

SonifyAR: Context-Aware Sound Generation in Augmented Reality

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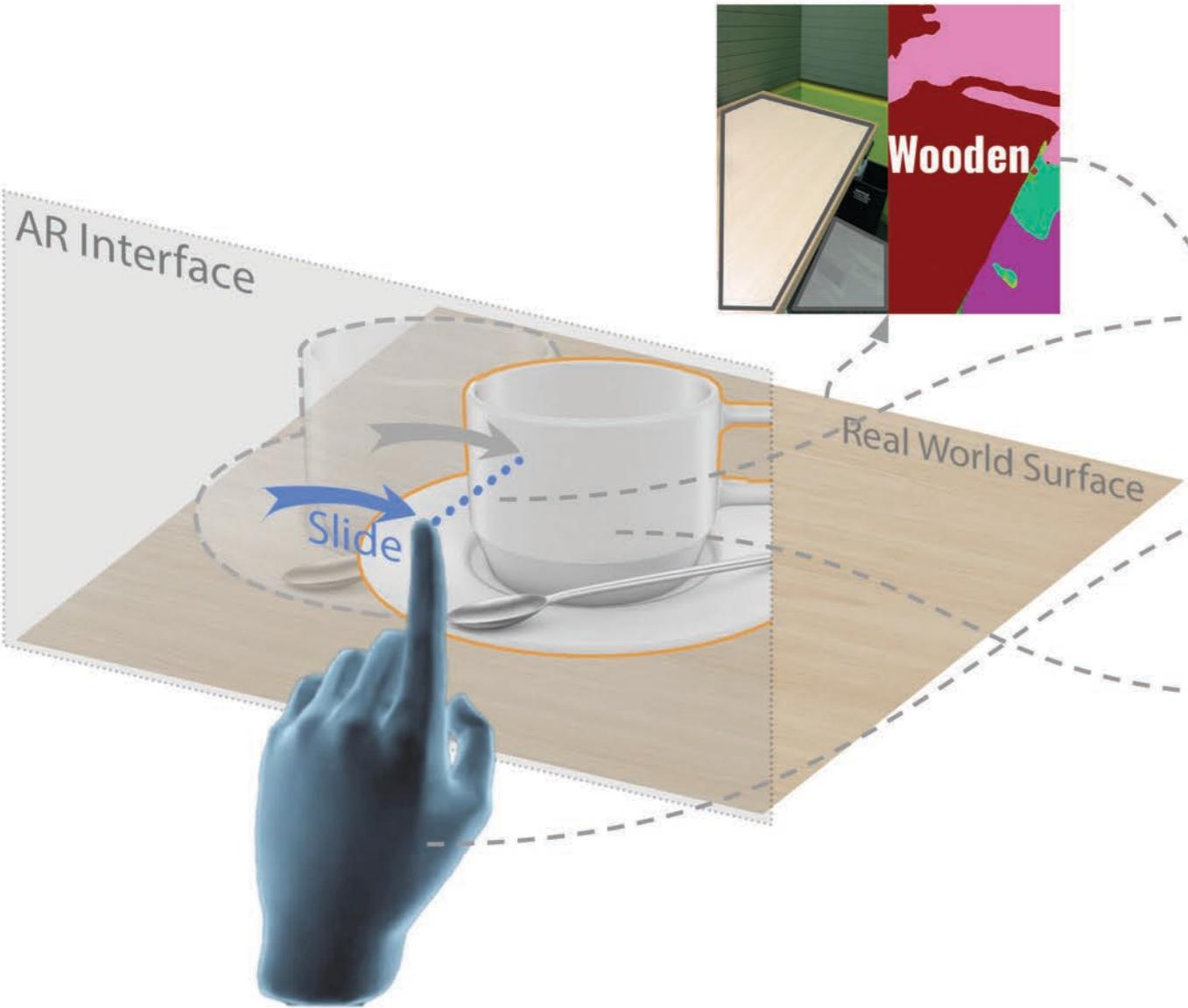
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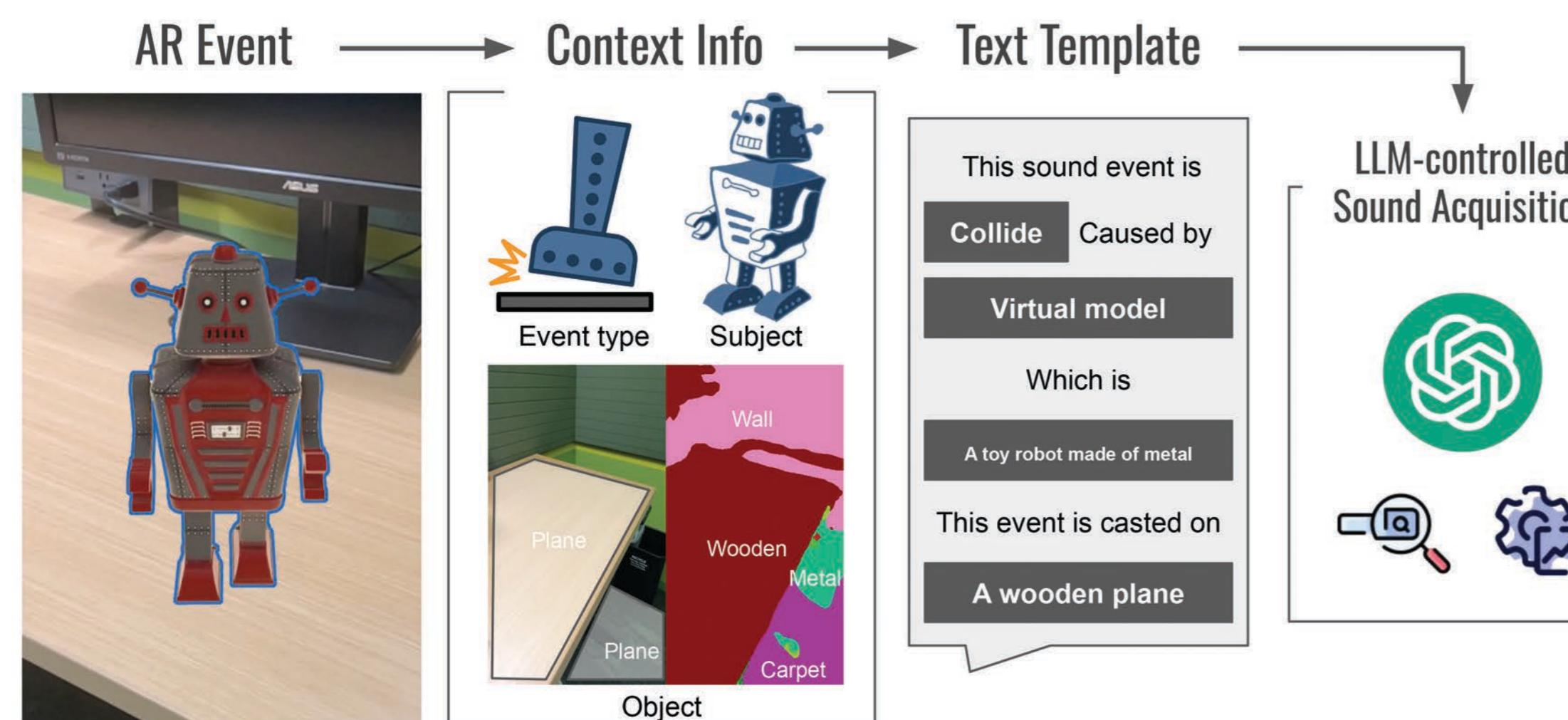


AR Interaction

Introduction

Sound plays crucial roles in enhancing user experience and immersiveness in Augmented Reality (AR). However, current AR authoring platforms lack support for creating sound effects that harmonize with both the virtual and the real-world contexts. In this work, we present SonifyAR, a novel system for generating context-aware sound effects in AR experiences. We utilize computer vision models and a large language model (LLM) to generate text descriptions that incorporate context information of user, virtual object and real world environment.

Pipeline

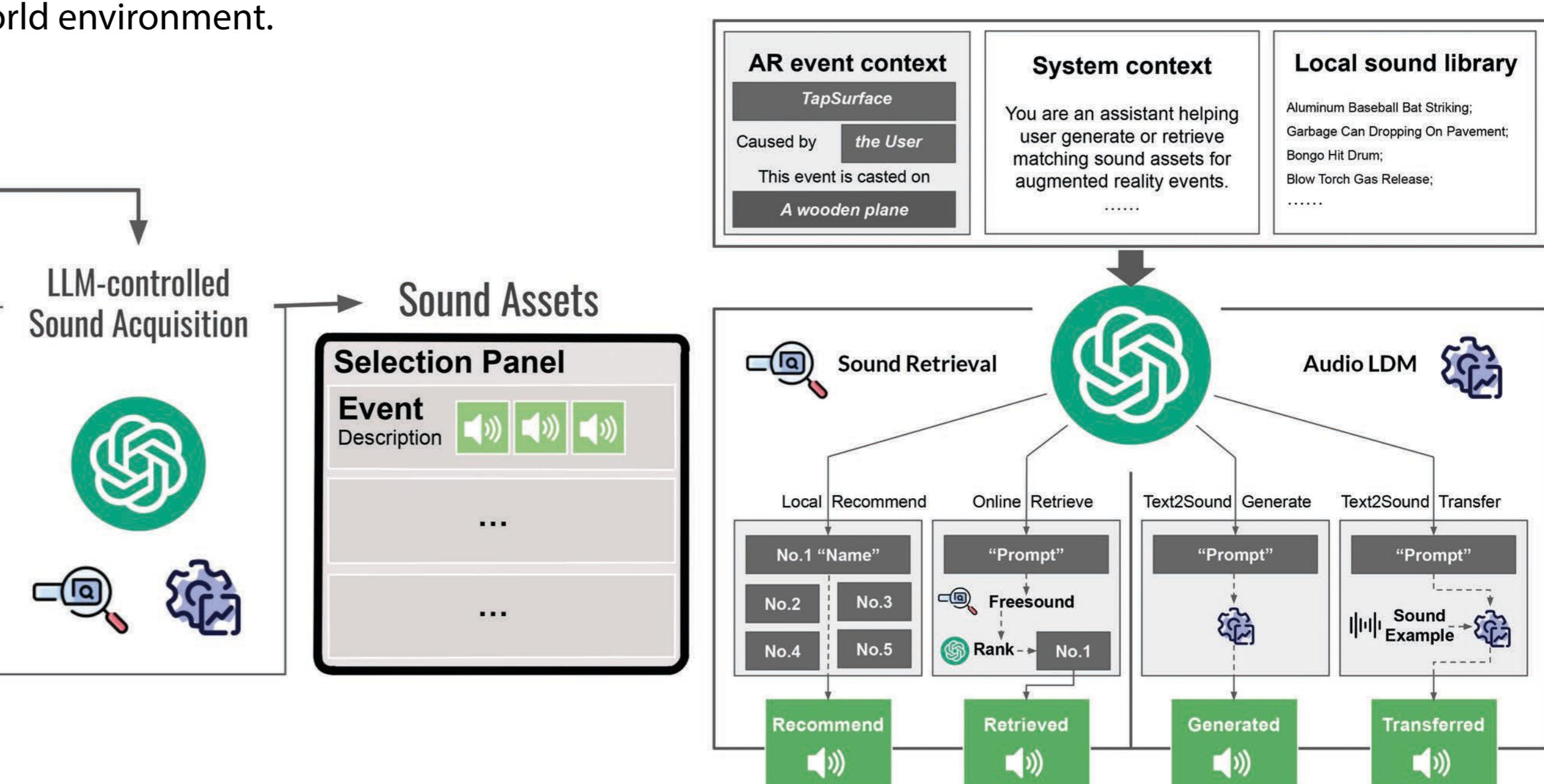
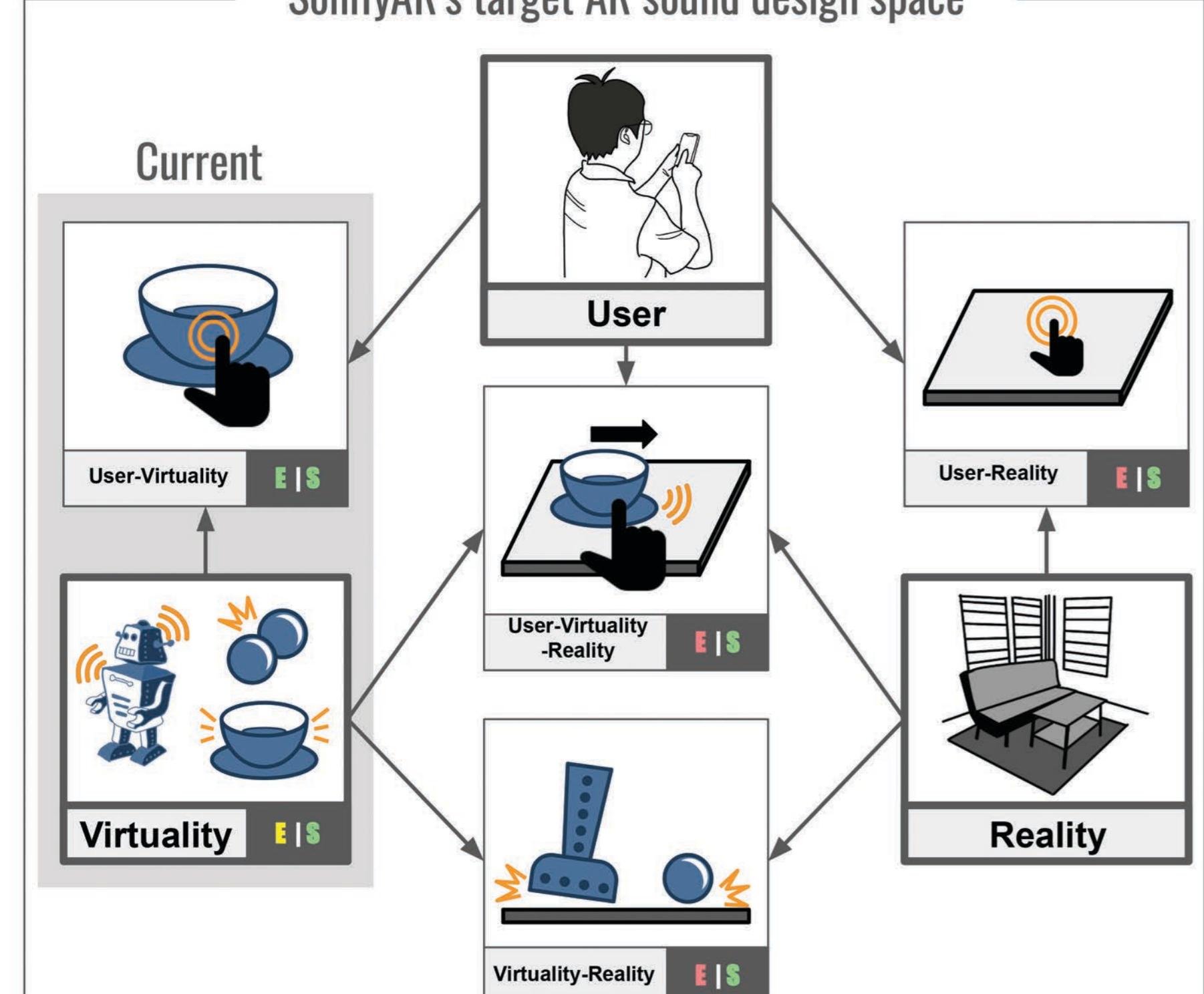


What are the target AR sound interactions?

We introduce a novel AR sound design space that helps emphasize the sonic interplay between three key factors of AR experiences:

Reality, Virtuality, and the User.

SonifyAR's target AR sound design space



Interface of SonifyAR

SonifyAR has a Programming by Demonstration (PbD) interface. When users interact with the AR space, SonifyAR captures AR events that can lead to sound feedback, and automatically generate context-matching sound assets.

