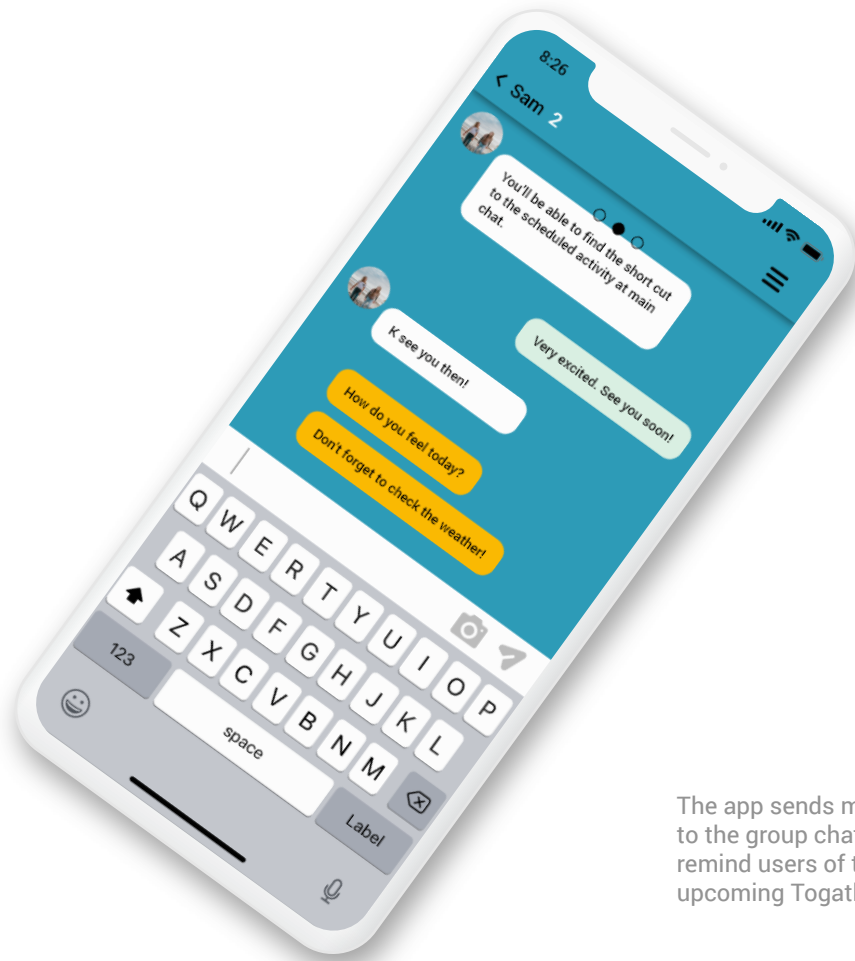
You'll be able to find the short cut to the scheduled activity in the main chat.

Very excited. See you soon!

K see you then!

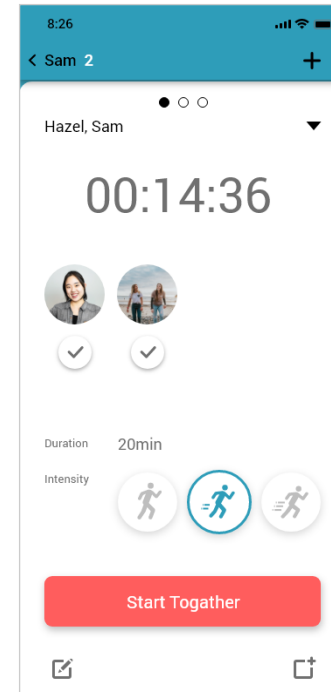


Oh, I didn't know Ashesh runs! I might ask him to Together

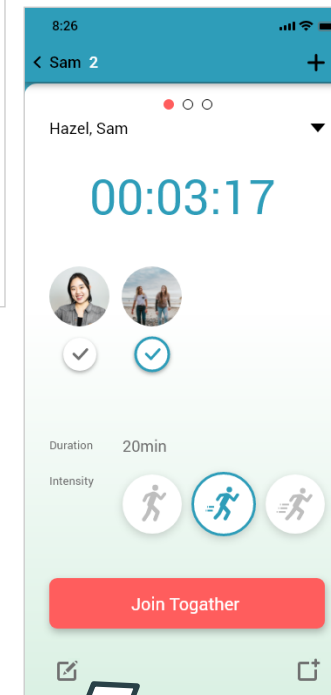


The app sends messages to the group chat to gently remind users of the upcoming Together

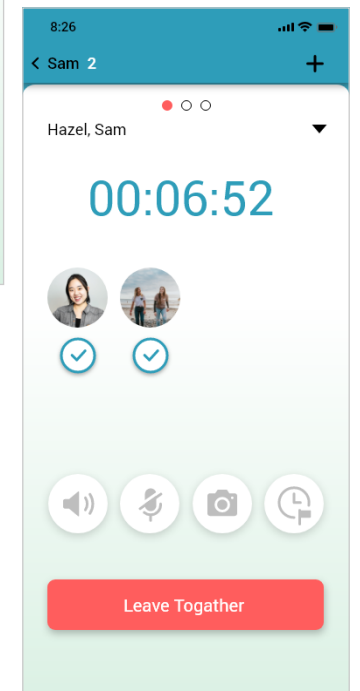
Chat room _Scheduled Together



Chat room _Together Started



Chat room _Joined Together



Note: I interviewed W in Korean so I translated it into English and W reviewed the translated version of the transcription. The order of the questions and answers are modified for the better flow.

Kyungah: Have you been exercising before participating in the experiment?

Interviewee H: No, and my frequency of current workout is the same as the frequency of the phone call for TOGATHER.

K: When was the last time you went running?

H: When I was getting personal training because I felt like I was going to die soon if I didn't. But it wasn't fun. My trainer made me run before and after every workout.

K: Did you have any difficulties when you TOGATHERed?

H: It would be better if there were more people TOGATHERing. Time flies when listening to people chatting.

Also, when I used wired earphones, it rattled. You need a wireless one for this activity.

K: Do you think you would TOGATHER even after you go back to school or when you start working?

H: Yes. Because I don't do anything except TOGATHER. I was able to see the result of working out even though I just listened to people chatting!

K: Do you prefer exercising alone or together?

H: In general, I prefer to do everything alone, whatever it is. However, after experiencing working out together, now I think having a buddy is important at least for exercising.

H: Especially when I do exercises that I don't need to focus on my inner self but make me sweat. It feels like I torture myself when I do that kind of exercise alone. However, if I work out with friends, we encourage each other.

K: How was the TOGATHER experience different from just chatting on the phone?

H: When I talk over the phone, I always do other things like doodling or changing the TV channel because I'm not that comfortable talking on the phone. However, when I TOGATHER, running relieves the discomfort in the sense that I do something in addition to talking.

K: So you originally do not enjoy phone calls. Do you not chat over the phone with friends at all?

H: Me calling first scarcely happens and when a phone call comes in, I pick up the phone about 40% of the time.

K: You joined the TOGATHER even though you hate phone calls! Why?

H: Because TOGATHER is not a phone call for a phone call's sake. Talking over the phone when TOGATHERing seems to be closer to assistance for working out. The primary purpose of this activity is running. For 1 on 1 phone calls, I have to keep responding but when TOGATHERing I don't need to talk (because there are other people who would talk other than me).

(continued to the next page)

K: How was the TOGATHER experience different from running alone?

H: When I run on the treadmill at the gym, I have to rely on TV or music as I get bored. I stop running as soon as I reach my goal and that's it.

When I TOGATHERed, I was busy focusing on chatting over the phone and working out so I didn't need to watch TV or whatever. We encouraged each other when we got tired and applauded when we made the goal.

K: How was the TOGATHER experience different from working out with friends, physically together?

H: The way we used time was different. TOGATHER was more compact. We just made a quick run without having a break and said bye.

When we met up for sports climbing, I had to set aside at least 4 hours because it felt like it's an unspoken rule to have lunch or dinner after the workout.

I'm not saying that one is better than the other. Just the time we spent was totally different.

Also, working out physically together was more for meeting friends but less for the workout itself. On the other hand, TOGATHER was more for exercising but less for connecting with friends.

K: Do you think there is any difference in exercise performance between when you TOGATHER and when you run alone?

H: Yes, absolutely. Because I don't sweat when I work out alone as I go too easy on myself.

K: Were there any disadvantages to TOGATHER?

H: Hmm... If the host is busy, it's likely that the TOGATHER is not happening.

Also, we have to calculate appointment time for all different time zones.

(The end)

There was a time in my life when I felt extremely lethargic. In retrospect, I think I was depressed, but at the time I did not know that lethargy is one of the symptoms of depression. I am not sure if it was due to my mental state, but I got physically sick as well. After a certain period of feeling lethargic, I felt the need for physical activity.

Like most people, I always feel guilty about not working out. I also wanted to have a hobby that I had not had before. I had thought of trying sports climbing at some point but had not started just because I was lazy and not that motivated. Then I learned that my dad had been thinking of going climbing but been lazy as well, so we decided to go climbing together! The combination of all these reasons—feeling the need to move, the pressure to work out, wanting a hobby, and finding a workout mate—eventually brought me to the climbing gym.

From the first visit, I fell in love with sports climbing. Climbing itself is fun and watching myself getting physically stronger was exciting. I also brought many of my friends who had never gone climbing before. Some of them wanted to go climbing, others did not but I knew that they were going to love it. Still others became interested after watching my Instagram feeds full of climbing videos. Climbing not only made me physically healthy but it also revived and enhanced a lot of my relationships. The gym turned into our playground and it became a natural routine to get together at the gym, work out, and hang out. In the meantime, I mentally recovered as well.

At some point, the reason why I went climbing was not to get physically stronger anymore but to hang out with friends. In other words, socializing was a side effect of working out at first, but then physical well-being became a side effect of hanging out. The two keep reversing. That was the first time I realized that exercise can cause a positive snowball effect on both mental and physical health. I used to treat my mental and physical health separately, but then I saw the potential of designing a holistic system that addresses mental and physical health at the same time. This led me to my interest in the relationship between mental and physical health and how I can help others with being benefited from that.

“Physical exercise may be a helpful way to reduce mental health disorders in the context of inpatient psychiatry by targeting anxiety, depression, anger, psychomotor agitation, and muscle tension and addressing stressors and triggers and to develop a more balanced and integrated sense of self.”

I started my research by exploring mind and body relationships. I looked into various fields of psychology and talked with experts in those fields. I also wanted to know how people understand mind-body relationships, what people do to improve either or both mental and physical health, and what are the obstacles for people to stay healthy.

I could easily find multiple psychology studies regarding how exercise could alleviate different symptoms like depression and anxiety. I wanted to see how the finding is applied to relieve actual people who are suffering from different symptoms.

I interviewed Doctor Shauna Summers who was the director of RISD CAPS(Counseling and Psychological Services.) I asked her if any of the counseling methods address mind-body relationships. She explained how the mind and body are interconnected by giving examples of how anxiety can be manifested in many different ways. Some people have certain patterns of negative thoughts that they have difficulty getting out of. In that case, moving their body could stop the thoughts by calling their attention to something else. In the case of other people, their anxiety causes physical reactions like a raising heartbeat or physical behaviors like finger nail-biting. For them, focusing their thoughts on something else could help them with relieving their physical symptoms.

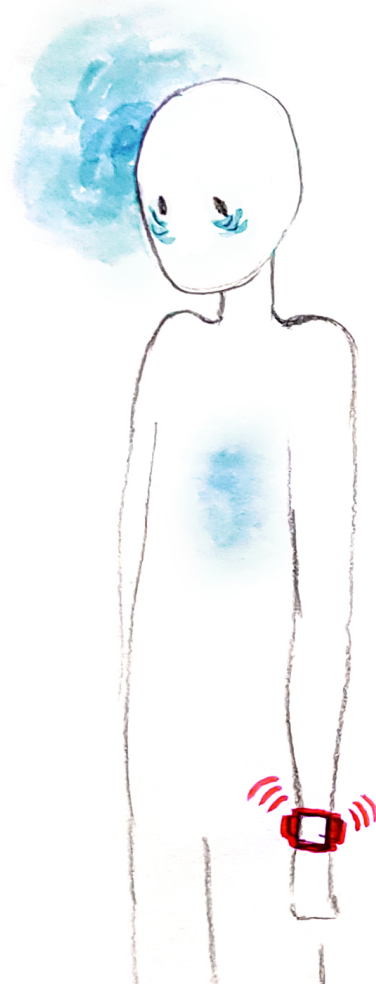
Dr. Summers utilized Cognitive Behavioral Therapy-(CBT) which is one of the most widely used therapies known to be effective for a wide range of issues from anxiety disorders or depression to alcohol abuse. CBT is a short-term, goal-oriented psychotherapy treatment that takes a hands-on, practical approach to problem-solving. Its goal is to discover and modify patterns of dysfunctional emotions, thoughts, or behaviors that are behind people’s difficulties, and so change the way they feel. (Martin 2019) However, I learned that during the CBT sessions, counselees do not do physical activity during the therapy but modify behavioral issues as well as cognitive issues through conversation.

I also asked her about how she tries to encourage counselees to do physical activities. She said that she tries to motivate them by explaining the law of inertia which means it becomes a lot easier to keep moving their body once they start. Also, she said that people feel even more challenged when they have to make movements all by themselves so she encourages people to ask for help from their family members or friends.

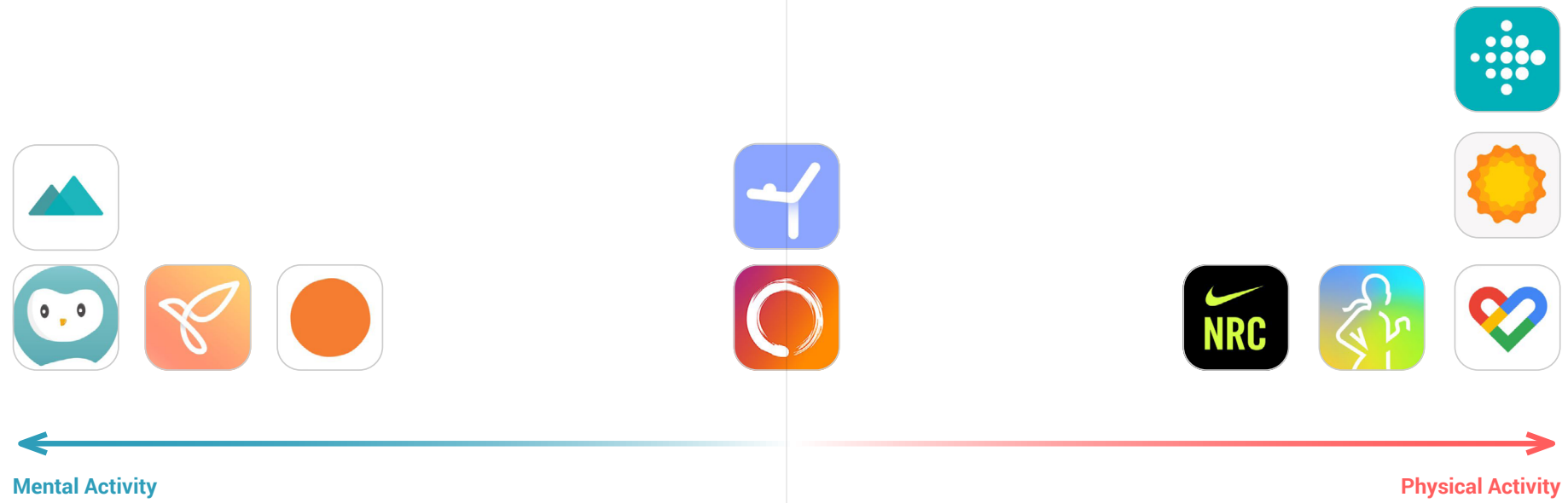
In addition to what I learned from Dr. Summers, I was introduced to different methods from other counselors as well. Damion Vania, Clinical Counselor of RISD CAPS, introduced me to one of the most basic skills of mediation, focusing on one’s breathing. Just by focusing attention on our own breath and observing how our body moves and feels like, we can relax and empty our minds. Our mind might wander while meditating and whenever that happens, all we have to do is just bring our focus back on the breath.

I tried meditation as research which I have never tried before. I measured my stress level before and after I meditate with my phone-it measures and analyzes not only heart rate variability but also oxygen saturation amount-to see if there is any change. Surprisingly, I was able to see my stress level dramatically dropped after meditation though it was only a 5-minute long. Meditation is fairly effective for me to relieve hypersensitivity as well.

One method that we can use to understand and notice how we feel is to observe our physical reactions. For instance, if I learned that my shoulders tend to get tense when I am upset, I can notice me being upset by observing my body and furthermore, I can relieve my distress by loosening shoulders.



Dr. Summers introduced a mood tracking app to me. That was when I started to be interested in well-being apps. I looked into different wellbeing apps from fitness apps to AI counseling apps and found that most of them are addressing only either physical health or mental health. Yoga apps have more holistic approaches as yoga itself is a group of physical, mental, and spiritual practices. However, not everyone enjoys yoga which means users currently have very limited options of wellbeing apps that provide holistic support.



There are multiple studies and theories utilizing the mind-body relationship beyond those I have mentioned, such as Somatics by Thomas Hanna, Kinesiology, utilizing tactile stimulus for people with Alzheimer's and Dementia, Walk and Talk Therapy. I was able to find a lot of attempts trying to utilize the mind-body connection. However, many theories lack formal studies, and even in the case of formally conducted studies, it is difficult to prove the direct correlation between mental health and physical activities.

I interviewed a Brown University Professor and psychiatrist Brian Hayden, who teaches abnormal psychology in the Department of Cognitive, Linguistic & Psychology Sciences, to ask how psychology experiments are designed and conducted. According to what he said, like any other scientific experiments, the experimental group-participants of which receive treatment-should be highly controlled so that there could be as little factors as possible which are unintended but might affect the result. Also, the number of subjects affects the reliability of the experiment results. For these reasons, it is almost impossible for people who are not in university laboratories or organizations with substantial infrastructure to do a formal experiment.

However, Professor Hayden said that even for researchers with large-scale infrastructure, it is challenging to prove strict causal relationships to experiments related to physical activity. This is because there are many things that are very difficult to control but could influence the results. For instance, if an experiment is about exercise at the gym, participants are highly likely to be also affected by social inter-

actions that happen at the gym, while identifying exactly what affects participants' minds is impossible.

“I know it’s good for my health. It would be really nice if I do that. I should do that. But not really.”

One of the interviews I did early in the research was to understand what people do to care for their mental or physical health. I also asked what would be ideal for them to do for each and what are the difficulties they have to make it happen. Through this inquiry, I found out that a lot of people are suffering from lack of motivation. Additionally, taking care of themselves was not placed high on their list of priorities. This drove me to investigate if there is an easy way of motivating people and cultivating habits.

When I was interviewing people, I intentionally asked about mental health related questions first and physical health related questions later. Most of the interviewees did not mention working out for mental health but answered that they would work out for physical health. However, when I went back to the mental health questions and had deeper conversations, most of them said that working out would be beneficial for their mental health as well. It means that a lot of people already know that working out is good for both mental and physical health, but working out does not immediately come to mind when they think of mental health. In people’s minds, the connection between physical activity and mental health seemed fairly weak.

When Professor Judson Brewer spoke about altering habits in his TED talk, he posits that when we are challenging against or habits,

“(When we are challenging against our habits,) we’re fighting one of the most evolutionarily-conserved learning processes currently known in science, one that’s conserved back to the most basic nervous systems known to man. This reward-based learning process is called positive and negative reinforcement and basically goes like this. We see some food that looks good, our brain says, “Calories! ... Survival!” We eat the food, we taste it — it tastes good. And especially with sugar, our bodies send a signal to our brain that says, “Remember what you’re eating and where you found it.” We lay down this context-dependent memory and learn to repeat the process next time. See food, eat food, feel good, repeat. Trigger, behavior, reward. Simple, right? Well, after a while, our creative brains say, “You know what? You can use this for more than just remembering where food is. You know, next time you feel bad, why don’t you try eating something good so you’ll feel better?” We thank our brains for the great idea, try this and quickly learn that if we eat chocolate or ice cream when we’re mad or sad, we feel better. Same process, just a different trigger. Instead of this hunger signal coming from our stomach, this emotional signal — feeling sad — triggers that urge to eat. (...)

What if instead of fighting our brains, or trying to force ourselves to pay attention, we instead tapped into this natural, reward-based learning process ... but added a twist? What if instead we just got really curious about what was happening in our momentary experience?”

(Brewer, “A simple way to break a bad habit.”)

Therefore, if I can reinforce users' awareness of the connection between physical activity and stress relieving experience, physical activity can become their stress coping method. So I wanted to conduct experiments to see if being aware of what you want to relieve could make this relieving activity more helpful. Prior to conducting these experiments, I reached out to Professor Brewer, who emphasized that participants need to be exposed to the experiment for a certain period—at least a few months—to build a connection in their thoughts. I knew that I had limited time, but I still wanted to see what would happen.

I asked several people who are already exercising on a regular basis to follow the booklet I made and let me know if it changed their workout experience.

The booklet contains five steps.

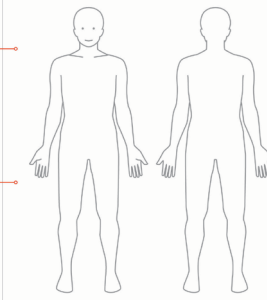
1. To observe your physical state through a mindful breathing exercise.
2. To observe how you feel through simple reflective questions. I Emphasized that through the following activity, some of their negative emotions/feelings/ thoughts and stress could be relieved.
3. To engage in physical activity and record what you do.
4. To observe your physical state through a mindful breathing exercise.
5. To observe how you feel through simple reflective questions. To observe how your body feels—to connect the mental reflection and physical reflection.

The journal was not for me to read but for them to build the connection. Participants were aware that their writing will remain private.

1/5 Breathing

Inhale with your nose, exhale with your mouth. Inhale as deeply as possible and try to use your chest, back, and belly simultaneously.

While you are breathing, check if there are any parts of your body that hinder you from deeper breathing. Color the parts



While you are breathing, check which part of your body is tight and would be better to be loosened. Color the parts

2/5 Reflection

How are you?

Choose your current mood.



Select the emotions you felt today.

- | | | |
|--------------------------------|----------------------------------|------------------------------------|
| <input type="radio"/> Active | <input type="radio"/> Interested | <input type="radio"/> Relaxed |
| <input type="radio"/> Cheerful | <input type="radio"/> Proud | <input type="radio"/> Confident |
| <input type="radio"/> Happy | <input type="radio"/> Excited | <input type="radio"/> Supported |
| <input type="radio"/> Sad | <input type="radio"/> Angry | <input type="radio"/> Tired |
| <input type="radio"/> Lonely | <input type="radio"/> Numb | <input type="radio"/> Guilty |
| <input type="radio"/> Anxious | <input type="radio"/> Nervous | <input type="radio"/> Other: _____ |

Choose 3 emotions that affected you the most. What are the causes of it?

What are the emotions or thoughts you are going to relieve during the following physical activity?

3/5 Physical Activity

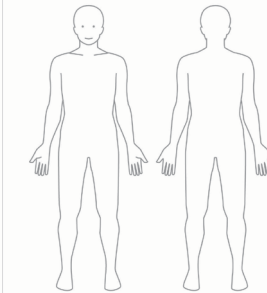
You can fill this out before or after the activity. Sufficient time for warm-up and cool-down is recommended.

- Type of activity:
- | | |
|--|------------------------------------|
| <input type="radio"/> Aerobic/Endurance | <input type="radio"/> Balance |
| <input type="radio"/> Anaerobic/Strength | <input type="radio"/> Interval |
| <input type="radio"/> Flexibility | <input type="radio"/> Other: _____ |

What activity you did in detail:

Exercise time:

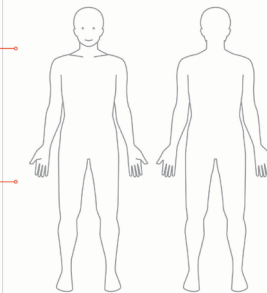
Which part of the body did you use for this activity?



4/5 Breathing

Inhale with your nose, exhale with your mouth. Inhale as deeply as possible and try to use your chest, back, and belly simultaneously.

While you are breathing, check if there are any parts of your body that hinder you from deeper breathing. Color the parts



While you are breathing, check which part of your body is tight and would be better to be loosened. Color the parts

5/5 Reflection

How are you?

Choose your current mood.



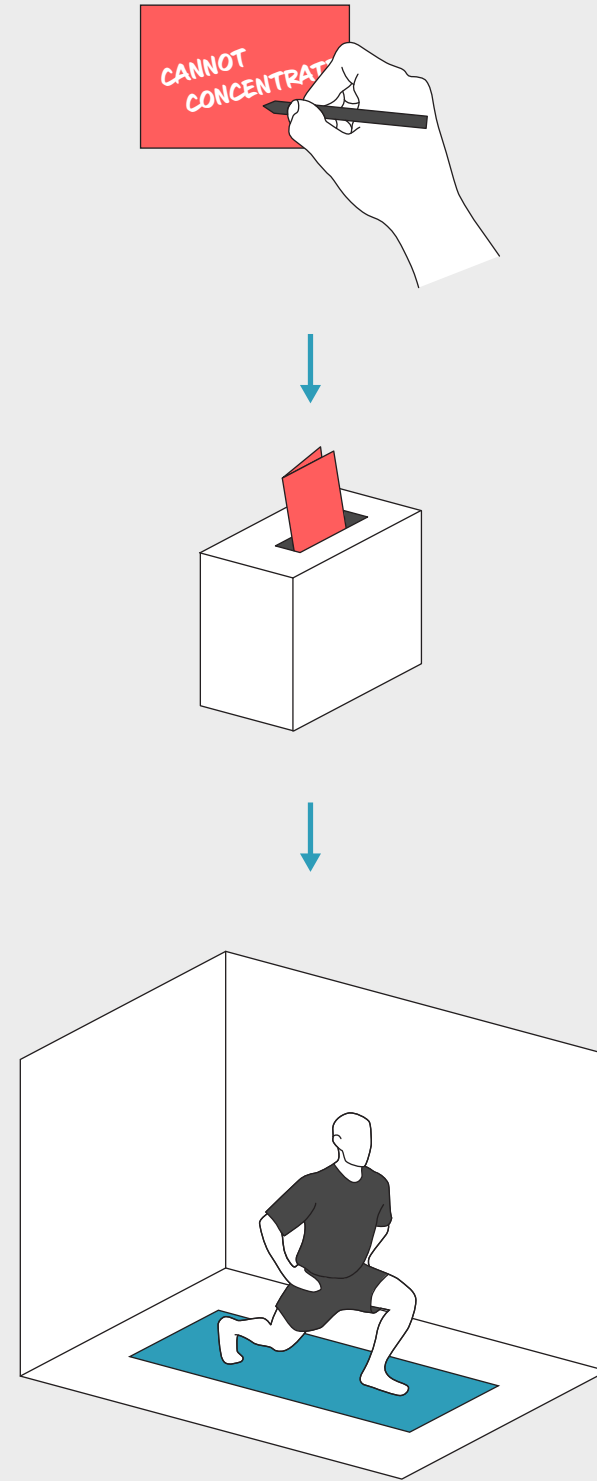
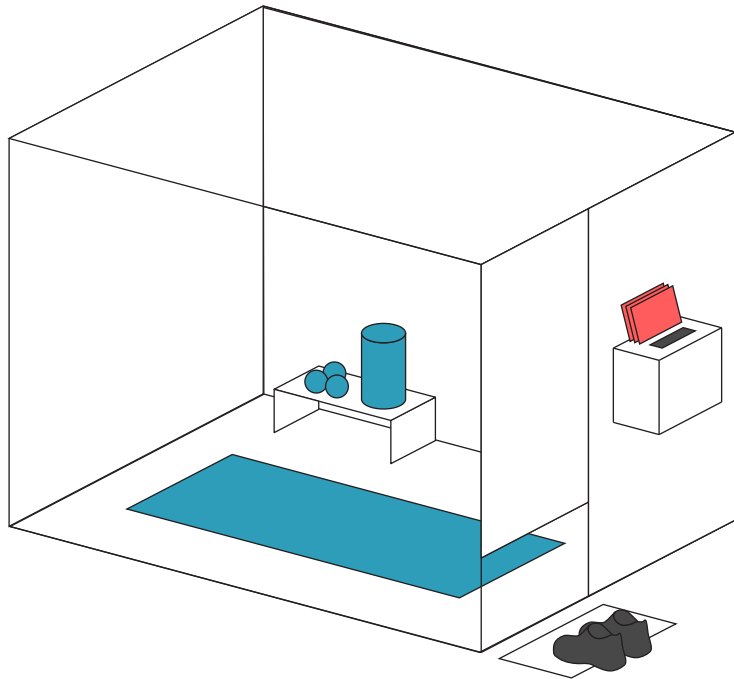
Select the emotions you feel right now.

- | | | |
|--------------------------------|----------------------------------|------------------------------------|
| <input type="radio"/> Active | <input type="radio"/> Interested | <input type="radio"/> Relaxed |
| <input type="radio"/> Cheerful | <input type="radio"/> Proud | <input type="radio"/> Confident |
| <input type="radio"/> Happy | <input type="radio"/> Excited | <input type="radio"/> Supported |
| <input type="radio"/> Sad | <input type="radio"/> Angry | <input type="radio"/> Tired |
| <input type="radio"/> Lonely | <input type="radio"/> Numb | <input type="radio"/> Guilty |
| <input type="radio"/> Anxious | <input type="radio"/> Nervous | <input type="radio"/> Other: _____ |

How does your body feel?

Experiment 2: The Space

Using divider walls, I made an isolated space at the corner of the industrial design graduate studio. I put a yoga mat, a foam roller, and massage balls in the space. I suggested several activities they can do in the space which are squat, plank, mindful breathing, self-massage, and stretching. However, there was one condition that I asked of my users, which was to write on a card their emotions, feelings, or thoughts they want to relieve during the activity and the place that card into a collection box. I also sent out an invitation card to all 60 students who share the studio space so that people would know what was in the room and feel more welcomed. Through this activity, I tried to encourage people to connect physical activity with the idea of relieving whatever bothers them.



Experiment 2: The Space



After a certain period, I checked how the experiments had gone. For the exercise booklet experiment, the participants barely worked out so it was difficult to see if the experiment affected them. One of the participants said that he is not a meditative person so it felt awkward to follow some parts of the instructions.

For the space experiment, I asked my colleagues if they have used the space. What I paid attention more on is the feedbacks of people who have never been to my experiment space who were the majority. Most of them said that it is good to have that kind of space in our studio and they are planning to go there sometime, which never happened. There were mainly two reasons why people had not used the space. One, the space is not that welcoming. Two, they had to make time for that and it did not happen.

Here I found something interesting. They make time to grab a coffee which takes a much longer time. What is important is that they do know they are going to feel better if they have a coffee break. They already have positive experiences around it so 'stress' becomes a trigger and they are willing to spend 20 minutes for that. They do not need any motivation for that. In other words, if people do not take the first step, there is no possibility to enhance the connection. Which led me to the question "How could I help people to take the first step?" Also, another thing worth considering was the context of having coffee. The coffee break includes the excuse to leave their desks, spending time with friends, having fresh air, walking to the cafe and etc, which could be small motivators as well.

Note: I interviewed E in Korean so I translated it into English and W reviewed the translated version of the transcription. The order of the questions and answers are modified for the better flow.

Q: Have you been exercising recently?

A: Yes. I was getting personal training at the gym for about a month when we started TOGATHERing.

Q: Did you go running before participating in my experiment?

A: No, as my goal for exercising was not to lose weight, my trainer told me to do cardio exercise for a short period of time. However, now I want to lose weight so I try to keep running these days. But it's difficult to make time for running as I go to the gym before I go to work.

Q: What was the reason for you to work out?

A: I gained weight after the trip and I became more interested in health. There was not a particular reason.

Q: Did you have any difficulties when you TOGATHERed?

A: Since our TOGATHER was not scheduled regularly at first and we had to arrange it every time, it felt burdensome that I had to rearrange my schedule for that. It's difficult to start the activity right on time as we had to wait for everyone to be prepared. Well, I can start running first though.

It is a bit embarrassing that everyone hears me gasping. I think it could be noisy.

When I TOGATHER with us, very close friends, I can say things like "I feel like dying" but I don't know I could be that raw if I TOGATHERed with people who I'm not that close with.

*Note: I asked E to TOGATHER first so she did not have to find a TOGATHER-mate.

Q: Do you think you would TOGATHER even without me?

A: Not really. However, if I have a friend who would love to TOGATHER with me, I would run together with her. The only concern is that I might not have things to talk about if I'm not that close to that friend.

I think I should ask people already working out to TOGATHER, but I think none of my friends except our TOGATHER group works out.

Q: You go to the gym alone right now, right?

A: Yes.

Q: Do you enjoy working out alone or do you prefer working out with friends?

A: I think that depends on the type of exercise. I think running physically together is tricky as people usually have different paces of running.

When I have a personal trainer, I don't need a friend. But since I don't have a trainer right now, I got loose as there's no one who forces me to follow the workout routine. If I have a gym-mate, I hope we really focus on working out without slacking off so that we can finish the routine in time.

Q: How often do you talk over the phone with your friends?

A: I usually don't chat over the phone. I rather meet up and chat but I don't meet friends every single day though.

Q: How was the TOGATHER experience different from just chatting on the phone?

A: Not really in terms of what we talked about. One different thing might be that I wouldn't make a phone call with H if it were not TOGATHER since we're not that close.

(continued to the next page)

Q: How did you feel about TOGATHERing with a less close friend?

A: I tended to focus more on the running. When we're running out of topics, I started talking about the workout.

Q: How was the TOGATHER experience different from working out with friends, physically together?

A: I've worked out with my sister. And then, we had a gap in workout knowledge so we were not that good fit. It was difficult for me to focus on the workout.

I keep looking for a workout mate but it's hard to find one... I recently found a potential cycling mate though. We're going on a bicycle ride today for the first time. Let's see how it goes!

Q: Do you think there was any difference between when you TOGATHER and when you run alone? For instance in terms of your exercise performance or your overall experience.

A: In terms of performance, not really.

In terms of the experience, there was a difference. When I run alone, I just listen to music and run mindlessly. However, when I TOGATHER, I have to keep thinking of different things depending on the topic which is kind of distracting but also it makes time fly.

Q: Were there any advantage of TOGATHERing other than what you mentioned before?

A: Though I didn't actually meet up with friends, it felt like hanging out. I was able to relieve loneliness!








(The end)

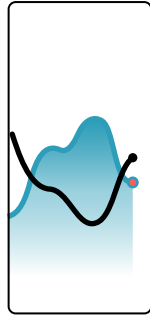
I analyzed different wellbeing apps concerning what kind of motivating strategies the apps use.

Above all, all the apps are somewhat demanding and rely on users' honesty. At the beginning, users have clear reasons and goals that made them start using the app. But after a while, the original motivations fade out for most of them. Therefore, most of the apps try to encourage, motivate, and push users to keep carrying on by 1) notifying reminders, 2) showing users' progress, and 3) building communities.

I user tested the apps and also looked up the reviews of the apps. First of all, I found out that there were many users who felt tired of using the app as they

kept being asked to do the same thing over and over again. It is so easy for users to get immuned to the notifications. Also, there were some reviews saying that the notifications were annoying and made them feel guilty. In terms of showing progress graphs, it is obvious that the graph becomes motivation itself when users make improvements. However, if users stop making progress, the graph can also demotivate users. Moreover, I found myself logging dishonestly when I did not want to acknowledge the fact that I am not making any progress. Lastly, most of the communities facilitated by the apps engage via encouragement, support, and comparison to each other. I wondered if there is any way the members can support each other but not compare each other.

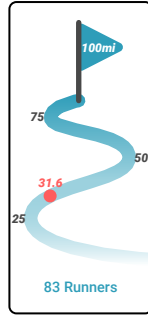
							
Achievements		✓	✓	✓	✓	✓	✓
Notification	✓				✓	✓	
Refund						✓	
Community	✓	✓	✓	✓			✓



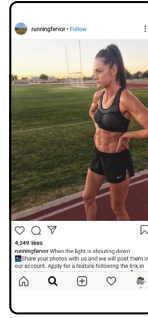
Progress Graph



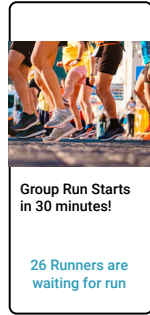
Rank within Friends



Mutual Goal



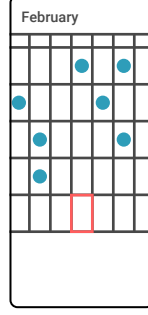
Social Media



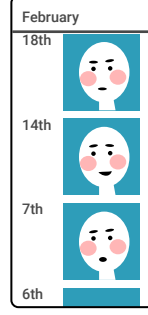
Planned Group Activity



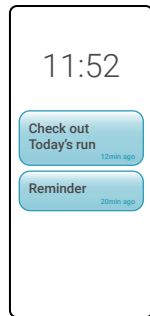
Payback



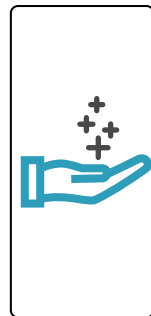
Calendar



Selfie Journal



Notification



Self-rewards



Informative Posts

I also did a motivation card exercise. I made 9 cards each of which represents the different ways of motivating people. Most of them were the motivation strategies that preexisting apps are using and some of them were the methods I devised. I asked people to sort out the motivation ways that would work for them. All the cards people tended to choose could be grouped into three types of motivation: self-journal, companionship, and competition.

Through this exercise, I realized that a lot of people are motivated when they work out with their friends and they perceive it as positive peer pressure. However, accessibility for actually meeting up with friends is relatively lower than working out alone. Physically getting together is even impossible for some people as not everyone has their workout mate close in proximity.





29
Freelance Designer



28
Student



26
Tattoo Artist













26
Designer

I wanted to see if meeting virtually for running can be motivating and more accessible than meeting physically. Therefore, I tried a Run-Call Experiment which is the early model of TOGATHER.

The basic structure was to talk over the phone while running. I narrowed down the physical activity to running as cardio exercises that raise heartbeat are proven to be effective for alleviating mental distress and you do not need any gear other than running shoes. I thought video calling might be more engaging but video calling while running seemed impossible. Participants could run both indoor and outdoor and

outdoor and could run at their own pace. They did not even need to run if they did not feel like running. Since participants do not actually meet each other, I thought they could live in different time zones. I reached out to some of my close friends living in different countries.

Phase 1		200303 Run 15min
Phase 2		200309 Run 15min
		200314 Run 15min
Phase 3		200324 Run 20min
Phase 4		200325 Home Workout 37min
		200328 Home Workout 30min
Phase 5		200402 Home Workout 50min
		200406 Home Workout 30min
Phase 6		200413 Home Workout + Tea Time 50min
		200420 Home Workout 40min

Phase 1

Finding participants was easier than I thought. My friends were easily interested in participating in the activity though they were not fitness enthusiasts. I revealed that the activity is for my experiment so that might have influenced their decisions. H is the first participant who joined the activity. I hosted and arranged the activity and also ran with H to experience the activity. E was the second participant and she ran with me as well. One thing to note is that none of the participants were runners prior to joining my experiment. We used earphones and had the phones in our pockets or on the treadmill.

The experiments were highly successful. I was worried that we might not be able to talk due to being out of breath, but actually, we never stopped talking during the activity. I also worried that the experience might not be pleasant. When I talk over the phone with someone, I usually feel terribly awkward about the silence. However, for some reason talking over the phone while running felt a lot more comfortable than the normal phone call.

Phase 2

H and E knew each other but not that close. However, I wanted to see if they would be willing to run and talk with less close friends, I suggested we all merge together, which they easily accepted. Since the group got bigger, we talked less and listened to each other more during the activity than when only two members were in the group. It could be both pro and con depending on how talkative the participants are. We tried to run twice a week.

Phase 3

After a while, I asked S to join the run-call activity as well. And then, I did not tell her that it is for the experiment to see if she would still join and she joined the activity without hesitation. S was already enjoying exercise including running and I wanted to see if that would influence the dynamic of the group. However, having a member who had already been running did not change the dynamic of the activity. As we were meeting virtually, we could follow our own pace even though we were in different levels of running, which is one of the highly important features of this activity.

Phase 4

After a couple of weeks of TOGATHER, the pandemic situation got worse so we had to alter the activity from running to working out at home. We chose a workout video and followed that together. E said that she enjoyed home workout more than running. She said as we saw the same video, we all were at a similar pace so we could sympathize with each other more deeply. It led me to the idea of having a guided run option. For instance, if users are guided for the interval running, they will speed up and slow down at the same time within their own capabilities. Therefore, users will be able to share a more synchronized experience.

Phase 5

After several weeks of TOGATHER, I started to feel tired of hosting it. Participants did not show up unless I reminded them beforehand and arranging appointments was quite burdensome as participants were living in all different time zones. I decided that the app should be able to lessen the pressure of users being a host.

Phase 6

Including the participants I had been TOGATHERing, I asked several friends to host a TOGATHER with their friends. I asked 7 people but only one of them was able to find a TOGATHER-mate. I interviewed them to understand the difficulties they had and why finding mates was easy for me but not for them.

First of all, they had a backup plan which is me.

Second, they hesitated to reach out to friends who do not already enjoy running. They had an assumption that only sporty people would be willing to join the activity. Although they themselves were not runners, they still joined the activity. When I started climbing, I was highly passionate about bringing my friends to climbing as climbing was too fun to enjoy all alone. I was not afraid of being declined then so I reached out to almost 50 friends and was able to bring about 30 of them to the climbing gym. That was when I learned that non-sporty people can also be easily interested in starting exercising and they were waiting for a motivator.



Hazel

Age: 34
Location: San Francisco, USA
Occupation: Programmer

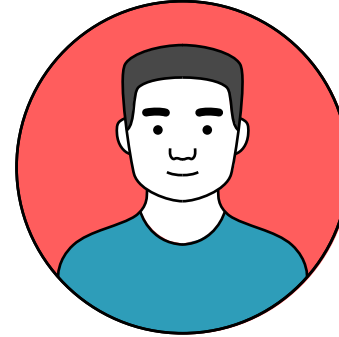
- Works from home
- Recently moved to different city
- Has no friends in the neighborhood

Frustrations:

Difficult to have a regular routine in daily life
Feeling lonely
Feeling lethargic
Feeling the shortage of physical activity

Goals:

To follow regular routine
To feel elevated
To be connected with friends in hometown
To develop physical strength
To increase productivity



Jason

Age: 28
Location: Busan, Korea
Occupation: Tattoo Artist

- Went high school and college abroad
- Usually works when others are not working
- Working hours is not fixed
- Keeps gaining weight

Frustrations:

Difficult to keep in touch with friends from college
Difficult to set up appointments and meet with friends
Not motivated enough to exercise regularly
Being stressed due to gaining weight

Goals:

To be connected with friends
To be motivated to work out
To lose weight
To relieve stress

Note: I interviewed W in Korean so I translated it into English and W reviewed the translated version of the transcription. The order of the questions and answers are modified for the better flow.

Q: Have you been exercising recently?

A: Yes. I go out for walks. I used to go to the gym three to four times a week with my roommate during the semester.

Q: Did you do running before participating in my experiment?

A: During the semester, yes. I used to do intervals. But not since I came back home during the break.

Q: Did you have any difficulties when you TOGATHERed?

A: Even after arranging appointments, there could be changes in the schedule, but it is difficult to realize that before we contact each other. It would be nice if we could set our status to 'Away' or 'Available,' something like that.

Also, finding friends was not easy. I do have a friend I want to TOGATHER with who is my roommate and workout-mate, but due to the pandemic situation in her country, she is not available to do it right now. Other than her and you, I do not really have any friends who would run.

Note: I asked W to find a friend(or friends) to try out TOGATHER together first and as she could not find one, she TOGATHERed with me.

Q: Have you worked out alone?

A: Not really. I do not get out of the house unless someone forces me to but I cannot work out at home. I am not motivated and get lazy at home.

Q: Do you think you would TOGATHER even after you go back to school or when you start working?

A: If I do not have a workout-mate to go to the gym with, I would definitely do it.

I think I feel more pressured when TOGATHERing with the same person regularly than TOGATHERing with different people.

Q: How was the TOGATHER experience different from just chatting on the phone?

A: It does not feel boring to talk about the most mundane stuff. Because I feel that we are doing something together, I did not need to talk about any great, interesting story.

Also, if it were a phone call, we usually talk on the phone once a month or so, so I tend to talk about important stuff. But due to TOGATHER, we call each other a lot more often these days, which makes it easier for me to talk more about the thoughts and concerns I currently have.

Q: How was the TOGATHER experience different from working out with friends, physically together?

A: When I run on the treadmill at the gym with my friend, we listen to music but don't talk to each other. The advantage of working out physically together is that we set the same goal and work out together for that. Also, it is good to keep pace with each other, like relaxing at the same time.

(continued to the next page)

Q: Do you think there was any difference in exercise performance between when you TOGATHER and when you run alone?

A: Workout performance? I'm not sure.

Q: Were there any advantages of TOGATHERing other than what you mentioned before?

A: TOGATHERing is less pressure than going to the gym. It feels more casual, which I like. Also, since we have an appointment but we don't have to actually meet, I don't have to dress up or look neat. So I can go running right away even though I woke up like 5 minutes before the appointment. I look exceptionally ugly when I work out but it's fine when I TOGATHER.

(The end)

The question I kept asking myself during this project was “What does a sustainable system look like?” Sustainable aid that can operate longer and engage users longer. To develop resiliency in my design, I had this idea to intertwine multiple different factors within one system, so that the whole system might still operate even if one of the factors fails.

As a result, for this project, I investigated different areas of psychology and fitness services that could be translated into aspects of my system. The methods used in each area are often perceived to be unrelated, but I connected them to create a more holistic approach to wellbeing.

I chose to go in a non-clinical direction for this project, as I wanted to build a system that lives close to our everyday lives. During my research, however, I saw various alleys worth investigating. To apply AR technology to psychotherapy and to use data acquired from biosignals for increasing awareness regarding the mind-body relationship are few of those alleys.

In the future, I would like to explore these possibilities further in order to provide additional treatment options to people suffering from different health issues. I want my design to be a breakthrough for people, like sports climbing and my climbing mates were for me.

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