

Why FlowZone

As Computer Science students from National University of Singapore (NUS) exploring VR/AR, we wanted to apply our technical skills to a project that promotes well-being and mindfulness.

We observed that while many VR/AR yoga apps focus on guided audio/video, they lacked real-time feedback. Existing systems that do offer feedback often require complex setups or external devices, limiting accessibility.

Hence, our problem statement:

"How to design an introductory yoga session in VR to motivate people to do real-life yoga?"

Preliminary User Study

Participants value yoga for its emotional, physical, and meditative benefits

Participants raised their difficulties in maintaining consistency, correct poses, and managing physical strain.

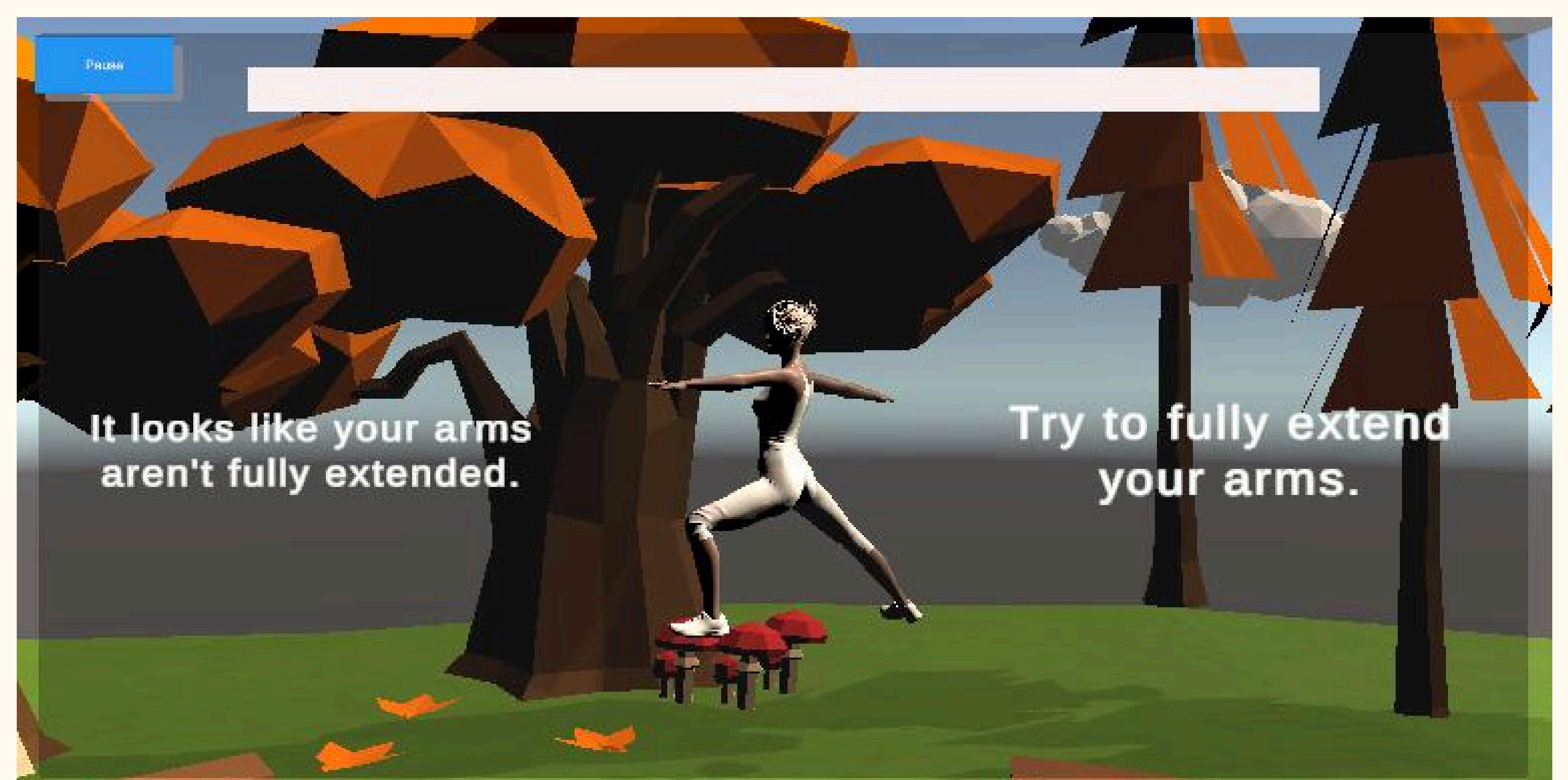
Environment is important emphasised as critical for supporting focus and relaxation.

Importance of clear, personalized guidance lower the barriers to engagement.



Our Solution

We developed FlowZone, an immersive VR yoga application that provides real-time feedback on users' poses without the need for external sensors or cameras. By utilizing the **built-in tracking capabilities** of the VR headset and controllers, our system detects body alignment and offers gentle guidance to help users refine their posture. The experience is designed to be accessible and easy to set up — allowing users to practice comfortably at home in a mindful and engaging way.



Key Challenges

- Controller–Headset Calibration: Headset/controller measurements were sensitive to movement.
- Initial Setup: A detailed but slow first-time calibration was necessary for accuracy.

Future Work

- Broader Deployment: Test FlowZone in daily practice.
- Comparisons: Benchmark against other VR yoga apps.
- Streamlined Calibration: Simplify or automate body measurement.