The Saga of the Covid-19 Contact Tracing Apps: Lessons for Data Governance

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The Saga of the Covid-19 Contact Tracing Apps:

What Lessons for Data Governance?

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Abstract

This note selectively unpacks the rapid evolution of the (Western) debate around the opportunity to deploy contact tracing apps, alongside other digital tools such as apps for symptoms sharing and immunity certificates to mitigate the Covid-19 pandemics. I do so from the perspective of a social scientist interested in the implications of the development of digital tools at times of emergency in terms of data governance. I argue that a more articulated reflection is needed towards the development of a healthy institutional structure that regulates the role of large tech platforms, such as Google and Apple (G&A), and public institutions, in governing data, particularly when health data and public value are involved. I unravel the saga of contact tracing apps in the UK and EU, looking at the technical, legal and ethical aspects and I attempt to draw more general lessons for data governance.

Keywords: Contact tracing apps, data governance, digital applications, digital exclusion, public trust.

Lanier and Weyl (2020) have promptly acknowledged the Taiwanese strategy and described the *proto-model* of the Taiwanese contact tracing app. This consisted of a platform developed in cooperation among the digital minister, a group of local entrepreneurs and the *g0v movement*, and used voluntarily by citizens to share symptoms and locations, promptly verified by the local health centres and collated centrally. The protocol used relies on a centralised repository of data, facilitated by a shared sense of relevant public purpose, and a substantial degree of trust in the government, which Audrey Tang, the young and industrious digital ministeruoete

Feb-March: Deployment of digital tools to mitigate pandemics in Taiwan, South Korea, Singapore, China;
April 3rd: first version of DP3T protocol, international network of academics led by EPFL;
April - : European institutions restlessly debating and releasing guidelines: the issue of centralized versus decentralized solutions dominates the debate;
Mid-April: Google and Apple launch joint Android and iOS support to a decentralized solution for contact tracing apps;
May: UK Parliamentary

personal data. Experts have therefore not ruled out the possibility to link the data collected by the app to some personal information, hence re-identification (data are pseudo-anonymous rather than fully anonymous, making public trust crucial for its adoption). Conversely, a centralised solution might facilitate data collection and analysis, for instance for (compatible secondary) research purpose. A centralised solution that supports contact tracing apps has since been adopted in France,

either a pro-competitive move or a locking in strategy to hamper access to third parties. Enforcing interoperability in APIs can avoid antitrust laws to be hand-tightened in having to [illegible] an anti-competitive act disguised as a pro-security change (Riley, 2020, p. 104).

The E-Health Network has published (13th of May 2020) the Interoperability guidelines for approved contact tracing mobile applications in the EU. The aim is to further develop the interoperability framework in the EU in view of the approval of mobile contact tracing apps. For the purpose of easing cross-border trade and travel, all member states should ensure interoperability to facilitate all app users to rely on a single app, regardless of where they are based and what each member state decides to adopt, whether a fully decentralised app or a centralised one. The EU interoperability protocols should therefore be adapted to allow an interoperable contact-tracing apps, that is standardised with respect to epidemiological criteria. Such interoperability not only allows national lockdown lifting but also borders re-opening, as it facilitates interoperability across national apps, cross-borders contact tracing, as well as data exchange among national health authorities, which depends on how many countries subscribe the centralised app.

There is convergence in considering that enforcing interoperability across several relevant dimensions within the digital platform system, and particularly on large tech might help achieving a trustworthy environment, particularly at times of emergency, when trust is key. I wonder whether this is an unprecedented opportunity at a critical moment, for competition and trust laws to be enforced once the app is fully relying on Google and Apple ¶ operation systems.

The recipients of public trust and adoption rates

One of the most controversial and yet crucial points regu27.46 4<.4_0 yde 12 Tfdx mom(app)4 17 Tfdx

However, a preliminary study by Simko et al. (2020) finds that a high percentage of the (unrepresentative) sample of the population surveyed did not trust their government would delete their data at the end of the emergency (72%) or would use their data only for contact tracing purposes (65%) though a good third of the respondents (26%) would expect their data to be used for research purposes related to pandemic mitigation.

Despite these preliminary results, it is somewhat surprising that people are more at ease with having their Apple and Google platforms, rather than their government (or their public health agencies, and even less the WHO or the UN), involved in contact-tracing apps and collecting their data for public purpose. If further corroborated, this is a very interesting and policy informing finding. I will return on this below.

To summarise, over the last three months, and at a remarkably fast pace, there has been a substantial fragmentation of national digital response to the pandemics, an understandable shock that permeated the public debate, and a restless work at the European level to guide and regulate the public response to the emergency. I have highlighted three main issues on the digital response to Covid-19 and that stood- R X W L Q W K H G H E D W H 7 K H I L U V W F choice and the European guidelines on the use of a decentralised or centralised approach to the contact tracing app, with different implications for personal data protection and other GDPR principles. The second one is the prospective enforcement of interoperability to ensure all these digital tools to be operated across-country. The third one is the extent to which there has been transparency of communication on how the personal data collected are to be re-used for compatible secondary purposes, in line with the EU guidelines. All of these issues affect the level of trust that citizens have in public institutions, hence the level of adoption of the app, which is a key ingredient for its effectiveness.

Striking the right balance between techno-determinist and techno-phobic to build up public trust: the UK saga

In the UK, the debate has been intense, among different circles, including academics, particularly privacy law and engineering experts, and independent institutions such as the Ada Lovelace Institute. A remarkably balanced view is offered in the Rapid Evidence Review 'Exit through the App Store', which unpacks and systematises the multiple layers of risks of rushing into a national deployment of contact tracing apps, highlighted also by Robin Mansell in her blog Coronavirus contact tracing apps: A proportionate response?

First, as mentioned, the **technical specification**

A summary of the technical, regulatory and ethical issues in the saga

The fast unravelling of the contact tracing saga since mid-March 2020 has provided some ground for a first-

However, I am surprised that the role of large techs in this landscape has not been sufficiently put under scrutiny in the public debate, for instance by institutions such as the Ada Lovelace Institute. Some preliminary surveys across the

References

Ada Lovelace Institute (2020). Covid-19 Rapid Evidence Review: Exit Through the App Store? https://www.adalovelaceinstitute.org/our-work/covid-19/covid-19-exit-through-the-app-store/.

Apple and Google partner on the use of contact tracing technology (April 10, 2020).

Boiten Eerke, Why we need to know more about the UK government's Covid-19 data project - and the companies working on it. The Conversation, June 24 2020

Edwards, Lillian, Michael Veale, Orla Lynskey, Rachel Coldicutt, Nóra Ni Loideain, Frederike

Simko, L, Cako R., Roesner F. and Kohno T. (2020). COVID-19 Contact Tracing and Privacy: Studying Opinion and Preferences. May 2020, https://seclab.cs.washington.edu/research/covid19/

Troncoso, Carmela, Mathias Payer, Jean-Pierre Hubaux, Marcel Salathé, James Larus, Edouard Bugnion, Wouter Lueks, Theresa Stadler, Apostolos Pyrgelis, Daniele Antonioli, /XGRYLF %DUPDQ 6\OYDLQ &KDWHO .HQQHWK 3DWHUVRQ Dennis Jackson, Marc Roeschlin, Patrick Leu, Bart Preneel, Nigel Smart, Aysajan Abidin, Seda G •rses, Michael Veale, Cas Cremers, Michael Backes, Nils Ole Tippenhauer, Reuben Binns, Prof. Ciro Cattuto, Dr. Alain Barrat, Dario Fiore, Manuel Barbosa, Rui Oliveira, José Pereira, (2020). White Paper on Decentralised Privacy-Preserving Proximity Tracing. https://github.com/DP-3T/documents/blob/master/DP3T%20White%20Paper.pdf.

Zanfir-Fortuna, Gabriela (2020). European Union Data-Based Policy Against the Pandemics, Explained. Future of Privacy Forum, April 30 2020.

Vaidhyanathan, Siva (2020). Facebook and the Folly of Self-Reb13FF.02 8ion. Wired, 9 May 2020.

WFF.02 8ers, Richard (2020). Big Tech searches for a way back inF.02 8o healthcare, Ri34 Tda6 8e

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