

**NAME:** Corona Contact Tracing App 

**DATE:** April 30, 2025 8:11 AM

**DESCRIPTION OF TECHNOLOGY**  
 This is an analysis of the Dutch corona contact tracing app (Coronamelder). The app is a mobile application that helps to map corona infections. The app works on the basis of bluetooth. Whenever your phone (with the app) is near another phone (with the app), a digital 'handshake' follows. If you become infected later, everyone who has been in your area during a certain period can be notified....

**HUMAN VALUES** 

The app has a lot of impact on users. People are reduced to a few values: infected, potentially infected or not potentially infected. Or maybe user or 'refuse-to-user'. Because the disease has very variable syndromes and the app will not work perfectly, that is a complicated categorization. Are you infected with severe symptoms or infected and asymptomatic? Are you rightfully potentially infected or not? Are you rightfully potentially not infected or not? Are you responsible. You can not use the app and still be responsible...

**TRANSPARENCY** 

It is important to explain how the technology works. When does someone get infected status? Who does that? When will other users be notified of a potential contamination? What does the status of potential contamination mean? What happens to the collected data? This is all very well explained.

There is no underlying business model.

**IMPACT ON SOCIETY** 

There is a corona crisis. A new virus leads to a disease that affects many people, as many people are susceptible to it. The disease is deadly for a small group of people. In most cases these are elderly and / or vulnerable people. Because the disease spreads quickly, many people end up in hospital and in ICU, leading to an overload of the care system and - in the worst case - a situation where not everyone receives the care they deserve. This has to be prevented.

...

**STAKEHOLDERS** 

- Corona Contact App User
- 28/5000 Corona Contact App 'Refusor'
- Government (bodies)

**SUSTAINABILITY** 

It is to be expected that the corona app will consume more energy because of the intensive use of bluetooth, which means that phones will have to be charged more often. The data is stored on servers. These also consume energy.

In the light of the current debate, the current crisis and the temporary nature of the corona app, this does not seem very important now.

**HATEFUL AND CRIMINAL ACTORS** 

In the app you can change your status to infected but only with a certified code. If you hack the code you can use that to get other people into trouble. You can go to shops, hairdressers, you can stand near people, hang out in front of their houses, etc ... to also give other people the status of infected. Also if you are infected, and you choose to let people know about it via the app, then you know who knows. So you can shame other people for not going into quarantine or not using the app....

**DATA** 

Yes, the limitations are clear. The data that is collected is about proximity to other phones (not people) and it is unclear what barriers exist between the phones. A cashier behind glass, who is infected, can potentially (digitally) infect people all day long, without actually infecting them.

The limitations of the data are deliberate choices, as they contribute to the anonymity of the app.

...

**FUTURE** 

The best solution is a vaccin, but maybe the corona contact app helps to contain the virus, because it stimulates responsible behavior. It is important to immediately terminate the app after the crisis, or new problems will arise.

**PRIVACY** 

No, it does not. The app registers with which other phones you have been in contact (via bluetooth). This is done by randomly generated numbers. There is no data on persons, location or other things that can be traced back. The data is stored anonymously and used for research into the spread of the corona virus. The app is downloaded via Apple and Google, it is unclear if and how this information is registered. Using/downloading the app is also very personal sensitive information.

**INCLUSIVITY** 

There is a strange contradiction in the app. A goal of the corona app is to keep society as 'open' as possible and at the same time prevent the spread of the virus. However, professions that are important for the vital infrastructure, such as people in health care, parcel deliverers, teachers, etc ... are much more in contact with people and have a much higher chance of becoming potentially infected, this - if they then isolate themselves - can have a negative impact on keeping the economy open....

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**HUMAN VALUES** 

**How is the identity of the (intended) users affected by the technology?**

To help you answer this question think about sub questions like:

- If two friends use your product, how could it enhance or detract from their relationship?
- Does your product create new ways for people to interact?...

**TRANSPARENCY** 

**Is it explained to the users/stakeholders how the technology works and how the business model works?**

- Is it easy for users to find out how the technology works?
- Can a user understand or find out why your technology behaves in a certain way?
- Are the goals explained?
- Is the idea of the technology explained?
- Is the technology company transparent about the way their...

**IMPACT ON SOCIETY** 

**What is exactly the problem? Is it really a problem? Are you sure?**

Can you exactly define what the challenge is? What problem (what 'pain') does this technology want to solve? Can you make a clear definition of the problem? What 'pain' does this technology want to ease? Whose pain? Is it really a problem? For who? Will solving the problem make the world better? Are you sure? The problem definition will help you to determine...

**STAKEHOLDERS** 

**Who are the main users/targetgroups/stakeholders for this technology? Think about the intended context by...**

When thinking about the stakeholders, the most obvious one are of course the intended users, so start there. Next, list the stakeholders that are directly affected. Listing the users and directly affected stakeholders also gives an impression of the intended context of the technology.

...

**SUSTAINABILITY** 

**In what way is the direct and indirect energy use of this technology taken into account?**

One of the most prominent impacts on sustainability is energy efficiency. Consider what service you want this technology to provide and how this could be achieved with a minimal use of energy. Are improvements possible?

**HATEFUL AND CRIMINAL ACTORS** 

**In which way can the technology be used to break the law or avoid the consequences of breaking the law?**

Can you imagine ways that the technology can or will be used to break the law? Think about invading someone's privacy. Spying. Hurting people. Harassment. Steal things. Fraud/identity theft and so on. Or will people use the technology to avoid facing the consequences of breaking the law (using trackers to evade speed radars or using bitcoins to launder...)

**DATA** 

**Are you familiar with the fundamental shortcomings and pitfalls of data and do you take this sufficiently into...**

There are fundamental issues with data. For example:

- Data is always subjective;
- Data collections are never complete;
- Correlation and causation are tricky concepts;
- Data collections are often biased;...

**FUTURE** 

**What could possibly happen with this technology in the future?**

Discuss this quickly and note your first thoughts here. Think about what happens when 100 million people use your product. How could communities, habits and norms change?

**PRIVACY** 

**Does the technology register personal data? If yes, what personal data?**

If this technology registers personal data you have to be aware of privacy legislation and the concept of privacy. Think hard about this question. Remember: personal data can be interpreted in a broad way. Maybe this technology does not collect personal data, but can be used to assemble personal data. If the technology collects special personal data (like...

**INCLUSIVITY** 

**Does this technology have a built-in bias?**

Do a brainstorm. Can you find a built-in bias in this technology? Maybe because of the way the data was collected, either by personal bias, historical bias, political bias or a lack of diversity in the people responsible for the design of the technology? How do you know this is not the case? Be critical. Be aware of your own biases....

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