Heuristic Evaluation of Virtual Venues

1. Problem

Virtual Venues allows users to test and create virtual lighting shows to make the creation of a real light show easier and faster.

2. Violations Found

1. [H2-8. Aesthetic and minimalist design] [Severity: 2] [Found by: B]
The user interface uses a soft color palette, sticking with cool, neutral hues of blue and gray. However, if the program were ever used in dark settings (for example, to review a light show immediately before a show), the lack of contrast may reduce visibility. (I'm not certain if this is even an issue for the Oculus Rift.) Greater contrast between the text and background may improve this issue.

2. [H2-6. Recognition rather than recall] [Severity: 3] [Found by: B,C]
The user interface lacks icons, other than for the Home and Settings buttons. As a result, navigation feels slightly slow at times because every option must be read and understood. Novice and non-English-speaking users may particularly struggle to fully understand all of the technical terms without the aid of icons. The most straightforward solution would be to integrate icons into the interface.

3. [H2-1. Visibility of system status] [Severity: 4] [Found by: A, B]
The user interface lacks headers, navigation bars, and "breadcrumbs," making it difficult to know what page the user is on. If a user were to pick up the program from a random screen it would be very difficult to locate herself within the lighting planning process. A possible solution is to add a "breadcrumb" bar at the top of each page.

4. [H2-6. Recognition rather than recall] [Severity: 4] [Found by: A, B,C]
On the fixture selection screen, the user is immediately presented with two diagrams without much explanation. Novice users may find the lack of labeling confusing, especially since both diagrams have a "Front" and "Back". A simple solution would be to label each diagram accordingly.

5. [H2-10. Help and documentation] [Severity: 3] [Found by: A, B]
On the fixture selection screen, the instructions appear between the two diagrams and the menu options. The font is small and the instructions' location is not prominent. Some users may only notice the instructions after overcoming the confusion caused by the two diagrams. Perhaps a larger, more prominent set of instructions towards the top of the page may provide clearer guidance to users.

6. [H2-4. Consistency and standards] [Severity: 3] [Found by: B]
On the fixture selection and light grouping selection screens, assigning a lighting fixture to a hanging position on the diagram produces a black outline around the hanging position. However, every type of light fixture produces the same color ring. Different lighting fixtures could be differentiated by color.

7. [H2-4. Consistency and standards] [Severity: 2] [Found by: B]
On the light grouping selection screen, the "!" in "Start Designing!" feels out of place compared to the professional language used elsewhere. To create a more consistent feel, the exclamation point could be removed.

8. [H2-4. Consistency and standards] [Severity: 2] [Found by: A, B,C]

On the light show design screen, the top bar has been moved to the bottom right, which may confuse some users. Especially since the light show design is one of the last stages of any project, the relocation of the top bar may confound users. Instead, the top bar may best remain at the top in order to maintain consistency.

9. [H2-4. Consistency and standards] [Severity: 2] [Found by: B]
The import command within "Start New Project" brings up a Windows Explorer window. Although the window may offer a familiar interface, it breaks away from the design of the rest of the application. Ideally, such an explorer window would maintain the design ethos of the rest of the program while maintaining functionality familiar to most users.

10. [H2-8. Aesthetic and minimalist design] [Severity: 2] [Found by: B]
The Gear icon for the "Settings" option is not centered in the top bar, potentially causing visual unease in users. Unless there are compelling usability or aesthetic reasons for the un-centered gear, the icon should be centered vertically.

11. [H2-10. Help and documentation] [Severity: 3] [Found by: A, B,C]
On the light grouping page, the instructions for dragging and dropping a fixture from the plot are difficult to interpret. Although expert users may be comfortable with such instructions, novice users may find the existing instructions confusing. A simple solution would be to rewrite the instructions; a more complex solution would be to overhaul the entire task methodology.

12. [H2-4. Consistency and Standards] [Severity: 2] [Found by: A, B,C]
On the light design screen, the Save Cue button seems out of place alongside the Create New Cue, New Template Cue, and Add Cue buttons. If the button's function is to save existing cues, removing it from the buttons that, in one way or another, add new cues may decrease user confusion.

13. [H2-4. Consistency and Standards] [Severity: 2] [Found by: B]
On the light design screen, the New Template Cue button differs from its counterparts in that it does not begin with a verb. An easy fix would be to re-label the button as "Add New Template Cue."

14. [H2-6. Recognition rather than recall] [Severity: 4] [Found by: B,C]
On the light design screen, the bar along the top of the screen that presumably keeps track of time does not have any units. Especially when considering the dynamic nature of most light shows, the lack of such information could hamper users' usage. A simple fix would be to add units to the line.

15. [H2-7. Flexibility and efficiency of use] [Severity: 3] [Found by: B]
On the visualize screen, the instructions attached to the direction pad and play controls feel almost unnecessary because the buttons are so intuitive. Removing the instructions entirely may make for a cleaner interface while not seriously compromising usability.

16. [H2-7 Flexibility and efficiency of use][Severity: 2] [Found by: A,C]
 The first screen gives the user the choice to select a new or existing project and when they pick one a new screen pops up which still gives them the option to choose but also adds which project they can want from the selected category. The first screen does not really add anything useful and just requires them to go through one more screen. I think it could probably be removed.

17. [H2-4 Consistency and standards][Severity: 2] [Found by: A,C]

When the user selects new or existing project the two select screens that each option has are different. This is not consistent and I think it would be cleaner if you only used one type of selector.

18. [H2-3 User control and freedom][Severity: 4] [Found by: A,C]
The back button in the top left corner always takes you back to the very first screen. A couple times I went to the next screen by accident and wanted to go to the previous screen but instead I had to go all the way back to the beginning. I think you should make the back button take you to the previous screen and maybe have a separate home button that could take you all the way to the first screen.

19. [H2-7 Flexibility and efficiency of use][Severity: 4] [Found by: C]
Throughout the initial screens, the button keep getting smaller and under-utilize the screen. For example, in the "new project" screen, "AmphiTheater" and "Private Venue" are small and very close together. With a touch interface, the user might accidentally start the wrong project (Fitt's law).

20. [H2-7 Flexibility and efficiency of use][Severity: 3][Found by: A]
On the light-grouping screen, it is confusing what the "+" icon represents. It shows up once in the top box and on every thing on the bottom box. It is a little confusing how the two boxes interact and if you need to select one from both for each lighting group. I think you could adjust the names above the boxes or add a little information to help the user know what they need to pick.

21. [H2-1 Visibility of System Status] [Severity: 4][Found by: A]
On the light show design there was no information telling you where you were at in the show. There is a play button and forward and rewind buttons and I think you should also add a little progress bar to let the user know where they are currently playing. The top bar could fill up a different color or something similar to let the user know where they are.

22. [H2-1 Visibility of System Status] [Severity: 4][Found by: C]
The light show design screen is seperate from the visualizaiton screen, making optimization cumbersome. Some simple preview should be available in the light design screen to streamline the design process and make it continues instead of segmented.

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]	0	0	0	3	0	3
[H2-2: Match Sys & World]	0	0	0	0	0	0
[H2-3: User Control]	0	0	0	1	0	1
[H2-4: Consistency]	0	6	1	0	0	7
[H2-5: Error Prevention]	0	0	0	0	0	0
[H2-6: Recognition not Recall]	0	0	1	2	0	3
[H2-7: Efficiency of Use]	0	1	2	1	0	4
[H2-8: Minimalist Design]	0	2	0	0	0	2
[H2-9: Help Users with Errors]	0	0	0	0	0	0
[H2-10: Documentation]	0	0	2	0	0	2

Total Violations by Severity	0	9	6	7	0	22
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
level 1		100%	100%	100%		
level 2		44.44%	77.78%	44.44%		
level 3		50%	80.00%	40%		
level 4		66.67%	50.00%	60%		
level 5		100%	100%	100%		
total (levels 4 & 5)		66.67%	50%	60%		
total (all levels)		52%	71.43%			

evaluator # Ex. C	# problems found Ex. 7	# problems remaining & problem IDs Ex: 5 (1, 7, 11, 13, 17)
A	11	10(1,2,6,7,9,10,13,14,15,19)
B	15	6 (16, 17, 18, 19, 20, 21)
C	11	10(1,3,5,6,7,9,10,13,15,20)

Right right-click on the chart and select "Edit Data..."
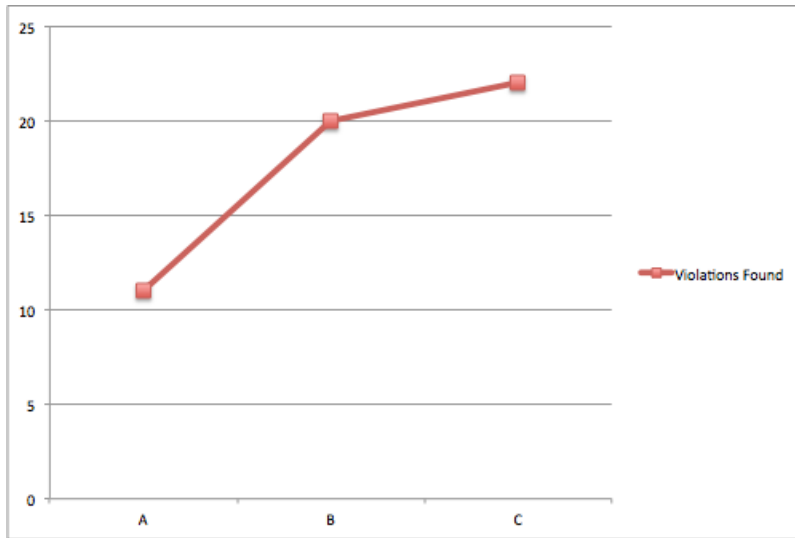
Severity Ratings

1 - don't agree that this is a usability problem
2 - cosmetic problem

3 - minor usability problem
4 - major usability problem; important to fix
5 - 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]
- 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