A Real Estate Application of Eye tracking in a Virtual Reality Environment
About REA Group
About Objective Eye Tracking
User Experience (UX) Research at REA
REA ‘Observatory’
Eye tracking research
Tobii eye tracking tools
Six to twelve monthly comparison of main app/site for a particular consumer segment

One on one evaluation with 20-30 consumers
Search, find, assess property buy tasks
Product and development team observed remotely property search results

Understanding of value of current property information/data points
Usability issues
SuprQ/SUS score

Improvements to website
New ideas for product roadmap
Conformation of what property data is valuable (with eye tracking), missing information and additional needs
Increase speed of listing perusal and lower barrier to contact agent
Eye tracking in competitor benchmark

- Observe in real time
- Attention
- Engagement

- Media placement
- Effectiveness
- Total attention

- Heatmaps
- Show total attention on a page

- Gaze tracking
- What data people pay attention to
- Is it located in a place people notice?

Results page before health check

Results page after
Desktop eye tracking
Evaluative UX Research – Mobile evaluation

Outcomes

Designers were able to see data points engaged with e.g. price, pictures.

Able to see scroll and ‘skate’ behaviour and could see how people used filters.

Consumers liked the glasses and forgot they were wearing them.

Code of conduct principles established for participants.
Mobile Eye Tracking
Virtual Reality Research at REA

‘My living room doesn’t have a swivel chair in it’

Participant – VR benchmarking study
VR User Research

REA

• Google Daydream VR property app

• Samsung Gear VR – Matterport property walkthrough

• Augmented Reality Experiments - signboards and print

However … *Without ‘eye tracking’*

No attention/data gaze insights without extensive retrospective think aloud (think aloud would skew results)

Retrospective think aloud whilst effective needs to be built in
Tobii’s VR Solution

HTC Vive Integration

- Seamless integration (full FOV) of 120Hz eye tracker
- Unity compatibility- Tobii Pro SDK interface (.Net/Matlab/Python)
- Copes with any movement
- Retrofitted in the factory
- VR/360 support coming soon
Eye tracking and Virtual Reality Research
VR Use Cases

- **Real estate**
  - Architecture
  - Design
  - Real-estate
  - Wayfinding
  - Retail planning
  - Great demo for showcasing VR environments

- **Car Showroom**
  - Car clinics
  - Collaborative Design
  - Art & Sculpture
  - Professional performance
  - Good for showing A/B

- **Shelf Interaction**
  - Shopper and behavioural studies
  - Package Design
  - Simulation
  - Good for realistic interaction
  - Good for A/B

- **City Bus**
  - Out of home advertising
  - Driving and other simulation
  - Urban design & Architecture
  - Good as a sitting down demo

- **Operating Theatre**
  - Training and assessment
  - Professional performance
  - Good for showing avatars and animation

- **Supermarket**
  - Navigation and wayfinding
  - Retail planning
  - Behavioural analysis
  - Shopper
  - Pricing and Point of sale signage
  - Good as an off-rails demo
AcuityVR – What Does It Do?

1. Footfall arrows show direction of footfall – colour is per participant, and the size of the arrow is related to dwell – great for looking at traffic flow, choke points, key areas in store.

2. Gaze vector lines show the persons line of sight to the target in 3D – this allows us to accurately understand when someone first sees and object, when they start to engage with the shelf (this can be turned off if desired to avoid confusion with large numbers of participants)
AcuityVR – What Does It Do?

1. Heatmap and opacity visualisations can display the gaze interaction of a single or multiple users, and show total time fixated on each object.
AcuityVR – What Does It Do?

1. Multiple camera angles can be defined to give ¾ view, top down, shelf or product specific views or a free moving camera to ‘move’ around the action in replay

2. The visualisation of participants can be customised - the avatars can be toggled with floating name tags added for identification and the gaze vectors and footfall overlays can be added

3. The picture in picture window (PIP) can be removed or shown and can show either a different user or camera view as desired – in the example here we see user one from first person and then the ¾ view to get an overall view of all the participants
At REA

To Date:

- Something's in the ‘works’

Exploring the Tobii Eye tracker in Vive
- Developer familiar with Unity and Tobii SDK
- House objects in room hack day project
- ‘Are you a cat or Dog person?’ gallery concepts

Acuity VR

Early days – explore and understand 5 years out; be ready in market when VR/Eye tracking is prevalent
Implications For Real Estate VR Eye Tracking

Deeper insights
- Attention
- Engagement

Insights for
- Architects
- Property developers
- Project marketers
- Interior designers
- Urban designers
- Built environment

Faster time to market
- Test and learn
- Aids design
- Test multiple configurations of space for rent e.g. warehouse (office vs. none)
- Persuasion design

Generate ideas
- Concept testing
- 360 video testing
- Wider environment around property ‘Meet the neighbors’
Thank you

Questions