Find My Teacher

A software implementation that allows teachers to share their location and students can find them at Fontys buildings on a map.

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?
Often students need to get into a personal contact with teachers which often is a time consuming process as messaging and mailing the teachers is not the fastest approach to find them. Our application aims to make it clear that teachers want to be found. It allows for students to find them.

Are you sure that this technology is solving the RIGHT problem?
We focus primarily on both teachers and students where a teacher shares his location and a student can see their location shared.

How is this technology going to solve the problem?
Teachers can choose to share or not their location. Students in term are able to search a desired teacher and view their location if they are currently serving it. They are also able to get directions to this location. This way a student can quickly know a teacher's location and quickly navigate to that location.

What negative effects do you expect from this technology?
Negative effect that may rise is unwanted attention, invasion of the private space and in extreme cases maybe to a physical harm. Some students can overuse the application and use most of the teachers' free time.

In what way is this technology contributing to a world you want to live in?
As students we often need a specific teacher for a certain question and by creating this application we can resolve that seek for help.

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.
TBD

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?
The location is something private and by sharing it we can enter someone's personal space. If we encounter a data leak, this will be risky for the teachers. As the application tracks the possition of its user this may result in a student missusing this information and further to spy/stalk on teachers, invade their privacy even hurting them when they know a teacher is alone.

Can fakers, thieves or scammers abuse the technology?
The application may be used for stalking the teachers and in extreme cases maybe for a physical harm.

Can the technology be used against certain (ethnic) groups or (social) classes?
Students may be bias towards certain groups of people and as a result try to approach a teacher of that group with bad intent which may include ridicule up to physical harm.

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.
Our application does not include any personal information which can result in dividing the users into social and ethnic groups. In this way we avoid bad behavior against each other.

How could bad actors use this technology to subvert or attack the truth?
Teachers may position their electronic device that shares their location in a different location than where they are. This can be a problem if a teacher has bad intentions.

Now that you have thought hard about how bad actors can impact this technology, what improvements would you like to make? List them below.
The only way bad actors can abuse our technology is to gain constant access to certain teachers location in the university. In this way even if the teachers does not want to be found, he can be invaded by the user. The way we avoid this type of situation is that we have a certain security preventing

this to happen.

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?

The application stores a user's name, PCN and location.

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

The application can invade the teachers' privacy if they forget to stop sharing their location or the students overuse the system which can take the teachers' whole free time. If teachers do not want that, they are free to stop sharing their location whenever they want.

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

Our application will be covering the usual GDPR - compliant. We will ensure that non of the data we collect will result in bad usage. The way we control that is up to us and we will do everything possible to keep our users safe.

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

Our application promps the teacher asking them if they want to share their location before sharing their location, when loggin out the application stops sharing the location of the teacher thus removing the risk of always sharing the location.

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

Since the data is not shared with other parties there are no risks or negative impact of the users life.

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

At this point we cannot state what we will want to improve. We are still in development process so it is hard to say without any testing.

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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?
No, we do not affect the identity of the users.

How does the technology influence the users' autonomy?
We ensure that all the users can make their own decision about their location sharing. Each user can allow and decline depending on his choice.

What is the effect of the technology on the health and/or well-being of users?
We do not have direct impact of the users health and wellbeing.

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.
TBD

Stakeholders
Have you considered all stakeholders?

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

Name of the stakeholder
Wetzer, Flip J.P.A.

How is this stakeholder affected?
Flip Wetzer is the client of this project. He is affected when the project is not finished and he will not receive his product.

Did you consult the stakeholder?
Yes

Are you going to take this stakeholder into account?
Yes

Name of the stakeholder
Koehorst, Michiel M.W.

How is this stakeholder affected?
Michiel Koehorst is the mentor of the developers the application. He also expects working application.

Did you consult the stakeholder?
Yes

Are you going to take this stakeholder into account?
Yes

Name of the stakeholder
Strahilov, Kristiyan K.D.

How is this stakeholder affected?
As a developer this person is affected when he does not finish the project which will lead to failing the semester.

Did you consult the stakeholder?
Yes

Are you going to take this stakeholder into account?

Yes

Name of the stakeholder
Tsvetkov, Alexander A.T.

How is this stakeholder affected?
As a developer this person is affected when he does not finish the project which will lead to failing the semester.

Did you consult the stakeholder?
Yes

Are you going to take this stakeholder into account?
Yes

Name of the stakeholder
Ivanov, Rostislav R.R.

How is this stakeholder affected?
As a developer this person is affected when he does not finish the project which will lead to failing the semester.

Did you consult the stakeholder?
Yes

Are you going to take this stakeholder into account?
Yes

Name of the stakeholder
Velikov, Vasil V.Z.

How is this stakeholder affected?
As a developer this person is affected when he does not finish the project which will lead to failing the semester.

Did you consult the stakeholder?
Yes

Are you going to take this stakeholder into account?
Yes

Name of the stakeholder
Gronewegen van der Weijden, Michaël M.J.L.

How is this stakeholder affected?
As a developer this person is affected when he does not finish the project which will lead to failing the semester.

Did you consult the stakeholder?
Yes

Are you going to take this stakeholder into account?
Yes

Name of the stakeholder
Students

How is this stakeholder affected?
They are an end user of the application. They have fast access to the location of a teacher they want to find.

Did you consult the stakeholder?
Yes

Are you going to take this stakeholder into account?
Yes

Name of the stakeholder
Teachers

How is this stakeholder affected?
They are an end user of the application. They will be busier during the time when sharing their location than they would without the application.

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?

Name of the stakeholder
Wesley van Gogh

How is this stakeholder affected?
He is one of the developers of the API which we are using and provides us

with additional information.

Did you consult the stakeholder?
Yes

Are you going to take this stakeholder into account?
No

Now that you have thought hard about all stakeholders, what improvements would you like to make? List them below.
TBD

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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?

We are using an API made by someone else and this gives us no power to control the data we receive.

How does the technology organize continuous improvement when it comes to the use of data?

The data is retrieved from an API and we do not store anything.

How will the technology keep the insights that it identifies with data sustainable over time?

The data that we collect is limited. We collect it and we ensure the users that their data is kept safe and no one has direct access to it. We do not profit from the information and we have no need to sell this data to anyone.

In what way do you consider the fact that data is collected from the users?

Our application does not use the data it has in a way to predict future actions or behaviour.

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

TBD

Inclusivity

Is your technology fair for everyone?

Will everyone have access to the technology?

Only students and teacher from the institution that the application is targetting. In our case Fontys.

Does this technology have a built-in bias?

We do not exclude any groups of people from using the application because it does not focus on who the user is.

Does this technology make automatic decisions and how do you account for them?

The technology does not make any automatic decisions. The only decision you have to make is whether you want to share your location or not.

Is everyone benefitting from the technology or only a a small group? Do you see this as a problem? Why/why not?

Looking at how the application is designed we believe that anyone that uses the application will benefit from it as it will improve the study outcome of a student. There are some risks which we acknowledge and discussed in a previous section.

Does the team that creates the technology represent the diversity of our society?

Our team does include some social diversity. We are 4 Bulgarians and 1 Dutch. We combine our cultural knowledge to ensure that it fits and does not exclude any person from the ability to use it freely.

Now that you have thought hard about the inclusivity of the technology, what improvements would you like to make? List them below.

TBD

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Transparency

Are you transparent about how your technology works?

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

We will include a user manual so we can explain in details how our application works. We will state our goals and the idea behind the application. We will state that we do not benefit at all from our application so the users can understand our bussiness model.

If the technology makes an (algorithmic) decision, is it explained to the users/stakeholders how the decision was reached?

This questions does not apply in our case.

Is it possible to file a complaint or ask questions/get answers about this technology?

You can contact our team for more information and asking questions related to the application.

Is the technology (company) clear about possible negative consequences or shortcomings of the technology?

Sharing your location is always clear and you are going to be asked everytime if you want to enable it. Also you can see you current location sharing status.

Now that you have thought hard about the transparency of this technology, what improvements would you like to make? List them below.

TBD

Sustainability
Is your technology environmentally sustainable?

In what way is the direct and indirect energy use of this technology taken into account?
While using our application, you consume your electronic device's battery. Our web server and database which are hosted on Azure are also using electricity. Because of these factors we do not have direct control over our energy consumption. The only way to improve the energy consumption of our application is to optimize the software to be as energy efficient as possible.

Do you think alternative materials could have been considered in the technology?
The only materials we used for the development of this application are the servers of azure where our application lives.The choice of materials could not have been any different than now.

Do you think the lifespan of the technology is realistic?
This application will follow all programming standards like the SOLID principle.

What is the hidden impact of the technology in the whole chain?
As developers we use electronic devices to implement the application a way we could improve our energy consumption may be programming in the cloud. After the application has served its purpose for a user the application simpy continues living in the web server of azure this cannot be done any other way as the application needs to be accessible at any given moment.

Now that you have thought hard about the sustainability of this technology, what improvements would you like to make? List them below.
TBD

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Future
Did you consider future impact?

What could possibly happen with this technology in the future?
A mobile application can be developed for an easy access from the user's phone. It can also be extended for automatic attendance for the students and teachers.

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.
The utopia case is where each university will have a system like our idea. All the students will be able to find the teachers they are looking for. All the questions will be answered instantly and will be a habit for the users to use this application.

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.
A dystopian scenario is where none of the students will bother to use the application to seek for help. They would not want to get used to the application and they will depend on their orientation which can lead to not finding the teacher they are looking for, therefore their questions will not be answered.

Would you like to live in one of this scenario's? Why? Why not?
We would like to live in a scenario where all the difficulties are avoided or brought to minimum, so the learning processes will be eased. The best part of studying in an university instead of self-studying is to be able to ask your tutors for help whenever needed.

What happens if the technology (which you have thought of as ethically well-considered) is bought or taken over by another party?
If someone offers to buy out our application we will firstly make sure that our efforts are paid accordingly. After that we will want to have insurance that this application will grow and improve and most importantly will be implemented in most of the learning institutions.

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.

TBD