

Drawing upon contributions from network members, these cards were originally put together for our meeting in Copenhagen.

Game design workshop in Copenhagen:

- Michael Hockenhull
- Mace Ojala

Design of the card decks in this box:

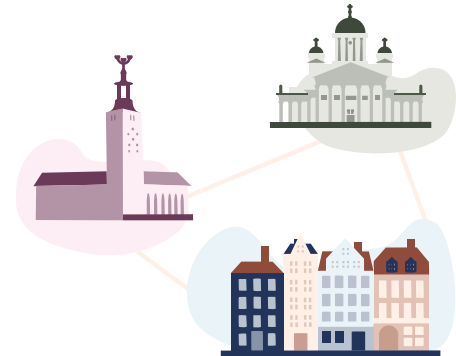
- Airi Lampinen
- Pedro Ferreira
- Matti Nelimarkka
- Michael Hockenhull
- Jesse Haapoja
- Marisa Cohn
- Juho Pääkkönen

Visual design: Rebeca Blanco

This box is the product of a Nordic collaboration in the scope of the **NOS-HS workshop series *Nordic Perspectives on Algorithmic Systems: Concepts, Methods, and Interventions*** during 2019-2022. The workshop series was led by Airi Lampinen from Stockholm University, in close collaboration with Marisa Cohn and Pedro Ferreira from IT University of Copenhagen, Asko Lehmuskallio and Thomas Olsson from Tampere University, Matti Nelimarkka from Aalto University and Barry Brown from Stockholm University. The effort to design this card box has also been supported by the Kone Foundation project *Algorithmic Systems, Power and Interaction* and the Swedish Research Council grant No. 2017-05382_3.

Nordic Perspectives on Algorithmic Systems: A Card Box

*Reconstruct and reimagine
your automated existence*



'It is not the algorithm, narrowly defined, that has sociocultural effects, but algorithmic systems - intricate, dynamic arrangements of people and code. Outside of textbooks, "algorithms" are almost always "algorithmic systems"'

Seaver, N., 2019. Knowing algorithms. In J. Vertesi & D. Ribes (Eds.), *digitalSTS* (pp. 412-422). Princeton University Press.

The contents of this box were developed to support the creation of games for exploration of algorithmic systems in research and design. The box contains four decks of cards:

- **The Settings deck** features different algorithmic systems and contexts where they are used, ranging from mainstream platforms like Facebook and Spotify to more particular uses such the allocation of healthcare, the coordination of education work, and facilitation of job seeking.
- **The Methods deck** introduces a range of methods that can be used in studying algorithms and algorithmic systems.
- **The Metaphors deck** consists of a variety of metaphors that have (or could be) used to describe and discuss algorithms and algorithmic systems.
- **The Caveats deck** is full of surprises and unexpected requirements. The cards in this deck are meant to force new lines of thinking!

You can use the cards in any combination that works best for you.

- For use in **game design**, start by drawing one card from the Settings deck and another from the Metaphors deck. After coming up with an initial idea from these starting points, challenge yourself with a card from the Caveats deck – and/or another from the Methods deck if you want to add a research twist to your game!
- For use in **research ideation** or **rapid prototyping**, draw one card from the *Settings*, *Metaphors*, and *Methods* decks each. What opportunities does the combination open up? You can then either swap one or more of the cards – or introduce a *Caveat*!

You can use the cards alone or in small groups. In workshops or educational settings, we recommend breaking into groups of 3-4.

There are blank cards in each deck to encourage customization.

The card decks are best used in combination with physical materials: fabrics, cardboard, reclaimed items, or game pieces.

Nordic Perspectives on Algorithmic Systems: Concepts, Methods, and Interventions was a series of three workshops, situated in the emerging area of critical algorithm studies. The workshops were geared to develop a Nordic perspective to the social study of algorithms, adding diversity to the academic status quo and improving conceptual frameworks and methods for addressing problems pertaining to the social implications of algorithmic systems.

- The first workshop **Metaphors and Concepts** (Stockholm, Spring 2019) focused on coming up with metaphors and concepts for pushing debates about algorithmic systems forward. We came up with more than can be summarized here: *Control, care, and empowerment; Optimization and resilience; Repair, temporality, and decay of software; Human agency and gaming in algorithmic systems; Power, objectivity, and bureaucracy; Optimism, pessimism, and the notion of an algorithm.*
- The second workshop **Approaches and Methods** (Copenhagen, Autumn 2019) asked whether there could be a particular and productive Nordic approach to studying algorithmic systems and practices. Grounded in empirical cases introduced by network members, we explored methodological opportunities, including game design as a method for thinking about and with algorithms. This is when we first prototyped the cards that you find in this box.
- The third workshop **Impact and Interventions** (Helsinki, Spring 2022) brought us back together after long years of pandemic isolation. We delved deeper into what Nordicness might mean, discussing both often-celebrated strengths like high societal trust and darker sides such as Nordic societies as smug and exclusionary. A major outcome of this meeting is the box you are holding right – card decks as an intervention to how we think about and (re)design algorithmic systems.

Nordic Perspectives
on Algorithmic Systems

Nordic Perspectives on Algorithmic Systems



Cards to reconstruct and reimagine
algorithmic systems

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Nordic Perspectives
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**Nordic Perspectives
on Algorithmic Systems**

**Cards to reconstruct and reimagine
algorithmic systems**

Nordic Perspectives on Algorithmic Systems is a box full of cards to reconstruct and reimagine algorithmic systems. The four decks of cards will spark your imagination about what algorithmic systems are and what they could be. They were developed to support the creation of games for exploration of algorithmic systems in research and design:

- **The Settings deck** features different algorithmic systems and contexts where they are used, ranging from mainstream platforms like Facebook and Spotify to more particular uses such the allocation of healthcare, the coordination of education work, and facilitation of job seeking.
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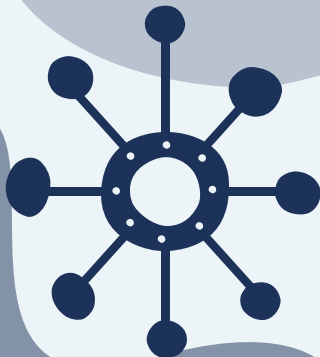
**Cards to reconstruct and reimagine
algorithmic systems**

**Nordic Perspectives
on Algorithmic Systems**

Natural Cycles

An algorithmic contraceptive that uses daily readings of a user's temperature, an algorithm and machine learning to develop a model of the user's reproductive cycle.

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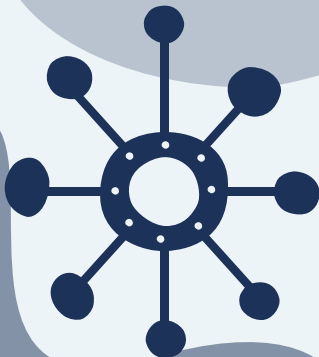


Settings

Wilma

A coordination tool that enables students, teachers, and parents to follow and coordinate education work. It includes a set of rules addressing how to archive, process, and transmit information that pertains to everyday activities in schools.

Settings

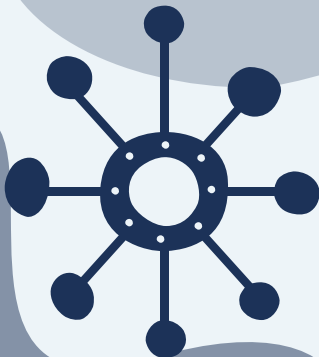


Settings

Tinder

An online dating and geosocial networking application that personalizes suggestions. In Tinder, users "swipe right" to like or "swipe left" to dislike other users' profiles.

Settings

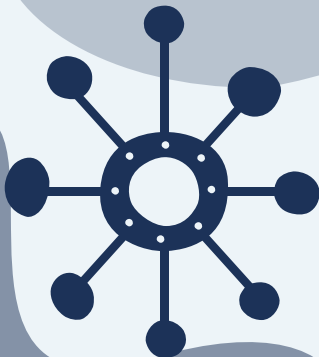


Settings

Spotify

A platform for streaming music and other audio content. Spotify uses recommender systems to make personalized playlists and other recommendations.

Settings

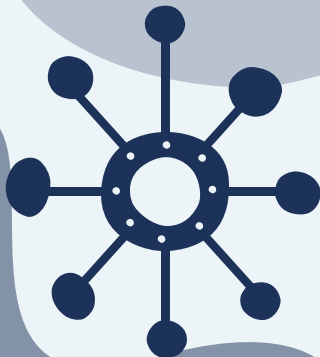


Settings

Wolt and Foodora

Two food delivery companies that have couriers taking food from restaurants to customers.

Settings

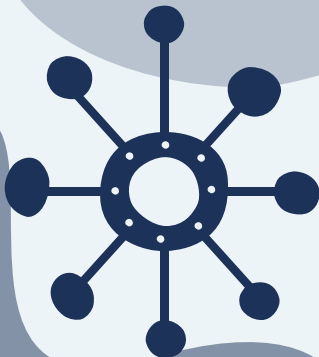


Settings

Netflix

A platform for streaming movies and tv-series. Netflix uses recommender systems to personalize the experience and help users find content they might be interested in.

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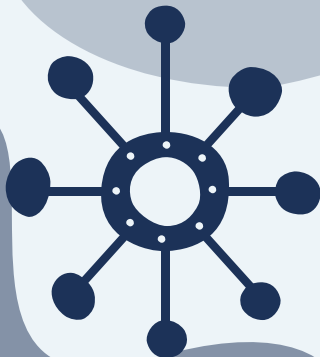


Settings

Instagram

A social network service, primarily for sharing and reacting to visual content.

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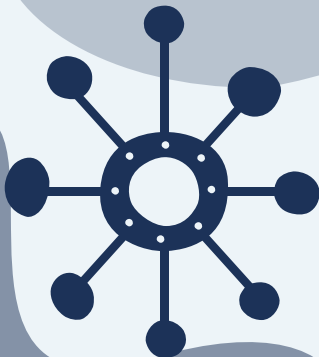


Settings

Facebook

A social network service for sharing and interacting with many different types of content.

Settings

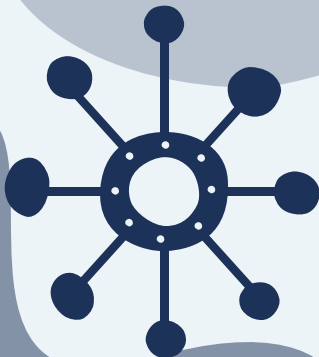


Settings

IMMS

In an Intelligent Material Management System (IMMS), books float around within the library system based on demand. If a lot of romantic novels are returned to a particular branch library, more of them will float there in the future.

Settings

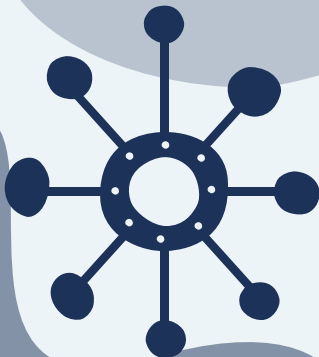


Settings

Tax office

Your taxes are automatically calculated based on inputs from employers and you. The algorithm also determines whether certain deductions are reasonable or not.

Settings

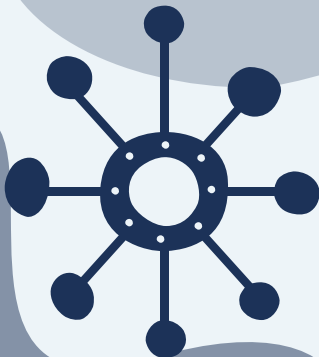


Settings

YouTube

Video-streaming service focused on user-generated content, and nowadays also on live streaming. Personalizes recommendations to its users.

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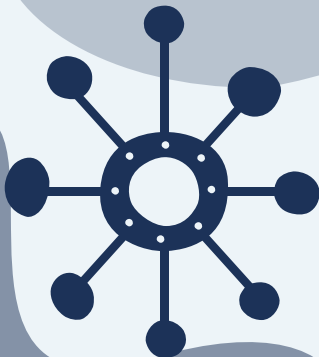


Settings

Targeted advertising

Your online behavior is monitored and used to target advertisements to you.

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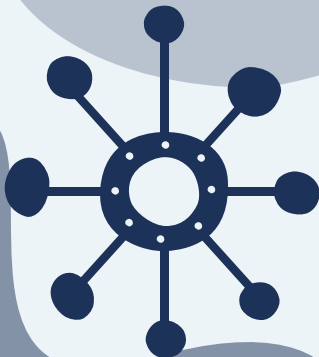


Settings

Newsroom

An algorithmic system which ranks news and determines what is shown to users, based on categories inputted by journalists, user history, and other criteria.

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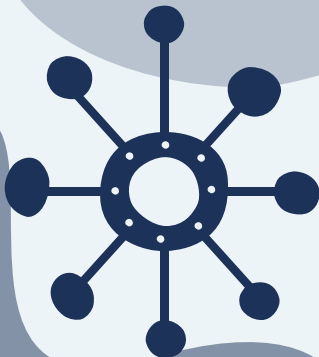


Settings

Social services

A trial of an algorithmic system which uses vast amounts of data to offer decision-support for social service workers, marking at-risk citizens, including children.

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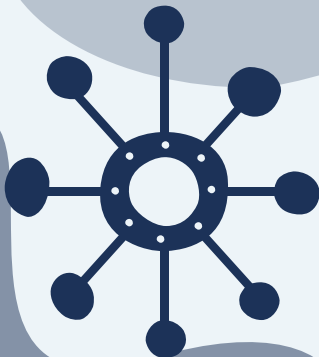


Settings

Recruitment chatbot

A chatbot that helps job seekers to find positions that fit their interests and/or does prescreening of multiple candidates to support the creation of a shortlist.

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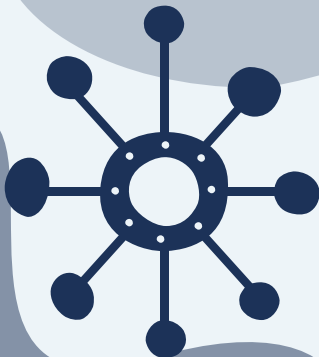


Settings

Election campaign office

A political campaign employs data scientists and algorithms to determine where there are swing voters, and directs volunteers to knock on doors on this basis.

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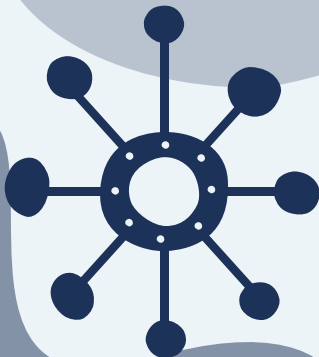


Settings

Smart device

Your Alexa or Siri uses an algorithm to learn the pattern of your voice and the typical ways in which you use it. Perhaps it is also integrated with your smart home.

Settings



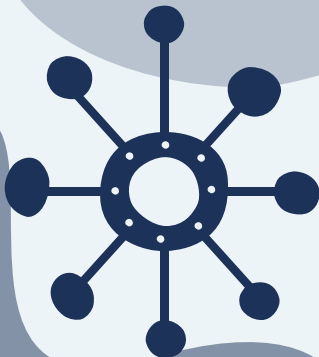
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CATME

Team-Maker

Collects data from students and forms teams according to instructor-specified criteria.

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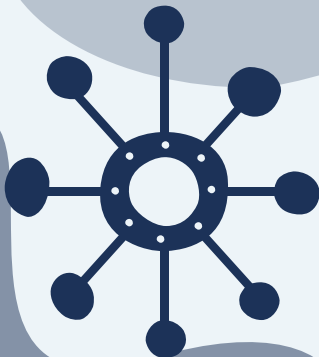


Settings

Financial industry

Algorithms decide who gets loans; also, they are used to automatically buy and sell stocks in the stock market.

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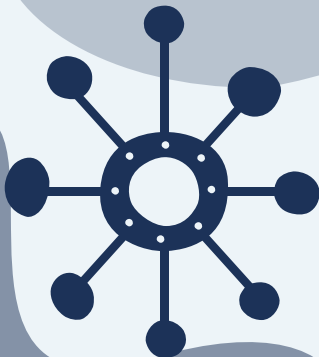


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Uber

A platform that algorithmically connects drivers to passengers; has also branched to food deliveries in some markets.

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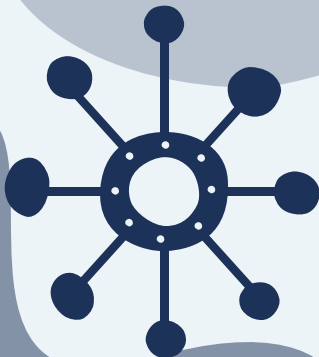


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Automated care

An algorithmic system that predicts patients' need for further medical treatment, based on data about past treatments.

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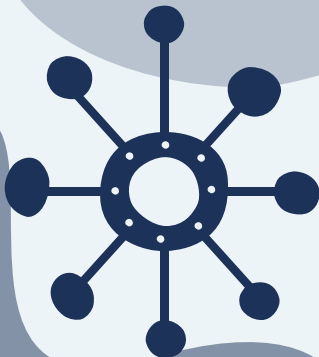


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Recidivism prediction

Automated estimation of the likelihood of committing crime, based on data about past offences and various demographics.

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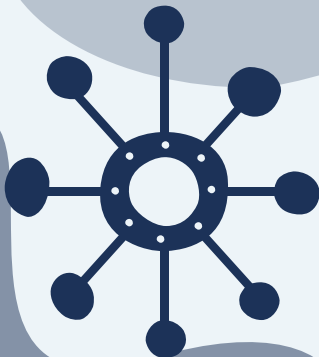


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Hopper

An algorithmic system for optimizing flight plans and reservations, with personalized travel recommendations based on user data.

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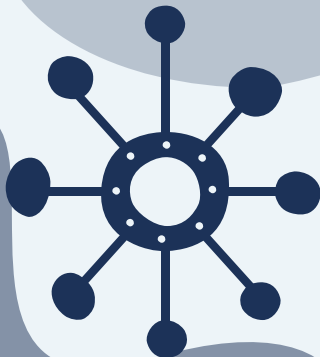


Settings

Socratic

An algorithmic system that provides homework assistance through a variety of text, speech, and image recognition techniques.

Settings



Settings

Choose a new setting

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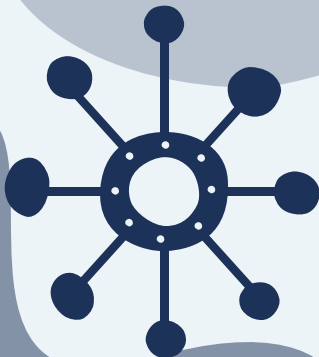
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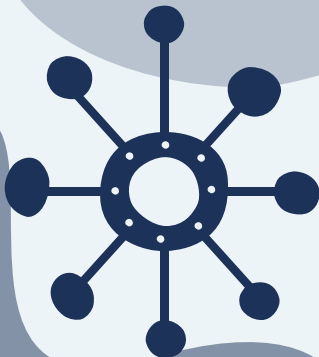
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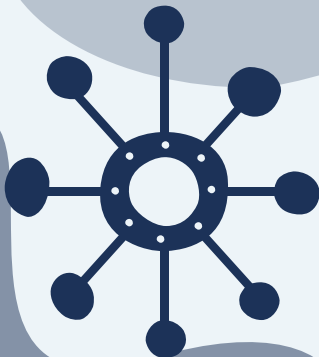
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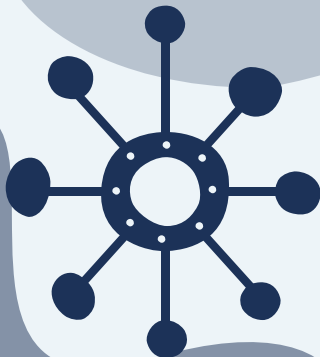
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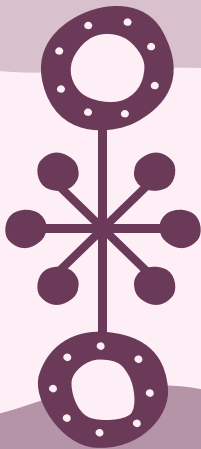


Settings

Thought experiment

Draws on concepts and intuitions and traces their implications, demonstrating what they imply, such as proofs for existence or ethical issues; these conclusions are however caveated by the method's lack of empirical content.

Methods

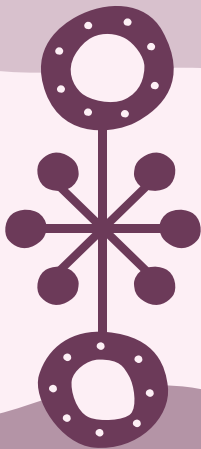


Methods

Participant observation

Requires time, patience, organizing access to the field, showing up, bringing curiosity and all your senses to look, talk, smell, build rapport, so that you can gather pieces of the everyday – perspectives, frustrations, dreams, apathy, convictions.

Methods

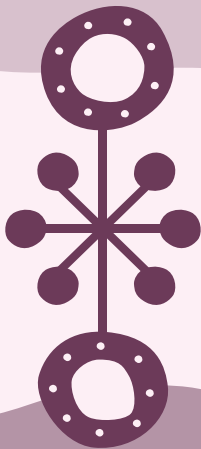


Methods

Participant observation

Writing notes, notes, and more notes. Gathering photos, sketches, moments, and stories that start to add up into greater patterns, suspicions, doubts, and eventually an analysis that you may have to defend to those who do not value this type of knowledge.

Methods

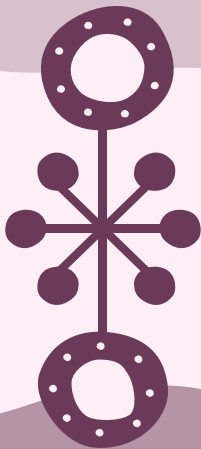


Methods

First-person methods

The researcher is brought to articulate their own knowledge and document them in a variety of formats and approaches like Autobiographical Design – where the researcher is a participant reflecting on their experiences – or Embodied Sketching – where movement is the foundation through which design work is done, rather than merely a designed feature or output.

Methods

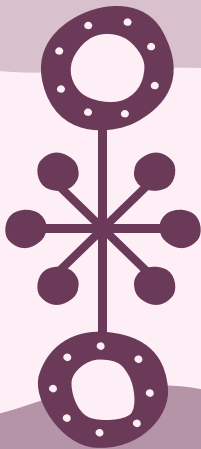


Methods

Black-box testing

Researchers test the algorithm by putting in diverse inputs and checking the variation on outputs, examining if outputs are biased or if there are other problems in what the algorithmic system produces. For example, we can examine if the algorithm's recommendation changes if we only vary protected attributes, such as age.

Methods

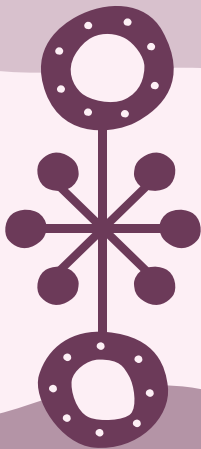


Methods

Constructive madness

Researchers try to create a new version of the algorithmic system themselves and learn what types of design choices have to be made. This allows researchers to reflect and deconstruct the development process.

Methods

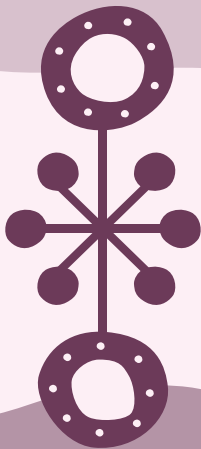


Methods

Developer interviews

Interviewing developers on their perspectives and experiences on the construction of algorithmic systems and the implications of those systems on their users, in order to understand algorithms and developers as participants in sociotechnical systems.

Methods

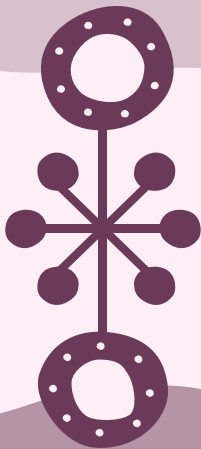


Methods

Infrastructural inversion

Studying moments of breakdown in infrastructures or defamiliarizing oneself with them, producing insight into what lies beneath the immediately visible. However, it is not always clear what counts as infrastructure for whom.

Methods

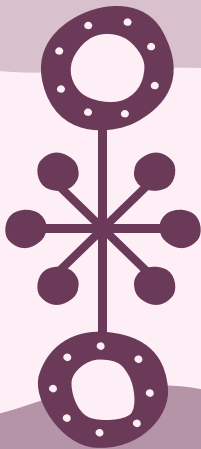


Methods

Sorting cards

Have informants sort a list of items, in their order of preference or with a criteria, producing a sorted order of relevance that reflects the valuations/thinking of the informant, and facilitates discussion and talk of the topic.

Methods

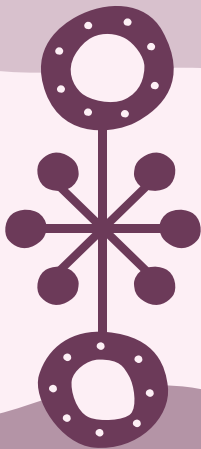


Methods

Critical design

Using a combination of social science theories, design expertise, critical thinking and grounded understanding of the issue to develop new design ideas, speculations about the future or insights; difficult to do as a novice.

Methods

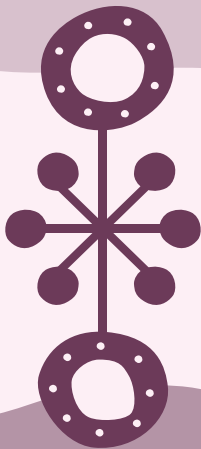


Methods

Tinkering with algorithms

Playful engagement with how algorithms influence online experience, by doing small experiments – e.g. settings on one's own newsfeed or Google image search – capturing lay experiences with algorithms rather than the algorithm as such.

Methods

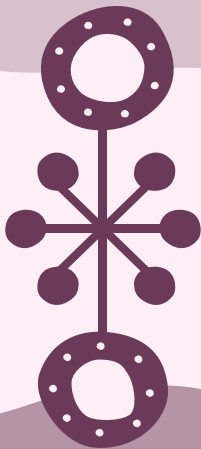


Methods

Speculative design

Developing a design (prototype, exercise, etc.) that provokes thought or demonstrates how something could have been/be otherwise, potentially opening up different imaginaries of the future.

Methods

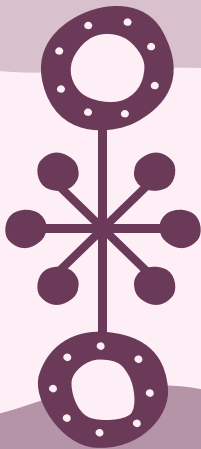


Methods

Mixed methods

Combine any other methods cards from the deck, but beware of potential (productive) epistemological tensions between them!

Methods

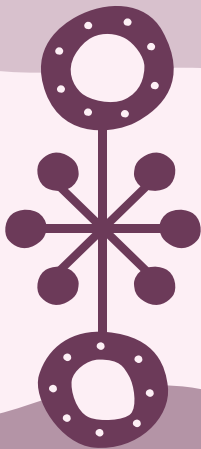


Methods

Breakdown and debug

Interrupt, or break, the system's expected flow to examine its inner workings. How does it react to unexpected input? Given the impact that this interruption might have on users, it should be done in a sandboxed version of the system.

Methods



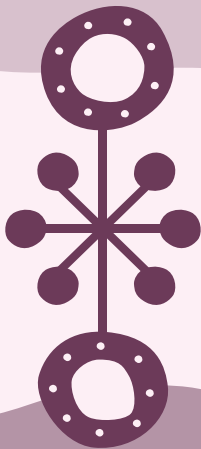
Methods

Interview

Developing questions that fit your empirical concerns into questions that you can ask an interviewee, then listening to the answers and attending to tone of voice, pauses, facial expression, gestures.

Acknowledging that what people do, and what they say they do might not be the same.

Methods

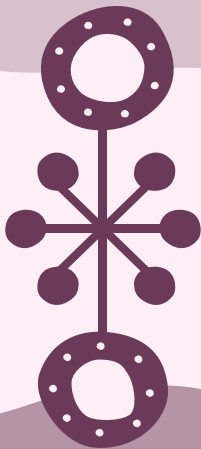


Methods

Messy qualitative stuff

Doing some interviews, dipping into forum discussions and other online media, using some "sensitizing concepts" (à la Goffman) to produce some descriptions of phenomena. Sometimes working with thick data, sometimes abstract or thin.

Methods

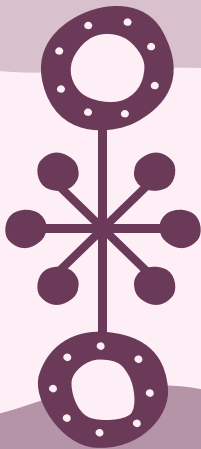


Methods

Experimental prototyping

Experimental prototyping to uncover power relations: participants walk through use of a prototype in controlled conditions to reflect on power relations. Must consider what to design into the prototype, its influences on users, and how to generalize.

Methods

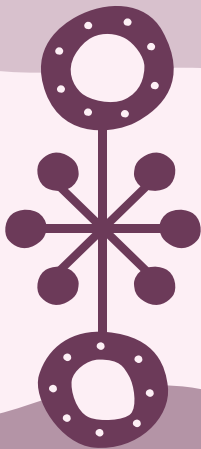


Methods

Analysis of existing systems

Analysis of existing algorithmic systems to uncover power relations: participants walk through use of the system in real or controlled conditions to reflect on power relations. Must consider whose perspective is prioritized, who might benefit, who might be harmed.

Methods



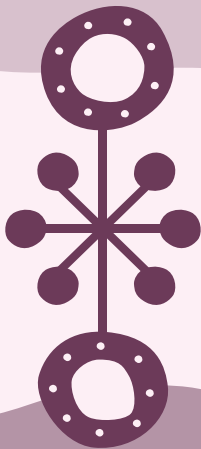
Methods

Epistemology

Examining the products of scientific knowledge, examining claims of objectivity and the methodological acquisition of knowledge as systems of thought. What is called a fact is a product of practice.

Reflecting on one's own epistemological stance.

Methods

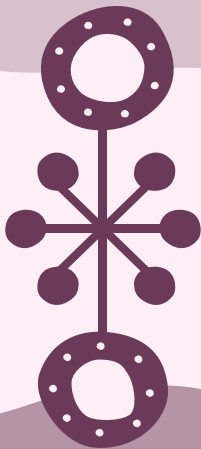


Methods

Data sprint

A group of researchers works together in intense and short sprints to collect, analyze and visualize data, often using computational or digital methods, to explore a given topic such as an algorithmic system or discourse on social media.

Methods

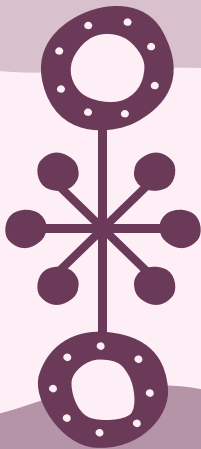


Methods

Speculative dashboard

An exercise carried out with practitioners working with data and analytics, in which they are asked to design a dashboard of different data visualizations, including those they do not yet have access to, to engender discussion about their challenges and needs.

Methods

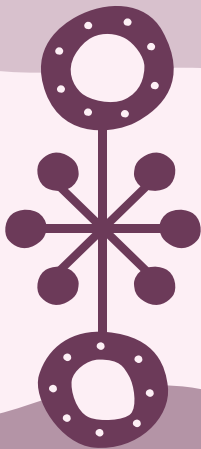


Methods

Piloting a study

Running a pilot version of a study helps to develop the methodological design, explore ethical concerns, and consider participant needs and concerns and how these can influence study design.

Methods

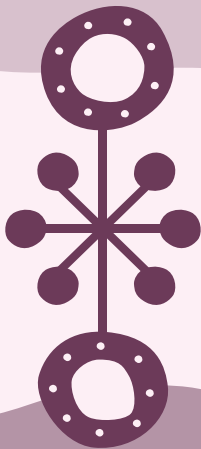


Methods

Ethnography of surveillance

Interviewing privacy-vulnerable people and their relatives and friends, observing situations where they are being surveilled to understand what surveillance feels like to people who expect to be subjected to it and what privacy means for them and what they need privacy for.

Methods

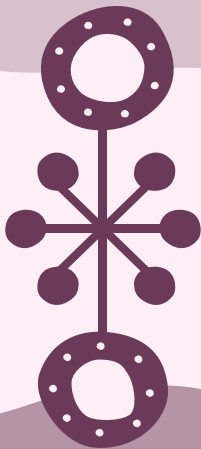


Methods

Video analysis

Collecting video data of naturally occurring phenomena in situ, then conducting detailed analysis of interaction in a post-positivist way to engage with finding things out in a manner that retains some sort of facticity.

Methods

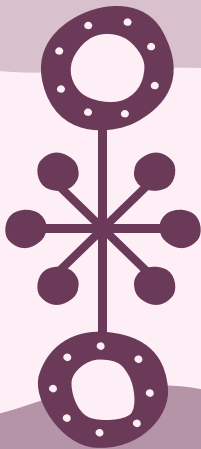


Methods

Qualitative attitude research

Survey questions (e.g. attitudinal statements on the Likert scale) reformatted into interview prompts for participants to respond to and reflect upon. The outputs are costlier to conduct and process than a survey but they capture points of view and experiences that a survey might miss.

Methods



Methods

Choose your own method

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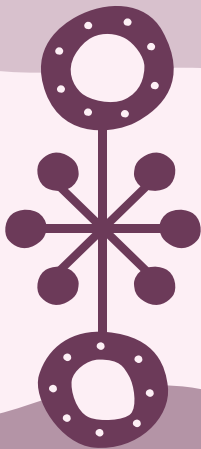
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Methods



Methods

Choose your own method

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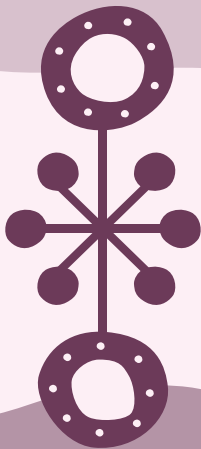
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Methods



Methods

Choose your own method

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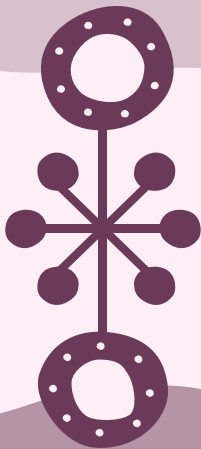
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Methods

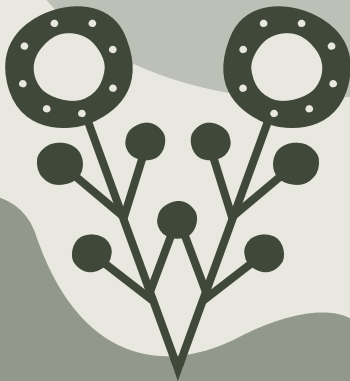


Methods

Incompetence

The algorithm as an incompetent assistant.

Metaphors

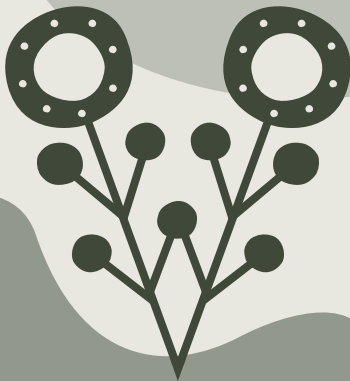


Metaphors

Bureaucracy

Algorithms automate decisions that traditionally have been made by bureaucrats based on agreed-upon rules.

Metaphors

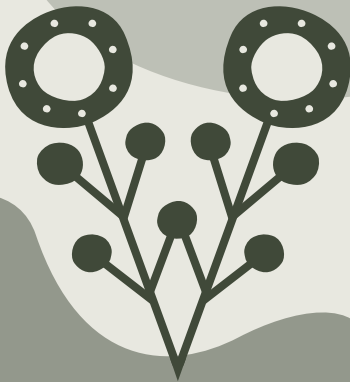


Metaphors

Sorting hat

A mix of automation and individual
agency.

Metaphors

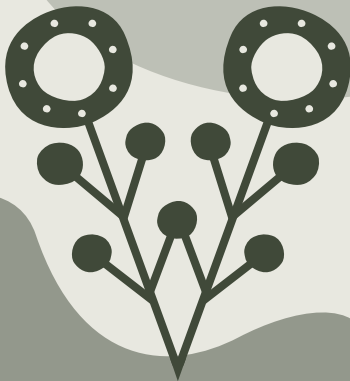


Metaphors

Black box

The logic of how an algorithmic system works is hidden from plain sight, available usually only to the creators of the system.

Metaphors

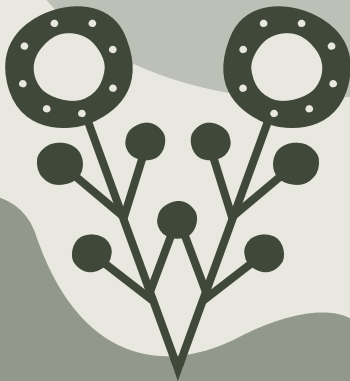


Metaphors

Garden

Providing nurturing conditions
without determining the outcome.

Metaphors

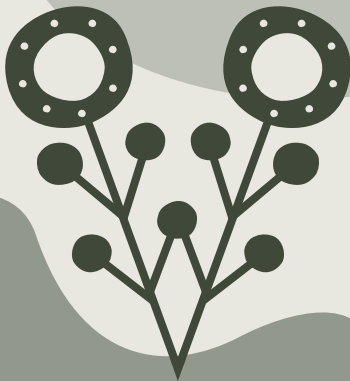


Metaphors

Factory

Producing standardized outputs from raw materials as efficiently as possible.

Metaphors

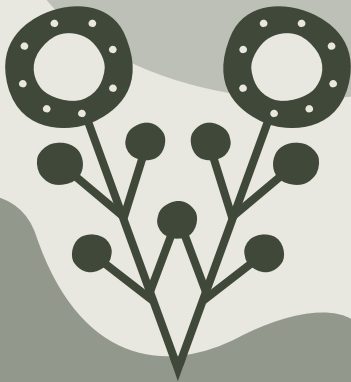


Metaphors

Machine

Taking something in and transforming it into something else, mechanically.

Metaphors

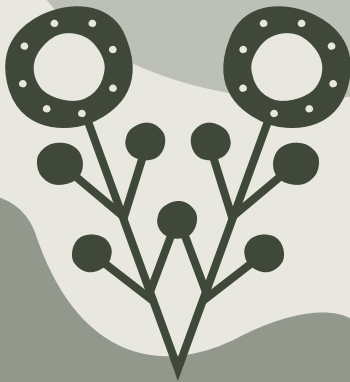


Metaphors

Gaming the system

Bending algorithm(s) to serve one's interests; working around constraints to achieve desired outcomes.

Metaphors

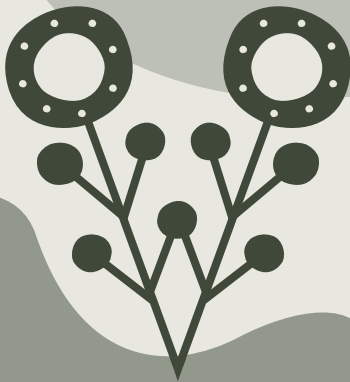


Metaphors

Game

Stakeholders of the algorithmic system as actors in a game, either seeking to win the game or serving others' efforts to win.

Metaphors

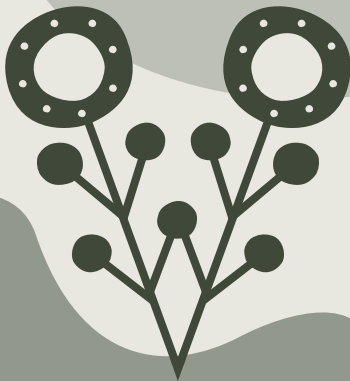


Metaphors

Principals and agents

Algorithms are often considered to serve people's wishes, acting as our agents. Consider, instead, the algorithmic system as the principal and humans as actors who serve its interests.

Metaphors

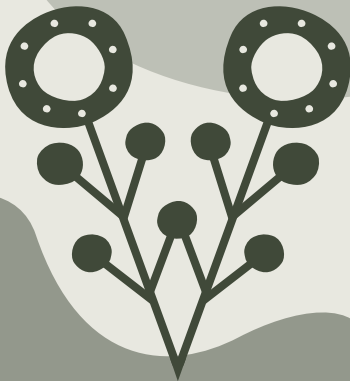


Metaphors

Import / export

Algorithmic systems as locally adapted outputs of the global supply chains of software.

Metaphors

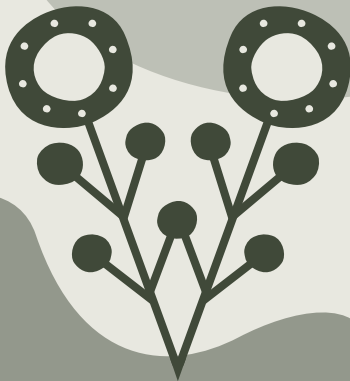


Metaphors

Recipe

Set of steps that, when followed,
lead to the desired outcome.

Metaphors

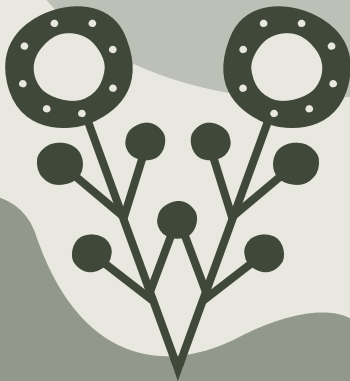


Metaphors

Maelstrom

A downward spiral of technological change and obsolescence in which people vie for secure transport by aligning to hype and progress that might keep them afloat.

Metaphors

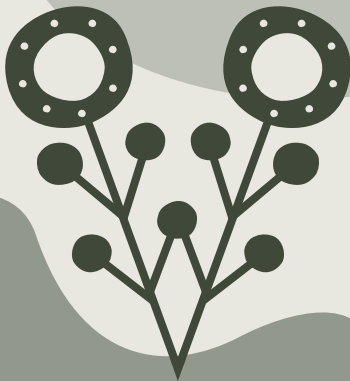


Metaphors

Informant

One who provides information to someone, often about others.

Metaphors

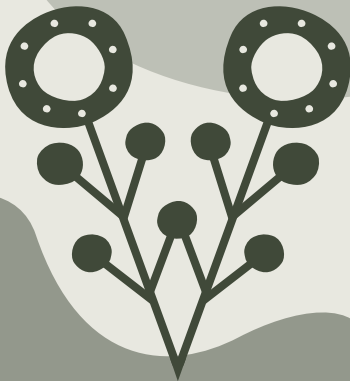


Metaphors

Token

A thing serving as a visible or tangible representation; an item that marks a presence somewhere in the system.

Metaphors

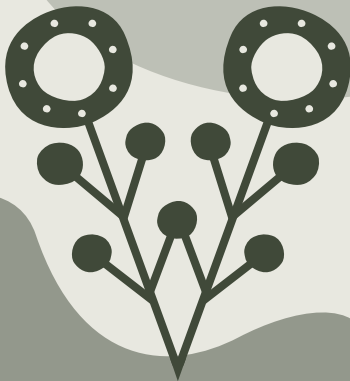


Metaphors

Unicorn

The algorithm is fantasized as a magical thing, it is not what it is said to be.

Metaphors

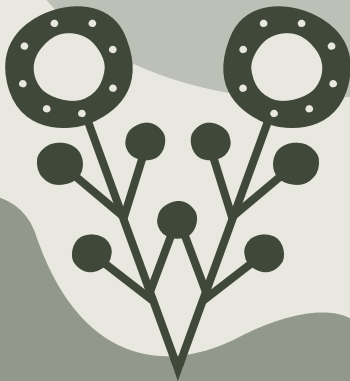


Metaphors

Power

Algorithmic systems are mechanics to redistribute power to new actors within a pre-existing system.

Metaphors

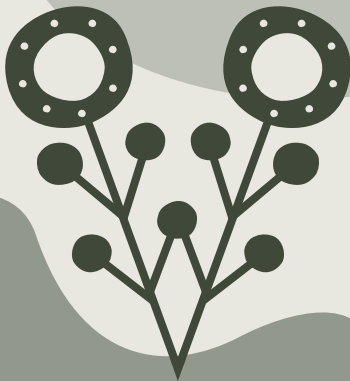


Metaphors

The big unknown

The logic of algorithmic systems is sometimes unknown even to those who create the system, they need to examine it just as much as the rest of us.

Metaphors

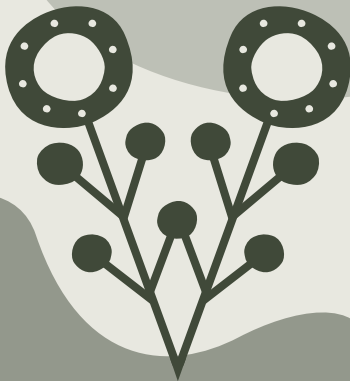


Metaphors

Intelligence

The algorithmic system as intelligent and even human-like in its decision-making and behavior.

Metaphors

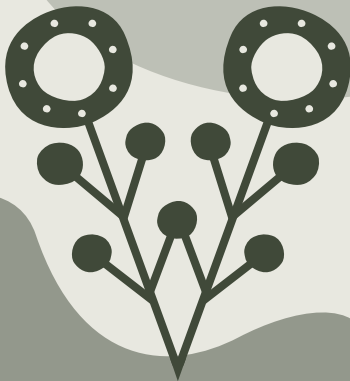


Metaphors

Butler

The algorithm as a (smart) assistant.

Metaphors

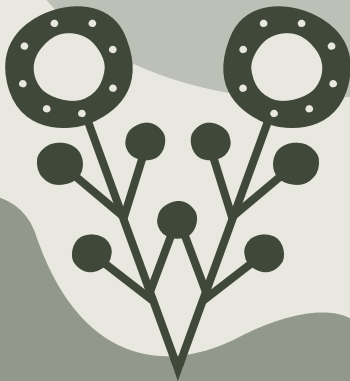


Metaphors

Brain

The algorithmic system as a complex whole that is vulnerable yet capable of adapting.

Metaphors

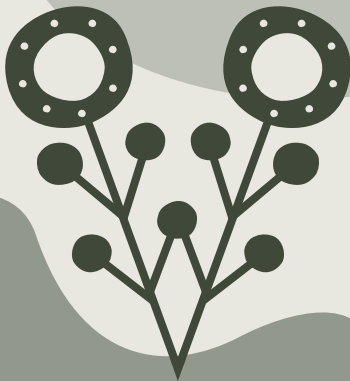


Metaphors

Organism

The algorithmic system as a living and dynamically evolving whole.

Metaphors

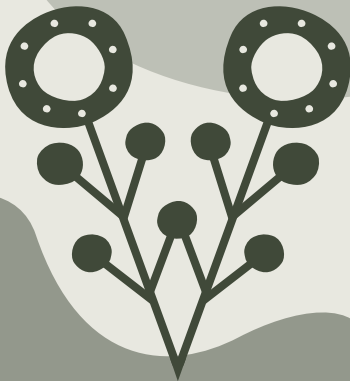


Metaphors

Network

The algorithmic system as an intricate, dynamic arrangement of people, data and code.

Metaphors

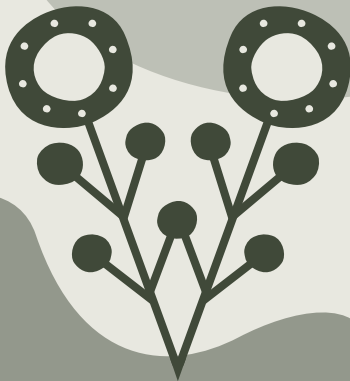


Metaphors

Gatekeeper

Decides what material gets into circulation, or who has access to resources.

Metaphors



Metaphors

Create your own metaphor

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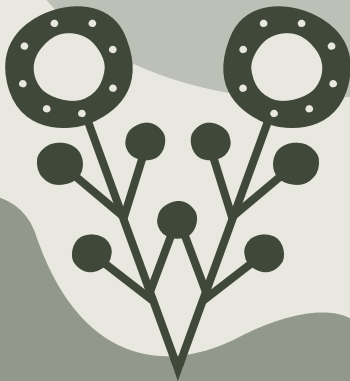
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Metaphors



Metaphors

Create your own metaphor

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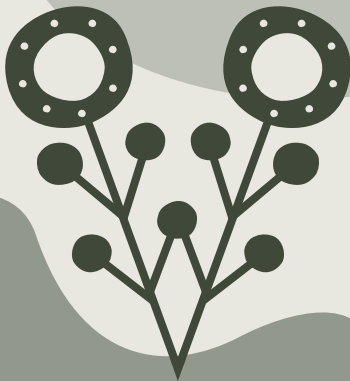
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Metaphors



Metaphors

Create your own metaphor

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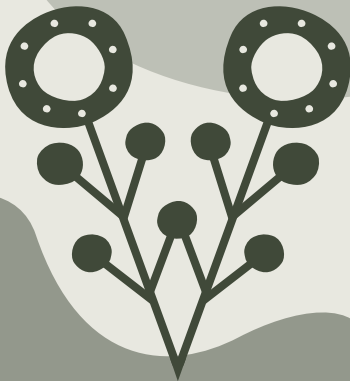
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Metaphors



Metaphors

Create your own metaphor

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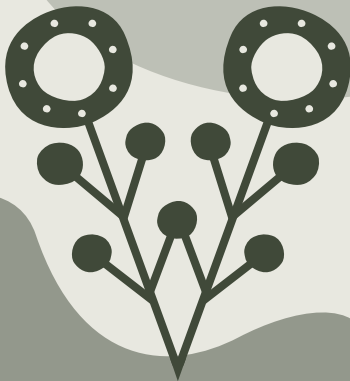
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Metaphors



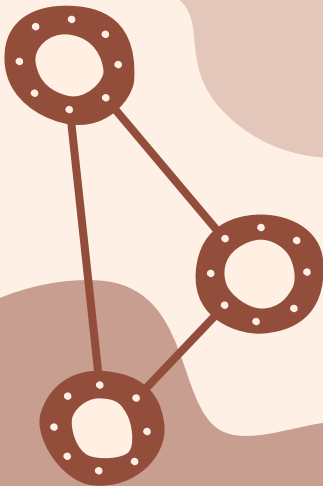
Metaphors

Al Gore

Rhythm

Wild card. You are required to do something surprising and humorous.

Caveats

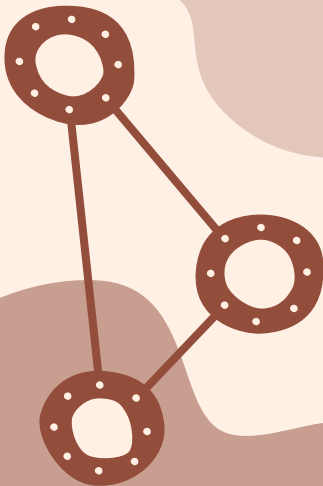


Caveats

Green transition

A new regulation has emerged to control environmental impact of services. Reduce the energy footprint of your project as a whole.

Caveats

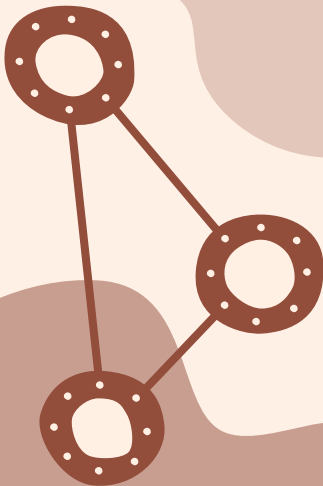


Caveats

Work to rule

Humans decide to follow the computer's instructions down to the smallest detail. How does the project change if you cannot trust common sense to fill in the gaps where automation falls short?

Caveats



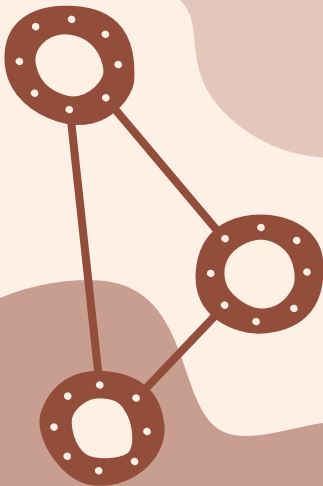
Caveats

Ensure labor unions are happy

Nordic countries have a strong history in labor unionization.

Abusing labor might lead to societal complications, even a general strike - which would upset your investors. You need to balance the project so that employees and other workers are happy and do not complain about your project to the labor union.

Caveats

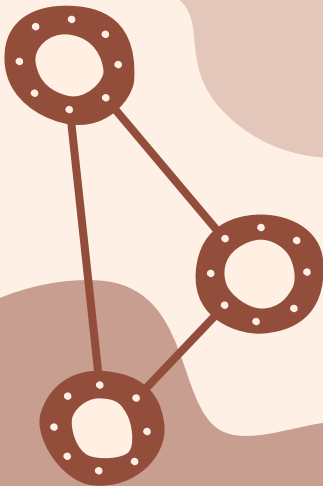


Caveats

Ingroup / outgroup

Make some aspect of the project easier for one group of actors and more difficult for everyone else.

Caveats

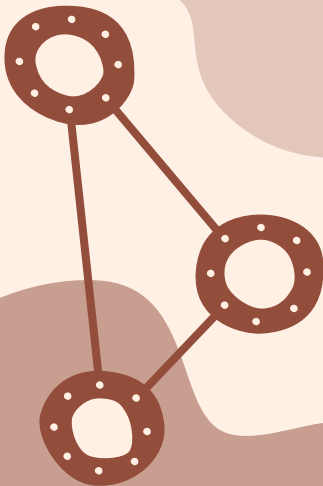


Caveats

Public sector

Situate your project within a public sector institution (e.g. social security system, tax agency).

Caveats

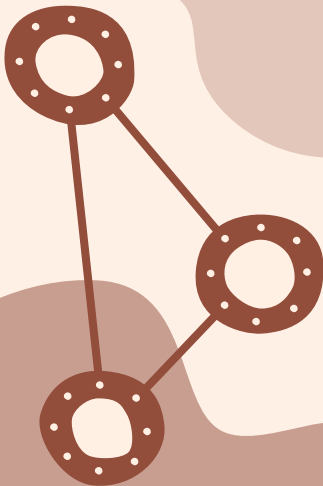


Caveats

Global crisis

A global crisis, such as a pandemic, war in a close-by country, or drought, emerges. The price of human labor increases. Face-to-face contact must be avoided. How does this impact the dynamics of your project?

Caveats

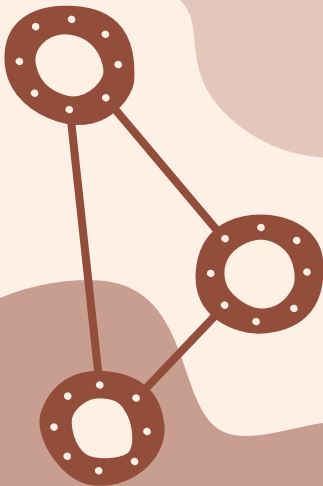


Caveats

PR crisis

Your algorithm was set out for public use too early and people claim it discriminates people based on their personality. As this was a pre-release, you just need to make changes to your system so that no one can claim such discrimination takes place.

Caveats

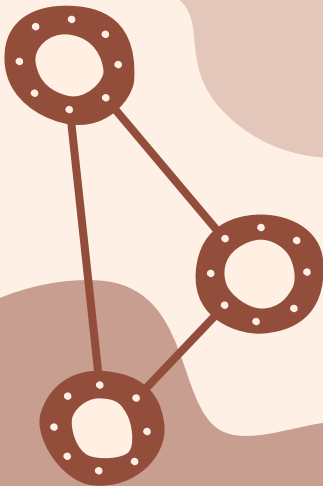


Caveats

Ethics whitewashing

People claim your algorithm is not ethical. You hire a team of philosophers and designers to improve the apparent ethical position, but you cannot change the essential business model of the algorithm as that would ruin your profit margin. Add an element into your project that represents this tension.

Caveats

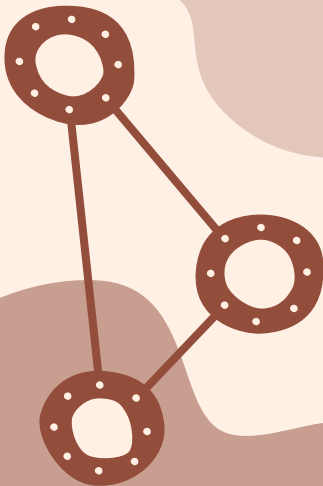


Caveats

Trust in government

Your society has extremely high trust towards the government, but weaker trust towards commercial entities. Transform an element in your project so that it takes advantage of this circumstance.

Caveats

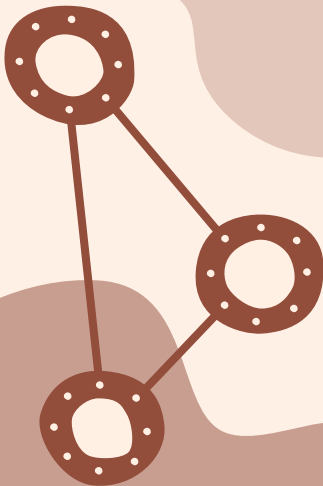


Caveats

Change in tax code

There is an additional tax on any decision made by an algorithm. Instead of computer-based decision-making, you can also outsource decision-making to humans. This is significantly slower, but due to the tax decision, it is a lot cheaper. How would you change your project to shift all possible decision-making to humans?

Caveats

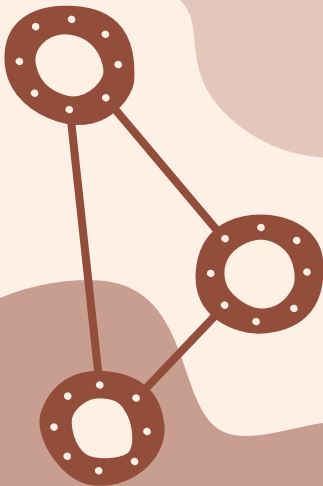


Caveats

Separation from the Internet

Your algorithmic systems are cut off from the Internet and all its resources: no more Google Maps, Facebook friend lists, or other types of services that depend on an external vendor. Change your project accordingly: which easy-to-achieve things become difficult?

Caveats

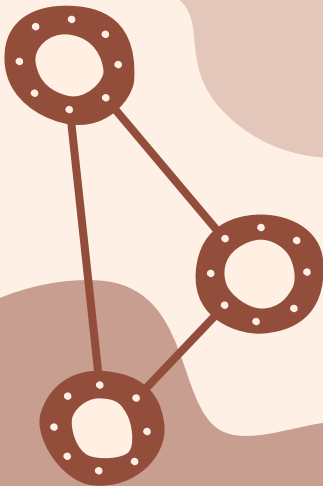


Caveats

Government supervision

The government requires that each critical decision made by an algorithm needs to be monitored by a human. Design your project in a way that this requirement is fulfilled.

Caveats

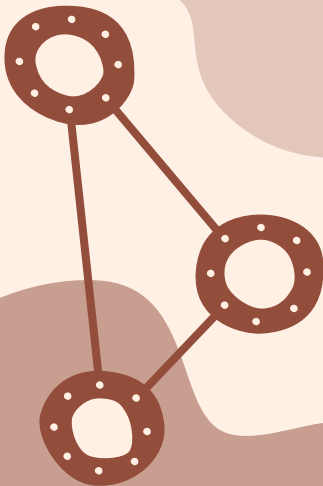


Caveats

Reducing human bias

Due to various cognitive biases, it was decided that humans should have no agency in algorithmic systems – except for the Coding Elite, whose education is supposed to tease out their human biases. Ensure that your project minimizes human agency.

Caveats

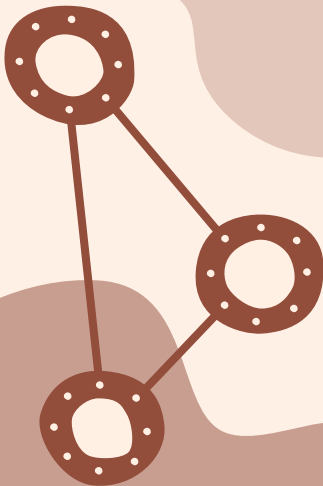


Caveats

Old technologies

Your project can only use technologies which were commercially available in the 1990s. This also means that the Internet is slow and costly – and obviously, not mobile.

Caveats

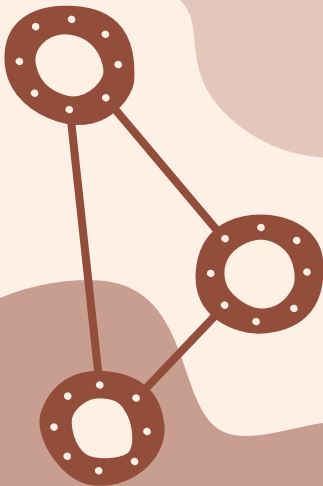


Caveats

The heterogeneity challenge

Adapt the project in some way in recognition of people who do not speak the majority language or who appear different from the majority of the population.

Caveats

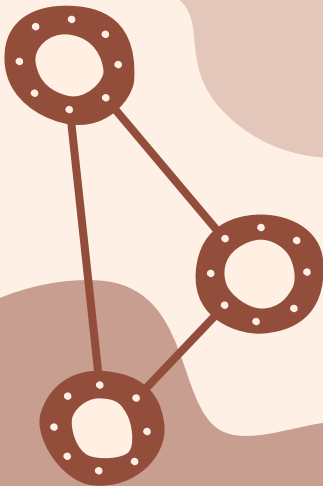


Caveats

Stakeholder exhaustion

Your stakeholders are exhausted
from participating in the project.

Caveats

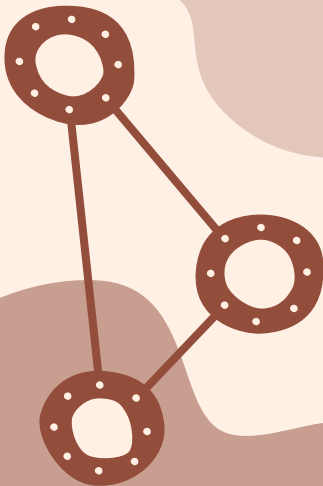


Caveats

Researcher bias and validity

Your methods are called into doubt because of lack of accounting for positionality.

Caveats

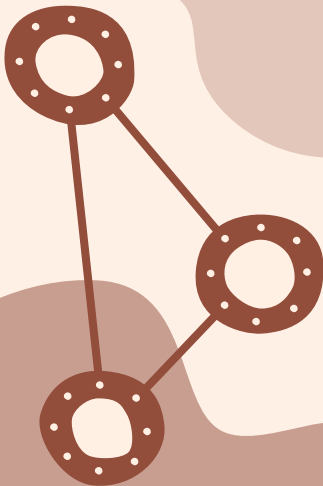


Caveats

Machine researcher

Add a machinic researcher to the project, who conducts research in a manner appropriate (or inappropriate) to your setting.

Caveats

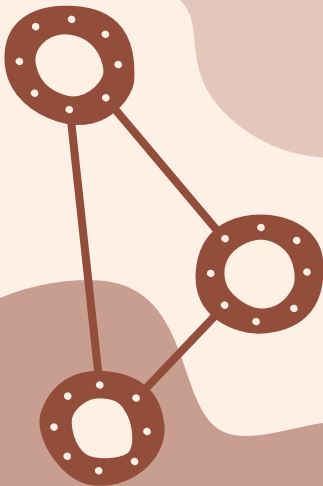


Caveats

Ethical oversight

You are required to create an ethics statement, panel, or oversight committee to make clear the ethical implications of your project.

Caveats

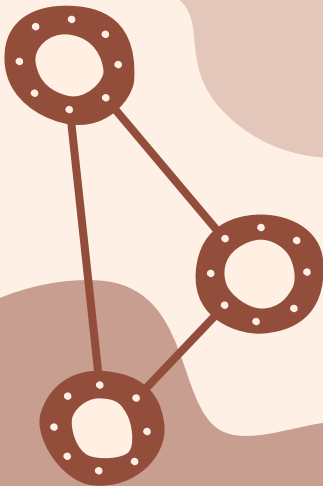


Caveats

Struggles with identity

Your researcher identity is not robust enough to withstand what is required for entry into and collaboration with stakeholders in your research, you may feel complicit to unethical practices or you may feel your analytical distance falter due to sympathies with others.

Caveats

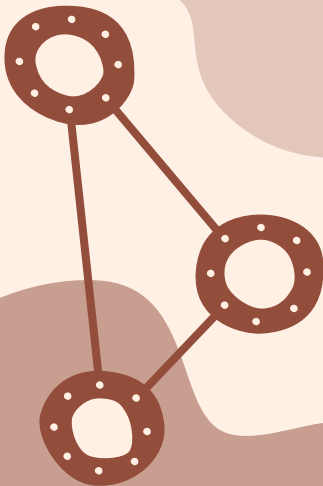


Caveats

Building rapport

You know what you want to know,
but your interlocutors do not trust
you yet or align on what is worth
knowing enough to share anything
beyond superficial canned ideas.

Caveats

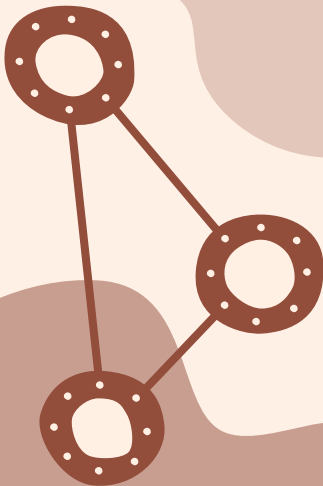


Caveats

Gaining access

You confront closed doors, security measures, your key contact quits or moves. Just when you think you have gotten up to speed with your project, you run into more barriers to go where you want or talk to the people you need to talk to.

Caveats

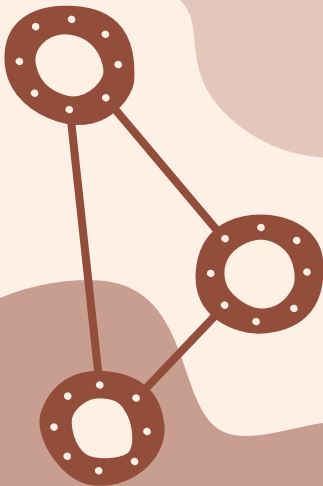


Caveats

WYSINWYD

What You Say Is Not What You Do.
Caution: People will say things that do not always align with what they really think or really do in practice.

Caveats

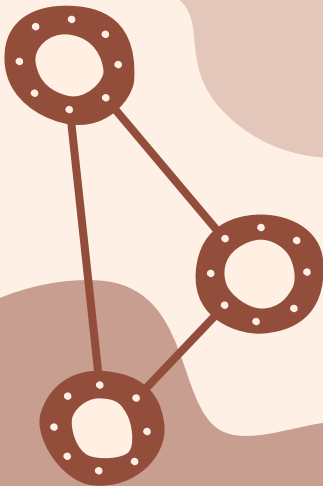


Caveats

Cost

You have a great idea for research but it costs too much for your funding budget. Make some cuts.

Caveats

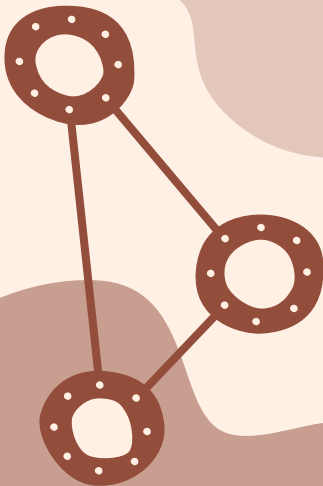


Caveats

Fractures

Your field of research fractures around epistemological concerns, debates over validity of methods become polemical, former collaborators no longer speak to each other.

Caveats



Caveats

Add your own caveat

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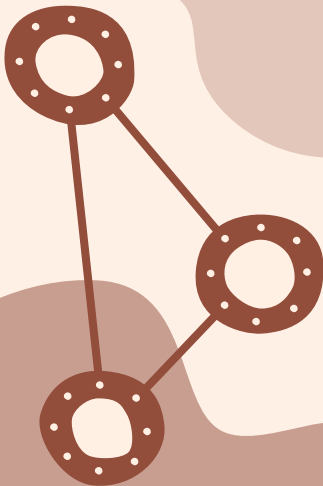
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Caveats



Caveats

Add your own caveat

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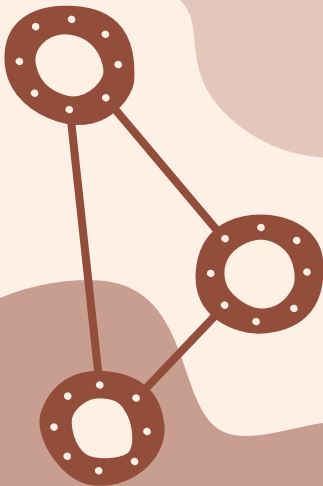
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Caveats



Caveats