Thrombosis Service

The thrombosis service serves as middleware between two other services; the Eurocom service & the ASolutions service. It enables communication between the two aforementioned services so they can share data such as INR values, telemetry of the measuring devices, and patient data. That way, caregivers are fully up-to-date regarding their patients' statusses. This way, both services can have access to eachother's data at any time they need it.

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Technology Impact Cycle Tool

Thrombosis Service

Impact on society

What impact is expected from your technology?

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

The challenge to be solved is to make sure the Eurocom- & ASolutions services have a way of relaying important information about thrombosis patients to eachother & improve their workflows concerning thrombosis care.

Are you sure that this technology is solving the RIGHT problem?

Because the solution will replace the paperwork.

How is this technology going to solve the problem?

It will increase the efficiency & workflow of thrombosis caregivers.

What negative effects do you expect from this technology?

Because the sensitive data is digital, it might be prone to hackers. There's also the problem of server uptime. This could end in patients being affected because caregivers can't access the right information at the right time.

In what way is this technology contributing to a world you want to live in?

It will contribute to making thrombosis care more manageable.

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.

We want to improve thrombosis caregiving.

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?

It would provide 2 services with a way to centralize data about thrombosis patients and INR measuring devices, which could keep the data safer as opposed to storing that data on separate places, which provides more opportunity for hackers to strike.

Can fakers, thieves or scammers abuse the technology?

Yes, because sensitive patient data is stored within our system.

Can the technology be used against certain (ethnic) groups or (social) classes?

It can be used against people from all classes to find out where they live, what kind of conditions they have, etc.

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.

We doubt it can be used to polarize societal, ethnic or any kind of group against eachother.

How could bad actors use this technology to subvert or attack the truth?

They could find out that someone famous has thrombosis and spread misinformation about them dying.

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

Make the application more secure, so bad actors have a harder time trying to break in.

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?

We don't really store personal data on our own, that data is stored on another service. The only data that might be considered as "personal", would be INR values.

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

Yes, because it stores sensitive patient data.

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

Yes, because the data is stored using encryption and secured using authentication & authorization.

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

No, but it does make it more difficult for bad actors to access the data.

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

I can't.

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

Add better encryption.

Human values

How does the technology affect your human values?

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

It does not affect the identity, but it affects the patients' treatment.

How does the technology influence the users' autonomy?

It doesn't directly affect the anatomy.

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

It makes thrombosis care more efficient.

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.

Not applicable.

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
Thrombosis caregivers

How is this stakeholder affected?
Their workflow will become more efficient.

Did you consult the stakeholder?
Yes

Are you going to take this stakeholder into account?
Yes

Name of the stakeholder
Eurocom

How is this stakeholder affected?
-

Did you consult the stakeholder?
Yes

Are you going to take this stakeholder into account?
Yes

Name of the stakeholder
ASolutions

How is this stakeholder affected?
-

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.

Not applicable.

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?

A fundamental shortcoming of the data could be that the measurements give false positives & negatives, which could lead to underwhelming results concerning the care of the patient. A way to fix this could be to show an overview of the INR values each time a new one is inserted. That way, it's much easier to identify any errors.

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

We use CI/CD to continiously improve our services.

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

Not applicable.

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

We use an encrypted database & ORM to make the data safer.

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

Not applicable.

Inclusivity

Is your technology fair for everyone?

Will everyone have access to the technology?

No, it's exclusively accessible for thrombosis caregivers.

Does this technology have a built-in bias?

It biases the patients based on the INR values that their blood produced during measurements, which could lead to decisions as to how to best treat the patient.

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

No.

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

Small groups; the thrombosis caregivers & patients.

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

Yes. We have mixed both Dutch students & foreign students together.

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

Not applicable.

Transparency

Are you transparent about how your technology works?

This category is not applicable for this technology.

Sustainability

Is your technology environmentally sustainable?

This category is not applicable for this technology.

Future

Did you consider future impact?

This category is not applicable for this technology.