Immersive Analytics

CMPM 290A, F2018

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Today class

- CruzXR meetups (https://www.meetup.com/CruzXR/events/)
- Describe VR experiences in small groups
- Discuss Putnam and Kuchera-Morin
- More details about Project 1
- Homework for Thursday

VR experience

Write a short response describing the experience, the interactions, the visuals, the sounds.

What did you like or not like?

What aspects felt realistic, interesting, immersive, engaging, off-putting, …?

Does VR provide you with something that can not be replicated in more common media formats?

What kinds of *data* were presented in the VR experience?

New York Times' Voyages Issue

https://www.nytimes.com/interactive/2018/09/21/magazine/voyages-travel-sounds-from-the-world.html

Kuchera-Morin, Performing in Quantum Space

- "Using the senses" is important to the learning process; this sensing has been lost, due to its abstraction and complexity

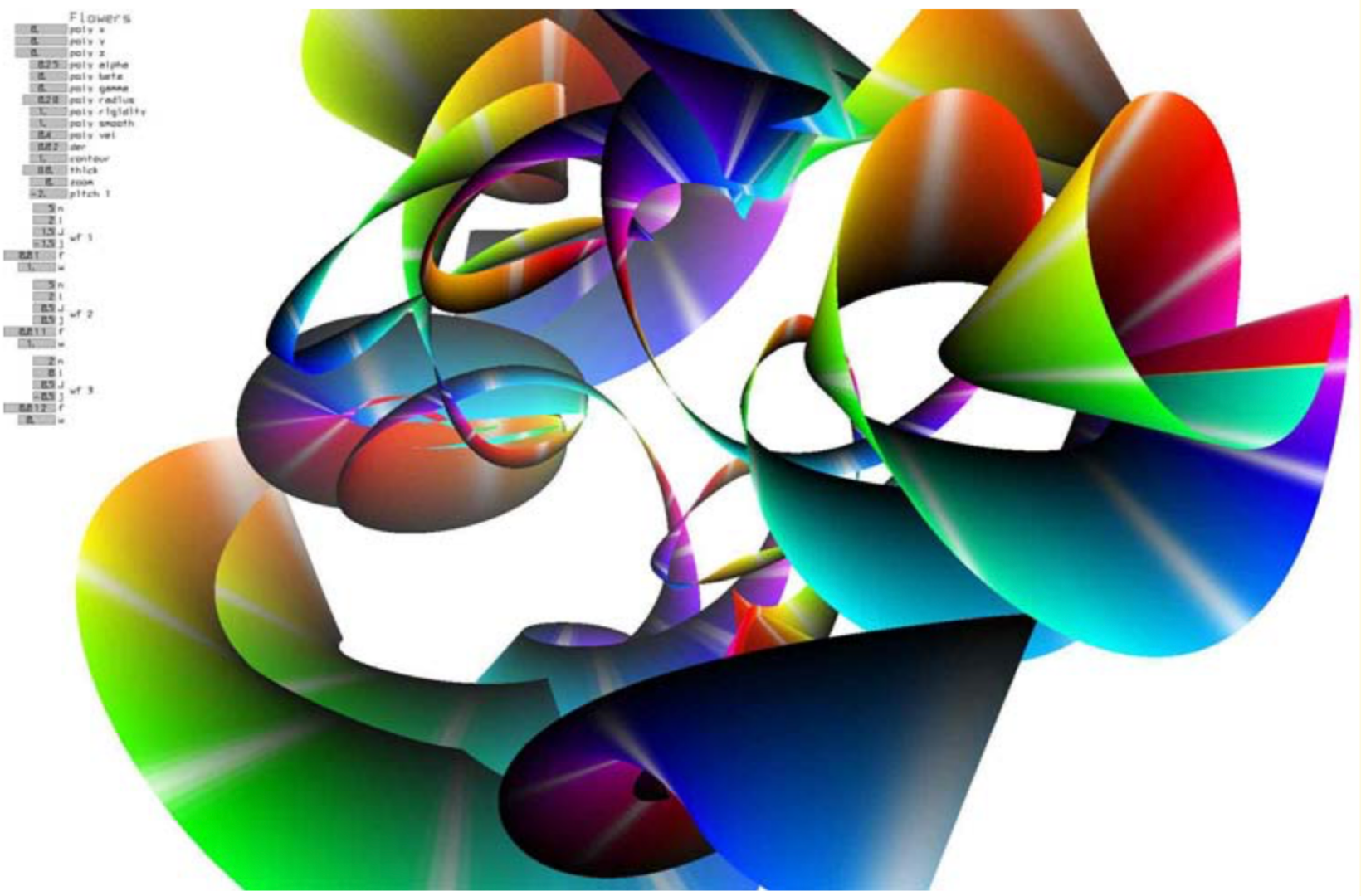
- Computation isn't enough, needs to be sensible, comprehensible

- This sensing experience needs to have "no outside interference"

- "literally perform"?

- What are the "techniques of the artistic process," and how do they allow for "control"? What is the role of the artist?

- Two types of data: experimental measurements and abstract models


Flowers
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Putnam, Immersed in Unfolding Complex Systems

- VR as: “a common meeting ground where diverse researchers can share insights and pursue similar fundamental questions about symmetry, beauty, pattern formation, and emergence.”

- VR as: “a holistic rethinking of the fundamental aspects of our creative medium: computation, data, process, perception, interaction, immersion, and evaluation.”

- Beauty = truth, and elegance = unfolding intriguing equations … to discover symmetry or the breaking of symmetry?

- *Epistemological* experiment is a new form of art…

Putnam, Immersed in Unfolding Complex Systems

- VR lets you "compose systems that generate complex natural patterns with precision and autonomy", which guides our search for "significant patterns in the data."

- Focus on fields and agents

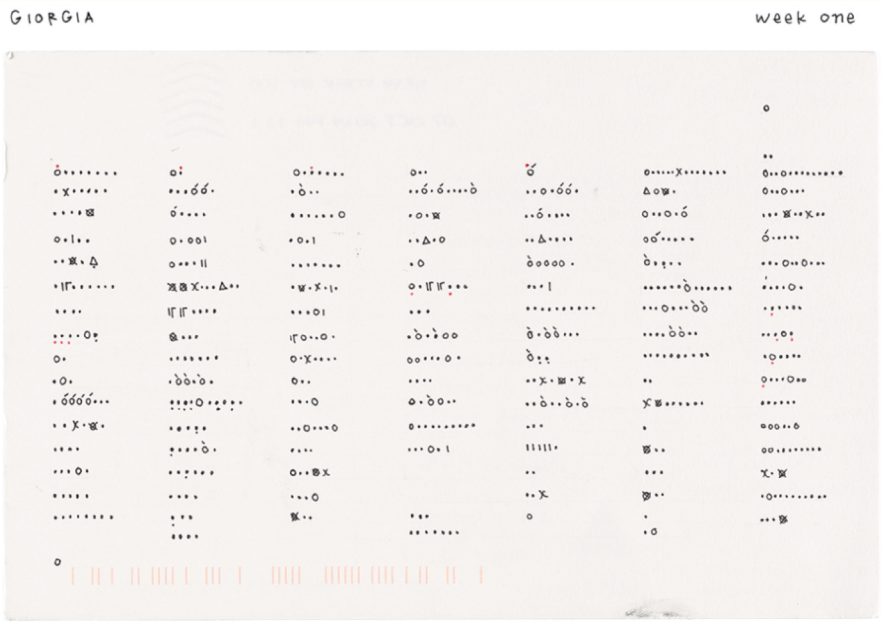
- Filtering as *composition* = organization of materials; Data visualization as filtering…

- "what are we looking for in the data or system?" To begin answering this question, we can say that we are looking for the interesting patterns that reveal essential aspects of the system as it unfolds.

Giorgia Lupi & Stefanie Posavec, *"Dear Data"*

http://www.dear-data.com/theproject

"Each week, and for a year, we collected and measured a particular type of data about our lives, used this data to make a drawing on a postcard-sized sheet of paper, and then dropped the postcard in an English "postbox" (Stefanie) or an American "mailbox" (Giorgia)!"



Lupi, *"Dear Data"*

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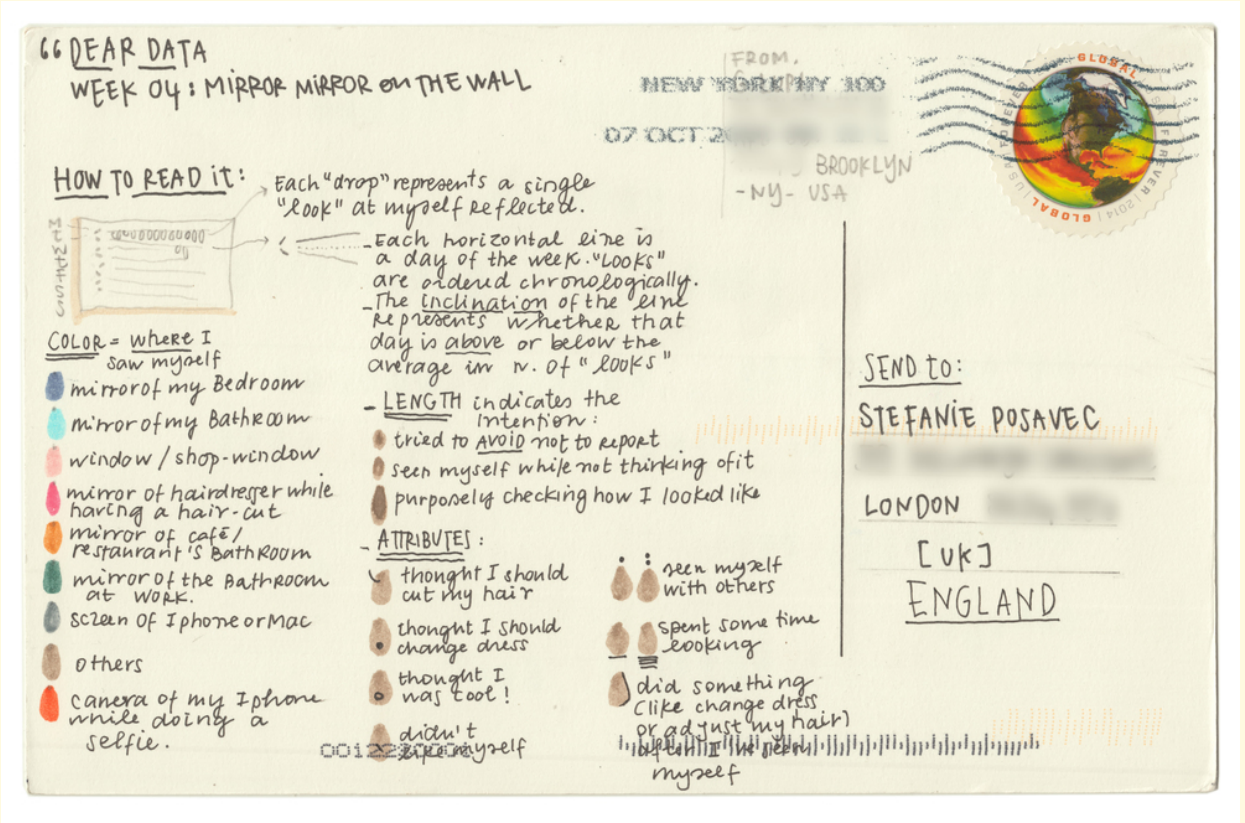
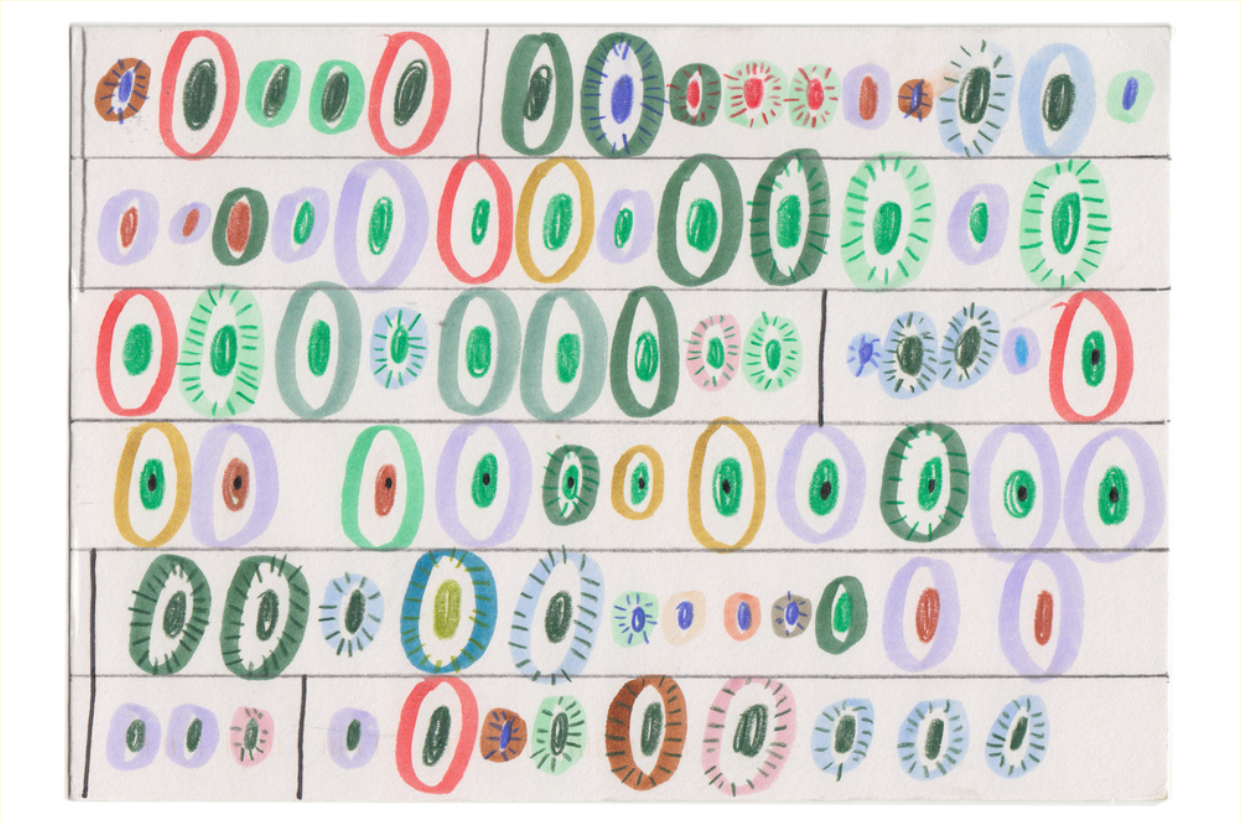


Posavec, 2015 *"Dear Data"*



Posavec, "Dear Data"

Homework for Thursday

Read through 3 articles from 2014 IEEE VIS International Workshop on 3DVis

- "The (possible) utility of stereoscopic 3D displays for information visualization: The good, the bad, and the ugly", John P. McIntire and Kristen K. Liggett

- "2D and 3D presentation of spatial data: A systematic review", Steve Dübel, Martin Röhlig, Heidrun Schumann, and Matthias Trapp

- "3D InfoVis is here to stay: Deal with it", Richard Brath

Project Packet 1

Part 1-

Summarize scholarly articles

- Choose your articles by Oct 11th (this Thursday)

Project Packet 1

Part 2-

Create a VR data visualization

Questions?

- A-Frame vs. Three.js vs. Unity?
- Unity lab?
- MR headsets on Mac?
- Access to DSC, to CM user testing lab?