WIMP vs. post-WIMP in Virtual Reality

Jennifer Vang, Computer Information Science
The College of St. Scholastica

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Thomas Gibbons, PhD, CIS Department,
The College of St. Scholastica

BACKGROUND

- The traditional Windows, Icons, Menus, Pointer (WIMP) user interface (UI) has been around for decades.

- With Virtual Reality (VR) spreading and prices dropping, the best UI for VR is becoming important.

- Post-WIMP has emerged in replacement/addition to WIMP.

- The aim of post-WIMP is to create a more natural feel for the user, what would typically be done in your day-to-day life.

OBJECTIVES

- Investigate if the addition of WIMP components in a VR interface improves or distracts from its effectiveness.

- Determine which of the two interfaces is more user friendly.

- Figure out which is the preferred interface, WIMP or post-WIMP.
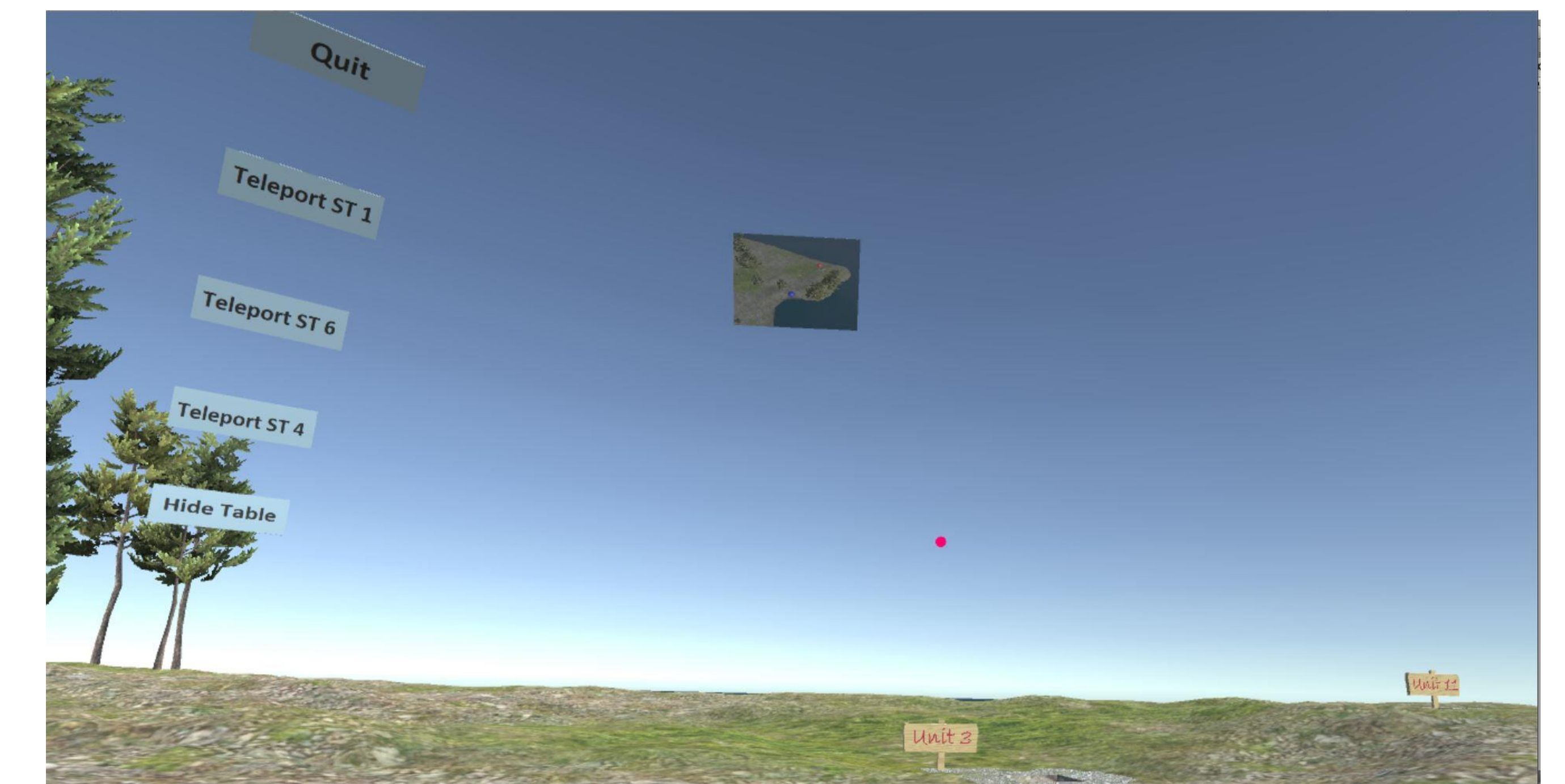
METHODOLOGY

- Two virtual worlds, created using Unity, are shown to the participants: WIMP and post-WIMP.

- The Oculus Rift VR headset was used to display the virtual environments (VE).

- Both worlds contain the same data, the difference being in the display and user interface.

- The data used in the VR worlds was information from an archaeological dig in Northern Minnesota.

- The post-WIMP world was presented first, to get participants used to moving around and selecting objects.

- After exploring both VR worlds, the participants are given a short survey.

- The survey used was based on the SUS (System Usability Scale) survey.

- Overall there were a total of 20 participants with a mix of different ages and experiences.

VIRTUAL WORLDS
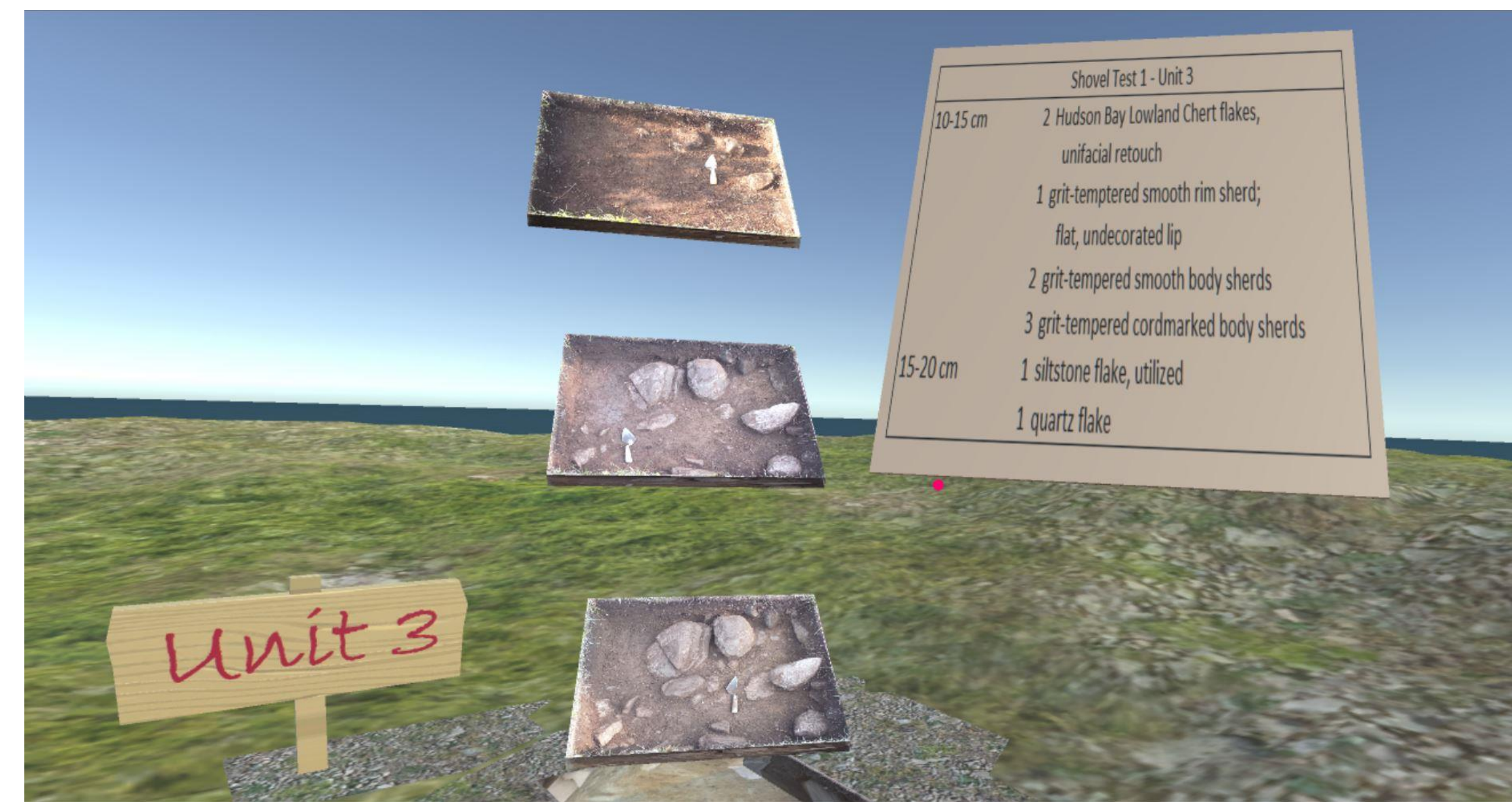
(Above: Screen shot of VE with dirt level raised and data displayed)


(Above: Screen shot of WIMP VE with buttons and mini-map)

RESULTS

- The SUS survey methodology generates a number between zero and 100 with higher numbers corresponding to better usability.

- The WIMP's SUS scores ranged from 22.5 to 95.

- The WIMP's average SUS score was 75.4.

- Post-WIMP SUS scores ranged anywhere from 42.5 to 100.

- Post-WIMP's average SUS score was 83.0.

post-WIMP vs. WIMP
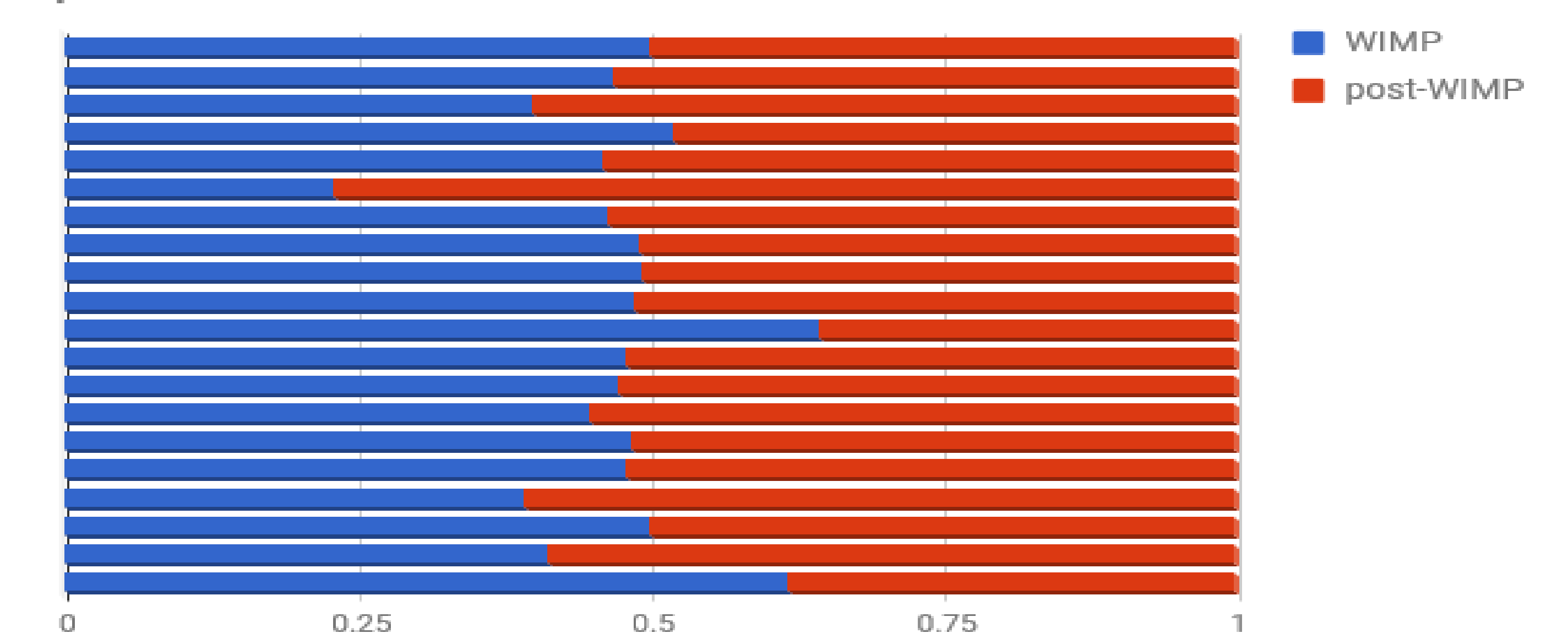
WIMP
post-WIMP

CONCLUSION

- Post-WIMP's SUS scores were more closely grouped together, showing more consistency than WIMP scores.

- Even though post-WIMP SUS scores show consistency, WIMP SUS scores were also high.

- Overall post-WIMP scored better, however the two SUS scores were too closely related to say definitively that WIMP interfaces are out of date and unnatural.

FUTURE RESEARCH

- Instead of creating a VE to mimic the real world's topology, can video footage be used instead?
  - If real footage is used, can WIMP components be added to it?

- Would adding gaze selection to the post-WIMP interface change any of the SUS scores?