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Pre-Design Empiricism for Information Visualization: Scenarios, Methods, & Challenges

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EMPIRICAL WORK TO INFORM VIS DESIGN

Observations of human behaviour / artefacts.

Beyond lab studies: contextual inquiries / interviews, field studies, artefact analysis, ethnographic methods.

Pre-design **methods** and **challenges** are infrequently reported.



SCENARIOS, METHODS, & CHALLENGES

Reflecting on **scenarios** from our prior / ongoing research projects:

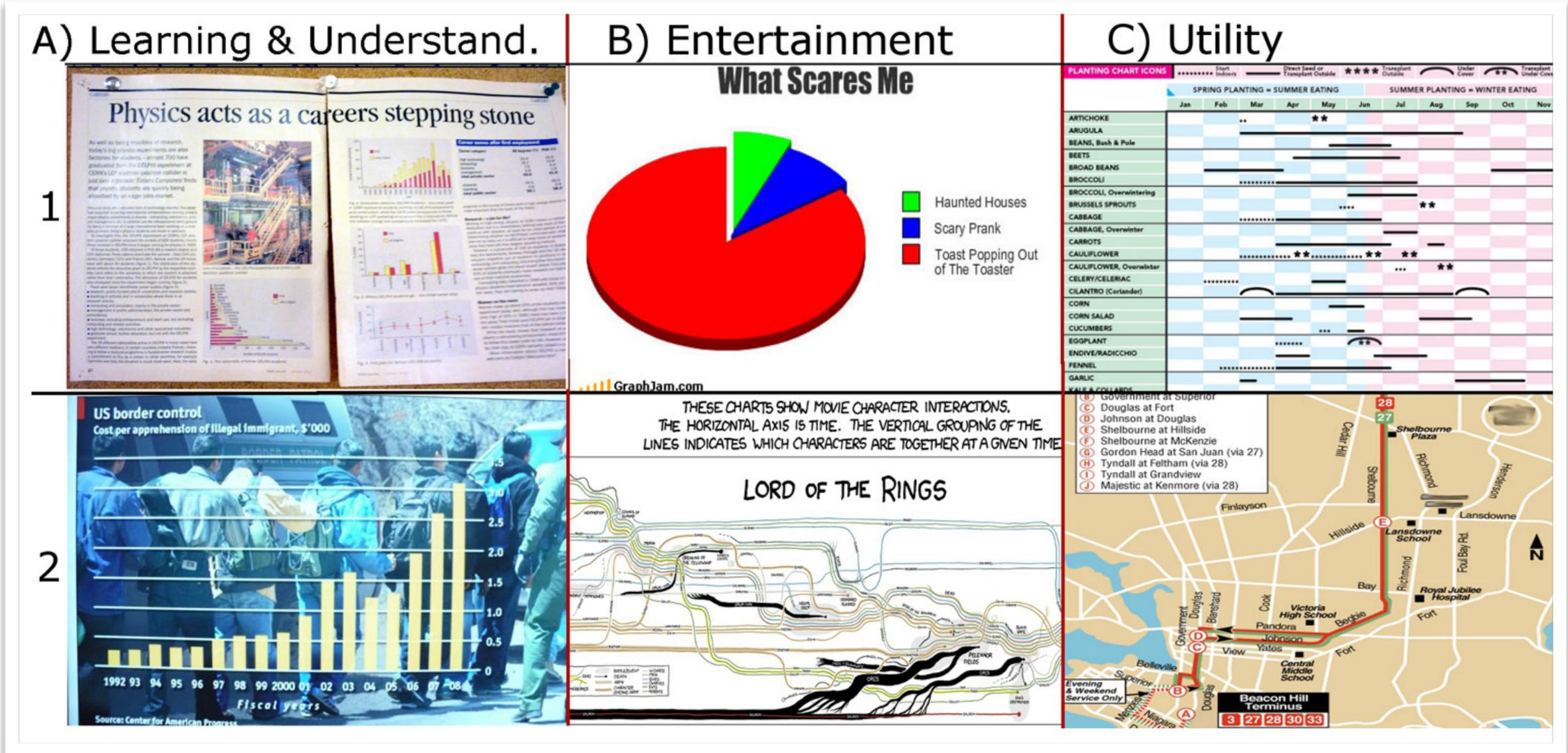
- **Personal** data practices
- **Complex** environments
- **Remote** experts
- **Novel** experiences



CHALLENGE: INTRUSIVENESS

Scenarios:
 personal data
 practices,
 complex
 environments

Method:
 Cultural probe



Sprague & Tory. Information Visualization (Sage) 2012.



CHALLENGES: COMPETENCY, TRUST, PRIVACY

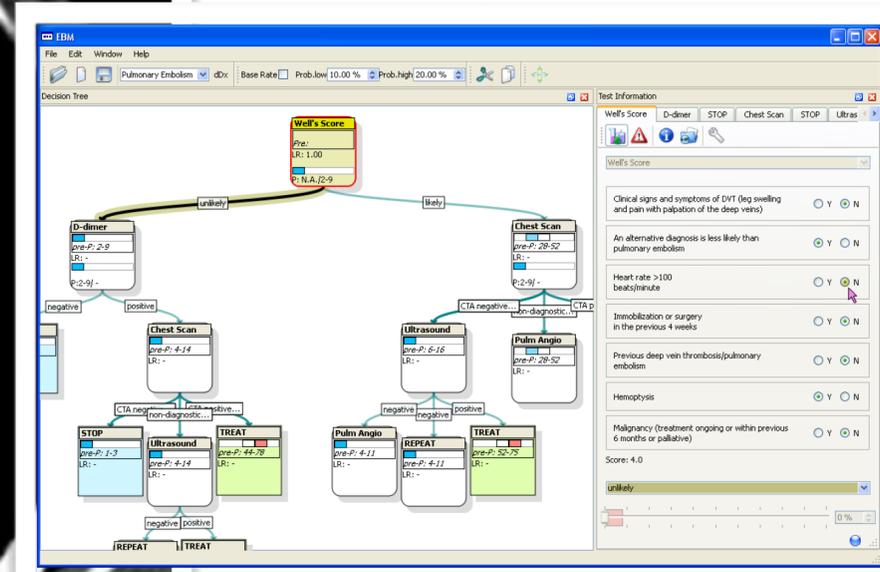
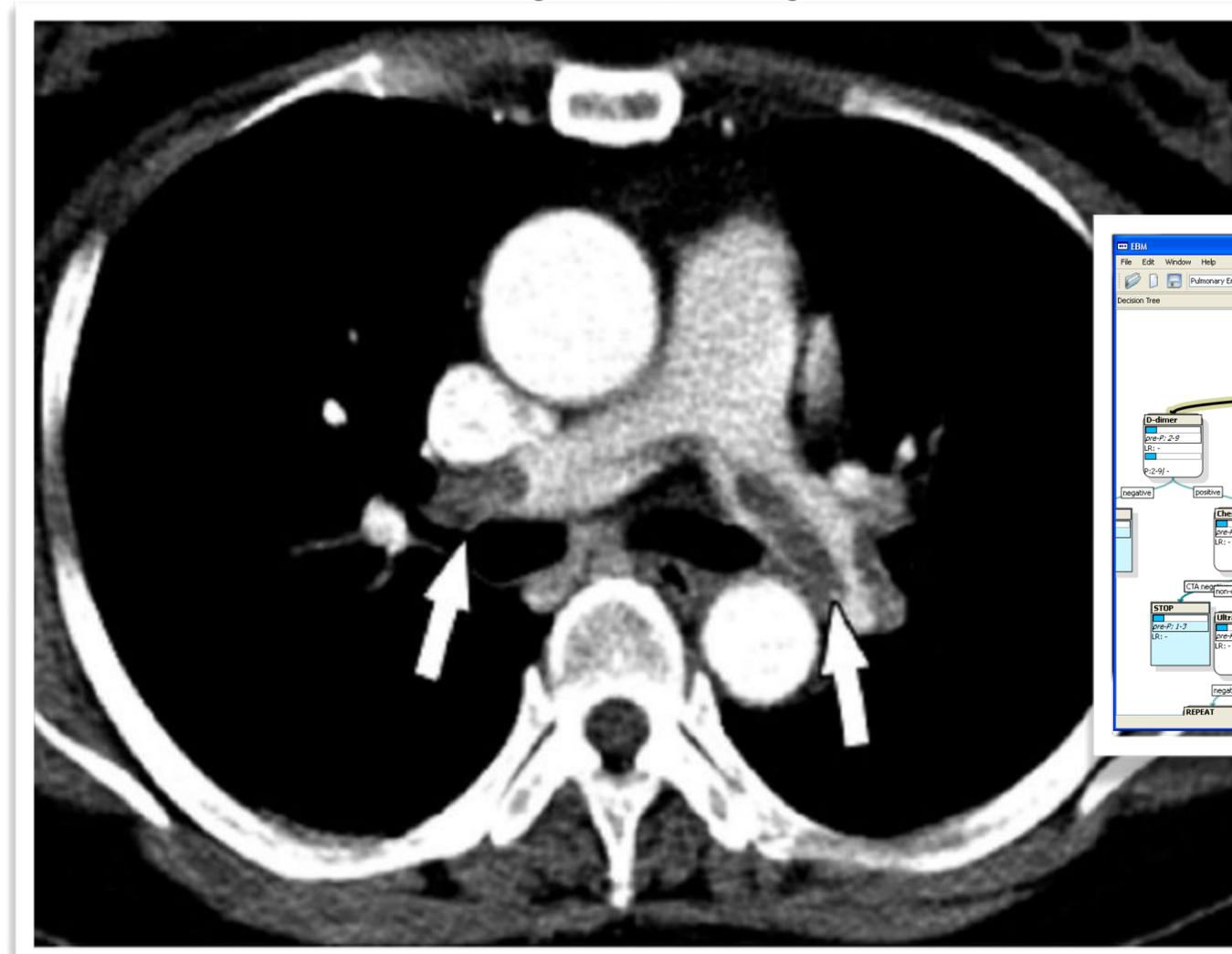
Method:

Immersive observation via impersonation, simulated data

Scenario:

complex environments

image: wikimedia.org

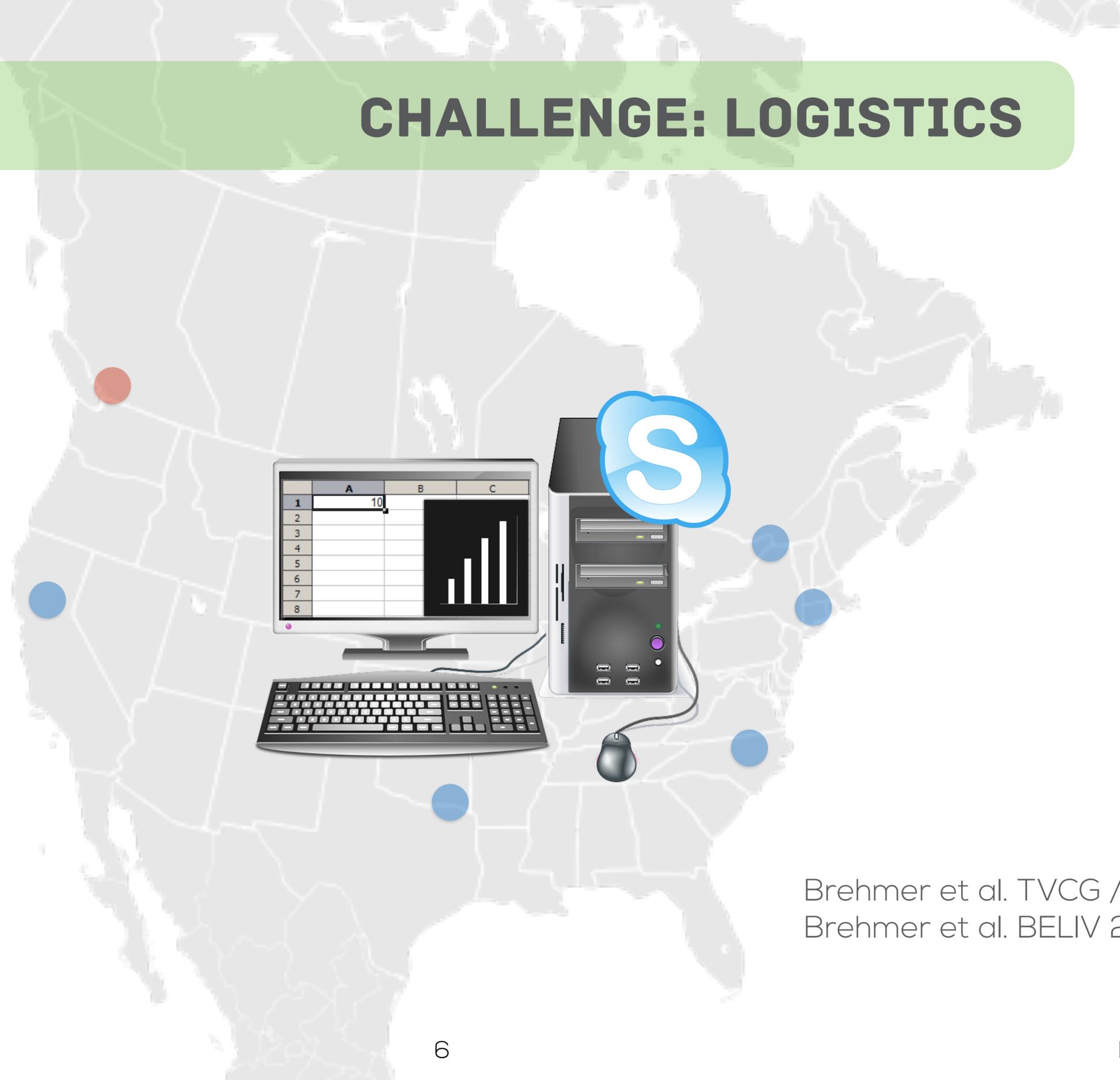


T. Zuk.
Univ Calgary
Doctoral
Thesis
(2008).

CHALLENGE: LOGISTICS

Scenario:
remote experts

Methods:
Screen-capture
interviews, artefact
analysis



Brehmer et al. TVCG / InfoVis 2014,
Brehmer et al. BELIV 2014.

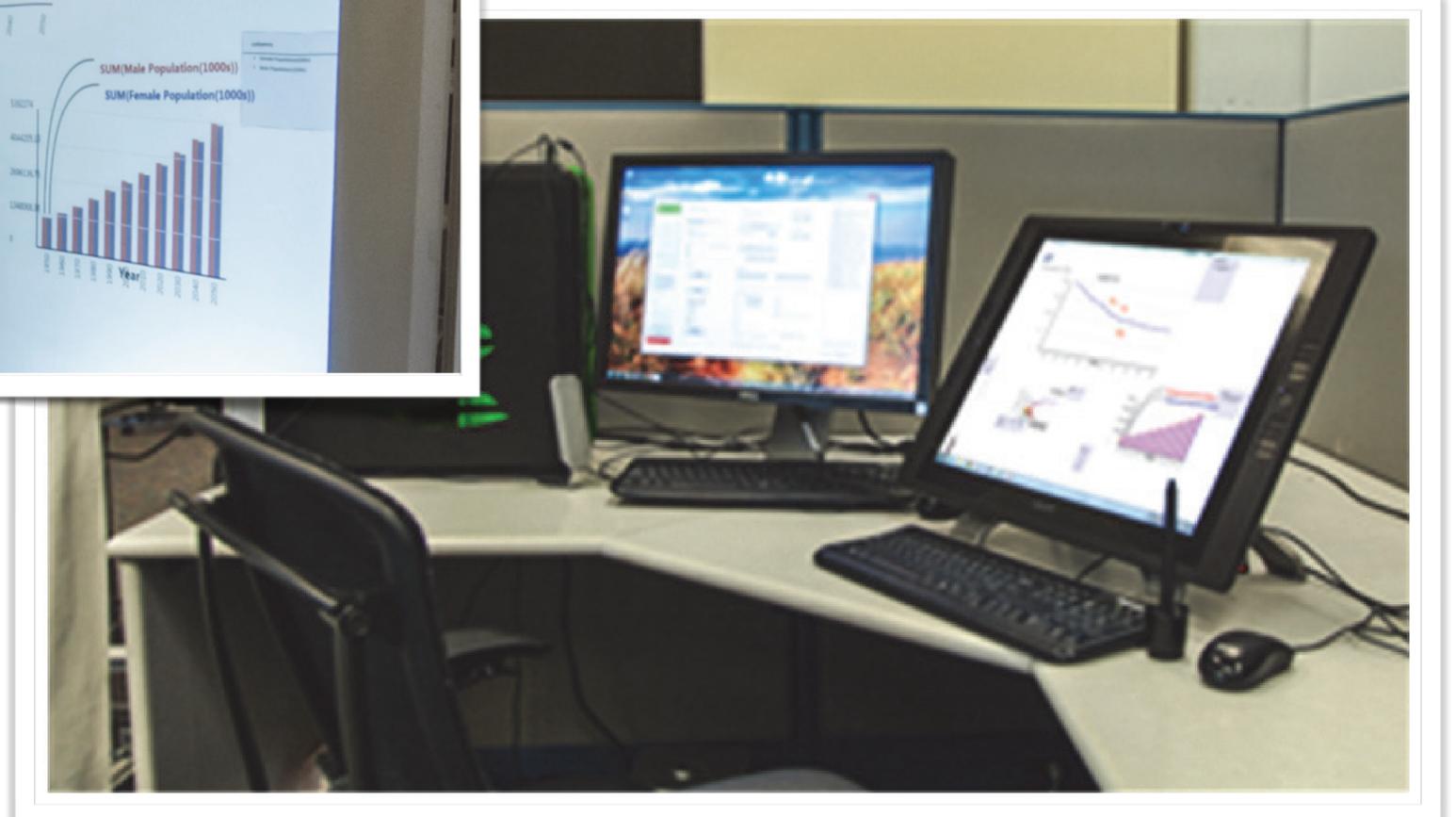
CHALLENGES: LEGACY BIAS, COST

Scenario:
novel experiences

Methods:
Wizard-of-Oz
studies



Walny et al.
TVCG / InfoVis
(2012)



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CONCLUSION

Challenges are not exhaustive. **How many?**

Overlap with post-design challenges?

Call to action: BELIV / VIS researchers should report more experiences, challenges, methods.

cs.ubc.ca/labs/imager/tr/2014/PDE/

thanks: Tamara Munzner, UBC InfoVis & MUX groups, VACCINE, NSERC



DR Vis Tasks: Supplemental

Further reading on early-stage evaluation methods:
Understanding work practices scenario in Lam et al (2012).

See also: Carpendale (2008), Sedlmair et al (2011, 2012),
McKenna et al (2014).