**Material Selection in XR**

**Testing plan for interactive prototype 1**

This project is an Odoo app where material selections are manually uploaded and updated for clients but now enhanced with XR for viewing and interacting with materials. It allows users to shortlist new uploads from vendors and visualise them in different lighting conditions. This way, clients can explore materials from their office instead of visiting multiple stores.

**Testing Objective**

Assumptions

* Users already know how to move, pick up, drop, and rotate materials on screen.
* Users can relate to the on‑screen UI, understanding that it represents interaction with the closest object.
* Users understand the concept of lighting options and how toggling lights (on/off or adjustments) affects material visualization.
* Users will recognize how shortlisting works within the interface.

Unknowns

* Do users find the object manipulation controls (pick, drop, rotate, move) intuitive?
* How do users expect to interact with lighting controls (e.g., toggles, sliders, presets)?
* What is the user’s mental model when shortlisting materials in a virtual environment?

Test Objectives

This test aims to discover:

* Whether users can move and adjust their viewpoint easily.
* If users can pick up, drop, and rotate objects without confusion.
* Whether the interface feels intuitive and users can successfully shortlist materials.
* How users conceptualize shortlisting in a virtual context compared to real-world material selection.

**Testing Methodologies**

This testing plan will use **Qualitative methods** to better understand users’ behaviours and thought processes while interacting with the prototype. A think‑aloud protocol will be applied, where participants are encouraged to verbalize their thoughts as they complete tasks. I decided to do A/B testing to understand how users understand the vicinity of UI in Virtual World.

* After each task, participants will be asked short reflection questions such as:
* Were you able to finish the task?
  + If yes, what was the easiest part of the process?
  + Where did you find difficulty while completing the task?

The goal is to evaluate how users experience a digital prototype built in Unity, including the intuitiveness of interactions (e.g., moving, rotating, and shortlisting materials) and the clarity of the interface.

**Prototype description/requirements**

The prototype designed to provide interactive functionality that allows testing of user interaction with materials in a virtual environment.

Tasks

* Move, pick up, drop, and rotate material samples cubes on the screen.
* Change viewpoint/eye-level to see materials from different angles.
* Shortlist selected materials for comparison.
* Toggle lighting conditions to observe how materials look in different environments.

**Data collection method**  
During the testing process, I will observe and record users as they interact with the prototype, encouraging them to think aloud to express their thoughts and decision-making. I will take notes on users’ behaviours, difficulties, and comments related to each task. Additionally, I will use screen recording to capture interactions and may record short post-task interviews to gather users’ feedback and reflections.

**Testing Setup**

To prepare for the test, I will:

* Ensure the Unity prototype is fully functional and tested for bugs.
* Set up the testing device (PC or XR headset) with the prototype ready to launch.
* Arrange a quiet, comfortable space where participants can focus without interruptions.
* Prepare recording equipment for screen capture and audio to record think-aloud commentary.
* Have consent forms and introductory materials ready for participants.

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

* Welcome and Introduction (30 seconds)
  + Greet the participant and briefly explain the purpose of the test.
  + Explain that this is a test of the prototype, not of their abilities.
  + Encourage them to think aloud as they complete tasks.
* Consent and Setup (2-3 minutes)
  + Obtain informed consent.
  + Help the participant get comfortable with the device and controls.
* Tasks (15-20 minutes)
  + Ask participant to complete a series of predefined tasks
    - Task 1 - You are exploring a material in Virtual reality, you need to pick drop and rotate the material
    - Task 2 - You are shortlisting the materials
    - You are visualising material, toggle between lights on and off from different positions
  + Observe and take notes as they do so.
* Post-Task Interview (5 minutes)
  + Ask questions about their experience, difficulties, and overall impressions.
* Thank and Debrief (1 minute)
  + Thank participant for their time and provide any final information.