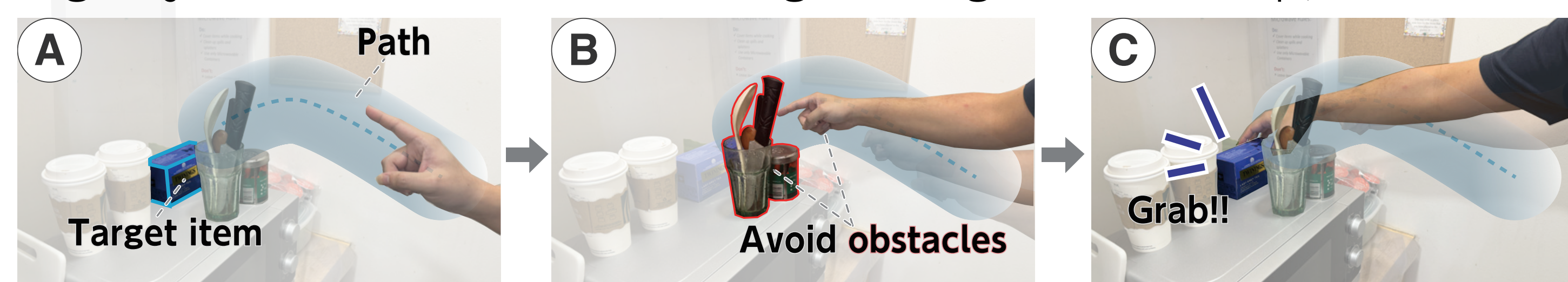


We design **Auditory Guidance** for **Eyes-free** **Hand Steering** in **3D Space**



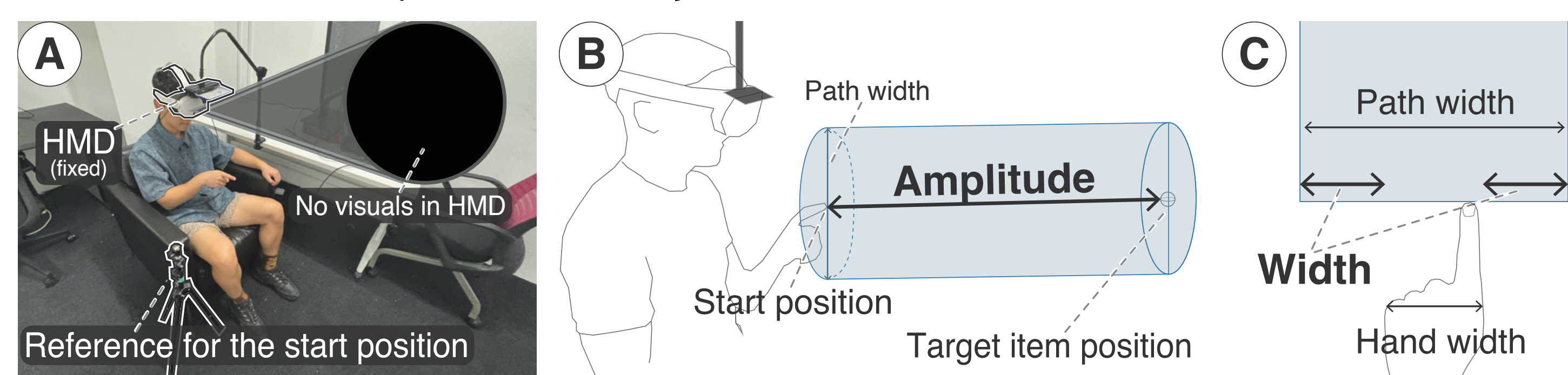
1. MOTIVATION

Guiding a person's hand along 3D paths helps users avoid obstacles and interact with everyday items (e.g., blind people acquiring objects or headset wearers grabbing a coffee cup).



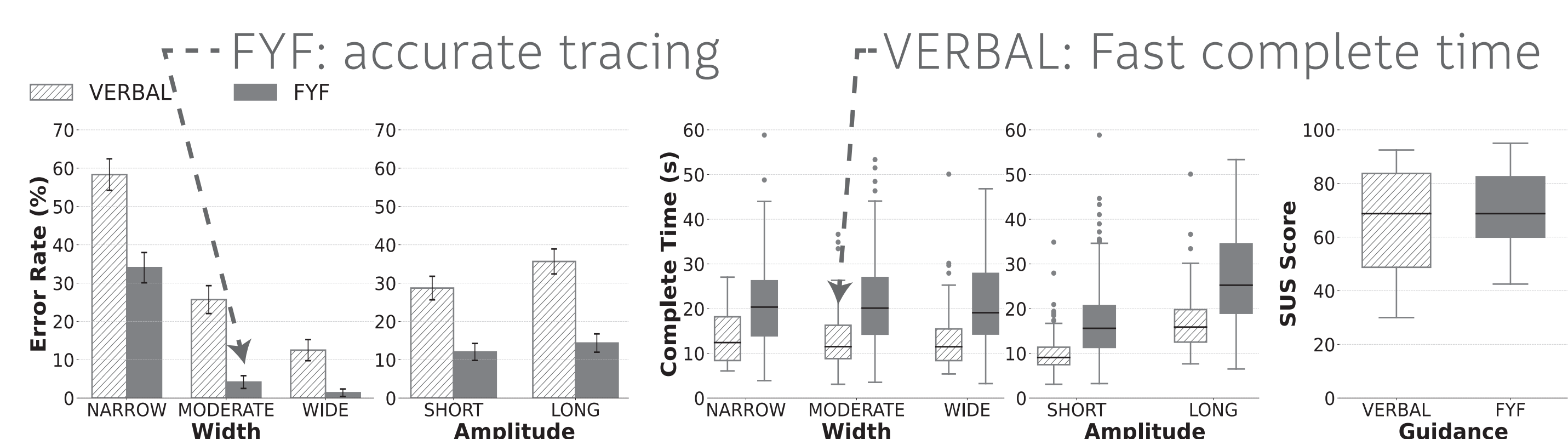
3. METHOD

We conducted a pilot usability test with 12 sighted participants. They were asked to perform a 3D path tracing task with VERBAL and FYF techniques in an eyes-free situation.



4. RESULT

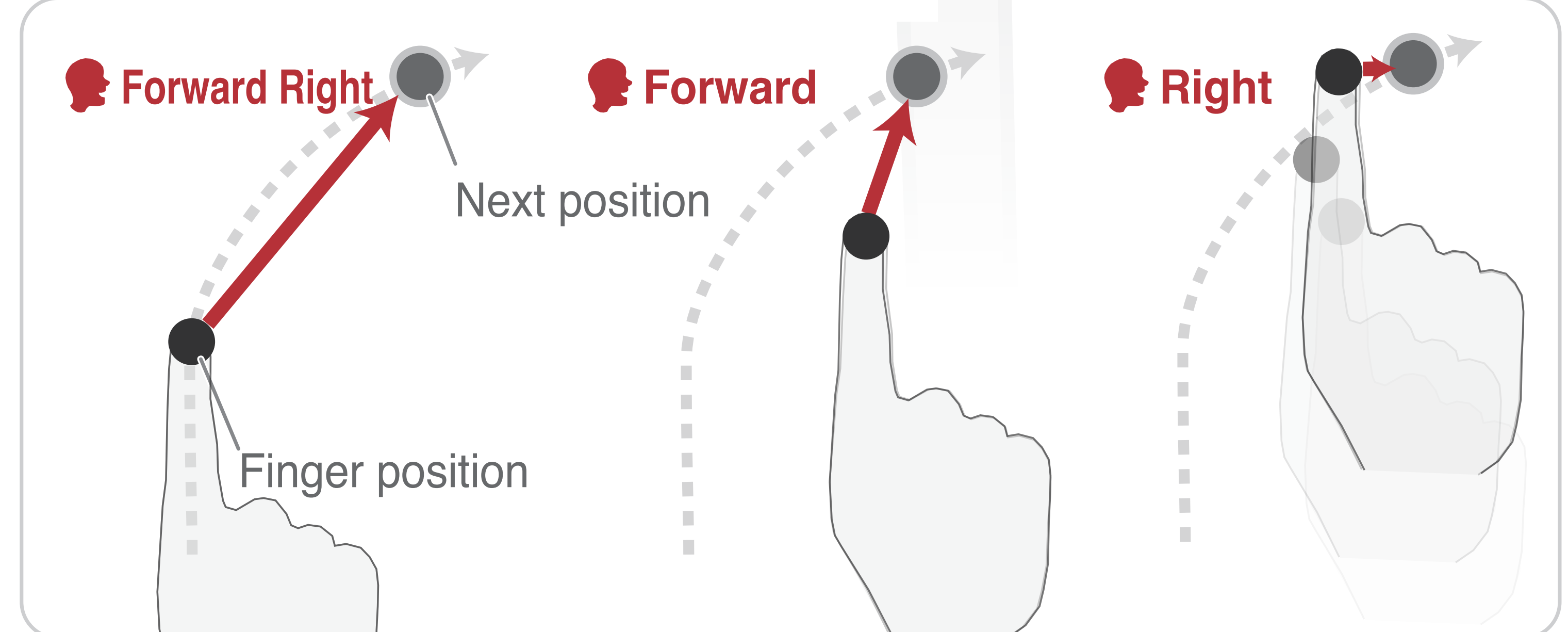
VERBAL achieved a faster complete time than FYF, while FYF yielded a lower error rate than VERBAL.



2. TWO TECHNIQUES: VERBAL and FYF

We created two types of auditory spatial hand guidance.

VERBAL



Repeating spoken directional instructions

Follow Your Finger: FYF



Sonification of how closely users' index finger direction aligns with the next direction



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Kotaro Hara



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