Yorn (News Articles)

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7. https://www.nytimes.com/2020/03/01/business/china-coronavirus-surveillance.html
8. https://www.nu.nl/tech/6044145/apple-en-google-werken-samen-aan-technologie-voor-corona-apps.html

Summary

Currently we are discussing implementing a Corona app in the Netherlands. This has been in the news for some time now. To create a better view on the possibilities of the corona app information can be gathered by comparing how countries tackle problems in the making of this app. It is also discussed what the results were of implementing the app in some of these countries.
In the UK the COVID Symptom Tracker app has been downloaded many times (Wakefield, 2020). But this app was introduced early on in this crisis. This app is more used for understanding the COVID-19 virus rather than take the spread of the virus to a hold. It asks the users to describe symptoms, if they have any, on a daily basis, as well as to give a temperature reading. However, the National Health Service, the country's health care provider, is developing its own app with input from academics, corporations and officials. (Ingram & Ward, 2020)
As of this week, the government of Australia has released the 'COVIDSafe' app to contain the Corona outbreak in their nation (Worthington, 2020). Their Prime minister has stated that the app is essential to ease corona related restrictions across the country. However, the app remains voluntarily to download and it will be illegal to force anyone to download it. The app will work with Bluetooth to alert the user he/she has been within 1.5 meters of fellow app user. When neither of them are confirmed corona cases, the data will be deleted after 21 days. But when one user has tested positive and agreed to share this in the app, the alert will be sent to a central server after which state and territory health authorities can access it and contact this user. "It is just an additional measure along with all the other measures that have been put in place and will continue to be put in place to manage the COVID-19 pandemic in Australia." said Annie Butler, the national secretary of the Nursing and Midwifery Association.
Australia thus has made it's own app. However, Google and Apple stated they will work together in the development of underlying technology for corona-apps, which will work with Bluetooth (NU.nl, 2020). This has led to critique by German app developers who plead for an European approach to a corona tracing app(Reuters, 2020).

> *"We do not think it is the best solution that Google and Apple own the server on which all the contacts plus the medical status of citizens around the world are uploaded," Teicke, founder and chief executive of insurance tech firm Wefox Group, told Reuters.*
> *"What we need is an independent party that allows governments some kind of control over what happens with this medical and contact data."*

Nevertheless, Google and Apple stated that they will not store any data and let authorities to control the relay servers if they do want to. These servers would relay scrambled messages between smartphones and only the phones themselves could unscramble them when the authorities do not control these servers.

Singapore has been praised for it's approach to fight against the Corona virus, under which the use of an app. Their app, TraceTogether, uses, just like the other apps, Bluetooth to alert other users in their environment. If later on a user has been confirmed with the virus, inspectors can see with whom they had contact. Any privacy concerns have been overcome by not tracing location, but only the phone number and type of smartphone.
A case in which these privacy related concerns cannot be overcome is The Alipay Health Code system in China (Mozur, Zhong, & Krolik, 2020). The government is requiring users to use software on their smartphones that dictates whether they should be quarantined or allowed into subways, malls and other public spaces.

> *In Hangzhou, it has become nearly impossible to get around without showing your Alipay code. Propaganda-style banners remind everyone of the rules: "Green code, travel freely. Red or yellow, report immediately."*

Neither the company nor Chinese officials have explained in detail how the system classifies people. The New York Times even found out that a program labeled "reportInfoAndLocationToPolice" sends the person's location, city name and an identifying code number to a server. Each time a person's code is scanned — at a health checkpoint, for instance — his or her current location appears to be sent to the these servers. This could allow the authorities to track people's movements over time. The app seems to work mainly location wise and even gives users a red label when they do not have symptoms probably based on their location.
Only a few countries who have developed/are developing corona app are discussed. Noticeable, many apps are using Bluetooth technology to detect if another user (who may have been tested positive on the virus) has been nearby. Others make use of the location of the users. In some of these examples privacy and data is already discussed, which is the main subject of discussion for these apps. An overview of which type of tracing technique countries are using and what type of data is shared with whom is listed below (Mous & Janssen, 2020) :

Country	**Tracing Technique**	**Type of data**	**Accessible for**	**Anonymous?**	**Status**	**Voluntarily?**
Germany	Smartband/watch with App	Location, Demographic info and gathered data from Smartband/watch app,	Robert Koch Instituut (RKI)	No (Pseudonym/ User ID)	Online	Yes
Belgium	Bluetooth App	Location + Time, contact with others	Not known	Not known	Not coming (yet)	n.a.
Switzerland	Analysing phone data	Location (to see patterns)	Government	Not known	Used	No
United Kingdom	Bluetooth App (maybe GPS)	Location(Movements) and Contacts	National Health Service (NHS)	Not known	Development	Yes
Ireland	Bluetooth App	Not known	Not known	Not known	Development	Yes
Iceland	GPS App	Mobile number, Location,	Contact Tracing Team	No	Online	Yes
Italy	Bluetooth app	Contacts, medical	Not known	Yes	Development	Yes

Spain	App / tracking phone data	Symptoms, location	DataCovid (stud y)	Yes	Developme nt	Yes
Cyprus	GPS App	Location, tested positve or not	Not known	Yes	Available for Android	Yes
France	Bluetooth App	Personal information	not known	No (Pseudonym/ User ID)	Developme nt	Yes
Austria	Bluetooth App	If positive then phone number, else User ID	Red Cross	No (Pseudonym/ User ID)	Onlnie	Yes
Poland	Selfie App	Selfies (Face recognition), Location	Minister of Digital affairs	No	Online	No
Russia	Tracing App	users' calls, location, camera, storage, network information, and other data	Government	No	Online	Not known
Turkey	Tracking phone data	Location, ability to text/call	Government	No	Online	No
United States	Tracking phone data	Location	Center for Disease Control and Prevention (CDC)	not known	Used	No
China	Several Apps (GPS/color code app)	Location, personal data	Government/po lice	no	online	No
Singapore	Bluetooth app	Distance + time spent with other users	Stored locally, if positive sent to users in contact and health professionals.	No	Online	Yes
South-Korea	everything that is possible	Location, time, payments, personal info, almost everything	Government, public	No	Online	No
India	Selfie App	Selfies (Face recognition), Location	Minister of Digital affairs	No	Online	No
Taiwan	Phone data	Location, off/on status phone	Government / police	No	Online	No
Hong Kong	wristbands + app	Location (in or out of house)	Government	No	Online	No
Israel	App (not known which type)	Location, time, all relevant data from phone	Government, Shin bet, Ministry of Health, Police	No	Taken offline	No
Iran	GPS App	Location, movement,	Government	No	Online	No

		personal information				
Pakistan	Phone data	Location	Government	No	Online	No
Australia	Bluetooth App	Location, Time, distance	Stored locally, if positive sent to users in contact and health professionals.	No	Online	Yes
New-Zealand	Singapore like App	Distance + time spent with other users	Stored locally, if positive sent to users in contact and health professionals.	No	Interested	Yes
Argentina	phone data	(Heatmap from) movements	Grandata	No	Used	Yes
Ecuador	Satellite and GPS	Location	Government	No	Online	No
Brazil	Location map tracking (?)	Location	Government	No	Online	No
Morocco	Information Apps	Chat + Information exchange	not known	Yes	Online	Yes
South-Africa	Phone data	Location	Government	not known	Used	No
Netherlands	Bluetooth App	Location	Government	Yes	Development	Yes

Overall we can distinguish 4 different approaches towards fighting against the spread of corona with use of technology. In all 4 categories there are again small differences, e.g. working of the app or sharing data, but these are the main categories in terms of privacy.

- Countries which do nothing
  Some countries, such as Denmark (not included in the table above), do nothing/haven't done anything with use of technology against the spread of the corona virus. Most of these countries have set early measures against the virus and therefore do not need apps or similar tracing possibilities.

- Countries who trace phone data
  These countries, such like South-Africa and Argentina, do not use any apps against the corona virus. However, they track phone data to understand the spread of the virus and see if their measures are working. To some extend it can be said that this is violating privacy since the location of phone users is shared. It is different for every country to wat extend this data is anonymous and how transparent the government of these countries are about this data.

- Countries which use app(s) but respect user anonymity
  These countries, such like Singapore, use apps to trace the location of their users, but this information is stored locally and only sent to users who have been in contact with a positive tested user. In some cases it is also sent to the government and/or health professionals.

- Countries which do not care about privacy
  Countries like Poland, Russia or China do prohibit their citizens or positive tested citizens to download an app and share a huge amount of data with their government or other instances. In some cases it is even more violating privacy because this data is made public (South-Korea).

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