
This is an electronic reprint of the original article.
This reprint may differ from the original in pagination and typographic detail.

Drobotowicz, Karolina

Design of trustworthy and inclusive AI services in the public sector

Published: 01/11/2021

Please cite the original version:

Drobotowicz, K. (2021). *Design of trustworthy and inclusive AI services in the public sector*. Poster session presented at Nordic Conference for Young AI Researchers, Oslo, Norway.

This material is protected by copyright and other intellectual property rights, and duplication or sale of all or part of any of the repository collections is not permitted, except that material may be duplicated by you for your research use or educational purposes in electronic or print form. You must obtain permission for any other use. Electronic or print copies may not be offered, whether for sale or otherwise to anyone who is not an authorised user.

Design of Trustworthy and Inclusive AI Services in the Public Sector

2019-2021: Qualitative study on citizens' attitudes and requirements for trustworthy AI in public sector

Rationale

"Public services should invest in transactional user interfaces that can meet the needs of individuals 24/7, serving them in a more agile, accessible and faster way, from a single point of contact." *High-Level Expert Group on Artificial Intelligence in Policy and Investment Recommendations for Trustworthy AI**

The public sector is increasingly embracing algorithmic decision-making and data-centric infrastructures. As such **Public AI Services** become more prevalent and affect citizens' lived experiences, we must critically question their social, political, and ethical implications to examine the rights, risks, and responsibilities for both the providers and recipients of such services, particularly the most vulnerable in society. Despite the benign intentions of public and private actors, many crucial ethical implications must be examined. Some AI-based systems are being used by governments for biometric surveillance, criminal justice, and other forms of citizen monitoring, which pose higher risks for abuse and unfair discrimination if they are not made easily transparent, accountable, or their legitimacy is challenged by civil society. **Engaging civil society in participatory deliberations** on the use of AI has only begun to be explored in recent pilot projects.



Methods

We performed 21 in-depth, semi-structured interviews and a design workshop with 8 people group. Participants (24 people in total) formed a diverse group across age, education level, nationality and self-assessed interest and knowledge of AI. All were residents of the Greater Helsinki Area. In both the interviews and the design workshop, we used **fictional public service AI cases** to help participants understand the scope of possible AI usage and focus their conversations. These sample AI services were generated based on discussions with public-sector representatives in Finland to ensure that they were realistic.

AI service	Example case
Decision making	AI service that makes a decision whether the applicant will receive funding
Health prediction	AI service that predicts mental health problems of citizens and advises a family about it
Impact Assessment	Educational impact on children's assessment in school, where data collected from children is processed by AI
Travel Assistance	AI service used in the social insurance organization to detect any cases

Table 1. Description of the use cases used in the study.

Objective

The goal of this qualitative study is to investigate what kind of requirements citizens have for trustworthy AI services in the public sector.

Project collaborators



Results: citizen attitudes

"I fear what AI will bring"

"I see unethical AI use cases in the private sector. I don't want the same to happen in the public space"

"Since youngest I use services that take my data, I am used to that"

"I believe that AI in the public sector can bring multiple benefits for the society"

"I believe that AI in the public sector can bring multiple benefits for the society"

Results: transparency requirements

We identified 27 transparency questions categorized by 5 topics.

Category	Subcategory	Questions
Purpose	Purpose	For what reason was the public service created?
	Benefits	What are the benefits that the public service brings?
	Impact	What impact on users or on society can the public service make?
	Data source	What is the source of data collected in the public AI service?
Data	Data collection	When and how were the data about the user collected?
	Data purpose	When was the consent given for collecting this data?
	Data storage	Why was this specific information needed?
	Data access	Where and for how long are the data stored?
Core AI process	AI process	Who has the access to the data?
	Used criteria	Are the data biased? Why? How do they impact the results?
	Results creation	What is the reason for using AI in the public service?
	Results explanation	What criteria are being used for the results creation?
Human involvement	Results explanation	What data are used for results creation?
	Results reliability	What is the process of results creation?
	Human involvement	What is the reason for the results?
	Human involvement	Which data and criteria affected the results?
Service overview	High-level process	Results reliability How reliable are the results?
	Accountability	What is the role of humans in the results creation process?
	Users of the service	What should customers expect from the public service?
	Users of the service	What are the stages of the service and how long do they take?

Table 2. Transparency requirements of citizens. The ones repeated most often are highlighted.

Conclusions

Transparency is a particularly important requirement of public AI services. This work provides a list of 27 questions that ought to be answered by such services to achieve trustworthiness. Data consent and human involvement are other important requirements that should be considered in AI service design. The results of this work influenced the creation of the AI-register in the City of Helsinki.

Check the research paper by this QR code:



2021-2026: Civic Agency in AI? Examining the AI Act and Democratizing Algorithmic Services in the Public Sector

Objectives

- 1) understanding the values, positions, and narratives embedded in discourses related to the AI Act and public algorithmic services;
- 2) examining the rights, risks and responsibilities for civil society with regard to algorithmic public services;
- 3) promoting algorithmic literacy, participatory design process, and civic agency for increased transparency, accountability, and governance of trustworthy AI services.

RQs

- RQ1: What are the values, positions, and narratives embedded in discourses related to the AI Act and public AI services being introduced in Finnish society and the European Union?
- RQ2: How do different public actors and citizens understand the rights, risks, and responsibilities involved in algorithmic public services? How do they perceive their level of algorithmic literacy and agency to critically question or transform these services?
- RQ3: How can we promote critical algorithmic literacy, inclusion, and civic agency in the design of public AI services for increased transparency, accountability, and governance?
- RQ4: How can multiple stakeholders participate in the governance ecosystem of public sector AI, in the context of the proposed AI Act?
- RQ5: How does engaging different actors in algorithmic literacy and governance of public AI services?

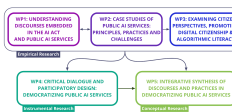


Fig. 4. New research work packages and the relations between them.

Would you like to collaborate? Do you know the Public AI service case that would be interesting to study?

We are now planning our study with Finnish Public Sector services, such as AI Learning Analytics for Schools, Education Division, City of Helsinki; Kamu Migri Chatbot, Finnish Immigration Services; or ones from Kela Innovation Unit, Kela Social Welfare Services. We are happy to learn about other AI public service cases happening in the Nordics or Europe. Reach out via below contact details or stay and talk with me 3.