

Heuristic Evaluation of [Envio]

Evaluator #A: Anonymous African Buffalo

Evaluator #B: Anonymous Bandicoot

Evaluator #C: Anonymous Caribou

Evaluator #D: Anonymous Dalmatian

1. Problem/Prototype

Env.io is an app that allows users to become more involved in issues related to the environment and in particular fosters a community of people who want to engage with the environment and have fun doing it.

Severity Ratings

- 0 - cosmetic problem
- 1 - minor usability problem
- 2 - moderate usability problem; could be deferred
- 3 - major usability problem; important to fix
- 4 - usability catastrophe; imperative to fix

2. Violations Found

1. H1: Visibility of System Status / Severity 2 / Found by: A, C

The home screen has a back button on it, and it's not clear where the back button lead or if there should be a back button there. Users might expect it to take them to a previous screen when in reality, the button might log users off.

Fix: Remove the button from the home screen or update it

2. H1: Visibility of System Status / Severity 2 / Found by: C, D

When submitting the photo to PETA (or any action which produces gems), the gem count goes up, but no other indication is given. This can go unnoticed from users without some animation or small popup message.

Fix: add a small popup message or toast when gems are earned

3. H1: Visibility of System Status / Severity 2 / Found by: A, C, D

Once redeeming crops, the screen still shows 2x rambutan crops, which can be confusing—didn't we just redeem those?

Fix: Decrement the number of crops when they are redeemed

4. H1: Visibility of System Status / Severity 2 / Found by: C

On the clothing purchase screen (profile), the purple box seems to suggest currently selected, but it never highlights what is currently selected.

Fix: highlight the current outfit selected

5. H1: Visibility of System Status / Severity 0 / Found by: A

Gem count sporadically represents different states depending on when the user chooses to interact with different elements.

Fix: Update system status across the application.

6. H1: Visibility of Status / Severity 2 / Found by: B, D

Didn't realize clicking crop would make it disappear, it made me sad because I thought I lost my crop and didn't realize my crop count had gone up below.

Fix: Make it more clear what is happening like show sickle when "reaping" or at least highlight that there was a change in crop count.

7. H1: Visibility of Status/ Severity 1 / Found by: B

Homepage popup indicates that you can advance levels but current level not easily visible.

Fix: Display current level on top bar.

8. H2: Match b/w System & World / Severity 3 / Found by: A, C, D

From the main screen, there is a shop where one would expect to be able to buy things (including the seeds you plant). However, things can be bought from the character screen (outfits), and from your own garden, which appears to dilute or disregard the purpose of the store.

Fix: decide what the store should be and consolidate functionality around that

9. H2: Match b/w System & World / Severity 0 / Found by: C

Some items are labelled differently, which could make it take longer for the user to learn all the terminology in the app. For example, the community tab is referred to as "Community" in the bottom drawer and "Community Park" on the main screen.

Fix: simplify and consolidate language

10. H2: Match between the system and the real world / Severity 0 / Found by: A

For the donation screen, the order of the words is confusing.

Fix: re-write with:

Amazing!

You donated

\$20

to Rainforest Trust

11. H3: User Control & Freedom / Severity 2 / Found by: B, C

On the filter screen accessible from the actions tab, there isn't a way to add tags to checkbox regions that have tags on them. This could be restrictive to users that want to change their location, for example.

Fix: add an "add" button here

12. H3: User Control & Freedom / Severity 2 / Found by: A, C

Modals that pop up (e.g. when clicking on the gem count from the home screen) do not have a visible dismiss option. Instead, users have to click outside of the box to dismiss, which could be confusing to some.

Fix: add a clearly marked "exit" for modals

13. H3: User control and freedom / Severity 1 / Found by: A

The back button undoes "sharing" on the news screen if you click it after sharing: seems like it should take you out of the news. This behavior is inconsistent across the application.

Fix: Make the back button behavior consistent across the application (think about whether it should take you out of the current screen or undo tasks- an undo button would probably be great too!).

14. H3: User control and freedom / Severity 2 / Found by: A

The share button is only accessible after leaving the news article.

Fix: Bring the share button inside the news article and also on the news article feed.

15. H3: User control and freedom / Severity 3 / Found by: D, B

When I aim to plant the seeds, I can't specify how much to plant, and it plants all seeds. Also can't decide where to plant each seed.

Fix: With the additional space you will get by implementing fix #3, you will have room to allow someone to control how much of their inventory they would like to plant.

16. H3: User control and freedom / Severity 1 / Found by: A, B

After adding tatertot29 as a friend, I followed the En.vio logo back but realized I couldn't access the Community page that reflects the updated system status unless I went through the flow again.

***Fix:** Box the user in until the flow is complete (in the hi-fi, this problem should be fixed anyways).*

17. H3: User Control and Freedom / Severity 1 / Found by: B

In the community park, the background gives the impression that you can head in certain directions, i.e. move your avatar when really you can't. I would be a bit confused here and not quite know what to do right away.

***Fix:** maybe remove the 'paths' and make it obvious that you should click on the people, perhaps put a button or icon above their heads?*

18. H4: Consistency & Standards / Severity 2 / Found by: C

The Env.io icon on the home screen brings up a list of tasks to complete, but on the other screens, it takes you back to the home screen. This behavior could be confusing for people who expected the button to do one thing.

***Fix:** Create a new button do display tasks, or consolidate the button functionality*

19. H4: Consistency & Standards / Severity 1 / Found by: B, C, D

On the actions tab, tags on events have "X" buttons on them, suggesting that users can remove tags from feed entries. This seems unintended.

***Fix:** remove the "X" to follow convention for a tag*

20. H4: Consistency & Standards / Severity 0 / Found by: C

On the PETA thank you page (after uploading the photo), there are several different sizes and weights of text. This is a little busy for users to see.

***Fix:** consolidate sizes and weights of fonts you're using*

21. H4: Consistency & Standards / Severity 1 / Found by: C

On the filter screen accessible from the actions tab, there is inconsistent spacing between checkbox items, and the addition of tags underneath also changes the layout of items. In addition, some selected items are bolded and enlarged in a way that makes them look like headers on the page (e.g. "Industry" is an option, but "Type" is a header).

***Fix:** modify spacing, display of tags, and font sizing to make distinction between headers, options, and suboptions clearer*

22. H4: Consistency & Standards / Severity 2 / Found by: A, C

The bottom drawer has icons that differ from those on the home page. This can be confusing to users who have to learn two icons that mean the same thing (for example, the pinboard on the main page versus the star on the drawer, which both lead to actions).

***Fix:** create icons that simplify the home screen designs, in order to make consistent*

23. H4: Consistency & Standards / Severity 2 / Found by: A, C

When bringing up the context menu for an article in the news tab, pressing the back button at the top dismisses the menu. This can feel unintuitive for users, who may

expect to be taken to the previous screen. In addition, one may expect to be able to click anywhere to dismiss the menu, like with other modals in the application.

Fix: *make clicking anywhere dismiss the menu. If the menu appears at the bottom, consider dimming the rest of the screen to signify that the menu is on top of other things (like the back button)*

24. H4: Consistency & Standards / Severity 0 / Found by: C

On the share menu accessible from the context menu from a news article, the search bar isn't consistent with other search bars seen in the app (e.g. the community tab)

Fix: *make the search bars consistent*

25. H4: Consistency & Standards / Severity 0 / Found by: C, D

Icons along the top drawer are a little small and are inconsistent in style with the bottom drawer. This could cause confusion if users wonder if the icons are related to any action on the main screen or on the bottom drawer.

Fix: *make all icons consistent*

26. H4: Consistency and standards / Severity 0 / Found by: A

Some clickable content (i.e. interest and the shop) bring up an "under construction" screen while other supposedly clickable content does not allow interaction.

Fix: *Remove elements which are under construction- they are distracting to the user and take energy away from the core parts of the application.*

27. H4: Consistency & Standards / Severity 4 / Found by: B, D

On tatertot29's profile, I was exploring and I clicked the community park icon and his friend list popped up, I assumed this icon would take me to the community park like it did on the homepage, or at least, tatertot29's community park.

Fix: *A different icon for displaying someone's friends list, that was not previously used.*

28. H4: Consistency and Standards / Severity 4 / Found by: B

Similarly, the user's own action board is a list of actions you can do. When you go to a friend's action board, it is a list of activities that they have done.

Fix: *Use different icons with different names (as above).*

29. H4: Consistency and Standards / Severity 2 / Found by: B, C

In actions filter, it is unclear what the search bar is for. Do you search for keywords for events you would be interested in? If so it's place is not really in a filter.

Fix: *separate search from filter functionality.*

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

When looking at friend's activity log, some things are referred to as challenges. Is that a subcategory of activity? **Fix:** Just refer to everything as an activity or differentiate further.

31. H4: Consistency and Standards / Severity 1 / Found by: B, C, D

There are two buttons on the homepage that go to the garden.

Fix: remove one.

32. H5: Error Prevention / Severity 2 / Found by: C, D

When purchasing items, items that cannot be bought have no visual indication as such or error message if you click on them. The lack of feedback could be confusing for some.

Fix: add error messages/visual feedback to items you cannot purchase

33. H5: Error Prevention / Severity 0 / Found by C

After spinning the daily wheel, there is no visual feedback given that the wheel cannot be spun again. This could be confusing for users, who may expect some visual feedback.

Fix: gray out the wheel after it is spun.

34. H5: Error prevention / Severity 0 / Found by: A

Prototype doesn't start at sign-up: the flow is unclear because the README implies that it does, but I can't find the sign up screen.

Fix: Start the prototype at the beginning and include an easily accessible sign-up page.

35. H5: Error Prevention / Severity 3 / Found by: B

"Redeem Donations" button on farm is a bit misleading. I sort of thought it meant that I would donate money and in return get gems or something in the game. Instead it meant I could use my crops to donate to some org.

Fix: Choose better language and maybe a popup to explain what user is doing here.

36. H5: Error Prevention / Severity 3 / Found by: B

In 'select a cause and amount to donate' popup there appear to be two ways to donate, one by clicking the crops you have and one by entering a number. Not clear what each is for. If you enter an amount is it coming from your bank account or is it a piece of the crop money you have? Are they different or the same?

Fix: if the same, remove one, if different, then clarify difference.

37. H6: Recognition not Recall / Severity 0 / Found by: C

The back button on the daily wheel screen is different and in a different location from other back buttons. This can be confusing to users that are used to the back button being a certain way.

Fix: Make the back buttons consistent

38. H6: Recognition not Recall / Severity 3 / Found by: D

The gems underneath the news article was confusing for me, had this not been demoed in class, I would have assumed that "+2 gems" meant that I had to pay 2 gems to read it, not earn 2 gems by reading it. This problem is also mirrored when watering seeds, "-1 gems" does not imply a transaction, but that I already lost those gems.

***Fix:** Clarify that “+2 gems” and “-1 gems” are transactional actions, and use verbs or visual cues that solidify, “you will earn if you read this”, and “you have to spend to do this”.*

39. H6: Recognition rather than recall / Severity 2 / Found by: B

On the sun spinner, the spinner itself conveys no information about whether the spin was successful or not, it just goes around.

***Fix:** Make the image itself demonstrate whether the spin was successful or not.*

40. H6: Recognition not Recall / Severity 0 / Found by: C

On the PETA event, the tags from the previous screen (actions tab) are no longer visible. This could be confusing to users who might forget the tags and wonder what they are.

***Fix:** keep the tags there*

41. H7: Flexibility & Efficiency of Use / Severity 1 / Found by: C

On the actions tab, some filter actions (e.g. filter by recent|etc.) could be exposed on the main page (feed) to reduce the number of interactions experienced users need to go through.

***Fix:** place “quick” filter options on the feed page*

42. H8: Aesthetic and minimalist design / Severity 0 / Found by: B

The pixelated water droplet on the farm is very different from the rest of the *beautiful* theme.

***Fix:** find a drop that matches more.*

43. H8: Aesthetic & Minimalist Design / Severity 0 / Found by: C

On the actions tab, the font size for the smallest elements is pretty small and low contrast (for tags). It’s possible this could be hard to read for some people, especially on mobile.

***Fix:** increase contrast and font size; have a minimum font size you won’t go under*

44. H8 Aesthetic and Minimalist Design / Severity 0 / Found by: B

Daily spin sun is a very awkward name.

***Fix:** Maybe no name? Just something that said “spin me!”*

45. H9: Help users recognize, diagnose and recover from errors / Severity 3 / Found by: A

I had a tough time following task 1. I made multiple mistakes and had to run the flow multiple times.

***Fix:** Due to the complex nature of this task and the use of multiple different screens which do not share a common aesthetic vernacular, some kind of guide or help button may be helpful to guide new users through this flow.*

46. H10: Help & Documentation / Severity 3 / Found by: C

The only help doc for the garden is accessed when users click “redeem donations,” but not all users are guaranteed to click on this. Users might get lost with the functionality of the garden.

***Fix:** Since the garden has some complex mechanics, it might be worth making an initial tutorial flow for first time users*

47. H10: Help & Documentation / Severity 1 / Found by: C

On the main screen, it would be helpful if more icons were labelled by default rather than having to hover/force touch the items. Users might be initially confused over what each icon means.

***Fix:** add titles to untitled icons*

48. H10: Help and Documentation / Severity 0 / Found by: A

The task flows are designated in the powerpoint, with the exception of this one. While it was the easiest to complete on my own given that there was less toggling between different screens, it would help to designate the desired flow.

***Fix:** Document the flow of the third task.*

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	1	1	5	0	0	7
H2: Match Sys & World	2	0	0	1	0	3
H3: User Control	0	3	3	1	0	7
H4: Consistency	5	3	4	0	2	14
H5: Error Prevention	2	0	1	2	0	5
H6: Recognition not Recall	2	0	1	1	0	4
H7: Efficiency of Use	0	1	0	0	0	1
H8: Minimalist Design	3	0	0	0	0	3
H9: Help Users with Errors	0	0	0	1	0	1
H10: Documentation	1	1	0	1	0	3
Total Violations by Severity	16	9	14	7	2	48
Note: check your answer for the green box by making sure the sum of the last column is equal to the sum of the last row (not including the green box)						

4. Evaluation Statistics

Severity / Evaluator	Evaluator A	Evaluator B	Evaluator C	Evaluator D
sev. 0	5	3	8	2
sev. 1	2	5	5	2

sev. 2	6	3	11	4
sev. 3	2	4	2	3
sev. 4	0	2	0	1
total (sev. 3 & 4)	2	6	2	4
total (all severity levels)	17	17	26	12

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

5. Summary Recommendations

A: I see an overarching concern that goes beyond this heuristic evaluation: the tasks are too complex and seem difficult to implement. What are the core tasks you want the user to complete? Right now, each task contains multiple subtasks and I feel like I don't understand what I should do, much less what I can do. On a more granular note, the heuristic that I saw most was H3: User Control and Freedom. Figma is a tool that can feel frustrating to use to implement this functionality: it will be easy to fix in the future as long as the state variables are updated across the system and functionalities like back and undo are implemented. There are a few small aesthetic or cosmetic interface fixes that I've recommended as well, which should make the process a bit easier in the hi-fi prototyping phase.

In general, this project is fun and engaging! I can see your excitement to respond to the insights the team has generated and create creative solutions. I'm excited to see where it goes and think it could be even more wonderful given some small tweaks and eliminating extra tasks for the final structure (don't be shy: I would cut at least 30 of the screens and focus on the three tasks to slim the project down to something implementable within two weeks).

B: I think the broadest issue I found was that there seemed to be a tension between wanting to make the user's "home" screen look and feel similar to the home screen of "friends" with the fact that the functionality/usage of icons/buttons on each screen really are different. So, as mentioned, the activities icon for the user goes to activity suggestions while the same icon for a friend goes to a log of completed activities. I think this tension needs to be addressed somehow as the conflation of two conceptually different (though related) makes it difficult to navigate intuitively. Also, in the screens where the real world is mimicked, like the community screen, I felt a certain lack of direction that would be nice to address. This was exacerbated by the background which has paths but that's only part of it. Am I supposed to click people? What does that do, bring me to their profile? I think the "explorability" is nice but I think there is a certain comfort in being guided and following well-signed paths. Overall, really nice app though.

C: Most of the violations found were under consistency, which reflects the scale and number of function in the app—from a design perspective, it can be difficult to keep track of everything

going on across screens and make sure that changes made to one screen are reflected in others. Looking forward to the hi-fi development, I would recommend establishing a strong style guide to follow, then design modular, styled components that can be reused throughout the app—that should make it easier to make styling consistent and neat.

In addition, I would recommend thinking about what sort of tutorial flow you'd want to offer to users, if any. The explanations of basic features are good, but I wonder what an actual tutorial could do for the app—with so many functions, it could be useful to funnel users through a single day in the app's routine, then set them loose.

D: The dichotomy between spending your money on character accessories and donations should be highlighted, you have a powerful mechanism that emulates the real world: spending money on yourself vs causes you care about. This is a great angle that can drive action, and there are multiple ways to highlight it: 1) have special upgrades that you cannot purchase that is only available for donators, 2) have the ratio of 'spending on your character vs causes' a key metric in the platform.

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