Heuristic Evaluation of Fitbud

For a more in-depth overview of A9, please refer to the A9 assignment spec.

1. Problem/Prototype Description

[Insert one sentence description of the project idea and UI you are evaluating.]

2. Violations Found

- 1. H1: Visibility of System Status / Severity: 2 / Found by: A, B
 - o Task: 3
 - Description: It is unclear which workouts in your "Upcoming Workouts" list are with yourself, or with a friend.
 - Rationale: With prompts to schedule with a friend above, a user will want to know if they already have workouts scheduled with friends or not.
 - Fix: Have a visual indicator for which workouts are done with Buddy, and which workouts are with other people.
- 2. H1: Visibility of System Status / Severity: 2 / Found by: A, B
 - o Where: Profile, Task 1
 - Problem Description: Lack of notification system for when workout requests are received
 - Rationale: Because there's no visual indication or notification of received workout requests, in order to check for requests, users have to consistently visit their profile tab.
 - Suggested Fix: Add a notification bubble, something like a red dot with the number of requests in the corner of the profile
- 3. H1: Visibility of System Status / Severity: 4 / Found by: A, B
 - o Task: 2
 - Description: No clear indication for how to change the status of Buddy's healthmentioned on the homescreen, but not mentioned at the end of a workout or anything similar.
 - Rationale: Buddy's health status, placed as an important read in the homescreen, should also have actions users can attach to it so they know how their workouts/actions around the app contribute to Buddy's health.
 - Fix: Have a description of what to do in order to increase Buddy's health- either through Buddy or through the UI. Add in how much a user has changed Buddy's health after a workout/using the app. d
- 4. H1: Visibility of System Status / Severity: 3 / Found by: A
 - o Task: 1

- Description: No clear feedback on how my calendar has synced/how my workout calendar has changed after I have synced it- are these tasks aligned with my calendar?
- Rationale: User is unsure if the workout calendar has changed, and now has to check their real calendar to see if these workout times align with their cal.
- Fix: Adding in a "calendar synced!" notification, or visibly refreshing the workouts list so users know it has been updated.
- 5. H1: Visibility of System Status / Severity: 3 / Found by: A
 - o Task: 2
 - Description: Uncertainty of where to move on from the home screen- especially from onboarding. Home screen is largely dominated by Buddy, who does not mention anything related to fitness upon being pressed.
 - Rationale: A user should be prompted on where the best place for them to head to is, especially after onboarding.
 - Fix: Adding a prompt to the homescreen by Buddy showing you what your first steps (welcoming you and looking at your workout plan) should be.
- 6. H1: Visibility of System Status / Severity: 2 / Found by: A
 - o Task: 3
 - Description: It is unclear which workouts in your "Upcoming Workouts" list are with yourself, or with a friend.
 - Rationale: With prompts to schedule with a friend above, a user will want to know if they already have workouts scheduled with friends or not.
 - Fix: Have a visual indicator for which workouts are done with Buddy, and which workouts are with other people.
- 7. H2: Match b/w System & World / Severity: 2 / Found by: A
 - o Task: 1
 - Description: Editing the workout leads to suggestions for workouts that only hold workout names.
 - Rationale: Workout names may not be familiar to people that do not work out very often/are not familiar with exercise terminology.
 - Fix: Add in visuals, what the workout does for you, and/or descriptions to each workout name.
- 8. H2: Match Between System and Real World / Severity: 2 / Found by: B
 - Where: Today's workout, Task 2
 - Problem Description: App workout setup doesn't reflect real-world workout characteristics
 - Rationale: Blocking rest time into the workout while still providing options to pause especially for people new to fitness would be beneficial. It would also prevent people from spreading out the workout over too long a period of time
 - Suggested Fix: Block in rest time, or give written indication / instructions of what to do between workouts

- 9. H2: Match Between System and Real World / Severity: 1 / Found by: B
 - Where: Today's workout, Task 2
 - Problem Description: The "Edit Workout" button is a darker blue than the "Today's Workout" header
 - Rationale: Being a darker blue draws attention towards it, so my eye automatically went to the edit button. Intuitively, the hierarchy should start at the header.
 - Suggested Fix: Swap the two colors, keeping the orange accent color for the "Get Started!" button
- 10. H2: Match Between System and Real World / Severity: 1 / Found by: B
 - Where: Today's workout, Task 2
 - o Problem Description: Quit button seems unnecessary
 - Rationale: Pause button feels sufficient. Even if someone "quits" a workout, deleting
 their progress on the workout seems a little mean. I understand that there's a use case
 in which a user may want to restart a workout, but in that case instead of "quit" you
 can use different language like "restart."
 - Suggested Fix: Change "quit" button to "restart"
- 11. H3: User Control & Freedom / Severity: 2 / Found by: A, B
 - o Task: 2
 - Description: No back button in onboarding, between asking for name + onboarding questions.
 - Rationale: Users may want to go back to refer to what they wrote down, in cases of accidents.
 - Fix: Putting a back button between these screens.
- 12. H3: User Control & Freedom / Severity: 3 / Found by: A
 - o Task: 2
 - Description: Have an ability to undo calendar syncs/remove user data.
 - Rationale: Fits the value alignment of the application.
 - Fix: Add in a settings button that allows users to remove their calendar/any other form of user data from the application.
- 13. H4: Consistency and Standards / Severity: 1 / Found by: B
 - o Where: Home Screen
 - Problem Description: My buddy doesn't have a name on the home screen, even though
 I just named them Buddy
 - Rationale: It seems a bit impersonal that even though the panda bear on the Home Screen has a name (Buddy), it isn't shown anywhere, especially since the point of naming the buddy is to develop an attachment to it and encourage exercise
 - Suggested Fix: Add the name somewhere
- 14. H4: Consistency and Standards / Severity: 1 / Found by: B
 - Where: Edit Workout Page, Task 2
 - o Problem Description: Editing options are not worded consistently

- Rationale: When editing the workout, the options to edit are not worded consistently,
 i.e. "add exercise" vs "remove", which detracts from overall cohesiveness and aesthetic
- Suggested Fix: Change one to match the other, I think removing "exercise" after "add" is good
- 15. H4: Consistency & Standards / Severity: 1 / Found by: A, B
 - o Task: 1
 - Description: "Get started" button on your first onboarding screen may not be intuitive for returning users to your app.
 - Rationale: The wording of "Get Started" is often only used if you do not already have an account. Returning users may be confused by this wording. The "Get Started" button just leads to the option to Sign Up or Login which can be on the Home screen from the beginning, so it constitutes unnecessary dialogue.
 - Fix: Reword get started, or add another button for users to go directly to the login page from.
- 16. H4: Consistency & Standards / Severity: 1 / Found by: A
 - o Task: 1
 - Description: "Leave Editor Mode" wording is not consistent with "Edit Workout"
 - Rationale: Users may be confused on what they are leaving the editor mode of, or when they entered the editor mode of anything in the first place, as that wording has not been used before.
 - Fix: "Save Workout Edits" may work better in this case.
- 17. H4: Consistency & Standards / Severity: 2 / Found by: A, B
 - o Task: 1
 - Description: Coloring for your workout edits are often not consistent- orange is used for "get started", but it is also used for tasks that "negate" things, like "remove" or "cancel". Meanwhile, "leave editor mode"- a task that implies it is in the "cancel" realm, is in blue. Your "back" buttons on various screens are also in blue.
 - Rationale: A user, when learning a system, may look for colors as a quick indicator for what to press. Since orange/red colors are used so often for "cancel"-esque tasks, a user may be surprised when what they instinctively want to press does not align with what the action is.
 - Fix: Reword items like "leave editor mode", or change coloring of tasks such as get started so they are more consistent with what you want users to click.
- 18. H4: Consistency & Standards / Severity: 1 / Found by: A, B
 - o Task: 2
 - Description: "Set up your buddy" leads to filling out additional information about yourself- setting up your buddy comes two screens later.
 - Rationale: Logical flow of onboarding screens is interrupted- users may be confused on the differences between the screens before and after setting up their buddy, when they still ask for their own personal information.

- Fix: Rewording the button, reorganizing your screens so the screen shows later, or rewording your questions on personal info so setting up your buddy and adding in your information are more correlated to each other. (Ex: "What should your buddy call you?")
- 19. H4: Consistency & Standards / Severity: 1 / Found by: A
 - Task: 3
 - Description: It is unclear what I am changing when editing "Workout Environment"
 - Rationale: While a user may recall that they were asked where they work out initially, this wording is not consistent with that onboarding question. Similarly, the wording of this setting is not immediately intuitive.
 - Fix: Rewording "Workout Environment" or making it a sub-setting of sorts, where a description can be added.
- 20. H4: Consistency & Standards / Severity: 2 / Found by: A
 - o Task: 3
 - Description: "Send workout request" in your profile and "Schedule with a friend" on your workouts tab are inconsistent.
 - Rationale: A user may not realize that these lead to the same screen, as these imply different actions. "Send workout request" also sounds more one-sided than "schedule with a friend"
 - Fix: Reword screens so they share the same wording.
- 21. H5: Error Prevention / Severity: 2 / Found by: B
 - Where: Creating FitBuddy, Task 1
 - Problem Description: No disclaimer when making FitBuddy that this selection is permanent / no customization later
 - Rationale: Users who make this selection on a whim when creating an account (esp. to rush through the onboarding process) with the hopes of changing it later are never informed that the decision is permanent, which may generated frustration or force users to create new accounts if they want to make changes
 - Suggested Fix: Add a disclaimer that this is a permanent choice, or otherwise add the option to retroactively customize FitBud design
- 22. H5: Error Prevention / Severity: 2 / Found by: B
 - Where: Creating Account, Task 1
 - Problem Description: No indication that questionnaire responses aren't binding / can be changed later in settings
 - Rationale: Because the onboarding process is already quite extensive, users may feel
 extra pressure on the questionnaire if they think their answers are final, further
 delaying the registration process. Clarifying that info can be changed later also gives
 users the options to skip through the process a lot faster
 - Suggested Fix: Give a disclaimer that info can be changed later and/or an option to complete onboarding questionnaire later

23. H5: Error Prevention / Severity: 2 / Found by: A, B

- Where: Scheduling workouts, Task 2
- Problem Description: No confirmation before canceling scheduled workouts with others (especially without consent of the other party)
- Rationale: Because there is no confirmation before canceling a workout with a friend, it's easy to do on accident, which results in having to send another request.
 Furthermore, it encourages flakiness by not holding users accountable or asking them to rethink their cancelation
- Suggested Fix: Add a confirmation screen before cancellation goes through. Also, think through how canceling a workout will bring the other party into the discussion

24. H5: Error Prevention / Severity: 2 / Found by: A

- o Task: 2
- Description: In the "How long do you want to exercise?" and "Injuries" onboarding questions, users can select more than one option despite the app telling them they should only select one.
- Rationale: It would be best for a system to prevent user errors best they can, before a user can commit a user error
- Fix: Add in functionality for users to only select one option out of these options.

25. H6: Recognition not Recall / Severity: 2 / Found by: A

- o Task: 3
- Description: I have to send a workout request/schedule with a friend in order to access my friends, as well as functionality for adding new friends.
- Rationale: Adding friends- a function often done under pressure when you are next to a friend- should be visible or easy to recognize and do without memorizing the process of sending a workout request first. These are two different functions.
- Fix: Create a friends tab, or have your friends accessible under your profile.

26. H6: Recognition not Recall / Severity: 2 / Found by: A

- o Task: 1
- o Description: There are no descriptions associated with the icons used for the navbar.
- Rationale: Icons may be hard to recall what they are correlated to or even make out, for low vision users.
- Fix: Add in short words for each navbar icon, such as "Home" or "Workouts"

27. H6: Recognition not Recall / Severity: 2 / Found by: A, B

- Task: 2
- Description: Indication for how to keep Buddy happy/healthy regarding their health bar is only indicated in the user profile in a message one must scroll to.
- Rationale: Placement of the message does not align with where a user would expert a
 message from Buddy would be- similarly, it is the only indication in the app that
 addresses how to keep Buddy's health up. Message is also unintuitively placed and
 could be easily ignored.

- Fix: Rewording the message to emphasize the health bar more and moving it to the home screen so users can correlate Buddy's words with how they can be motivated to keep Buddy healthy.
- 28. H6: Recognition not Recall / Severity: 2 / Found by: A
 - o Task: 3
 - Description: I have to have no pending workout requests in order to send a new workout request.
 - Rationale: The option to send a workout request should be available to a user regardless of their current requests.
 - Fix: Ensure you can send a new workout request regardless of if you have one already scheduled.
- 29. H6: Recognition not Recall / Severity: 3 / Found by: A, B
 - o Task: 3
 - Description: There was no correlated notification when a user is sent a workout request in their profile page.
 - Rationale: A user will want to be alerted when another user requests a workout, so a request is not sent in vain.
 - Fix: Add a notification ping on the profile navbar, so users will be alerted to a new request without needing to remember to check their profile.
- 30. H6: Recognition Rather than Recall / Severity: 2 / Found by: B
 - Where: Past workouts, Settings, Scheduling with a friend (All Tasks)
 - o Problem Description: Back Button is only visible upon scrolldown
 - Rationale: Going back requires the extra step of scrolling down, which adds unnecessary work when navigating the app. Furthermore, since it's mostly concealed, users may not even be aware that the button is there
 - Suggested Fix: Move to the top left of screens
- 31. H7: Flexibility and Efficiency of Use / Severity: 2 / Found by: B
 - Where: Rescheduling workout with friend, Task 3
 - Problem Description: No option for rescheduling before accepting a workout request
 - Rationale: In the (quite common) situation that I want to accept someone's workout request but for a different time, I have to accept and then reschedule which requires an extra tap and a confirmation, especially when the workout may not actually end up being confirmed if schedules don't align
 - Suggested Fix: Have an option to reschedule and "send back" to the requestee
- 32. H8: Aesthetic and Minimalist Design / Severity: 1 / Found by: B
 - Where: Creating Account, Task 1
 - Problem Description: Line elements on Getting Started questionnaire are different weights
 - Rationale: I'm actually unsure if this is intentional to divide it into sections, or if it's a mistake. As of now, it looks like an error that disrupts general aesthetic consistency.

- Suggested Fix: If the intention is to divide into sections, I would get rid of intermediate thinner lines. Otherwise, just make them the same weight
- 33. H8: Aesthetic and Minimalist Design / Severity: 1 / Found by: B
 - Where: Creating Buddy, Task 1
 - o Problem Description: Text hierarchy is unclear
 - Rationale: The lack of distinction between the app name (FitBud) and the page name (Name your buddy) makes everything bleed together.
 - Suggested Fix: Use font weight, size and / or color to better differentiate hierarchy. I
 would highlight the "Name your buddy" in this case
- 34. H8: Aesthetic and Minimalist Design / Severity: 3 / Found by: B
 - Where: Past workouts, Task 2
 - o Problem Description: Very cluttered interface; would benefit from summarization
 - Rationale: Having a pressable for each past day seems unnecessary, especially since (in my eyes) there would be little reason to revisit specific days in isolation. Rather, I would want to see information of past workouts in the context of progress made.
 - Suggested Fix: Summarization of progress such as charts or graphs showing improvement (i.e. increasing sets, stamina, workout duration, etc.) especially metrics that align with the user's selected fitness goals
- 35. H8: Aesthetic and Minimalist Design / Severity: 1 / Found by: B
 - Where: General, All Tasks
 - o Problem Description: Color palette is very one-note
 - Rationale: Every element in the app is a shade of blue. There is a lack of contrasting colors to distinguish hierarchy or otherwise generate visual interest in the app
 - Suggested Fix: Pick a second color that can be used to balance out the blue. Orange was used when making an account, and could make more of an appearance throughout the rest of the app flows
- 36. H8: Aesthetic and Minimalist Design / Severity: 1 / Found by: B
 - Where: Today's workout, Task 2
 - Problem Description: Strikethrough on completed workout elements looks messy
 - Rationale: Strikethrough makes text difficult to read and creates more visual clutter on the screen, especially as more workouts get crossed off. However, since the colors remain the same, hierarchy is still the same, when uncompleted workouts should be prioritized
 - Suggested Fix: Use color and opacity to your advantage to indicate which workouts are completed already
- 37. H8: Aesthetic and Minimalist Design / Severity: 1 / Found by: B
 - Where: Home screen FitBuddy Dialogue
 - Problem Description: Lack of diverse dialogue lines
 - Rationale: FitBud only says one thing and keeps repeating it, which feels a bit impersonal, especially when the point is to be building an emotional connection to

this buddy to encourage consistent exercise. Also, it's just a fun element for users to add

- Suggested Fix: Add more cute and fun dialogue!
- 38. H8: Aesthetic and Minimalist Design / Severity: 1 / Found by: B
 - Where: Settings
 - o Problem Description: When selected, the setting button is distorted
 - Rationale: As the problem description states. Distortion of the button detracts from app aesthetic
 - o Suggested Fix: Make it aspect ratio 1, same dimensions as when unselected
- 39. H11: Accessible Design / Severity: 2 / Found by: B
 - Where: Creating Account, Task 1
 - o Problem Description: Fitness-related questionnaire question answers are too specific
 - Rationale: New users in particular are likely to have difficulty answering the
 questionnaire if they aren't familiar with durations of workouts they can handle, or
 have clear fitness goals in mind besides maintaining general surface-level wellness.
 - Suggested Fix: Broader range of answers that include "I Don't Know" or autofill options for people who don't know what to put
- 40. H11: Accessible Design / Severity: 1 / Found by: B
 - Where: FitBud's dialogue
 - Problem Description: Font color is small and light blue which lacks contrast with white background, especially during workouts when he provides encouragement since it's squished to the bottom of the screen
 - Rationale: Especially during the workouts, when the FitBud is squashed under the workout content, the dialogue is very small, and the font color makes it more difficult to read
 - Suggested Fix: Use darker shade of blue. Rethink the layout of the screen for the workouts and/or give the encouraging dialogue during the workout when FitBud takes up the whole screen
- 41. H11: Accessible Design / Severity: 2 / Found by: A
 - o Task: 1
 - Description: Upcoming workouts includes number-heavy dates that may be hard to keep in mind or form a visual picture of.
 - Rationale: For people that use screenreaders, these dates may be hard to organize, especially if there is no reminder of today's date in view.
 - Fix: Using relative terms such as "Next Friday" or "Tomorrow" may provide more indicators. Adding the current date into the view may also help.
- 42. H11: Accessible Design / Severity: 3 / Found by: A, B
 - Task: 1
 - Description: Key buttons like "Get Started" on the workout screen are the same size and hierarchy as "Edit Workout" and do not stand out.

- Rationale: Even though the main focus of the screen should be starting the workout, the button is the same size as Edit Workout. Even if it's a different color, hierarchy could be much better established. Buttons that form the central focus of a screen should be larger, hold more contrast, and have a larger text size so they are more distinguishable to low-vision users.
- Fix: Enlarge the "Get Started!" button and make that a primary read of the screen.

43. H11: Accessible Design / Severity: 3 / Found by: A

- o Task: 1
- Description: Visuals for workouts are small and can be unclear as to what they are envisioning.
- Rationale: Low-vision users may have difficulty understanding and interpreting these smaller icons. Users not familiar with workout names may also have a hard time connecting the icons with an action.
- Fix: Enlarge and look for more detailed, contrasted icons that show what these workouts entail.

44. H12: Value Alignment & Inclusion / Severity: 3 / Found by: A

- Task: 1
- Description: Fitness goals in onboarding are oriented towards fitness lingo- ex: "build endurance" or "flexibility" versus "balance and coordination".
- Rationale: Users that enter the app without any fitness knowledge or background may be intimidated by these words, having not given much thought into their goals and how they translate to more concrete fitness-related words.
- Fix: Reword or expand on fitness goals that may align with goals non-fitness oriented users may want- ex: "I want to get stronger/gain muscle"

45. H12: Value Alignment & Inclusion / Severity: 4 / Found by: A

- Task: 2
- Description: Having workouts associated with Buddy's health may not be inclusive.
- Rationale: Users may end up feeling worse about their self image if they know they are causing Buddy's health to go down, causing their continuation of using the app to come from a place of guilt and fear instead.
- o Fix: Align frequent workouts with Buddy's happiness, or an alternative track instead.

46. H12: Value Alignment and Inclusion / Severity: 2 / Found by: B

- Creating Account, Task 1
- Problem Description: Injury-related question is posed without sufficient context, and overgeneralizes users
- Rationale: Asking if someone's been injured especially without context as to why or how the information is being used can be taken the wrong way and can feel inherently exclusionary. Additionally, there are a whole variety of possible injuries out there that can shape workouts that are being overgeneralized into a yes/no question.

- Suggested Fix: Add a little disclaimer about how the information will be used.
 Assuming the question is being asked to give better workout plans, asking for (optional) further information of the nature of the injury would be nice if someone selects yes.
- 47. H12: Value Alignment and Inclusion / Severity: 3 / Found by: B
 - Workout plans, Tasks 2 & 3
 - Problem Description: No measure of user's fitness level or satisfaction level taken before or after workouts
 - Rationale: While it may feel exclusionary to ask for one's physical fitness or capabilities, on the contrary it seems necessary here to give informed and inclusive workout recommendations for a diverse user base. There are obviously tactful, respectful ways to do so. It also seems valuable here to ask for user feedback to tailor workout recommendations
 - Suggested Fix: Within the intro questionnaire, respectfully ask question(s) about the user's current fitness level and capabilities. Also allow retroactive feedback from users regarding workout recommendations

3. Summary of Violations

A Google Sheet Template is provided <u>here</u> to help you calculate numbers.

Category	# Viol. (sev 0)	# Viol. (sev 1)	# Viol. (sev 2)	# Viol. (sev 3)	# Viol. (sev 4)	# Viol. (total)
H1: Visibility of Status	0	0	3	2	1	6
H2: Match Sys & World	0	2	2	0	0	4
H3: User Control	0	0	1	1	0	2
H4: Consistency & Standards	0	6	2	0	0	8
H5: Error Prevention	0	0	4	0	0	4
H6: Recognition not Recall	0	0	5	1	0	5
H7: Efficiency of Use	0	0	1	0	0	1
H8: Minimalist Design	0	6	0	1	0	7
H9: Help Users with Errors	0	0	0	0	0	0
H10: Help & Documentation	0	0	0	0	0	0
H11: Accessible	0	1	2	2	0	5
H12: Value Alignment & Inclusion	0	0	1	2	1	4
Total Violations by Severity	0	15	21	9	2	47

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 A	Evaluator B	Evaluator C	Evaluator D
Evaluator	[your name]	[your name]	[your name]	[your name]

Sev. 0	0	0	
Ex: Eval A count / total			
sevs 0 in table #3			
Sev. 1	4/15 = 27%	13/15 = 87%	
Ex: Eval A count / total			
sevs 1 in table #3			
Sev. 2	14/21 = 67%	13/21 = 62%	
Ex: Eval A count / total			
sevs 2 in table #3			
Sev. 3	7/9 = 78%	4/9 = 44%	
Ex: Eval A count / total			
sevs 3 in table #3			
Sev. 4	2/2 = 100%	1/2 = 50%	
Ex: Eval A count / total			
sevs 4 in table #3			
Total (sevs. 3 & 4)	9/11 = 82%	5/11 = 45%	
Ex: Eval A = sum(sev 3:			
sev 4 counts) / sum(sev			
3: sev 4 in table #3)			
Total	27/47 = 57%	31/47 = 66%	
(all severity levels)			
Ex: Eval A total sev			
count / total sevs (green			
cell) in table #3			

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

5. Summary Recommendations

Much of the heuristics stemmed from oversimiplification and automation, but without explanation. For example, although the workout was hardcoded, user may appreciate having Buddy point out that the workout was tailored to their settings. We'd suggest giving users more transparency in regard to how their user data has been used- this both fits into your privacy value, as well as your interest in inclusion, as it makes sure users know that their information was valued and taken into account.

Another thing we noticed was the cohesiveness regarding color, text hierarchy, and screen layout. The app was super well laid out screenwise, but there were some small hierarchy similarities (the Fitbud logo and text below that being the same font weight and size sometimes), and color differences that stood out.

Overall, we'd suggest paying closer attention to keeping colors and layouts consistent over your screens!

Buddy has a ton of great potential, and it was super cute to see how yall integrated him into your help documentation and your onboarding. However, we noticed that we didn't feel much direct engagement with Buddy as we went through the app- the pieces were all there (Buddy's greetings and his health bar), but we think adding in more indicators on how to help Buddy out, or more ways to interact with Buddy would be appreciated. We really liked seeing him around and would love to see more of him.

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.