Cherry

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Introduction

Mission Statement: Cherry aims to help people strengthen their long-distance relationships every day by making it easier to engage in conversation.

Value Proposition: Cherish your relationships everyday.

Problem/Solution Overview:

As people transition into new life stages, relationships with friends, family, and partners can shift to long-distance relationships (LDRs). LDRs often grow weak as people become busy with their individual lives. Although forms of staying connected already exist, people often struggle and hesitate to initiate meaningful conversations online due to a lack of mindfulness, time, and comfort in asking deeper, personal questions.

Cherry is a mobile application designed to facilitate the inquiry of deep questions between users. Daily pre-generated questions based on user-preferred topics help users move past the entry barrier of initiating a conversation. These questions are only asked and answered once a day, requiring a low time commitment from users. Pre-generated questions remove user hesitancy to appear too intrusive, while still allowing for personal—even taboo—topics to be explored. Rapid-fire sessions where users can go back and forth in asking questions provide users the option to build off initial sparks and engage in intimate, extended conversations. Finally, voice recordings, drawings, and text responses allow for creativity when engaging with one another. Cherry aims to prove that staying close isn't just about proximity.
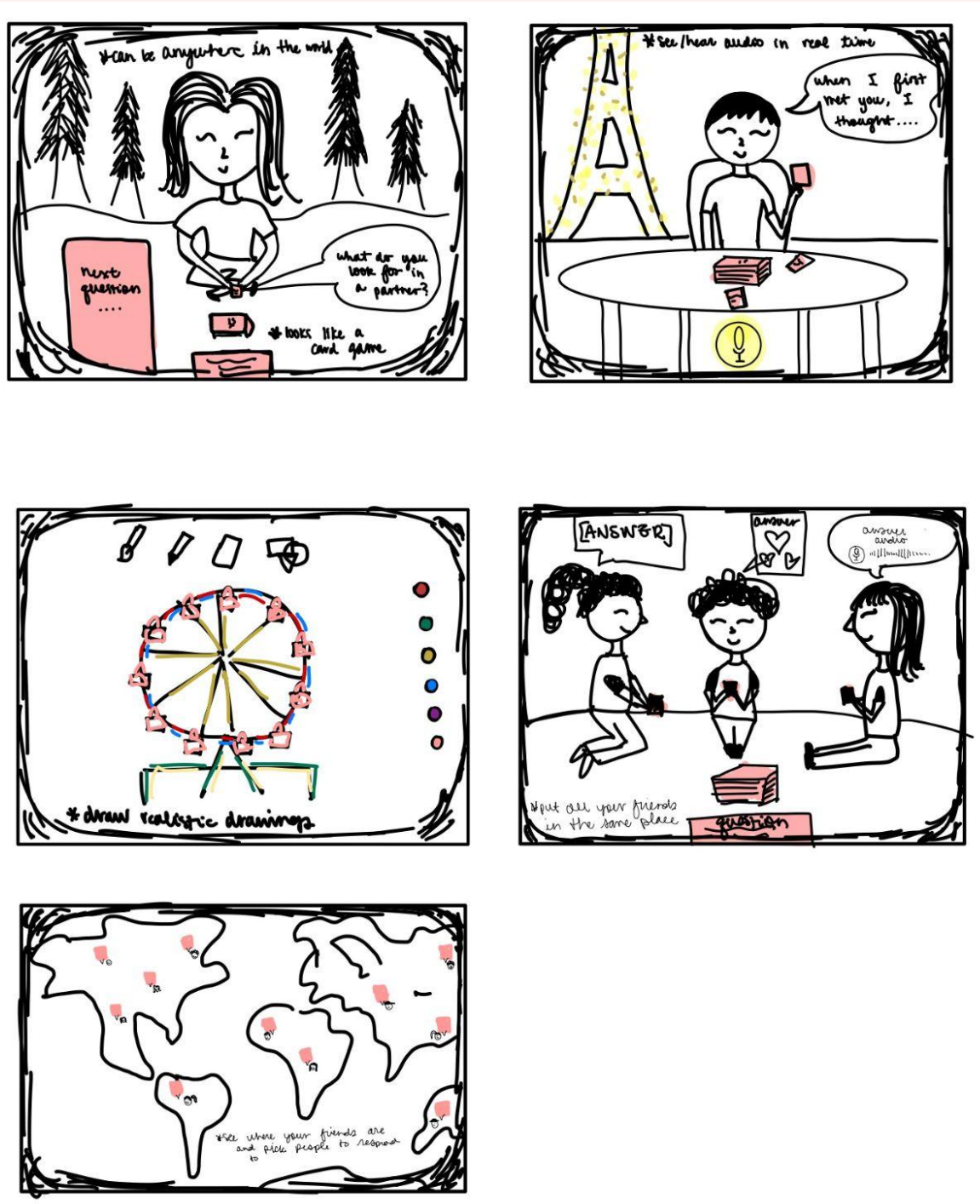
Sketches:

Figure 1 (VR Interface): Users can interact with other users in a virtual world, create 3D drawings, and see their friends around the world.

Figure 2 (AR Interface): Users wear AR glasses that integrate Cherry into their daily lives—seeing their friends' responses virtually, engaging in immersive rapid-fire sessions, and receiving question suggestions based on their surroundings.
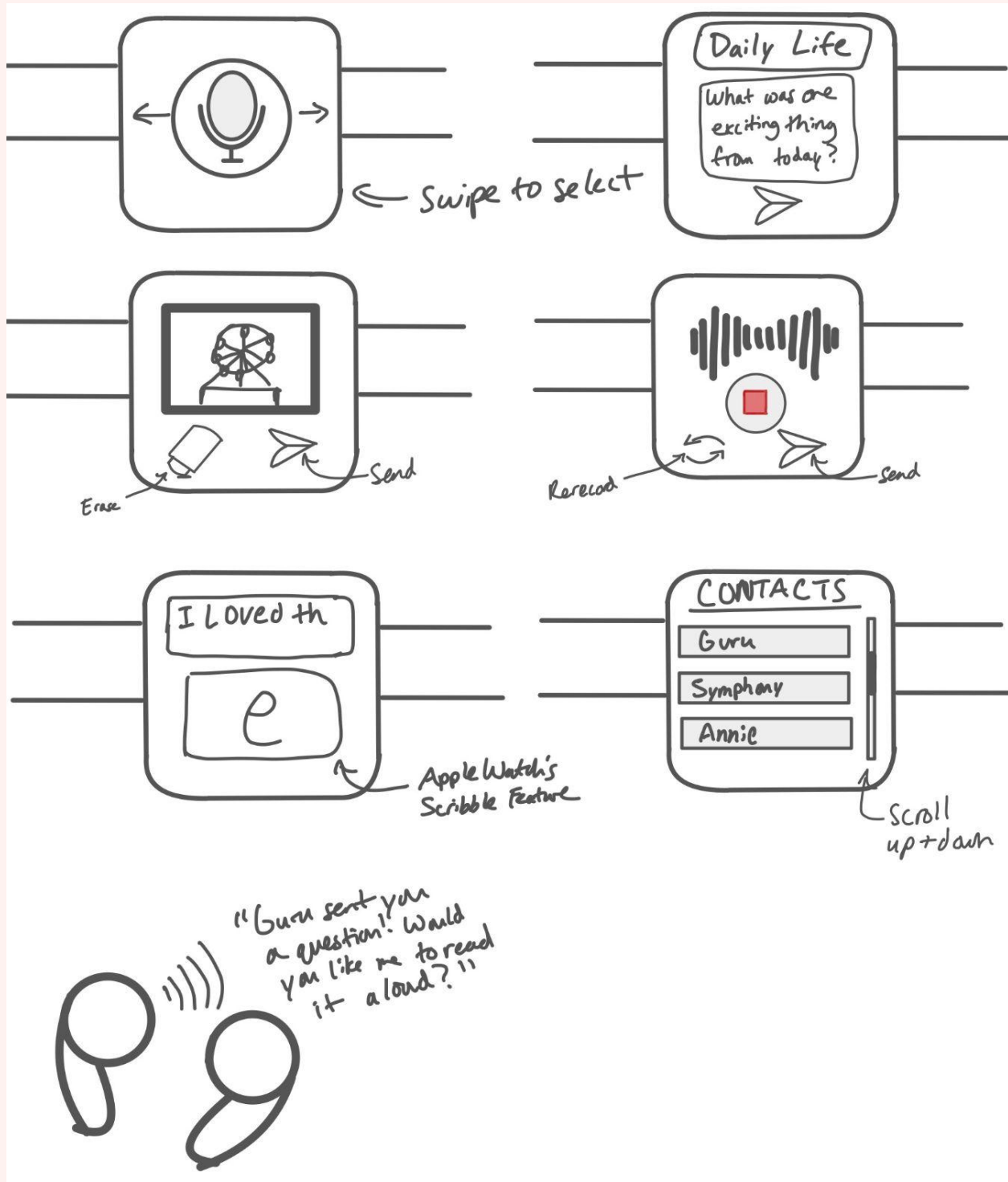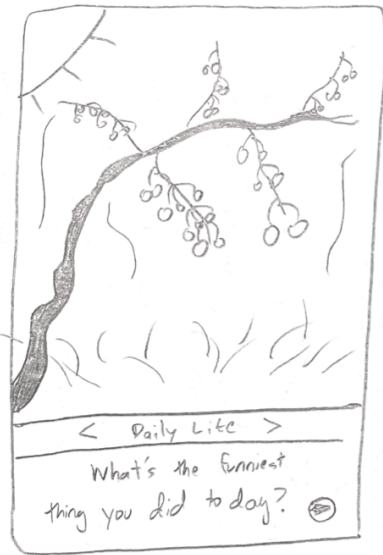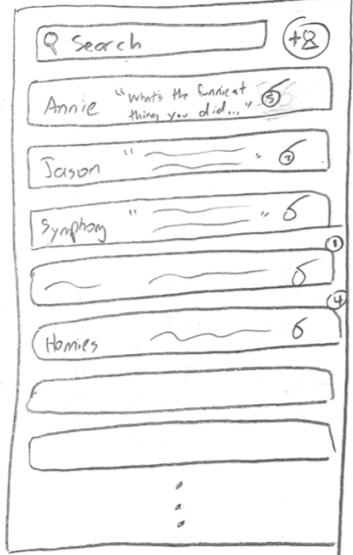
Figure 3 (Wearable Interface): Users can get convenient notifications on a smartwatch and respond on-the-go.

< Daily Life >
What's the funniest
thing you did today? ◉

Users "pick" a cherry off
the tree to generate their question.

Q Search   +🔍

Annie "What's the funniest thing you did..." 🍒

Jason "___" . 🍒

Symphony "___" 🍒

🍒

🍒

Homies ～～～ 🍒

View friends and group chats
that have replied to your message.

✏️ T 📖

What's the funniest thing
you did today?

Reply to questions

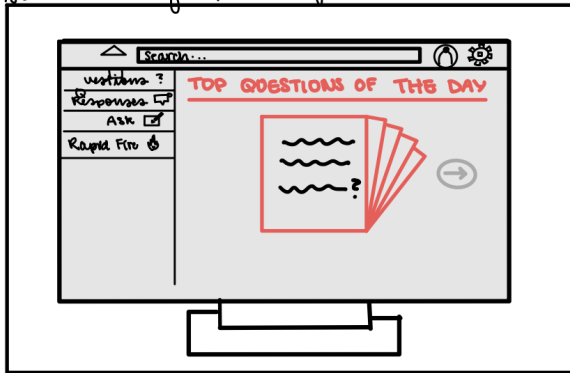Homies "What's the funniest thing you did today" 🍒

Annie

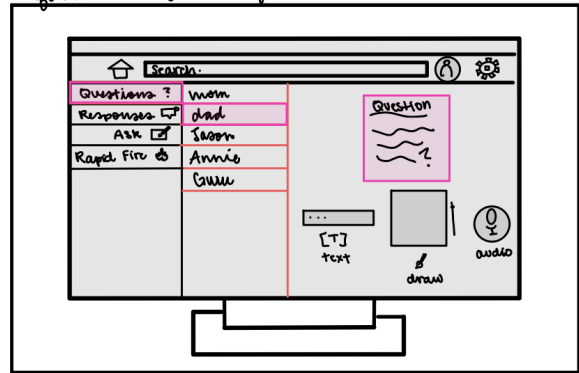Jason

Annie's Answer
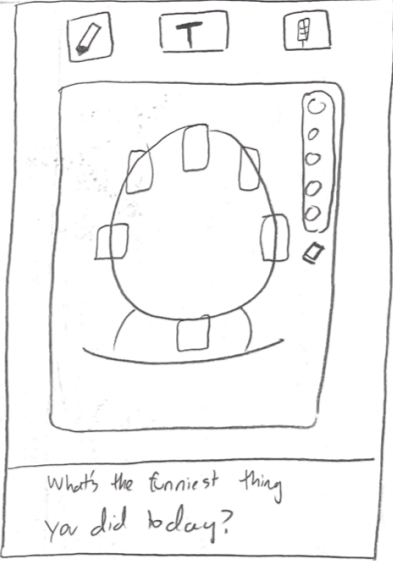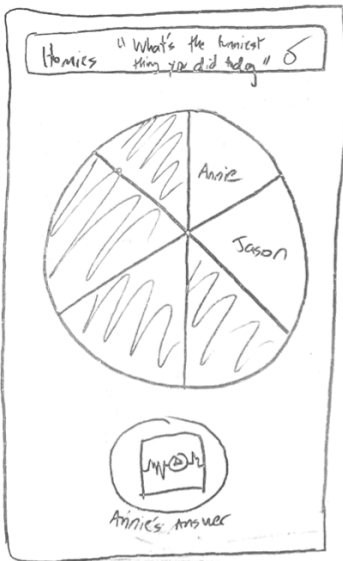
Group responses appear as
a cherry pie. To view a
response, click on a slice.

Figure 4 (Mobile App Interface): Users can "pick" a cherry and give it to one of their contacts to ask a question, draw/record/write responses, and create groups.
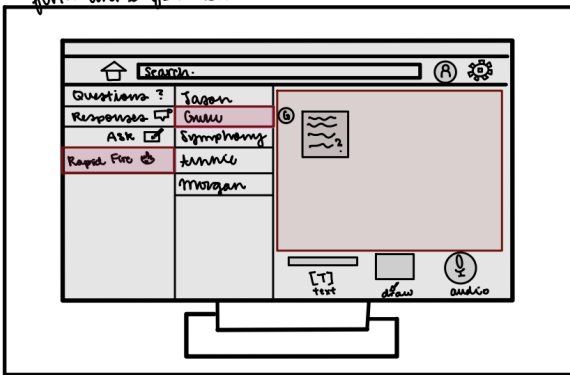
Figure 5 (Web App Interface): Users can browse questions, send questions to contacts, and engage in rapid fire sessions over the web.

Top 2 Designs
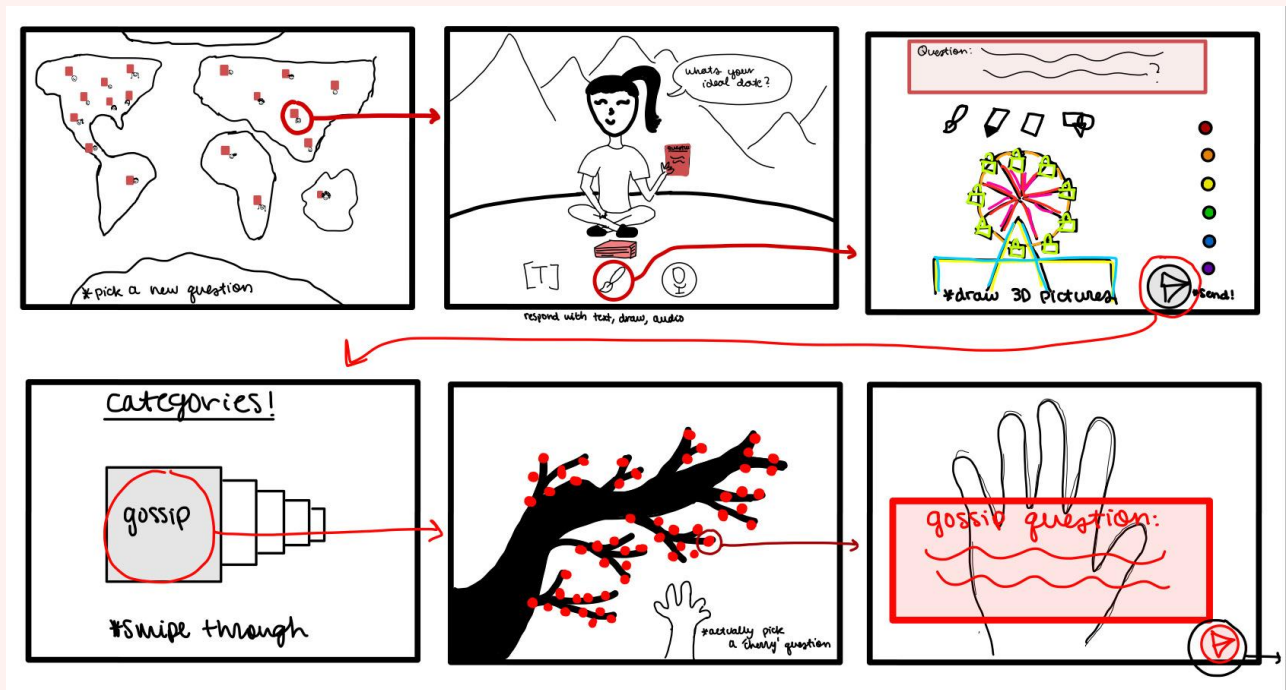
Figure 6 (VR Interface in more detail): Users can interact with other users in a virtual world, create 3D drawings, and see their friends around the world. They can also swipe through question cards and "pick" questions from a cherry tree with their hands.

Figure 7 (Mobile App interface in more detail): Users can view unread questions, answer them by writing/drawing/recording, "pick" a cherry from the question tree and return another question to the contact.

Selected Interface Design: Mobile app

VR Interface

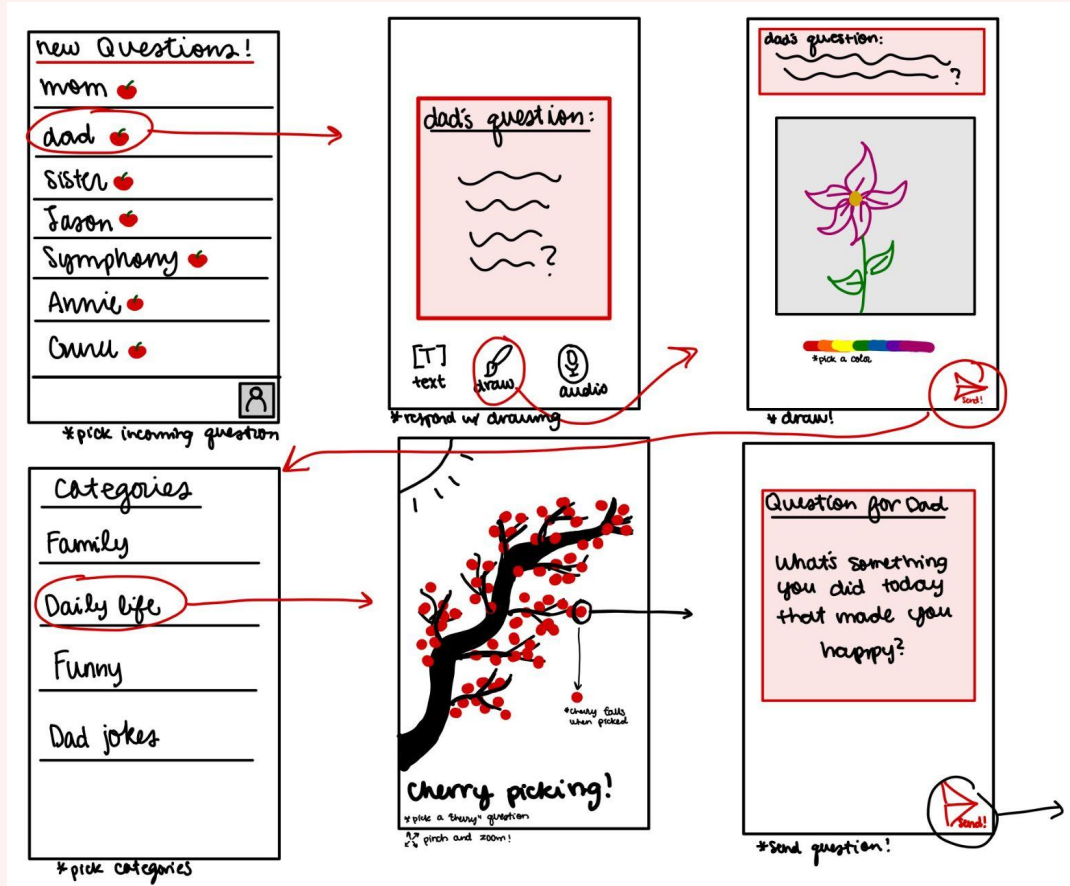| Pros	Cons
- Ability to interact with people in a virtual world offers an elated experience - Users can feel "closer" with other players - More opportunity for creativity	- Equipment setup requires time - Not everyone owns a VR headset - VR is not easy to learn

Mobile App

Pros	Cons
- People can receive notifications - People use their phones often so they can use Cherry with less friction - Typing, drawing, and recording are easy	- The app might not be engaging enough as users can't be face to face - Less opportunity for visuals

Verdict:

In our needfinding stage, we found that people desire simple and quick solutions, so a VR interface would not be appropriate. The mobile app's convenience, accessibility, and ease of use outweighs the loss of experience and creativity. Cherry will provide the most value to people if they can use it with as many of their loved ones as possible. People need to find it easy to consistently use Cherry.
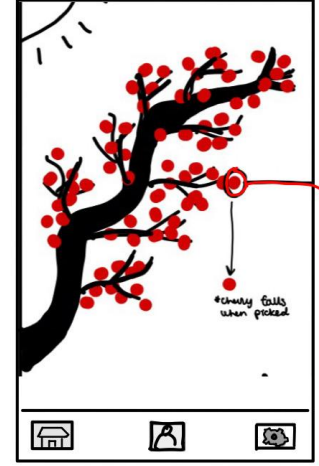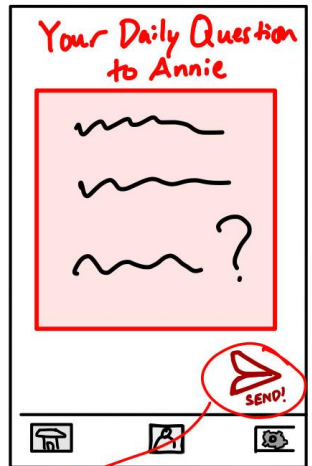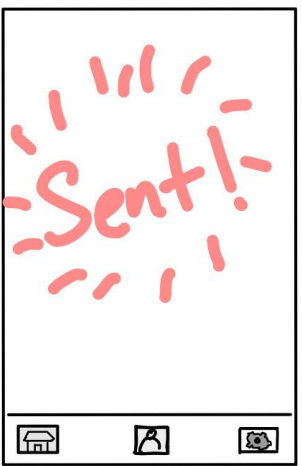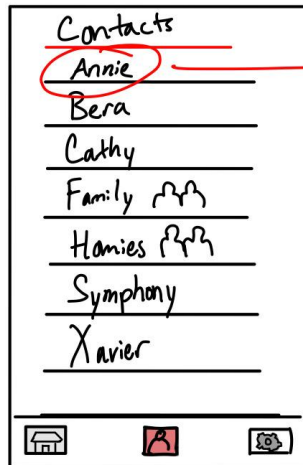
Figure 8: Task 1: Check in with my long-distance loved ones and friends daily
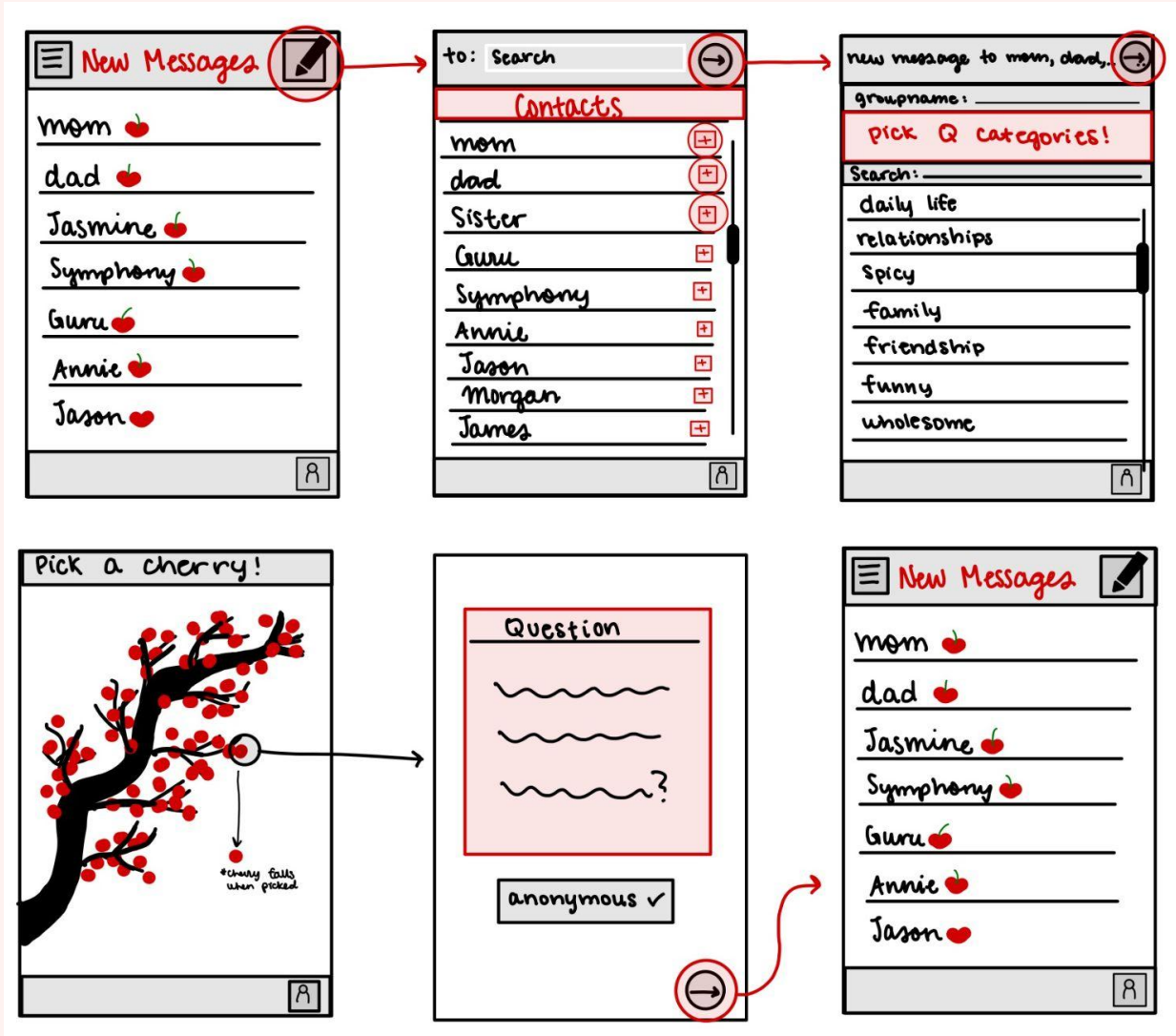
Figure 9: Task 2: Create group circles and send questions.
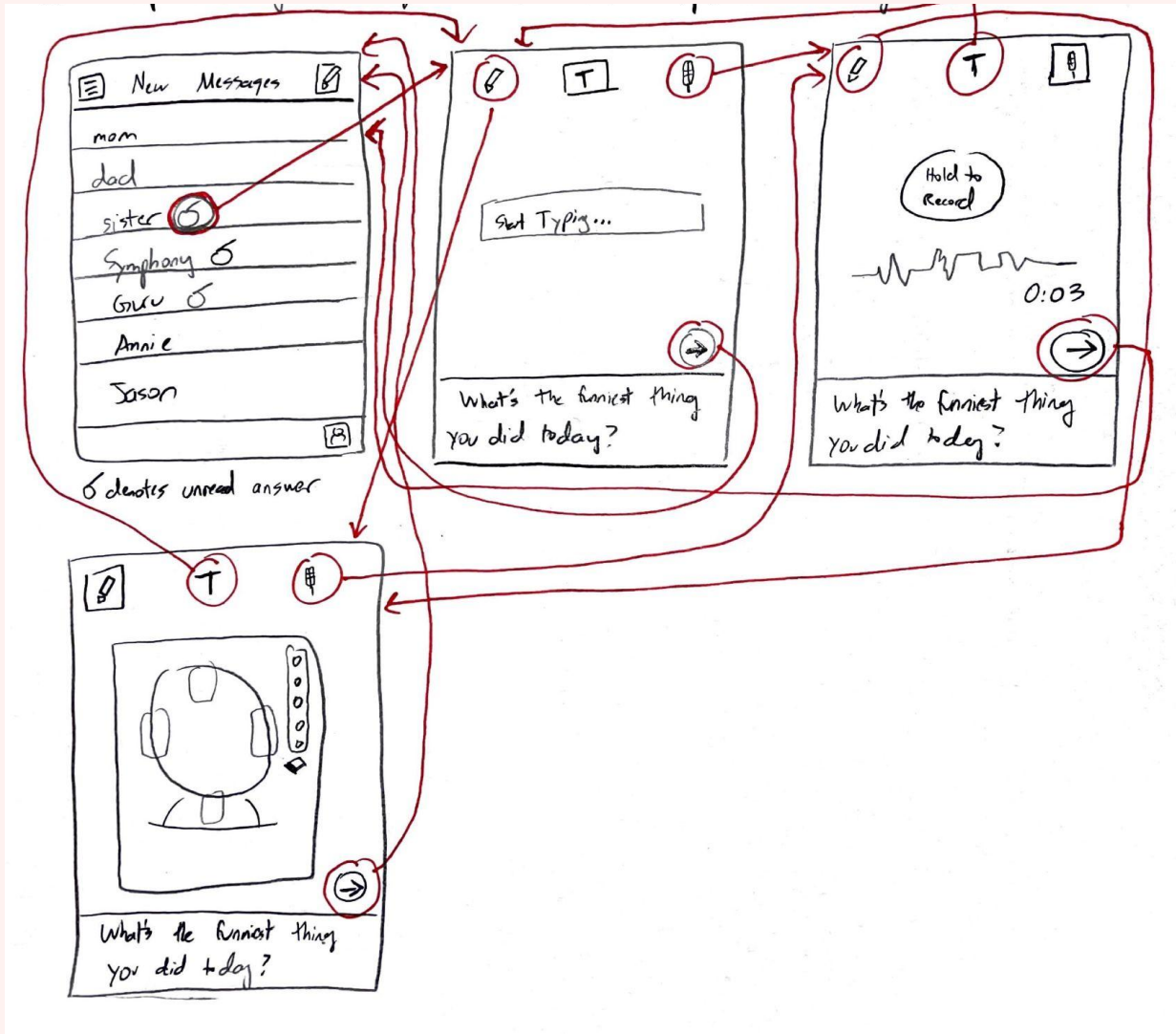
Figure 10: Task 3: Respond to my friend's question with creative expression flexibility.
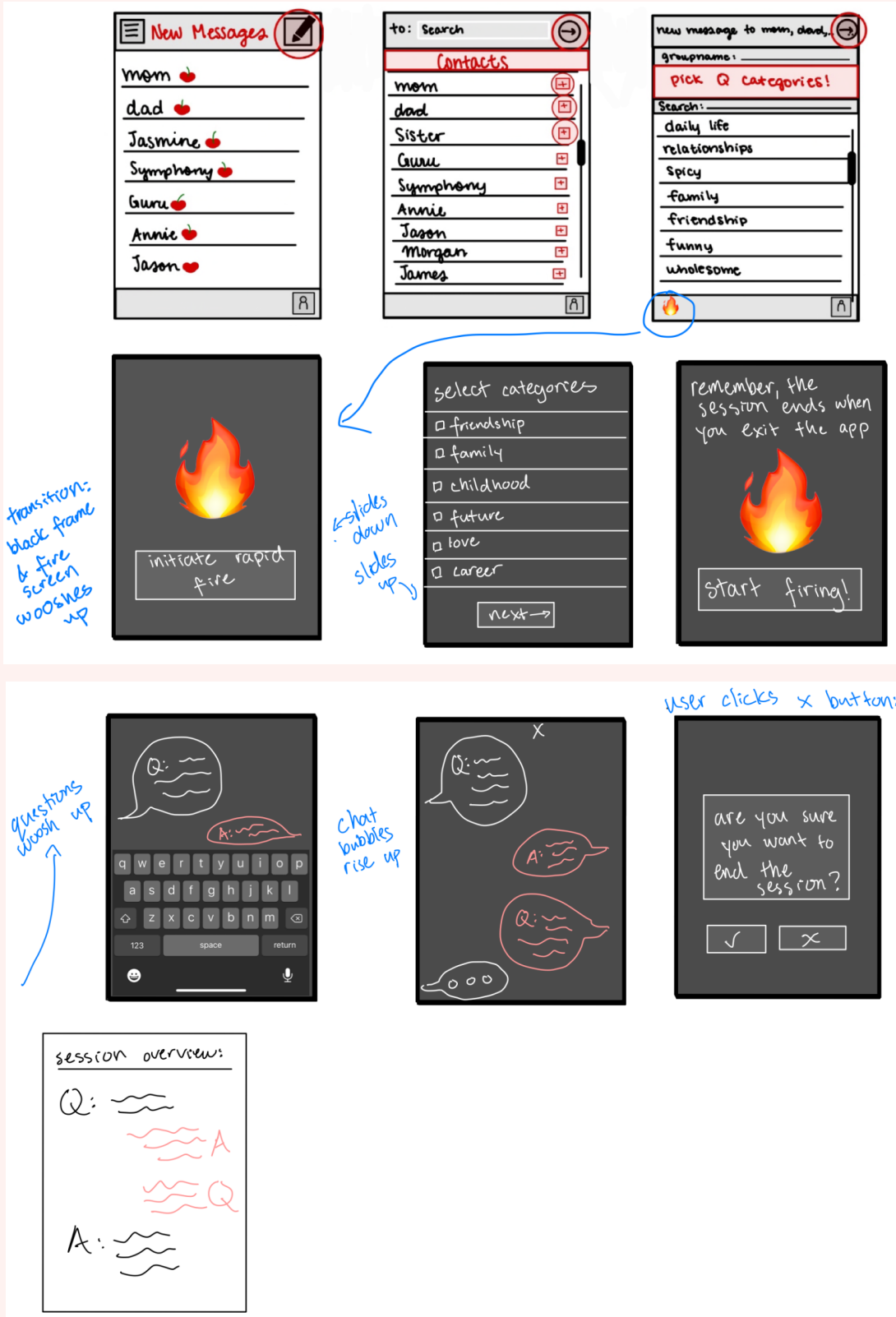
Figure 11: Task 4: Start a rapid-fire session with a friend to go back and forth with deep questions

Prototype Description & Images

We created a paper prototype, consisting of each page that our user could navigate to. Each page was designed on a card that was approximately the same size as a smartphone screen. During testing, participants treated these cards as a touchscreen; they interacted with it by "clicking", "typing" and "scrolling".
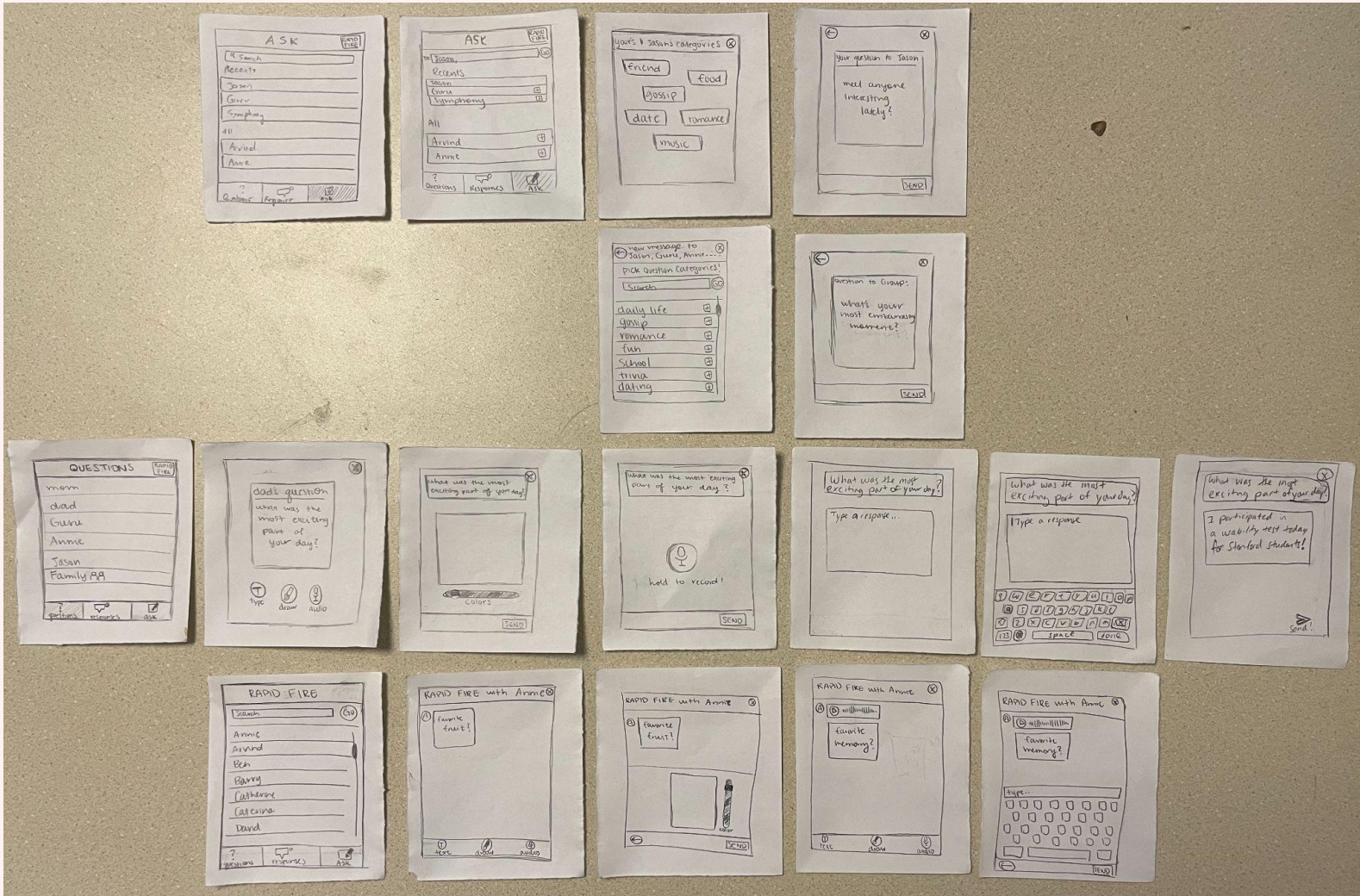
Figure 12: General view of all pages in the low-fi prototype.
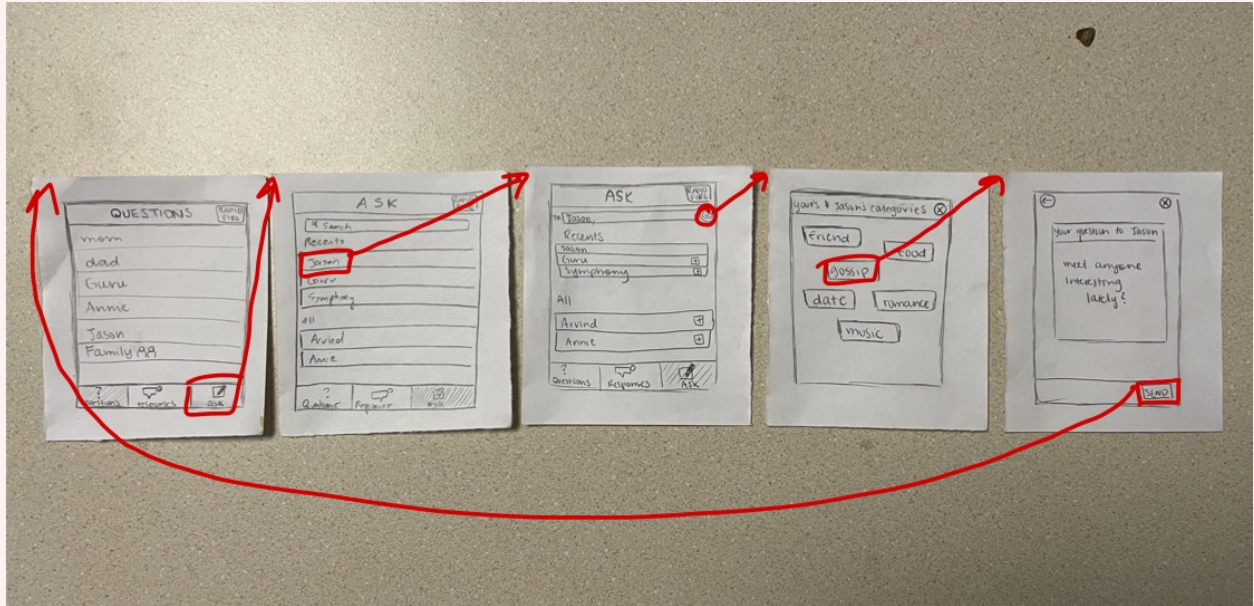
Figure 13 (Simple Task): Ask Jason a question under the category of Gossip to check in with him.
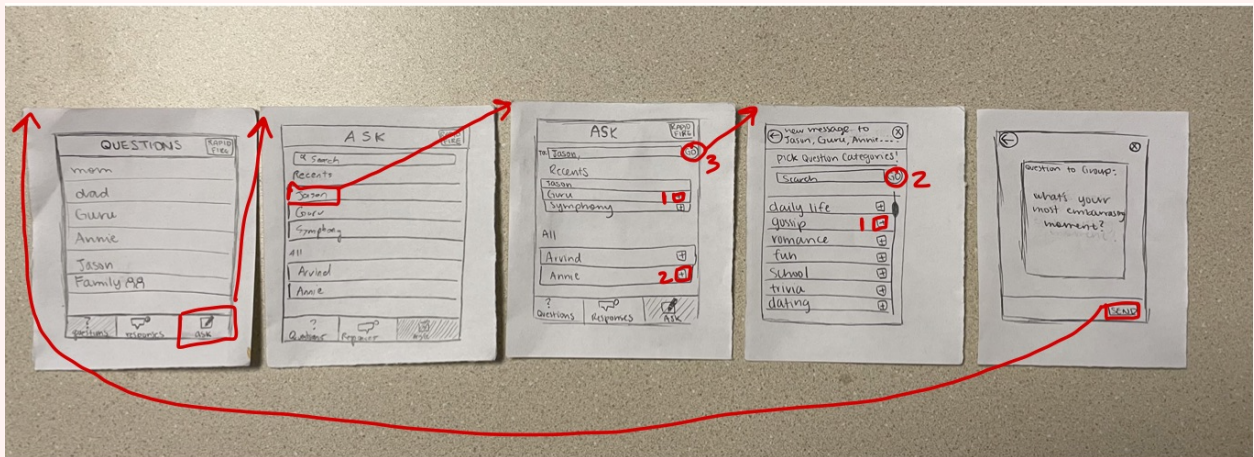
Figure 14 (Moderate Task): Create a group with Jason, Guru, and Annie and send in a question about Gossip to kickstart group conversations.
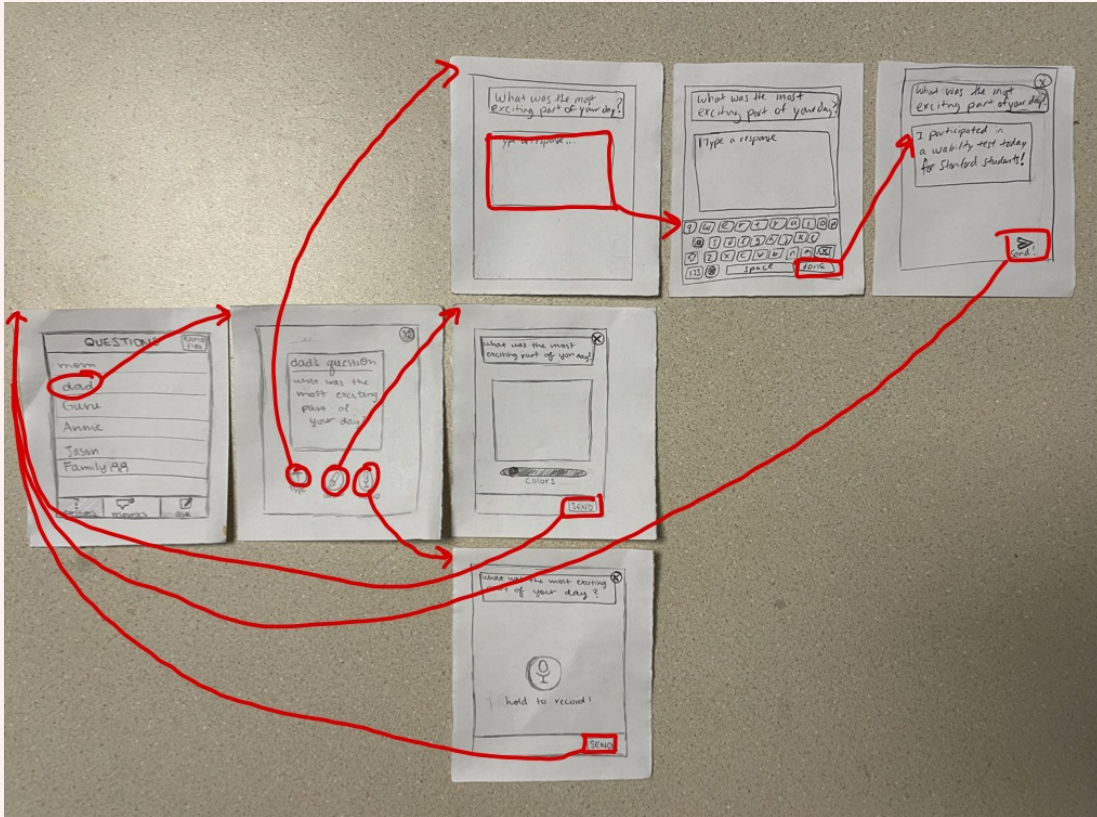
Figure 15 (Moderate Task): Respond to Dad's question with a drawing/audio/text response.
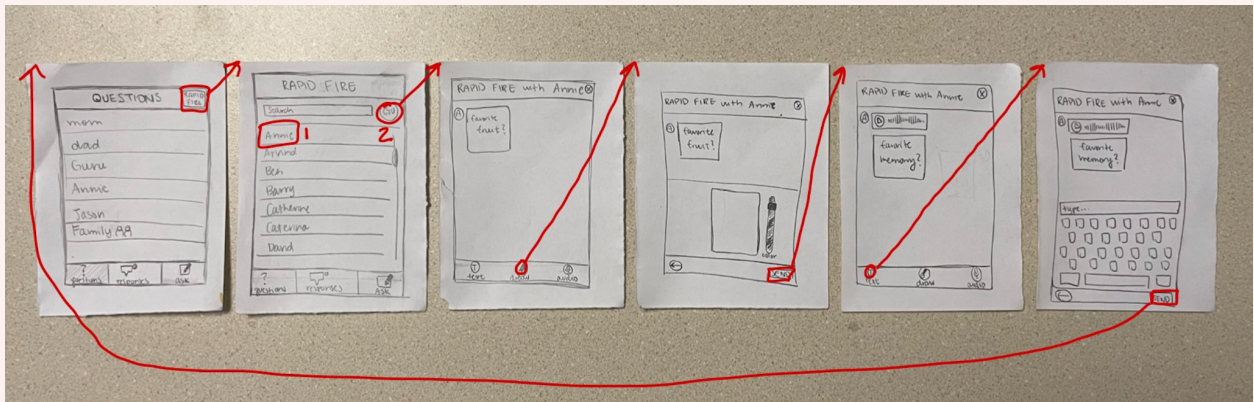
Figure 16 (Advanced Task): Begin a rapid-fire session with Annie to go back and forth in deep conversation by first sending a drawing and then sending a typed response.

Testing Methodology

Participants: Participants were selected by looking for a wide range of backgrounds and experiences; we wanted people who had ample experience in LDRs and others who had ample experience in design.

- Participant 1: Olympic athlete from Singapore who has had many experiences traveling abroad and maintaining LDRs.
- Participant 2: Creative Director of the d.school and Lantana RF who has had years of experience with UI and UX design
- Participant 3: VP of Renewable Energy Company who has had many experiences traveling nationwide due to business trips
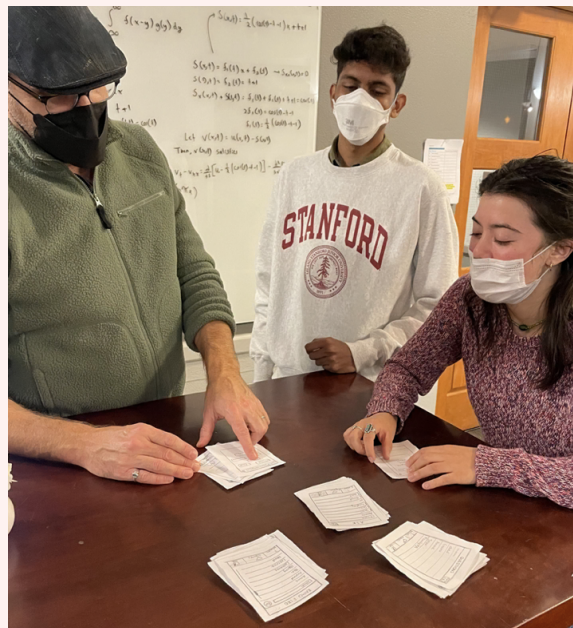
Environment: The experiments were conducted in-person on a table where team members could lay out and show the prototype to the interviewees.

Tasks:
1. Ask Jason a question under the category of Gossip to check in with him.
2. Create a group with Jason, Guru, and Annie and send in a question about Gossip to kickstart group conversations.
3. Respond to Dad's question with a drawing/audio/text response.
4. Begin a rapid-fire session with Annie to go back and forth in deep conversation by first sending a drawing and then sending a typed response.

Usability goals:
- Efficiency
    - Metric: Time it takes for user to do the task
- Pleasure
    - Metric: Ask user to rate pleasure using the app from 1-10

Procedure:
1. Facilitator gives introduction and reads a task
2. Participant speaks their thoughts aloud and walk through the task flows. Notetaker records all interactions
3. Facilitator asks follow-up questions based on feedback
4. Repeat

Team Member Roles:
- Greeter (Annie)
- Facilitator (Gautham)
- Notetaker (Jason)
- Computer (Symphony)

Test Measures:
- Success: Participants are able to complete each task in a timely manner and have positive reactions to features/interface design
- Errors: Participants need to ask questions to complete tasks or go about the task flow incorrectly and have negative reactions to features/interface design

Results

Using the app:
- All participants
    - knew how to select categories and ask questions
    - knew how to answer questions across 3 strategies
- But were confused with
    - creating and starting a rapid fire session
- 2 participants were
    - Confused creating a group and adding people

Condensed positive feedback:
- Auto-generated questions are helpful and innovative
- Picking a category and sending a question was easy
- Creating responses with various mediums (text, drawing, voice) was easy
- Gesture controls such as the color bar, swiping, and scrolling were intuitive
- After struggling with the first task, every task thereafter was performed fluidly
- Concept of the app was easily understood without prior knowledge

Condensed negative feedback:
- Nav bar buttons are confusing and not clear—hard to understand what tab they were on
- Slight friction when creating the group chat
- The person who creates the rapid fire should be able to start the first question
- There are some awkward section and button names
    - "question" and "ask" were on the same bar even though one was a noun and the other was a verb
    - The "Go" button is confusing and redundant

Usability goals:
- Efficiency:
  - Sending contact a daily question: 1.5 minutes
  - Creating groups: 30 seconds
  - Responding to a question: 15 seconds
  - Starting a rapid-fire sesion: 45 seconds
- Pleasure:
  - Average rating: 6.5 from 1-10

Discussion

We received incredibly valuable feedback. The interface was less intuitive to use than expected. It could benefit from more cohesion within section titles and more intuitive names for certain buttons. Some parts of the task flows were confusing or redundant, such as the "go" button for rapid fire being placed next to the search bar (unclear whether the button is to start the session or for the search bar), and the "plus" button needing to be pressed for adding more people to a group despite all the people already being displayed on the list.

We will reduce the number of user clicks needed to make certain tasks flows more intuitive and have less friction. Specifically, we will remove the "Go" rapid-fire button and "plus" group chat button to avoid unnecessary middle steps.

We will take Participant 2's feedback for changing our navigation bar labels to all be verbs, which will reduce confusion of what each tab does. New labels will be directly related to the action the user is taking.

By Gestalt's Principles, we will move the Rapid Fire mode button to the bottom navigation bar to ensure proximity correlates with feature relationship.

Appendix

Contents:
- Testing Script
- Participant 1's Test full notes
- Participant 2's Test full notes
- Participant 3's Test full notes
- Blank consent form

Testing Script:

Hello! Thanks so much for taking part in our study.

We're students taking a human computer interaction course at Stanford, and are testing a mobile app named Cherry as a means of helping people stay connected in long distance relationships

As you test our app, we'd like you to participate in the "talk aloud" process, where you mention out loud what you're thinking as you perform the various actions.

For this scenario, imagine that you and your friends have downloaded Cherry.

You're trying to figure out how to do different things with this app, and you're welcome to navigate throughout the interface.

To start off, your first simple task is:
Ask Jason a question under the category of Gossip to check in with him.

Thanks for finishing that task! Next, for a moderate task:
Create a group with Jason, Guru, and Annie and send in a question about Gossip to kickstart group conversations.

Now for another moderate task:
Respond to Dad's question with a drawing.

Now let's do that again, but this time
Respond to Dad's question with an audio recording.

Now let's do that again, but this time
Respond to Dad's question with a text response.

Finally, for an advanced task:
Send a message and begin a rapid-fire session with Annie to go back and forth in deep conversation by first sending a drawing and then sending a typed response.

That's the end. Thanks for participating! As always, feel free to let us know if you have any questions or feedback.

Participant 1's Test

Summary: Participant 1 had no trouble with the first and third tasks but struggled with the second and fourth. She had trouble figuring out how to create a group chat and add new people, but after she did, she knew how to ask a question. Initiating the rapid fire, however, was quite difficult to understand, especially the order of buttons to press to select the people and start the session. Once it started, she knew what to do with answering and asking the questions.

- First Task
    - Clicks on the bottom navigation bar first but messes it up. Tries clicking questions.
    - Finds the proper tab. Clicks Jason right off the bat
    - Chooses Gossip easier
    - Clicks send without any need for facilitation.
    - Smiles on her face
- Group Task: create a group chat
    - "Create a group chat??" Leans in and takes a while until she does something
    - Just selects names. Doesn't click create new message, just selects the people
    - Struggling with making new people
    - "Oh with the plus?"
    - Clicks go right after.
    - Selects Gossip, then go.
    - Send.
    - Ease in clicking topic, then send. Super intuitive
- Respond to a question from dad
    - Clicks dad, easily finds the draw button. Draws something in the box, then clicks send.
    - "Draws tap with emma"
- Advanced Task: Rapid Fire:
    - Clicks annie. Hesitation and unsure what to do next. "Wait you said by sending a drawing then a response?" Doesn't click "go." "Is it Ask? Or is it just annie then go?"
    - Clicks go

- Clicks draw.
- Drew an orange. Understood how to use the color bar to change color.
- Then clicks text easily. No facilitation needed.
- Types on the keyboard.

Feedback:

The go is confusing cause its next to the search bar so can't tell if go is meant just for search bar or if its meant for something else.

The names were already there but it was already there, but you still needed to press plus

1-10 pleasure of using app.
- Maybe like a "4". It just seems like any other messaging app.
- Task flow makes it difficult to understand purpose of app and what makes it different than just imessage.

Pleasure compared to other apps.
- Most definitely use telegram and imessage. Maybe whatsapp. Would not use wechat. This is on the same level of wechat.

Participant 2's Test

Participant 2 had a lot of helpful feedback for each task. For the first one, he really liked that questions were auto-generated but wished for a couple more options for questions. He pointed out some awkward quirks, such as how "question" and "ask" were on the same bar even though one was a noun and the other was a verb. Like Participant 1, for the second task, he had trouble adding people to the group but knew immediately how to send questions after creating the group. The third task was mostly smooth save slight confusion with the title of the "responses" list—it should instead read "questions I need to respond to." Participant 2 also had some trouble with the rapid-fire task, and said it felt weird that he was not the one sending the first question even though he was the one that initiated the rapid fire.

- First Task: ask a question to Jason
    - "So it looks like i'm already on questions. Don't need to navigate and click on Jason."
    - Bad. Questions is not intuitive.
    - Changed task to ask.
    - "Ahhh. I now clicked on Ask."
    - "That's an interesting thing. Question is a noun, ask is an action. Bad to have on same bar.
    - "Ah i can scroll through and search for Jason, but I'll just click on Jason."
    - I now have a menu bar that has Jason's name but i still am able to click on recents to go back to another person. But i'll just click ask for now.
    - "This step seems a bit uncessary as a mandtatory one."
    - Clicks on gossip easily. Auto-generates a question
        - "Oo a like that! The fact that it autofills makes it really cool to check in with people. I like this a lot."
        - "I feel like I'd want to swipe through to see that there are othr questions because maybe i don't have that type of relationship with jason, so maybe i'd liek some options, but I love that it auto-populates.
- Second task. Groupchat
    - "I'm in questions. I want to click ask. I've learned from last time.
    - "Previoiusly I would've thought i can just click Jason and Guru"
        - The exact mistake Participant 1 made.

- - Now i figure I can first click Jason, and now I can click on guru to add. I guess there's this plus button, but this just feels like a place to work on. There's something about the flow here that seems frictiony."
  - Just clicks Gossip, but the plus signs suggest that I could add multiple.
  - I'd want to be able to type in my own or swipe through to other questions.
  - Clicks send easily
- Respond to dad's question with a drawing.
  - "Thinks to click respond, but instead sees the word responses and thinks it might be a round up of what i've already seen, but I'll click responses."
  - "Why am i clicking on ask to ask, but not clicking on responses to respond."
  - Just clicks on dad.
  - "I'm guessing I can add these things, but I'm not sure why I would want to. Like I could add audio or something."
  - "The questions tab's title should be "questions i need to respond to". There's a modal problem.
  - I'll just draw an emoji or something.
- Third Task: Same thing, but this time with audio
  - Much faster. Easily clicks dad, then clicks audio.
  - "This is what happens. I do it once and now I know how to do it."
  - "I love that you have a micro-instruction here to tell me to hold to record.""
  - Super fluid, super easy after only one difficult run through
- Fourth Task: Initiate a rapid fire session
  - "I think I click rapid fire." I'm wondering why its on the top and not the bottom, but let's move on"
  - Clicks annie, then clicks go.
  - "I think I asked that since I initiated it. I'm gues what I'm wondering is if I'm initiating it, why am I not sending the question first. There's something about me clicking on annie jumping right to me responding feels weird."
  - Draws something easily. Chooses the color option without us even telling them. Uses color intuitively, just like Participant 1.
  - Clicks Send

- Plays audio, then seess that he got a question. Then clicks text, and easily brings up the keyboard.
- Clicks send.

"Very simple to walk through, there's ton to walk through. Good job on giving me enough context but not too much. You could prob repeat the tasks over and over like to direct an actor, but that's not overstepping."

You could go further and see like the bot as a third person in the relationship and that the bot is the initiator. There's a lot of bot we initiate conversations with but ther'es not a lot of initiating bots. It's almost like you and I agree what the bot says to do for a week. Once a day, we get a prompt from the bot and connect. That's like a cool new thing and it'd be interesting to think what the onboarding user flow to get people to agree with that.

Seems like you're dancing on the edge of a big idea. This idea of agreeing to let the bot do everything. Instead of "oh i want to do something with annie" but instead its "the bot determines that we have to do x, y, and z once a day from the bot." like the bot determines to send it. There's a powerful thing in a third party that two people agree to connect to it. There's something cool there that I've never seen before. You could def push this further.

Participant 3's Test

- First task. Send gossip to Jason
  - Presses Jason First. Doesn't realize he's on the questions tab.
  - Doesn't realize what the nav bar.
  - He think's we're on responses even though its being shaded to say we're on questions.
  - Second guess is to press ask.
  - When he reads responses, he thinks "Responses is where I would click to see what people responded to me."
  - "Very curious what "questions" means though.
  - Understands how the search works, how recents works, and how all contacts works.
  - Clicks on Jason correct.
  - Doesn't know what to do. "Do I now press questions?" "oh i click go!"
    - Clicks go
  - Easily clicks gossip as category.
  - Clicks send easily.
- 2nd task make groupchat.
  - I want to ask a question. Clicks question.
  - Then just clicks a bunch of names all at once.
  - Then quickly realizes he needs to first click Jason and then clicking the plus sign to make a group.
  - Then clicks go.
  - Picks category easily. Clicks gossip easily. Then clicks go.
  - Clicks go next.
- 3rd task. Respond to dad w drawing.
  - "Oh these are questions from people!"
  - Clicks dad. Then clicks draw. Draws a swimming pool. Understood sliding bar was for changing color
  - Didn't realize the question was directly on the top. Flipped back to previous slide to see the question.
  - Clicks send.
- 4th task. Respond to dad w audio
  - Understands how to go back to home page.

- - Understands to click on dad, then audio, then holds record easily. "I went swimming today!" Then clicks send. Good everywhere
  - 5th task. Advanced
    - First clicks annie. Doesn't know what to press first
    - "Ah! Rapid fire! Didnt realize it was a feature"
    - Clicks annie, then go. Clicks draw, changes color to green, and draws an apple.
    - Doesn't understand that annie sent an audio.
    - Reads the question annie sent then clicks typed. Types something out. "Rock climbing with Jill" Clicks send.

Feedback/Recap:
- It seems like there's a lot of extra steps. Instead of just clicking someone's name, I had to click go too.
- "How much is pre filled in? Is it all prompted and how much is a chat program"
-

Blank consent form

Cherry's prototype is being produced as part of the coursework for Computer Science course CS 147 at Stanford University. Participants in the experimental evaluation of this prototype provide data that is used to evaluate and modify the interface of Cherry. Data may be collected by interview, observation and questionnaire.

Participation in this experiment is voluntary. Participants may withdraw themselves and their data at any time without fear of consequences. Concerns about the experiment may be discussed with the researchers (Symphony Koss, Annie Ma, Jason Ping, Gautham Raghaputhi) or with Professor James Landay, the instructor of CS 147:

James A. Landay
CS Department
Stanford University
650-498-8215
landay at stanford dot edu

Participant anonymity will be maintained by the separate storage of names from data. Data will only be identified by participant number. No identifying information about the participants will be available to anyone except the student researchers and their supervisors/teaching staff.

I hereby acknowledge that I have been given an opportunity to ask questions about the nature of the research and my participation in it. I give my consent to have data collected on my behavior and opinions in relation to the Cherry's research. I understand that I may withdraw my permission at any time.

I give consent to be videotaped during this study:
　　　___Yes　　　___No
I give consent to be audiotaped during this study:
　　　___Yes　　　___No
I give consent for video or audio recordings from this study to be shown to people not directly involved with this research during/in class, seminars, reports, or scientific presentations.
　　　___Yes　　　___No

Name _____

Participant Number _____

Date _____

Signature_____