

Heuristic Evaluation of [Artbot]

1. Problem

Artbot is an app that helps combat artist's block and grow creative adaptability through quick, creative sessions that are disrupted by Artbot, forcing the user to adapt and think out of the box to create "disasterpieces".

2. Violations Found

1. **H7** - Flexibility and efficiency of use / Severity: 3 / Found by: A
The navbar disappears when you click on an option on the home screen, which doesn't exactly solve the issue mentioned in the presentation of reducing steps to reach different app screens, especially with the lengthy upload artwork process. If in the middle of uploading an artwork you realized you wanted to check on your previously drawn pieces, you wouldn't be able to access the gallery page until you've pressed "back" twice.

Suggestion: Keep the navbar at the bottom for the rest of the screens and only remove it when you're drawing.

2. **H2** - Match between system and the real world / Severity: 1 / Found by: B
The home screen starts off in the middle of navbar, when the natural way of reading (and the navbar pattern of most apps) goes from left-to-right. There doesn't seem to be a clear reason why the interface didn't follow navbar conventions.

Suggestion: Start the home screen as the leftmost option of the navbar.

3. **H7** - Flexibility and efficiency of use / Severity: 4 / Found by: A, C, D
The avenue to check in from the home screen may be misleading. The check in option as it is presented seems to revolve around giving feedback about creating a disasterpiece. However, the option currently exists to access the checkin as the first move that a user can make with artbot.

Suggestion: If the check in is intended to be a debrief, I would move the additional access point you've created to somewhere in the gallery where users are actually viewing their specific creations, or maybe remove the button altogether and only allow check ins after sessions.

4. **H7**- Flexibility and efficiency of use / Severity: 3 / Found by: B, C
Because of the way the artwork is represented as a floating window, the user may expect to be able to click outside of the popup to exit and not just the small X in the upper right. Providing

that option would not only follow the users' expectations of popups, but also offer a way for more fast-paced users to quickly view their artworks.

Suggestion: Allow the user to also click outside of the artwork to exit the popup.

5. **H4** - Consistency and standards / Severity: 1 / Found by: B

During the upload artwork process, the interface deviates from the use of back button when asking the user to confirm the artwork, instead prompting a "yes" or "no" response. This may confuse the user and provide a mental roadblock to the otherwise smooth flow.

Suggestion: Provide the user with a simple button to proceed in response to the question ("yes" or "confirm") and allow them to use the "back" button to return like they always have.

6. **H7** - Flexibility and efficiency of use / Severity: 2 / Found by: B

The "Would you like a prompt?" question has 2 buttons to respond, but such a binary state could be replaced with a checkbox. This could be more appropriate for the expected response and could be more efficient and require less thinking on behalf of the users. Since using a prompt seems part of the intended use for most users, keeping the prompt checked by default could encourage the use of prompts to fight artist's block.

Suggestion: Change the response to the question to a checkbox.

7. **H8** - Aesthetic and minimalist design / Severity: 1 / Found by: C

Although the make a disasterpiece text is helpful and a fun contribution to the app's voice as a whole, the text gets in the way of actual art creation. As you are working with a small amount of real estate already for a whole drawing app

Suggestion: it would be better to maximize screen space and have that text as a quick pop up or something of the sort.

8. **H1** - Visibility of system status / Severity: 1 / Found by: B

The time limit is such a big aspect of creating the disasterpiece, yet the real estate the timer takes up is so small and hard to understand from a quick glance. Users may benefit from a way to easily be informed of where they are within their time limit to help pace themselves.

Suggestion: Show a progress bar for users to easily see how much time is left compared to when they started.

9. **H6** - Recognition rather than recall / Severity: 2 / Found by: B

The screen to name your disasterpiece covers up the piece, making it hard for the user to reference exactly what they're naming. They may not remember since they made the disasterpiece so quickly.

Suggestion: Put name text box on the same screen as the disasterpiece. It may also make

sense to replace the time's up header as that information is no longer needed once you start naming.

10. **H4** - Consistency and standards / Severity: 2 / Found by: B

The prompt to check in uses a different wording from the rest of the buttons. The interface previously used “yes” and “no” only when prompting the user to respond to questions, like when you asked if you wanted to leave a conversation or wanted to upload an artwork. This longer, more casual wording seems out of place.

Suggestion: Either update these buttons to fit the rest, or change the other buttons to match this conversational tone.

11. **H4** - Consistency and standards / Severity: 2 / Found by: B

The check in's 3rd question asks the user to evaluate how they felt, but, unlike the 1st question, didn't prompt an emoji response. With such similar wording, it might make more sense to follow the same format of emoji response → type an explanation.

Suggestion: Either use a different wording, or follow the pattern from before and prompt for emojis.

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

There's not much explanation of the purpose of the chatbot for checking in, and it's not clear how checking in helps the user and why the user should put in time to fill it out. Here would be a great place to introduce the user to the artbot character that's so prevalent throughout the app.

Suggestion: Have the chatbot greet you the first time with an explanation of why it's there (could be as simple as “Your responses will be used to make me even better!”).

13. **H5** - Error prevention / Severity: 1 / Found by: B

If users click on check in by accident and try to go back, they receive a modal asking if they're sure. It should be easy to leave an unwanted state - if you're leaving so early on, you probably didn't want to stay long to begin with.

Suggestion: Only show the back button popup once you've already answered a question and have made some progress on the check in.

14. **H2** - Match between system and the real world / Severity: 3 / Found by: B, C, D

There's not much explanation on what Creative IQ means for the user and how it's calculated. This use of jargon can confuse the users. There's also no sense of what's a “good” Creative IQ.

Suggestion: Have a tutorial when the user is onboarding that introduces them to vocabulary used in your app, or provide an explanation of what this new term means and how it relates to

the user. There should also be a reference point to a world average so users can see how their IQ compares to others.

15. **H2** - Match Between System & Real World / Severity: 2 / Found by: D

The graph in the “Stats” view does not have a labeled Y-axis. It’s unclear what the maximum value is and what the value of each bar is. Though users can monitor trends and progress, they may be interested in setting and hitting specific numeric goals.

Suggestion: Add values to the axis, or label each bar with a numeric value at the top

16. **H3** - User Control & Freedom / Severity: 2 / Found by: D

On the Calendar screen, users can pick months by hitting the arrows. On the Stats screen, there is no way to choose between months, so the user can only look at their stats for the current month.

Suggestion: Add the ability to pick a month to view in the Stats page, such as back and forth arrows or a drop-down menu.

17. **H7** - Flexibility and efficiency of use / Severity: 3 / Found by: B

Both pages of personal screen provide links to the user’s artwork - 2 ways to access the same information. I’m not sure why there’s a 2nd page of stats if you can just access the Creative IQ and usage of Artbot on a certain day for both pages. It might be especially confusing to users who also wanted to keep track of their check ins, but see that information replaced by the new term “Creative IQ”.

Suggestion: Remove the second page, or replace it with a graph or way to track the answers to given to the chatbot.

18. **H4** - Consistency and standards / Severity : 1 / Found by: A, B

The “End Session” option at the end of a checkin conversation seems to be the same process as the Back button. If selecting “End Session” somehow saves the information from the conversation, where the Back button does not, I would signify that with text that says “Save Session.” Otherwise I would delete the “End Session” button.

Suggestion: Remove one of the redundant buttons.

19. **H3** - User control and freedom / Severity: 2 / Found by: A, B, C

The time options of 1-5 minutes seems to limit the type of artistic experience that the user may want to have. I would add longer options. You may want to consider the ability for a user to start a new canvas without first selecting the time limit and simply be able to work until they decide to exit.

Suggestion: Add a wider range of options and/or add the ability to not have a time limit at all

20. **H6** - Recognition rather than recall / Severity: 3 / Found by: C

Having the artwork that they created for each date when tapping on the corresponding bar is a cool feature. However, there are no affordances that show the bar should be pressed, so the feature may be overlooked.

Suggestion: Add a pop up message or helpful hint

21. **H7** - Flexibility and efficiency of use/ Severity: 1 / Found by: A

When creating a new piece, the text “Would you like a prompt?” Could be a little unclear for the first time user. It could mean a written prompt, a visual prompt, a direction command, a broad question, etc.

Suggestion: Once the user has experienced this option, they will probably learn. However, add some short explanation for the first time user as they are going through this page in the experience.

22. **H2** - Match between system and the real world / Severity: 2 / Found by: A, B, C, D

Artbot’s temperament seems one degree away from what the user is actually selecting. It’s unclear to me what the temperament slider is picking. What does it mean for Artbot to be “happy” or “sad”? Is it actually picking between emotional states, or is it picking between positive and negative, etc? Or is the user is actually selecting the level of disruption for their creation?

Suggestion: Change the happy-sad scale to something around calm-disruptive, or replacing the emoticons with text labels. The user is actually selecting the level of disruption for their creation.

23. **H2** - Match between system and the real world / Severity: 2 / Found by: A

The color option for the creation process are slightly limiting. It is nice to have multiple options, but users may want to have more freedom in selecting colors for their online disasterpiece.

Suggestion: Provide options to creating customized colors, where the user can create any RGB color.

24. **H4** - Consistency and standards / Severity: 1 / Found by: A

The “exit” button on the canvas page is not consistent with the “back” buttons on the rest of the screens.

Suggestion: Change the text to “back.”

25. **H5** - Error prevention / Severity: 3 / Found by: A

The option to upload artwork seems to only access the camera roll. The text “upload artwork” is therefore a misleading, as it seems to point at the possibility of uploading any artwork that the user may be thinking of.

Suggestion: If this option takes the user to their camera roll, change the name to “Upload picture” or “Upload from camera roll.”

26. **H4** - Consistency and standards / Severity: 1 / Found by: A

The height of the header on the page that says “Camera Roll” is slightly different than the height on the page that says “Gallery.”

Suggestion: Make these headers the same height.

27. **H4** - Consistency and standards / Severity: 1 / Found by: A

The use of the blue background for a screen seems to be inconsistent. It is currently appears at the very beginning of the app, after finishing a disaster piece, and for exiting a chat conversation. It is not used when exiting other tasks.

Suggestion: Make the blue screen signify some sort of celebration (which it does for the other uses) and not use it for exiting a chat conversation.

28. **H8** - Aesthetic and minimalist design / Severity: 1 / Found by: A

I wonder how repetitive it is to have both the option “Start a new canvas” and “Upload artwork.” Both ultimately are about creating a disasterpiece. Uploading artwork is just a detail of what the creation process will contain.

Suggestion: Combine these option into one that says something like “Create” or “Create a disasterpiece” and then have the “Upload artwork” option as a detail in the settings.

29. **H4** - Consistency & Standard / Severity: 2 / Found by: B, C, D

Text underlined in light blue may mean different things. In the “Settings” page, it implies interactivity (drop down menu, yes/no, etc.), but in the actual canvas itself, arbitrary text at the top is underlined, seemingly for emphasis. This can be confusing for a user who might try clicking on text in the canvas screen.

Suggestion: Remove the underlining from the text that appears while the user is drawing, or choose a different type of emphasis/highlighting

30. **H8** - Aesthetic and minimalist design / Severity: 2 / Found by: B, C

The color doesn’t always contribute well to the purpose of each screen. Especially on the user profile screen, highlighting the name and the Great Job text draws the eye away from more important action items.

Suggestion: Clarify what color means within your app

31. **H1** - Visibility of System Status / Severity: 1 / Found by: A

It is slightly unclear where the user is in the app when they are having a conversation with artbot after creating a disasterpiece. The user accessed that option from a page showing the completion of their piece, but when they select “back” from the conversation, it takes them to the home page.

Suggestion: Either take the user back to the completion page, or make it clear that they are leaving and entering a different section of the app.

32. **H3** - User control and freedom / Severity: 3 / Found by: A, C

When the user exits from a creation session the only two options are to delete the artwork or continue drawing. However, what if the user is finished, but the time is not up yet? As a user, I would expect to be able to save my creation in its current state.

Suggestion: Add a “Save and Exit” option when a user chooses to exit out the creation session

33. **H7** - Flexibility and efficiency of use / Severity: 4 / Found by: B, C

On the actual canvas the bar on the left for brush size is nice but might get in the way and make starting strokes on the left side of the phone difficult. It also is not visually appealing to have most of the bar cut off on the side. Having the bar pop out on hover is an interesting work around, but a mostly web based interaction. I wonder how it would translate to mobile where there is no hover?

Suggestion: It may be nice to consider a pinching motion to change the brush size (like what snapchat has introduced for drawing on snaps).

34. **H8** - Aesthetic and minimalist design / Severity: 0 / Found by: C

Very nitpicky, but under stats, the exclamation mark on the message is too tilted. Seems weirdly balanced to be all the way at 45 degrees

Suggestion: Make it vertical or more like 15 degrees

35. **H6** - Recognition rather than recall / Severity: 0 / Found by: A

Right now there is no way to visually see a comparison of Creative IQs across user creations. There is a comparison across dates, and the user can select a certain date to see the disasterpiece for that date. Likewise, there is a way to see all the pieces in the Gallery, but the Creative IQ only shows up when a specific piece is selected. One way to fix this is to add the Creative IQ to the info about a piece on the general Gallery screen.

Suggestion: Add a way to show Creative IQs on the general Gallery screen.

36. **H5** - Error Prevention / Severity: 2 / Found by: D

When starting a new canvas, the background and the canvas are both white, so it's hard to see where the edges of the canvas are. A user might accidentally draw off the edge of the canvas when first starting out.

Suggestion: Add some sort of visual break between the color palette/header and the canvas. This could be a line, layering with shadows, or changing the color of the background of the app to be something non-white.

37. **H5** - Error Prevention / Severity: 4 / Found by: B, C, D

The chatbot interface is quite nice and friendly, but I hesitate to how many users would actually want to use that functionality. It is already difficult enough to get people to click on a star rating after an uber ride. It would be good to make the feedback more rigid, so users know what artbot is looking for in an answer. It is also important to make sure users know immediately why they want to input feedback.

Suggestion: Consider using a quick survey or rating system instead of a chatbot

38. **H8**. Aesthetic and minimalist design / Severity: 1 / Found by: B

The bottom portion of the artwork popup is slightly hard to read. With the center align, it may take users a bit of time to parse out the information since the columns aren't lined up and numbers are small and easy to glance over.

Suggestion: Left align this section or create more obvious columns. I'd also suggest bolding either the category or number to easily differentiate between them.

39. **H8** - Aesthetic and minimalist design / Severity: 1 / Found by: B

The interface has some inconsistent padding. There's lots of space in the bottom half of the artwork pop, but not a lot for title and time. The positioning of the calendar dates within the highlight is different from the positioning of the words within the chatbots speech bubbles.

Suggestion: Make the amount of padding more consistent and increase it to allow more breathing room (especially with the speech bubbles).

40. **H8** - Aesthetic and minimalist design / Severity: 1 / Found by: B

The descriptions for the disasterpieces are quite lengthy and complicated, including the name of the month, year, and exact time. Users might not want to see that time format, especially considering how casual the rest of the language is.

Suggestion: Simplify the time format (consider only including the month and date).

41. **H7** - Flexibility and efficiency of use / Severity: 4 / Found by: B, C

Having the pop up of the image on a user's profile makes sense, but when a user is in the image review page, there should be more capabilities for viewing. Right now it is quite inconvenient for a user to look at all of their pictures zoomed in, beyond clicking on and then closing each one.

Suggestion: It would be great if you experimented with a gallery or slideshow format.

42. **H2** - Match Between System & Real World / Severity: 1 / Found by: D

In the navigation bar, there's a "grid" icon. Though it definitely means a grid view, it's not immediately apparent that it's a grid view to look through past "disasterpieces", since the icon is often used in other settings to mean switching layout from list to grid view.

Suggestion: Change the icon to one that implies "gallery" more, like a picture frame perhaps

43. **H7** - Flexibility and efficiency of use / Severity: 2 / Found by: C

Does the get started button open up on get started each time the user opens the app? It seems inefficient, especially for power users, to continually have to click this button to get to the actual creation buttons.

Suggestion: It would be beneficial for the app to open on the main creation page with the upload work button and have the get started page only open for onboarding.

44. **H3** - User control and freedom / Severity: 3 / Found by B

On the gallery page, users don't have an option of removing or saving images if they don't need it or want to use for future reference, which is important for making sure inspiration continues past the app. If users accidentally saved a disasterpiece halfway or want to get rid of one of them, there's no way to do that. Especially with a gallery view, the ability to delete pieces might be expected from the users.

Suggestion: Add the ability to remove/save images from the gallery.

45. **H10** - Help & Documentation / Severity: 1 / Found by: D

The streak text box is located at the bottom of the Calendar screen, but the tip text box is located at the top of the Stats screen. The user's eye has to jump when switching between the two views since the primary information for each screen (calendar or bar chart) are located in different places.

Suggestion: Consolidate supporting text or text boxes in one location, either at the top or bottom of a view, so the user knows exactly where to look to find it

46. **H3** - User Control & Freedom / Severity: 4 / Found by: D

Currently, the Calendar and Stats pages seem to be designed for a user who creates at most one "disasterpiece" a day. If you are limiting users to creating one piece a day, then this

restriction is not obvious in the app. If users are allowed to create as many “disasterpieces” as they want in a given day, then it’s not obvious what the app will show when they click on a Calendar day (does the app highlight one “disasterpiece?”), or when they see their Creative IQ for the day in the Stats page (is the displayed stat an average?).

Suggestion: If you’d like to support creating multiple “disasterpieces” in a day, have left and right arrows or swiping capability in your Calendar popup so a user can look through all their creations for that day. If not, figure out how you want to choose just one piece to showcase (i.e. user’s favorite/first/last piece from that day). For the Stats view, bars could represent the average or maximum Creative IQ for a given day, and users can click on a bar to view all their Creative IQs for that day.

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	2	0	0	0	2
H2: Match Sys & World	0	2	3	1	0	6
H3: User Control	0	0	2	2	1	5
H4: Consistency	0	5	3	0	0	8
H5: Error Prevention	0	1	1	1	1	4
H6: Recognition not Recall	1	0	1	1	0	3
H7: Efficiency of Use	0	1	2	3	3	9
H8: Minimalist Design	1	5	1	0	0	7
H9: Help Users with Errors	0	0	0	0	0	0
H10: Documentation	0	1	0	1	0	2
Total Violations by Severity	2	17	13	9	5	46
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	50%	0%	50%	0%	-
sev. 1	41%	47%	6%	29%	-
sev. 2	23%	62%	38%	15%	-
sev. 3	33%	56%	56%	11%	-
sev. 4	20%	60%	80%	60%	-
total (sev. 3 & 4)	29%	57%	64%	29%	-
total (all severity levels)	41%	52%	35%	24%	-

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

5. Summary Recommendations

Overall, we found artbot to be a highly intuitive and navigable application. Beyond a few small changes to be consistent with design choices throughout the app, we would focus on enabling larger user freedom and efficiency with this tool you have created. The main issues for this interface mostly center around keeping things consistent and less complicated for users. Ensuring a consistent personality through the use of conversational language, especially with the use of a chatbot, is super important and would help support the fun/gamified aspect. Using a consistent brand and visual identity and keeping to the language and indications used to guide users would go a long way to unifying the look and feel of the app. There were also some steps, like the yes/no responses to some questions and the use of jargon, that felt like big roadblocks in an otherwise very smooth and logical user flow.

To begin with, we would recommend streamlining the process of feedback after creating a disasterpiece. While a conversation with artbot could be enjoyable, there should be much more guidance on how to use the chatbot. Also consider if a chatbot is necessary for the information you are trying to get from your user. A simple form or rating might be sufficient as an option to efficiently record how the user felt about the experience, maybe about a few different aspects.

Although tasks themselves are laid out very intuitively, their interaction in the home screen is confusing. Clarify what you want to be accessed through the main screen. Maybe have both upload and create buttons available, or not, depending what you want prioritized. It would be great if there was a larger view of how the app was laid out that guided the transitions from screen to screen.

One violation that was pretty consistent throughout the app is the concept of “Creative IQ.” If we weren’t members of the Arts & Culture studio, we would have no idea what that means, how it’s measured, and why it’s relevant. We would suggest adding some sort of tutorial/onboarding process or information boxes to inform the user.

Lastly, one feature that we thought would be cool is filtering and searching in the Gallery page. If a user has many “disasterpieces,” they may want to be able to find a specific one by name, sort alphabetically, or sort by creation date.

In general, this was a well thought out med-fi prototype and we can't wait to see how it progresses.

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