SENG2260 Human-Computer Interaction

Workshop 9

Week 9

SPS

Today

- RLT: Gamer bias in evaluation studies

- You will have read:
  - S. P. Smith and S. Du'Mont. Measuring the effect of gaming experience on virtual environment navigation tasks, *IEEE 3D User Interfaces 2009 (3DUI 09)*, pg 3-10, IEEE, 2009.
  - http://dx.doi.org/10.1109/3DUI.2009.4811198

Computer Game Experience Bias in [Virtual Environment] User Evaluations

- Virtual environments are increasingly being used in a wide variety of applications
- Evaluation studies aim to identify usability problems or issues
  - Used to show fit-for-purpose
- Participant's previous experience with virtual environments and 3D user interfaces will effect their performance
- Main exposure to 3D worlds (complex UIs)?

Impact of gaming experience

- Use of training to diminish performance difference between gamers and non-gamers *(Frey et al. 2007)*
  - It did but gamers were still better
- Game experience to support surgery *(Enochsson et al. 2004)*
  - Gamers were more efficient and completed tasks faster
- Effects of action video games on visual searches *(Castel et al. 2005)*
  - Faster reaction times and more efficient searching displays
- Improved performance in spatial tasks *(Feng et al. 2007)*
  - Benefits of action games (FPS) in improving performance in spatial tasks
- Fire drill simulations *(Smith and Trenholme 2009)*

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- Improved performance in spatial tasks *(Feng et al. 2007)*
  - Benefits of action games (FPS) in improving performance in spatial tasks
- Fire drill simulations *(Smith and Trenholme 2009)*
  - Gamers were faster
  - But were they more reckless? – no penalty for death?
  - Perception of interaction as a “game” (*Jennett et al. 2008*)

Big problem?

- Problematic for virtual reality evaluations
  - Anecdotal evidence
  - Game technology reuse
  - Potential bias any results
  - Small samples
    - Participants and population
- Problematic for general user interfaces?

In groups

- Task 1 (15 minutes)

- What is a gamer?
- How might they bias your project evaluation?
- How might you measure gaming impact?
- How might you mitigate any gaming impact?

In groups

- Task 2 (15 minutes)

- What **other classifications** may bias user interface evaluations?
- How might they bias your project evaluation?
- How might you measure the impact?
- How might you mitigate any such impact?

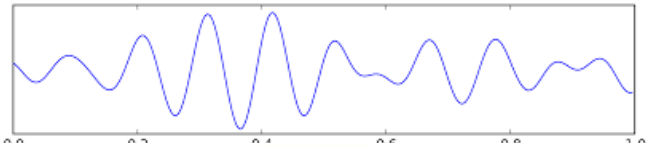
Other bias

- Consider what other stakeholders might add bias an evaluation?

- How might you minimise bias from these other stakeholders?

Next week

- BCI: Brain Computer Interaction



- Brainwaves. Not Thoughts