

# **Assessment 1.1: DESIGN REPORT Concept**

**Project Name:** Procreate XR – Immersive Creation in Mixed Reality

**Category:** Creation / Productivity

## **1. Application Redesign & User Task Identification**

Procreate is a widely used digital illustration and painting tool for touchscreen tablets. While powerful in its 2D form, it confines artists to a flat workspace. This XR redesign reimagines Procreate as an immersive mixed reality environment where the canvas, tools, and layers exist in three-dimensional space. The XR format supports richer spatial interaction, ergonomic flexibility, and a greater sense of immersion than traditional interfaces, making it ideal for creative workflows.

## **2. Tasks and Goals**

The redesigned application supports three core user goals: enabling artists to create and edit artworks in a fully spatial environment by working on a floating virtual canvas and adjusting tools through wrist-mounted menus; allowing spatial management of layers and tools, presented as floating panels that can be rearranged, merged, or hidden using natural gestures to improve workflow organisation; and providing the freedom to reposition and scale the canvas to suit any working posture—standing, sitting, or reclining—thereby enhancing both ergonomic comfort and creative flexibility.

## **3. Iteration and Refinement**

In Week 2, the concept was transformed into a low-fidelity cardboard-and-paper prototype to quickly explore spatial interactions. The setup placed a framed floating canvas in front of the user, with the left hand dedicated to global functions (export, settings) and the right hand to creative tools (brush, eraser, layers). Testing focused on pinch-to-zoom, grab-and-drag to reposition the canvas, and raising a hand to activate a radial menu. Participants valued the separation of functions between hands and found the pinch and grab gestures natural. However, they noted the lack of clear visual feedback when menus were active and suggested anchoring menus more firmly to the hand or gaze. These insights confirm that the basic interaction model is promising but requires enhanced visual cues and onboarding guidance for first-time users.

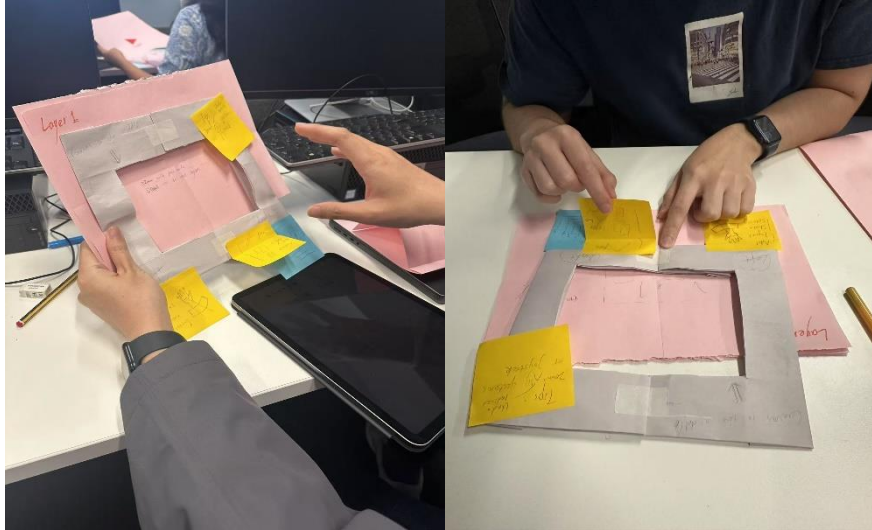


Fig 3.1 Prototype testing

#### 4. XR Environment and Interactions

Procreate XR operates in a workspace that can shift between augmented reality, where the canvas appears in the real world, and a fully virtual studio for deep focus. The framed, floating canvas can be zoomed by pinching both hands or moved by grabbing and dragging. Wrist-anchored radial menus give quick access to tools—global functions on the left and creative tools on the right. Raising a wrist opens the corresponding menu, and tools can be selected by tapping or sliding. Layers appear as floating cards for rearranging, merging, or hiding with gestures, while quick commands such as “Undo” or “New Layer” can be triggered by gesture or voice. These spatial interactions make the process more direct, tactile, and engaging.

#### 5. Initial Testing Plan

The first testing phase will assess the intuitiveness and efficiency of gesture-based canvas control, wrist menu navigation, and spatial layer management. It assumes gestures will feel more natural than controllers, that splitting functions between hands will reduce confusion, and that visual feedback will improve usability. Testing will use updated low-fidelity prototypes with visual cues, followed by mid-fidelity XR simulations. Data will include task completion time, gesture accuracy, and satisfaction ratings, plus post-task interviews to gather qualitative feedback. The results will confirm whether the design supports a smoother creative workflow and guide adjustments to menu feedback and onboarding.

### **Statement of Original Work**

I certify that all written content in this “Assessment 1.1: DESIGN REPORT Concept” report is my own original work. While translation and language refinement tools were used to assist in writing, all ideas, structure, and design concepts are entirely my own. All images included in this report (Fig 3.1) are my own original work, created or photographed during studio activities, and are based on my prototype development process. No external resources were used in the creation of this report or prototype.