



SC6

Disruptive Technologies Supporting Labour Market Decision Making

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Interim report on Data Ethics and Use

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Abstract

This document outlines the early ethical vision for the development of the HECAT platform. The objective being to produce a tool that supports decision making of individuals and Public Employment Systems (PES) around people's unemployment in ways that reflect European and humanitarian values of social solidarity, equity and ethics.

Statement of originality

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1.1 Introduction to our data ethics approach

The HECAT project's aim is to build and develop several algorithms which will integrate the qualitative and experiential aspects of unemployment in order to facilitate a new type of algorithmic approach that emphasises openness and transparency. The fundamental and underlying ethical foundation of HECAT is **to work with the unemployed rather than on them.**

This document outlines the early ethical vision for the development of the HECAT platform. The objective being to produce a tool that supports decision making, of both individuals and Public Employment Systems (PES), around people's unemployment in ways that reflect European and humanitarian values of social solidarity, equity and ethics.

The greater frame of this Horizon 2020 action is a recommitment to the place of European values in the administration of care to vulnerable citizens. This is not about the incomprehensible institutional forms of nation-state and superstructure, the European superpower that emerged from coal, iron and steel. Rather is about the European superweak, the archaic, metaphysical and anthropologically shared space and shared culture that has learned from centuries of fratricidal war. Steeped in the stories we repeat to ourselves of Greek thought, of Roman laws and the religions of our books, European values arise from the slow and complex formation of our national and personal sovereignties, hard earned tolerances and multiple secularisations of our economy and religions from the state. Such values are always at risk of being dismembered and the HECAT platform, and in the way we go about our work in developing it, in a small way aspires to re-territorise the European imagination of welfare.

1.2 The place of data ethics in HECAT

Data ethics exists in several ways in this project

- As a **primary research** topic in WP1 and WP2 which explores the ethical issues around public service use of big data and algorithmic decision-making
- As a **practical research administration matter** in each partner institution concerning how they conduct their own work in contribution to the overall project

- The greater topic of **the actual HECAT platform** that we collectively produce to be deployed in a test site, initially using anonymised data but with the aspiration of eventually using vulnerable people's data in a real administrative setting

1.3 Forms of data in HECAT

The project will administer three types of data.

Primary research data arising from data collection in the project, envisaged to involve participatory research methods (interviews, observation, testing and validation) with expert user groups (e.g. unemployed individuals, NGOs representing unemployed people, policy makers) and PES officers and pilot study participants. The production and use of this form of data is governed by the research ethical code of each institution.

Secondary data collected from existing data sources as Eurostat (e.g. The European Labour Force Survey [EU-LFS], The Survey on Income and Living Conditions [SILC]) and directly from Employment Services Slovenia (ESS). The use of this form of data is governed by the research ethical code of each institution and the specific permissions and obligations offered by the owner/producer of the data.

Pilot site data that feeds the **HECAT platform** which is produced by ESS and Slovenian users of ESS, in addition to HECAT's Living Lab testing. This sensitive data will be governed, administered and retained by ESS, who may as they deem appropriate facilitate access to other partners for specific purposes and with specific rubrics.

The fusion of these different kinds of data will be used to build the structure of the back-end algorithm and front-end user interface, with the symbolic, social and intersubjective aspects of the qualitative data used to guide how the quantitative data should be used.

2.0 Ethical vision statement: **working with, not on the unemployed**

If you sign-on for unemployment social transfers in many European countries an algorithm determines your fate. Algorithms ration care to the unemployed in many European countries.

Considerable anxiety has arisen around commercial algorithmic decision making by firms such as Google-Alphabet, Netflix, Spotify, Amazon and Facebook. These 'public relevance algorithms' (Gillespie, 2014) have a rising agency in individuals lives, and so cannot elide discussions of public good, ethics, procedural justice and fairness. But little research work has yet to explore public service algorithmic decision making- situations where the State and its Government use algorithms in their various services. We are only at the start of generating a new ethical literacy around public service algorithms.

The verba concepta, the foundational plea, of HECAT is to **work with the unemployed rather than on them**. This is an injunction to make the work of the HECAT platform visible and more modest in its outputs to all users.

Making visible

As a process, this requires us to break open the black box (Latour, 1992 -Aramis) of the algorithm, the platform and indeed the greater project of making the labour market more visible. Black boxing of a technology reflects "the way scientific and technical work is made invisible by its own success. When a machine runs efficiently, when a matter of fact is settled, one need to focus only on its inputs and outputs and not on its internal complexity. Thus, paradoxically, the more science and technology succeed, the more opaque and obscure they become". Existing algorithmic based platforms deployed by PES have been adopted to solely to meet policy objectives and to provide data to PES. The aspiration here is to provide data on an equal basis (though tailored to specific needs) to individuals and PES, so that together and individually they can meaningfully co-produce better outcomes.

The second dimension of making visible is to render the labour market more visible to all participants. Invisible markets often call up the metaphor of "the wild west", a frontier place and time characterised by roughness and lawlessness. Invisible markets, where market participants cannot see the market do not strike fair prices, allow for abuse, cheating and

profiteering. Visible markets (economists often call this market information) are fairer, more just, stable and civilised where all market participants can see prices, liquidity, volume and trading in such a way as a moral economy emerges (Thompson, 1971). HECAT is a digital intervention that aspires to make the labour market more visible so that individuals (and the PES that aspires to help them) can better allocate themselves into the labour market. In this way, we aspire to support ever more meaningful and sustainable work as an ideal that provides many things including economic stability, structure and sociability.

Re-visualising the labour market

The contemporary thought towards marketisation of labour sees it as the buying, selling and trading of labour power, the technical and functional aspects of labour as a market (Grover, 2012). An economic lens of the labour market flattens the trading of people's time and effort into a total engine of labour supply and demand. The policy implications of this is to flatten everyone into the total labour market through conditional active labour market policies that moderate individuals' expectations so that they accept their position in the trading economy for employment. A sociological lens of the labour market tends to focus on how individuals seek to actualise and validate themselves through the vocation of meaningful work, and how the economic system generates injustices, inequalities and oppression that require regulation and support for market failure. An anthropological lens on the labour market sees as a curious cultural context where the rituals of work happen with individuals taking on various culturally designated roles, and the assembly and accomplishment of a labour market is achieved through flows, circuits, lines, data, information, gossip and the endeavour of middlemen, traders and barkers. To produce an algorithm, we need to work through all lenses, as each only offers a partial vision of the labour market. So, in this we need to move from the existing approach to PES algorithms which see only with the economic lens that looks exclusively from the desires of the PES to quickly find people work irrespective of its suitability or quality. To recognise the plurality of lenses across the labour market (e.g. sociological and psychological), we need to generate multiple algorithms, multiple ways of seeing the labour market that go beyond the **quantum** of work, to explore **quality** of work, various **temporalities** of unemployment, finding work and working, the **volume** of the labour market (so the overall size of the market and the number of transactions), the **liquidity** of the labour market (so the nature of

demand and supply) and **the volatility** of the labour market. In this way we aspire to render up a rich, nuanced and pluralist vision of the labour market.

Rewelfaring

The concept of welfare has largely formed on a localised basis, country by country or region by region. Why it was needed and who was entitled to it was largely underpinned by the prevalent forms of morals and ethics in a given society (Esping-Andersen, 1990). Ideas around welfare and welfare recipients are not always static with schisms caused by crisis or shifts in political dominance altering the understanding, administration and governance of welfare (Esping-Andersen, 1990; Midgley, 1997). This current trend towards algorithmic technologies is useful for PES following tightening of resources due to the 2008 financial crisis, although many of the shifts towards these methods began before this time, when economies were booming. The goal of these technologies is to assist governments to administer and share resources with those who need them most. On the outside a sensible and efficient approach, but beneath the surface a technology often developed with little understanding of the real needs of unemployed people or their aspirations for their careers. Inlaid with biases and assumptions many of the current profiling algorithms are not fit for purpose, have been rejected by PES officials (e.g. in Finland) or have weak design methodologies (e.g. the Dutch 'work profiler' which is based on a small sample in a single region). HECAT aims to draw together the space between technology and human by using sociological and anthropological research methods to inform the development of a new ethically-enhanced decision support platform for use in PES. The basis of this study is to provide a platform that works with and not on unemployed people. One that enables both PES officers and unemployed people to visualise the labour market, their options and scenarios for the future. In this way the PES officers can work with their clients showing them the labour market and co-producing decisions with unemployed people. Thus, returning a level of human understanding, ethics and morals into a virtual system.

Protecting the Verba Concepta of the HECAT Platform

HECAT affirms our commitment to the highest ethical standards, and to adopt a moral vision that integrates the unemployed by working with them, rather than producing an intervention that works upon them. However, there is a risk that others who do not share this ethical vision may utilise the HECAT platform and user-interface in ways not intended by the

researchers. For example, the inclusion of the HECAT platform within a framework of PES sanctions would run counter to our principles of voluntarism and transparency. In such a scenario, for example, the PEX algorithm used by the Irish PES calculates a probability of an individual returning to work within one year. It gives a percentage score for this, the goal being to provide more assistance to those with a low score. There are two variables that the algorithm has no control over; first, that all interventions will be of a beneficial nature (i.e. not sanctions or unsuitable work); and second, use of the results for unintended actions (i.e. where a person with a high probability of exit within a year is still unemployed, this result can be used as an automatic reason for sanction). The first variable will be addressed within the platform, but the second is an unintended consequence that is difficult to control.

While the project cannot guarantee that the algorithms under development will always be utilised in a manner consistent with the principles outlined in this document, we take the following precautions:

- To review and consider how the algorithm might be exploited at our bi-yearly face-to-face meetings. This will be more significant as the project grows and the algorithm is developed, but we wish to consider this risk at an early stage
- Ensuring that the vision of working 'with' the unemployed rather than 'on' them involves a close collaboration with the unemployed. This will help to ensure that the interface and content of the project are as user-friendly and transparent as we intend, thus minimizing the risk of exploitation
- Being clear, open, and transparent with the PES organizations we will be working with about our intent and goals for the algorithm, which will help guide its deployment after the life of the project
- Being attentive to the data we integrate into the project, which will define how the algorithms and user-interface are designed and built

Our goal is to integrate our ethical practice into every level of the development, design and implementation of the algorithm. This will define how the algorithm will be built and create a consensus around best-practice that we hope will be adopted by organizations interested in using it once the project has concluded.

3.0 Collecting data

In addition to developing a platform embedded with ethical considerations, the researchers must ensure that the data collected to develop the platform is used in an ethical manner. The Data Management Plan will outline much of the technical aspects of this usage. A range of different types of data will be gathered by the project including quantitative data generated by the interactions of the data subjects with the platform components. At the present stage of development of the project the data we expect to collect include:

- Data from expert user groups, for example NGOs, unemployed people, policy makers, PES representatives. This qualitative data will be used to inform the HECAT platform development (back-end algorithms; front-end user interface and its user experience)
- Statistical data from established sources such as national statistical services and Eurostat (e.g. EU-LFS, EU-SILC), with Eurostat itself drawing on data collected and produced by national statistical services
- Anonymised Real-Time data from the Employment Services of Slovenia concerning clients of their service
- Data collected from living lab testing of the HECAT platform in order to test and validate the proposed solution
- Anonymised data collected during the piloting of the HECAT platform

Data access will be mediated through the limitations and restrictions imposed both by the data itself and the data sharing agreements made with PES. Further detailed information regarding these datasets will be outlined in the Data Management Plan.

The origin of data collected within the HECAT project are the existing quantitative data sources, as well as new qualitative and quantitative data collected from human subjects. We will collect anonymous data from our pilot study in order to evaluate the efficacy of the platform, however no identifiable data will be collected or mined from the users of the algorithms we develop.

Data collected and processed during the lifetime of the project will consist of raw, analytical and metadata. Data gathered during the project lifetime in the pilot will inform the development and creation on the final algorithms. These data are of utility primary to

understand and assess the potential and limitations of using the disruptive technologies considered in the HECAT project in the interaction of the unemployed with both algorithms and Public Employment Services.

4.0 Ethical use of data for HECAT

The Consortium sets out with the underlining agreement that all activities planned in the context of the HECAT project will comply with ethical principles and relevant national, Union and international legislation (including the Charter of Fundamental Rights of the European Union and the European Convention of Human Rights and its supplementary protocols). To ensure this, the project will comply with the standards, guidelines and principles of the EU General Data Protection Regulation (GDPR). Compliance with GDPR forms the basis of our project's data protection policy, we particularly affirm the following:

- Data subjects have the right to informed consent, including an understanding that participation in the project is optional and that both participation and non-participation will not result in harm
- Data subjects have the right to access their information throughout the life of the project
- Data subjects have the right to inquire, know, and understand how their data will be used
- Data subjects have the right to erasure
- Data will be encoded anonymously

The consortium will respect the human dignity of research participants and their rights to freedom and security. Their personal data will be protected throughout the implementation of the project, and especially in those tasks where potential harms might raise. The HECAT Consortium is comprised of experienced researchers and practitioners who are aware of the fundamental importance of maintaining the highest standards in ethics and research integrity concepts that will respect the basic principles of reliability, honesty, respect and accountability.

The Hecat project will comply with all European standards pertaining to the conduct of research and innovation activities, in particular the protection of any personal or

proprietary data acquired during this process. The Hecat partners are aware of, and will comply with the European Code of Conduct for Research Integrity principles:

- honesty in communication;
- reliability in performing research;
- objectivity;
- impartiality and independence;
- openness and accessibility;
- duty of care;
- fairness in providing references and giving credit; and
- responsibility for the scientists and researchers of the future.

The project recognises the tension between our principle of openness and the need to work within existing frameworks, such that agreements with PES organisations may prohibit certain data from being shared. The project will ensure strict adherence to legal and ethical standards at all times, but beyond that the core goal of the HECAT research is to develop an ethically based algorithm and platform as a decision support tool that will allow individualised allocation of resources to unemployed people. The Consortium has appropriate infrastructures and knowledge for the management and protection of data and research materials. These standards will be outlined further in the Data Management Plan.

5.0 Considering potential ethical issues

HECAT will handle research subjects with respect and care, and in accordance with ethical and legal provisions. The research involves (1) human participation & observation and (2) data collection, longitudinal observation and processing.

In the event of processing of personal data, the HECAT consortium members will minimize the processing of personal data to the amount that is absolutely necessary. Data will not be retained for longer than is absolutely necessary for the purposes of each processing activity. The project will comply with the principle of data minimisation, by limiting the collection and/or storage of personal data, provided any such data are being processed, to the extent that it is necessary, and will not store the data for a period longer than is

necessary for the purposes for which the personal data are processed. While it is not expected that personal data will be processed in the scope of HECAT, should any such data be processed, the project will seek to avoid the participation of any children or minors. Where possible, data will be parsed and anonymized and any personal identifiers will be either hashed or randomly generated.

Participating end-users will be duly informed, ahead of their acceptance to participate, of the personal data protection policy of the project. This information will be provided in a layered, readable and user-friendly mode, using clear and plain language, and will be accessible at any time from the website. Proactive actions will be undertaken to guarantee that the users fully understand and give their consent to the data protection policy of the project. Users will be provided with detailed information about their right to withdraw their consent and cease their participation in the project at any time and to have their personal data completely removed from the platform, in a simple and effective way.

Participants taking part in real-time research will register and participate in HECAT on a voluntary basis. The consortium will ensure that the whole participants recruitment procedure will be equitable. The Consortium also affirms that a key element of our project's ethical approach is to work with the unemployed, rather than to produce an intervention that works on them.

Human participation in the HECAT project includes participation in expert user panel meetings, ethnographic observations of unemployment services, piloting of the technology and feedback from the pilot study.

Expert User Panels

The purpose of the expert user panel meetings is to gather information, knowledge and opinions on the content of the Hecat platform and the features that should exist on the user interface (UX). The participants will be invited to take part in the panel meetings on a voluntary basis. The PES and citizen advocate users are not considered vulnerable but their recruitment or refusal to participate should not impact on their reputation in their place of work. These participants will be asked to sign an acknowledgement of their voluntary participation on the informed consent.

There is a possibility that the citizen end user may be vulnerable. Unemployment is recognised as having negative effects on an individual. It is important that these users are treated with respect and are given assurances that their opinion is important, their self-esteem must not be damaged by participation in these panel meetings.

Ethnographic Observation of human participants

Part of the sociological element of the Hecat project includes carrying out anthropological and ethnographical field work in PES offices. The level and depth of research in the organisation will be at the express permission of a suitable agent representing the host organisation. Researchers participating in these actions will be trained in ethnographical techniques and will be aware of their responsibility to the confidentiality of their hosts and will comply with any rules set out by the host organisation. Each researcher is linked to an academic institution and where required will apply for ethical approval from that institute.

Living Lab testing

End-users and citizens will be asked to test the platform in order to validate the proposed platform solution. These end-users will be selected according to previously designed user archetypes (profiles and roles). These participants will be asked to sign an acknowledgement of their voluntary participation based on principles of informed consent with the understanding that their personal data will be anonymised.

Piloting

For the purpose of piloting the Hecat platform volunteers will be invited to participate. This will involve staff of PES offices and citizens using the platform to make decisions about the citizen's personal unemployment situation. All consortium partners agree that use of the pilot technology will be voluntary and will not impact the citizen user negatively in any way. It should not limit their ability to find employment, place un-due pressure on them to find employment or induce sanctions.

Citizen users will be provided with information regarding their participation in the pilot including their right to quit the pilot and an assurance from their PES that participation will not hinder their chances of finding employment and they will not face sanctions above and beyond that which is standard policy within their PES.

The data collected from the pilot study will be anonymised by the PES before it is analysed by the project team. Citizen users will be given a unique identification that can be used by consortium members to analyse the level of success of the Hecat Platform. A full user profile and piloting plan will be produced in the early phase of the research where details of participants and their interaction with the pilot study and system will be outlined.

Profiling

Profiling has been and is being used in Public Employment Services across Europe and other jurisdictions as a way of channelling individualised resources to their client base. In this way PES aim to provide a more personalised and efficient service and use of their scarce resources. It is within the remit of PES, within local, national and international data protection laws, to carry out analysis on the data that they collect from their clients for this purpose. The term 'profiling' is used for this research proposal as it is consistent with the terminology used by PES and existing tools for decision support and resource allocation within this domain. Profiling refers to the categorisation of the needs of unemployed people and their individual circumstances.

Existing profiling systems in use by PES categorise based on broad demographics, needs and circumstances; the Hecat platform will categorise based on narrow demographics, needs and circumstances, to provide a highly individualised and personalised profile for an unemployed person. Ethical and data protection considerations for this form of profiling are largely contained within the remit of the PES. The pilot PES, ESS and any subsequent pilot sites, will have an existing system of analysing their data, which includes piloting and informing citizen users of how their data is used (under GDPR). For the purposes of this research 'profiling' is considered to be a method of data analysis that is already in existence and which the research will merely refine. Therefore, outside of the provisions laid out in the 'Piloting' section above, it is not necessary to specifically inform the citizen users that they are subject to profiling.

The Consortium ensures that data collection will always be authorized and collected information will only be used for the purposes covered by the Grant Agreement. The HECAT project will involve humans also in the phase of co-design of the pilot projects. Ethical

standards will be respected during all interactions, according to the cardinal principles of the European Code of Conduct for Research Integrity. In any interaction the informal collection of information will be informed by the principles of privacy and confidentiality. In these encounters, partners must always explain the nature and the goal of the HECAT activities and provide essential information about the project.

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