**Paint 360**

Testing plan for interactive prototype 1

This project is a traditional drawing and painting application, but using Unity to provide an interactive 3D environment on a desktop. Users can select tools, draw, and change scenes using buttons and sliders, simulating some of the spatial and interactive affordances of XR. The goal is to explore whether the interface allows users to intuitively select colors, use painting tools, and interact with the environment.

**Testing Objective**

From my concept, I have identified that it is unclear whether users can understand and efficiently use the color slider, draw tool, paint bucket, scene changer & toolbar movement. This test aims to discover which interface elements are intuitive and which might confuse users, helping evaluate the usability of the UI, tool selection, color picking, and drawing interactions.

**Testing Methodologies**

This testing plan will use observational usability testing with think-aloud protocol to evaluate the Unity desktop prototype. Participants will complete tasks using the tools while I observe their actions, noting errors, confusion, and feedback.

**Prototype description/requirements**

The prototype was designed to provide interactivity with multiple drawing and scene tools:

* Draw Tool: Users can draw in the scene using the mouse.
* Paint Bucket: Users can fill objects with selected colors.
* Color Slider: Allows users to select colors that update the brush and paint bucket.
* Scene Changer: Lets users switch between different room environments.
* Toolbar Movement: Users can drag the toolbar to different areas of the screen.

The prototype includes clickable UI buttons and sliders, giving visual feedback when tools or colors are used. These interactions are not final and are a simulation of raycasting and detection of hand position & pose.

**Data collection method**

During testing, I will:

* Observe participants completing each task.
* Note errors, hesitation, or confusion.
* Record task completion time.
* Ask participants to think aloud and describe what they are doing.

Take screenshots if necessary to document usability issues.

**Testing Setup**

* Launch the Unity prototype on a computer.
* Ensure all UI elements and scripts are working (draw tool, paint bucket, color slider, scene changer, new file & eraser).
* Prepare a testing script describing tasks for participants.
* Have a notebook or spreadsheet ready for logging observations.
* Setup mobile phone recording of testing sessions (if consent is given)

**Testing process: (also considering the schedule/time)**

Introduction (30 sec)

* Explain to the participant that they will interact with a Unity prototype on the computer.
* Describe the available tools (draw, paint bucket, color slider, scene changer, new file, eraser & player movement).

Orientation (1 min)

* Show the participant how to use the mouse to select colors, draw, paint objects, and change scenes.

Task 1: Draw Tool (30 seconds)

* Ask the participant to draw a red love heart in the scene.
* Ask the participant to move to a different angle and try to cross section the drawing again.
* Observe their use of the brush tool and color selection.

Task 2: Paint Bucket (30 seconds)

* Ask the participant to fill an object with a selected color.
* Observe ease of selecting colors and applying them.

Task 3: Color Slider (30 seconds)

* Ask the participant to change the color using the slider and notice how it updates tools.
* Observe if color changes are intuitive.
* Ask the participant to draw a multicoloured stem.

Task 4: Scene Changer (10 sec)

* Ask the participant to switch scenes or in our early case to a colour they like.
* Observe if the scene changes are obvious and easy to perform.

Task 5: Move Toolbar (10 sec)

* Ask the participant to reposition the toolbar to the bottom of their view.
* Observe whether they understand how to grab and move it, and note any confusion or errors.

Task 6: Use the Eraser Tool (10 sec)

* Ask the participant to erase all their brushing.
* Evaluate time on task

Task 7: New File button (10 sec)

* Ask the participant to start a new file.
* Evaluate time on task

Wrap-Up / Debrief / Free Draw Time (1 min)

* Ask participants for overall impressions, difficulties, or suggestions.
* Record final observations and thank the participant.

**Time on Task**

| Task 1 |  | Task 1 |  | Task 1 |  | Task 1 |  | Task 1 |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Task 2 |  | Task 2 |  | Task 2 |  | Task 2 |  | Task 2 |  |
| Task 3 |  | Task 3 |  | Task 3 |  | Task 3 |  | Task 3 |  |
| Task 4 |  | Task 4 |  | Task 4 |  | Task 4 |  | Task 4 |  |
| Task 5 |  | Task 5 |  | Task 5 |  | Task 5 |  | Task 5 |  |
| Task 6 |  | Task 6 |  | Task 6 |  | Task 6 |  | Task 6 |  |
| Task 7 |  | Task 7 |  | Task 7 |  | Task 7 |  | Task 7 |  |

**Debrief Questions**

### **General Impressions**

* How did you feel using the prototype overall?
* Was there anything you particularly liked or disliked?

### **Specific Tool Feedback**

* Which tool felt the most intuitive or natural to use?
* Which tool felt the most confusing or frustrating? Why?
* Did you notice the toolbar re-positioning feature? Was it clear how to use it?
* Did the color changes (slider or picker) update as you expected across tools?

### **Workflow & Efficiency**

* How smooth did it feel to switch between tools (drawing → paint bucket → eraser → new file)?
* Did you find yourself hesitating or re-checking before performing an action?
* Did anything slow you down or feel clunky?

### **Suggestions & Future Improvements**

* If you could improve one tool, which would it be and how?
* Were there any features you expected but didn’t find?
* What would make this experience feel more immersive or enjoyable for you?