Virtual Reality Training for Nosocomial Infections Prevention

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MOTIVATION

Nosocomial infections → public health

Training on precautionary measures especially PPE → prevention of nosocomial infections

Lecture training → interaction, participation ↓

AIMS

Create a VR-based method for PPE training;

Evaluate VR training & traditional lecture-based training.

FLOW CHART OF THE RESEARCH

Requirement analysis → VR prototype design → Subjects recruitment → Evaluate the user's visual-spatial ability using VOSP → PPE training for nosocomial infection prevention (VR group (n = 30); Lecture group (n = 30)) → Intra-group and inter-group analysis using OSCE and SUS

REQUIREMENT ANALYSIS

Two phases: donning & doffing.

Strict operation order.

Emergency simulation.

PRELIMINARY EXPERT FEEDBACK

Immersion of VR → Increase motivation and engagement → Enhance understanding.

Convenience and safety of VR → Practice repeatedly → Improve memory.

USER STUDY DESIGN

Between-subject design:

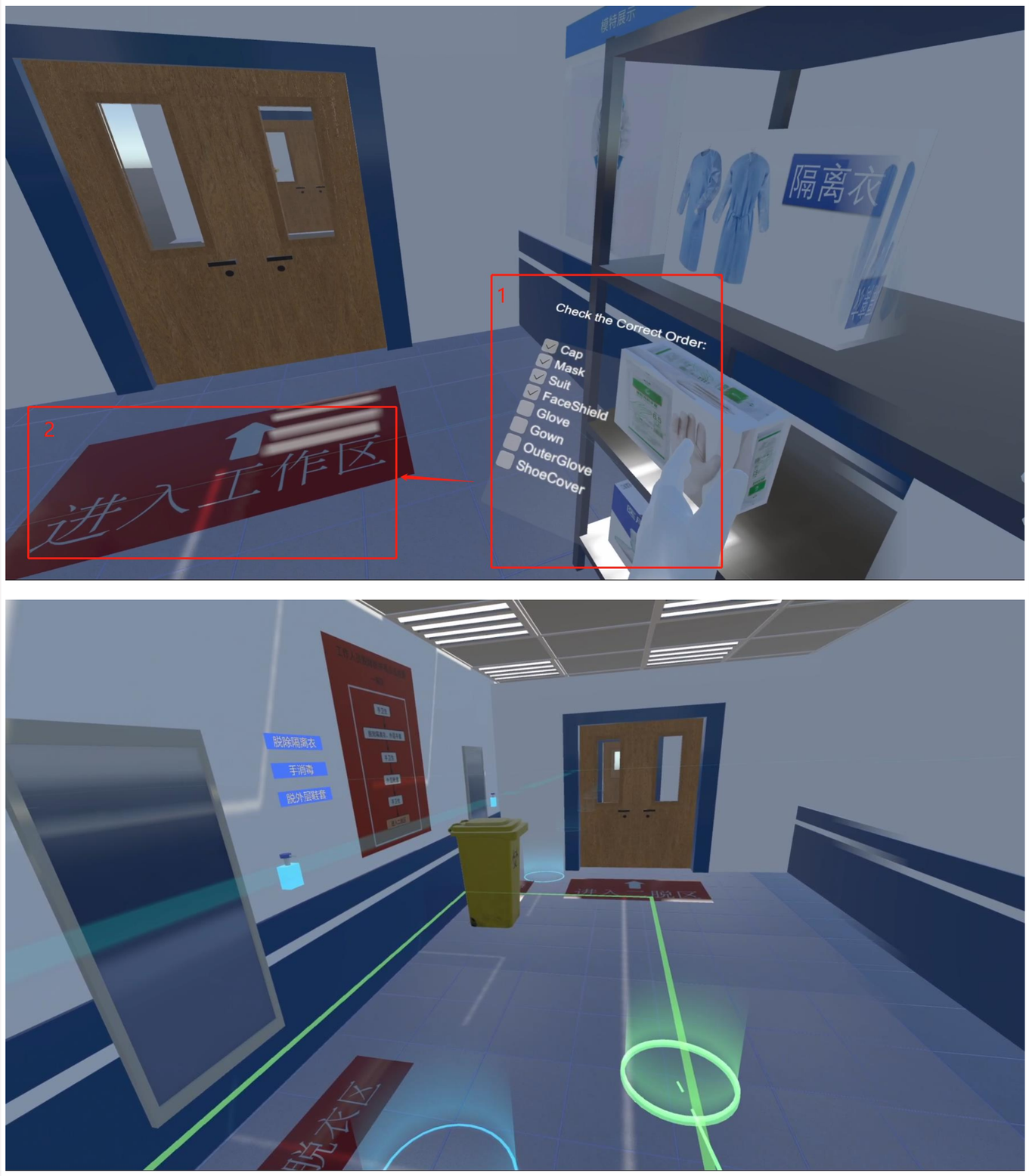
- main factor: VR vs. lecture.
- second factor: visual-spatial ability

FUTURE WORK

More visualizations and haptic feedback → Support the simulation of emergencies.

Visual analysis of trajectories and eye-tracking data → Understand and utilize behavioral patterns.

VR PROTOTYPE



A trainee can be allowed to the next phase/zone only when operating procedures are performed in the correct order.

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