



> FOR SOCIETY

WELCOME

Ethics and technology

Why it is important to think about the impact of
technology on humans and society

(and how to put those thoughts to action!)

Presentation for O&O 2022

Jo-An Kamp, Fontys school of IT

Assignment

- I will show you a video prototype from a first year IMD student
- Please write down everything you see that can be explained as either *good* or *not so good* (for now and in the future)

(The video is 2.30 minutes long. Prepare for a quick shout out afterwards. Let's go!)



Recap: Shout out

good?



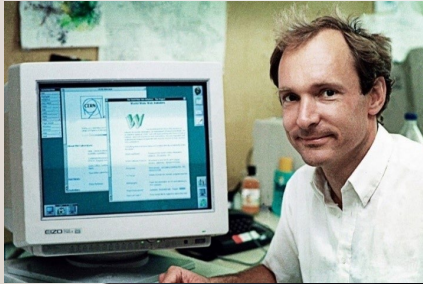
poor, bad, ill, worse?

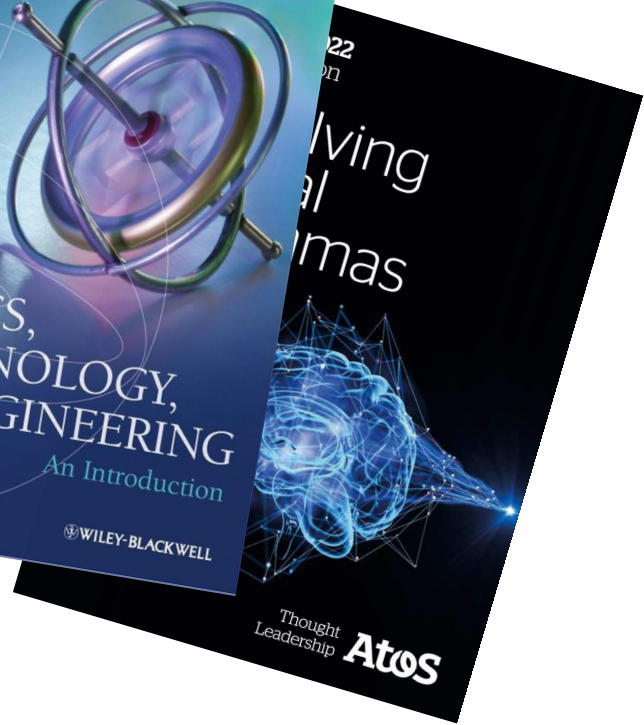
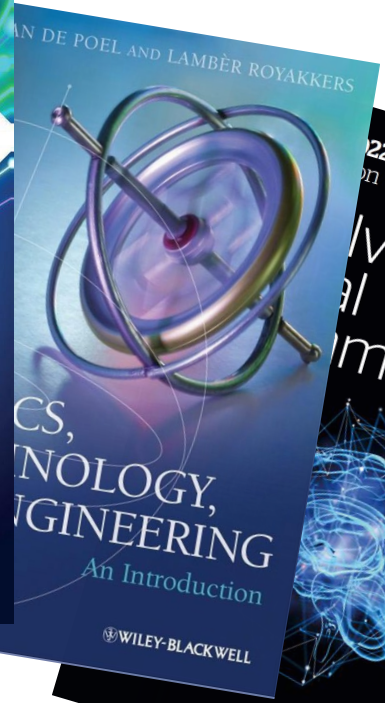


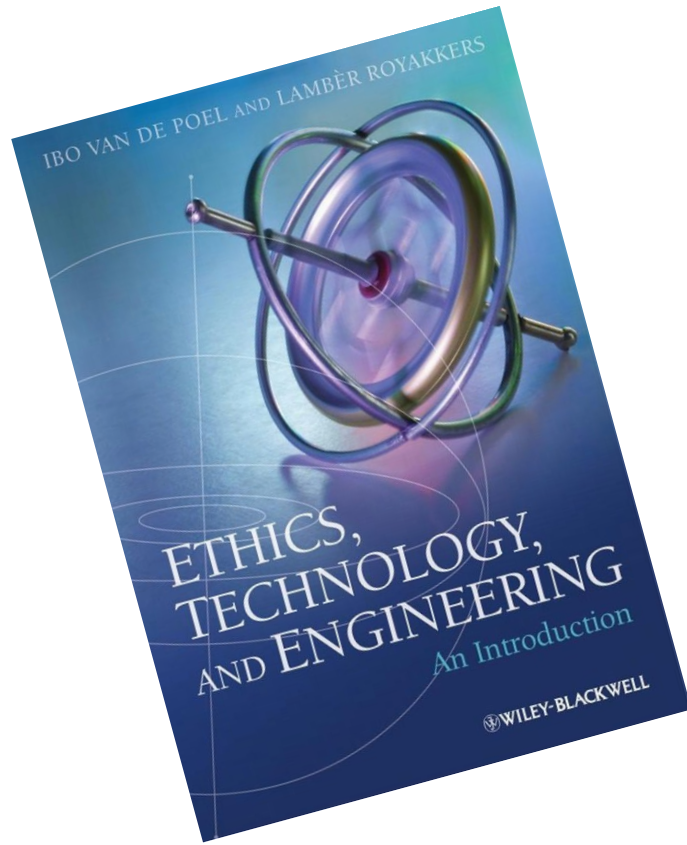
"The more Artificial Intelligence enters our lives, the more essential Ethics & Philosophy become."

(THE AI THOUGHT BOOK)

Avoid becoming a 'tech regret'



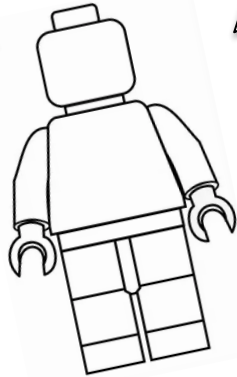
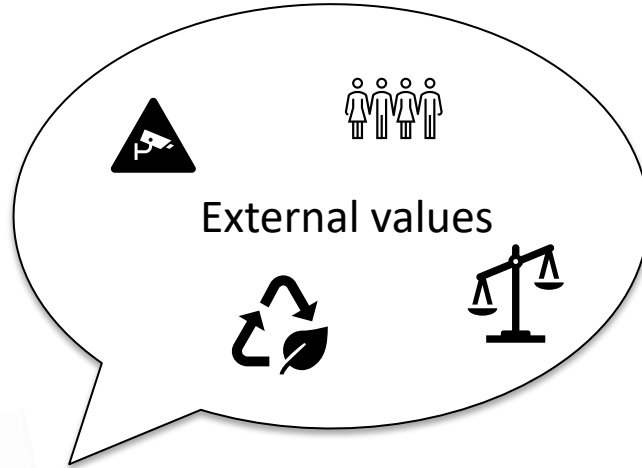
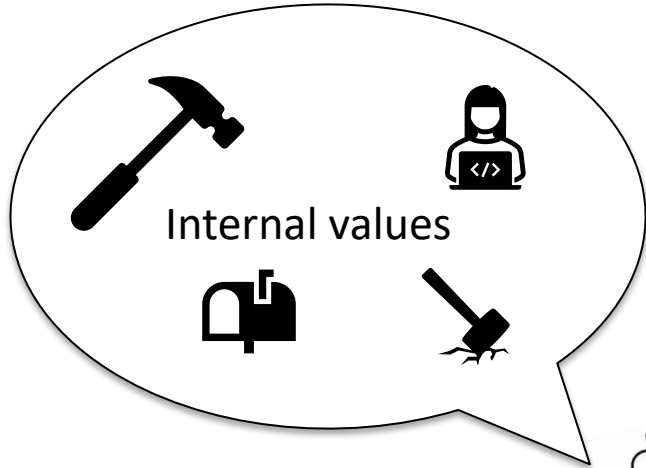




Introduction

One of the **main differences between science and engineering is that engineering is not just about better understanding the world but also about changing it.** Many engineers believe that such change improves, or at least should improve, the world. In this sense engineering is an inherently morally motivated activity.

Engineers have a natural tendency towards internal values



*“those who create new technology should
internalize the external (terminal) values
in order to design meaningful innovation”
Ibo van de Poel, 2015*

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Y

From theory to practice...



AN ETHICAL TOOLKIT FOR THE DEVELOPMENT OF AI APPLICATIONS

The designed ethical toolkit, in the form of a "full-day" modular workshop, assists in the generation of ideas and supports dialogue for an ethical development of AI applications. Furthermore, its seven modules provide a basis for discussion, trigger solutions, and visually communicate the topics of AI ethics to development teams and clients in a creative and collaborative fashion.

STAGE 1 - ETHICAL ALIGNMENT



Ethics & [AI] Mini-workshop



The Evil in [AI] Game



AI Project General Checklist



The Responsible Artificial Intelligence Deck



Ethical Risks Cards



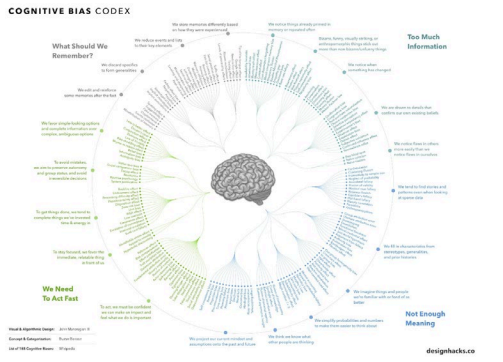
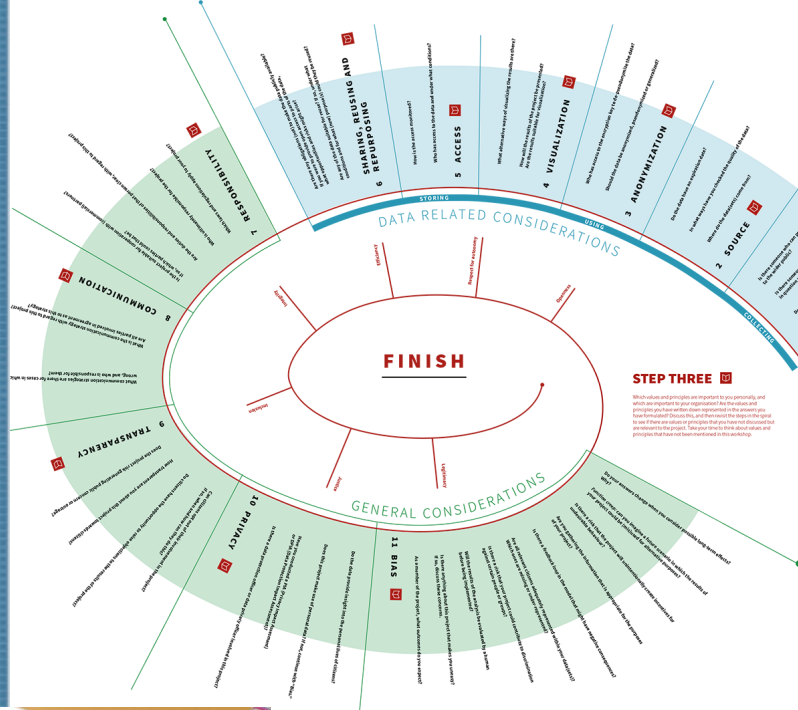
Ethical Evaluation Axes

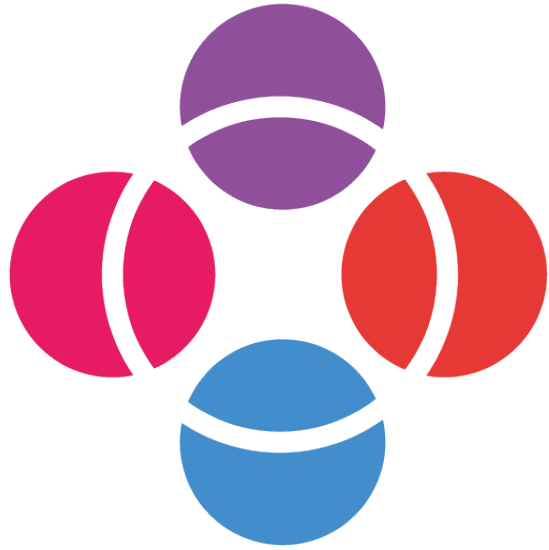


Moral Code of the Project

STAGE 2 - PROJECT VISION & VALUES

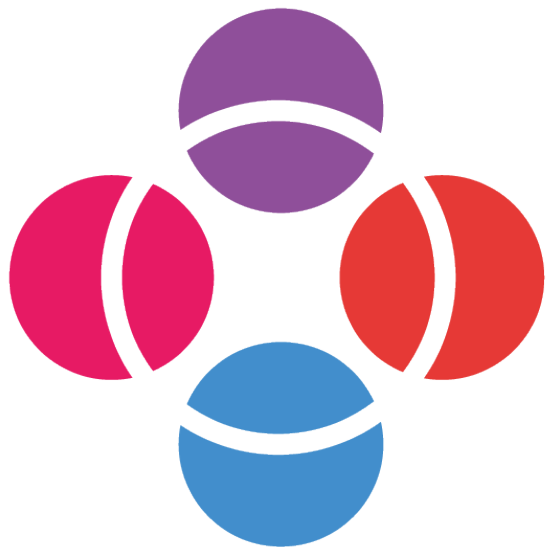
STAGE 3 - MORAL CODE ON BEST PRACTICES





TICT

Technology Impact Cycle Toolkit



TICT

**A FREE TOOLKIT THAT HELPS USERS
TO MAKE BETTER DECISIONS
ON THE IMPACT OF TECHNOLOGY**

WWW.TICT.IO

Starting points while developing the tool:

1. Technology = multidisciplinary
2. Ethics as a driving force for innovation
3. Non-judgmental (you can be as good/evil as you want)
4. Part of the (design cycle) process
5. Context is king



Questions, a lot of questions...

Do you consider all stakeholders, or just the ones that you
Are your bottom lines transparent to the people impacted
What is your data policy based on? Can you sustainably be
vulnerable to technology and by whom?
of interest?



Impact



Bad actors



Privacy



Human values



Stakeholders



Data



Inclusivity



Transparency



Sustainability



Future



What impact is expected from your technology?

Impact on society

Importance: **Very important**

Quality: **Very good**



What can bad actors do with your technology?

Hateful and criminal actors

Importance: **A lot**

Quality: **Very good**



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

Privacy

Importance: **Very important**

Quality: **Can be better**



How does the technology affect your human values?

Human values

Importance: **Very important**

Quality: **Good enough**



Have you considered all stakeholders?

Stakeholders

Importance: **A lot**

Quality: **Good enough**



Is data in your technology properly used?

Data

Importance: **A little**

Quality: **Good enough**



Is your technology fair for everyone?

Inclusivity

Importance: **A lot**

Quality: **Good enough**



Are you transparent about how your technology works?

Transparency

Importance: **A lot**

Quality: **Good enough**



Is your technology environmentally sustainable?

Sustainability

Importance: **Not important**

Quality: **Good enough**



Did you consider future impact?

Future

Importance: **A little**

Quality: **Good enough**



Fast impression of the impact on a canvas

Quick Scan



Summary of improvements on a canvas

Improvement Scan

We advise you to read the [Quick Start Manual](#) first.

Legend: ■ Not answered ■ Fully answered ■ Partial answered ■ Skipped

Quick / Full / Improvement Scan



Technology Impact Cycle Tool

Logout

Admin

Profile



Fast impression
of the impact on
a canvas

Quick Scan



Complete
analysis of the
impact

Full Scan



Summary of
improvements
on a canvas

Improvement Scan

We advise you to read the [Quick Start Manual](#) first.

Legend: ■ Not answered ■ Fully answered ■ Partial answered ■ Skipped

My Cycles
Public Cycles

Griefbot
Corona Contact App
Baby Don't cry

Do the best you can until you know better.
Then when you know better, do better.

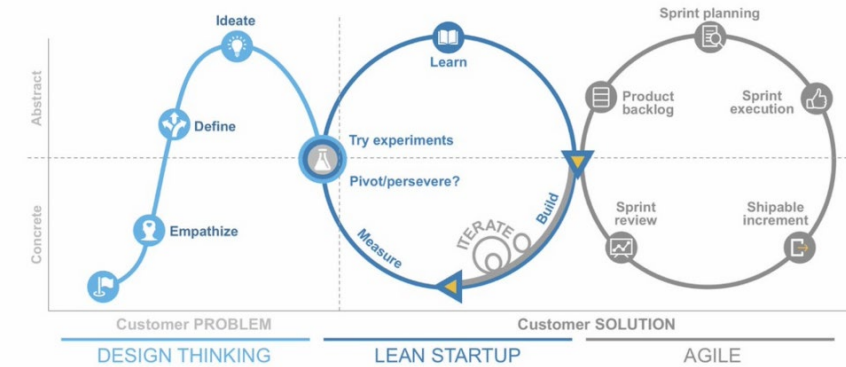
Maya Angelou

Contact

Best practices
Manual

Cycle: in all stages of the process

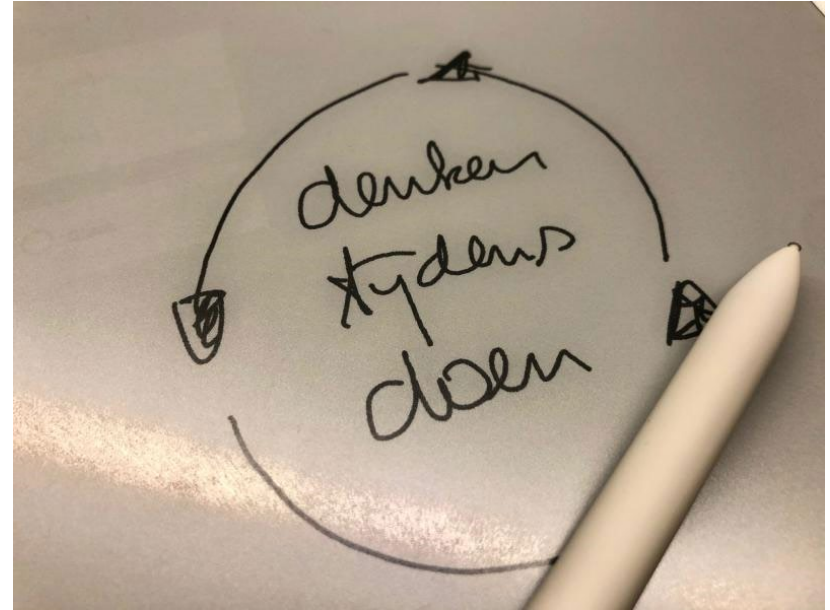
Combine Design Thinking, Lean Startup and Agile



#GartnerSYM

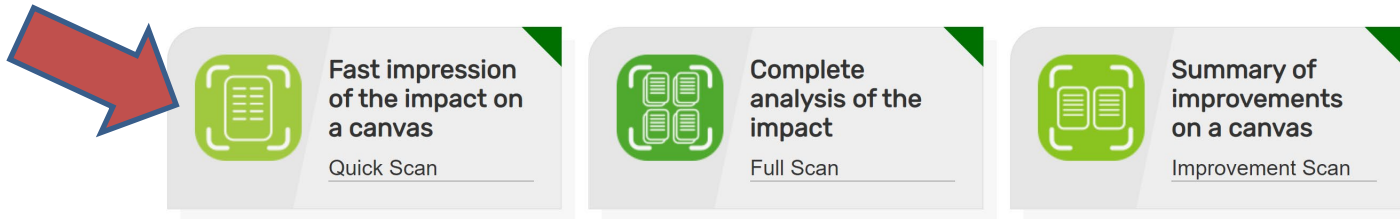
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Workshop assignment

- Take a look at the case(s) you are working on at the moment
- Decide which one might have an ethical aspect in it
- A. Perform a quick scan together with your team mates (discussion allowed!)
- B. Or start with the first categorie: impact on society and answer all the questions there
- Do (part of) the full scan if you have time left



TIP: You can print it as a PDF and attach it to your (group)documentation!

(I will walk around and guide you)

Quicksan: fill it in online or use a (printed) Canvas



Quick Scan
Fast impression of the impact on a canvas



Download Canvas

Answer the 10 questions below. The first 600 characters of your answer are printed on a clear canvas that shows the quick impact of the technology.

[Save](#) [Back](#)

What is the challenge at hand? What problem (what 'pain') does this technology want to solve?
What is the challenge at hand? What problem (what 'pain') does this technology want to solve?

This technology is designed to solve a problem. That is why it is important to clearly define what problem this technology is going to solve. Can you make a clear definition of the problem? What 'pain' does this technology want to solve? "I have pain!" "I have a problem!" "I have a need!" will help you to determine and discuss if you are solving the right problem.

In which way can this technology be used to break the law or avoid the consequences of creating the law?
Does this technology register personal data? If yes, what personal data?

Can you imagine ways that this technology can or will be used to break the law? Think about making someone's privacy, spying, hacking, people, harassment, fraud, identity theft and so on. Can you imagine how this technology is used for the consequences of creating the law, using machines to evade speed limits or using biometrics to launder money, for example?

Does this technology register personal data? If yes, what personal data?
Does this 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. Personal data can be interpreted in a broad way. Maybe this technology does not collect personal data, but can be used to generate personal data. If this technology collects personal data (like health or ethnicity) you should be extra aware.

How does your technology affect the identity of the users?
How does your technology affect the identity of the users?

To answer the question think about questions like: can the technology be perceived as stigmatising? Does the technology imply or impose a certain label or word? Does the technology affect users' dignity? Is the technology in line with the person the user wants to be perceived as?

What are the stakeholders/target groups/stakeholders for this technology?
Add stakeholder

For the quickscan, you only have to list the stakeholders. Can you think of the people that are directly or indirectly affected by the technology? There are a lot of stakeholders to think about. It is fine, but make sure you also think about the less obvious ones. Missing a stakeholder can have large consequences. Later, it helps to think about further questions. Questions to ask: Can you write down a few words in what manner the users or stakeholders will be affected by this technology? How can that affect them? Be critical, consider what you think will have on the stakeholders. Did you really consult a stakeholder? Did you consult all stakeholders related to you, including the stakeholders of some stakeholders? Are you going to take the stakeholder into account? Do you think you should take all stakeholders into account? Are there any conflicting interests between groups of stakeholders? How will you resolve these conflicts?

Are you aware of the limitations and subjectivity of data and is this reflected in this technology?
Are you aware of the limitations and subjectivity of data and is this reflected in this technology?

It is important to understand the limitations of data and it is equally important to design a technology accordingly. Are you aware of limitations of the data used? How does this technology cope with concepts like subjectivity, incomplete datasets, technological and so on? Do the strongly recommend to extra steps to solve the shortcomings of data.

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

Go a bit further. Can you find a built-in bias in this technology? Maybe because of the way the data is collected, either by generating the historical bias, critical 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.

How is explained to the users how a technology works and how the businesses works?
How is explained to the users how a technology works and how the businesses works?

Is it easy for users to find out how your technology works? Can a user understand or find out why your technology behaves in a certain way? Are the privacy requirements? Is the role of the technology explained? Is the technology company transparent about the way their business model works?

In what way is the direct and indirect energy use of this technology taken into account?
How 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 the service is that you want this technology to provide and how this could be done with a minimal use of energy.

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

Discuss this quickly and note your first thoughts here.

[Save](#) [Back](#)

QUICKSCAN - CANVAS

NAME: _____

DATE: _____

DESCRIPTION OF TECHNOLOGY _____

HUMAN VALUES

TRANSPARENCY

IMPACT ON SOCIETY

STAKEHOLDERS

SUSTAINABILITY

HATEFUL AND CRIMINAL ACTORS

DATA

FUTURE

PRIVACY

INCLUSIVITY

FIND US ON [WWW.TICTO](#)

THIS CANVAS IS PART OF THE TECHNOLOGY IMPACT CYCLE TOOL. THIS CANVAS IS THE RESULT OF A QUICKSCAN. YOU CAN FILL OUT THE FULL TICT ON [WWW.TICTO](#)

VALUES

1. **IMPACT ON SOCIETY**
What is the challenge at hand? What problem (what 'pain') does this technology want to solve?

2. **STAKEHOLDERS**
What are the stakeholders/target groups/stakeholders for this technology?

3. **DATA**
Are you aware of the limitations and subjectivity of data and is this reflected in this technology?

4. **INCLUSIVITY**
Does this technology register personal data? If yes, what personal data?

5. **TRANSPARENCY**
How is explained to the users how a technology works and how the businesses works?

6. **SUSTAINABILITY**
How is the direct and indirect energy use of this technology taken into account?

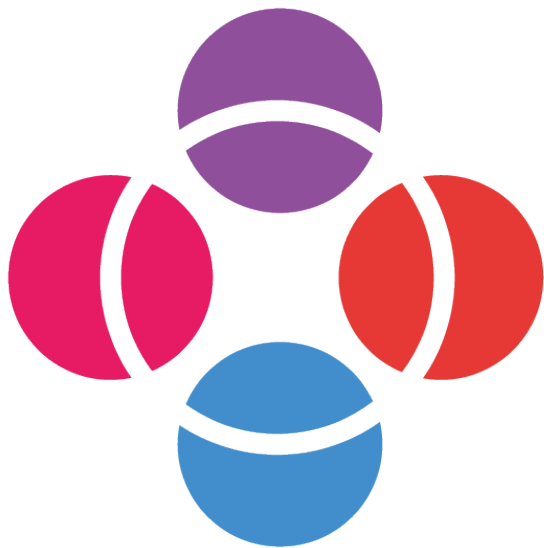
7. **FUTURE**
What could possibly happen with this technology in the future?

8. **FIND US ON [WWW.TICTO](#)**
THIS CANVAS IS PART OF THE TECHNOLOGY IMPACT CYCLE TOOL. THIS CANVAS IS THE RESULT OF A QUICKSCAN. YOU CAN FILL OUT THE FULL TICT ON [WWW.TICTO](#)



Do the best you can until you know better.
Then when you know better, do better.

Maya Angelou



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Aanvraagformulier

Promotiebeurs voor leraren, ronde 2022-II



Lees de Call for proposals en de uitvouwbare toelichtingen goed voordat u begint met het opstellen van uw aanvraag.

← [Uitvouwen voor Algemene toelichtingen](#)

1. Algemene informatie

← [Uitvouwen voor Toelichtingen onderdeel 1](#)

1a. Titel onderzoeksvorstel

Towards a new form of design ethics: how to become a responsible designer of new technology

1b. Samenvatting van uw onderzoeksvorstel

50-100 woorden (97 woorden)

Technology can no longer be considered neutral: technology and society influence each other mutually (Verbeek, 2000). If we want those influences to turn out positively, we can lean on scientific theories, although they are not always ready to be used (Schouten, 2022), and in practice theories are not always applied. In this research, I want to develop and validate new forms of applied design ethics for (upcoming) mediatech professionals in the Netherlands so that they can design their products in a responsible way and bridge the gaps between theory and practice and between science, education and society.

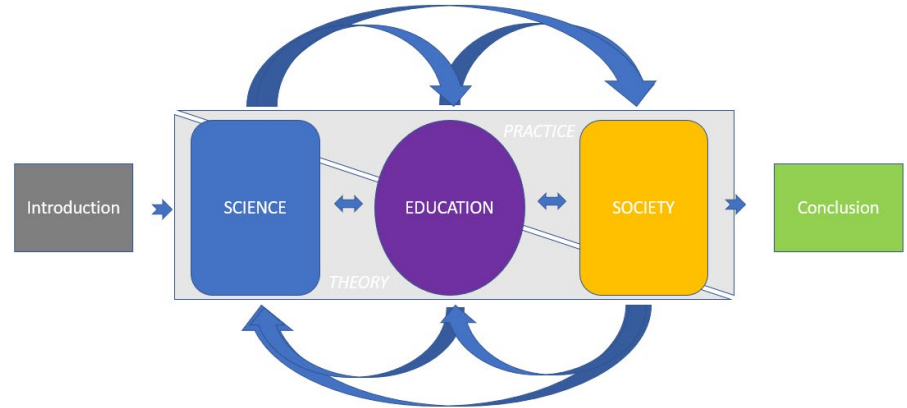
2. Onderzoeksvorstel

← [Uitvouwen voor Toelichtingen onderdeel 2](#)

2a. Inleiding en onderzoeksvragen

Maximaal 650 woorden (610 woorden)

As a lecturer in ICT and Media Design (hereinafter referred to as 'mediatech', a specialization within Fontys School of ICT (FHICT)), I see that my students have a natural tendency to lean towards internal values that typically relate to the technology and engineering profession itself; they ask themselves questions like 'does this product work how I intended it to work?' and 'did I get rid of all the bugs?' However, what they tend to overlook are the external, societal values, such as justice, equality or environmental values. This also means that "those who create new technology should internalize the external (terminal) values in order to design meaningful innovation" (van de Poel, 2015).



THANKS FOR LISTENING!



> FOR SOCIETY

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