

Design brief (Contestable Camera Cars)

Background

Local governments make increasing use of artificial intelligence (AI) in public services. One problem with AI is that it is not responsive to changing public values. A way to address this is through contestability. We have created a design framework for contestable AI. We now seek to create a compelling example of what contestable AI might look like in the near future. The example can aid designers in the application of the framework. We can also use it to generate responses from civil servants who work with AI, to better understand potential pathways towards the realization of contestable AI. The specific case we will build on is the use of camera cars in the city of Amsterdam.

Definitions

- **Contestability:** The degree to which a system is susceptible to dispute.
- **Artificial Intelligence:** “[a] cover term for a range of techniques for data analysis and processing, the relevant parameters of which can be adjusted according to either internally or externally generated feedback” (Suchman, 2018)
- **Contestable AI:** AI that is open and responsive to human intervention, throughout a system’s lifecycle, establishing a procedural (dialectical) relationship between decision subjects and system controllers.
- **Camera Car:** A (human-controlled or autonomous) vehicle outfitted with one or more still/video cameras of which the output is processed using computer vision (in real-time or post-hoc) for the purposes of urban sensing and governance.

Objective

The outcome this project aims for is a prototype of a contestable camera car. This prototype should be usable in semi-structured interviews with civil servants who work with AI, to generate data that provides insight into the barriers and opportunities to the implementation of contestable AI in local government (specifically, in the city of Amsterdam). It should also serve as an evocative example of near-future contestable AI.

Success criteria

The achievement of the project aims will be measured by asking experts to assess the project outcome using a number of criteria. The prototype...

1. addresses the problem that public AI systems are not responsive to changing values in society;
2. illustrates one way for a decision subject to appeal a decision made by an AI system;
3. illustrates a procedural and dialectical relationship between a decision subject and a system operator that serves as the basis for resolving a dispute;
4. is provocative and presents an alternative to the current order. Presents a new perspective on the current practice of public AI (Bardzell et al., 2014);
5. is sufficiently believable for a viewer to be able to imagine ways in which it might be brought about. It cannot be easily dismissed as science-fiction. A viewer can imagine themselves in living in a world where the prototype is reality (Bardzell et al., 2014);
6. applies some or all elements of the *Features* section of the *Contestable AI by Design* framework.

Stakeholders

The groups of people that are directly or indirectly affected or involved in the project depend on the application context. Currently we are undecided on the specific camera car application we will be designing for.

Assuming the current application of camera cars for parking enforcement, an initial stakeholder analysis would break down as follows:

The *direct stakeholders* we are designing for in this case are those who are responsible for correctly parking a car (car drivers and owners) on the one hand (i.e. “decision subjects”) and the camera car driver, camera car company workers who review footage, and municipal tax authority workers who receive and evaluate objections (i.e. “system operators”).

Indirect stakeholders who deserve consideration at the very least include those who have a stake in the area where parking is enforced (e.g. residents; business owners, managers and workers). Another category of indirect stakeholder are those who

encounter scan cars whilst unaware or unwilling, such as passers-by (pedestrians, cyclists, motorists, etc.) as well as passengers of parked cars.

Deliverables

The ultimate deliverable for the project should be a short video prototype of the proposed design.

References

1. Bardzell, J., Bardzell, S., & Stolterman, E. (2014). Reading critical designs: Supporting reasoned interpretations of critical design. Proceedings of the SIGCHI Conference on Human Factors in Computing Systems, 1951–1960. <https://doi.org/10/f3nnk2>
2. Suchman, L. (2018, June 10). Corporate Accountability. Robot Futures. <https://robotfutures.wordpress.com/2018/06/10/corporate-accountability/>