

# Design Evaluation

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## Objective and Validation Metrics:

**Objective:** The goal was to assess how easily users could interact with video clips in 3D space, specifically testing dragging, hover enlargement, and trimming actions.

### Validation Metrics:

**Drag Video:** Considered successful if the participant could move a video and place it correctly within the editing panel.

**Hover Enlarge Video:** Considered successful if the participant noticed the video grow in size when hovered.

**Trim Video:** Considered successful if the participant could select a corner or edge and adjust the video length accurately.

## Results:

### Key Findings from Interactive Prototype Testing

#### *Task Completion Rates*

**Drag Video:** Only two participants out of six were able to successfully drag and place a video into the editing panel. The remaining four either placed the video incorrectly or could not complete the task.

**Hover Enlarge Video:** All participants managed to complete this task. Every participant hovered over the video and saw it enlarge, showing that this interaction was easy to understand.

**Trim Video:** Three participants successfully trimmed a video by clicking and dragging. The others struggled to find the correct edge or handle, which prevented successful trimming.

### *Observed Actions*

- Many participants attempted to drag videos multiple times, with some accidentally placing them outside the intended area or onto side walls.
- While trying to trim, participants clicked and held the video but were unsure how to drag the edges properly, resulting in failed attempts.
- For hover interactions, participants immediately noticed the video enlarged when they moved the cursor over it, demonstrating clear visual feedback.

## Participant Comments (From THINK ALOUD and Feedback)

- **Dragging videos:**  
“I didn’t know the video could be dragged at first.”  
“I thought it would snap into place automatically.”  
“I accidentally placed it on the side wall.”  
“I tried to snap the videos together, but it didn’t work.”
- **Trimming videos:**  
“Which part of the video should I click to trim?”  
“I clicked and held, but I wasn’t sure which direction to drag.”
- **Hover enlarge:**  
Participants did not report any confusion and appeared confident while hovering, noticing the video enlarged as expected.

## Analysis/Insights:

The testing showed clear trends in how participants interacted with the prototype. All users immediately understood the hover-to-enlarge feature, indicating that the visual feedback was intuitive. Dragging videos, however, caused confusion: most participants either placed videos incorrectly or could not complete the task. Trimming videos was also inconsistent, with some participants unsure where to click or how to drag the edge. Overall, hover interactions were clear, but arranging and trimming videos in 3D space needs more guidance and visual cues.

## Key Observations:

- **Hover feedback works:** Users quickly noticed the video enlarging.
- **Drag-and-drop confusion:** Placement errors suggest that clearer guidance or alignment indicators are necessary.
- **Trimming challenges:** Users struggle without clear edges or drag handles.

## Evaluation of Aims

The goal of testing was to see if users could intuitively interact with floating video clips in 3D space.

- **Successful:** Hover-enlarge was universally understood.

- **Partially successful:** Trimming - only half of participants completed it correctly.
- **Unsuccessful:** Dragging and placing clips - only two participants completed this, showing the interface isn't fully clear.

## Concept Iteration

Based on testing insights, the following changes are suggested:

- **Improve Drag-and-Drop:**  
Add alignment guides or snap-to indicators.  
Highlight draggable videos to make interaction obvious.  
Make the videos align perfectly when dropped in editing panel
- **Refine Trimming:**  
Show visible handles or borders on hover.  
Include subtle cues for the direction to drag when trimming.
- **Keep Hover Feature:**  
The hover-enlarge interaction is clear and should remain as is.

## Reflection on Concept, Design, and Methodology

The testing highlighted both strengths and areas for improvement:

- **Strengths:** Hover-enlarge clearly communicates interaction. Observing users and asking questions provided useful insights into their behavior.
- **Limitations:** Drag-and-drop and trimming had high error rates, and not recording think-aloud feedback (for 2 participants) limited detailed qualitative analysis.
- **Learnings:** Clear visual cues and immediate feedback are essential in 3D environments. Simplifying complex tasks or adding affordances improves success rates.
- **Next Steps:** Redesign drag-and-drop and trimming interactions, test with more users, and record think-aloud sessions for richer qualitative data.

## **APPENDIX**

### **TASK COMPLETION RATES**

Participant	Task 1: Drag Video	Task 2: Hover Enlarge Video	Task 3: Trim Video	Completion Rate(%)
P1	Completed	Completed	Completed	100%
P2	Not Completed	Completed	Not Completed	33%
P3	Not Completed	Completed	Completed	67%
P4	Not Completed	Completed	Completed	67%
P5	Not Completed	Completed	Not Completed	33%
P6	Completed	Completed	Not Completed	67%

### **USER ERRORS**

Participant	Task	Error Description	Frequency of Occurrence/Response
P1	Drag video and place in editing panel	Didn't understand video is draggable at first	1
P2	Drag video and place in editing panel	Accidentally placed on side wall and the video got placed outside the space	2
	Trimming the video by holding and dragging	Clicked and holded but got confused on how to drag	1
P3	Drag video and place in editing panel	Dragged and placed in editing panel but didn't get placed	3
P4	Drag video and place in editing panel	Tried to snap together the videos but didn't work	2
P5	Drag video and place in editing panel	Expected the videos to align straight while arranging in editing panel	2
	Trimming the video by	Clicked and holded but	1

	holding and dragging	got confused on how to drag	
P6	Trimming the video by holding and dragging	Didn't understand where to click on the video	1

### **ACKNOWLEDGMENT OF AI**

I have used Open AI's Chatgpt ([www.chatgpt.com](https://www.chatgpt.com)) to fix grammatical errors and replace a few words with their synonyms in the content.