DA155A Final Project Topics

April 25, 2019 version 2

Topics

Below are some different cases for you to be inspired from. However, as discussed in the course and in meetings, you are free to use these as a starting point to work from. You do need to inform me of your concept via the CANVAS submission.

1. Design a flexible workspace

Many work and educational small group collaborative workspaces are multi-purpose to accommodate different needs. Design a future scenario that adds computational intelligence to these workspaces, think about lighting, storage, furniture needs. Consider how information in physical and digital architecture changes pending the type of use, for example meeting, design, interviews, learning. You can use the student workspaces at the library or Niagara as a case. Focus on the Smart Workplace of the near future.

Problem: How do we make intelligent flexible workspaces for collaboration?

Ahtinen, Aino, et al. "Experience-driven design of ambiences for future pop up workspaces." European Conference on Ambient Intelligence. Springer, Cham, 2015.

2. Ektogrid

Design an Augmented Reality information system for understanding how a smart energy system works. For instance consider, how do we as consumers of energy understand how a complex system that manages energy through storage, sharing, and prediction work? How do we visualize our energy uses?

Problem: How do we persuade people to save energy?

Castelli, Nico, et al. "What happened in my home?: An end-user development approach for smart home data visualization." *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems*. ACM, 2017.

3. Future Shopping at ICA MAXI, H&M, IKEA, or other physical/digital store Designing a future shopping experience across physical and digital spaces (ICA). Looking at Amazon and TESCO as a starting point how can you design IA for new shopping experiences for young people and/or elderly people.

Van Hove, Stephanie, et al. "Assessing User Experience of Context-Aware Interfaces in a Retail Store."

Problem: How do we design future digital shopping experiences, especially for elderly people?

4. The Museum as Information Architecture Using Malmö Museer as a starting point you can Designing an AR museum exhibit for HMS U3 Submarine or venture into Kunst consider how to engage the museums through new mediums.

Problem: How do physical museums integrate digital technologies that use visitor's devices?

5. ACCESS Adaptive Communication Connections to Extend & Support Social Interaction. Exploring how technology can be used to bridge communication and social interaction barriers for individuals with different cognitive and communication abilities (due to dementia, brain injury, autism, etc.) Contact: Daniel

Kon, Bethany, Alex Lam, and Jonathan Chan. "Evolution of smart homes for the elderly." *Proceedings of the 26th International Conference on World Wide Web Companion*. International World Wide Web Conferences Steering Committee, 2017.

Problem: How do we design smart homes for aging populations that empower them?

6. Q-Self Designing a smart health coach for diet and exercise that uses heart rate variability as measure among other things.

Shin, Dong-Hee, and Frank Biocca. "Health experience model of personal informatics: The case of a quantified self." *Computers in Human Behavior* 69 (2017): 62-74.

Problem: How do people make sense of personal informatics in health?

Propose you own case: Write a small brief of a case and your motivation. Find an article using Google Scholar (be sure use a recent one from 2015 forwards and good source like ACM, IEEE, or Springer)