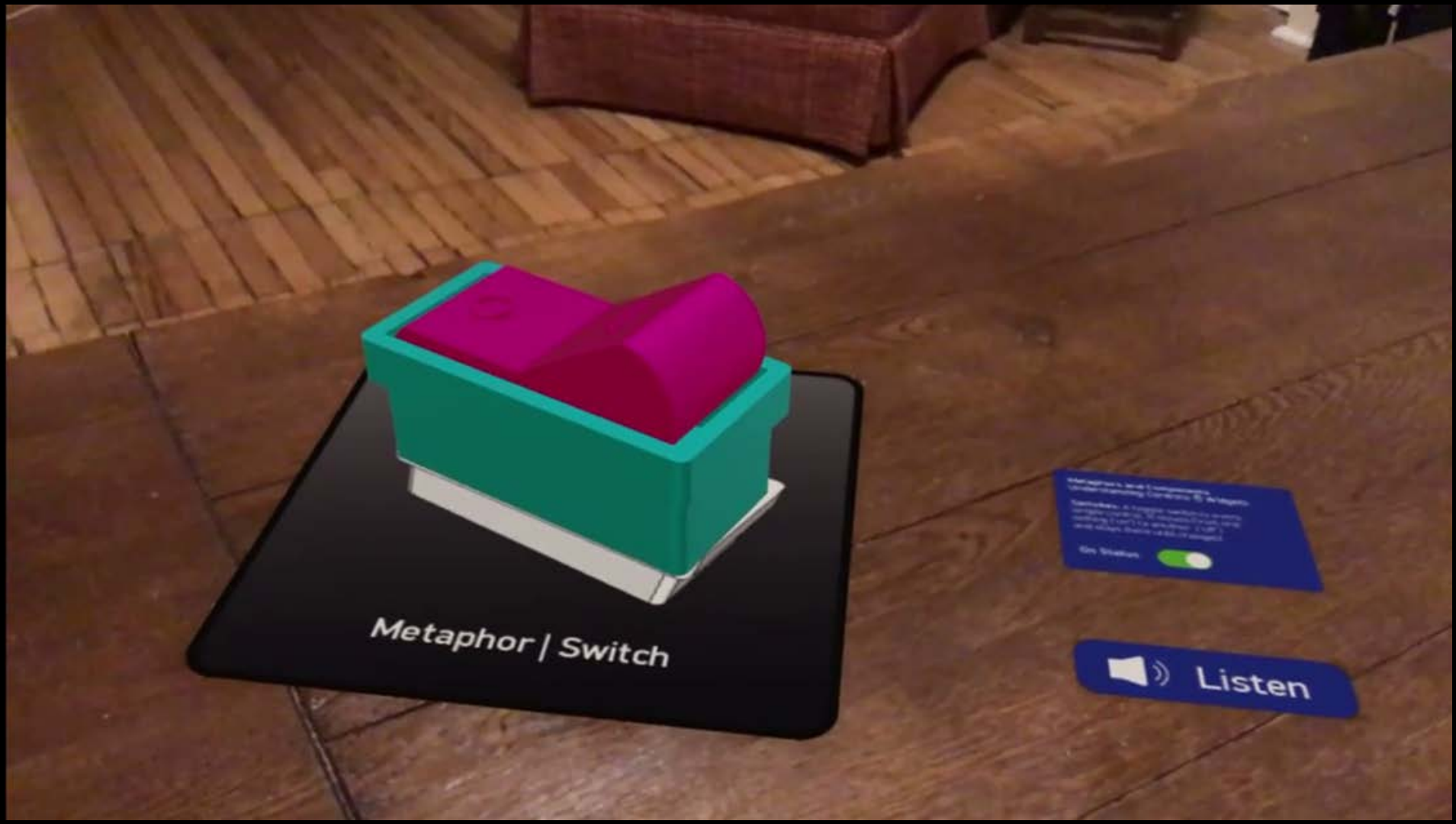


Tap above image to play AR Demo video

Building AR Interaction

The Switch as the metaphor

Here I explore the use of the Switch metaphor used in Adobe Reality Composer to build an Augmented Reality (AR) experience.

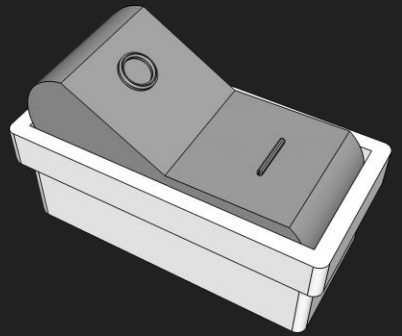
Specifically, in building this experience we are using a 2D interface to simulate a 3D object.

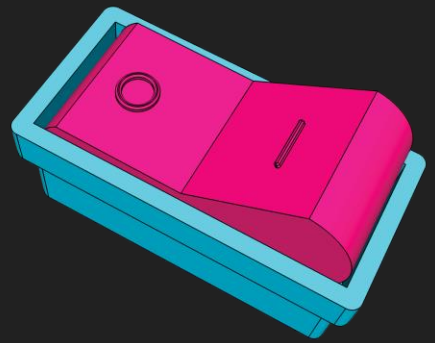
A 2D object – in this case an image of a switch – is used as a marker. The image in this case marks the flat 2 dimensional flat surface.

The AR engine uses it to discern the type of surface geometry and orientation it should be looking for a to map the built 3D switch geometry on top of. This could take the form of a table for instance.

The switch is a familiar device so that in our AR experience we are replicating recognized iconography in the thick line an the circle, as well as a change in colour and, a toggle on geometry when one side lays down and the other up to indicate different states.

In this case the surface geometry with the thick line laying flat down and grey muted tones indicate on OFF state.





Where the surface geometry has the side with the circle laying flat down and the switch now in magenta and light blue tone indicate an ON state.

Trigger

Triggers initiate a microinteraction.
Triggers can be user-initiated or system initiated. In a user-initiated trigger, the user has to initiate an action.
In a system-initiated trigger, software detects certain qualifications are being met and initiates an action.

Rules

Rules determine what happens once a microinteraction is triggered.

Feedback

Feedback lets people know what's happening. Anything a user sees, hears, or feels while a microinteraction is happening is feedback.

Loops & Modes

Loops and Modes determine the meta-rules of the microinteraction. What happens to a microinteraction when conditions change?

Microinteraction: Activating AR content via Marker + Device Camera

Trigger

System detects AR marker through camera, initiates scene

Rules

- If 2D AR marker is obscured or not visible on camera, the AR scene will disappear until it is once again detected

Feedback

- Scene motion: The AR content descends into position when activated
- If user moves around in the real world, the AR objects would adjust their angles accordingly as if they existed in the physical world

Loops & Modes

- Types of markers (positional orientation) can change how it is detected and its geometric limits
- External factors such as environmental lighting conditions and surface contrast can affect detection

Microinteraction: Direct interaction with UI AR content

Trigger

User taps on switch on-screen

Rules

- The 3D AR object must exist in the scene for this to be triggered

Feedback

- The 3D AR switch changes colour to a vibrant pink and cyan to signify an active state
- The 3D AR switch changes position with the circle recessed into the button when toggled ON

Loops & Modes

- If AR object is too far away/too small to be interacted with, user can change scale for better access and more accurate interactions

Microinteraction: Sound Effect

Trigger

User taps on the "Listen" image on-screen

Rules

- The 2D AR object must exist in the scene for this to be triggered

Feedback

- A sound is played when the "Listen" image is tapped on

Loops & Modes

- If the user's device volume is muted, they will not be able to know if a sound was played