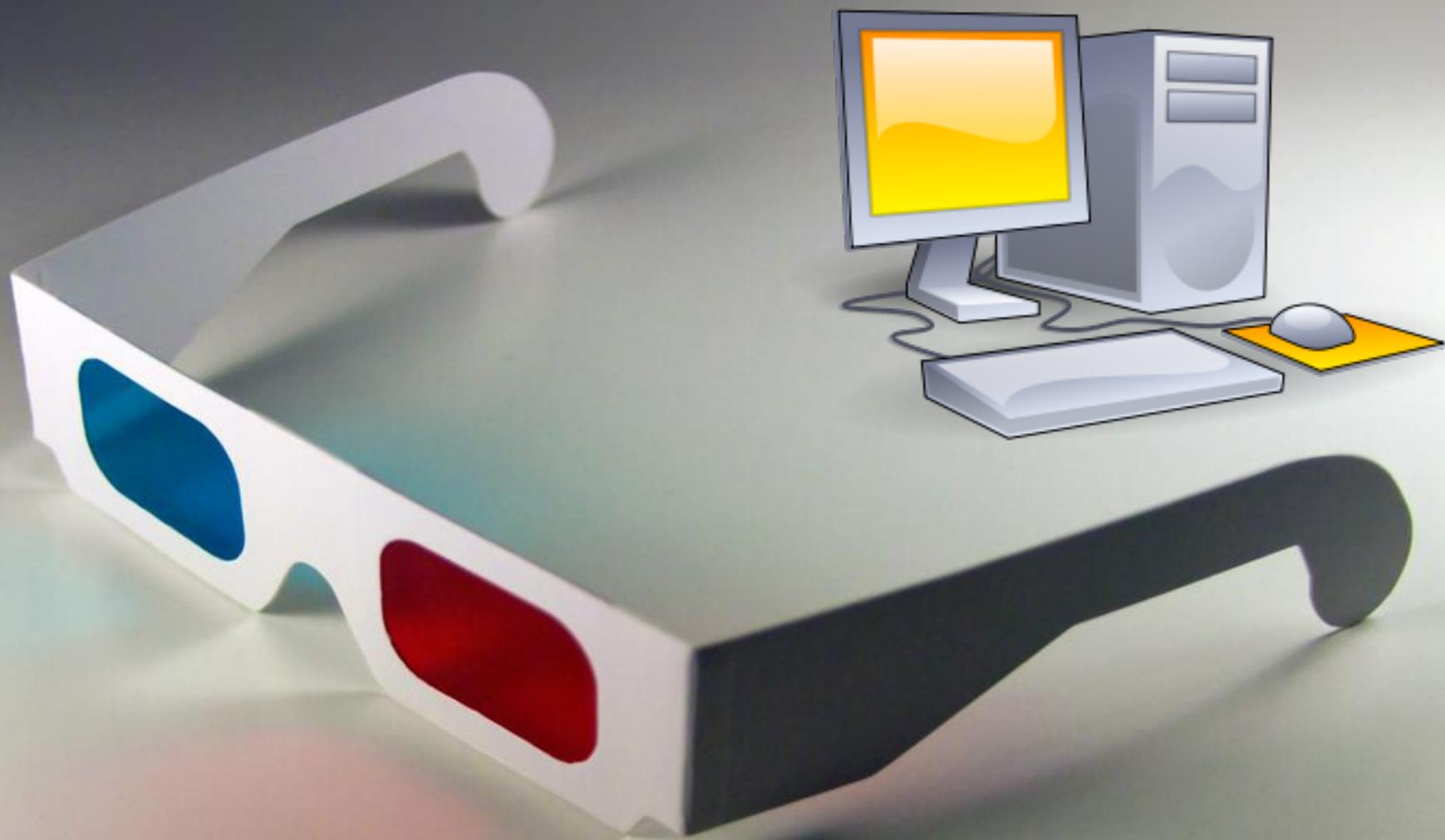


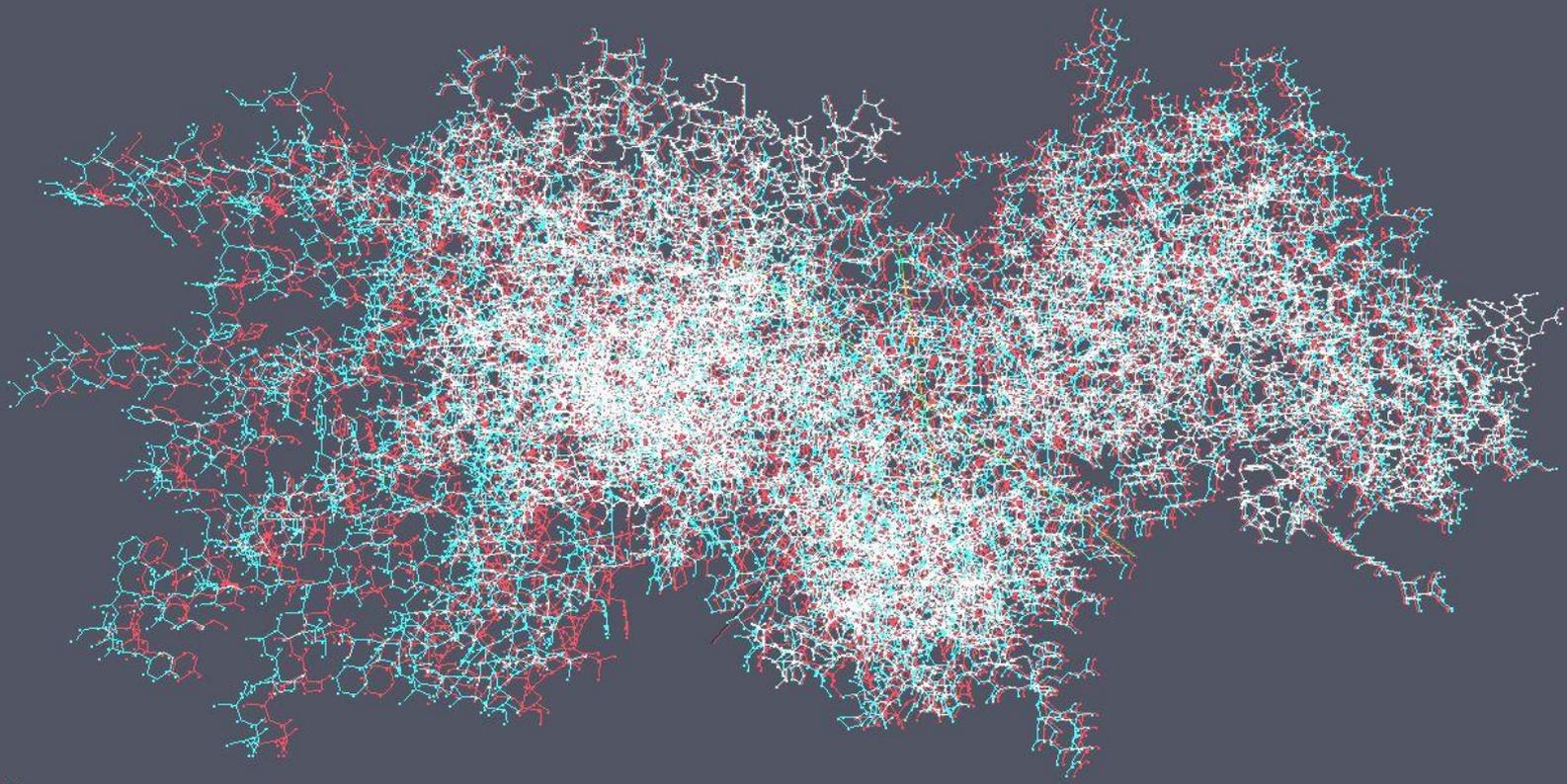
Tangible UI & Spatial AR

Renaud Gervais



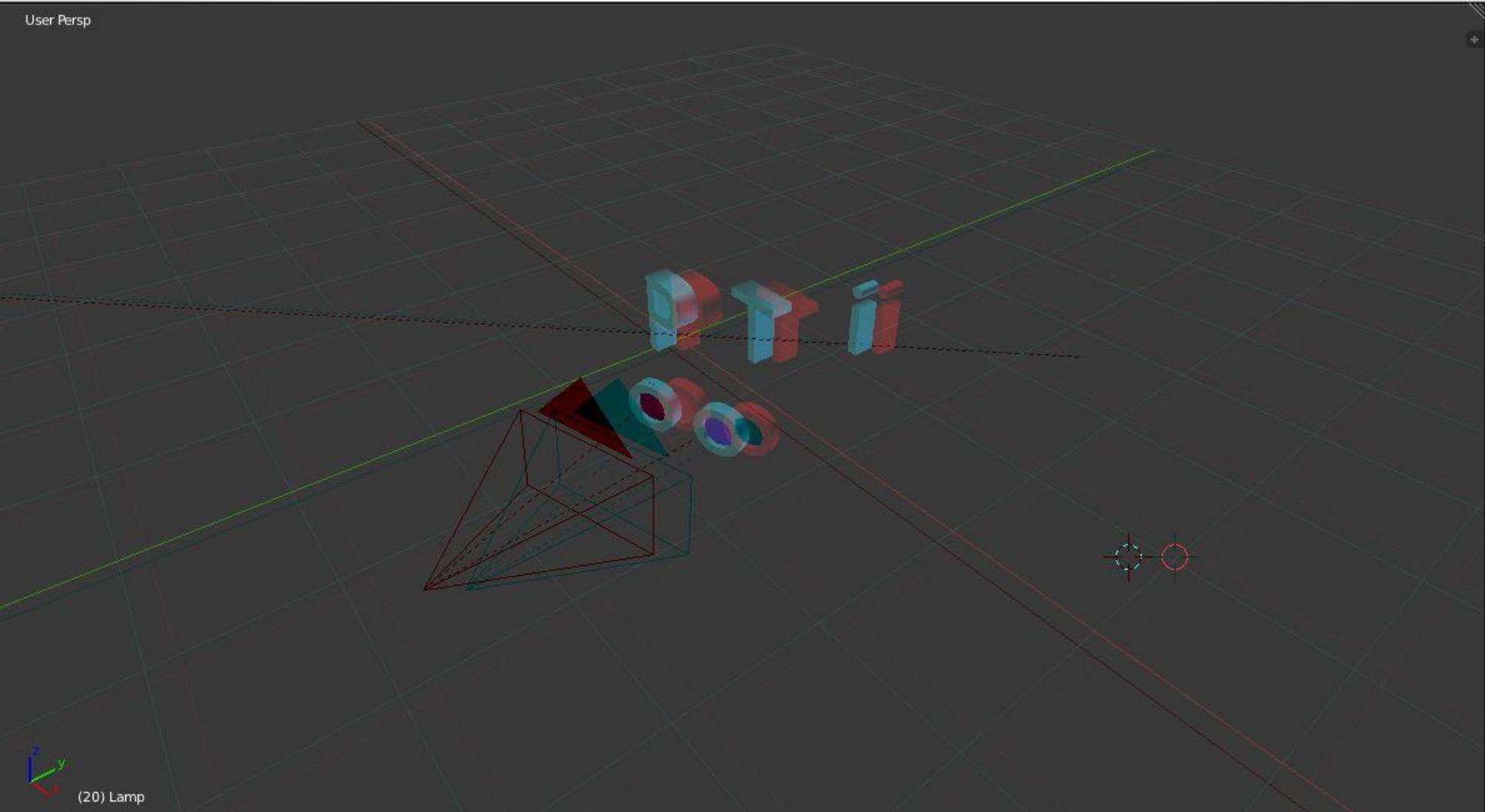


Complexity



Complexity

User Persp



Tangible UI

- ++:
 - Collaboration
 - Situatedness
 - Tangible thinking
 - Space-multiplexing and directness of interaction
 - Strong specificness

Tangible UI

- ---
 - Scalability
 - Versatility and malleability
 - User fatigue

What is: AR



AR: HMDs



AR: HMDs



AR: Handheld



AR: Isolation



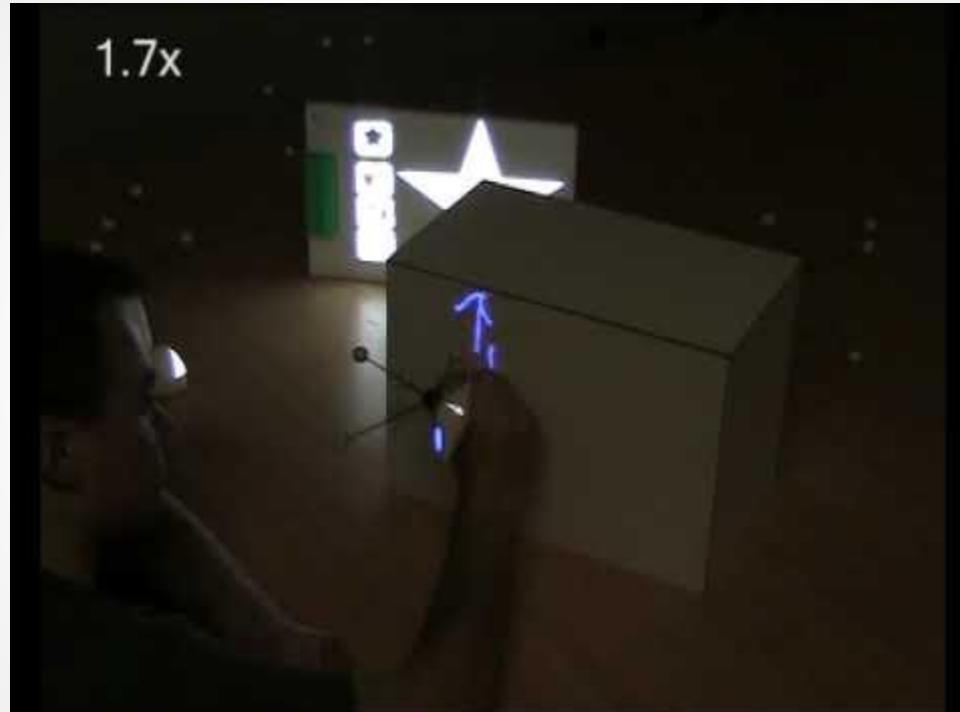
AR: Spatial AR / Projection Mapping



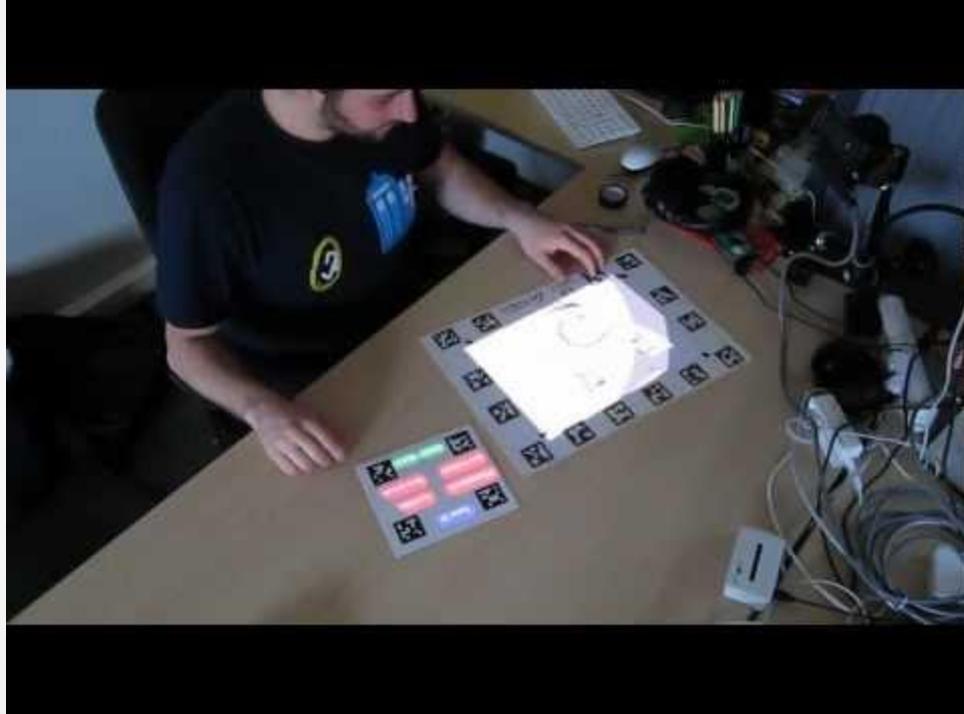
AR: Spatial AR / Projection Mapping



How can SAR be used?



How can SAR be used?



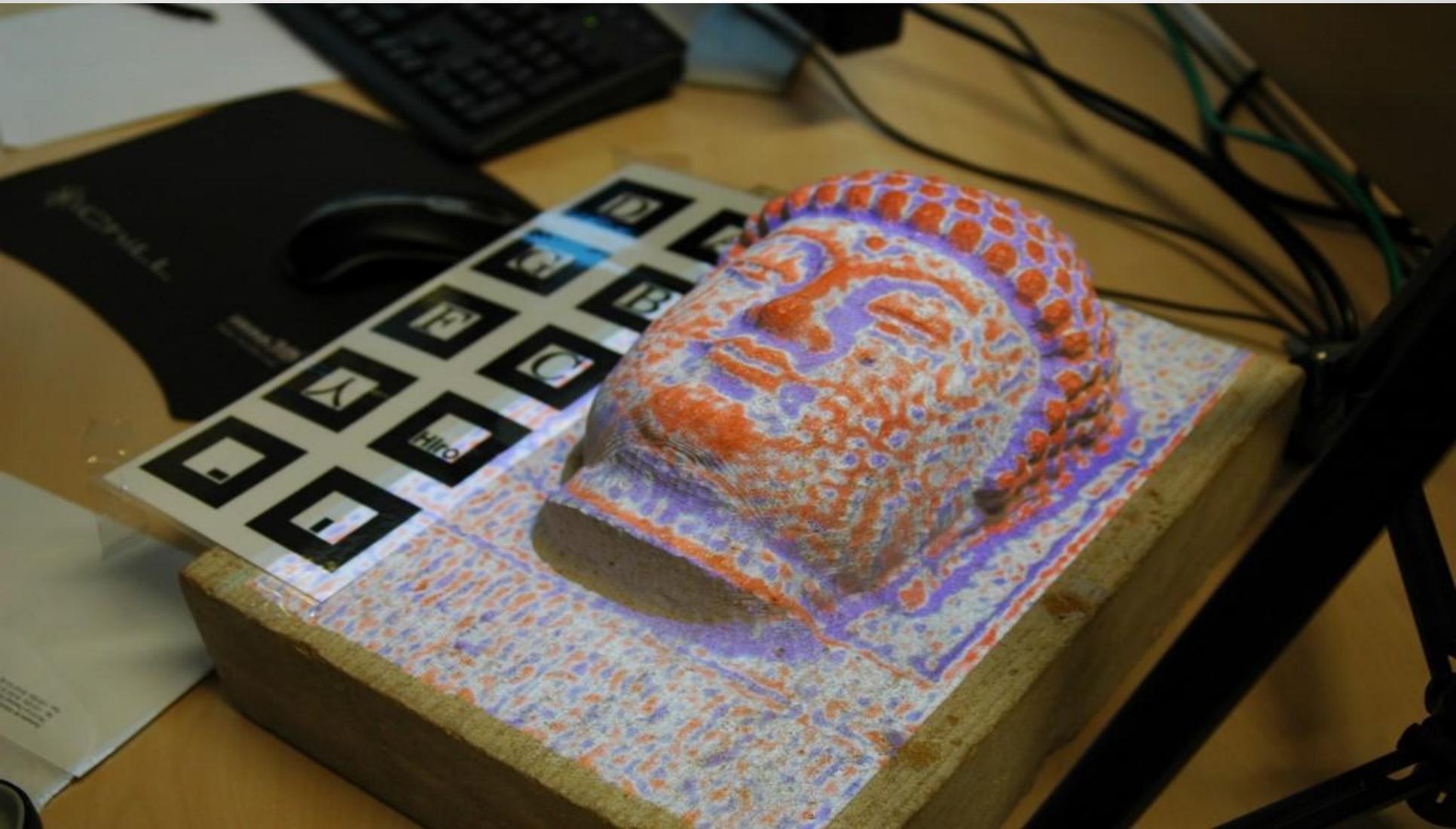
How can SAR be used?



How can SAR be used?



How can SAR be used?

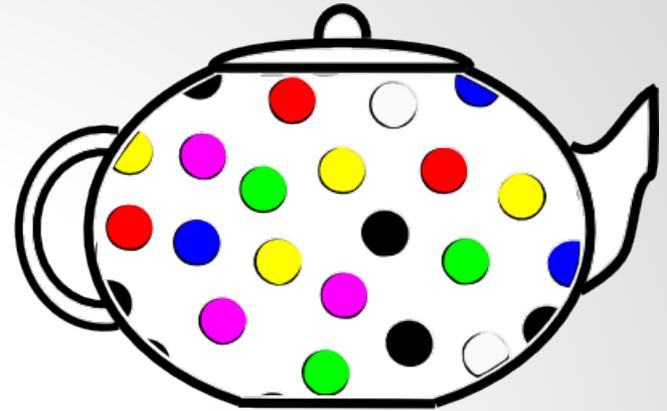
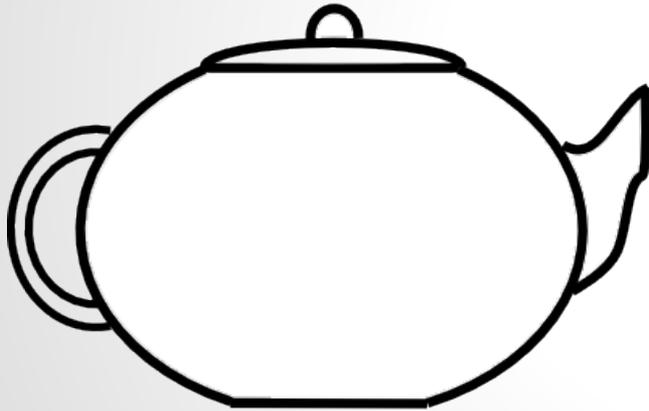


How can SAR be used?





First steps...

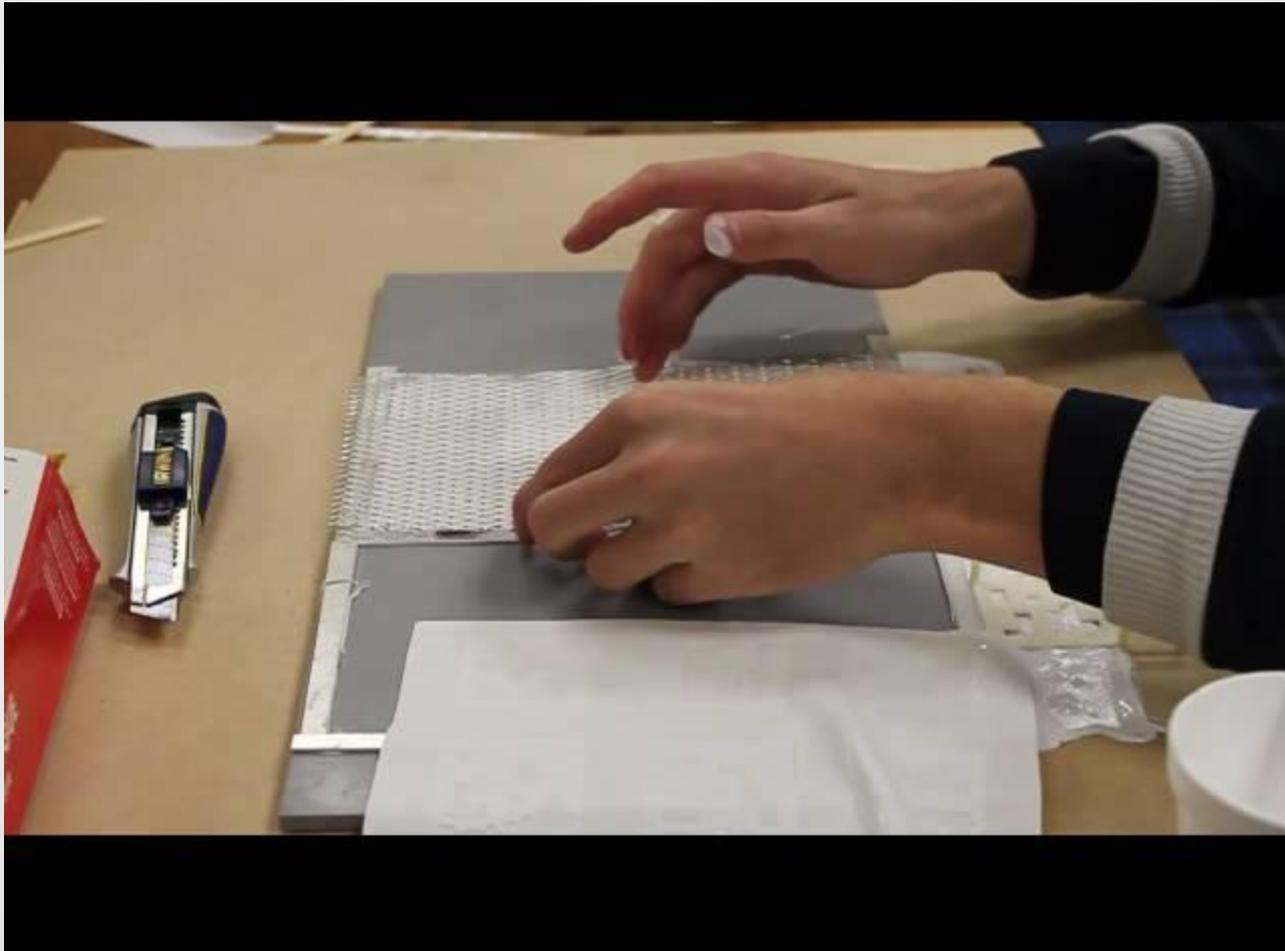


Use case: Object design



[1] E. Maas, M. Marner, R. Smith, and B. Thomas, "Supporting Freeform Modelling in Spatial Augmented Reality Environments with a New Deformable Material.," AUIC, vol. 1, no. d, pp. 77–86, 2012.

Use case: Object design

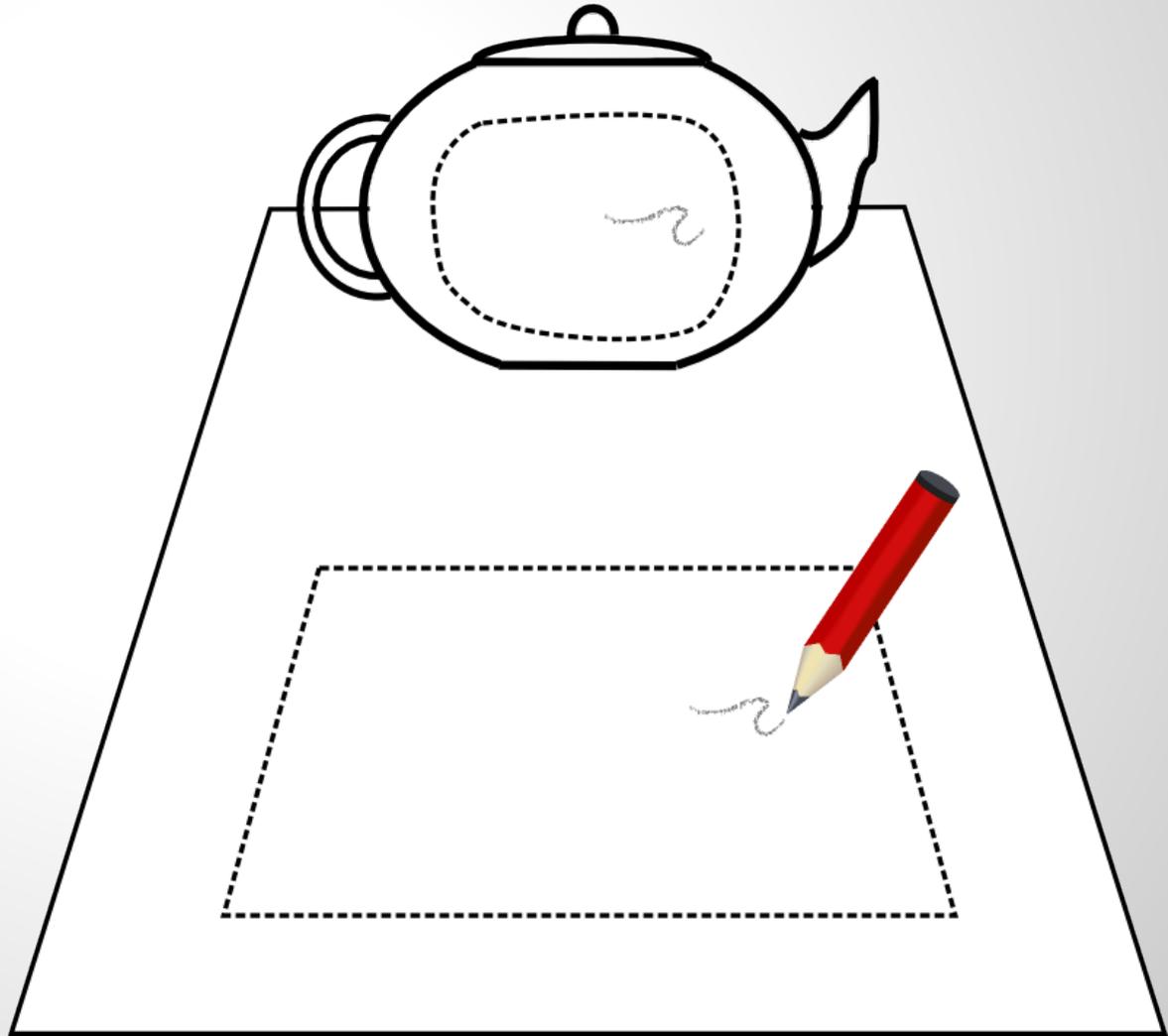
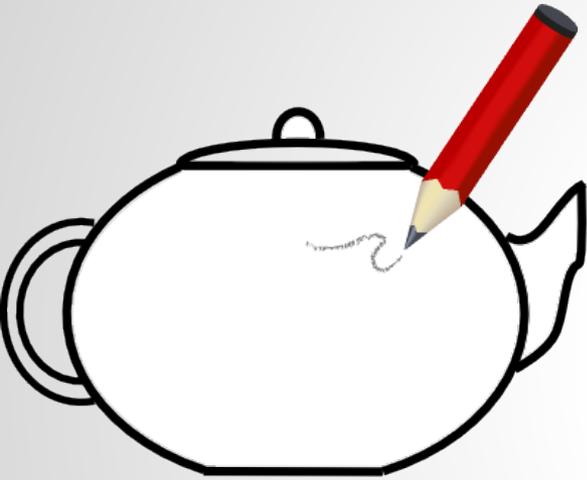


[1] E. Maas, M. Marner, R. Smith, and B. Thomas, "Supporting Freeform Modelling in Spatial Augmented Reality Environments with a New Deformable Material.," AUIC, vol. 1, no. d, pp. 77–86, 2012.

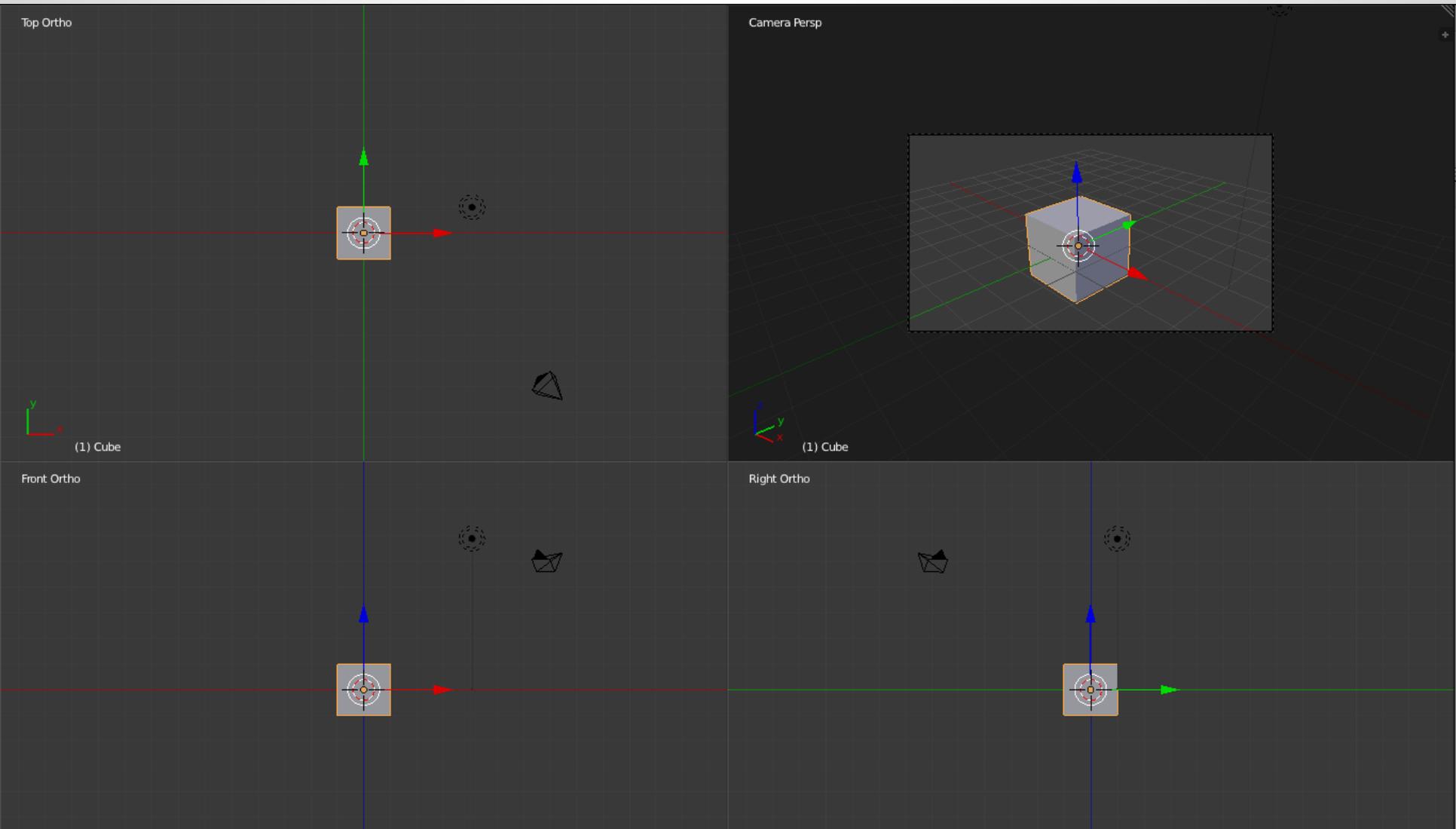
Use case: Museum



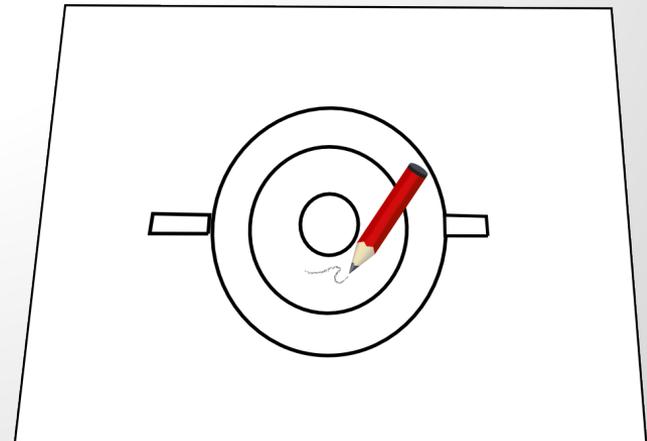
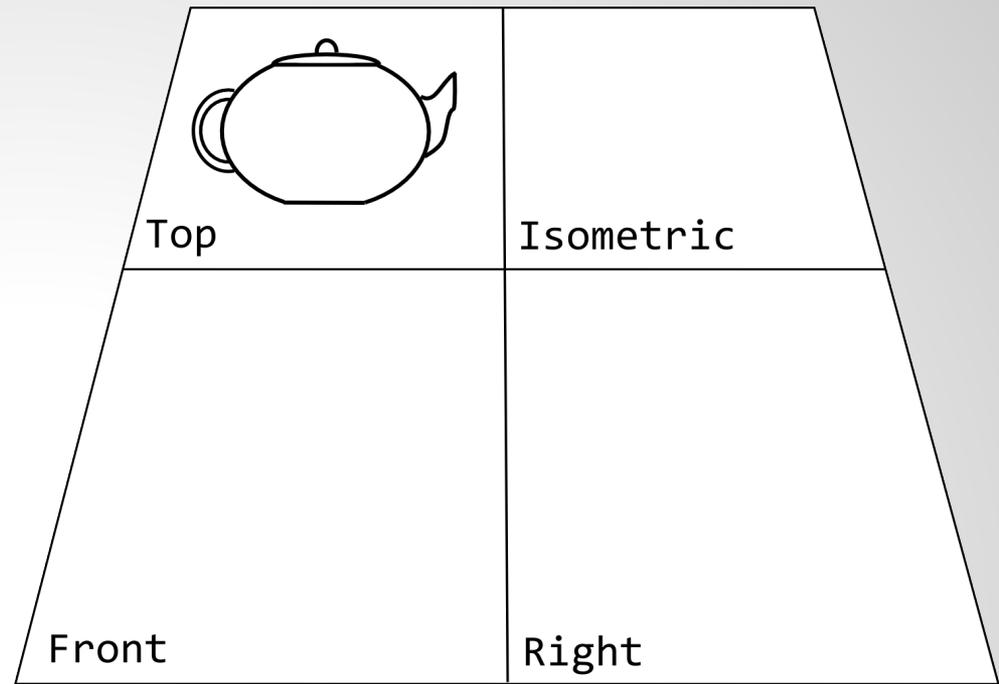
Interaction: Direct Vs Indirect



Interaction: Tangible Quad View



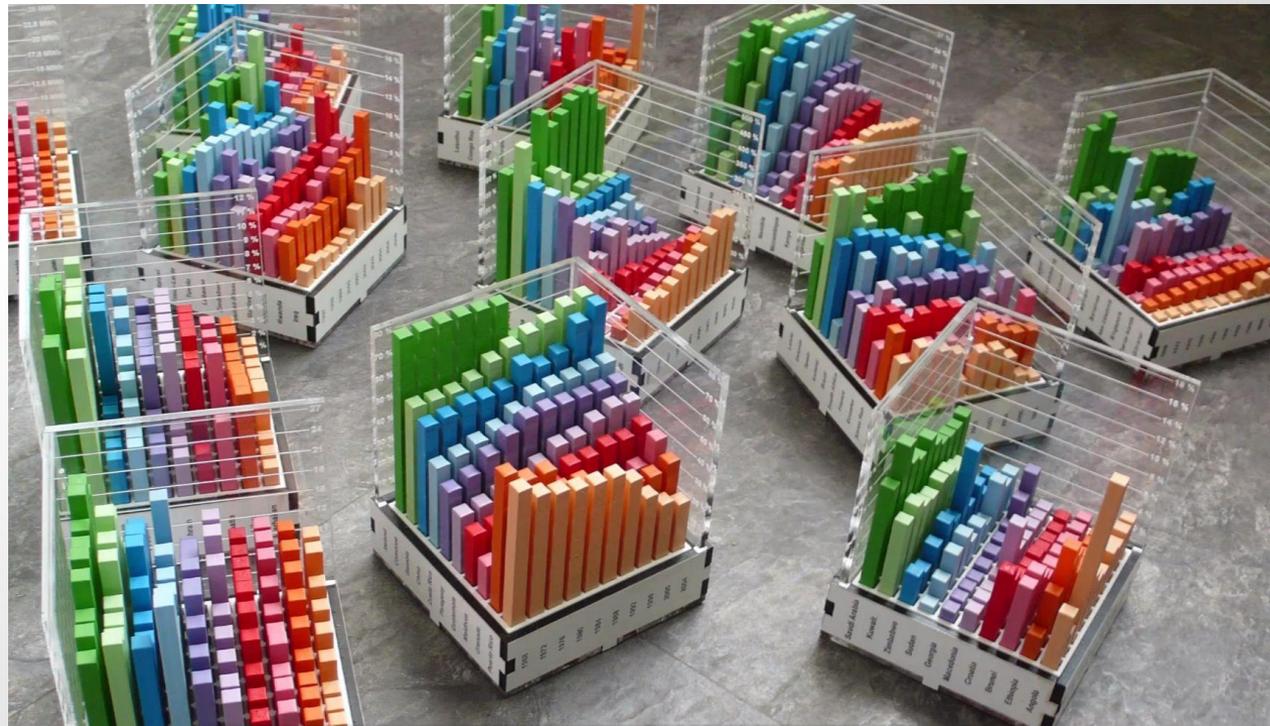
Interaction: Tangible Quad View



Research direction

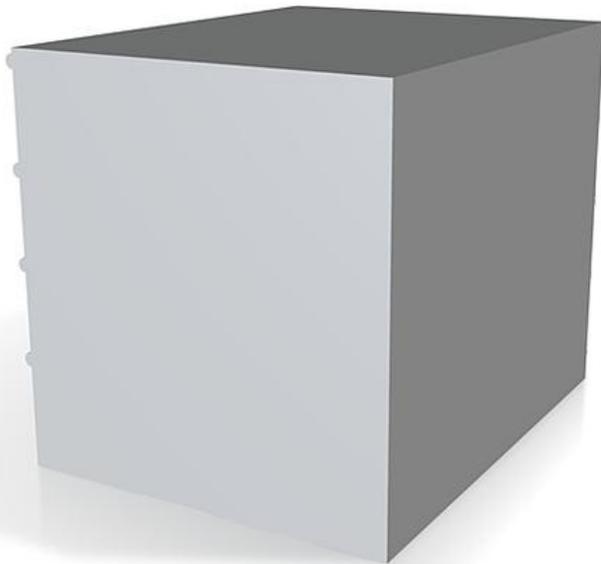
What is the importance of tangibility in:

- Edition
- Inspection
- Gaming



[1] Y. Jansen, P. Dragicevic, and J.-D. Fekete, "Evaluating the Efficiency of Physical Visualizations," in Proceedings of the 2013 Annual Conference on Human Factors in Computing Systems (CHI 2013), 2013, p. in press.

Research direction: Generic Vs Specific



http://images1.sw-cdn.net/model/picture/674x501_287623_289618_1338416404.jpg



http://images1.sw-cdn.net/model/picture/674x501_1009503_934727_1365737034.jpg

Research direction

Is there ways to use illusions to design better interaction methods:

- Anamorphism
- Suggest behavior
- Stereoscopy + tangible