Syllabus for Undergraduate Course on *Users and their Stories*

Ranjit Singh

Department of Science and Technology Studies, Cornell University

Previously taught in Fall 2013

2 August, 2018

Course Description:

Every technology you see, whether it be a simple artifact like a pencil or a complex system like a nuclear power plant, is designed with particular uses in mind. This course critically examines the idea of the user, whom designers must take into account. The concept of "user" pushes the boundaries of thinking about consumers of technology and enables a better understanding of technological design, testing, misuse, and reuse. The course will focus on how this conception of the user can be fruitful for writing about technology, from journalistic accounts to book reviews, policy statements, and academic analyses.

Learning Outcomes:

By the end of this course, you should be able to demonstrate the following skills:

- Recognizing distinctive writing styles for different academic disciplines and ability to adapt your writing style accordingly.
- Identifying the key concepts and central argument of a piece of writing.
- Analyzing texts and putting them into productive conversation.
- Clearly conveying and supporting an argument and/or idea through writing.
- Putting the above skills to use in writing about producing, designing, testing and using a technological artifact.

Required Texts:

Digital copies of assigned readings will be provided. In addition, please secure a copy of one of the following books because one of your assignments is to write a book review: Oudshoorn, N., & Pinch, T. J. (2003). *How Users Matter: The Co-Construction of Users and Technology (Inside Technology Series)*. (N. Oudshoorn & T. J. Pinch, Eds.). Cambridge and London: MIT Press or Hyysalo, S., Jensen, T. E., & Oudshoorn, N. (Eds.). (2016). *The New Production of Users: Changing Innovation Collectives and Involvement Strategies*. New York and London: Routledge.

Description of Required Writing:

Scholarly writing is different from normal writing. There are a number of implicit conventions regarding style, register, structure, and argument that can only be learned through practice. This is a writing-intensive "crash course" in university-level composition to familiarize you with these conventions. Here's an outline of the set of assignments that you will produce during this course.

S. No.	Description
Ungraded	
Assignment #1	Write a two to three page autobiographical essay on your experience of using any technological artifact of your choice. It could be your phone, your computer, your music system, your pen/pencil or anything else that you think you cannot live without.
Graded	
Assignment #2	Apply de Wilde's critical theory to the predictions of the future in a two to three page essay for one of the three TED videos which are listed as follows: **Sample TED Videos**: 1. "At the 2007 EG conference, Kevin Kelly shares a fun stat: The World Wide Web, as we know it, is only 5,000 days old. Now, Kelly asks, how can we predict what's coming in the next 5,000 days?"

	From: Kelly, K. (2008). Kevin Kelly: The next 5,000 days of the web. *TED Talks*. Retrieved from http://www.ted.com/talks/lang/en/kevin_kelly_on_the_next_5_000_days_of_the_web.html 2. "Inventor, entrepreneur and visionary Ray Kurzweil explains in abundant, grounded detail why, by the 2020s, we will have reverse-engineered the human brain and nanobots will be operating your consciousness." From: Kurzweil, R. (2006). Ray Kurzweil: The Accelerating Power of Technology. *TED Talks*. Retrieved from http://www.ted.com/talks/lang/en/ray_kurzweil_on_how_technology_will_transform_us.html 3. "Scientific discoveries, futurist Juan Enriquez notes, demand a shift in code, and our ability to thrive depends on our mastery of that code. Here, he applies this notion to the field of genomics." From: Enriquez, J. (2007). Juan Enriquez: The life-code that will reshape the future. *TED Talks*. Retrieved from http://www.ted.com/talks/juan_enriquez_on_genomics_and_our_future.html
Assignment #3	Create two to three user personas for a website that is already in use. Each of these user persona should be one page long. The website that you will be working with is: https://www.grubwithus.com/ or http://500px.com/
Assignment #4	Write a four to five page newspaper or magazine article on a recent technological controversy. Topics could range from controversies over the use of Big Data and social media to any technological invention that disrupts social arrangements such as 3D printing. **The controversy is assigned by the Instructor.**
Assignment #5	Write a four to five page book review of Oudshoorn, N., & Pinch, T. J. (2003). *How Users Matter: The Co-Construction of Users and Technology (Inside Technology Series)*. (N. Oudshoorn & T. J. Pinch, Eds.). Cambridge and London: MIT Press or Hyysalo, S., Jensen, T. E., & Oudshoorn, N. (Eds.). (2016). *The New Production of Users: Changing Innovation Collectives and Involvement Strategies*. New York and London: Routledge.
Assignment #6	Prepare a three to four page annotated bibliography for Assignment #7. A bibliography is a list of sources (books, journal articles, websites and other sources) that you have used to research the topic of your choice and an annotation is a summary and/or evaluation. Hence, an annotated bibliography is a summary and/or evaluation of each of the sources that you plan to use for Assignment #7. You are encouraged to summarize as well as evaluate the sources, because the clarity with which you understand the sources will reflect in the work that you do for Assignment #7.
Assignment #7	Your final assignment for this course is a seven to ten page discussion paper on a concept. You can **choose any one of the concepts from the following list** or you may decide to **pick a concept which is not on this list** *(if you choose this option, you will have to **get the concept approved by me** before you start working on it)*: Selective Use, Misuse and Re-Use of a Technological Artifact, Bricolage (Claude Lévi-Strauss), Script of a Technological Artifact (Bruno Latour), User-Centered Design, Prosumers (Alvin Toffler), Lead Users (Eric von Hippel), Open Source, Bottom of the Pyramid (C.K. Prahalad and Stuart L. Hart), Wisdom of the crowd (James Surowiecki), Reverse Engineering, Creative Commons, Quantified Self (Natasha Dow Schüll), Personalized Medicine, Play, Privacy, User Representations, TechnoFeminism (Judy Wajcman), Materiality of a Technological Artifact, Vulnerability of Technological Culture (Wiebe Bijker).

These assignments are designed to familiarize you, not only with the conventions of academic writing, but to introduce you to a variety of styles and arenas where users of a technological artifact and their stories are represented. A detailed description of what these assignments entail has been provided in the section on **Course Schedule** of this syllabus.

Requirements for Participation:

- Complete the assigned readings and be prepared to discuss them.
- Bring assigned readings to discussion.
- Bring a pen and paper for in-class writing and note-taking.
- Be polite, generous, and constructive with both the authors read and the fellow seminar participants. It is far easier to criticize than it is to understand and engage with the ideas of others; strive to produce generative, non-dismissive, readings of course materials.

Requirements for submitting written work:

- Please word-process all written work, print it out and turn it in at the beginning of class on the due date
- Use standard font, in 12 point.
- Doublespace, using 1-inch margins.
- Number your pages
- Staple your pages together (no paperclips, please)
- At the top of the first page include your name, assignment number, date, and essay title.
- Proofread and spell-check before bringing any drafts to class.
- Appropriate in-text citations (or footnotes) and a complete bibliography
- Please don't be late in your submissions

Writing Tips:

We will be exploring a number of strategies and approaches to writing throughout the course, but here are some basic guidelines to start with:

- Academic writing usually takes the form of a conversation between various positions on a particular topic. In constructing your papers, try to bring relevant authors and/or arguments into *conversation* with one another.
- Be sure to not only proofread all writing before submitting it, but also *read it aloud* in order to determine whether A) the argument makes sense, B) the writing flows well, and C) the tone of the writing is appropriate.
- *Consider your audience* and write with the intention to make them understand. For the purposes of this course, the audience will be your instructor and fellow students who will read your work. At the same time, each of the assignments also require you to think about the audiences for a specific style of writing. For example, writing a newspaper/magazine article is very different from writing a book review or a user persona because their audiences are different and the writing serves different purposes. We will discuss these differences in class before you get on with each assignment.
- Avoid broad generalizations, which are invariably difficult to support, and constantly anchor your writing with specific engagements with course readings.

Class Schedule:

Week 1*: Introduction: Writing as an art*

Video for the Week:

"Elizabeth Gilbert muses on the impossible things we expect from artists and geniuses -- and shares the radical idea that, instead of the rare person 'being' a genius, all of us 'have' a genius. It's a funny, personal and surprisingly moving talk"

From: Gilbert, E. (2009). Elizabeth Gilbert: Your Elusive Creative Genius. *TED Talks*. Retrieved from http://www.ted.com/talks/elizabeth_gilbert_on_genius.html

Beginning of Assignment #1: Autobiographical essay on experiences with any technological device.

Week 2: *Conceptual and Rhetorical Analysis*

Readings

First Session:

- Conceptual Analysis: An Introduction by Sjaack Koenis and Karin Bijsterveld.
- Wolcott, H. F. (1990). Reading about Writing. In *Writing up Qualitative Research* (pp. 9–13). Newbury Park, California: Sage Publications.
- Wolcott, H. F. (1990). Getting Going. In *Writing up Qualitative Research* (pp. 13–36). Newbury Park, California: Sage Publications.

Second Session:

- Chapter 6: Smarter all the Time (pp. 16–41) from de Wilde, R. (2000). The Digirati: A Critique of the Futures Industry. *FASoS, Maastricht University*. Retrieved from http://fasos.maastrichtuniversity.nl/profiles/de%20Wilde/English%20translation%20of%20two%20chapters%20of%20De%20Voorspellers.pdf

Video for the Week:

- "Our lives, our cultures, are composed of many overlapping stories. Novelist Chimamanda Adichie tells the story of how she found her authentic cultural voice - and warns that if we hear only a single story about another person or country, we risk a critical misunderstanding."
  From: Adichie, C. (2009). Chimamanda Adichie: The danger of a single story. *TED Talks*. Retrieved from http://www.ted.com/talks/chimamanda_adichie_the_danger_of_a_single_story.html

Submission of Assignment #1 is due at the end of this week.

Beginning of Assignment #2: Applying de Wilde's critical theory to predictions of technological futures.

Week 3: *Entering the World of Production and Use*

Readings:

First session:

- Norman, D. A. (1988). The Psychopathology of Everyday Things. In *The Design of Everyday Things* (pp. 1–33). New York: Basic Books.

Second session:

- Petroski, H. (1996). Introduction. In *Invention by Design: How Engineers get from Thought to Thing* (pp. 1–7). Cambridge, Massachusetts: Harvard University Press.
- You have choice with respect to the second reading, you can **read any one of the following chapters** from Petroski, H. (1996). *Invention by Design: How Engineers get from Thought to Thing*. Cambridge, Massachusetts: Harvard University Press.
  - Chapter 2: Paper Clips and Design
  - Chapter 3: Pencil Points and Analysis
  - Chapter 6: Facsimile and Networks
  - Chapter 7: Airplanes and Computers
  - Chapter 8: Water and Society
  - Chapter 9: Bridges and Politics

Videos for the week:

- "Inventor and MacArthur fellow Saul Griffith shares some innovative ideas from his lab - from 'smart rope' to a house-sized kite for towing large loads. "

From: Griffith, S. (2007). Saul Griffith on everyday inventions. *TED Talks*. Retrieved from http://www.ted.com/talks/saul_griffith_on_everyday_inventions.htm

- "At the BIF innovation summit, Cat Laine draws on the Greek myth of Tantalus to explain the frustration developing countries face. She shows how we might help communities rich in human capital, but poor in resources and infrastructure, with cleverly engineered solutions."
  From: Laine, C. (2009). Cat Laine: Engineering a better life for all. *TED Talks*. Retrieved from http://www.ted.com/talks/cat_laine_engineering_a_better_life_for_all.html

Writing Workshop #1: **Starting with Peer-Feedback**

Submission of Assignment #2 is due at the end of this week.

Week 4: *Through the Looking Glass: Entering the World of Use and Production*

Readings:

First session:

- Oudshoorn, N., & Pinch, T. J. (2003). Introduction: How Users and Non-Users Matter. In N. Oudshoorn & T. Pinch (Eds.), *How Users Matter: The Co-Construction of Users and Technology (Inside Technology Series)* (pp. 1–25). Cambridge, MA: MIT Press.
- Lüthje, C., Herstatt, C., & von Hippel, E. (2005). User-innovators and local information: The case of mountain biking. *Research Policy*, *34*(6), 951–965.

Second session:

- Hyysalo, S., Jensen, T. E., & Oudshoorn, N. (2016). Introduction to the New Production of Users. In S. Hyysalo, T. E. Jensen, & N. Oudshoorn (Eds.), *The New Production of Users: Changing Innovation Collectives and Involvement Strategies* (pp. 1–42). New York and London: Routledge.

Videos for the week:

- "In the year leading up to this talk, the web tool Twitter exploded in size (up 10x during 2008 alone). Co-founder Evan Williams reveals that many of the ideas driving that growth came from unexpected uses invented by the users themselves."
  From: Williams, E. (2009). Evan Williams on listening to Twitter users. *TED Talks*. Retrieved from http://www.ted.com/talks/evan_williams_on_listening_to_twitter_users.html
- "Anil Gupta is on the hunt for the developing world's unsung inventors - indigenous entrepreneurs whose ingenuity, hidden by poverty, could change many people's lives. He shows how the Honey Bee Network helps them build the connections they need -- and gain the recognition they deserve. "
  From: Gupta, A. (2010). Anil Gupta: India's hidden hotbeds of invention. *TED Talks*. Retrieved from http://www.ted.com/talks/anil_gupta_india_s_hidden_hotbeds_of_invention.html

Writing Workshop #2: **Discussion on choice of concepts for Assignment #7**

Beginning of Assignment #3: Developing user personas.

Week 5: *The Social Construction of Technology*

Readings:

First session:

- Pinch, T. J., & Bijker, W. E. (1984). The Social Construction of Facts and Artifacts: Or How the Sociology of Science and the Sociology of Technology Might Benefit Each Other. *Social Studies of Science*, *14*(3), 399–441.

Second Session:

- Kline, R., & Pinch, T. J. (1996). Users as Agents of Technological Change: The Social Construction of the Automobile in the Rural United States. *Technology and Culture*, *37*(4), 763–795.
- Bardini, T., & Horvath, A. (1995). The Social Construction of the Personal Computer User. *Journal of Communication*, *45*(3), 40–65.

Videos for the week:

- "By leading the Americans in his audience step by step through the thought process, sociologist Sam Richards sets an extraordinary challenge: can they understand -- not approve of, but understand -- the motivations of an Iraqi insurgent? And by extension, can anyone truly understand and empathize with another?"
  From: Richards, S. (2011). Sam Richards: A radical experiment in empathy. *TED Talks*. Retrieved from http://www.ted.com/talks/sam_richards_a_radical_experiment_in_empathy.html
- "Massimo Banzi helped invent the Arduino, a tiny, easy-to-use open-source microcontroller that's inspired thousands of people around the world to make the coolest things they can imagine -- from toys to satellite gear. Because, as he says, 'You don't need anyone's permission to make something great.'"
  From: Banzi, M. (2012). Massimo Banzi: How Arduino is open-sourcing imagination. *TED Talks*. Retrieved from http://www.ted.com/talks/massimo_banzi_how_arduino_is_open_sourcing_imagination.html

Writing Workshop #3: **Discussing personas and practices of use for Assignment #3**
Submission of Assignment #3 is due at the end of this week.

Week 6: *The Art of Engineering a Usable Product*

Readings:

First session:

- Pinch, T. J. (1993). "Testing - One, Two, Three... Testing!": Toward a Sociology of Testing. *Science, Technology, & Human Values*, *18*(1), 25–41.
- Nielsen, J. (2012). Usability 101: Introduction to Usability. *Nielsen Norman Group*. Retrieved from http://www.nngroup.com/articles/usability-101-introduction-to-usability/
- Nielsen, J. (2001). First Rule of Usability? Don't Listen to Users. *Nielsen Norman Group*. Retrieved from http://www.nngroup.com/articles/first-rule-of-usability-dont-listen-to-users/

Second Session:

- Latour, B. (1992). Where are the missing masses? The sociology of a few mundane artifacts. In W. E. Bijker & J. Law (Eds.), *Shaping technology/Building Society* (pp. 225–258). Cambridge: MIT Press.

Videos for the week:

- "Nokia researcher Jan Chipchase's investigation into the ways we interact with technology has led him from the villages of Uganda to the insides of our pockets. He's made some unexpected discoveries along the way."
  From: Chipchase, J. (2007). Jan Chipchase: The anthropology of mobile phones. *TED Talks*. Retrieved from http://www.ted.com/talks/jan_chipchase_on_our_mobile_phones.html
- "Kelli Anderson shatters our expectations about reality by injecting humor and surprise into everyday objects. At TEDxPhoenix she shares her disruptive and clever designs."
  From: Anderson, K. (2012). Kelli Anderson: Design to challenge reality. *TED Talks*. Retrieved from http://www.ted.com/talks/kelli_anderson_design_to_challenge_reality.html

Writing Workshop #4: Work in Progress Meeting on Conceptual Analysis: Assignment #7
Beginning of Assignment #4: Newspaper/magazine article on a recent technological controversy.

Week 7: *The Pandora's Box of Product Release*

Readings:

First session:

- Akrich, M. (1992). The De-Scription of Technical Objects. In W. E. Bijker & J. Law (Eds.), *Shaping technology/Building Society* (pp. 205–224). Cambridge, MA: MIT Press.

Second Session:

- Winner, L. (1985). Do Artifacts have Politics? In D. MacKenzie & J. Wajcman (Eds.), *Social Shaping of Technology* (pp. 28–40). Philadelphia and Milton: Open University Press.

Videos for the week:

- "Chris Anderson, the editor of *WIRED*, explores the four key stages of any viable technology: setting the right price, gaining market share, displacing an established technology and, finally, becoming ubiquitous."
  From: Anderson, C. (2007). Chris Anderson of WIRED on tech's Long Tail. *TED Talks*. Retrieved from http://www.ted.com/talks/chris_anderson_of_wired_on_tech_s_long_tail.html
- "A documentary that investigates the birth and death of the electric car, as well as the role of renewable energy and sustainable living in the future."
  From: Paine, C. (2006). *Who Killed the Electric Car?* United States of America: Sony Pictures Classics. Retrieved from http://www.imdb.com/title/tt0489037/

Writing Workshop #5: Writing News Reports

Reading Workshop #1: Connecting the dots from Literature to Case Studies

Week 8: *Guest Lecture on a Technological Controversy for Assignment #4*

The lecture will be a **Mock Press Conference**, where students are expected to take on the role of reporters working on the controversy and ask questions. Students will use this opportunity to gather more evidence of their news/magazine reports for Assignment #4.

Week 9: *Where, When and Who is a User?*

Readings

First session:

- Oudshoorn, N. (2012). How places matter: Telecare technologies and the changing spatial dimensions of healthcare. *Social Studies of Science*, *42*(1), 121–142.
- Wyatt, S. (2003). Non-Users Also Matter: The Construction of Users and Non-Users of the Internet. In T. J. Pinch & N. Oudshoorn (Eds.), *How Users Matter: The Co-Construction of Users and Technology (Inside Technology Series)* (pp. 67–79). Cambridge and London: MIT Press.

Second Session:

- Burrell, J., & Oreglia, E. (2015). The myth of market price information: mobile phones and the application of economic knowledge in ICTD. *Economy and Society*, *44*(2), 271–292.
- Anand, N. (2011). PRESSURE: The PoliTechnics of Water Supply in Mumbai. *Cultural Anthropology*, *26*(4), 542–564.

Videos for the week:

- "Sheena Iyengar studies how we make choices -- and how we feel about the choices we make. At TEDGlobal, she talks about both trivial choices (Coke v. Pepsi) and profound ones, and shares her groundbreaking research that has uncovered some surprising attitudes about our decisions."
  From: Iyengar, S. (2010). The art of choosing. *TED Talks*. Retrieved April 05, 2013, from http://www.ted.com/talks/sheena_iyengar_on_the_art_of_choosing.html

- "In Kanpur, India, an electricity thief provides Robin Hood style services to the poor in the face of day long power-cuts. Meanwhile the first female chief of the local electricity supply company has vowed to put an end to all illegal connections, for good. In a summer of crisis, both come to terms with India's energy poverty"
  From: Kakkar, D., & Mustafa, F. (2013). *Katiyabaaz*. India: Phantom. Retrieved from https://www.imdb.com/title/tt2466678/

Week 10: *Where, When and Who is a User? (continued)*

Readings

First session:

- Star, S. L., & Strauss, A. (1999). Layers of Silence, Arenas of Voice: The Ecology of Visible and Invisible Work. *Computer Supported Cooperative Work (CSCW)*, *8*, 9–30.
- Marwick, A. E., & boyd, danah. (2014). Networked privacy: How teenagers negotiate context in social media. *New Media & Society*, *16*(7), 1051–1067.

Second Session:

- Kelty, C. M. (2005). Geeks, Social Imaginaries, and Recursive Publics. *Cultural Anthropology*, *20*(2), 185–214.
- Excerpts from: Eubanks, V. (2017). *Automating Inequality: How high-tech tools profile, police, and punish the poor*. New York: St. Martin's Press.

Video for the week:

- "Government drastically needs more tech talent, Pahlka urges, and the user-centered iterative approach could have a broader effect: 'It's not so much that we need new laws to govern technology,' she said. 'It's that we need better tech practices that teaches how to make better laws. The status quo isn't worth fighting for. Fight for something better, something we haven't seen yet, something you have to invent.'"
  From: Pahlka, J. (2017). Fixing Government: Bottom Up and Outside In. *Long Now Foundation.* Retrieved February 8, 2018, from http://longnow.org/seminars/02017/feb/01/fixing-government-bottom-and-outside/

Submission of Assignment #4 is due at the end of this week.
Beginning of Assignment #5: Book review

Week 11: *Between Design and Use*

Readings

First session:

- Pipek, V., & Wulf, V. (2009). Infrastructuring: Toward an Integrated Perspective on the Design and Use of Information Technology. *Journal of the Association for Information Systems*, *10*(5), 447-473.
- Hyysalo, S., & Johnson, M. (2015). The User as Relational Entity: Options that deeper insight into User Representations opens for Human-Centered Design. *Information Technology & People*, *28*(1), 72–89.

Second Session:

- **Any two chapters** from Oudshoorn, N., & Pinch, T. J. (2003). *How Users Matter: The Co-Construction of Users and Technology (Inside Technology Series)*. (N. Oudshoorn & T. J. Pinch, Eds.). Cambridge and London: MIT Press or Hyysalo, S., Jensen, T. E., & Oudshoorn, N. (Eds.). (2016). *The New Production of Users: Changing Innovation Collectives and Involvement Strategies*. New York and London: Routledge.

Video for the week:

- "Facebook's 'like' and 'share' buttons are seen 22 billion times a day, making them some of the most-viewed design elements ever created. Margaret Gould Stewart, Facebook's director of product design, outlines three rules for design at such a massive scale—one so big that the tiniest of tweaks can cause global outrage, but also so large that the subtlest of improvements can positively impact the lives of many."
  From: Stewart, M. G. (2014). How giant websites design for you (and a billion others, too). Retrieved February 8,

2018, from https://www.ted.com/talks/margaret_gould_stewart_how_giant_websites_design_for_you_and_a_billion_others_too

Writing Workshop #5: How to write a book review and a discussion on the two books.

Week 12: *Differences in lived experience of using technology*

Readings

First session:

- Cockburn, C., & Ormrod, S. (1993). White Goods, Brown Goods. In *Gender and Technology in the Making* (pp. 98–127). London: Sage Publications.
- Sweeney, L. (2013). Discrimination in Online Ad Delivery. *Commun. ACM*, *56*(5), 44–54.

Second Session:

- Excerpts from: Wajcman, J. (2004). *TechnoFeminism*. Cambridge, UK: Polity Press.
- Baumer, E. P. S., Adams, P., Khovanskaya, V. D., Liao, T. C., Smith, M. E., Schwanda Sosik, V., & Williams, K. (2013). Limiting, Leaving, and (Re)Lapsing: An Exploration of Facebook Non-use Practices and Experiences. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (pp. 3257–3266). New York, NY, USA: ACM.

Video for the week:

- "Noble argues that the combination of private interests in promoting certain sites, along with the monopoly status of a relatively small number of Internet search engines, leads to a biased set of search algorithms that privilege whiteness and discriminate against people of color, specifically women of color- and contributes to our understanding of how racism is created, maintained, and disseminated in the 21st century."
  From: Noble, S. U. (2018). Algorithms of Oppression. *re:publica 18*. Retrieved August 2, 2018, from https://18.re-publica.com/en/session/algorithms-oppression

Submission of Assignment #5 is due at the end of this week.

Beginning of Assignment #6: Annotated bibliography

Week 13: *Reconfiguring Design*

Readings

First session:

- Petroski, H. (1985). Design as Revision. In *To Engineer is Human: The Role of Failure in Successful Design* (pp. 75–84). New York: St. Martin's Press.
- Petroski, H. (1985). Connoisseurs of Chaos. In *To Engineer is Human: The Role of Failure in Successful Design* (pp. 204–215). New York: St. Martin's Press.

Second Session:

- Excerpts from: DiSalvo, C. (2015). *Adversarial Design*. Cambridge: MIT Press.

Video for the week:

- "In the 1970s and 1980s, a generous spirit suffused the Internet, whose users were few and far between. But today, the net is ubiquitous, connecting billions of people, machines and essential pieces of infrastructure -- leaving us vulnerable to cyber-attack or meltdown. Internet pioneer Danny Hillis argues that the Internet wasn't designed for this kind of scale, and sounds a clarion call for us to develop a Plan B: a parallel system to fall back on if -- or when -- the Internet crashes."

From: Hillis, D. (2013). Danny Hillis: The Internet could crash. We need a Plan B. *TED Talks*. Retrieved from http://www.ted.com/talks/danny_hillis_the_internet_could_crash_we_need_a_plan_b.html

Week 14: *Rethinking Innovation*

Readings

First session:

- Excerpts from Leadbeater, C. (2008). *We-Think: Mass Innovation, not Mass Production*. London: Profile.

Second session:

- Thomke, S. (2012). Mumbai's Models of Service Excellence. *Harvard Business Review*. Retrieved August 2, 2018, from https://hbr.org/2012/11/mumbais-models-of-service-excellence

Video for the week:

- "Clay Shirky looks at 'cognitive surplus' -- the shared, online work we do with our spare brain cycles. While we're busy editing Wikipedia, posting to Ushahidi (and yes, making LOLcats), we're building a better, more cooperative world."
  From: Shirky, C. (2010). *How cognitive surplus will change the world | Video on ted.com*. TED@Cannes: TED. Retrieved from
  http://www.ted.com/talks/lang/eng/clay_shirky_how_cognitive_surplus_will_change_the_world.html
- "We're now entering the third industrial revolution, Anderson said. The first one, which began with the spinning jenny in 01776, doubled the human life span and set population soaring. From the demographic perspective, 'it's as if nothing happened before the Industrial Revolution.' The next revolution was digital. Formerly industrial processes like printing were democratized with desktop publishing. The 'cognitive surplus' of formerly passive consumers was released into an endless variety of personal creativity. […] The third revolution is digital manufacturing, which combines the gains of the first two revolutions. Factory robots, which anyone can hire, have become general purpose and extremely fast. They allow 'lights-out manufacturing,' that goes all night and all weekend.'"
  From: Anderson, C. (2013). The Makers Revolution. *Long Now Foundation.* Retrieved February 8, 2018, from http://longnow.org/seminars/02013/feb/19/makers-revolution/

Submission of Assignment #6 is due at the end of this week.

Week 15: *Presentation of Discussion Papers on the Chosen Concepts*

Submission of Assignment #7 is due at the end of the semester.