Virtual Venues: Low-fi Prototype

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Overview

- Learned more about lighting design and existing interfaces from an experienced lighting designer on campus
- Created our low-fi prototype using a digital prototyping tool
- Tested our prototype with two experienced users and one beginner
- Received feedback about our interface for specific tasks and made plans to improve our next prototype accordingly
Team Mission Statement

- Utilize VR headsets to allow designers to create and test light shows in advance
- Tackle issues currently associated with lighting design:
  - Number of tasks and options involved in developing a light show
  - Lack of informative interfaces
  - Inherent physical and temporal constraints
Task 1: Lighting Placement

- Unique drag-and-drop functionality
- Ability to adjust lights in groups
- Top view and side view in 2D
- Fine tune in 3D
Task 2: Lighting Adjustments

- Select individual lights or groups of similar lights to adjust
- Can pan and tilt from vantage point of light
- One “drawing” area
- Can view previously used cues
- Used tabs to reduce clutter from the large number of options
- Can step through cues
Task 3: Visualization

- Can play, rewind, or fast forward through show
- Can adjust your position in the audience, will be transported smoothly
Low-fi Prototype Structure
Virtual Venues

Open Project

Start New Project

settings
Virtual Venues

Existing Projects

- My Project 1
  - EBF Show
  - Cantor
  - My Project 2
  - Mem.Aud.
  - Bing Concert
  ...

Settings
Virtual Venues

Open Existing Project

Start Project

settings
Virtual Venues

Red Venues

Import 3D Model

All Venues

Import & Render Floor Plan

Back

settings
Virtual Venues

Recent Venues

Amphitheater

Private

Stadium

Concert Hall

::

settings
Virtual Venues

Recent Venues

Import 3D Model

All

Import Floor Plan

order

Back

settings
Virtual Venues

All Venues

Amphitheater

Private

Stadium

Concert Hall

Settings
Virtual Venues

Recent Venues
Incomplete Model

All Venues
Impact & Render Floor Plan

Back Home Settings
Virtual Venues

![Diagram of virtual venues interface]
Virtual Venues

[Diagram of a computer interface with categories such as Favorites, Desktop, Downloads, Libraries, Documents, Music, Pictures, Video, and options to insert file name and search.]
Lighting Placement
Lighting Placement
Lighting Placement
Lighting Placement
Lighting Placement
Lighting Adjustment
Lighting Adjustment
Lighting Adjustment
Lighting Adjustment
Experimental Method

- **Participants:** wanted professional feedback, two participants from Dynamic Sound and Lighting in San Jose
- **Environments:** two subjects in lighting store, the other in Kairos -- minimized distractions
- **Tasks:** place lights, adjust light type and movement, test
- **Procedure:** demo major screens and venue selection
Results

- Early screens navigated easily by all three subjects
- Positive feedback on lighting placement
- No options for fixture types to place
- Lighting design screen: easy to navigate, well laid out
Results: Subject One

- From lighting store
- Liked the option to draw movement pattern
- Lacked delay cue options
Results: Subject Two

- From lighting store, experienced with customers
- Liked that entire process was virtual
- Concerned about defining parameters on a venue to keep lights tracking in correct space
- Delay cues essential to any performance
Results: Subject Three

- Unfamiliar with lighting design
- Able to navigate through screens easily despite being a beginner
- Commented that layout was clear and easy to understand
Suggested UI Changes

- We learned that our application would be most popular with inexperienced and amateur lighting designers, such as mobile DJs
Suggested UI Changes

● The average DJ doesn’t have access to HMDs and motion tracking systems
  ○ Normal user input devices (e.g., mouse & keyboard)
  ○ iPad interface?

● Beginning lighting designers don’t want to be overwhelmed with options
  ○ Modify interface to be less technical
  ○ Reduce number of options
  ○ More presets/ built-in features and effects
Summary

- Talking to four potential users and learning more about lighting design and current industry standards gave us insights into the features we wanted and the users we wanted to target.
- Didn’t have all of the features in this prototype.
- We missed some obvious features.
- Overall, confident about our layout and design choices.