

Risks and Limits of covid-19 tracing app

Véronique Cortier, CNRS research director (France)

<https://members.loria.fr/VCortier/>

Domain of expertise : security, privacy

Co-author of a [document explaining tracing risks](#) to the public together with a group of 14 researchers

Non conflict of interest disclosure : I am not involved in the development of any tracing app.

Note : I love when tech can help. I work on the development of e-voting systems. But I **always** take into account the risk-benefit ratio.

Risks of tracing apps

No guaranteed privacy

All proximity tracing systems enable a motivated attacker to identify the infected people she has been in close proximity to.

False alarms

An attacker can trigger false alerts about encounters with an infected person that do not reflect real-world physical proximity.

acknowledged in the DP-3T security analysis

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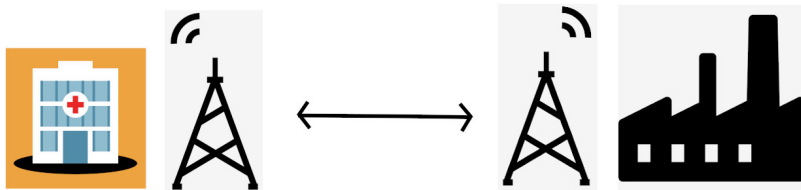
- ▶ A motivated neighbour can learn who is infected in his building
- ▶ A motivated organisation can do that too, on a larger scale
- ▶ Depending on the app : the state and/or Google and Apple have the ability to learn who is infected

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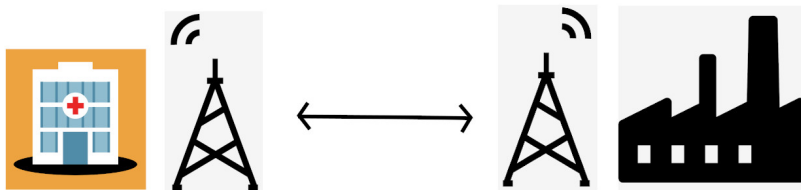
An attack scenario



Scenario (RansomWorkers)

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- ▶ Cyberattacks have a huge cost :
 - ▶ Saint Gobain : 220 millions euros
 - ▶ WannaCry : estimated about 1 billion dollars
- ▶ Tracing apps offer a new business to hackers
- ▶ **More scenarios in our document**

A contact tracing application - really?



Illustration of the Robert (French) covid-19 tracing app

A contact tracing application - really?



A contact tracing application - really?

Numerous false alarms



Bluetooth is not designed to measure distances

- ▶ Apps cannot detect masks, walls, windows...
- ▶ Real exposures are missed too (exposed surfaces)

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- ▶ Apps cannot detect masks, walls, windows...
- ▶ Real exposures are missed too (exposed surfaces)
- ▶ **Many workers put in quarantine due to false alarms**
→ additional cost to companies and health system

Where are the studies that prove accuracy?

But we need something!

- ▶ The pandemic kills thousands of people everyday
- ▶ The economy is severely at risk (bankrupts, unemployment)
- ▶ Anything that can help is useful,
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Which complement ?

Where are the studies showing that tracing apps can help fighting the pandemic *in complement* to other techniques ?

Why is Singapore stepping back from anonymous tracing apps ?

A question for you

Would you deploy a medical treatment
without estimating its effectiveness first?

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While knowing the side effects :

- ▶ fragile privacy
- ▶ malicious false alarms
 - blackmail on people, companies
 - jeopardize the health system
- ▶ on the middle term : undermining citizens' rights
 - diminishing GDPR, already?

Want to learn more ?

Our document on the risks of tracing apps is available online :

- ▶ (in French) <https://risques-tracage.fr/>
- ▶ (in English) <https://tracing-risks.com>

Statement from the Europe TPC of the ACM

Technology Policy Committee of the Association for Computing Machinery

- ▶ "at this time known contact tracing apps cannot fully preserve individual privacy and anonymity"
- ▶ lists best practices
 - we'll need a lot of time to do things right

<https://www.acm.org/binaries/content/assets/public-policy/europe-tpc-contact-tracing-statement.pdf>

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