Designing Socio-Technical Systems of Truth
Third Annual Virginia Tech Workshop on the Future of HCI
Kurt Luther, Andrea Kavanaugh, Deborah Tatar
ICAT PlayDate, March 16, 2018
Motivating questions

In a society now frequently labeled “post-factual,” how can we create social technologies that support the pursuit of facts and encourage trustworthy institutions?

What designs and design processes can prevent these technologies from becoming fonts of vigilantism, harassment, destructive rumors, and systemic bias?
Invited fellows

Dr. Alice Marwick
UNC Chapel Hill and Data & Society
Why Do People Share Fake News? A Sociotechnical Model of Media Effects

Dr. Jay Aronson
Carnegie Mellon
Reconstructing Human Rights Violations Using Large Eyewitness Video Collections: The Challenges of Transforming Visual Data into Evidence

Dr. Travis Kriplean
Invisible College
Designing for Truth

Dr. Mor Naaman
Cornell Tech
Systems of Trust: Understanding Trust Signals Online
Systems of Trust: Understanding Trust Signals Online

Speaker: Mor Naaman
- Truth requires trust
- Examining trust in sharing economy platforms
- What makes people trust an Airbnb host?
- Signaling theory: conventional vs. assessment signals
- Online, benefits of deception greatly outweigh costs

Discussant: Tanu Mitra (CS)
- How to make deception more costly?
- How could a community signal its trust for an individual?
- What is about human intention is missed when focusing on behavior?
**Why Do People Share Fake News?**
A Sociotechnical Model of Media Effects

**Speaker: Alice Marwick**
- Focusing on disinformation in alt-right online communities
- Not always fake, not always news
- People probably aren’t dupes
- Actors, patterns, affordances
- Fake news as social signaling
- Fact-checking and media literacy aren’t enough

**Discussant: Carlos Evia (English)**
- Fake news as “problematic information”
- Intention of author vs. reader vs. the work itself (Umberto Eco)
- Algorithms, content strategies made by people — need to consider agency and intent
Designing for Truth

Speaker: Travis Kriplean

Discussant: Andrea Kavanaugh (CHCI)
Reconstructing Human Rights Violations Using Large Eyewitness Video Collections

Speaker: Jay Aronson  
Discussant: Deborah Tatar (CS)
Faculty lightning talks
Faculty lightning talks

The “System” in “Systems of Truth”  
Deborah Tatar (CS)

Systematic Bias in Volunteered Geographic Information  
Jake Thebault-Spieker (CS)

Teaching Orwell’s 1984 in 2017  
Tom Ewing (History)

Some Data Points of Undergraduate Understanding of Systems of Truth  
Steve Harrison (CS and SOVA)

Charity Begins at Home  
Andrea Kavanaugh (CS and CHCI)

Exploring the influence of fake news tweets on news consumption  
Dan Tamul (Communication)

Conspiracies Online: Lessons from studying user discussions in a conspiratorial community  
Tanu Mitra (CS)

Understanding Truth in Existing Systems  
Scott McCrickard (CS)

Supporting Truth in Crowdsourced Investigations  
Kurt Luther (CS)

Themes: Unpacking “truth”, localness and geography, fake news, teaching truth
Graduate student posters
Graduate student posters

The Source of Judicial Error Matters for Public Support of Self-Help Conflict Management
Leanna Ireland (Sociology)

Characterizing evolution of misinformation in social media and news media
Rongrong Tao (CS)

Supporting Co-located Decision-making and Sense-making with Large Twitter Data
Shuo Niu (CS)

Students, Statistics, and Gun Violence
Nick Bolin (History)

Identifying Potential Targets of Terrorist Attack Plans via Crowdsourced Text Analysis
Tianyi Li (CS)

Evaluating Experts’ Performance in Image Geolocation with GroundTruth
Rifat Sabbir Mansur (CS)

Trust and trustworthiness in social recommender systems
Taha Hassan (CS)

The (Absence of) Racial Bias in Content Evaluation on Amazon Mechanical Turk
Sukrit Venkatagiri (CS)

Using Crowdsourcing and Computer Vision to identify a person in Historical Photographs
Vikram Mohanty (CS)

Themes: Algorithmic and human bias, misinformation and verification in social media, collaborative sensemaking
Break-out discussions
Break-out 1: Identifying problems and challenges

Some questions:

• What are some grand challenges in creating systems of truth?
• Which problems seem to cut across multiple domains and disciplines?
• What elements of systems of truth tend to go unchallenged and could be problematized?

Deliverable:

• A list of key challenges and problems, and why
Results from Break-out 1

- Defining truth
- Information overload
- Devalued truth
- High cost of knowledge gathering
- Moderation; hard to make corrections that people notice
- Bad faith actors; trolls
- Self-segregation; polarization
- Easy to build momentum around bad ideas

- Accountability
- Transparency (too much/little)
- Deception is easier online
- Don’t know people’s intentions
- Decontextualized info
- People don’t listen or don’t understand
- Historical realities; power dynamics
- Engineers don’t have incentives to care
Break-out 2: Envisioning possible futures

A question:
• What might a preferred future look like with respect to understanding and designing systems of truth? What might undesirable futures look like?

Process:
• Ask and imagine, “What if?”
• Provoke (missing) discussions and debate about possible futures

Deliverable:
• Desired or undesired scenarios, system designs, and/or research artifacts (study protocol, call for papers, book review, etc.)
Results from Break-out 2

- Ways to distribute the power of defining truth to a broader group
- A system alerting people when they fall for cognitive bias
- A dystopian world where consistency of belief is not valued
Break-out 3: Designing systems of truth

Some questions:
• How can we create social technologies that support the pursuit of facts and encourage trustworthy institutions?
• How can we prevent these technologies from becoming fonts of vigilantism, harassment, destructive rumors, and systemic bias?

Process:
• Draw inspiration from challenges/problems we identified and speculative scenarios and designs we created

Deliverable:
• Designs and/or principles for systems (software, policies) supporting truth
Results from Break-out 3

• Market-based approach: invest in true or false information
• Flood communication channels with truth (the Earth is Round)
• Share and destigmatize “conversion stories”
Next steps

• Summary article for *Interactions* magazine
• Invited fellows as clients for capstone projects
• Jointly-written design fictions
• Follow-up workshops at HCI conferences
• Video series: 101 things you can do to create systems of truth

What else?
Organizers

**Graduate Research Assistant**: Tim Stelter (CS)

**Discussants**:
- Tanu Mitra (CS)
- Carlos Evia (English)
- Andrea Kavanaugh (Center for HCI)
- Deborah Tatar (CS)

**Steering Committee**:
- The Social Informatics group of the Center for HCI

**Space and A/V**:
- Chreston Miller (Libraries)
- Run Yu (CS)
- Sukrit Venkatagiri (CS)

**Administrative Support**:
- Debbie Cole (CS)
- Melanie Darden (CS)
- Holly Williams (ICAT)
- Melissa Wyers (ICAT)
Sponsors
More info

• Workshop website: http://systemsoftruth.wordpress.com
• Collaborative notes: https://goo.gl/4ZWyuS
• Tweets: #SystemsOfTruth
• Videos of keynote talks:
  • Naaman, Marwick: https://www.pscp.tv/w/1DXxyXnlzeRJM
  • Kriplean: https://www.pscp.tv/w/1nAJERjDaqvxL
  • Aronson: https://www.pscp.tv/CHCI_VT/1MnxnebrYwwJO
• Reflections by Scott McCrickard: https://mccricks.wordpress.com/2018/03/05/what-comes-after-chi-the-systems-of-truth-workshop/