

Heuristic Evaluation of Voxyl

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(These names will be removed before the document is given to the project team. Use these letter below)

1. Problem

Voxyl aims to help visual artists convey the artistic vision for some idea or image they have through virtual reality. It lets artists build a multi-dimensional board with the ability to control color, mood, features, and scale.

2. Violations Found

- 1. [H2-6: Recognition not Recall] [Severity 2] [Found by: B]**
The buttons seem to be in an unusual order, which may make it difficult for users to remember the order of the buttons. I think it would make more sense if the “create new” button was on the left side, since a user using this for the first time would most likely want to create a new project, and the left button is probably the first they will look at.
- 2. [H2-3: User Control & Freedom] [Severity 2] [Found by: B]**
When you create a new project, the user is limited in terms of input methods to name their project. It would also be nice if there were other input options besides voice recognition, such as an on-screen keyboard, so the user has more control over the details of their project name (lower/upper case letters, spelling, punctuation, etc.).
- 3. [H2-7: Flexibility & Efficiency of Use] [Severity 1] [Found by: B]**
Since the only way to name your project currently is via a microphone, you could save the user a click by not requiring them to select the mic icon first to say their project name. Instead, you could have it start listening right away for the user to say their project name.
- 4. [H2-1: Visibility of System Status] [Severity 2] [Found by: A]**
When going from one window to another, or trying to add some component, it looks like there will be some lag or loading time. It would be nice if there was a loading screen that indicates when the program is ready to add new components, or if it's still waiting.
- 5. [H2-10: Help & Documentation] [Severity 2] [Found by: B]**
It isn't very clear how the user can fix the name of their project if it isn't correct. I remember from class that clicking the microphone again will allow the user to re-say their project name, but it could help someone using it for the first time if there was a small pop-up explaining that, or maybe just a cancel or X button that would take the user back to the previous page.
- 6. [H2-1: Visibility of System Status] [Severity 2] [Found by: A]**
There was not pointer or highlighting/shadowing used to show what is the command/button that the user is trying to pic. That would be necessary when doing the hi-fi prototype.
- 7. [H2-2: Match System & World] [Severity 1] [Found by: B]**
The project name and file extension boxes both look like they are editable, but there doesn't look like there is a way to edit the file extension. Assuming that the file extension isn't editable and that all of these projects have the same file extension, it doesn't seem like it is something that is

necessary to display to the average user. It may even confuse some people, so it would probably be better to just leave out the file extension.

8. [H2-2: Match Between System and Real World] [Severity 3] [Found by: A]

In real life, pictures and objects are in a 3D space. To make the experience as realistic as possible, there should be the ability to move pictures forward and backward.

9. [H2-1: Visibility of Status] [Severity 2] [Found by: B]

If the user has multiple projects that look similar, they may not remember which of the projects they are working on if they are resuming work via the “continue” button. It would help to display the project name somewhere within the workspace so the user knows what project is currently open.

10. [H2-2: Match Between System and Real World] [Severity 3] [Found by: A]

Since as described in the README the hi-fi prototype is going to allow adding multiple sources for music, there should be a way to control how loud different sources are to give a more natural feeling.

11. [H2-3: User Control & Freedom] [Severity 4] [Found by: A, B]

There isn’t any way to save or share the project, or to exit the project and go back to main menu screen. These options should be added to make the user experience more cohesive.

12. [H2-2: Match Between System and Real World] [Severity 3] [Found by: A]

It is not clear how you would make a spotlight bigger or smaller, and what exact places it’s going to light. For simplicity, you can allow changing the size, and the amount of light would be proportional to the size of the source.

13. [H2-6: Recognition not Recall] [Severity 2] [Found by: B]

There isn’t currently an option to save or share within the medium-fi prototype or the presentation slides, but I remember from class that there was discussion of an option to “turn around” to get a menu with save and share options. Does that mean the menu to add pictures, music, etc. won’t be moving with the user? If that’s the case, then if the user wants to make use of the whole 360 degree canvas, they will have to remember the spot to turn back to in order to set a new image or light source, rather than having that menu always follow within the sightline of the user. I think it would be a better user experience to have the menu follow the user’s sightline, and figure out another way to save and share. Maybe those options could be added in a smaller menu circle inside the current one.

14. [H2-3: User Control & Freedom] [Severity 3] [Found by: A, B]

If the user makes a mistake there doesn’t seem to be a way to undo or redo their actions. It would also be useful for a user to be able to delete images and light sources, and remove songs or colors. Adding these features to the menu would be pretty helpful for the user experience.

15. [H2-7: Flexibility & Efficiency of Use] [Severity 2] [Found by: B]

The user is currently only given one way to scale the images. It would be nice for more advanced users to be given the flexibility of more options, such as scaling width and height separately or being able to skew or rotate the image.

16. [H2-10: Help & Documentation] [Severity 1] [Found by: B]

It isn’t very clear how the user should adjust the RGB sliders. Having some kind of prompt like on the other pages that tells the reader what to do would be helpful.

17. [H2-2: Match System & World] [Severity 2] [Found by: A, B]

Some users may not understand what the RGB sliders do or what each letter stands for if they aren’t familiar with the RGB color model. It isn’t necessary to expose users to the technicalities of the RGB color model. Instead, there could just be a single rectangle with a rainbow of colors that the user can select from.

18. [H2-5: Error Prevention] [Severity 2] [Found by: A, B]

Unlike the images, which have a big surface area to click on, the songs in the list could be hard to click on since each line is pretty narrow. This may cause the user to accidentally select the wrong song. It could be helpful if the songs were laid out in boxes similar to the image selection or “load” screens.

19. [H2-6: Recognition Rather Than Recall] [Severity 1] [Found by: A]

There is no way by which the user could be reminded how to do different tasks. That could be solved by simply adding an info icon that shows some kind of a tutorial for the user.

20. [H2-8: Aesthetic & Minimalist Design] [Severity 1] [Found by: B]

The width of the image selection menu seems too big. It may not all be able to fit within the sightline of the user without them having to turn their head, and it may cause them to miss the “swipe to navigate” instructions on the far right. It would probably be helpful to have fewer columns of images so that the user can see them all at once, and it will also make the screen look less cluttered.

21. [H2-7: Flexibility and efficiency of use] [Severity 1] [Found by: A]

It is not clear what is the source of the music, and whether multiple sources would be allowed. That might be a minor thing for a user who just wants to try it, but for experienced users they probably want to figure out the easiest way to update their music list, and that requires knowing the source.

22. [H2-4: Consistency & Standards] [Severity 1] [Found by: B]

The method for scrolling through items within the “load” screen is different than that of the image selection menu. Since both display similar items, it would be helpful for consistency if just one of those methods were chosen and used in both places.

23. [H2-4: Consistency & Standards] [Severity 1] [Found by: A]

In the window to load an old project, all the projects are put into 1 row, and the user has to swipe horizontally to move, which means moving project by project, which is not the optimized way. If it was multiple rows, that would be much better.

24. [H2-7: Flexibility and efficiency of use] [Severity 0] [Found by: A]

In some cases, the controls like selecting RGB blocks a big part of the scene behind it, making it harder to see the effect of changing the color palette. This might lead the user to change the color palette, exit the color palette window, and then go back to that window because they didn't like how the new color palette looked on that spot hidden by the RGB window.

25. [H2-8: Aesthetic and minimalist design] [Severity 1] [Found by: A]

In the first few screens, the background is solid white, which might be too bright, and hurt the users' eyes. You can make it a little bit less white, or put a different better background color.

26. [H2-10: Help & Documentation] [Severity 1] [Found by: A]

It is not clear what you mean by physical in the value proposition in the presentation. Readers might think that you are using some technology that helps users to feel objects not just see scenes virtually.

27. [H2-10: Help & Documentation] [Severity 1] [Found by: A]

In the readme, when describing the complex task, you wrote “Clicking on the lighting screen populates the canvas with a large spotlight. Clicking on the color arrow updates the underlying color scheme for the palette”. There is a missing part of placing the spotlight, and then moving to talking about changing the color palette.

3. Summary of Violations

Category	# Viol. (sev 0)	# Viol. (sev 1)	# Viol. (sev 2)	# Viol. (sev 3)	# Viol. (sev 4)	# Viol. (total)
[H2-1: Visibility of Status]			3			3
[H2-2: Match Sys & World]		1	1	3		5
[H2-3: User Control]			1	1	1	3
[H2-4: Consistency]		2				2
[H2-5: Error Prevention]			1			1
[H2-6: Recognition not Recall]		1	2			3
[H2-7: Efficiency of Use]	1	2	1			4
[H2-8: Minimalist Design]		2				2
[H2-9: Help Users with Errors]						0
[H2-10: Documentation]		3	1			4
Total Violations by Severity	1	11	10	4	1	27
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%	0%			
sev. 1	54.5%	45.5%			
sev. 2	40%	80%			
sev. 3	100%	25%			
sev. 4	100%	100%			
total (sev. 3 & 4)	100%	40%			
total (all severity levels)	59%	55.6%			

5. Summary Recommendations

[merge the general recommendations you made here]

It's a really good idea, and an overall good prototype. One thing that was slightly confusing in the prototype was that there didn't seem to be a way for the user to set the background scene when creating a new project, but that can easily be remedied by adding one more step to the project creation process in which the user selects a scene for the background. A lot of the violations that are mentioned above came as a result of developing this prototype for VR, since you cannot do everything on the VR like you do it on the phone. Since users are not used to this environment, errors are expected to happen a lot, so as developers, you should make sure that you limit the errors as much as possible, and be able to recover from errors immediately. You don't want a user stuck in a purple RGB just because they scrolled a little bit too much. As a result, this requires thinking of more efficient and accurate ways by which the user can have good control without dealing with errors. One way for example could be done by allowing saving the favorite styles and colors. This will let them have immediate access to color palettes that they like. In addition, in this prototype you focused more on covering as much ground as possible, which prevented you from clarifying how you are planning to do few things like exporting, sharing and going back. Finally, one thing I would love to see is the ability to turn the environment to black and white. This is not critical of course, but it would be nice to have it. Moving forward, I think you have a very good potential since quite a few of the violations could be solved easily - can't wait to see the hi-fi!

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

[H2-1: Visibility of System Status]

- keep users informed about what is going on

[H2-2: Match Between System & Real World]

- speak the users' language
- follow real world conventions

[H2-3: User Control & Freedom]

- "exits" for mistaken choices, undo, redo
- don't force down fixed paths

[H2-4: Consistency & Standards]

[H2-5: Error Prevention]

[H2-6: Recognition Rather Than Recall]

CS 147 Autumn 2015: Assignment 9 (Heuristic Evaluation Group Template)

Instructor: James Landay

- make objects, actions, options, & directions visible or easily retrievable

[H2-7: Flexibility & Efficiency of Use]

- accelerators for experts (e.g., gestures, kb shortcuts)
- allow users to tailor frequent actions (e.g., macros)

[H2-8: Aesthetic & Minimalist Design]

- no irrelevant information in dialogues

[H2-9: Help Users Recognize, Diagnose, & Recover from Errors]

- error messages in plain language
- precisely indicate the problem
- constructively suggest a solution

[H2-10: Help & Documentation]

- easy to search
- focused on the user's task
- list concrete steps to carry out
- not too large