Exploring Software Cities in Virtual Reality

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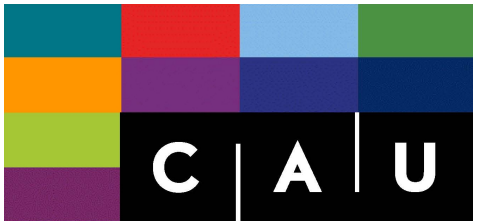
2015-09-28



- Often difficult for users to navigate in 3D spaces [TC09]
- Virtual Reality (VR) can employ the natural perception of spatial locality of users [EPP15, DSK14]

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→ Immersive VR approach for exploring software cities with a head-mounted display and gesture-based interaction

ExplorViz in a Nutshell

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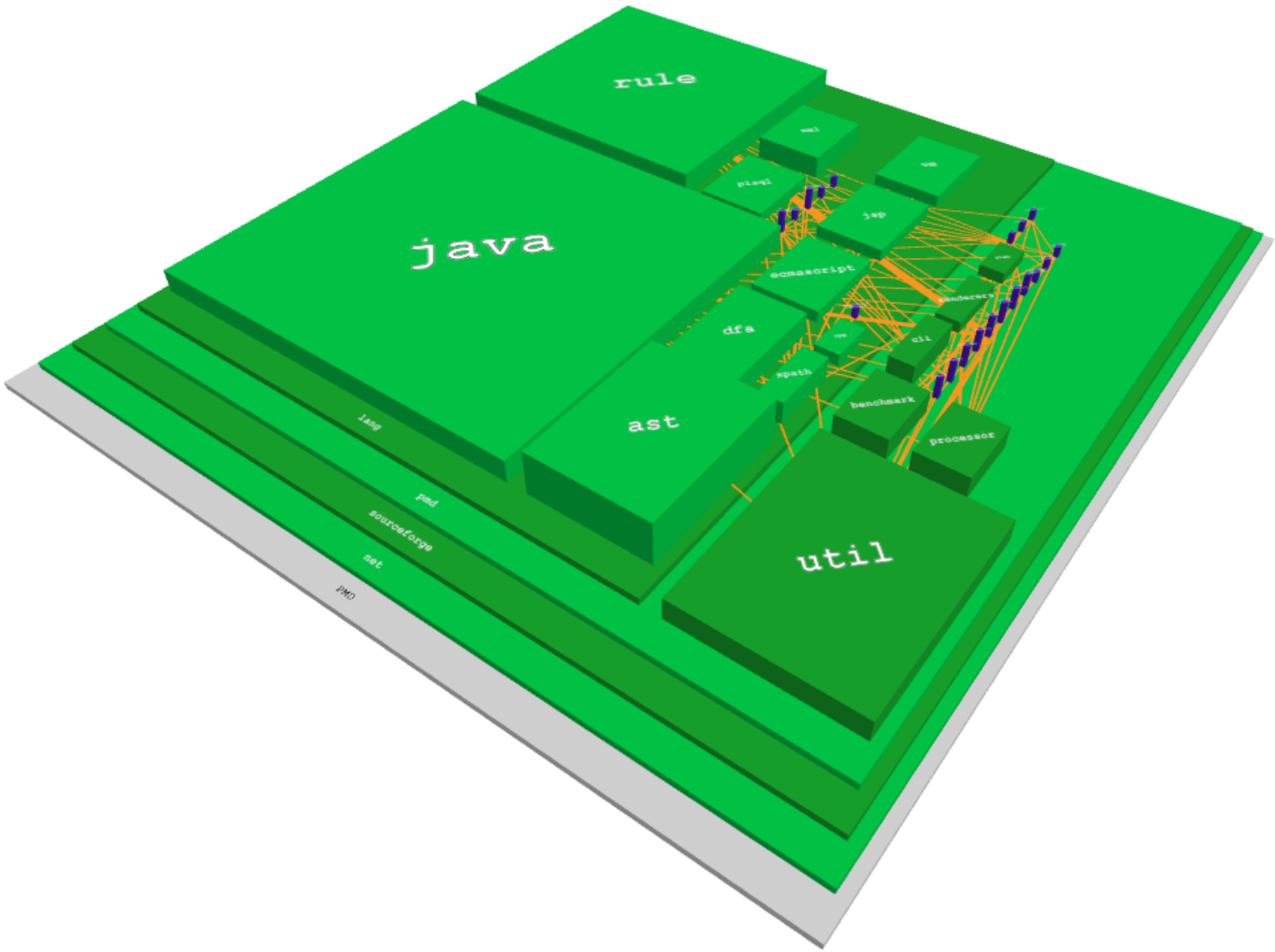

Setup

Virtual Reality Approach

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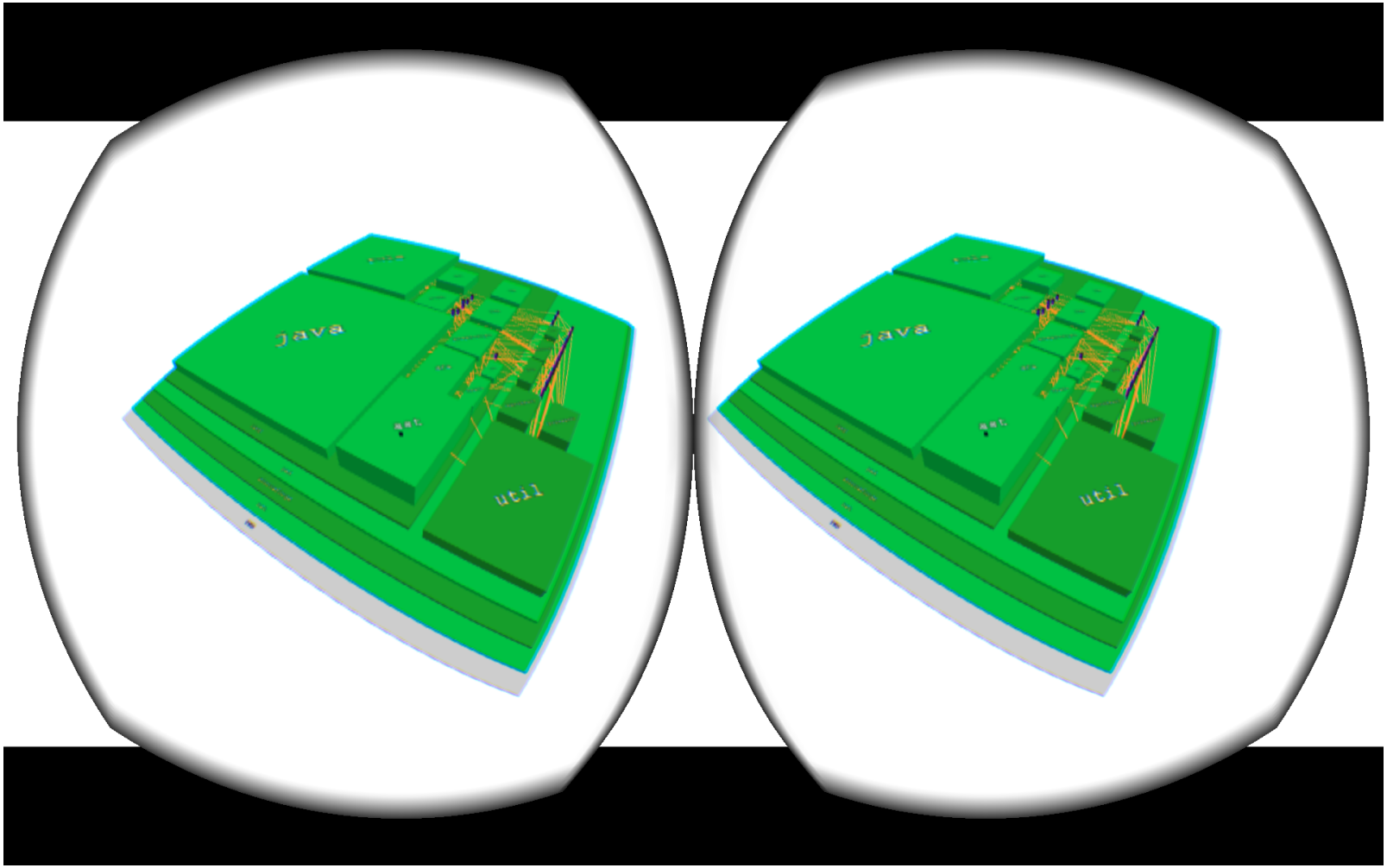
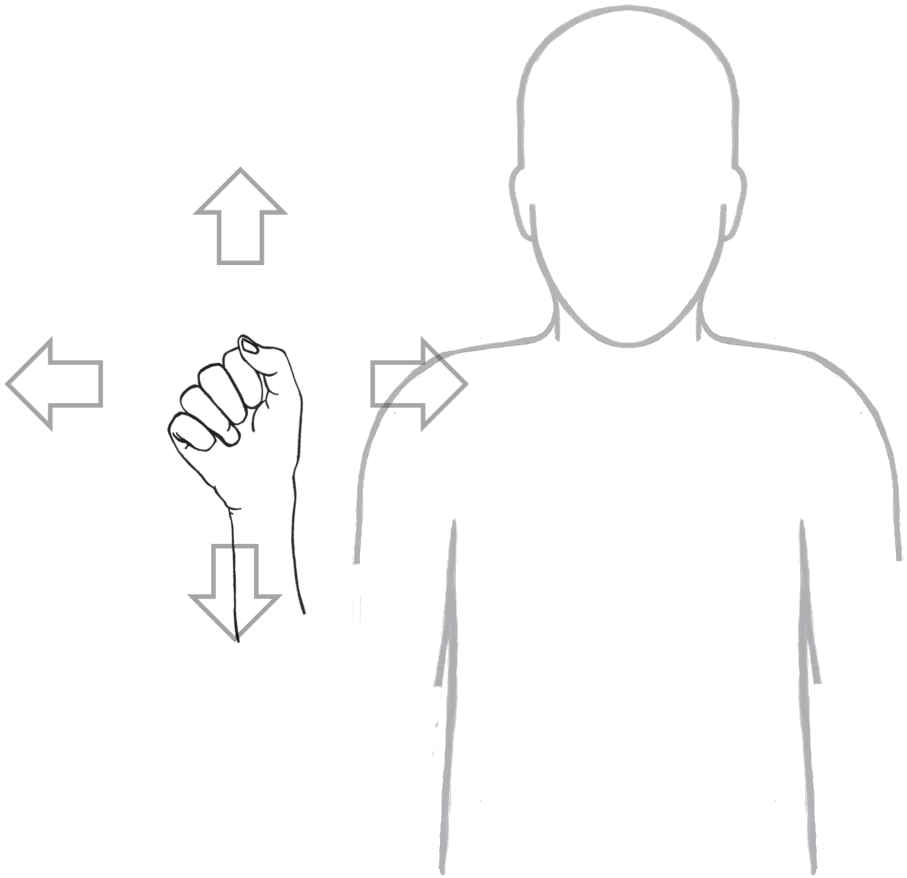
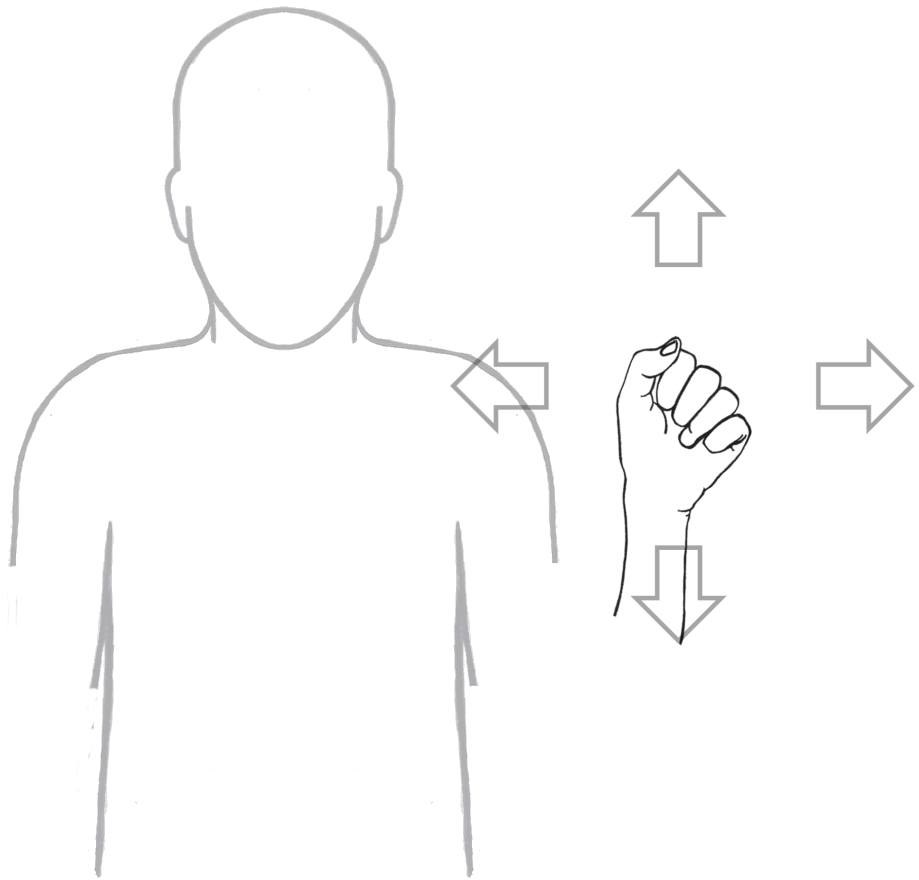
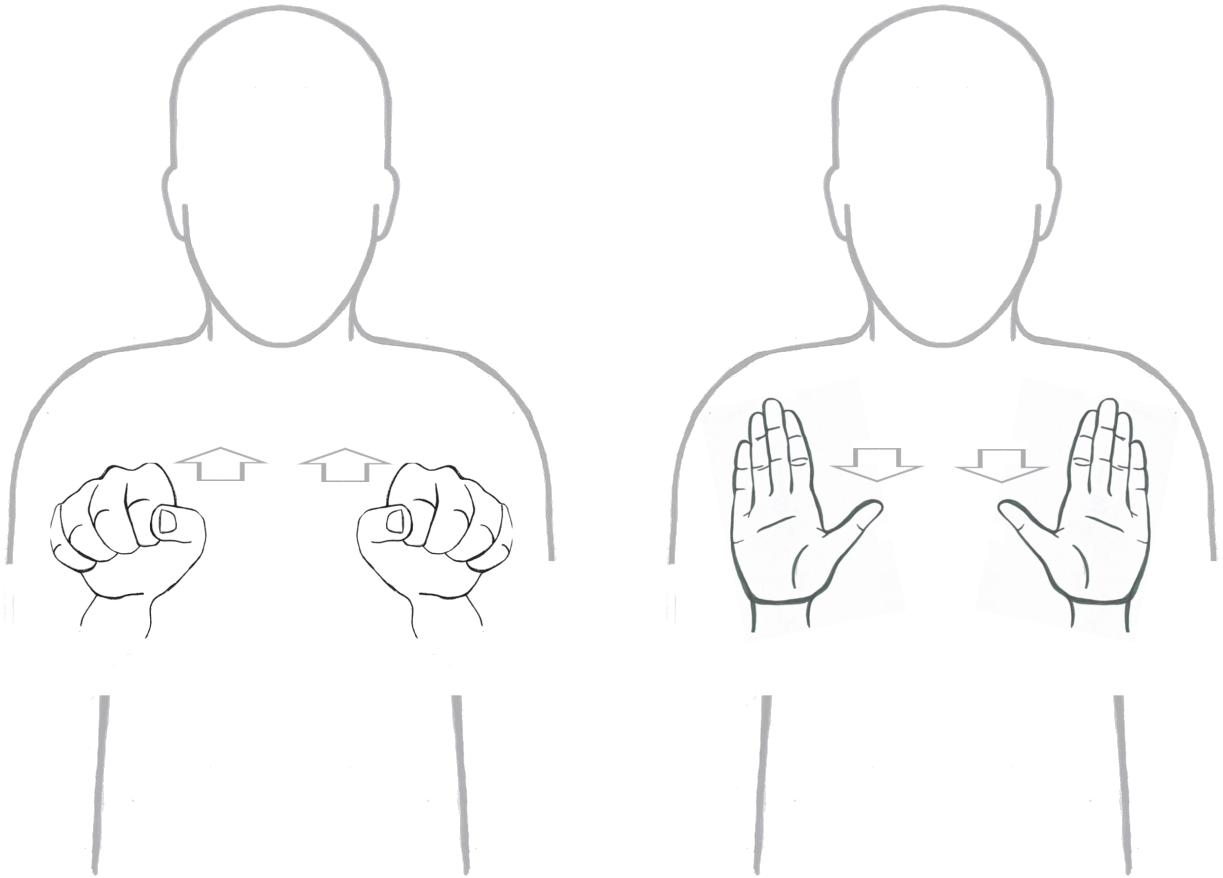


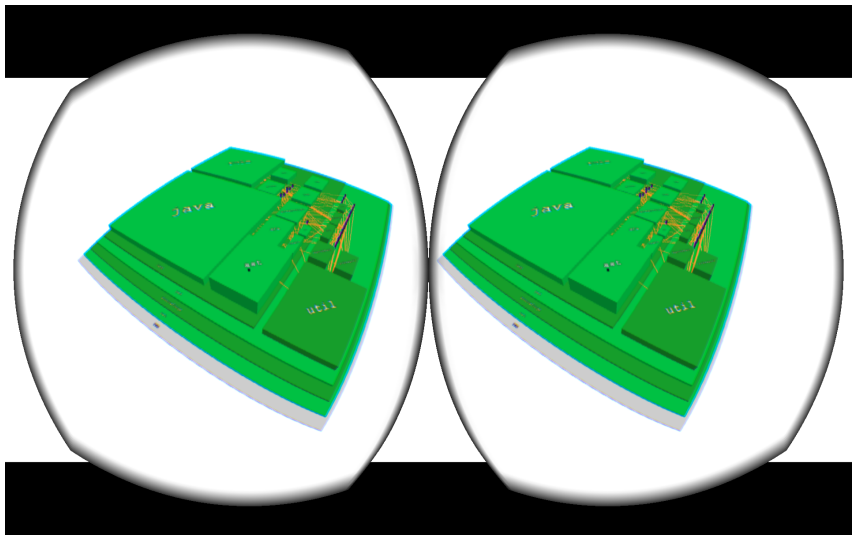
Gestures – Translation







- Point and Select: Close and open the right hand



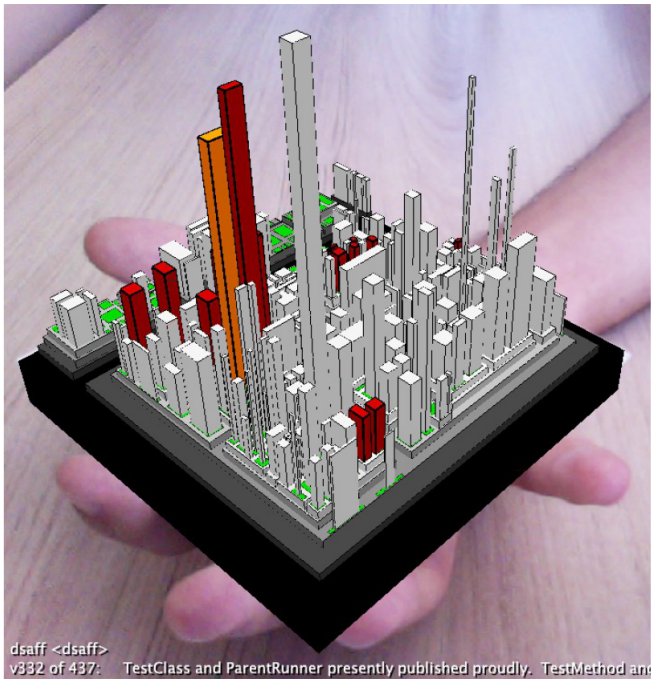
- Reset: Jump

Video

Table 1: Debriefing Questionnaire Results for our Interview (higher is better)

	Score
VR for program comprehension	64 %
Alternative to classic monitors	50 %
Favor of Gestures	
Translation	68 %
Rotation	66 %
Zoom	36 %
Selection	66 %

- Imsovision [MLM01] represents object-oriented software in a VR environment
- SykscrapAR [SSMM12] using augmented reality with a platform



Summary and Outlook

- VR approach to explore the 3D city metaphor
- Open source[1] and replication package[2] provided

ExplorViz

Future Work:

- Other head-mounted displays and input sensors
- Brain user interfaces
- Other visualizations
- Controlled experiments

[1] http://www.explorviz.net
[2] http://dx.doi.org/10.5281/zenodo.23168

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