Invasion of Information Systems as a Danger for Human Rights

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Abstract. In recent years, more and more people have been pushed to direct usage of various information systems (IS) developed by governmental, commercial, municipal, and non-governmental organisations. IS were widely used already for a relatively long time – 2 or 3 decades (depending of state), however, people were not pushed to use them directly, they were used by staff members of organisations, so for clients it does not made a difference, do they use an IS or, for example, a paper folder or a file cabinet. Now people are increasingly required to use ISs directly, which makes the process more challenging and potentially dangerous. This article aims to analyse this situation and these processes, trying to classify risks, draw conclusions and provide recommendations.

Keywords: human rights, information system, public service, society.

I. Definition

There are different ways to define what an information system is – it can be based on understanding of data input and output,

> Под **системой** понимают любой объект, который одновременно рассматривается и как единое целое, и как объединенная в интересах достижения поставленных целей совокупность разнородных элементов. Системы значительно отличаются между собой как по составу, так и по главным целям.
> **Информационная система** - это система, осуществляющая: получение входных данных; обработку этих данных и/или изменение собственного внутреннего состояния (внутренних связей/отношений); выдачу результата либо изменение своего внешнего состояния (внешних связей/отношений).
> **Простой** информационной системой назовем систему, элементы которой функционируют в соответствии с правилами, порожденными одним и тем же взаимонепротиворечивым множеством аксиом.

> **Сложной** информационной системой назовем систему, которая содержит элементы, функционирующие в соответствии с правилами, порожденными отличными друг от друга множествами аксиом. При этом допускается, что среди правил функционирования различных элементов могут быть взаимопротиворечивые правила и цели. [1]

of organisation of social processes,

> *sistema de información* Componentes interrelacionados que trabajan en conjunto para recolectar, procesar, almacenar y diseminar información para soportar la toma de decisiones, la coordinación, el control, el análisis y la visualización en una organización. [2]

work with information

> EN **information system** LV **informācijas sistēma** RU **информационная система** Iekārtu, procedūru un personāla kopums, kas ir izveidots, strādā un tiek uzturēts, lai vāktu, uzkrātu, apstrādātu, uzglabātu un izmantotu informāciju. [3]
> Un **système d'information** (SI) est un ensemble organisé de ressources (matériels, logiciels, personnel, données et procédures) qui permet de collecter, regrouper, classifier, traiter et diffuser de l'information sur un environnement donné. [4]

etc. It means IS is a broad term, that can include, for example, computer networks, the Internet, local databases and even a personal computer with a text editor. Of course, for our purposes we are not looking so widely, because our main gain is to analyse social processes and problems initiated by wide-spreading of ISs, thus, a local, personal usage is out of range of our interest and we will focus on its social implications rather than its technical aspects.

However, for us a formal definition is not so important, since in this article we look on this term more informally, from a user's point of view instead of a

professional's one. People see this term more narrowly, because associate it with just the ISs they are using directly and communicating with or via. We will follow this slangy practice and say that <u>IS is a complex of software and data</u> (Of course, some kind of hardware is used by it too, however, in most cases the level of hardware is not directly visible and accessible for end users, so that's why we don't include it in our definition.) <u>controlled by somebody and directly used by a non-empty set of users, where the software has an human-accessible interface and the users are humans</u>.

II. THE SOCIAL ROLE

The social role of ISs was evolved over time as their technical capabilities and accessibility have grown together with the grow-up of information technology at all: from partial usage in book-keeping in the 1950[ties] to all-level usage inside organisations in the 1990[ties]:

> *Первые информационные системы появились в 50-х гг. В эти годы они были предназначены для обработки счетов и расчета зарплаты, а реализовывались на электромеханических бухгалтерских счетных машинах. Это приводило к некоторому сокращению затрат и времени на подготовку бумажных документов.*
>
> *60-е гг. знаменуются изменением отношения к информационным системам. Информация, полученная из них, стала применяться для периодической отчетности по многим параметрам. Дня этого организациям требовалось компьютерное оборудование широкого назначения, способное обслуживать множество функций, а не только обрабатывать счета и считать зарплату, как было ранее.*
>
> *В 70-х - начале 80-х гг. информационные системы начинают широко использоваться в качестве средства управленческого контроля, поддерживающего и ускоряющего процесс принятия решений.*
>
> *К концу 80-х гг. концепция использования информационных систем вновь изменяется. Они становятся стратегическим источником информации и используются на всех уровнях организации любого профиля. Информационные системы этого периода, предоставляя вовремя нужную информацию, помогают организации достичь успеха в своей деятельности, создавать новые товары и услуги, находить новые рынки сбыта, обеспечивать себе достойных партнеров, организовывать выпуск продукции по низкой цене и многое другое.* [1]

Strange that in such a new book the author stops with this period. We see and would like to add three more of them.

<u>2000[ties]</u>: instead of local applications connected via local networks, Web-based intranet systems became wide-spread in many organisations.

<u>2010[ties]</u>: optional ISs of public services became widely used by many (most? – depends on country) people.

<u>2020[ties]</u>: many ISs of public services became compulsory instead of optional.

It is the last period that initiated the topic of this article, thus, we want to talk more and deeper about it.

III. THE PROBLEM

The changes that have transformed ISs from corporate instruments to mass-used technologies are more significant than any changes that happened in the previous half-century. A usage of ISs by professionals, who has a choice to work or not to work at this job, is one case, even these technologies are very different. A usage by a private person, if this person has a choice to use or not to use, i.e., there are alternative ways, how this person can do what he needs – is a principally different situation, but still with a possibility of choice. A usage by any person (or at least by any citizen or any client), without any alternative means of accomplishing the same tasks, constitutes digital coercion, and it raises questions about violations of human rights.

IV. EXAMPLES

We will provide some local examples from Latvia, as we have more experience with Latvian institutions and the conference for which this article is being prepared will be held in Latvia.

1. <u>Banking.</u> The majority of banking services in Latvia are provided by private companies registered in Latvia or other states of the European Union, as well as by one governmental organisation, the Treasury of the Republic of Latvia. Since the pandemic of coronavirus began, the Treasury has provided services only remotely:

> *Valsts kase arī turpmāk pakalpojumus sniegs tikai attālināti.* [5]

Private banking services are still available in person too, however, a comparison of prices

> **Eiropas maksājumi** *Uz citu banku Latvijā vai uz Eiropas maksājumu zonas valsts Ekonomiskais 16:00* **Internetbankā** *0,36* **Filiālē/TB** *5,00* [6]

shows that they are made so high especially, which appears to be an effort to discourage clients from using in-person services at all.

As a result, people are increasingly pushed to use banking via ISs, using both administrative and financial pressure.

2. <u>Tax inspection.</u> Changes to the Law on Taxes and Fees, accepted by the Latvian parliament in 2021, but initiated, off course, by the Inspection itself, require that all communication with the Tax Inspection be electronic,

> *No nākamā gada iesniegumus Valsts ieņēmumu dienestam (VID) nodokļu administrēšanas jautājumos nodokļu maksātāji varēs iesniegt tikai elektroniski. To noteic Saeimā galīgajā lasījumā pieņemtie grozījumi nodokļu un nodevu likumā ...* [7]

as the Inspection seeks to transition from paper to electronic communication – around 18% of declarations were on paper in previous years.

> *VID statistika liecina, ka ik gadu apmēram 18% no gada ienākumu deklarācijām tiek iesniegtas papīra veidā, un to atbilstoša apstrāde VID 2017. gadā izmaksājusi vairāk nekā divus miljonus eiro, norādīts anotācijā.* [7]

However, even in 2023, the Tax Inspection acknowledges that municipalities will assist in submitting declarations in person or that the Inspection will accept paper submissions by snail mail if individuals have no other means of submitting them.

Valsts un pašvaldību vienotajos klientu apkalpošanas centros (VPVKAC) ir pieejams arī jauns e-pakalpojums "Gada ienākumu deklarācijas pieņemšana". Tas paredzēts cilvēkiem, kuriem pašiem nav pietiekamu prasmju vai pieredzes EDS lietošanā. Lai saņemtu šo e-pakalpojumu, cilvēkam jāierodas kādā no VPVKAC un jāaizpilda atļauja jeb speciālpilnvara konkrētā pakalpojuma pieteikšanai. Tādējādi pats klients nekļūst par EDS lietotāju, bet klienta vārdā šo pakalpojumu, proti – Gada ienākumu deklarācijas iesniegšanu EDS, veic pilnvarotais VPVKAC darbinieks.

Un tikai gadījumā, ja cilvēkam nav nevienas no minētajām iespējām, gada ienākumu deklarācijas veidlapas joprojām var izdrukāt VID tīmekļvietnē, aizpildīt un nosūtīt VID pa pastu ... [8]

It would be a good example, how to give people a choice in practice, if such a bad edition of the law would not have been passed.

3. Rural Support Service. This institution has played a significant social role since 2004, when EU subsidies for farmers were first introduced. As many families in the countryside rely on this cantor for financial support, it is crucial for their livelihood. Since 2016, they only accept area payment applications via their online IS.

Lauku atbalsta dienests (LAD) informē, ka, sākot ar šo gadu, pieteikties uz platību maksājumiem varēs tikai elektroniski, izmantojot LAD Elektroniskās pieteikšanās sistēmu (EPS). [9]

Now, they are starting to request to send photos of fields via their mobile application.

Vēstule satur norādes par fotogrāfiju uzņemšanu un iesūtīšanu Lauku atbalsta dienesta mobilajā lietotnē, ja plāno pieteikties Ekoshēmām saistībā ar augsnes kaļķošanu, minimālo augsnes apstrādi, minerālmēslu precīzo izkliedi vai augu aizsardzības līdzekļu precīzo izsmidzināšanu. [10]

Fig. 1. Picture from the homepage of Rural Support Service. The last button of their mobile application is "Ziņot par pārkāpumu" – anybody is welcomed to become a snitch. [11]

The transition from paper maps to electronic ones had both advantages and disadvantages, so people remained more or less in balance. However, the invention of the mobile application appears very concerning, both due to the disproportionate time it may consume and the extent of personal data tracking.

4. Latvian National Centre for Culture. This institution is responsible for organising nationwide culture events, including the Song and Dance Festival (a tradition borrowed by Latvians from Germans, including local ones, in the XIX century). In previous years, registering participants by printed forms was not a problem. However, in 2023 the institution decided to use an IS for the first time to register all participating groups and their members. They started to require group managers to input all information about their groups via an online form

Straujiem soļiem tuvojas XXVII Vispārējie latviešu dziesmu un XVII deju svētki un lai veiksmīgi paveiktu Svētku reģistrācijas procesu, lūgums Jums aizpildīt pielikumā pievienoto piekrišanas dokumentu personas datu apstrādei, lai mēs no savas puses varētu reģistrēt Jūsu māksliniecisko kolektīvu sistēmā, kurā tālāk Jūs kā kolektīva vadītājs (vai administratīvais pārstāvis) varēsiet reģistrēt sava kolektīva dalībniekus. [12]

and to require members to input individual information (including photos) personally via their mobile application.

Līdz 19. martam aicinām reģistrēties XXVII Vispārējo latviešu Dziesmu un XVII Deju svētkiem! Lejupielādē bezmaksas mobilo lietotni Dziesmusvētki savā viedierīcē (telefonā vai planšetē), ievadi tajā savu mobilā telefona numuru un aktivizācijas kodu. [13]

While they currently deny other full-valued registration possibilities, there is a small possibility that they will change it at the last moment – before July 2023.

This situation unfortunately indicates that the management of this governmental culture organisation does not understand the human rights aspects of being a part of nationwide culture processes, even in cases where individuals may not have or not want access to modern information technology and devices.

V. POTENTIAL VIOLATIONS

As we see, this invasion of ISs has the high potential to violate fundamental rights, including:

1. The right to participate in social processes in a traditional form without using information technology.

2. The right not to spend private time doing bureaucratic tasks that should be performed by bureaucracy itself.

3. The right to provide answers in a free form rather than selecting from pre-written options.

4. Increase of risk of data security in comparison to storing data on paper, including hacking, stealing, and copying of users' private data.

5. Increased risk of unsolidarity, snitching and other similar forms of negative social behaviour.

VI. OTHER OPINIONS

Researchers and Human rights organisations (HROs) are widely publishing reports on the increasing danger of human rights violations in digital age, warning that societies do not yet have mechanisms necessary to prevent such violations.

Concern is growing that governments' commitment to their human rights obligations is increasingly tenuous in this era of disruption. In a very short period of time, digital technology has transformed both the means through which human rights are exercised, and the means through which human rights are violated around the globe. Yet, an understanding of how to protect human rights in the digital context is significantly underdeveloped. [14]

Lists of potential digital vulnerabilities of human rights have also been indicated.

... we shift from conceptual to concrete real world challenges, to explore the various ways digital technology may negatively affect actual enjoyment of human rights ... The Digital Divide ... Digitally Facilitated Repression ... Violations in the Name of Security ... Systemic Cyber Vulnerability and Digital Insecurity [16]

The human rights problems initiated by the impact of digital technologies can also be indirect, and this lack of visibility makes them even more dangerous.

... pursue human rights challenges indirectly and tangentially: digital technologies do not necessarily raise human rights questions as their most compelling problems, but their impact upon the enjoyment of human rights are more subtle and pervasive. In other words, the human rights impact of digital technologies may be both secondary and second-order. [17]

These issues have been analysed even at the level of the United Nations,

Digital technologies provide new means to advocate for, defend, and exercise human rights and affect all types of rights - civil and political, as well as cultural, economic and social rights. They shape how people access and share information, form their opinions, debate, and mobilise – they have deeply transformed the "public square". But they are equally used to suppress, limit and violate rights, for instance through surveillance, censorship, online harassment, algorithmic bias and automated decision-making systems. The misuse of digital technologies also disproportionately affects marginalized individuals and groups, leading to inequality and discrimination - both online and offline. [15]

although there is no indication that local bureaucracy follows any of the UN's recommendations.

From a social perspective, it is clear that digitalisation is dangerous and should be controlled from the point of view of human rights. However, significant effort is necessary to push such mechanisms to start working.

Digitalisation essentially provides the infrastructural basis for power, coercion, manipulation to flow. As long as the aim of human rights is oriented towards stemming such excesses, it has a role to play in the implementation and deployment of digital technologies. But, as the different challenges made visible from the system, network and distributor or dissipater perspectives make clear, there is significant work that needs to be done before human rights law mechanisms will be fit for purpose. [17]

VII. CONCLUSIONS

Information systems (ISs) represent one of forms of digital disruption to human rights. They may be more acutely felt by individuals because they directly affect them, rather than operating through some mechanisms of social dispersion, as it happens with other IT developments. This does not necessarily mean that ISs are more dangerous, but it does mean that they are at least more unsettling. And they seem like a step towards a tight automated control of individuals, including permanent biometric monitoring – for instance, banking experts in Latvia predict that this will be implemented within ten years.

Otra lieta, kas būs pēc desmit gadiem jeb precīzāk, kas nebūs – nebūs maksājumu kartes kā fizisks objekts. Tās būs izzudušas. Šāda veida objekti kā identifikatori vairs nebūs nepieciešami, jo pats cilvēks var būt pats lielisks identifikators. Pa vidu nav nepieciešams kaut kāds elements, kas apliecina, kas jūs esat. [18]

After a relatively long period of development in the direction of greater respect for human rights on a global scale, there is now a sense of rollback, both due to the rise of computational technologies, particularly so called artificial intelligence, and some political events, such as the unusually large-scale war in Europe – the Russian invention in Ukraine. We hope that the world will not degenerate to the point where the risks posed by the invasion of information systems are ignored.

For now, it is important for everyone to be socially active in order to minimise the impact of the invasion of ISs. One way to do this is to urge authorities to maintain or establish non-digital alternatives for every service they provide.

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