

Heuristic Evaluation of Flashback

1. Problem/Prototype

We evaluated the med-fi prototype for Flashback, an app that allows users to spontaneously respond to, send and review prompts and memories of events through images, audio, and text.

2. Violations Found

1. H2-4 Consistency & Standards / Severity 3 / Found by: A, B, C

The interface used the string “Save” on the first screen for saving the user’s profile, but used the string “Update” on the second screen. Users may be confused by this different terminology for the same function.

Fix: Use the same string on each screen.

1. H1 Visibility of System Status /sev: 2/ (Task 1, photo/video)/ Found by: A, B, C

On screen 2 with the snapchat-like photo and countdown, the user can’t tell if the photo will be taken instantly or not after the countdown runs out. If the timer runs out, there is no warning or signal when the photo is taken after that time period. So the user is unsure when a picture of them has and will be taken.

Fix: a flash to indicate that a photo is being taken or a warning/alert that the photo is being taken after the timer runs out.

2. H1 Visibility of System Status /sev: 2/ (Task 1, photo/video) Found by: A, C

On screen 3 with the snapchat-like photo, there is no arrow forward or back to indicate the ability to send the photo in right after you have taken it. It is just a photo with no buttons other than what I assume to be the “editables”. It’s a bit unclear how to proceed from here. Although these do pop-in later, from the prototype there is no feedback, and a user using it might be unsure of what’s happening since buttons just disappear with no clear instruction.

Fix: a small button that says next or an arrow forward to indicate that the photo is done being taken and the user can move on to the next screen or send it.

3. H1 Visibility of System Status [sev: 2] (Task 1, photo/video) Found by: A

On screen 2 with the snapchat-like photo and countdown, there is no way to tell if and when a photo or a video is being taken. I assume it works like snapchat but am not sure as the prototype doesn’t display this. A user not knowing when something is recording could be problematic.

Fix: Adding a snapchat-like button thing that turns red when you are recording

4. H1 Visibility of System Status [sev: 2] (Task 1, photo/video) Found: A, B, C

On screen 11, after sending in the photo, there is no feedback on whether the photo or video has been sent, it just goes straight back to the same home screen without any message. Extra validation could be helpful for the user.

Fix: After the video or photo is sent, add a short message at the top of the homepage that message has been sent to alert the user that their photo or video went through.

5. H1 Visibility of System Status [sev: 3] (All Tasks) Found by: A

On the home screen, after sending the photo or video, it is unclear whether the task is finished or not since the prompt card remains the same despite finishing the task. Did it register? Am I done? This is unclear because the state of the card has not changed despite the user taking actions.

Fix: Indicate that a task has been fulfilled by removing or darkening the card after a message has been sent.

6. H1 Visibility of System Status [sev: 2] (Task 1, audio) Found by A, B

It's unclear on screen 20 with the audio recording when to know that it has started recording, is recording, or if the user can record in the first place given the countdown.

Fix: Highlight the brown button when a user is recording, or add a separate record button.

Note: Timers were a source of confusion for all of us

7. H1: Visibility of System Status (Sev: 1) Found by B

On the "your flash has been saved" screen, users might be unclear about what to do next. I see that the "next arrow" is highlighted, but the whole screen is overlaid with a slight white and even the arrow, so it might not be as intuitive to users that this is a new functionality being prompted.

Fix: Make the arrow more apparent

8. H2 Match b/w System & World [sev: 4] Found by A, B, C

On the home screen, the swipe interface for Send and Review is a little bit confusing. I personally didn't discover these features until really late because of the interface. I think the circles intuitively signal that a tap is the way to go when in reality it is a swipe.

Fix: trying a clickable Send and Receive instead of a swipe, or explaining for first time users that it is a swipe rather than a tap.

Note: Some of us had to alternatively access the screens because we couldn't figure out how to navigate between each screen.

9. H2 Match b/w System & World [sev: 2] (Task 2) Found by A

On screen 15 and 16, how to set the response time limit is a bit confusing as it seems to be done with a click? Usually when setting a timer in real life, there is a scroll or dial like in a clock which makes it easy and intuitive to change the time(r).

Fix: Adding a little up-down button or a scroll feature to be able to change the response time limit so that the interface is more intuitive.

10. H2 Match b/w System & World [sev: 2] (All Tasks) Found by A, B, C

The 'Groups' heading on the homepage is close by the actual groups, but not actually associated with them by color or background, making the link between them a bit harder to establish for the user.

Fix: Change the color or background of the Groups text so we know that it is associated with the subsequent groups at the bottom. (or delete the word)

11. H2 Match b/w System & World [sev: 3] (All Tasks) Found by: A, B, C

On the home page, to go to Send it is swipe right, but review is swipe left which is not super intuitive.

Fix: Make both of them swipe left, or swipe right for ease of use.

12. H2: Match b/w System & World (Sev 4) (Found by: B)

What's the difference between "respond" and "send"? The two terms are very similar to each other in the sense you can "send" flashes and "respond" to prompts, but then you can also "reply" to specific prompts. Are both "reply" and "send" just for sending flashes? Or are we sending prompts? Personally, I'm a bit lost on what does what.

Fix: Have more clear terminologies (the word "create" instead of "send," etc)

13. H2: Match b/w System & World (Sev 3) (Found by: B)

I thought the flashes were the prompts that appeared on the landing screen, but then I got confused when I went through the reply process, it said to "successfully save the flash."

Fix: Make what is a "prompt" and what is a "flash" more apparent since "flash" is a new terminology to users.

14. H3 User Control & Freedom [sev: 2] (Task 1, photo/video) Found by: A, B

There's no way of going back once a snap is taken on screen 3. One cannot go back to a previous screen and take a picture; they can only click and proceed, even if the picture is taken in within the time limit. It seems there is only one photo able to be taken without redos, limiting user capabilities.

Fix: Adding an exit button to retake a photo within the time limit.

15. H3 User Control & Freedom [sev: 4] (Task 4) Found by: A, B

Users can't add or remove groups as a feature. They are just there.

Fix: Add a remove and add groups feature on tap or as a separate icon so that the user can pick which groups to join and remove themselves from for a sense of control in the app.

16. H3 User Control & Freedom [sev: 4] (Task 2) Found by: A, B

One can't go back on the send screen once on it; you have to send the prompt. Users might not want to do this, and may have to exit the app to be able to do so, which is inconvenient.

Fix: Introduce a back button on the send screen to allow them to go back and edit the prompt rather than have to move forward with it or go to another feature (ex respond, review) first.

17. H3 User Control & Freedom [sev: 4] (Task 2) Found by: A

Similar to above, once a user has changed the response time limit, they can't go back and change the prompt; they can only send the prompt, which is not even displayed, forward.

Fix: add a back button to the response time limit page

18. H3 User Control & Freedom [sev: 2] (Task 3) Found by: A, B, C

Users can't see/hear the audio/text from the review page; they can only see the photo, and then after clicking it see the audio/text. What if all that day there was only audio/text responses. How would users be able to see their memories then?

Fix: Add a space in the memories screen for audio/text to be shown so that users can easily access it, or putting a number so you know how many flashes were taken

19. H4 Consistency & Standards [sev: 1] (Task 1, All Tasks) Found by: A, B

On screen 11 with the 'Your Flash has been saved!' on the screen, the arrow changes once the picture is saved, changing both shape and color, going from arched and outline to then be filled and straight.

Fix: change just the color of the arrow or maintain the same design

20. H4 Consistency & Standards [sev: 2] (Task 1) Found by: A, B

Pressing on the download or curved arrow button on screen 5 both send the user to the same screen. This is redundant and confusing for the user because two different buttons do the exact same thing.

Fix: Change the function of one of the buttons to be something different or delete one of them.

21. H4 Consistency & Standards [sev: 1] (All Tasks) Found by: A

On the homepage, the prompt in the middle is in a smaller font than the left and right cards, and on the leftmost card, the countdown time is slightly elevated in relation to the other two.

Fix: For the fonts, it may get smaller as the words get more in the space, but the buttons should be at the same level for consistency.

22. H4 Consistency & Standards [sev: 3] (All Tasks) Found by: A, B, C

At the top of the home screen, there is a swipe interface with the tabs and the circles behind them. At the bottom however, there is a tap interface, which is different. This confused me a lot at first and I almost missed the functionality at the top due to this inconsistency. This could be confusing to users as two nearly-identical interfaces have two different forms of navigation.

Fix: Choose either a swipe interface or a tap interface for both the bottom and top tabs on the Home page.

23. H4 Consistency & Standards [sev: 1] (Task 1, audio) Found by: A

The audio button (for what I presume is the recording feature) is a brown, which is a slight bit out of line with the already established colors. You have a beautiful color scheme going on by the way!

Fix: Changing the audio color button to a pastel, or red because even though it is out of the spectrum it is associated more with recordings rather than a rather random shade of brown.

24. H4 Consistency & Standards [sev: 1] (Task 4) Found by: A, B

When navigating to the Fam groups, the CS147 group is still bolded despite the fact I am no longer on it on screen 22.

Fix: Don't bold the CS147 on screen 22.

25. H4 Consistency & Standards [sev: 1] (Task 3) Found by: A

Most of the app is a card interface. On the review screen, however, it switches to a scrollview of the different elements kind of stacked up against each other.

Fix: For consistency and aesthetics, making the different elements on the review and memory screen also cards would be consistent and make the individual elements—audio, video, text, pictures— from the event easier to see.

26. H4: Consistency & Standards (Sev 2) (Found by: B)

When pressing next after recording, the time icon changes from 3 seconds to 0 seconds. What is this time for? This timer is unclear on what it's representing. Is it the time of the recording, the time limit you get, etc.

Fix: Clearer labels on what this button is representing

27. H4: Consistency & Standards (Sev 3) (Found by: B)

There's a time icon in the written response section too. This is inconsistent because shouldn't only time have a timer of some sort? This implies that the user has a time constraint of some sort to write (on top of the character/word count constraint. (Unless you do)

Fix: Remove it or indicate the functionality of the time icon

28. H5 Error Prevention [sev: 3] (Task 1, photo/video) Found by: A, B, C

There's no way of undoing a photo once a snap is taken on screen 3. What if a user takes an unflattering picture or of something private by mistake? What if it is within the time limit. What if it is not?

Fix: Adding an exit button or perhaps a quick redo button in the case that a photo isn't appropriate? This is a bit of a delicate balance because the goal is spontaneity, but one downside is that there may be something regretful in the moment and there's no way to reverse that.

29. H5: Error Prevention (Sev 3) (Found by: B)

There isn't a review option after you draft something up (photo, recording, text) so the users don't get a chance to make sure that they are sending it okay.

Fix: Just a general review prompt to make sure the photo, recording, text you're sending is okay. Like, have a "review" button before you continue.

30. H6: Recognition not Recall [sev: 3] (Task 1, photo/video) Found by: A, B

On the snapchat like screen, one has to recall the prompt since it is not displayed while recording or taking a picture.

Fix: add the prompt to the recording screen during the countdown so that the user doesn't have to remember it.

31. H6: Recognition not Recall [sev: 2] (Task 2) Found by: A

When changing the response limit time, the prompt disappears. Depending on the prompt, users may want to change the time accordingly, but they are forced to recall what the prompt is since it is not displayed.

Fix: Keep the prompt on the screen and have a small scroll that allows the user to change the response time without anything else changing and without the prompt disappearing.

32. H6: Recognition not Recall (Sev 3) (Found by: B)

After selecting a prompt to respond to, the user might forget which group the person receiving the reply is in. The receiver might be overlapping groups and users might allocate different groups to different uses. I also notice in the record and prompt replies, the groups disappear from the bottom bar.

Fix: Add which group the receiver is in after choosing one of the reply options or keep the bottom bar and allow users to see which group they're currently occupying.

33. H7: Flexibility & Efficiency of Use [sev: 2] (Task 1, photo/video) Found by: A, B

On screen 2 with the snapchat picture looking feature and countdown, there is a mysterious filled in white button to the left of the white circle and it is unclear what that does. On a more general note, how does one know what each button does? Are they supposed to discover that?

Fix: creating an info button for first time users that explains what each button on the snapchat like page does.

34. H7: Flexibility & Efficiency of Use [sev: 2] (Task 4) Found by: A, B, C

On the home screen, one cannot see the whole word review. In general, one can only see fully two of the three words completely. Even though it's relatively clear what each word is, it may be a little bit difficult for first time users and just in general as a design thing to have one word always being partially seen without being able to ever see it completely. Review could be review messages or simply review.

Fix: allow all three tabs at the top to be seen on the same screen at the same time or add a scroll so that they can be seen completely.

35. H7: Flexibility & Efficiency of Use [sev: 2] (All Tasks) Found by: A

On the home screen, it's a little bit unclear whether Reply is a button itself, a clickable component that one can independently press.

Fix: Add reply with... to indicate that the options below are the actionable replies.

36. H7: Flexibility & Efficiency of Use (Sev 2) (Found by: B)

After submitting a response to a prompt, if the user wants to send another response to the same prompt, they'll have to go over the whole process again.

Fix: have a prompt at the end that allows the users to either send another of the same response, another type (photo, recording, etc).

37. H8: Aesthetic & Minimalist Design [sev: 1] (Task 1, audio) Found by: A

The margins for the audio squiggles on screen 20 are uneven as it strays of to the right and off the screen.

Fix: Make it so that the margins are even and the audio squiggles are either in the center or extend through the whole page on both sides.

38. H8: Aesthetic & Minimalist Design [sev: 1] (All tasks) Found by: A

The settings sign on the homepage is uncomfortably too much to the left, potentially distracting users a wee bit because it is not as much off to the side as expected or per is usual.

Fix: Move the settings sign slightly more to the right so it is more on the end and an afterthought.

39. H8: Aesthetic & Minimalist Design [sev: 3] (Task 3) Found by: A

The fonts on the review page (screen 18) are extremely small, difficult to read, and hard to see because of the contrast between it and the photo in the background. I have a difficult time reading what the prompts were, and the timer over the audio is almost impossible to read.

Fix: make the fonts from the prompts much bigger or expandable on click so that they can be readable. Consider making them solid instead of transparent as to increase contrast.

40. H8: Aesthetic & Minimalist Design [sev: 1] (Task 3) Found by: A

There's a huge chunk of gray on screen 18, the review screen, for the audio which is a bit inconsistent with the app themes.

Fix: Make the gray the baby or dark blue or yellow that has been used before to ensure consistency.

41. H8: Aesthetic & Minimalist Design (Sev 2) (Found by: B)

The huge timer in the corner of the photo isn't in a super-efficient location. The box is a bit on the larger side. This goes for the icons on this page, there are some round shapes, boxier shapes, etc.

Fix: Making these icons more cohesive and move the timer to a better location or changing the size/shape to make them more aesthetic. (Same with the arrow and save in the photo reply)

42. H8: Aesthetic & Minimalist Design (Sev 2) (Found by: B)

In the recording option, the recording function could be made to make it more cohesive with the rest of the app. There's no discrete record button/ prompt that tells me what to do at this step.

Fix: Having a round, record button instead of the zigzag lines. Also, a microphone you used at the beginning would be great here too

43. H8: Aesthetic & Minimalist Design (Sev 1) (Found by: B)

I remember Professor Landay said something about blue text and how we should avoid that. Some sizing of the word like "Recording saved" is a bit small.

Fix: The blue text thing is relatively new and checking font sizes to make sure they are big enough

44. H8: Aesthetic & Minimalist Design (Sev 1) (Found by: B)

There are some spacing issues with texts (like respond and groups on the landing page are not vertically aligned) and it makes it not as cohesive. The "groups" word also sits on top of the yellow box and in the white spaces of the prompt area.

Fix: Touch-ups with alignment and fix the placement of words

45. H8: Aesthetic & Minimalist Design (Sev 1) (Found by: B)

For the bottom group bar, I didn't notice I could keep swiping.

Fix: Maybe have the next group peek out a bit to signify to users that we can keep scrolling.

46. H9: Help Users with Errors (Task 1, 2) / sev 4 / Found by: A

If a user makes a mistake with sending something, how can they unsend or undo or fix it? Or maybe there isn't a way? After taking a picture or recording an audio, users may want to know how to fix potential mistakes or if they can't just for the sake of clarity and privacy.

Fix: Adding an explanation of how they can undo a mistake if they can; adding an alert that they are doing something undoable if there isn't a way to erase a mistake. Making the relationship between user and errors clear would be helpful.

47. H10. Help and documentation (All Tasks) / sev 2 / Found by: A, B, C

I don't know what exactly is in settings, but knowing what each of the icons mean is not apparent from the start.

Fix: Documenting those somewhere with an info sign or in the settings or with FAQs. This for the features as well would be helpful because some of them are a bit difficult to discover.

48. H8 Aesthetic and minimalist design / sev 1 / Found by C

Noticed throughout the interface there were issues with handling the iphone notch correctly (for example the timer button on the camera screen is slightly cut off by the notch as well as the top of the flashback card).

Fix: design around the iphone notch/other weird phone screen sizes accordingly

49. H8 Aesthetic and minimalist design / sev 1 / Found by C

The top header seems unnecessarily tall by having the settings icon and the tabs on 2 separate rows. Because of the way "Review" is slightly cut off at the end of the screen, it's also unclear whether there are more options available other than "respond," "send," "review."

Fix: center "respond" "send" "review" if they are the only options and put the settings icon on the same row (either to the left or right of the text group)

50. H4 Consistency and standards / sev 3 / Found by C

Responding to a friend's prompt using text ends with a "your flash has been sent to CS 147" message whereas responding via camera and voice doesn't end with any message. This is really confusing for the user since there is different behavior for the same action (responding to friend's prompt), which just presented in different ways (text, camera, voice).

Fix: either have all modes for responding to a friend's prompt (text, camera, voice) send a message at the end of the action or have all modes not send anything

51. H4 Consistency and standards / sev 4 / Found by C

Responding to Jo's prompt using text ends with a "your flash has been sent to CS 147." This is confusing for the user since they responded to Jo's prompt, however the confirmation is for the CS 147 group. Not clear when you respond to a friend's prompt, do you respond only to the friend or to all people in the group?

Fix: change confirmation message to refer to the correct owner of the prompt the user responded to

52. H6 Recognition not recall / sev 3 / Found by C

On screen 14 of the prototype, in the “send me what y’all are doing rn” screen it’s unclear whether the response time limit is referring to how long people have to respond to the prompt or how long people’s responses can be.

Fix: make indicator text above the number more descriptive (something like “people must respond within:” or “how long people’s responses can be”)

53. H6 Recognition not recall / sev 1 / Found by C

When reviewing flashes, it’s not clear what the text on the pictures/voice recording is. I’m guessing it’s the prompt? It’s not obvious since the color scheme of the prompt on the review page (yellow) is different from the color scheme on the respond and send pages (blue).

Fix: make prompt color scheme universal throughout the entire app

54. H7 Flexibility and efficiency of use / sev 2 / Found by C

In the respond tab, there is no way to sort prompts. Users may want to sort prompts based on who is asking them, when they were created, based on response time, etc.

Fix: add ability for users to sort prompts

55. H4 Consistency and standards / sev 3 / Found by C

Screen 20 - 22: after sharing a text flash, user must click share button again to exit back to the main screen. This can be confusing for some users since most probably expect the share button to share stuff, not exit. Also in general, using the same button twice for different functionality is just not good UX.

Fix: change the share button to something else once the user has already shared the flash and is ready to exit back to the main screen

[...list violations here with a blank line between each -- number from 1 to n, where n is total # of violations]

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	1	5	1	0	7
H2: Match Sys & World	0	0	2	2	2	6
H3: User Control	0	0	2	0	2	4
H4: Consistency	0	5	2	4	1	12
H5: Error Prevention	0	0	0	2	0	2
H6: Recognition not Recall	0	1	1	3	0	5
H7: Efficiency of Use	0	0	5	0	0	5
H8: Minimalist Design	0	8	2	1	0	11
H9: Help Users with Errors	0	0	0	0	1	1
H10: Documentation	0	0	2	0	0	2

Total Violations by Severity	0	15	21	13	6	55
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	Evaluator E
sev. 0	100%	100%	100%		
sev. 1	53%	40%	20%		
sev. 2	71%	67%	38%		
sev. 3	46%	62%	38%		
sev. 4	83%	67%	33%		
total (sev. 3 & 4)	58%	63%	37%		
total (all severity levels)	62%	58%	33%		

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

5. Summary Recommendations

We thought this was an interesting concept, however the prototype definitely has a lot of areas that can be improved. First, the tap and swipe functionality of the top tab was not intuitive at all. We couldn't figure it out until the very end or didn't at all. We sometimes had to guess screen transitions and navigate the prototype by going through arrow keys. This is a serious issue, as it deals with discovering key features of the app.

In general, we saw a trend in violations around consistency and user-friendliness. The largest three heuristic violations are User Control/Freedom, Consistency, and Recognition. There are small details such as inconsistent color choices, placement misalignments, or a lack of ways to undo actions that distract from a fluid user experience. While we think the overall layout and color scheme of the app looks nice, attention to those details would bring it to the next level.

In particular, there are some subtle, but major things regarding consistency that make the app a little bit more difficult to navigate. For example, the swiping interface at the top but the tapping interface at the bottom with nearly identical looking interfaces can be a cause of confusion. Having both swiping right and swiping left on the above tab can also be a bit confusing. One other major thing is the ability to go back and undo items. We think having a delicate balance between spontaneity and users being able to go back and undo actions/mistakes is an important feature to have.

On another, more minor, note, some of the buttons aren't as consistent, namely the arrows. Some are blue and filled, some are yellow and filled, some are yellow and outlined and it is unclear which is which. Another huge thing is the inability to create and remove groups because that takes away user autonomy. It's a solid app, and a casual yet fun way to keep track of memories and events, with a pleasant-to-the-eye color palette and minimalistic yet elegant features. The swiping features are convenient, but we would watch to make sure they aren't

overdone. A specific recommendation is to change the top bar to just clicking and on one screen since your group only has three tabs.

It would be super useful to clarify the terminologies and label things so users have a better understanding of the app when using it. The terms like “send,” “respond,” “reply” all have very similar meanings and differentiating between them would be super helpful for users.

Additionally, there’s a lot of information missing from the app - such as profile, friends list, seeing who is in groups, etc. While these features are not the core functionality of the app, these are standard features that most users have seen before on similar social media platforms and probably expect to see here too. It would be nice if you found a way to incorporate this missing information into your app. Otherwise great work! Thanks for allowing us to evaluate your app! :)

Severity Ratings

- 0 - don’t agree that this is 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

H5: Error Prevention

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, kb shortcuts)
- Allow users to tailor frequent actions (e.g., macros)

H8: Aesthetic & Minimalist Design

- No irrelevant information in dialogues

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