Computing for Common Good

Introduction

Spring 2020

Prof. Narges Mahyar
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Courses, projects, papers, and more:
http://groups.cs.umass.edu/nmahyar/

Instructor

Narges Mahyar

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Office hours: by appointment

Background:

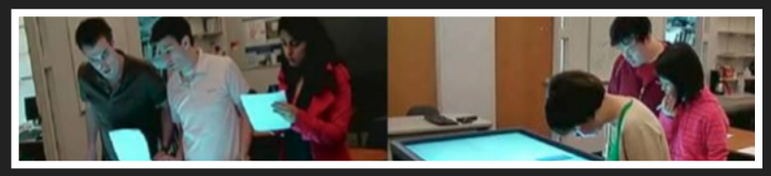
HCI, Information Visualization, Social Computing, Digital Civics, Crowdsourcing, and Design Thinking.

My creds

- Co-taught a courses on Civic Design at UCSD, Fall17
- Taught a course on Digital Civics, Fall 18
- Taught a course on Advanced Methods in HCI, Spring 19
- Taught a course on Intro to HCI, Fall 19

I build & study people-centered tools

Collaborative Visual Analytics Tools



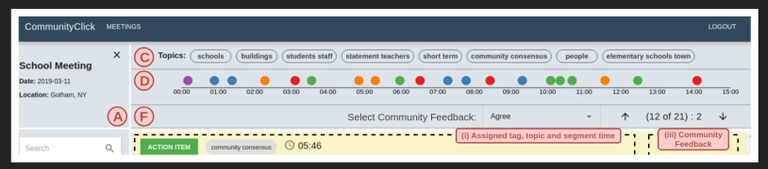
Mahyar et al, InfoVis 2012, **Top 4 VAST Papers**

Mahyar et al, HICSS 2013

Mahyar & Tory, VAST 2014, **Best Paper Award**

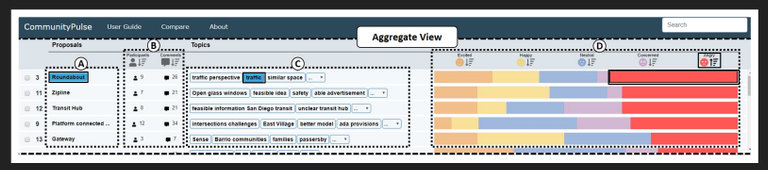
Community-Centered Tools

Mahyar et al, ISS 2016, **Outstanding Award**



CommunityClick

CommunityCrit: Mahyar et al, CHI 2018



CommunityPulse

Icebreaker [5-10 min]

- State your…
  - Name, department
  - Background
  - One thing you hope to get out of this class
- … all in 1 minute or less.

Learning goals for today

- Become familiar with the course website and how to get access to the course materials

- Understand the course components and expectations

- Understand the broad scope of computing for common good

Course Objectives

- Broadly cover computing for common good and domains of social computing, crowdsourcing, visualization and collective intelligence
- Learn key concepts and background on HCI for computing technology that benefits society
- Read and discuss key papers
- Propose new research and get excited about the potential opportunities

Class structure and components

- Once per week for ~2 hours (we will take breaks)
- Readings distributed across the class
  - Present 2-3 times per semester
  - Read and ready to discuss 1 paper per week
  - Listen and participate in discussion of every paper
- Form teams of 2 and deliver 1 awesome research project

Grading

- This class will involve a great amount of discussion, in-class activities, student presentations, and research crits.
- Grades will reflect participation and performance on paper presentations, discussions, and projects.

Grading schema

- Tentative schema:
  - Projects: 50%
    - 30% working prototype, 20% report
  - Presentation: 30%
  - Participation: 20%

Expectations

- Attend all classes, no laptops in the classroom
- Do assigned prep before class
- Be a considerate team member and do your share of the work, well and on time
- Abide by the university academic honesty guidelines
- Build a working prototype
- Attend the demo session to present your work

First day survey

- https://forms.gle/f6GvYektykFiQmWeA

Course website

- https://groups.cs.umass.edu/nmahyar/teaching/computing-for-the-common-good-spring-2020/

What is computing for common good?

- Utilizing technology to address complex social problems such as health, education, policy, urban design, transportation, etc.

- Includes variety of technology such as social computing, visualization, crowdsourcing, machine learning and etc.

What is digital civics?

- Digital Civics is an emerging cross-disciplinary area that explores new ways to utilize technology for promoting public participation in the design and delivery of civic services.
- Digital civics empowers the public to take a more active role in important civic decisions.

Conventional methods are counterproductive

- Achieving genuine participation in planning
- Satisfying the public that they are being heard
- Improving the final decisions
- Incorporating a broad spectrum of the public

JE Innes & DE Booher, 2004

Why is engaging the public important?

- Local knowledge
- Buy in
- Impact social good

Best practices are workshops and design charrettes

Face to face methods have many limitations

- Engaging representative stakeholders
- Hearing out people's comments
- Recording/disseminating comments

Understanding digital civics by Ethan Zuckerman

- If we can figure out how to harness these internet-based forms of civic engagement, we might revitalize political participation.
- Good evidence that the internet helps us

Code for America

Resources and guidelines

- Reading & summarizing papers
  - How to read a paper: https://www.albany.edu/spatial/WebsiteFiles/ResearchAdvices/how-to-read-a-paper.pdf
- Critical readings for grad students: https://sass.queensu.ca/wp-content/uploads/sites/2/2013/09/Critical-reading-for-graduate-students.pdf

How to read papers?

- Closely reading a paper
  - Highlight important parts of the text
  - Annotate the text with notes and comments
  - Re-read points that you don’t understand
  - Start to summarize the argument
  - Notice if anything “jump out” at you at significant or surprising

Presentations are important component of this class

- You will give 2-3 presentations
- Evaluation form
- How to improv your presentation skills?

Morals for making a good presentation: Don Norman

- Say less, not more.
- Learn how to stop when your time is up, even if you are not finished.
- Be in love with your subject, but do not assume that your audience starts out in love. Consider it your job to seduce them. So plan your talk to be a well-designed seduction.
- Think of the audience, not of yourself!
- Tell a story.

Mechanics

- Not everything has to be written down, show not tell
- Act your talk: explain, ask rhetorical questions, etc
- **Give people time to think about the important facts by slowing down, or even stopping for a moment**
- Do not go overtime under any circumstance

Organization

- Have a very clear introduction, to motivate what you do and to present the problem you want to solve.
- Help the audience understand where you are going. Use only one idea per slide.
- Don't count on the audience to remember any detail from one slide to another.
- Have a good conclusions slide: put there the main ideas.

Formating

- Slides should have descriptive titles
- Put very little text on a slide
- Don’t use small fonts
- Don’t forget slide numbers
- Make sure pictures/charts are legible
- Choose your colors carefully (e.g. background, charts, text)

Final Words

- Practice your delivery
- Talk with confidence
- Maintain eye contact
- Use body gesture
- Watch as many good talks as you can!

Resources for HCI research

ACM Conference on Human Factors in Computing Systems (CHI)
ACM Transactions on Computer-Human Interaction (TOCHI)
ACM Conference on Computer Supported Cooperative Work (CSCW)
IEEE Conference on Visualization (VIS)
ACM Designing Interactive Systems (DIS)
ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp)
ACM Tangible, Embedded and Embodied Interaction (TEI)
Interaction Design and Children (IDC)
Participatory Design Conference (PDC)

Human-Computer Interaction (HCI)
International Journal of Human-Computer Studies (IJHCS)
Interacting with Computers
Computers in Human Behaviour
CoDesign: International Journal of CoCreation in Design and the Arts
Personal and Ubiquitous Computing
International Journal of Design
Design Studies
Design Issues

Homework before next class

- Familiarize yourself with the course website
  - Take note of deliverables on schedule page
  - Pre-readings
  - **Let me know if you are passionate to add a new topic**
- Sign up for presentations
  - https://docs.google.com/spreadsheets/d/1-XALA7Nuyd6yHynGsRFj9yDp8Ygt7U9AQJZHYOCFPbk/edit?usp=sharing

Projects

- Your projects can be an extension/followup to your existing/ previous projects as long is it fits under the scope of this course
- You will be graded on the new work, not your past work.
- Do you have any topics/project ideas to share with the class?

Next week

- Form teams
- Read and discuss papers