Assistive Technologies for XR
Extend AT, New AT, or is AT embedded in the XR?

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What’s taking so long?


Inclusive VR circa 1998

Some basic questions?

• Can the existing AT model evolve to effectively support XR, or do we need rethink it?

• Screen readers, for example, are a based on a legacy of 2D GUI interactions, and we continue to extend that model with WAI-ARIA, for better or for worse.

• Is the accessibility API model of today too constraining to support XR?
Describing Objects

WAI-ARIA
ACCESSIBILITY CODE BANDAGES
World Wide Web Consortium

FLEXIBLE

NEW!
ARIA 1.1
Flexibility and comfort your users will love
With added properties for serious accessibility

81 Semantic Roles
See back panel for details
WAI-ARIA

• WAI-ARIA can be used to add semantics and states to interactions
• Constrained to the common GUI widgets
• ARIA 1.1 added `aria-roledescription` to allow authors to provide an alternate name for common interactive roles
• A first step, but really suggested we also needed custom states
• The question arises, can WAI-ARIA become extensible to support novel interactions?
• And more importantly, will current AT be able to support it?
PhET Accessible Simulations

Adding other properties: Haptics and Sound
So this leads for our first question

• Is WAI-ARIA the right model for informing AT about XR scenes, objects, their properties and interactions or are we asking ARIA to do something it was never designed to do?
If not ARIA....

• If the need for richer and flexible semantics puts ARIA out of the picture, what is the alternative?
Can current AT Adapt?

• Given the 2D nature of Screen Reader and Magnification, for example, can they adapt to support usable interaction with immersive environments?
What would the ideal AT look like?

A) Existing model of user preferred AT interfacing to XR
B) Hybrid of existing AT and XR?
C) Built-in AT that exposes yet to be defined interfaces for user devices
D) All of the above
E) None of the above
Audience Questions?