

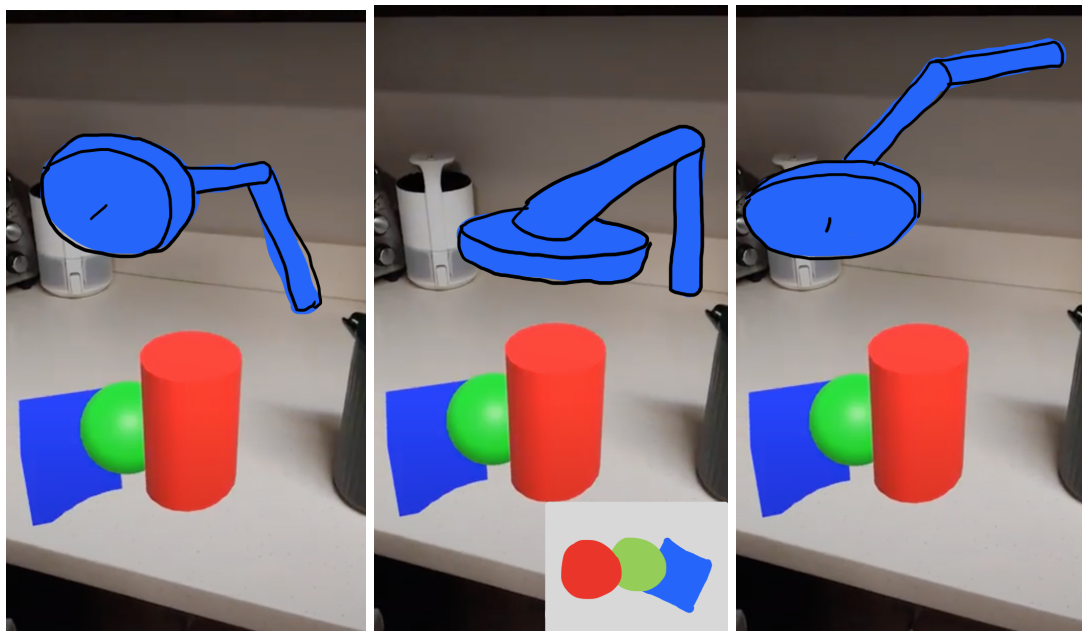
# AR Crane Game

## Purpose

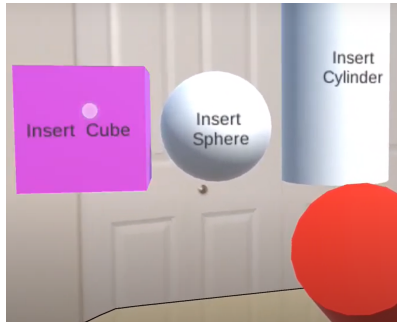
The purpose of the AR Crane Game is to showcase how ARCore can be used to create a game that uses SceneNode hierarchy. The user controls a crane (the head of the crane is a SceneNode leaf) which is used to pick up game objects (more than 2) that are on planes in the user's environment, moving at random speeds. The user controls the crane by touching the crane's joints and moving their finger on the screen. Game objects can be created by the user too by using an object selector. The user can see what the crane is picking up by using the viewport which is attached on the head of the crane.

## Stretch Goals

- Anchor the crane to the main camera to make it appear in first-person point of view.
- Using Lighting estimation to light game objects under similar conditions as the user environment
- Further game object interaction - throwing objects from the crane, having objects bounce off other planes in the user environment, giving objects a lifespan.



The diagram on the left shows a representation of what the crane might look like. It will consist of 3 cylinders each in a separate SceneNode. The diagram in the middle shows how we might move the crane by rotating each section of the crane. It also demonstrates what the viewport may look like. Since the crane's end is pointing straight down at the three objects, that would be the expected perspective from a camera on the crane. The diagram on the right demonstrates how we might move the entire crane to a different location. The crane and the objects will use a custom shader.



Screenshot of object selector, where the user can insert a new object into the world.