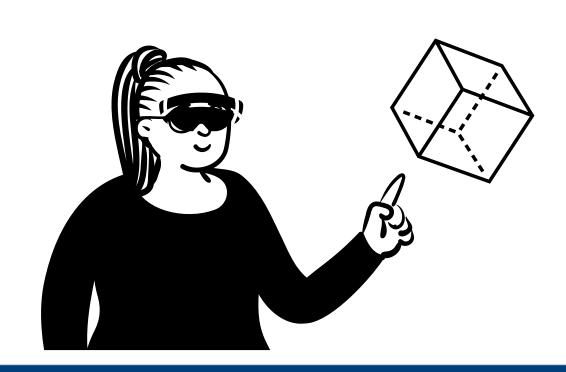
Symbolic Event Visualization for Analyzing User Input and Behavior of Augmented Reality Sessions

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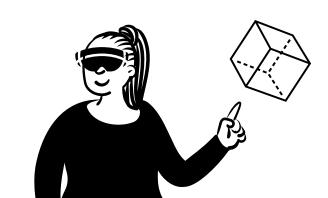
In Augmented Reality, the user ...





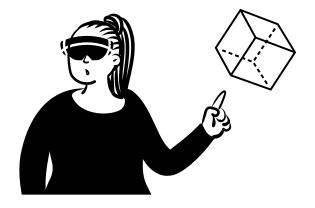












... acts within the real life environment,

for example, through

- conversation with others,
- interaction with real-life objects, and
- physical movement in the real word.

... interacts with virtual objects

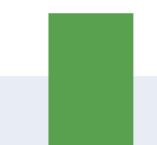
using different input methods, such as

- gestures,
- voice commands, and
- gaze selection.

... reacts to external stimuli

from the real or virtual world, for example,

- action calls such as alarms (virtual or real),
- distractions, and
- changes in the virtual or real environment.



How can we map this diverse input and behavior so that it is easy to understand and efficient to interpret?

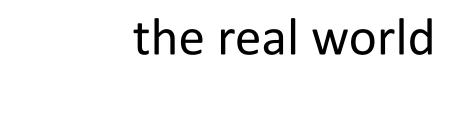
We represent events using icons assigned to one of three categories:

Real-Life Interactions

Augmented-Reality Interactions (AR)

Scene Context

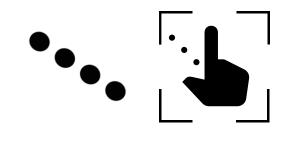
User actions taking place in





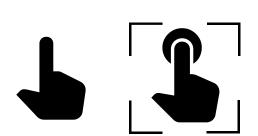


User interactions with virtual objects, split into Hover, Select and Activate





Rotate interaction sequence





Scale interaction sequence

Events not directly caused by the user



Object joins field of view







We visualise a sample session of a user picking up a cube and placing it at a specified destination.

For that, we display events as bars along their respective timelines, identified by the appropriate icon.

