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Searching for Meaningful Human Control in Algorithmic Government

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PPPS'2023 - Proactive and Personalised Public Services: Searching for Meaningful Human Control in Algorithmic Government

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Abstract

The future is likely to see an increase in the use of automated decision-making systems in the public sector, which employ Artificial Intelligence and, in particular, machine learning techniques, to enable more proactive and personalised delivery of public services. Proactive delivery can reduce the administrative burdens on citizens and government staff. While there is a small but growing body of literature that highlights the benefits of proactive public services, the implementation of such services is data intensive and can harm citizens beyond privacy concerns. Proactive service delivery requires high degrees of automated data processing using various data sources and algorithms that reduce the level of human control that both citizens and public officials have in verifying or correcting system errors. The purpose of this workshop is to initiate a discussion about proactive and personalised public services, discussing them and learning from the EGOV community about the practice of applying proactive and personalised services in different countries. This includes presenting an initial version of the developed framework for proactive and personalised public services, which is expected to provide further research directions.

Keywords

public service, proactive public service, algorithmic government, personalization, personalized service, digital government, e-government, digital governance, digital government architecture, digital transformation

1. Introduction and Objectives of the Workshop

Today, the world is seeing an increase in the use of (semi-)automated decision-making systems in the public sector, which employ Artificial Intelligence and, in particular, machine learning techniques, to enable more proactive public service delivery [1]. At the same time, there is a shift from reactive to proactive public service delivery, where the level of proactivity varies according to the following types of government: (1) outreaching government, (2) attentive government, and (3) no-stop government. The level of proactivity depends on the interaction effort of the service recipient, as well as on who is the initiator of the public service [2]. Similarly, the seven-step reactivity-proactivity spectrum was put forward by Sirendi, et al. [3] and Erlenheim et al. [4], according to which public services differ from what they call "pull", when an individual / citizen searches for information from different locations to "life-event-based services", where services are functioning in the background and are delivered to the citizen in a "push" manner when the relevant life event takes place. The categorization of proactive services has been further elaborated by Pawlowski & Scholta [5] according to the purpose and timing of proactivity, need for additional data, option to change the proposed data, choice of service receipt (opt-in, opt-out, or no choice), medium and timing of proactive service delivery, and type of service

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(informational, communicational or transactional). Here a link to personalisation can be established. On the one hand, personalisation refers to tailoring the customer journey and service experience for the citizen. This can be referred to as 'front-end' personalisation. It includes finding out which service consumption conditions are preferred by specific persons or user groups (e.g. elderly / older adults). On the other hand, the focus can be on personalising data collection and processing level, tailoring the input, processing and output of a service to the context of the individual citizen. This can be referred to as 'back-end' personalisation. Examples include the personalisation of energy cost compensation, whereby citizens can proactively receive additional financial support based on their household income, past energy bills and living conditions.

"Back-end personalisation" is highly dependent on what Scholta et al. [6] define as "integration of data storage", which refers to the extent to which the government accesses an "integration of data collection", where different data events corresponding to life events could be detected and reacted upon. Proactive service delivery requires algorithmic processing of data scattered across multiple publics and sometimes private data sources (e.g., the case of energy cost compensation). In practice, such systems are not without data quality issues. Peeters and Widlak [7] reveal the unintended consequences of algorithmic data integration systems in the administrative state for the access of citizens to public services and benefits. Using the concept of a "digital cage", they show how an automated system combined with poor data quality turns into a "black box", produces legal contamination by forcing its own conditions upon user organisations, reduces the discretionary space of street-level bureaucrats to handle social complexity and unintended consequences of the system, and creates a behavioural incentive in which municipalities are pushed into the role of enforcers rather than registers / service providers.

Despite aspirations for proactive and personalized service delivery, boosting automation and algorithmic government also generates new risks that could severely harm citizens, as we have seen in the Dutch Child Benefits case [1]. The attribution of responsibility to individuals for the harm caused by these novel proactive public services systems is socially and technically challenging. The conditions necessary for individuals to be adequately held responsible - moral agency, freedom, control, and knowledge, can be undermined by the introduction of algorithmic decision-making. An example of such a condition is meaningful human control, which is an ill-understood concept that is used to refer to a broad range of system functionalities for human users and operators (e.g., citizens have the option to challenge decisions resulting from proactive services, and public officials / civil servants being can correct / adjust service delivery parameters at an early stage). However, proactivity may be designed with varying degrees of autonomous data processing and decision-making capabilities, further challenging meaningful human control over the system.

The purpose of this workshop is to explore and discuss the challenges and conditions for proactive and personalized public service delivery by presenting the audience with an initial framework for proactive and personalized public services, which is expected to be refined based on the exchange of experiences of the EGOV community about public service delivery practices in their countries. This framework of proactive and personalized public services, when refined and validated, is expected to be applicable (1) to evaluate proactive public services already in use, thus identifying their gaps (if any), and identifying an agenda for the improvements, (2) to develop public services, ensuring they are qualitative and best practices-compliant by design.

2. Format of the workshop

2.1. Presentation - background on the topic (40 min)

To encourage constructive dialogue, the workshop organisers will first deliver an introductory presentation on the concepts of public services, reactive and proactive models of public services, and models of their personalization. Considering the regulatory frameworks of two countries with forward-looking digital governments - Estonia, and the Netherlands - we systematically compare design choices across key variables for proactive public services and reflect on the outcomes for citizens. Good and

bad public service delivery practices from Estonia and the Netherlands will be presented with a focus on lessons learned from both kinds of experiences. Finally, a framework for designing proactive and personalized public services developed as a result of a systematic literature review (SLR) on the topic will be presented by the organisers.

2.2. Brainstorming (50 minutes): Refining the concept of public services, proactive public services and their personalisation

The second part of the workshop is devoted to discussions, where the participants are asked to share their views on public services and the levels of proactivity and personalisation of these services. Subsequently, we will discuss these views in a plenary meeting that aims to develop concepts for holistic proactive and personalised public service delivery.

2.3. Discussion of proactive and personalized public services - from "as-is" to "to-be" model (30 minutes)

The remainder of the workshop is dedicated to identifying novel innovative and best practices for designing and setting up proactive and personalised public services. It is expected that this will lead to a clearer vision of the "as-is" model and the necessary transition to the "to-be" model, their underlying factors, as well as pitfalls of which governments should be aware when designing, developing, and setting up proactive and personalised public services.

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