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MPEG-I Scene Description Phase 2

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Interactivity

- **Currently, no restriction on the camera's movements**

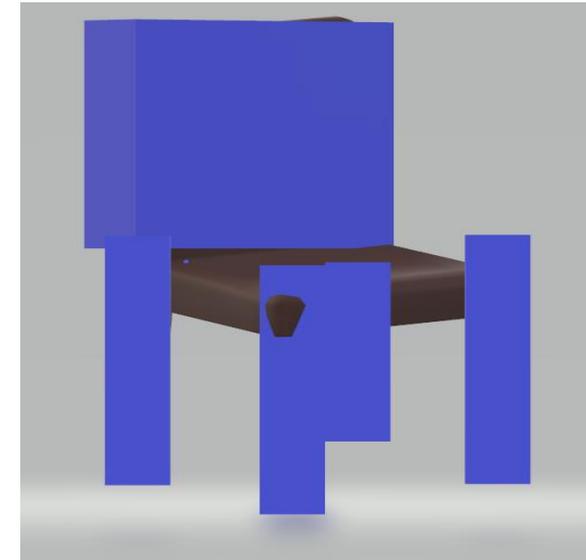
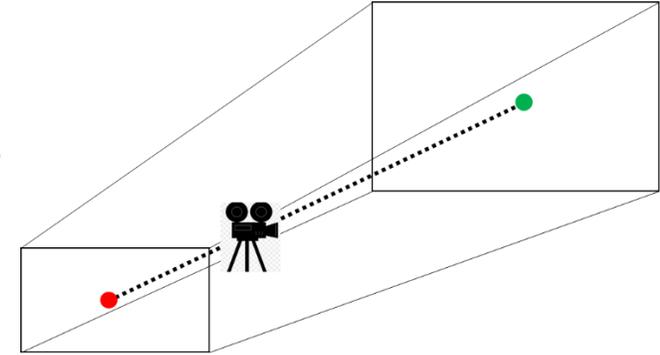
- Inconsistent and unrealistic experience
- e.g. user walking through walls and objects

- **Camera**

- Control the camera path
- Viewer can only move within a constrained volumetric space along the camera paths
- Discussion ongoing on how to define the volume

- **Collision**

- Material characteristics
 - Friction
 - bounciness
- Object may be static (immovable) or interactive (affected by collision)
- Collision may trigger an animation, audio and/or haptic feedback



Support for XR

- Anchor virtual scene to the user's real environment
- Relative to a reference XR Space
 - Transforms, rotates, and scales the scene space onto the reference XR Space
 - How to anchor and align scene to reference XR space?
 - How to properly translate pose information to camera transformations?
- The reference XR Space maybe
 - A standardized XR space, e.g. stage, view, local
 - An application-defined space, e.g. bound to an object
 - How to assist the application with the identification/selection of the XR space?



Actions, Haptics, and Uplink Data

- XR Runtime provides anchors for user input and haptics output
 - OpenXR uses actions and interaction profiles
 - Binding between action and input source is left to hardware
 - Action sets are defined by the application
- How to embed actions in the scene description to
 - trigger animations
 - cause scene changes
 - control haptics output
- Uplink Data
 - Pose information for remote/split rendering
 - Camera and microphone input for vision tasks
 - How to describe in the scene description?



Thank you

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