Heuristic Evaluation of Cherry

1. Problem/Prototype Description

[Insert one sentence description of the project idea and UI you are evaluating.]
A: I evaluated Cherry's med-fi prototype, an application that helps users maintain long distance relationships of all kinds through daily check-ins and instant questions that allow the user to respond in a variety of creative ways.

B: I evaluated the medium-fi prototype of the Cherry app, which is an app that helps people maintain and build relationships with friends, family and significant others through different communication methods.

C: I evaluated the medium-fi prototype of the Cherry app, which is an app that helps people strengthen their long-distance relationships every day by making it easier to engage in conversations.

D: I evaluated the Cherry app med-fi prototype, which seeks to foster relationships online by providing users with questions to ask and makes it easy to deliver and answer those questions.

2. Violations Found

1. **H1: Visibility of System Status / Severity 2 / Found by: A, B, C**
    ○ Problem: After sending a question to a contact in the Ask menu, there is no notification of whether the message was sent or not. There is no way for the user to tell if their question was sent successfully.
    ○ Fix: Add an alert that recognizes the fact that the user sent the message, whether successfully or unsuccessfully.
2. **H1: Visibility of System Status / Severity 2 / Found by: A, B, C**
    ○ Problem: When sending a response to another user (with the current available options of text, drawing, or speech), there is no confirmation of the response being sent. The user may be confused on whether or not the response went through.
    ○ Fix: Add an alert that tells the user that the response was sent.
3. **H1: Visibility of System Status / Severity 2 / Found by: B, C, D**
    ○ Task 4
    ○ Problem Description & Rationale: The "Time Left" section during rapid fire doesn't have a numeric seconds countdown, which may make it challenging for the User to keep track of exact time during the activity. As a result, this may force the User to avert their attention to the "Time Left" circle more often than desired.
    ○ Suggested Fix: Add a white-font numeric seconds in the middle of the "Time Left" circle.
4. **H1: Visibility of System Status / Severity 3 / Found by: A**
    ○ Problem: There are a few actionable items in the Respond tab (i.e. users to respond to), but there is no notification in the Respond tab that alerts the user that there are responses to be made. Users who do not check the Respond tab may halt the progression of the app as they do not know they need to complete the next step in the flow.

- Fix: Add a noticeable alert on the navigation bar near the Respond tab that tells users how many actionable items there are to take on that tab.

5. **H1: Visibility of System Status / Severity 3 / Found by: A**
   - Problem: There is no notification in the Open tab that alerts the user that there are messages to read. Users who do not check the Open tab may not know that their recipients have responded.
   - Fix: Add an alert on the navigation bar near the Open tab that tells users how many responses they have received.

6. **H1 Visibility of System Status / Severity 2 / Found by: D**
   The rapid-fire session keeps track of the number of questions that have been answered, and how much time has elapsed, but there's no way to see this information until the user reaches the end (in the *Rapid Fire End Session* screen). It might be worth making that information available to the user during the rapid-fire session instead of just at the end, and it may make it more "addictive" (e.g., seeing that you've answered 42 questions, and deciding to keep going to hit the 50-question milestone, which wouldn't be possible if they don't know how many questions they've answered).

   Suggested Fix: Make it more apparent how much time has passed in the rapid-fire session, and how many questions have been answered, even while the rapid-fire session is still happening.

7. **H2 Match between System and World/ Severity 2/ Found by B**

   Description: In the rapid fire interface which is the complex task, as well as during the simple task, we see the "write your own question" and "random" features are at the top of the button selection, which seem to be questions that won't generally be selected during the fast-paced game. Generally, less selected features/additional options that don't align with the rest of the buttons are put on the bottom of the selection screen, while quick and commonly used features are at the top (which I would expect to be the categories that are already given).
   Rationale: The order of the buttons causes the system not to follow real-world conventions, which is required by H2, since making information appear in a natural and logical order helps the user follow their intuitions.
   Fix: Place the extra/additional features that will be selected less often at the bottom of the selection chart (buttons like "write your own question")

8. **H2 Match between System and World/ Severity 2/Found by B and C**
   Description: The contacts interface, accessible from the home screen (not a specific task), is not organized in alphabetical order as contacts would generally be expected on an interface that follows real-world conventions.
   Rationale: This is a violation of H2 because H2 says to "Follow real-world conventions, making information appear in a natural and logical order." This violation could cause difficulty for users when they are trying to find a specific contact.
   Fix: Reorder the contacts screen to display the contacts in alphabetical order

9. **H2 Match between System and the Real World/ Severity 2/ Found by B**

Description: On the moderate task "review group messages…" there is a stack of cards to display the messages, which indicates that the user could swipe to look at the next message. However, the stack on the Figma prototype uses a tap feature to move to the next question. Additionally, there is no way to tap or swipe back to see the previous card, which is also inconsistent with what a deck of cards would be like in the real world.

Rationale: This is not consistent with what other apps and websites do when there is a stack of cards, which makes the tapping function not intuitive for the user, which represents a violation of H2. This also restricts the user from being able to look back at the previous question if they missed it.

Fix: Allow for a swipe to see the next card and for a swipe back if they want to return to the previous card.

10. **H2: Match b/w System & World / Severity 2 / Found by: C**
    - Task 1
    - Problem Description & Rationale: The label "Your Stats" on the home screen may seem impersonal and unfamiliar for the inexperienced or technologically challenged users. The User could develop a negative first impression towards the app due to the label not speaking the "user's language," and could even make them wonder whether this is a correct app for their tasks or not.
    - Suggested Fix: Relabel "Your Stats" with something more inviting, personal, complete words such as "Your Progress."

11. **H2: Match Between System and the Real World / Severity 2 / Found by: A, B, C**
    - Problem: The Open tab is a bit ambiguous in terms of its nomenclature as a screen designated for reading responses. Users may find this wording undescriptive or unclear.
    - Fix: Change name from "Open" to "Unread."

12. **H3: User Control and Freedom / Severity 2 / Found by: A, C, D**
    - Problem: After clicking on a contact in the Ask menu, there is no intuitive way to exit and choose a new contact to send a question to. The user may need to go to another page using the navigation bar and click on the Ask menu again to access the contacts screen.
    - Fix: Add a back button on the Choose a Category page so that users can navigate back to the Ask menu if they want to select another contact.

13. **H3: User Control and Freedom / Severity 2 / Found by: A, B, C, D**
    - Problem: After clicking on the contacts button on the Home page, it is unclear how to return back to the home screen, as the home button is selected, and it is unintuitive that the home button can actually be clicked again if the user wants to go back to the home page without navigating to another page and then back.
    - Fix: Add a back button or gray out the home button.

14. **H3: User Control and Freedom / Severity 3 / Found by: A, B**
    - Problem: After clicking on the stack to read the next message in the group chat in the Open tab, there is no way to go back from the second response to the first response. Users who accidentally tap on the stack may want to go back and reread previous messages.
    - Fix: Add a button that allows users to sort through all the replies.

15. **H3 User Control and Freedom / Severity 3/ Found by: C, D**

○ *Read 2* and both *Read 2 Group* screens only have the option to respond with iMessage, but don't have the options to reply with other modalities (i.e., sending a drawing, photo, or voice memo) the way the other screens have. Sending with iMessage is also very confusing because iMessage is Apple's messaging app, so it implies the user will have to leave the app to send a message through a completely different app.

○ Suggested Fix: Add more options for replying to a message the way you have in other screens, and change the wording of "respond with iMessage" to make it clearer you can just send a message through the Cherry app instead of through iMessage.

16. **H3 User control and freedom/ Severity 2/ Found by B**
   ○ Description: In the complex task, the user can record their voice as a response, but there seems to be no option to re-record it. This does not give the user the option to fix their response if they make a mistake.
   ○ Rationale: This violates H3, as H3 makes sure that the interfaces support undo and redo functions, and this voice recording feature does not.
   ○ Fix: Allow for one retake in case the user made a mistake, and potentially keep the redo at one to maintain the element of speed and excitement during the game.

17. **H3: User control and freedom/ Severity 2/ Found by B**
   ○ **Description:** In the moderate task "respond to my friend's question with flexibility in creative expression", the user is unable to remove/redo a part of their drawing or recording before sending it to the receiver. Instead, they must completely cancel out of the screen, which eliminates freedom and accessibility for the user.
   ○ **Rationale:** This violates H3 because the user does not have a way to go back and fix a mistake without eliminating their entire progress, which limits the efficiency of the app.
   ○ **Fix:** Make it possible for users to remove or undo single parts of their drawing once they have drawn them, and retake a recording once they have taken it during the response task flow.

18. **H4: Consistency & Standards / Severity 1 / Found by: C, D**
   ○ Task 2
   ○ Problem Description & Rationale: On the screen when the User clicks "Open" navbar and then a group chat cherry, the "respond with iMessage" button appears to be left-aligned while "read next question from group" button seems to be center-aligned. This inconsistency in alignment of buttons may make the User feel dizzy and dissatisfied.
   ○ Suggested Fix: Have the "respond with iMessage" button be center-aligned to match with the alignments of the rest of the components, which appear to be center-aligned as well.

19. **H4: Consistency & Standards / Severity 3 / Found by: C, D**
   ○ Task 3
   ○ Problem Description & Rationale: The "Go back" icon/button is not consistently placed– though they are all generally on the top left corner, some screens have it very close to the top-left edge of the screen, while others have them a little further away from the edges. This may create inconveniences for the User when the User is trying to repeatedly click on "Go back" icon to return to multiple screens back, as they could

miss the button when they click on the same top-left location. Also, it is not aesthetically pleasing.
- ○ Suggested Fix: Have the "Go back" icon be fixed on the same exact locations on the screens, for each screen that has it.

20. **H4: Consistency and Standards / Severity 2 / Found by: A, B**
- ○ Problem: After selecting a person in the Respond tab, the back button unintuitively takes the user to the home screen rather than the Respond tab. This is inconsistent with the intuitive meaning of where the back button should take the user.
- ○ Fix: Rewire the back button to the Respond tab rather than the home screen.

21. **H4: Consistency and Standards / Severity 2 / Found by: A, D**
- ○ Problem: The Rapid Fire tab has a back button that leads back to the home page but none of the other tabs have a similar button. This may cause the user to wonder what the purpose of the back button is and where it takes them.
- ○ Fix: Remove the back button entirely because the navigation bar already contains a more intuitive way to get back to the home screen.

22. **H4: Consistency and Standards / Severity 2 / Found by: A**
- ○ Problem: After clicking on the stack to read the next message in the group chat in the Open tab, the back button's purpose is not clear. Users may think that it could go back to previous messages or that it sends them back to the Open tab.
- ○ Fix: Add a button that clearly allows users to navigate between responses in a group chat so that the back button's purpose becomes clear as a button to go back to the Open tab.

23. **H4: Consistency and Standards / Severity 1 / Found by: A**
- ○ Problem: The cherries in the Respond and Open tabs have inconsistent hitboxes, which may confuse users as to where the tappable areas of each contact is in the tabs. Users may become frustrated due to the inconsistency.
- ○ Fix: Limit the hitbox of each button to the cherry without the stem and make the cherry margin larger to further indicate that that is the tappable area on the screen.

24. **H4 Consistency and Standards / Severity 1 / Found by: D**
- ○ Some buttons are Title Cased (e.g., "Back to Home" in *Rapid Fire End Session* screen, "Cancel Request" in *Rapid Fire 3* screen), but some buttons elsewhere in the app are all lowercase ("respond with iMessage" and "read next question from group" in *Read 2 Group* screen).
- ○ Suggested Fix: Make all your buttons title case for consistency.

25. **H4 Consistency and Standards / Severity 1 / Found by: D**
- ○ The entire rapid-fire section of the app completely breaks away from the normal, happy, nature-themed color scheme of the rest of the app. All the screens are dark red, but no other part of the app breaks away from the light-blue background except for this part. I'm assuming this is to give the user a greater sense of urgency for the rapid-fire session, but this could be done in another way without breaking away from your existing design standards.
- ○ Suggested Fix: Make the rapid-fire section have the same theme as the rest of the app. To give a sense of urgency, it might be worth it to include the "fire" aspect more since

the tab is labeled with a small flame in the navbar and called rapid-<u>fire</u>. You can also make the timer appear more "aggressive" to give the user the feeling that they have to hurry.

26. **H4 Consistency and Standards/ Severity 0/ Found by B, D**
    ○ Description: The option to reply with iMessage is only available in certain parts of the app and not others, and it is not clear why. For example, the "respond with iMessage" option is not available in the simple task, while it is available in the moderate task.
    ○ Rationale: This violates H4 because this heuristic establishes that the platform's conventions must be consistent throughout. The user may want to respond through iMessage during task 1 and they might expect that option to be there, but it is not consistent with the other screens.
    ○ Fix: Eliminate the option to respond to iMessage for either both the simple and moderate tasks, or add it to both to keep the buttons and response options consistent.

27. **H4 Consistency and Standards/ Severity 2/ Found by B, C, D**
    ○ Description: In the simple task as well as in the complex task, the "add/edit categories" button represents something different than the "deeply personal", "funny", and other category buttons do. However, it is in the same light pink color while the top two buttons that also do not represent categories are in a darker pink that differentiates them from the category buttons.
    ○ Rationale: This is a violation of the consistency and standards heuristic, because every button that is related should be the same color and the buttons that are not related should be a different color. The consistency and standards heuristic says that users should not have to wonder whether different actions mean the same thing, and with the "add/edit categories" button being the same color as the categories themselves, this adds some confusion about what the buttons do. The categorization of colors should be consistent throughout the app.
    ○ Fix: Change the color of the "add/edit categories" button so that it doesn't get confused with the other category buttons to ensure that the colors throughout the app are consistent.

28. **H5: Error Prevention / Severity 2 / Found by: A**
    ○ Problem: After clicking on the group cherry in the Open tab, the button with the text "read next question from group" shows up with a color not associated with being disabled when there is only one question. Users may click on the button expecting more questions when there is none.
    ○ Fix: Remove the button completely when there is only one question in the group, and show the button only when there is more than one question.

29. **H5: Error Prevention / Severity 3 / Found by: A**
    ○ Problem: After starting a rapid fire session, users can click out of the session without canceling the request or ending the session in both the Pending Request and User Accepted screens. This may cause unintended consequences as a rapid fire session is in progress yet the user is not on a rapid fire session screen. Using this, users can also start multiple sessions at once.
    ○ Fix: Remove the navigation bar as soon as users start a rapid fire session.

30. **H5: Error Prevention / Severity 2 / Found by: A**
    ○ Problem: The rapid fire session immediately starts after clicking on a contact in the Rapid Fire tab. However, users may accidentally start a session without wanting to via a mistap.
    ○ Fix: Add a countdown timer before the rapid fire sends a request to the other user or add a confirmation dialog before starting the rapid fire.
31. **H5: Error Prevention / Severity 3 / Found by: C**
    ○ Task 1, 2, 3, 4
    ○ Problem Description & Rationale: Before officially completing the provided tasks, the app currently does not account for the user accidentally pressing confirmation buttons such as "send" or "End Session." This may create an error-prone condition for the User in sending unintended messages.
    ○ Suggested Fix: When the buttons that require second examination are pressed, have a simple pop-up modal that says along the lines of "Are you sure?", with options yes or no.
32. **H5: Error Prevention / Severity 2 / Found by: C**
    ○ Task 1, 4
    ○ Problem Description & Rationale: When sending the message, the fact the "Send" button is left-aligned pointing to the right makes the user uncertain as to whether they should swipe right or just click on the button.
    ○ Fix: Make the send button center-aligned without the arrow, or make both swipe-left and click work in sending the message.
33. **H5: Error Prevention / Severity 3 / Found by: C**
    ○ Task 1
    ○ Problem Description & Rationale: Starting from "Home," the tasks of "sending a daily question" may incline the User to incorrectly press the "Contacts" icon, but the contacts section does not have an option for creating either. The User may be stuck as to where to go in order to achieve the task, creating a sense of inconvenience.
    ○ Suggested Fix: Have "Create new group" and/or question creating options like how you have in the "Ask" section, or just combine the contacts section with the "Ask" section entirely.
34. **H5: Error Prevention / Severity 3 / Found by: C**
    ○ Task 3
    ○ Problem Description & Rationale: After submitting a response, the target friend to whom the User submitted the response, is still on the tree. The User may be confused as to whether the response went through or not, inclining them to re-submit a response, which would create erroneous, unwanted duplication in answers.
    ○ Suggested Fix: Upon completion of submitting the response to a friend's question, make that friend's cherry disappear from the tree.
35. **H5: Error Prevention / Severity 2 / Found by: A, C**
    ○ Problem: The rapid fire session immediately ends after clicking on End Session, allowing the user to accidentally end the session prematurely. This may have

unintended consequences as users could find it difficult to restart a rapid fire with someone after they accidentally end it.
- ○ Fix: Add a confirmation dialog that pops up after End Session is clicked to confirm that the user wants to end the session.

36. **H5 Error Prevention / Severity 3 / Found by: D**
    - ○ The *Respond 3* and *Respond 4* screens have the Send buttons pushable even before the user has typed/drawn anything. This would let the user send a completely blank reply if they push the Send button before adding any content. Make it impossible for the user to send a blank reply back in the first place by hiding/disabling the Send button.
    - ○ Suggested Fix: Make the Send button look disabled, or hide it completely until the user has drawn/typed something in the reply so that they can't (accidentally *or* intentionally) send a blank reply.

37. **H5 Error prevention/ Severity 2 / Found by B**
    - ○ Description: The interface on the complex task, rapid fire, does not allow users to cancel once the other person has accepted and the game is about to start. Canceling should be available at any screen, especially for a high pressure game- even on the loading screen.
    - ○ Rationale: This is a violation of the error prevention heuristic because it says that designs should present users with a confirmation option before committing to an action, without providing the cancellation button at one of the screens before the rapid fire game, the user is left with no option to cancel at that stage. This may cause the user to dive into a game that they did not want to start instead of preventing it in the first place.
    - ○ Fix: Add a "Cancel Request" button on the "Mike Has Accepted your request" screen during the rapid fire session, just as there is during the pending request screen. This allows the user to cancel if they missed that option on the pending request screen.

38. **H5 Error prevention/ Severity 1/ Found by B**
    - ○ Description: During the moderate task "respond to my friend's question with flexibility in creative expression", there is no evident limit on the word count or warnings about profanity, which may cause an error message to appear later that could have been prevented initially.
    - ○ Rationale: This violates the error prevention heuristic, because H5 emphasizes that the design should prevent problems from happening initially by eliminating error-prone conditions. This lack of any indication about the text limits or guidelines means that the user may have to face an error message later on and be unsure about what is allowed on the app.
    - ○ Fix: Add an indication of the word count possible for a message in the bottom right corner (e.g. 0/150), or if there are additional limitations consider adding an "i" icon that serves as an informational button that explains guidelines for any profanity or any other limitations to the messages that can be sent.

39. **H6: Recognition Rather Than Recall / Severity 3 / Found by: A, B**

- ○ Problem: After clicking on a contact in the Ask menu, the option page does not contain the name of the selected contact, which may make users confused as to who they are actually sending the note to.
- ○ Fix: Add a heading on top with the name (and potentially picture) of the selected user.

40. **H6: Recognition Rather Than Recall / Severity 2 / Found by: A**
    - ○ Problem: After clicking on an option after clicking on a contact in the Ask menu, the page containing the prompt doesn't show which category it is from. This might cause the user to be confused on what category they selected.
    - ○ Fix: Adding a heading on top with the category that the prompt came from.

41. **H6: Recognition Rather Than Recall / Severity 2 / Found by: A**
    - ○ Problem: After clicking on an option after clicking on a contact in the Ask menu, the Send button is vague in telling the user which user it sends to. This may cause confusion to the user about who the prompt is sent to.
    - ○ Fix: Adding the recipient's name to the send button.

42. **H6: Recognition Rather Than Recall / Severity 3 / Found by: A, B, C, D**
    - ○ Problem: The Respond and Open tabs only have pictures of people on a cherry hanging on a tree. This may confuse the user as they could misattribute a picture without a name beside it.
    - ○ Fix: Add names next to each cherry in the Respond and Open tabs to clearly mark out who each user is.

43. **H6: Recognition Rather Than Recall / Severity 2 / Found by: A**
    - ○ Problem: After selecting a category in the Rapid Fire question section, the prompt doesn't show which category it is from. This could confuse the user as to which category they selected in case they want to change the question/category.
    - ○ Fix: Add a header that displays the category that the question is generated from.

44. **H6 Recognition Rather Than Recall / Severity 1 / Found by: D**
    - ○ Having a list of contacts and group chats may make it harder for the user to find a group chat. Each group chat has a group of bubbles as its icon, but if one person happens to be in multiple group chats, their profile icon may appear at the top for multiple group chats, forcing the user to look at the name instead of recognizing a unique group chat icon. You could make it easier to identify group chats by having unique icons instead of grouping icon bubbles.
    - ○ Suggested Fix: Add a way to assign icons to different group chats, like how it's done in iMessage (the default is to have a group of bubbles similar to how you have it now, but you have the option to add an icon to make that group chat even more unique and recognizable at a glance).

45. **H7: Flexibility and Efficiency of Use / Severity 3 / Found by: B, C**
    - ○ Task 1
    - ○ Problem Description & Rationale: The names of the people in the contacts are not sorted, so in order to search for a specific person name, the User would have to try to get lucky in finding a name while inefficiently scrolling, or click on the search bar.
    - ○ Suggested Fix: Sort names in alphabetical order, and have a a-z scrollbar that navigates the user straight to a name that starts with a selected/clicked letter

46. **H7: Flexibility and efficiency of use / Severity 3 / Found by: C**
    ○ Task 1, 4
    ○ Problem Description & Rationale: In the "Choose Category" screen, the Add/Edit Categories button is not color-emphasized enough for the User to immediately notice upon opening up the screen, that there is an add/edit categories option. The User may have to take more time in trying to find where the edit/add category option is.
    ○ Suggested Fix: Color "Add/Edit Categories" button to be the darkest pink with fonts being whtie colored instead, to visually emphasize the fact that this button is not one of the category choices.

47. **H7: Flexibility and Efficiency of Use / Severity 3 / Found by: A, B (for rapid fire)**
    ○ Problem: Users may sometimes have a default question category that they use every time for specific people in the Ask tab. Especially if the user has added categories, the list of question categories may be cumbersome to scroll through. Users may want to easily access their most frequently used categories for each person. This is also the case for the active people in Rapid Fire- an ordering by frequently selected would allow the user to quickly tap on the people they communicate with the most.
    ○ Fix: Sort the buttons by selected frequency for that person such that the most frequently selected category is at the top.

48. **H7: Flexibility and Efficiency of Use / Severity 1 / Found by: A**
    ○ Problem: The user may prefer a custom written question in the Ask tab when sending a question to someone else. However, the user would need to type in the question every time, which may get tedious for the user and discourage them from writing more custom questions.
    ○ Fix: Add a category for custom questions where the user can view past written questions if they want to reuse them.

49. **H7: Flexibility and Efficiency of Use / Severity 2 / Found by: A**
    ○ Problem: Users in the Ask tab may want to quickly send a check-in to multiple people without creating a group. Under the current task flow, users would need to repeat the same actions multiple times, which may discourage them from connecting with more people through the app.
    ○ Fix: Add a way to bulk select users in the Ask menu so that users can more efficiently send questions individually to multiple people.

50. **H7: Flexibility and Efficiency of Use / Severity 1 / Found by: A**
    ○ Problem: Users may not want to go through the entire task flow for sending a quick check-in in the Ask tab if they are pressed for time. This may cause users to purposefully not send a daily question to more people, going against the value proposition.
    ○ Fix: Add a button next to each contact in the Ask menu for just sending a quick check-in. This could be a randomized question or another category specifically for quickly checking in with another user.

51. **H7: Flexibility and Efficiency of Use / Severity 3 / Found by: A, C, D**

- ○ Problem: Frequent users may want one single place to both send daily questions and check the status of their contacts for rapid fire in one menu. This would simplify the act of going through these two task flows as parts of the flow are integrated together.
- ○ Fix: Integrate both features (contact status and question prompt) into the Contacts page so that users can easily access both features with similar flows.

52. **H7: Flexibility and Efficiency of Use / Severity 2 / Found by: A**
- ○ Problem: While most users may not need to update their profiles, frequent users and users under certain circumstances may sometimes need or want to update their profiles. Currently, there is no way to update the user's profile, including profile picture and name.
- ○ Fix: There are two ways to approach this:
  1. Add a profile page where users can customize their profile on the application. This would probably be also linked in the navigation bar.
  2. Have the other user create the contact for each contact, similar to how Contacts in iOS functions.

53. **H7 Flexibility and Efficiency of Use / Severity 2 / Found by: D**
- ○ The *Rapid Fire 6* screen should have a way to modify and/or copy the question. A user might see the question and be able to draw inspiration from it to ask a better and/or more personal question, but right now, they have to go back and write their own question from scratch related to what they just saw. It would be easier if they could turn a pre-filled question into their own question with modifications.
- ○ Suggested Fix: Make the question editable instead of forcing the user to use the exact question that was provided to them, or making them use a roundabout way to make their own similar question.

54. **H7 Flexibility and Efficiency of Use / Severity 2 / Found by: D**
- ○ The *Rapid Fire End Session* screen does not have a way to start a new rapid-fire session with the same or another user. The user has to go back to the home page using the Back to Home button, and then return to the rapid-fire tab to start a new session.
- ○ Suggested Fix: Add another button that allows them to start a new rapid-fire session without having to navigate to another part of the app and back again. The button could also show the user they just finished their session with at the very top so it's more convenient for them to start another session with the same user.

55. **H7 Flexibility & Efficiency of Use/ Severity 1/ Found by B**
- ○ Description: The complex rapid fire task has a set timer at the bottom corner with no option to extend or shorten the time. The game overall does not have any adjustment options.
- ○ Rationale: This violates H7 because advanced users may want to adjust the rules of rapid fire to make the time faster and further engage with the app, especially if the user uses the app consistently and wants to interact with it in a way that may be different from the novice user.
- ○ Fix: Allow the user to quickly adjust the timing before starting the rapid fire feature.

56. **H8: Aesthetic and Minimalist Design / Severity 2 / Found by: C**
- ○ Task 1, 2, 3, 4
- ○ Problem Description & Rationale: The Home screen has a lot of words in it overall, which may not be aesthetic for the User to look at or pleasing to read. Also, the

description above "Your Stats" section does not appear to have an immediate, clear correlation with the tasks themselves.
- ○ Suggested Fix: On the description section, take out "People need more love than they show," or replace the description as a whole with your brief mission statement along the lines of: "Strengthen your relationships through Q & A s and Conversations!"

57. **H8: Aesthetic and Minimalist Design / Severity 2 / Found by: C**
- ○ Task 1
- ○ Problem Description & Rationale: Provided that the actual stats are right underneath the label "Your Stats", the label itself may seem redundant. The Users may feel that this label is not minimalist or not necessary.
- ○ Suggested Fix: Either Relabel "Your Stats" with something more inviting, personal, complete words such as "Your Progress," or just take it out entirely.

58. **H8: Aesthetic and Minimalist Design / Severity 2 / Found by: C**
- ○ Task 4
- ○ Problem Description & Rationale: The "Active Now" label on the Rapid Fire page's search bar appears to be redundant, as the green circles near the icons of each page already indicate those who are "active now." Also, the label could be misleading to the User, as it could come across as just a heading for the lists of people below, rather than being a search bar.
- ○ Suggested Fix: Replace "Active Now" with "Search" with blurred color for the font.

59. **H8: Aesthetic and Minimalist Design / Severity 1 / Found by: A, B, D**
- ○ Problem: Currently, the user must make at least one tap to start a task flow, as the home page does not have a purpose other than aesthetics. More frequent users may find it annoying that additional taps are needed to complete tasks rather than having the most used task as the home screen.
- ○ Fix: Incorporate the functionality of the Ask tab into the home screen so that the most important feature can be readily accessible just by opening the app.

60. **H8 Aesthetic and Minimalist Design / Severity 1 / Found By: D**
- ○ Many of the screens don't look very good at the very top and bottom because they failed to account for the actual dimensions and features of the iPhone. The notch at the top and the curvature of the screen cut out a lot of the screen's content (e.g. in *Rapid Fire 2* and *Contacts Card*).
- ○ Suggested Fix: Add more spacing around the screen's content (look into SafeAreaView if you end up using React Native) to make sure the content is not being crammed into the parts of the screen the user won't be able to see.

61. **H8 Aesthetic and minimalist design/ Severity 1/ Found by B**
- ○ Description: In the moderate task "review group messages…", there is an option to read the next question from the group although you can simply swipe to read the next question, which means there is an unnecessary icon that eliminates potential additional whitespace.
- ○ Rationale: This violates H8, because H8 says that there should only be completely necessary information, and that all extra units of information that diminish visibility should be removed. Therefore having two actions that do the same thing is additional unnecessary information that clutters the screen and minimizes the aesthetic effect.
- ○ Fix: Eliminate the button that moves to the next question called "read next question from group".

62. **H8 and Aesthetic and minimalist design/ Severity 4/ Found by B, C, D**

- Description: There are only a few cherries on the cherry tree, and there is no space on the tree to add more cherries. This is because of the current layout of the screen, which employs the metaphor but does not provide the option for users to easily add more people to their tree without the tree becoming overly cluttered.
- Rationale: This violates H8 because although the tree adds to the cherry metaphor, it also adds information that is not relevant to the user's action through the large tree graphic. Instead, the large tree graphic limits the actual amount of cherries (people) that can be placed aesthetically on the tree, which means that if there were additional cherries added, the design would be further cluttered and even less minimalistic.
- **Fix:** Rework the tree layout to make it less cluttered and to make it easy for additional cherries to be added to it without the tree looking overwhelming.

63. **H10: Help and Documentation / Severity 2 / Found by: A**
- Problem: On the Open tab, it is unclear that there is additional information that can be accessed after clicking on a cherry with the group through clicking on the message to reveal additional messages.
- Fix: Add clearer icons or some kind of text that notifies the user that there are more messages to be read. Although on the second pass I notice there is a stack of messages, it doesn't seem clear enough.

64. **H10: Help and Documentation / Severity 2 / Found by: C**
- Task 3
- Problem Description & Rationale: The cherries are stagnant, so the whole page may seem as though it is just a picture. This may not provide enough hints for an inexperienced User to click on one of the cherries to accomplish the task. The User may get confused as to what they should do, making them stuck and even making them incorrectly open up another navbar section.
- Suggested Fix: Make it evident that it is clickable by making the cherries animated or pulsing

65. **H10 Help and Documentation / Severity 2 / Found by: D**
- The *Respond* and *Read* (labeled as "Open" in the menu bar) screen look very similar and seem to have similar functions, but there's no indication anywhere as to what each screen is for. Showing a minimalist screen with just the cherries and a background tree screen is cool, but it sacrifices usability for a new user.
- Suggested Fix: Add a description somewhere as to what each screen does, or possibly a "?" icon or something similar that will show a tooltip with more information for new users.

66. **H10: Help and Documentation / Severity 2 / Found by: A, B (tutorial for rapid fire), C**
- Problem: There is no tutorial or help section of the app that helps onboard new users to the app. This may be intimidating to new users as they would have to explore the entire app with all of its functionality without assistance.
- Fix: Add a tutorial when users first open the app and/or have a section dedicated to FAQs or help. A small tutorial before rapid fire could also be helpful (or an easy-to-access info button)

67. **H11: Accessible / Severity 1 / Found by: A, B**
- Problem: The red statistics on the home screen does not contrast well with the brown wooden board. For users with smaller phone screens, this may be unclear to read.
- Fix: Color the statistics with a different color that increases its contrast with the background.

68. **H11 Accessible / Severity 2 / Found by: D**

- ○ The option to send a message with audio might leave out users who are deaf or hard of hearing when they receive such a message. Since the receiving screen for an audio message wasn't implemented, I'm not 100% sure what it'll look like but I assume probably like the *Respond 6* screen with the audio wave without much textual information.
- ○ Suggested Fix: Have the ability to transcribe audio messages so that both the sender and receiver can still use audio messages. The sender would be able to see their message's transcription before sending it, and the receiver could see the transcription as well (similar to the Spotify lyrics example from lecture).

69. **H11 Accessible/ Severity 1/ Found by B**
- ○ Description: The rapid fire feature which is the complex task may not be accessible for people with issues typing or reading quickly, and there do not seem to be any options that accommodate for those people. Therefore, the rapid fire feature may not be accessible to everyone.
- ○ Rationale: The lack of adjustments available for the rapid fire feature limits accessibility for users who may have issues reading and responding to content quickly. This violates H11 because all users should be able to interact with the system, and have alternative input methods to accommodate for any difficulties they may have.
- ○ Fix: Provide an option for users to eliminate the timer or add additional time so that people who may find it difficult to read or type things quickly can still access the rapid fire feature.

70. **H11 Accessible / Severity 2 / Found by B, C, D**
- ○ Description: In the moderate task "review group messages…", it may be difficult for users to see which cherry on the tree represents a group so as to fulfill the task, because the overlapping photos may not be easily perceivable, especially on a small home screen and for people who may have issues with their vision. Additionally, if the peoples' profile pics are very similar, they may blend further with each other, making the visibility even more difficult.
- ○ Rationale: This violates H11 because this heuristic states that content must be legible, with distinguishable contrast. The current layout of the pictures for the group chat does not offer this.
- ○ Fix: Set the photos side by side or add a label that indicates that the cherry represents a group chat.

71. **H11: Accessible / Severity 2 / Found by: A, B, D**
- ○ Problem: Using cherries to indicate users in the Respond and Open tabs is very clever, but may present accessibility issues to users who use screenreaders or have difficulty comprehending the erratic pattern of cherries (as opposed to the ordered layout of a list in the Contact, Ask, and Rapid Fire pages).
- ○ Fix: Layout the cherries in the Respond and Open tabs such that they are more ordered as a whole, perhaps in a grid with a basket as a background.

72. **H12: Fairness and Inclusion / Severity 2 / Found by: A, C, D**
- ○ Problem: When clicking on a cherry in the Open tab, there is a button that reads "respond with iMessage." Since iMessage is an iOS exclusive app, users who run different operating systems may be limited in their ability to respond to others.
- ○ Fix: Add support/integration for different operating systems as well as changing the wording of the button to reflect that the user can respond via their native messaging application.

73. **H12: Fairness and Inclusion / Severity 1 / Found by: B**

- ○ Problem: No pronouns are shown for any of the users. This violates H12 because the heuristic emphasizes that the app should be inclusive and supportive for all. It should be easy for the user to change their profile picture and even write their pronouns, and the lack of this option creates an additional burden for the user, as they must stick to their initial identity despite any difficulties or changes within their life.
- ○ Fix: Add the possibility to input pronouns.

74. H12 Fairness and Inclusion / Severity 2 / Found by B, C, D
- ○ Description: All the users appear to be depicted as "active" for rapid fire, and there is no option to make oneself not available for a rapid fire request.
- ○ Rationale: This violates H12 because H12 says that the app should not create additional burdens, while this app could cause people to receive notifications often and feel stressed that they must respond to the rapid fire requests. Some people don't have access to a phone at all times because they may be working or busy or simply want to navigate the app without responding to those requests (so they don't want to appear as 'active'), thus there is a clear need for an option to stop receiving rapid fire requests despite being on the app.
- ○ Fix: Provide an option or toggle for the user to turn off receiving rapid fire requests even when they are active on the app, as some people don't have the time and ability to be accepting requests.

75. H13: Value Alignment / Severity 3 / Found by: A, B
- ○ Problem: If the user does not wish to contact another user, there is no way to block the other party from sending questions or initiating rapid fire sessions. This goes against the proposed value of safety since there is potential for hostility between users through the app.
- ○ Fix: Allow for users to remove or block contacts from asking questions or initiating rapid fire sessions.

76. H13: Value Alignment / Severity 3 / Found by: A
- ○ Problem: Allowing users to respond anonymously within groups, seen in the group message in the Open tab, creates feelings of mistrust within the group, as anonymity does not work to strengthen connections, especially over long distance, and can be easily singled out if everyone else in the group did not respond anonymously. Thus, this goes against the value proposition since the strengthening of relationships may not be reciprocal.
- ○ Fix: Do not allow anonymity when responding in groups.

77. H13 Value alignment/ Severity 4 / Found by B, D
- ○ Description (same as in 8): There are only a few cherries on the cherry tree, and there is no space on the tree to add more cherries. This is because of the current layout of the screen, which employs the metaphor but does not provide the option for users to easily add more people to their tree without the tree becoming overly cluttered.
- ○ Rationale: This tree diagram violates H13, because the values of the app are that it should be easy and fun for the user to communicate with their loved ones. However, the tree graphic does not allow for additional cherries to be added without appearing cluttered, which conflicts with the user's desire to have more people to connect with. The encoded values must match the user's values and this design is a barrier for that.
- ○ Fix (similar to 8): Rework the tree layout to reduce the cluttering and make it easy for additional cherries to be added to it without the tree looking overwhelming. This way the design can encode values that the users can understand and relate to, such as the need to easily and seamlessly connect with various people.

3. Summary of Violations

Category	# Viol. (sev 0)	# Viol. (sev 1)	# Viol. (sev 2)	# Viol. (sev 3)	# Viol. (sev 4)	# Viol. (total)
H1: Visibility of Status	0	0	4	2	0	**6**
H2: Match Sys & World	0	0	5	0	0	**5**
H3: User Control	0	0	4	2	0	**6**
H4: Consistency & Standards	1	5	3	1	0	**10**
H5: Error Prevention	0	1	5	5	0	**11**
H6: Recognition not Recall	0	1	3	2	0	**6**
H7: Efficiency of Use	0	3	4	4	0	**11**
H8: Minimalist Design	0	3	3	0	1	**7**
H9: Help Users with Errors	0	0	0	0	0	**0**
H10: Help & Documentation	0	0	4	0	0	**4**
H11: Accessible	0	2	3	0	0	**5**
H12: Fairness & Inclusion	0	1	2	0	0	**3**
H13: Value Alignment	0	0	0	2	1	**3**
Total Violations by Severity	**1**	**16**	**40**	**18**	**2**	**77**

Note: **check your answer for the green box by making sure the sum of the last column is equal to the sum of the last row (not including the green box)**

4. Evaluation Statistics

Severity / Evaluator	Evaluator A	Evaluator B	Evaluator C	Evaluator D
Sev. 0	0%	100%	0%	100%
Sev. 1	31.3%	18.8%	6.3%	37.5%
Sev. 2	50%	40%	45%	35%
Sev. 3	55.6%	33.3%	50%	27.8%
Sev. 4	0%	0%	50%	100%
Total (sevs. 3 & 4)	50%	30%	50%	35%
Total (all severity levels)	45.5%	33.7%	37.7%	26.0%

*Note that the bottom rows are *not* calculated by adding the numbers above it.**

5. Summary Recommendations

Awesome job on the Cherry app!! Overall I think our main recommendations are that the app could be more simplified in terms of the aesthetics, while also providing the users more freedom and more attention to minute details so that they can understand how they can best take advantage of the app's features.

Starting with the simplification of aesthetics, this prototype places a strong emphasis on the cherry metaphor, which I think is exciting because it adds novelty to the interface. However, it also somewhat compromises the aesthetics and minimalism that the app could have. Similar to the humor that Google used in their errors as presented in lecture, it is unclear whether or not such a display method is truly accessible for everyone. Although only a hypothetical scenario that wasn't demonstrated in the prototype (and thus we were not able to write it as a violation due to it being our own speculation), I wonder what would happen if the user received a lot of messages or questions to respond to. Even with only five cherries, screen real estate seems to be running out, especially with such elaborate cherries. Therefore, I encourage you to think about screen management for sociable users in the Respond and Open tabs. The cherry metaphor could be maintained in a way that can still be understood while potentially minimizing the graphics that go along with it. Even limiting some of the different colors and lines of the tree design itself could help the interface fit into a more aesthetic look. Additionally one main thing we found is that none of us truly understood that the quote was a daily quote just by looking at the prototype.

Secondly, there could be a bit more attention to certain usability details so that the user could have a bit more freedom and feedback on the app overall. For freedom, this refers to the ability to cancel rapid fire at all times, block users to be consistent with the value of safety emphasized in the slides, go back to previous questions or screens without extra steps, and potentially change one's profile picture or username as needed. Some of these aspects are currently somewhat restricted, or are not particularly intuitive for the user to follow- although this may just be due to the limitations of prototyping on Figma. Additionally, it could be useful to have additional feedback about the

interactions made in the app so that users can get a verification when something has successfully been sent, and notifications that indicate that a message awaits them that they have not yet opened. The aspect of feedback is something I think could be implemented across all the tasks.

With the critique aside, we think there are many things this app is doing very well. The colors are very lively and we love that the rapid fire feature transitions into a different color scheme, which really emphasizes the game environment. We really love how the user has the option to add additional categories, randomize the questions, and even write their own. This app integrates many different response features together nicely, and we're excited to see the final version in the upcoming weeks!

Severity Ratings

       0 - not a usability problem
       1 - cosmetic problem
       2 - minor usability problem
       3 - major usability problem; important to fix
       4 - usability catastrophe; imperative to fix

Heuristics

H1: Visibility of System Status
- Keep users informed about what is going on

H2: Match Between System & Real World
- Speak the users' language
- Follow real world conventions

H3: User Control & Freedom
- "Exits" for mistaken choices, undo, redo
- Don't force down fixed paths

H4: Consistency & Standards
- Words, actions, and UI elements should be consistent across the entire platform
- Follow platform and industry conventions

H5: Error Prevention
- Minimize error-prone conditions
- Remove memory burdens, support undoing, and warn your users when necessary

H6: Recognition Rather Than Recall
- Make objects, actions, options, & directions visible or easily retrievable

H7: Flexibility & Efficiency of Use
- Accelerators for experts (e.g., gestures, keyboard shortcuts)
- Allow users to tailor frequent actions (e.g., macros)

H8: Aesthetic & Minimalist Design
- No irrelevant information. Focus on the essentials.

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https://hci.stanford.edu/courses/cs147/2022/wi/index.html

H9: Help Users Recognize, Diagnose, & Recover from Errors
- Error messages in plain language
- Precisely indicate the problem
- Constructively suggest a solution

H10: Help & Documentation
- Easy to search
- Focused on the user's task
- List concrete steps to carry out
- Not too large

H11: Accessible
- Users can interact with the system using alternative input methods.
- Content is legible with distinguishable contrast and text size.
- Key information is upfront and not nested for screen readers.
- Purely visual or auditory content has text-based alternatives for users with low vision and low hearing.

H12: Fairness and Inclusion
- Users shouldn't feel that the design is not made for them.
- The design should meet all users' needs equally and prevent the reproduction of pre-existing inequities.
- It should not create additional burdens for members of disadvantaged populations.

H13: Value Alignment
- The design should encode values that users can understand and relate to.
- Conflicting collateral values should not emerge when the user interacts with the product.
- Encoded values should match users' values in a broad set of use-contexts.