TECHNOLOGY & SOCIETY 200: Prototyping Pasts and Futures
UVic | Fall 2018 | M + R | 1:00-2:20pm | COR A229 | jentery.github.io/ts200v2
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Office Hours (Fall 2018) | M | 10am-12pm | CLE D334

ACKNOWLEDGMENT OF THE TERRITORIES
As a faculty member who has the privilege to live and work as a guest on these lands, I acknowledge with respect the Songhees, Esquimalt, and WSÁNEĆ peoples on whose traditional territories the University of Victoria stands and whose historical relationships with the land continue to this day.

COURSE DESCRIPTION
Technology is the campfire around which we tell our stories. -- Laurie Anderson

An offering in the Technology and Society minor at UVic, this course is about the entanglement of Western technologies with societies and cultures. We'll examine some histories of these entanglements, discuss their effects today, and also speculate about their trajectories. One important question will persist throughout the term: how can and should we intervene in technologies as *practices*? Rather than treating technologies as tools we use or objects we examine from the outside, we'll prototype with and through them as modes of inquiry. You'll turn patents into 3-D forms, compose and implement use scenarios, "datify" old tech, and imagine a device you want to see in the world. You'll document your research and development process along the way, reflect on what you learned, present your prototypes and findings, and also build a vocabulary of keywords for technology and society. I will not assume that you're familiar with fields such as science and technology studies, media studies, critical design, or experimental art, and the prototyping exercises will rely on low-tech approaches. Technical competency required: know how to send an email.

I'm looking forward to working with you.

REQUIRED TEXTS
We'll study work by Erin Anderson, Janine Barchas, Vannevar Bush, Jorge Luis Borges, Nicky Case, Tiffany Chan, Kate Crawford, The Extrapolation Factory, Melissa Gregg, David Giovannoni, Raiford Guins, Glenn Hendler, Vladan Joler, Ursula K. Le Guin, Alondra Nelson, Vicki Mayer, Tara McPherson, Mara Mills Helen Morgan-Parmett, Dawn Nafus, Lisa Nakamura, Angel Nieves, Laine Nooney, Cornelia Parker, Paolo Pedercini, Alex Rivera, Daniela Rosner, Skawennati, Lisa Snyder, and Elaine Sullivan.

There is no textbook for this course. Please visit jentery.github.io/ts200v2, where I link to all course materials, including readings, games, video, and audio. Some readings are passcode-protected (see me for an ID and password).

FORMAT
This course is project-based, meaning you will iteratively develop your own prototypes in response to a series of prompts (organized into four modules). You will document and periodically share your work and present it at the term's end. Most of our class meetings will involve:

- **A Workshop**: We will experiment with a particular prototyping technique. You will be asked to apply what you learned to your own work.
- **Lecture and Discussion**: We will chat about the workshop and assigned material, including readings, video, audio, and games. I may decide to listen, without much (if any) intervention in the conversation. I may also decide to lecture on a given topic or ask you to present material from your research and prototyping. I will often begin our meetings with an overview of topics relevant to the workshops and discussion at hand.

You should arrive to each meeting on time, having read/watched/played/listened to the assigned material, which is listed at jentery.github.io/ts200v2.

ASSIGNMENTS AND ASSESSMENT
You will be required to keep a log, give a presentation, develop your own prototypes, participate in workshops and discussions, and take an exam. Below are descriptions of the assignments. All assessment practices will follow the UVic Undergraduate Grading Scale, which you should review early in the term. It's available via bit.ly/scaleuvic.

Please note that the assignments are subject to minor changes as the course progresses. If I do make a change, then I will notify you by email. Also, the exam and presentation are essential to passing the course. Failure to complete these requirements will result in a failing N grade (calculated as a 0 for your GPA). I do not post marks outside my office, and I do not use plagiarism detection software.

Log (two marks, each 25% of your final mark, due 18 October and 29 November)
At the beginning of the term, you will form groups of four or five people (your choice). With this group, you will research and produce four different prototypes, and (as a group) you will keep *one* log documenting the group's work during and outside of class. Consider treating the log like a lab notebook, with hypotheses, reviews of historical material, documentation, experiments, findings, and reflections. The log will be assessed twice. I will mark it based on its: 1) consistency from week to week, 2) development over time, 3) self-reflexivity (including its awareness of methods and decisions), 4) integration of class discussions and course material, 5) quality (including its combination of critical thinking with creativity and experimentation), 6) inclusion of documentation or sample material, 7) attention to change (including notes on hiccups and surprises), and 8) diversity of labour, roles, and contributions (research, writing, editing, prototyping, and documentation). The same student(s) should not assume the same role (e.g., writer) throughout the entire term. You should move across roles and attribute that labour accordingly.

The tone and style of your log should be more formal than notes from class but less formal than a research paper intended for an academic audience. Your entries should be self-aware and well written (without typos or the like). Feel free to reference work conducted by your peers or to spark dialogue with them via the log. Also, don't hesitate to combine your preferred modes of composition: writing, drawing, collage, outlining, sketching, graphing, programming, images, audio, video, etc. At some point early in the term, you'll need to create an online folder, site, or repository to share digital files with me and amongst your group. Then you can point others and me to the appropriate URL (private or public). For the purposes of this class, your log may be composed across digital and tactile media, with material available online and off. I recommend documenting the development of all media, including tactile media, using photography, video, or the like. In short, work done in the log should be steeped in evidence of iterative development, and you should provide attribution (i.e., credit for who did what).

I will assess your log twice. Please submit it on 18 October and then again on 29 November. Since you are developing one log per group and also conducting this work collaboratively, everyone in your group will receive the same mark for your log. If you are encountering any issues with collaboration in this course, then please contact me as a group or individually.

I will use the following rubric to assess your logs:

> **A+:** The content is well-composed and -researched, with attribution, references, thorough documentation, and few or no typos. Both it and the prototypes combine critical and creative thinking anchored in class discussions and assigned materials. The entries and prototypes not only meet the requirements of the prompts but also add compelling elements, features, and/or perspectives that were not required for the assignments. These additions augment the overall quality of the log and prototypes and demonstrate that you are learning the course material and exceeding the course expectations. Contributions involve people assuming different roles (research, writing, editing, prototyping, and documentation).
>
> **A- or A:** The content is well-composed and -researched, with attribution, references, documentation, and few typos. Both it and the prototypes combine critical and creative thinking anchored in class discussions and assigned materials. The entries and prototypes not only meet the requirements of the prompts but also add interesting elements, features, and/or perspectives that were not required for the assignments. These additions augment the overall quality of the log and prototypes and demonstrate that you are learning the course material and at times exceeding the course expectations. Contributions involve people assuming different roles (research, writing, editing, prototyping, and documentation).

B- through B+: The content is well-composed and -researched, with attribution, references, documentation, and few typos. Both it and the prototypes combine critical and creative thinking anchored in class discussions and assigned materials. The entries and prototypes meet the requirements of the prompts. Overall, the log and prototypes and demonstrate that you are learning the course material. Contributions involve people assuming different roles (research, writing, editing, prototyping, and documentation).

C or C+: The content is adequately composed and researched, with attribution, references, some documentation, and several or many typos. The entries and prototypes meet the requirements of the prompts. Overall, the log and prototypes demonstrate that you are learning some of the course material. Contributions may involve people assuming different roles (research, writing, editing, prototyping, and documentation).

D: The content is not adequately composed and researched and does not contain attribution, references, and/or documentation. It contains many typos. The entries and prototypes do not meet the requirements of the prompts. Overall, the log and prototypes demonstrate that you are not learning the course material. Contributions do not involve people assuming different roles (research, writing, editing, prototyping, and documentation).

F: The log and prototypes are missing entirely or in part. They do not meet any requirements of the prompt.

Exam (30% of your final mark, during the official exam period)
At the term's end, the final exam will be administered during the official exam period. It will cover all course materials, class discussions, and lectures, with an emphasis on the keywords and assigned materials for each module. It will consist of 50 questions (short-answer and multiple-choice). It will not be open-book, and it will be taken individually.

Presentation (20% of your final mark, on 3 December)
Our final meeting will be dedicated to presentations of your work from Module 4 (see schedule below and online at jentery.github.io/ts200v2). Your group presentation should include the following:

- A group meeting with me (during office hours or by appointment) at some point between 8 and 22 November,
- A talk (between four and five minutes) about your final prototype (from Module 4),
- Your prototype from Module 4,
- Slide or other such presentation materials, and
- A "one-sheet" describing your prototype to newcomers (one-sheets are common in press kits.). The one-sheet should be printed and either mounted next to your prototype or distributed by hand.

Since you are developing your prototypes in groups and also conducting this work collaboratively, everyone in your group will receive the same mark for your presentation.

POLICIES

Late Submissions

Barring exceptional circumstances, I will not accept your log entries after the due date. Since log entries are meant to build on each other, I recommend that you do not fall behind on them. Of note, the presentation can only occur during the final meeting of the class. Thanks for understanding.

Absences

Regular attendance in undergraduate courses is expected. Attendance and active participation in discussions and workshops are part of fulfilling the course requirements. If you must be absent from class, then you should contact me beforehand, if only to keep me in the loop. Cases of continuous, unexplained absence could result in your ineligibility to complete the course.

Laptops

The use of laptops during class is encouraged but not required.

Educational Technology

UVic cannot require students to disclose personal information to technologies or organizations that may store information on servers located outside of Canada because disclosure of personal information to vendors, systems, or services or accessing that personal information outside of Canada is restricted by section 30.1 of BC's *Freedom of Information and Protection of Privacy Act* (FIPPA). Personal information is information about an identifiable individual—for example, your name or your email address. In this course, I will not require you to use any educational technologies that store or access your personal information outside of Canada.

Extensions

Extensions will be given in extreme (and verifiable) circumstances. These circumstances include reasons of health and extenuating circumstances, such as the death of a family member.

Learning Climate, Human Rights, Equity, and Fairness

The University of Victoria is committed to promoting, providing, and protecting a positive, supportive, and safe learning and working environment for all its members. All students and faculty members are expected to adhere to the UVic Human Rights, Equity, and Fairness policy (Policy GV0200). You should alert me immediately if you have any questions about this policy and its application, or if you have concerns about course proceedings or participants.

Academic Integrity
All students are also expected to adhere to the UVic Policy on Academic Integrity. (Please note the new regulation change, effective May 2017: "unauthorized use of an Editor is prohibited, unless the instructor grants explicit written authorization.") Violations of this policy will result in a failing grade for the given assignment and may additionally result in a failing grade for the course. By taking this course, you agree that all submitted assignments may be subject to an originality review. I do not use software to detect plagiarism in essays, logs, or any other assignments.

Accessibility
Students with diverse learning styles and needs are welcome in this course. If you have a disability/health consideration that may require accommodations, please feel free to approach me and/or the Centre for Accessible Learning (CAL) as soon as possible. CAL staff is available by appointment to assess specific needs, provide referrals, and arrange appropriate services. The sooner you let us know your needs, the sooner we can assist you in achieving your learning goals in this course.

Email
I will respond to your emails within 24 hours, Monday through Friday, 9am-5pm, except during holidays and conference travel.

Course Evaluation Survey
The Evaluation Survey for this course will be available online and distributed by the university via a URL. I encourage you to complete it immediately before or after our last class meeting. I use course evaluations to improve my courses and teaching.

Basic Needs
I want you to thrive in this course and everywhere else. Please let me know as early as possible if you have any concerns or if you require any assistance to succeed, and I'll do my best to help.

Children, Including Babies
If you need to cover gaps in care, then please don't hesitate to bring your children to class. Babies who are nursing are always welcome, as I do not want you to choose between feeding your child and continuing your education.

Mental Health
UVic takes student mental health very seriously, with a website full of resources. We offer such services as assistance and referral to address students' personal, social, career, and study skills problems. Services for students include crisis and emergency mental health consultation and confidential assessment, counselling services (individual and small group), and referrals. Many of these programs are connected with Health Services, which is located at the Petersen Health Centre (Lower Parking Lot #5, off Sinclair Road, behind the residence cafeteria). Many offices have walk-in hours as well as appointments.

Other Policies
The Student Services website lists several policies that you might want or need to know about, to make your life at UVic safer and easier. Only some of them are directly related to this course, but they're still important.

SCHEDULE
The schedule is available (with links to readings, games, video, audio, and related materials) at jentery.github.io/ts200v2. It is also copied below, and it is subject to change. Throughout the term, I will touch base with you about the workload and (if need be) will adjust the schedule accordingly. If I make any changes to the schedule, then I will notify you by email and during class.

MODULE 1: Memory, Novelty, Obsolescence (2-D to 3-D)
Technologies are entwined with the social and cultural production of memory, novelty, and obsolescence. Consider the use of search engines to recall information, the rate at which mobile devices are discarded, or how frequently software and social networks demand updates. What does history tell us about these issues, and what might we learn from prototyping technologies that were once new?

Learning Outcomes. This module focuses on:

- *Conducting historical research with digitized materials:* You should use an online resource such as the Canadian patents database to locate a patent for a technology that no longer exists, is no longer popular, or both. Please include the patent (or a link to it) in your log, together with (references to) other patents you considered.
- *Contextualizing the production, novelty, and obsolescence of a technology:* You should use historical materials such as journal and magazine articles to determine why the technology was interesting or popular (or something else) at the time and also why it was rendered obsolete. Please present this information to the class and also include it in your log.
- *Integrating theories of memory and forgetting into historical research:* You should determine what the technology "remembered" for people, or what it allowed them to either forget or ignore. Please present this information to the class and also include it in your log.
- *Remaking a technology to better understand not only the assumptions of 2-D patents and screen-based research but also the forms and functions of a historical device:* Prototype your 2-D patent in 3-D form using low-tech materials such as paper, cardboard, and glue. If possible, produce a functioning prototype (e.g., demonstrating how the mechanisms worked). Please demonstrate your prototype to the class.
- *Sharing the research and prototyping process:* You should document the entire prototyping process to identify the component parts of the technology, the relationships between those parts (an "exploded view diagram"), and the form of the technology itself. In your documentation, please include photographs, video,

sketches, and/or audio of the research and prototyping process together with notes from the workshops, lectures, and assigned readings and video.
- *Reflecting on the research and prototyping process:* You should write about your patent and prototype, with an emphasis on what you learned about memory, novelty, *or* obsolescence (just one; not all three). Please include this written piece in your log.

Keywords: black box, collection-emulation-migration, determinism-instrumentalism-positivism, failure-magic-novelty, index-icon-symbol, memory-interface-storage, new media, planned obsolescence, remediation

Key Questions: How does input become output, and how do we access (aspects of) that process? How are old and new media preserved? What do technologies automate, store, and remember for us? What do they point to, and how? How are they made obsolete? And how are they magical?

Prototyping Technique: 2-D to 3-D Translation

M 10 SEPT: Introductions | Course Overview | Lecture: The Reading Optophone (A Case Study; see Tiffany Chan and Mara Mills) | Workshop: Logging Your Work in this Course
R 13 SEPT: Watch (before class) "First Sounds: Humanity's First Recordings of Its Own Voice" (David Giovannoni) and "When Games Went Click: The Story of *Tennis for Two*" (Raiford Guins, Laine Nooney, Vlad Nudin, et al.) | Form Groups (in class) | Lecture: From Inventors and Innovation to Mess and Maintenance
M 17 SEPT: Read (before class) "Society" (Glenn Hendler) and "Technology" (me) | Lecture: Beyond Tools and Instruments | Workshop: Finding and Interpreting Patents
R 20 SEPT: Read (before class) "Funes the Memorious" (Jorge Luis Borges) and "The Story of Cold Dark Matter" (Cornelia Parker and Tate) | Watch (in class) "Memex Animation: Vannevar Bush's Diagrams Made Real" (University of Sheffield) | Lecture: Re-membering the Past | Workshop: The Exploded View: Relating the Parts of Your Prototype
M 24 SEPT: Research and Develop Your First Prototype (before and during class) | Workshop: Absence, Form, and Practice in Patents
R 27 SEPT: Finish and Present Your First Prototype (before and during class)

Log for Module 1 (10 Sept - 27 Sept): Find a patent (dated between 1850 and 1950) for a technology that no longer exists, is no longer popular, or both. Determine why it was considered to be novel during its time and why it was rendered obsolete. Also determine what the technology was expected to "remember" (automate, recall, process, and/ or compile) for people. After you've conducted this research and written down your findings in your log, use materials of your choice (e.g., paper, cardboard, plasticine, software, or CNC) to bring your technology off the page, translating your 2-

D patent into a 3-D form. (Bonus points if you get [parts of] your prototype to work.) Once you've prototyped the 3-D form, use ~400 words to communicate what you learned about memory, novelty, *or* obsolescence (pick one) from the prototyping process. Be sure to log your reading, research, and prototyping as you progress through the module (from 10 Sept to 27 Sept). Include in the log some documentation of the research and prototyping processes (e.g., photographs, sketches, audio, and/or video) as well as notes from the workshops, lectures, and assigned readings and video.

MODULE 2: Design + Context (Scenarios)
Design is much, much more than adding a layer of polish to a technology or form. It is a means of experimentation and critique, and it contextualizes technology's development and use. While a lot of popular design is now associated with templates, filters, skins, and bundles of files, this module foregrounds it as a scenario, which can be scripted, implemented, and integrated into social and cultural work.

Learning Outcomes: This module focuses on:

- *Identifying contexts of use in historical materials*: You should survey historical materials (online and in the library) that provide contexts for how your patent and technology from Module 1 were used, operated, or consumed. Please include relevant links and references in your log.
- *Understanding the gaps or absences in historical materials*: Relying on historical materials, you should determine who and what are missing from accounts of the technology you selected for Module 1. This research should operate as a form of historical critique. Please include this information in your log.
- *Integrating theories of technology (namely, theories of design and reconstruction) into historical research*: You should communicate how reconstructing a situation or context of actual use helps us to better understand technology as a social and cultural practice at a given moment. Please present this information to the class and also include it in your log.
- *Prototyping a context of use (a "use scenario") to examine not only the assumptions of 2-D patents and screen-based research but also the uses and contingencies of a historical device*: Prototype your 2-D patent in 3-D using a scenario intended for performance. Treat your scenario like a script or user's manual, complete with characters (at least three), actions, setting(s), and a perspective. Perform the scenario at least twice and, if possible, document the performance (e.g., using video). Please share your scenario with the class and include all of its components (such as the personas, force map, and script) in your log.
- *Sharing the research and prototyping process*: You should document the entire prototyping process to identify the components of your context of actual use, the relationships between those components (a "force map"), what's missing or absent from the historical materials (critique), and the context and use of the technology itself. In your documentation, please include photographs, video,

sketches, and/or audio of the research and prototyping process together with notes from the workshops, lectures, and assigned readings.
- *Reflecting on the research and prototyping process*: You should write about your patent, technology, scenario, and context of use, with an emphasis on what you learned about either design *or* context of use (pick one). Please include this written piece in your log.

Keywords: aesthetics-form-experience, affordance, customization-hack-mashup, design fiction, instructions-rules-standards, interaction-mediation, kit of parts, playtesting, reverse engineering, storytelling, use-repurposing-repair

Key Questions: How are the aesthetics of technologies experienced (and not just qualities of objects)? How is customization an act of design? An act of storytelling? How are people disciplined to use technologies in predictable ways? How does design help us to study the past? What must we imagine about histories and contexts of use, and why?

Prototyping Technique: Scenario (Context of Actual Use)

M 1 OCT: Peruse (before class) *What Jane Saw* (Janine Barchas) and "*Making Core Memory*" (Daniela K. Rosner et al.) | Lecture: Immerse Yourself and Critique It, Too?
R 4 OCT: Read (before class) "Media" (Lisa Nakamura) and "Space" (Helen Morgan-Parmett) | Lecture: What's Wrong with User-Centered Design? | Workshop: Composing Force Maps and Sketching Scenarios
M 8 OCT: Thanksgiving (we don't meet today)
R 11 OCT: Read (before class) "Making the Model: Scholarship and Rhetoric in 3-D Historical Reconstructions" (Elaine Sullivan, Angel David Nieves, and Lisa M. Snyder) | Lecture: Design, Contingency, and Embodiment | Workshop: Making Storyboards
M 15 OCT: Research and Develop Your Second Prototype (before and during class) | Workshop: Implementing Use Scenarios
R 18 OCT: Finish and Present Your Second Prototype (before and during class) | Submit Your Log for Mid-Term Assessment

Log for Module 2 (1 Oct - 18 Oct): Return to your first prototype and the corresponding patent. Research the context in which the patent was developed and the technology was used. Look for materials in journals, magazines, advertisements, photographs, online archives/collections, and even fiction. Based on these materials, develop a scenario detailing how your technology would have been used (or operated, or consumed) during its time. Since you weren't there and you can't inhabit the past, your use scenario will necessarily make an argument about history. The scenario should at a minimum include the following elements: characters, setting(s), actions, and a perspective. You are welcome to compose it as a text-only script, but don't

hesitate to include photographs, illustrations, and/or video. Once it's ready, test (or "playtest") it at least twice. This means you'll need some people (in your group or not) to act it out. (Bonus points if you record an implementation and submit the video as part of your log.) After you've prototyped your use scenario, use ~400 words to communicate what you learned about either design *or* context (pick one) from the prototyping process. Be sure to log your research and prototyping as you progress through the module (from 1 to 18 Oct). Include in the log some documentation of the process (e.g., photographs, sketches, audio, and/or video) as well as notes from the workshops, lectures, and assigned readings and web materials.

MODULE 3: Labour, Play, Control (Datification)
Digital technologies are frequently associated with discrete-task precarity and 24/7 productivity. Attention produces data and thus value, and many decisions are delegated to algorithms and moderators. The work may feel or appear immaterial, too. What, if anything, do we learn from quantifying social and cultural activities, and can technologies be used to improve material conditions?

Learning Outcomes. This module focuses on:

- *Prototyping data as well as mechanisms for data production*: You should "datify" your patent and technology from Module 1. If your old technology (from the mechanical age of reproduction) were capable of producing data, then what type of data would it produce, for whom, and under what assumptions? How would the data be stored, and who would have access to it? The prototype should include an example or instance (such as an illustration, model, or physical object) of your datified old tech and/or its interface, some sample data (which can be generated manually), and a data model (which could be expressed through a spreadsheet, diagram, or even code). Please include relevant documentation, links, and references in your log and also share your prototype with the class.
- *Conjecturing about the effects of and motivations for data*: Through your prototype, you should speculate about the potentially negative and positive social effects of data gathering in the historical context you're studying. Who or what would be affected, and how? What would change? Please include relevant documentation, links, and references in your log.
- *Understanding the relationships between data, labour, play, and control*: You should also use your prototype to think about how people are encouraged to provide data, automate specific tasks or behaviours, and/or develop a sense of control over certain phenomena and practices. Please include these reflections in your log.
- *Integrating theories of labour, play, and control into speculative research*: You should communicate how imagining a technology for a particular historical context helps us to better understand technologies and data as social and cultural practices shaped by time, space, and situation. Please include these reflections in your log.

- *Sharing the research and prototyping process*: You should document the entire prototyping process to share your datified old tech, discuss the relationships between data and society, and explain the rationale for your prototyping. In your documentation, please include photographs, video, sketches, and/or audio of the research and prototyping process together with notes from the workshops, lectures, and assigned readings.
- *Reflecting on the research and prototyping process*: You should write about your patent, historical context, and datified technology, with an emphasis on what you learned about labour, play, *or* control (pick one). You might also mention what you learned from using anachronism and counterfactuals as techniques to think about technology, society, and history. Please include this written piece in your log.

Keywords: adjacent possibilities, attention economy, automata-robot-algorithm, control-surveillance-algocracy, anachronisms-counterfactuals-alternative histories, cyberspace-IOT, labour-work-play, moderation-maintenance, procedure-protocol, quantified self, subjunctive knowledge, Taylorism-Fordism-gamification

Key questions: How is technology a form of congealed labour? How is that labour gamified and exploited online today? How does control differ from surveillance, and what roles do protocols and networks play in this distinction? How do counterfactuals and anachronisms afford critical interpretations of history? How are they risky?

Prototyping Technique: Datification

M 22 OCT: Read (before class) "Digital" (Tara McPherson), "Labor" (Vicki Mayer), and "Data" (Melissa Gregg and Dawn Nafus) | Lecture: All of Your Fun Belongs to Them | Workshop: Datifying Old Tech
R 25 OCT: Play (before class) *Parable of the Polygons* (Nicky Case), *Nothing to Hide* (Nicky Case), or *To Build a Better Mousetrap* (Molleindustria / Paolo Pedercini) | Lecture: From Surveillance to Control | Workshop: The Politics of Prototyping and Quantification
M 29 OCT: Read (before class) *"Anatomy of an AI System"* (Kate Crawford and Vladan Joler) | Watch (during class) *Sleep Dealer* | Lecture: Digital Labour and AI | Workshop: Building a Data Model with Values in Mind
R 1 NOV: Research and Develop Your Third Prototype (before and during class) | Workshop: Sharing Data
M 5 NOV: Finish and Present Your Third Prototype (before and during class)

Log for Module 3 (22 Oct to 5 Nov): Return to your technology from Prototypes 1 and 2. At this point in the term, you should have a 3-D version of that technology's form as well as a historical use scenario. Now I'm asking you to conjecture a bit. Research the technology a touch more and determine how it could produce data. Since your technology was patented during the age of mechanical reproduction, it probably did not use a microprocessor or personal computer to produce data. (Please correct me if

I'm mistaken.) But if it could have, then what sort of data would it have created? When? Where? For whom? Under what assumptions? And to what effects on everyday users? For instance, would the technology have encouraged play? Gamified an activity? Increased productivity? Increased leisure time? Improved quality of life? Automated a particular task? Controlled or regulated a particular process? Generated useless information? Feel free to imagine negative, positive, or mixed results. Once you've answered these questions, please prototype a "datified" version of your old technology for its historical context. The prototype should include the following: an example or instance (such as an illustration, model, or physical object) of your datified old tech, some sample data (which can be generated manually), and a data model (which could be expressed through a spreadsheet, diagram, or even code). (Bonus points if you automate the production of your data.) When you are finished researching and prototyping, use ~400 words to communicate what you learned about labour, play, *or* control (pick one) from the prototyping process. Be sure to log your research and prototyping as you progress through the module (from 22 Oct to 5 Nov). Include in the log some documentation of the process (e.g., photographs, sketches, audio, and/or video) as well as notes from the workshops, lectures, and assigned readings, games, film, and web materials.

MODULE 4: Conjecture, Change, Responsibility (Speculation)
Speculation often involves imagining alternatives and other worlds, landscapes, and conditions. It is also used to craft fictions that comment on the present moment. How, then, might it apply to the production of new or hypothetical technologies, not so much for the purposes of innovation or "disruption," but to engage social and cultural issues? Or how might it stress the aesthetic and political dimensions of technologies in the face of productivity and efficiencies?

Learning Outcomes. This module focuses on:

- *Prototyping values*: You should use the technology and patent from previous modules to prototype a technology you want to see in the world. Speculate about possibilities with specific values in mind. The prototype should include an example or instance (such as an illustration, wireframe, model, or physical object) of your prototype, together with a design brief. Please include relevant documentation, academic research, links, and references in your log and also share your prototype with the class.
- *Speculating about the near futures of technologies*: Through your prototype, you should speculate about the overlaps of design and aesthetics with politics and present-day social issues. What social issues can be engaged through technologies? How are technologies also social issues? What types of interactions and relations are possible or preferable right now? Please include relevant documentation, academic research, links, and references in your log.
- *Understanding the relationships between technology, change, and responsibility*: You should also think through the potential effects of your prototype. Who and what might it influence? How would you (or its producers) be responsible for it? Please include these reflections in your log.

- *Integrating theories of utopia, change, and responsibility into speculative research*: You should communicate how imagining a technology for a future context helps us to better understand technologies as political and aesthetic devices as well as matters of social responsibility. Please include these reflections in your log.
- *Sharing the research and prototyping process*: You should document the entire prototyping process to share your speculations, discuss the relationships between utopia and technology, and explain the rationale for your prototype's aesthetics and politics. In your documentation, please include photographs, video, sketches, and/or audio of the research and prototyping process together with notes from the workshops, lectures, and assigned readings.
- *Writing a design brief*: You should write a design brief that addresses the social aim of your prototype, its intended audience, its context, its core parts, its aesthetics, who is responsible for it and how, and what it doesn't or won't do. Please include this written piece in your log.

Keywords: conjecture, diffraction-reflection, fantasy-science fiction, futurisms, possible-plausible-preferable, social responsibility, speculative design, utopia-dystopia, vapourware

Key Questions: What artistic traditions and genres help us to imagine futures? How do futurisms politicize not only aesthetics but also histories? What are the social and cultural benefits of prototyping vapourware? Or of experimenting about and for the future? How do we speculate critically and responsibly?

Prototyping Technique: Speculative Design

R 8 NOV: Read (before class) "The Ones Who Walk Away from Omelas" (Ursula K. Le Guin) | Lecture: Speculation and Social Responsibility | Schedule a Group Meeting with Me
M-R 12-15 NOV: Reading break and travel (we don't meet this week)
M 19 NOV: Watch (before class) "Alondra Nelson on Afrofuturism" (Alondra Nelson) and "AD 2112" (Episode 4 of *TimeTraveller* by Skawennati) | Lecture: Many Futurisms | Workshop: Foregrounding Values when Imagining a Device (Wireframing and Design Briefs)
R 22 NOV: Listen (before class) to "Being Siri" (Erin Anderson) | Peruse (before class) The Extrapolation Factory | Lecture: Subjunctive Knowledge across Media | Workshop: Preparing a Design Brief
M 26 NOV: Research and Develop Your Fourth Prototype (before and during class) | Workshop: Refining a Possible Future | Discussion: Preparing for Your Final Presentations and Final Exam
M 29 NOV: Finish Your Fourth Prototype (before and during class) | Discussion: How Did It All Go? | Submit Your Log for Assessment
M 3 DEC: Final Presentations | Course Experience Surveys

R 30 NOV: Final Presentations | Submit Your Log for Assessment

Log for Module 4 (8 Nov - 3 Dec): You're almost done. For your final prototype, I'm leaving most of the parameters to you. You should now have three prototypes based on a single technology: a 3-D form, a use scenario, and a datified machine from the past. This prototype should build on your work throughout the term by re-imagining your technology as an intervention in (or engagement with) a particular social or cultural issue. While it's tempting to approach this exercise from an instrumentalist perspective, I encourage you to treat your technology as a practice, or as congealed labour, involving human and nonhuman elements. What practices or worlds do you and others want to see? How might your technology project, embody, and even facilitate that vision? You can decide how to present this new technology in your log. For instance, you could produce a sketch, wireframe, model, video, code, or functioning prototype. I only ask that some "core" element of the original technology (or how the mechanism turned this into that) remain at play in your speculation. Together with your prototype, please use ~400 words to write a design brief about your technology's approach to change and responsibility. Be sure to log your research and prototyping as you progress through the module (from 8 Nov to 3 Dec). Include in the log some documentation of the process (e.g., photographs, sketches, audio, and/or video) as well as notes from the workshops, lectures, and assigned readings, films, sounds, and web materials.

~ THE END ~