

## Heuristic Evaluation of [Same-Q]

For a more in-depth overview of A9, please refer to the [A9 assignment spec](#).

### 1. Problem/Prototype Description

Same-q is an app that allows students to collaborate during office hours, finding students with similar questions and connecting them with voice and text chat, while also taking work from TAs so they don't have to repeat the same questions again and again.

### 2. Violations Found

#### *All Tasks*

**1. H8 Aesthetic & Minimalist Design / Severity: 1 / Found by: A**

**Task: 1, 2, 3**

Description: Purple bar at top is rounded, but can only see white space at bottom.

Contrasts with straight bar at the bottom when typing message in huddle

Rationale: Seeing the tiny bit of white space at the bottom of the course information bar is personally not aesthetically pleasing and is a contrast from the design on the bottom of the screen

Fix: Have bottom of top bar be completely straight, or have white space on all sides of the bar, not just at the bottom

**2. H10 Help and Documentation / Severity: 3 / Found by: A, B, C**

**Task: 1, 2, 3**

Description: No help or walkthrough on how to use app included

Rationale: Users may be confused on the flow to complete core tasks such as joining an existing queue or submitting their own question, so having access to a help page would be beneficial

Fix: Either provide a walkthrough showing the key features the first time a user is using the app, or have a help button where users can receive assistance or access documentation

**3. H10 Help and Documentation / Severity: 2 / Found by: A, B, C**

**Task: 1, 2, 3**

Description: No documentation on meaning of key icons, for example what the small headphones or people icon signify on the list of questions page

Rationale: Users may be not be familiar with the various icons used throughout the app, especially if they are not universal icons

Fix: Provide a faq mapping the key icons to their respective meanings

**4. H11 Accessible Design / Severity: 1 / Found by: A, C, D**

Task: 1, 2, 3

Description: Question descriptions in list of queue as well as text when creating a question or in the huddle description are very small. In addition, bright purple is used in the top navigation header

Rationale: Some of the text is quite small and may be difficult for users to read. In addition, the bright purple chosen for the top header may be difficult for some users to view, in particular those who are colorblind

Fix: Provide a settings menu allowing users to customize text size as well as implement different color themes that may make the text easier for people to read

**5. H5: Error Prevention / Severity: 2 / Found by: B**

- a. Description: Users immediately see the “ask question” screen before being able to see the questions
- b. Rationale: This ordering seems like it would lead to a higher chance of users writing a question and then finding out it was already asked or not even seeing it was written and asking again, which would defeat the purpose of the app.
- c. Fix: Allow people to see the queue and what questions are there and from there having the option to ask a question

***Task 1***

**6. H1 Visibility of System Status / Severity: 2 / Found by: A**

Task: 1

Description: It is unknown what question the TA is currently answering

Rationale: Given that users are in queue waiting to get help from a TA, having visibility on what question the TA is currently answering would allow user to stay informed on how much longer they will need to wait as well as switching to the group the TA is currently in to listen in if they wish

Fix: Highlight box TA is in or add distinguishing icon to question in queue

**7. H4 Consistency and Standards / Severity: 2 / Found by: A**

Task: 1

Description: In the huddle for my submitted question, the last option in the expanded audio bar is “Hold”, while in the group question huddle, the last option says “Jailia”.

Rationale: Design is inconsistent so user may be confused by what the last audio option does and why it says a different user’s name

Fix: Remove button or clarify its meaning in help section

**8. H4 Consistency and Standards / Severity: 2 / Found by: A**

Task: 1

Description: After creating a question, if a user joins another question then heads back to the queue again, only the originally created question is highlighted/a different color from the rest

Rationale: Users may be confused whether the purple highlighted box is because it is their question, or because they joined the question. They may also be confused whether they are able to join multiple questions or huddles or only one

Fix: Have all questions that are joined be a different color from the rest

**9. H7 Flexibility and Efficiency of Use / Severity: 4 / Found by: A, B, C, D**

Task: 1

Description: Unable to complete task 1 and join a question asked by a classmate from home page, need to complete task 2 and create my own question first

Rationale: Forcing user to create a question before being able to join a different queue is not flexible and slows down the ability for a user to get help, especially if their question has already been asked

Fix: Allow interaction where user can skip process of creating question and immediately join existing queue, not just view the queue

**10. H7 Flexibility and Efficiency of Use / Severity: 1 / Found by: A**

Task: 1

Description: The ordering of questions in the queue seem to be in ordering of help time

Rationale: If a user is trying to get help for a specific question, it may be more valuable for their questions and groups to be joined to be at the top of the list of questions so that it is easier access to join the huddle rather than scrolling to find their joined group

Fix: Have ability to pin questions or automatically have joined groups or huddles be listed at top of the queue

**11. H8 Aesthetic & Minimalist Design / Severity: 1 / Found by: A**

Task: 1

Description: When viewing queues, we can see the number of participants both next the person icon and with the text "Join with x others"

Rationale: No need to repeat the same information twice in the same screen

Fix: Change text to just "Join" and keep the number of participants next to the icon

**12. H7 Flexibility and Efficiency of Use / Severity 2 / Found by: C, D**

**Task: Joining Question**

Description: The View Queue button is small and hard to find.

Rationale: If users are looking to join office hours, but the first click brings them to the new questions page, they might be inclined to ask a new question even if it is already in the queue.

Fix: have joining a class office hours go directly to the queue or make the View Queue button more prominent

**13. H4 Consistency and Standards / Severity 1 / Found by: D**

**Task: Joining a Question**

Description: The word “Join” is used both to join an ongoing class office hours and to join a question.

Rationale: While joining office hours and joining a question will likely not be confused, it might feel strange that the same phrase is used to mean two different things.

Fix: Find another key word to use for joining office hours or adding yourself to a question.

**14. H1 Visibility of System Status / Severity: 3 / Found by: C, D**

**Task: Join a Question**

Description: Clicking the “join” button for a class doesn’t give direct access to the queue.

Rational: Intuitively, it seems like you should be able to see the queue and be “in” office hours without having asked a specific question. Needing to submit a question first is a mismatch between how I expected the structure of the system to work and how it does.

Fix: Have the “join” button take the user directly to the queue.

**15. H2: Match between system and the real world / Severity: 1 / Found by: D**

**Task: Join a question**

Description: The phrase “Help Time” is unclear

Rational: While mitigated by the time format, it is unclear if “help time” refers to when help will come or how long until help comes. It also implies that help will come exactly then, when in reality I assume that is an estimate.

Fix: label the time help is expected to come “help coming at” or “expect help at” or something

**16. H11 Accessible Design / Severity 1 / Found by: A, D**

**Task: Join a question**

Description: difficult to read existing questions if you have a visual impediment

Rational: Text is by necessity small on a phone screen, especially for long questions.

Fix: have an option (possibly in settings) to have existing questions read out (this could be solved by a screen reader and might not be necessary)

**17. H3 User control and freedom / Severity 2 / Found by: D**

**Task: join a question**

Description: I imagine some questions might be longer than a few lines, and would be cut off in the questions box. I don't see a way in the current design to view a full question without joining, or view a question's chat without joining.

Rationale: The first few lines of a question might not give enough information to know if it is the same as yours. It could be convenient for users to be able to read the full question without joining the chat or huddle.

Fix: have a question expand when you click on the text of the question itself, in the queue or in the huddle/chat page.

**18. H3 User control and freedom / Severity 3 / Found by: D**

**Task: join a question**

Description: I don't see a way for users to leave a question they have joined. Not just return to queue, but no longer receive notifications/be included in the count of students on that question

Rationale: A student might resolve a question on their own, but not have time to explain it to the entire group or might find a different question in the queue that aligns with their own question more closely. They might want to leave the discussion of a certain question.

Fix: have an option to leave a question

**19. H2. Match between system and the real world / Severity 4 / Found by: C**

**Task: Join a question asked by another student**

Description: When clicking on a class, one sees the ask a new question screen immediately.

Rationale: This would likely make a user think there are no existing questions, and the view queue button is hidden up in the corner with very small text, and it not as much of a first read as adding a new question, so it's likely many duplicate questions would be submitted, or that students would assume that no questions already exist, especially if joining an existing question is supposed to be the smallest, most common task

Fix: clicking the class should show you the list of existing questions, and allow you to add one. (especially considering this is already a feature on the total queue screen!)

**20. H1. Visibility of system status / Severity 1 / Found by: C**

**Task: Join a question**

Description: The home screen is very opaque and doesn't show much information about the office hours for the classes present.

Rationale: It's not possible to tell how busy the office hours are from the home screen, or whether or not many students are at those office hours

Fix: display the number of questions asked in each office hours, or the number of total students present on home screen.

**21. H7. Flexibility and efficiency of use / Severity: 3 / Found by: C**

**Task: Join a question asked by another student**

Description: Users need to write a whole question for themselves as a new question in order to search existing questions

Rationale: A user spends time writing a new question on the new question screen, but that screen is really less of a submission portal and more of a search bar, and this functionality should be reflected so users don't feel like they need to type an entire question out only for the app to show someone else has already submitted the question.

Fix: Allow users to be able to search for a question using keywords instead of by requiring them to write a whole question out

**22. H12 Value alignment and inclusion / Severity: 4 / Found by: C**

**Task: Join a question asked by another student**

Description:, clicking a class immediately directs to the new question screen

Rationale: If the purpose of this app is to encourage students to collaborate and to make students with the same questions go together, then it really doesn't make sense for them to be encouraged to ask a new question as soon as they open the app. It would make far more sense, and align with the app's values for them to be encouraged to join an existing group instead.

Fix: clicking the class should show you the list of existing questions, and allow you to add one. (especially considering this is already a feature on the total queue screen!)

**Task 2**

**23. H2 Match b/w System & World / Severity: 2 / Found by: A, C**

**Task: 2**

Description: Within the expanded audio settings there is a button with text "silent"

Rationale: Users may be confused whether this is a button silencing themselves or others as silent is not a universal term

Fix: Change text to mute, which is a more universal term

**24. H2 Match b/w System & World / Severity: 2 / Found by: A, C**

**Task: 2**

Description: When presented with the audio button in a huddle, to expand audio settings the user needs tap the screen

Rationale: It isn't intuitive for a user to tap the button in order to expand settings

Fix: Include arrow/▼ to guide users to understand that there are more options that just the one shown

**25. H3 User Control and Freedom / Severity: 2 / Found by: A, C**

**Task: 2**

Description: Within the expanded audio settings there is a button with text "leave"

Rationale: Users may be confused whether this is referring to leaving the huddle's audio chat, or leaving the entire group

Fix: Have two separate buttons, one with "leave audio" in audio settings, and one with "leave group" in main page

**26. H3 User Control and Freedom / Severity: 1 / Found by: A**

**Task: 2**

Description: When creating a question, option to edit (pencil icon) as well as go back button

Rationale: User may be unsure whether both buttons complete the same task of editing, or whether the go back button leads back to home page entirely

Fix: Clarify these two buttons & differences, possibly remove one if duplicated

**27. H5 Error Prevention / Severity: 2 / Found by: A**

**Task: 2**

Description: In a huddle, the default audio button is "hold" which assumes that the user has enabled the app to use their audio

Rationale: User may not realize that by pressing on the "hold" button they are committing to having the app use their audio, and also may accidentally press the button and join the huddle without realizing

Fix: Either have a button displaying "join audio" or just default the button to be muted, so that when user pressed unmute they are aware that their audio is being used

**28. H8 Aesthetic & Minimalist Design / Severity: 1 / Found by: A**

**Task: 2**

Description: Question is shown both at top of the huddle, as well as in expanded audio bar

Rationale: No need to repeat the same information twice in the same screen

Fix: Remove question from expanded audio bar

**29. H8 Aesthetic & Minimalist Design / Severity: 2 / Found by: A  
Task: 2**

Description: In a huddle the user has the options to “keep mic on”, “silent”, “leave”, and “hold.

Rationale: Excess amount of audio buttons, for example “silent” being selected means that “keep mic on” is automatically off and vice versa which is confusing for user

Fix: One audio button that allows user to mute and unmute, if more buttons wanted then allow user to change default button in settings

**30. H7: Flexibility and Ease of Use / Severity 2 / Found by: D  
Task: Create a Question**

Description: Questions that are not able to be expressed in words, but might need an equation or image

Rational: A user might have a very specific question that needs some attachment, like a picture or a block of code. Consider, for example, “are the forces in the right place on this FBD” or “what is the black spot in this blender render from”

Fix: have an option for users to add attachments to a question.

**31. H5 Error prevention / Severity 1 / Found by: C, D  
Task: Create a question**

Description: There could be a stronger visual cue that promotes joining a similar question rather than creating a new one, possible error of duplicate questions.

Rationale: Currently, there is no instruction or reminder to join a similar question, so the list could be interpreted as just letting you know what similar questions exist. The first read is submitting your own question.

Fix: Maybe add a line “no matches?” above submit, or have an instruction above similar questions that says “see if you can join an existing question instead”

**32. H5 Error prevention / Severity 1 / Found by: D  
Task: create a question**

Description: No indication that questions need a tag

Rationale: If questions are required to have a tag (they might not be) there should be a default tag or a pop up. Even if they are not required, I think the icons could stand out a bit more.

Fix: increase size of tag icons a bit

**33. H2 Match between system and real world / Severity 3 / Found by: D**



**Task: join a huddle**

Description: the “Hold” label on the huddle button is confusing

Rationale: To me, “hold” for any kind of call means that you will be on hold. I think here it is meant to mean you press and hold the button. I think that is confusing.

Fix: remove the “Hold” text on the huddle button. I think there are other ways to make that particular interface more intuitive.

**34. H8 Aesthetic and minimalist design / Severity 1 / Found by: D**

**Task: join a huddle**

Description: The dialogue explaining how to chat and join the huddle is wordy and unclear.

Rationale: This is a helpful description, but unnecessarily thorough and wordy. It is also not very visible.

Fix: Consider shortening to “Send message to start chat or join huddle with headphone icon. Swipe up on headphone for options”

**35. H5 Error Prevention / Severity 3 / Found by: C, D**

**Task: join huddle**

Description: The headphone icon has too many associated functions. Separation (or lack thereof) between text chat and audio chat, it is unclear when audio (speaker not microphone) is on, could lead to being accidentally muted or not missing things that are happening in the huddle.

Rationale: It is unclear if the user needs to press and hold the headphones button to listen to the audio chat, or just to speak. If it is just to speak, then there is a H2 violation because the icon is headphones not a microphone. If it is to listen as well, the press and hold could be confusing because that is a common voice input interface. Accessing settings with the same button could lead to opening settings unintentionally or accidentally opening the huddle when the user is trying to adjust the settings.

Fix: have the audio (listening) be a toggle, ie click the headphones, and then if you are in the audio chat have a microphone icon you can press and hold to speak. Have the settings as a separate icon

**36. H3 User control and freedom / Severity 2 / Found by: D**

**Task: create a question**

Description: no way to edit a question

Rationale: if there was a typo in a question, or discussion among students leads a user to want to reword their question for clarity, there is no existing option for that.

Fix: allow a user to edit questions they posed by double clicking on it

**37. H10. Help and documentation / Severity 3 / Found by: B,C**

**Task: Join a question asked by another student**

Description: It's not clear if one holds the headphone icon to open the settings menu or to speak.

Rationale: The headphone button says "hold", but it isn't clear if this is a push to talk feature or to open the menu tied to the same button.

Fix: It's hard to say considering I'm not sure what it's supposed to do. Maybe replace it with a microphone button, or add an additional settings button. Consider also getting rid of the distinction between tapping and holding and just have the little pop-up when you tap the app.

**38. H3. User control and freedom / Severity: 1 / Found by: C**

**Task: Create a question and join its huddle.**

Description: When creating a question you are put into an empty huddle

Rationale: Being put into a huddle when joining an existing group makes sense, but when one is the only user of a huddle, it seems odd to force them into the chat when nobody else is there.

Fix: Instead of forcing users into the chat, send them a push notification when someone else joins the huddle, akin to when a message is sent in the huddle.

**39. H4. Consistency and Standards / Severity: 4 / Found by: A, C**

**Task: Create a question and join its huddle.**

Description: The audio huddle menu has a variety of confusing iconography, including the leave, hold, and keep mic on icons.

Rationale: It's not clear if or why the leave button is different from the home or back button in function. The mic on button is a pair of headphones with a microphone, but looks very similar to the normal headphone button. The headphones accompanied by the word hold are confusing and it's not clear what it does.

Fix: More consistent name for the leave option, all microphone options should have a specified microphone icon, and standard terminology like push to talk and mute, unmute, and deafen should be used since current terminology does not adhere to standard vernacular for such a system. Also consider

**40. H11. Accessible design / Severity: 1 / Found by: C ,B**

**Task: Create a question and join its huddle.**

Description: The text on the huddle screen describing the functions of the page is incredibly small.

Rationale: The size of this text may cause eye strain, or be difficult for people with vision impairment to read.

Fix: Make the text larger, or move it to a special tutorial or help menu.

**41. H11: Accessible Design / Severity: 3 / Found by: B**

Moderate Task

Description: Having a option where you can speak to other students through voice is really helpful, but it begs the question of what exactly someone who maybe cannot hear could do with that option:

Rationale: You want every single feature of your app to be available to every person in some capacity

Fix: Include a transcription option for the voice call.

**42. H4: Consistency and Standards / Severity: 1 / Found by: B**

Moderate Task

Description: Once the headphone button is pressed, the info in the huddle help note changes slightly, but with not a lot of difference in the meaning.

Rationale: A slight change in the description can lead to confusion, especially if the meaning doesn't actually change that much.

Fix: Have a consistent message or, if the message is changed, flag the user towards it

**43. H7: Flexibility and Efficiency of Use / Severity: 1 / Found by: B**

Moderate Task

Description: The tags are available on the "Ask Question" but there's no question that uses those tags.

Rationale: It seems that it would be helpful for tasks to have this, which is why you guys probably included it, but it would have been great if you guys also included examples of its use in the prototype to section out questions

Fix: Allow users to tag their question

**44. H1: Visibility of System Status / Severity: 1 / Found by: B**

Moderate

Description: It's a little unclear when someone is holding the button and when they're not with regards to the difference on the screen except for the bottom corner button which is a little hidden.

Rationale: We really have to look and reason to figure out if the user has joined the huddle or not.

Change the colors of the screen or include a completely different screen when the user has joined the huddle

**Task 3**

**45. H4. Consistency and standards / Severity: 2 A, C**

Description: The headphone icon to join the huddle is in different places on different versions of the huddle screen

Rationale: This may be confusing to users (and I assume is an error with the figma as opposed to intended design? But better safe than sorry)

Fix: Keep one consistent location for this button.

**46. H5 Error Prevention / Severity: 3 / Found by: A, D**

**Task: 3**

Description: After taking a picture in a huddle, it is automatically sent to the huddle's chat without any confirmation or double-checking

Rationale: Users may want to check that their image has good lighting, isn't blurry, ect. before sending it. If they accidentally take a picture, there is no existing way to delete or correct it.

Fix: After taking a photo, give users the option to send, redo, or exit

**47. H7 Flexibility and efficiency of use / Severity 0 / Found by: D**

**Task: take a picture**

Description: no way to annotate image you take

Rationale: being able to add simple annotations to an image can be helpful when trying to explain an image or call out a particular line of code.

Fix add an edit menu/confirm menu after taking a picture before you send it. Similar to the on phone image editors that let you circle things or add text

**48. H4 consistency and standards / Severity 2 / Found by: D**

**Task: take a picture**

Description: camera icon does not have the same bubble outline as the other buttons in the app

Rationale: user might not recognize that the camera is clickable

Fix: put the camera in a circle

**49. H11. Accessible Design / Severity: 1 / Found by: C**

**Task: Send a photo to a huddle**

Description: The photo is very small and nearly illegible

Rationale: The photo is displayed at a very small resolution, and hard to make out

Fix: Larger thumbnail, and allow users to tap on photos to see them in full screen.

**50. H7: Flexibility and Efficiency of Use / Severity: 4 / Found by: B**

Complex Task

Description: Users cannot access the complex task unless the moderate task is completed immediately beforehand and the user then goes back to the queue.

Rationale: If the user cannot reach the button to share a picture from the home page, a large feature of the app is lost.

Fix: Code the app to reach the complex task from the home page.

### Extra Violations

**51. H2 Match b/w System & World / Severity: 1 / Found by: A**  
**Task: Specific to None**

Description: In home page listing classes, ordering is CS 147, English, CS 161

Rationale: Natural or logical ordering would be to sort classes by status (active at top, inactive at bottom) and/or lexicographically

Fix: Sort by status with active classes at the top

**52. H4 Consistency and Standards / Severity: 2 / Found by: A, B**  
**Task: Specific to None**

Description: When viewing all classes, there are two options: “join” and “ask”

Rationale: Design is inconsistent so user may be confused by what the difference between these two buttons are and what they mean, as well as wondering whether the user can ask a question in a class with the button “join”

Fix: For class that is inactive remove button to join or make text description more intuitive

**53. H8 Aesthetic & Minimalist Design / Severity: 2 / Found by: A, D**  
**Task: Activity Center**

Description: Notifications are sent to every user whenever a new person joins the group or huddle

Rationale: This information is irrelevant and can result in valuable notifications to be drowned out such as when the TA joins the huddle or when a new chat message is sent in the group

Fix: Allow users to set their notification level for example to receiving all notifications, just notifications about chat messages, notification when specific people join, etc

**54. H3 User control and Freedom / Severity 2 / Found by: D**  
**Task: asking a question**

Description: I don't see a way to resolve a question if the students figure it out on their own, or if somebody realized later that their question is a duplicate

Rationale: the queue could become overcrowded with questions that nobody needs anymore, distracting the instructor and making office hours less efficient

Fix: close a question if there is nobody joined (maybe following is a more clear term), or allow a question owner to close/resolve a question

**55. H9 error correction / severity 1 / Found by: D**

**Task: send message in huddle**

Description: not way to delete a message sent in chat

Rationale: if a user puts something in chat by accident (meant to respond to a text message, accidentally hit speech to text on their keyboard, ect) they might need to delete a message

Fix: allow users to delete a message they have sent by double clicking on it or clicking and holding

**56. H12 Value Alignment and inclusion / Severity 2 / Found by: D**

**Task: ask a question or message in chat**

Description: no anonymous (to other students) mode for public questions or chat input

Rationale: Some students, especially those from minority groups or those with less confidence, feel embarrassed to ask questions because they feel it will make them look stupid or ignorant. The private question allows this, and is important, but making the question public contributes to the collaborative aspect of the app and could boost the confidence of the student if they discover other people have the same question.

Fix: Allowing for anonymous questions or anonymous chat input could make those students feel more comfortable.

**57. H11. Accessible Design / Severity: 1 / Found by: C**

Description: Text chats on the huddle screen are very small

Rationale: They are small and hard to read, especially for those with vision impairments

Fix: Make this text larger.

**58. H4. Consistency and standards / Severity: 1 / Found by: C**

Description: The number of people in a huddle, and in the audio huddle are presented side by side on the huddle screen, but on either side of huddle time on the list of questions (huddles?)

Rationale: When looking for the number of people in the huddle (question?), I looked next to the headphone icon expecting it to be near but it was instead on the other side of the help time.

Fix: Make the question listings mirror the formatting of the huddle screen or vice versa.

**59. H4. Consistency and standards / Severity: 3 / Found by: C**

Description: The distinction between a question and a huddle is not clear.

Rationale: The app itself doesn't have any headers or action descriptions that indicate what a huddle is, or what the text chat is called making this confusing. I assume the audio chat is the huddle to mimic slack terminology, but for non slack users, and even while conducting the analysis I found this very difficult to parse.

Fix: Clarify what the distinction is between a question, a chat, and a huddle is, and label menu options accordingly.

**60. H4. Consistency and standards / Severity: 1 / Found by: C**

Description: In the activity center the notifications are inconsistent with one another.

Rationale: The images next to the second 2 notifications are different despite otherwise identical notification text. The first notification says nothing about a huddle but the second two do

Fix: Unify these messages

**61. H5. Error prevention / Severity: 3 / Found by: C**

Description: Nothing stops a user from entering duplicate questions besides their own desire to do so.

Rationale: Users manually check if questions are already existing, so a user could easily upload duplicate questions if they aren't paying attention closely.

Fix: Honestly not sure, if a new question is similar enough to an old one a user is made to confirm their desire to make a new listing.

**62. H6. Recognition rather than recall / Severity: 2 / Found by: C**

Description: On the new question screen there is no way to know how many questions are in the queue before a user without manually skipping to check the queue, and then going back to the ask a question screen where the information is no longer present.

Rationale: If a user is in a rush or something, and wants to know if they'll be present when it is their question's turn there isn't an obvious way to tell from the new question screen.

Fix: Add an eta to the new question screen

**63. H4: Consistency and Standards / Severity: 0 / Found by: B**

**Outside of tasks**

Description: From the Activity Center page, at least when you access it from the Home menu, there are two ways to get back to the home page.

Rationale: It can be confusing trying to figure out which buttons will take you back to the home page.

Fix: At least when accessing from the Home page, don't have a Back button for the Activity Page. Or, make the Activity Center page a page that swipes down over the current screen and then slides back when finished, similar to the Apple notifications page.

#### **64. H8: Aesthetic and Minimalist Design / Severity: 1 / Found by: B**

Outside of Tasks

Description: The color scheme is a little jarring for the eyes - the purple is just a little too bold in comparison to the black and then the white space.

Rationale: At the end of the day, it has to be something that people feel they can look at.

Fix: A lighter purple would blend better - think of the purple on the message in the huddle.

#### **65. H6: Recognition rather than Recall / Severity: 2 / Found by: B**

Outside of Tasks

Description: Back buttons are littered throughout the app, but there is no indication as to where the back button is taking you.

Rationale: The user has to remember exactly what was their last page to understand where they are going back to

Fix: Every back button should be listed as the previous page rather than just "back."

[...create your numbered list of violations here]

### **3. Summary of Violations**

A Google Sheet Template is provided [here](#) to help you calculate numbers.

<b>Category</b>	<b># Viol. (sev 0)</b>	<b># Viol. (sev 1)</b>	<b># Viol. (sev 2)</b>	<b># Viol. (sev 3)</b>	<b># Viol. (sev 4)</b>	<b># Viol. (total)</b>
H1: Visibility of Status		2	1	1		<b>4</b>
H2: Match Sys & World		2	2	1	1	<b>6</b>
H3: User Control		2	4	1		<b>7</b>
H4: Consistency & Standards	1	4	5	1	1	<b>12</b>
H5: Error Prevention		2	2	3		<b>7</b>
H6: Recognition not Recall			2			<b>2</b>
H7: Efficiency of Use	1	2	2	1	2	<b>8</b>
H8: Minimalist Design		5	2			<b>7</b>
H9: Help Users with Errors		1				<b>1</b>
H10: Help & Documentation			1	2		<b>3</b>



H11: Accessible		5		1		<b>6</b>
H12: Value Alignment & Inclusion			1		1	<b>2</b>
<b>Total Violations by Severity</b>	2	25	22	11	5	65

**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 (in %)

Severity / Evaluator	Evaluator A [your name]	Evaluator B [your name]	Evaluator C [your name]	Evaluator D [your name]
Sev. 0 Ex: Eval A count / total sevs 0 in table #3	0	50	0	50
Sev. 1 Ex: Eval A count / total sevs 1 in table #3	32	16	36	32
Sev. 2 Ex: Eval A count / total sevs 2 in table #3	54.54545455	18.18181818	36.36363636	36.36363636
Sev. 3 Ex: Eval A count / total sevs 3 in table #3	18.18181818	27.27272727	63.63636364	45.45454545
Sev. 4 Ex: Eval A count / total sevs 4 in table #3	40	40	80	20
<b>Total (sevs. 3 &amp; 4)</b> Ex: Eval A = sum(sev 3: sev 4 counts) / sum(sev 3: sev 4 in table #3)	25	31.25	68.75	37.5
<b>Total (all severity levels)</b> Ex: Eval A total sev count / total sevs (green cell) in table #3	36.92307692	21.53846154	43.07692308	35.38461538

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

#### 5. Summary Recommendations

The design was clean and the app promotes collaboration with other students well, with the options of chatting, audio, and visuals. However, the lack of consistency was the biggest trend throughout the tasks, with buttons working on some pages but not others and naming and colors not being the same throughout all portions of the app. Another trend was that some aspects of the design were more complex than needed, such as having an excess amount of

buttons or notifications sent, and repeating information. One other thing that we would probably note is that on the technical side, the task flows were not consistent; more specifically, to complete each task you had to have just completed the previous task. It took one of the evaluators 30 minutes, without exaggeration, to find the complex task because of the fact the user had to have just finished the moderate task to access it. And even with that, they had to ask one of their teammates who had the same project to help them find it. Thus, our biggest recommendations would be to 1) revise the audio buttons to be simple and with clear descriptions, 2) ensure that information is not duplicated multiple times in the same screen, 3) allowing actions to be undone such as editing a question or sending a picture, 4) check that the design is consistent through all the pages, both in terms of terminology used and having the navigation bar accessible from every page, and 5) testing your tasks as an individual assignment, where the user has to do the task from the start page.

In terms of recommendations that do not fit violations, I would consider how the student and teacher/TA view will differ for the app. Given that some CS classes may not want students to be able to take and send pictures of their code for honor code violations, allowing teachers to disable certain features like the camera and instead enable alternatives like a whiteboard would be great. In addition, allowing the option to video chat in addition to purely receiving help through audio would promote collaboration and interconnectedness. I would also recommend taking time into thinking about how you will implement some of the “magic” features such as recommending similar questions, as when creating my own question I noticed that the second suggested similar question was not very similar and should not have been shown. Finally, given that a big motive for the app’s creation was to prevent TAs from having to repeat the same answer to several students, if a student joins a question after the TA has already visited the huddle and answered the question through audio, they would then have to create the same question again in the queue resulting in a cycle of the same questions being asked at different time. Thus, I recommend thinking about ways to capture the previous answers, especially if they are conveyed purely through audio and not the chat, such as recording the huddle when the TA arrives and having it accessible to students in the future.

### ***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.

### **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: Value Alignment and Inclusion**

- The design should encode values that users can understand and relate to.
- It should make a diverse group of users feel included and respected.
- The design should prevent the reproduction of pre-existing inequities and not create additional burdens for members of disadvantaged populations.