Contact tracing application

The contact tracing application will aid in preventing the spread of infectious disease through the tracing of people and if they have been in contact with people who are infected.

Technology Impact Cycle Tool

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Impact on society
What impact is expected from your technology?

What is exactly the problem? Is it really a problem? Are you sure?
The problem is that people that are infected with an infectious disease don't necessarily have symptoms of that disease but still can spread it. Once the infected person does realize he is infected he of course wants to warn the persons he has been in contact with. This application helps keeps track of the people that he has been in contact with and are at risk of infection.

Are you sure that this technology is solving the RIGHT problem?
This technology is needed because there is no other technology that can keep track of this amount of people with this amount of detail.

How is this technology going to solve the problem?
By keeping track of people and notifying them when someone gets infected will decrease the spread of Covid

What negative effects do you expect from this technology?
The tracing feature could be used in a bad manner by bad actors but by anonymizing the data this problem will be decreased for the most part.

In what way is this technology contributing to a world you want to live in?
In a way that reduces the spread of Covid and makes it possible to return to a more regular way of living.

Now that you have thought hard about the impact of this technology on society (by filling out the questions above), what improvements would you like to make to the technology? List them below.
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Hateful and criminal actors
What can bad actors do with your technology?

In which way can the technology be used to break the law or avoid the consequences of breaking the law?
This application can't be used to break the law or to avoid the consequences of breaking a law. The application itself can break the law if privacy/the handling of data isn't done correctly but ill come back on this in later subjects.

Can fakers, thieves or scammers abuse the technology?
No, because there isn't relevant data in the application that these groups of people could use in a negative way.

Can the technology be used against certain (ethnic) groups or (social) classes?
The tracing pitfall can be used against specific individuals but not against a whole group.

In which way can bad actors use this technology to pit certain groups against each other? These groups can be, but are not constrained to, ethnic, social, political or religious groups.
The application could be used in the discussion between groups that do believe Covid is a problem and don't believe Covid exists. These discussions could be between religious, social, and political groups because of various reasons.

How could bad actors use this technology to subvert or attack the truth?
Bad actors could take the opinion that Covid isn't real or isn't a problem and in that way attack the truth and the people that do believe that Covid is a problem.

Now that you have thought hard about how bad actors can impact this technology, what improvements would you like to make? List them below.
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Privacy

Are you considering the privacy & personal data of the users of your technology?

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

Yes the location of the user is actively traced during the use of the application. To prevent that this can be functionality can be used to trace people all data about a individual is anonymized. This means that both the developer and possible intruders can't use the application to trace individuals.

Do you think the technology invades the privacy of the stakeholders? If yes, in what way?

Yes, the application actively keeps track of someone's live position.

Is the technology is compliant with prevailing privacy and data protection law? Can you indicate why?

Yes, because nearly no personal data is registered. This is because it isn't needed for the use of the actual functionality of the application.

Does the technology mitigate privacy and data protection risks/ concerns (privacy by design)? Please indicate how.

The location data is anonymized so that this can't be used to trace people. As said before by design almost no personal information is recorded from the users.

In which way can you imagine a future impact of the collection of personal data?

The impact would be very low since almost no data would be collected.

Now that you have thought hard about privacy and data protection, what improvements would you like to make? List them below.

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Human values

How does the technology affect your human values?

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

In a way, the use of this application does influence the identity of the user because the application acknowledges that Covid is a real threat to society and so using the application also means that in the opinion of the user that Covid is a problem or at least a threat that needs to be managed.

How does the technology influence the users' autonomy?

If a user gets a notification that they were in contact with someone with Covid they should quarantine themselves which would limit their autonomy drastically for a period of a week or two.

What is the effect of the technology on the health and/or well-being of users?

The application would safeguard the health of the user an especially people in their direct surroudings.

Now that you have thought hard about the impact of your technology on human values, what improvements would you like to make to the technology? List them below.

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Stakeholders
Have you considered all stakeholders?

This category is only partial filled.

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

Name of the stakeholder
Governments

How is this stakeholder affected?
This stakeholder needs to make decisions if new safety measures are needed or not. They could use the data from the application to make these decisions.

Did you consult the stakeholder?
Yes

Are you going to take this stakeholder into account?
Yes

Name of the stakeholder
Health care workers

How is this stakeholder affected?
These stakeholders would benefit from the widespread use of the application would lead to lower infection rates and this would lead to lower strain on hospitals and ICU's

Did you consult the stakeholder?
Yes

Are you going to take this stakeholder into account?
Yes

Name of the stakeholder
Individuals who are vulnerable to diseases

How is this stakeholder affected?
As said earlier the application will result in lower infection rates. This means that people that are vulnerable have less risk of getting Covid which can influence their well being.

Did you consult the stakeholder?
Yes

Are you going to take this stakeholder into account?
Yes

Did you consider all stakeholders, even the ones that might not be a user or target group, but still might be of interest?
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Now that you have thought hard about all stakeholders, what improvements would you like to make? List them below.
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Data
Is data in your technology properly used?

Are you familiar with the fundamental shortcomings and pitfalls of data and do you take this sufficiently into account in the technology?
The fact is that an individual that gets Covid needs to test themselves and if they are tested positive for Covid they themselves have to indicate that they did test positive. This all is a big ask for a lot of users.

How does the technology organize continuous improvement when it comes to the use of data?
With improved technology data could be gathered in a more accurate way which would improve the number of correct notifications.

How will the technology keep the insights that it identifies with data sustainable over time?
Almost all the data is only useful for the application furthermore since the application is developed by the government the data won't be sold. The data could be used to further develop the application in the future.

In what way do you consider the fact that data is collected from the users?
user data is stored and used for the functionality of the application but is not sold to other parties.

Now that you have thought hard about the impact of data on this technology, what improvements would you like to make? List them below.
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Inclusivity
Is your technology fair for everyone?

This category is only partial filled.

Will everyone have access to the technology?
This question has not been answered yet.

Does this technology have a built-in bias?
No, as far as I am aware there are no built-in biases for any user.

Does this technology make automatic decisions and how do you account for them?
This question has not been answered yet.

Is everyone benefitting from the technology or only a a small group? Do you see this as a problem? Why/why not?
This question has not been answered yet.

Does the team that creates the technology represent the diversity of our society?
This question has not been answered yet.

Now that you have thought hard about the inclusivity of the technology, what improvements would you like to make? List them below.
This question has not been answered yet.

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Transparency
Are you transparent about how your technology works?

This category is only partial filled.

Is it explained to the users/stakeholders how the technology works and how the business model works?
Technically there isn't a real business model with this application the development was made possible by the government and if the use is extensive enough the decrease of the spread of Covid could result in lower costs for the health care system.

If the technology makes an (algorithmic) decision, is it explained to the users/stakeholders how the decision was reached?
This question has not been answered yet.

Is it possible to file a complaint or ask questions/get answers about this technology?
This question has not been answered yet.

Is the technology (company) clear about possible negative consequences or shortcomings of the technology?
This question has not been answered yet.

Now that you have thought hard about the transparency of this technology, what improvements would you like to make? List them below.
This question has not been answered yet.

Sustainability
Is your technology environmentally sustainable?

This category is only partial filled.

In what way is the direct and indirect energy use of this technology taken into account?
The application will use the energy from a user's phone or another mobile device. The servers where the data and the application is hosted will use a lot of energy to keep everything running. However, this energy could be sourced climate-friendly.

Do you think alternative materials could have been considered in the technology?
This question has not been answered yet.

Do you think the lifespan of the technology is realistic?
This question has not been answered yet.

What is the hidden impact of the technology in the whole chain?
This question has not been answered yet.

Now that you have thought hard about the sustainability of this technology, what improvements would you like to make? List them below.
This question has not been answered yet.

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Future
Did you consider future impact?

This category is only partial filled.

What could possibly happen with this technology in the future?
This application could even be used after Covid for other contagious diseases to limit the spread of the and to ensure that the pressure on hospitals is as low as possible.

Sketch a or some future scenario (s) (20-50 years up front) regarding the technology with the help of storytelling. Start with at least one utopian scenario.
This question has not been answered yet.

Sketch a or some future scenario (s) (20-50 years up front) regarding the technology with the help of storytelling. Start with at least one dystopian scenario.
This question has not been answered yet.

Would you like to live in one of this scenario's? Why? Why not?
This question has not been answered yet.

What happens if the technology (which you have thought of as ethically well-considered) is bought or taken over by another party?
This question has not been answered yet.

Impact Improvement: Now that you have thought hard about the future impact of the technology, what improvements would you like to make? List them below.
This question has not been answered yet.