

VR Controlling

Pan An

National University of Singapore

August 4, 2016

System Brief

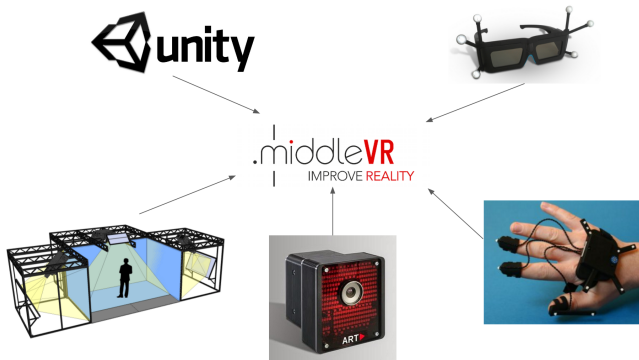
Perception

- Visual
- Touching

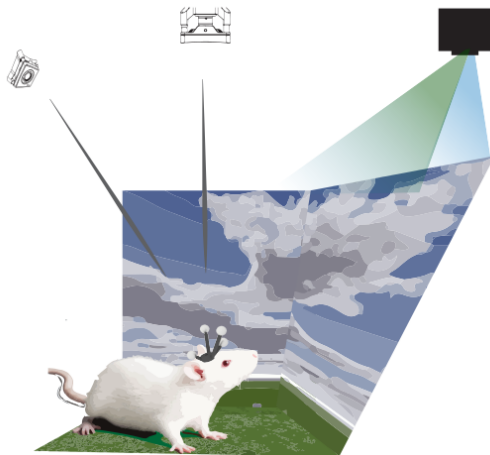
Controlling

- Spatial
- Perceptions

System Brief



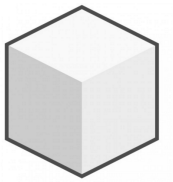
Interaction and Feedback



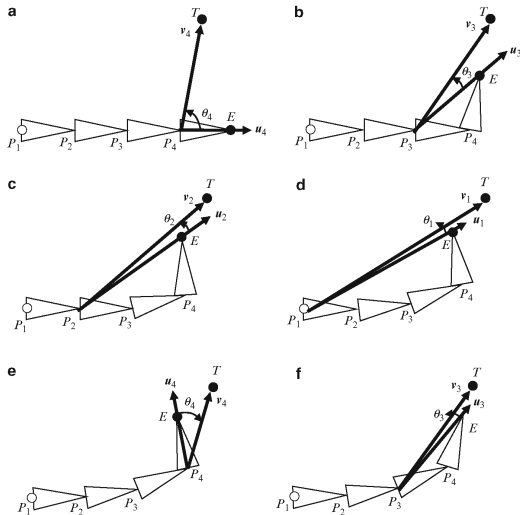
System



System



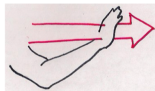
Kinematics



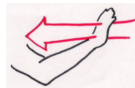
Gesture Encoding



(a) Flick



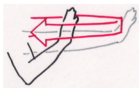
(b) Push



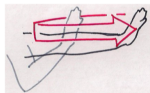
(c) Pull



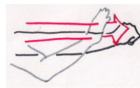
(d) Double Flick



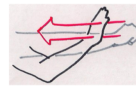
(e) Punch



(f) Lever



(g) Zoom In



(h) Zoom Out

Gesture Encoding

Gestures are limited?

- Gesture Encoding
- Gesture Combinations
- Automated Adjustment through Reinforcement Learning

A Step Forward

Problems

- Precision might not make it easy to use
- Data latency
- Collisions
- Behavioral actions(human)

A Step Forward

- Machine Learning
- More peripherals
- Gesture recognition methods(Appearance-based models)

References

Thanks