



Cardiff Metropolitan University | Prifysgol Metropolitan Caerdydd

**UWE
Bristol** | University of the West of England

What makes for effective visualisation in Cyber Situational Awareness for Non-Expert Users?

Dr. Fiona Carroll

Dr. Phil Legg

Adam Chakoff

Physical Space



Cyberspace

A word cloud of terms related to cyberspace, arranged in a triangular shape pointing downwards. The words are in various colors and orientations:

- global-village
- domain
- sea
- world
- market
- space
- cloud
- going
- site
- surf
- travelling
- community
- window
- room

Sensation and Perception

**How do we enable
people with the
faculty to ‘sense’
harm in cyberspace?**

Cyberception

To inhabit both the real and virtual worlds at one and the same time, and to be both here and potentially everywhere else at the same time is giving us a new sense of self, new ways of thinking and perceiving which extend what we have believed to be our natural, genetic capabilities (Ascott, 1995).

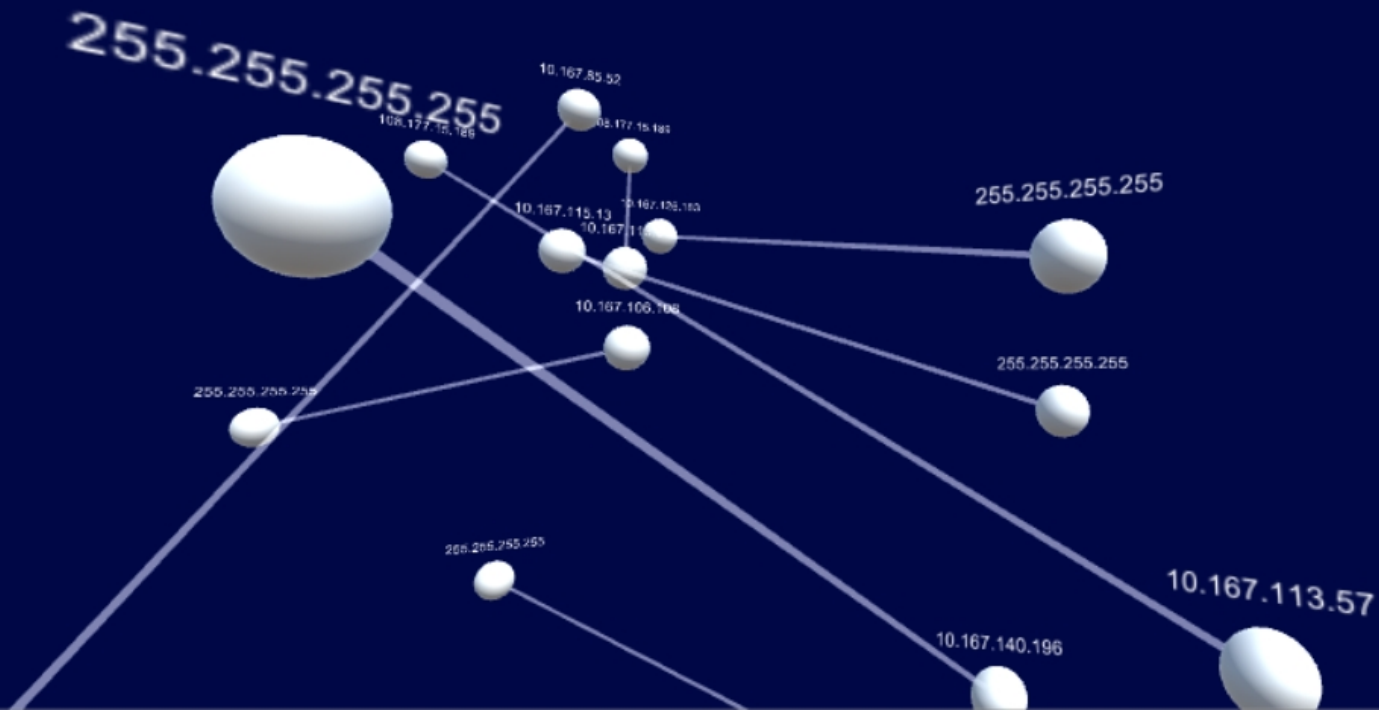
Quantified Self

The quantified self (QS) is any individual engaged in the self-tracking of any kind of biological, physical, behavioural, or environmental information (Swan, 2013).

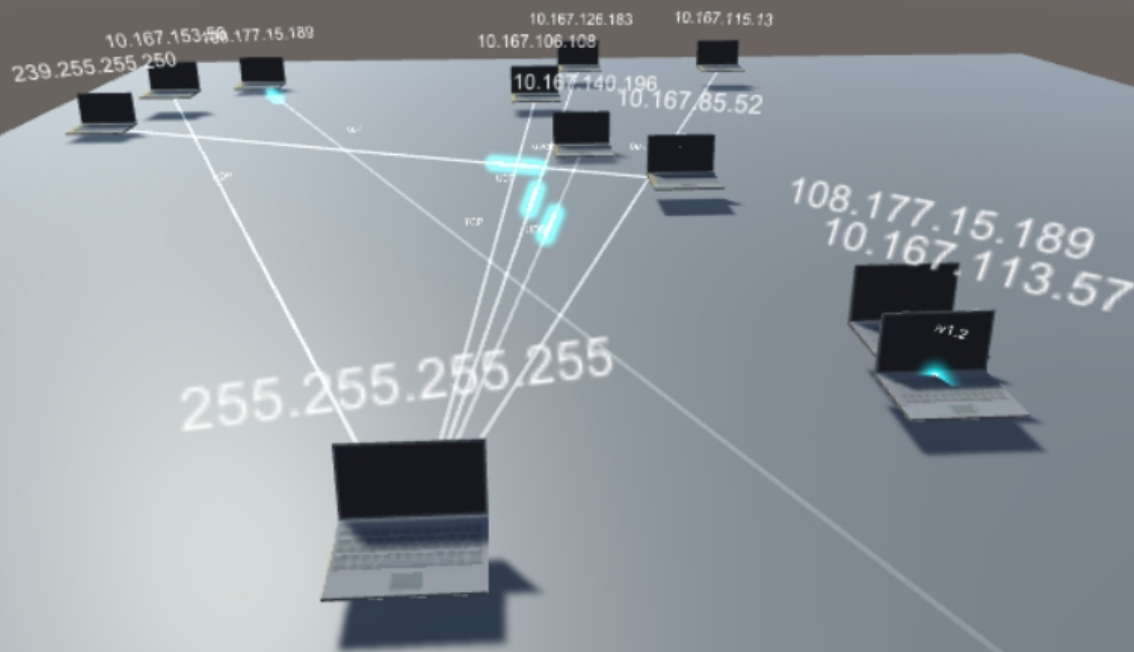
Small Study

- The majority of participants felt that it is beneficial for users to know, monitor and track the online activities of their personal electronic devices
- Eleven out of the fifteen participants clearly indicated that it was extremely important to protect their online personal privacy.
- The majority of participants felt that it is important to keep their online activity safe and secure, with eight participants indicating that it was extremely important.

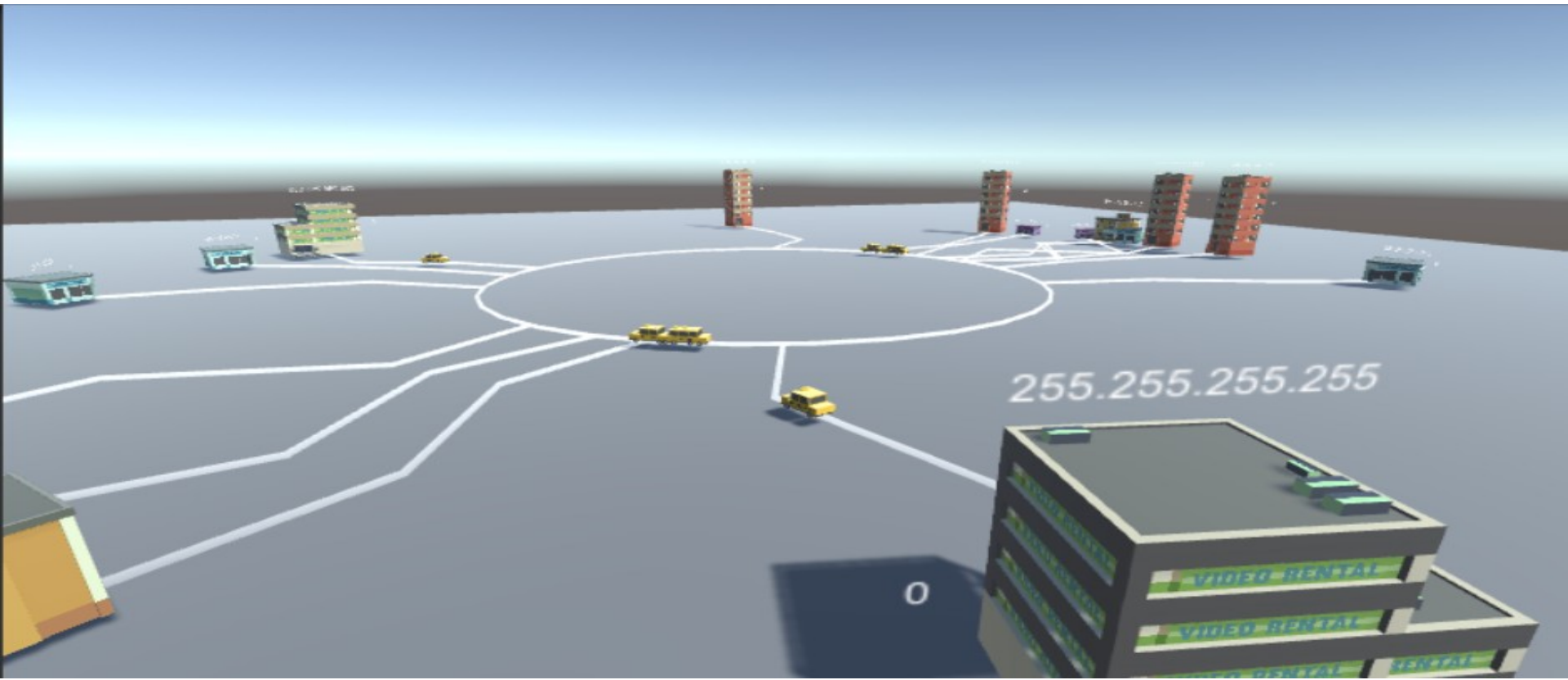
Abstract



Realistic



Metaphor



Future Work

Understanding how, when and why our devices communicate is crucial so that we can become better aware, better informed, and better protected.

To achieve this understanding, it is important to find ways to visualise this data so that people are empowered to ‘sense’ when something is not right and their privacy and security might be at risk.



Cardiff Prifysgol
Metropolitan Metropolitan
University Caerdydd

UWE
Bristol | University
of the
West of
England

Any Questions?

Thank You for listening!