

TICT

A **FREE ONLINE TOOLKIT** THAT HELPS PEOPLE (INVENTORS, DESIGNERS, USERS, DECISION MAKERS) TO MAKE BETTER, DELIBERATE DECISIONS ON **THE IMPACT OF TECHNOLOGY.**

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Version 2.0 November 2020

WHY?



I WANT TO
IMPROVE MY
THINKING ABOUT
THE IMPACT
OF TECHNOLOGY

Is my
technology
inclusive?

How can I
improve my
product?

Is the corona
tracing app a
good idea?

How am I in balance
with my technology?

When do
we use a
care robot?

Does
our app
contribute
to a better
society?

THE SOLUTION?

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Version 2.0 November 2020



FOTO CHRONICLE - BILL YOUNG



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TICT

TECHNOLOGY IMPACT CYCLE TOOL

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**NEW!
OPEN,
ONLINE,
FREE!**

1 2 3

Three important reasons to provide students, teachers and the surrounding professional field with tools to think about the impact of (modern, digital) technology. As a prospective professional. As a designer, as a programmer, nurse, journalist, implementer, decision maker, user!
As a human!

1 TECHNOLOGY DETERMINES HOW WE SEE THE WORLD

2 TECHNOLOGY CHANGES PEOPLE AND WITH IT SOCIETY

3 DIGITAL TECHNOLOGY IS EVERYWHERE AND IS DEVELOPING RAPIDLY

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WHAT?

TEN FUN, INSPIRING
ONLINE CRASH COURSES
OF ONE HOUR AND A LOT
OF EXTRA MATERIAL

IF YOU CAN'T GET
ENOUGH OF IT

FREE
OPEN
ONLINE
TOOLKIT

EARN
A T-SHIRT
BY DOING
ALL COURSES!



TICT

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IMPACT QUESTIONS IN TEN CATEGORIES

1 IMPROVEMENT
SCAN
(how do I improve
my technology?)

2 QUICK SCAN
(for a quick
impression)

3 FULL SCAN
(how do I determine
the full impact?)

IMPACT ON
SOCIETY

HUMAN
VALUES

PRIVACY

INCLUSIVITY

TRANSPARENCY

BAD
ACTORS

SUSTAINABILITY

DATA

STAKEHOLDERS

FUTURING

HOW?

APPEALING
EXAMPLES AND
ONLINE COURSES

INSPIRING

BEST PRACTICES
AND METHODS

TICT

BUILT BY A
MULTIDISCIPLINARY
TEAM

NOT LEADING.
CAN BE USED BY
ANYONE IN
ANY WAY.

QUESTIONS THAT
MAKE YOU THINK

NO NORMATIVE
QUESTIONS

THERE IS NO WRONG
ANSWER. AS LONG
AS IT IS WELL
THOUGHT OUT.

FOR:

designers, programmers,
economists, students, designers,
nurses, journalists, professionals,
parents, logistics, specialists,
managers. **Everyone!**

[Back](#)


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: **Good enough**



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

Privacy

Importance: **Very important**

Quality: **Very good**



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 lot**

Quality: **Good enough**



Is your technology fair for everyone?

Inclusivity

Importance: **Very important**

Quality: **Good enough**



Are you transparent about how your technology works?

Transparency

Importance: **Very important**

Quality: **Good enough**



Is your technology environmentally sustainable?

Sustainability

Importance: **Not important**

Quality: **Good enough**



Did you consider future impact?

Future

Importance: **Very important**

Quality: **Good enough**



Fast impression of the impact on a canvas

Quick Scan



Summary of improvements on a canvas

Improvement Scan

FULL SCAN

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

Not answered

Partial answer

Questions in 10 categories

Non-normative questions

Track your progress & quality

Print a impact document

Supportive questions and material

EXAMPLES OF QUESTIONS IN ONE CATEGORY

DOES THIS
TECHNOLOGY
CONTRIBUTE TO
A WORLD YOU
WANT TO LIVE IN?

WHAT IS THE
IMPACT ON
PEOPLE'S
DAILY LIVES?



IMPACT OF TECHNOLOGY

WHAT
PROBLEM
DOES THIS
TECHNOLOGY
SOLVE?

ARE YOU SURE
THIS TECHNOLOGY
WILL SOLVE THE
REAL PROBLEM?

HOW DOES THIS
TECHNOLOGY
CONTRIBUTE TO
SOLVING THE
PROBLEM?

ARE YOU
SURE IT WILL
WORK? WHY?

HAVE YOU
THOUGHT ABOUT
POSSIBLE NEGATIVE
EFFECTS? AND
WHAT ARE YOU
GOING TO DO
WITH IT?

WHAT
NEGATIVE
EFFECTS DO YOU
EXPECT FROM THE
TECHNOLOGY?

Contact: info@tict.io
www.TICT.io

QUICKSCAN - CANVAS

A Griefbot called 'Re.Inc'

QUICK
SCAN

Ten most
important
questions

Offline
version &
help

Printable
Canvas

NAME: A Griefbot called 'Re.Inc'
DATE: November 11, 2020 10:56 AM



DESCRIPTION OF TECHNOLOGY

The Re.Inc griefbot is a chatbot that is based on the data trail of the deceased. This way you can still have a chat conversation with someone that has died. The griefbot uses all data-objects that have been created by the deceased. For example WhatsApp-conversations, LinkedIn-pages or Facebook-posts. By using advanced AI the griefbot learns the tone of voice of the deceased. The Griefbot can be used as...

IMPACT ON SOCIETY



The purpose of the Griefbot is to reduce suffering for relatives of a deceased person. We believe that - especially in the case of tragic and sudden deaths - there is incredible pain by relatives and friends. The Griefbot is an advanced way of looking at photos or listening to that one voicemail. We believe accepting death is easier if you can have a conversation with your deceased loved one.

Furthermore we believe that there a lot of people who never...

USEFUL AND CRIMINAL ACTORS



In certain circumstances it can be used to break the hearts of a young, underaged person dies and the friend or member of the deceased gets access to the Griefbot. He or she can use it to draw young kids into dangerous situations, as he or she can impersonate a kid. On the other end, a bad actor can abuse the Griefbot for scamming purposes if he or she can "rewire" the AI behind the bot.

LEGALITY



The General Data Protection Regulation defines personal data relating to an identified or an identifiable natural person. Natural persons are living persons, so the GDPR in principle does not apply to deceased persons.

However, our Griefbot is also filled with data of living persons as well, especially those with a close relation to the deceased, to which data the GDPR will apply.

HUMAN VALUES



There are two kind of users. The deceased person and the 'real' user. In this case we decided to focus on the 'real' user. However, we do explore the opportunity of some kind of a 'donor codicil' in which a person gives permission to live on as a Griefbot. We believe that too much suffering is wrong. If we can ease suffering by offering a Griefbot than that is in line with what persons want to be: someone who mourns but is helped in the process.

STAKEHOLDERS



- (direct) relatives of the person who died (Griefbot-users)
- (former) relatives of the person who died
- Non-connected people who want to connect now
- The deceased person

DATA



Yes, dependent on the available data, the personality of the griefbot might be close or far from the deceased person. The limits are clear to us. The griefbot can't "cope" with it, so we would make the users aware of its limitations.

INCLUSIVITY



Yes.
Of course. The idea of the technology / griefbot is that it is biased. We have only one version of the griefbot for all users. There can only be one subscription and so there can only be one griefbot of the deceased. This subscription can only be requested by the person that has access to usernames and passwords and a certificate of death. This subscriber can give more people access by buying additional licenses.

TRANSPARENCY



We do explain - in broad terms - how the technology works. We list the data sources and social media channels we use to feed the AI to create the chatbot. On our website we explain the idea behind the technology. We explain our mission and the impact we want to have on society. However we do NOT exactly explain why the griefbot is giving certain answers. There are two reasons for that.

One we do not always exactly know how the AI reaches a...

SUSTAINABILITY



We offer clouddata services. These clouddata services are energy consuming. However, we host our servers with suppliers that have high standards in environmentally friendly datacenters. Our product could use more resources from the local client (laptop, tablet or phone) so there is less traffic and energy consumption in the datacenters.

FUTURE



The Griefbot can be an important support for people and a normal part of grieving, on the other hand, there is a lot of potential for future abuse. A better Griefbot does not automatically mean that there will be a better world.

FIND US ON WWW.TICT.IO

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.TICT.IO



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IMPROVE-
MENT
SCAN

Ten
questions

Offline
version &
help

Printable
Canvas

NAME: A Griefbot called 'Re.Inc'

DATE: November 11, 2020 11:29 AM

DESCRIPTION OF TECHNOLOGY
The Re.Inc griefbot is a chatbot that is based on the data trail of the deceased. This way you can still have a chat conversation with someone that has died. The griefbot uses all data-objects that have been created by the deceased. For example WhatsApp-conversations, LinkedIn-pages or Facebook-posts. By using advanced AI the griefbot learns the tone of voice of the deceased. The Griefbot can be used as...



HUMAN VALUES



For the real user we decided to build controls in the bot.

1. We inform the user of extreme use;
2. We give the option to restrict access;
3. We monitor Griefbot - usage centrally to see trends;
4. We have a distress-button which the user can use when the Griefbot misbehaves.

For te deceased we are researching the option to formally...

TRANSPARENCY



Based on the last question we created a specific section on our website in which we explicitly - by a questionnaire - help users to make the right decision. We tell them about the large social impact of the Griefbot, we share user stories and we explicitly tell them that the griefbot is an impersonation of the deceased, that is created by an AI that is by design a black box for us.

This helps the user to make the right decision. We also have...

IMPACT ON SOCIETY



...the brainstorm we learned that people can get hooked on the Griefbot. That is why we now allow users to set limits and we give them information on usage - time.

...in earlier sessions we learned that the Griefbot should be used by the people very close to the deceased. That is why you can only use it when you know the passwords and have a death certificate.

STAKEHOLDERS



By our stakeholder-analysis we even more realized that we can only support one on one relationships with a Griefbot. If more people want to use the Griefbot, there will be more Griefbots.

We will create one primarily user, who can allow access to other users, but they will talk to their own version.

SUSTAINABILITY



We are currently investigating if we can offload certain resources to the local client.

SECURE AND CRIMINAL ACTORS



...the Griefbot is a very personal solution, so we implemented a personal two-factor security. You can only use it with a double authentication. Also we encrypted all datacenters and made sure security is very high. And it is also impossible to hack our Griefbots. An automatic back-up procedures makes sure, that you can return to the Griefbot of a few weeks/months ago.

DATA



Not at the moment, no.

FUTURE



Maybe we should decide on not making or implementing things if the future scenario's turn out to be too radical. But things will change and society changes as well. And what will happen if somebody else decides differently?

Do we really have an opt-out if the standard is to opt-in or is this just an illusion? Do we really have a choice?

GDPR COMPLIANCE



...we are currently working on being compliant with GDPR. At a fundamental level, we are exploring two options.

...thinking of a Griefbot that is completely personal, where there is only a one on one relation with the Griefbot. This way there is a lot of issues with privacy.

Furthermore we think that if the griefbot is personal and has...

INCLUSIVITY



Yes. Based on this discussion we decided to limit the accessibility of the griefbot to one person. A person that has a death certificate and usernames and passwords. The user can buy additional licenses.

Secondly we started a discussion with life Insurance companies to include a griefbot - possibility so we make it even more affordable for everyone.

FIND US ON WWW.TICT.IO

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Section One - The promises of (Big) Data

A definition, some great promises and a mystery (10 minutes)



Section Two - All data is subjective

A story about Hurricane Sandy & Beverly Hills 90210 (3 minutes)



Section Three - Measuring is influencing

A story about Facebook, university rankings and criminalizing poverty (4 minutes)



Section Four - Apophenia

A story about a rabbit in the clouds, Jesus on Toast and a Flying Spaghetti Monster (7 minutes)



Section Five - Understanding correlation

A story about avoiding the ambulance (5 minutes)



Section Six - Cause and effect

A story about Stalin, ice cream & murder (12 minutes)



Section Seven - Algorithms

A story about code, cats and dogs and cooking (4 minutes)



Section Eight - Feedback loops

A story about Michael Jordan, Sam Bowie & Frenkie de Jong (2 minutes)



Section Nine - Data is in the box

A story about looking at the past to solve problems (1 minute)



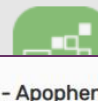
Section Ten - The complexity of life

A story about a seal and Ben Bernanke (1 minute)



Section Eleven - Predators & data scientists

A story about data and some final tips for you (1 minute)



Section Twelve - additional materials



Section Four - Apophenia

A story about a rabbit in the clouds, Jesus on Toast and a Flying Spaghetti Monster (7 minutes)

Apophenia

Have you ever seen a rabbit in the clouds?



Yes? Did it make you wonder if there was a higher being somewhere that tried to communicate with you by showing you a rabbit? Or did you think it was a coincidence?

The woman in the video below (1 minute) saw Jesus in cheese toast.



Completed

CRASH COURSES

Ten courses of one hour

Fun, inspiring, curiosity!

Track progress

Certificates and a shirt

Lots of additional materials



Best practices

The Technology Impact Cycle Tool can be used in any possible way. The tool does not force you to take certain steps. On this page we offer three different sets of best practices to inspire you and to help you use the tool.

The best practices are called: [The Designer](#), [The Teacher](#) and [The Critic](#). All best practices have a short description, example user story, an indication of the time required and target audience.

Best Practices will be updated on a regular basis. If you have a suggestion for a best practice do not hesitate to [contact us](#).

**BEST
PRACTICES**



The Designer

You are the designer or inventor of a new technology (or part of a team). Maybe you are designing an app. Maybe something completely different. Your technology is intended to solve a problem. You want to be as sure as possible that the technology will have the impact you intended.

[Show the designer's best practice](#)



The Teacher

You are a teacher educating students on (their relation with) technology. Maybe you teach app-development and want to teach how to think harder about the impact of technology. Maybe you teach health care and want your students to think about using technology effectively. Maybe you want to organize a beginner course. Maybe you just want to make your students aware of the impact of technology and change their mindset.

[Show the teacher's best practice](#)



The Critic

You are a journalist, or a worried citizen, or just an interested user. Maybe you are a member of the local council. You want to be able to structurally think about the impact of technology or your relation with technology. You want to be able to discuss the impact of technology in depth and/or ask critical questions.

[Show the critic's best practice](#)

**Different
successful
approaches**

**For different
kind of
users**

**One hour to
six months**

**Offline and
online**

**ALL SCANS
ANSWERED**



**A CRY
ANALYZER
APP**

**EXAMPLE
CASES**

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

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

A GRIEFBOT

**CORONA
TRACING
APP**

Can you imagine ways that your technology can or will be used to break the law? Think about invading privacy. Spying. Hurting people. Fraude/identity theft and so on. Or will people use your technology to avoid facing the consequences of breaking the law (for example a technology that tracks speed radars and warns you, so you can speed all the time there is no radar).



An example: Griefbot

Yes, under certain circumstances it can be used to break the law. If a young, underaged person dies and the friend or family member of the deceased gets access to the Griefbot account he or she can use it to draw young kids into dangerous situations, as he or she can impersonate a kid. On the other end, a bad actor can abuse the Griefbot for scamming purposes if he or she can "rewire" the AI behind the bot. Individuals can abuse the trust put into the deceased to manipulate people to undertake illegal activities, e.g. scam them out of money or hurt other people. It is even possible to imagine that a Griefbot will be taken hostage and only returned to the Original owner after paying a lot of money.

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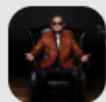
COMMUNITY

Technology Impact Cycle Tool

Courses

Admin

Profile



Rens van der Vorst

Job Title: Head of IT Innovation & technophilosopher at Fontys University

Relation to TICT: Initiator and driving force behind the tool. Rens specializes in funny stories on serious topics.

[LinkedIn](#) / [website](#)



Janienke Sturm

Job Title: Lector / Professor People & Technology

Relation to TICT: Primary client and ambassador of human values category

[LinkedIn](#)



Colette Cuijpers

Job Title: Associate Professor Law & Technology

Relation to TICT: Ambassador of privacy category

[LinkedIn](#)



Jo-An Kamp

Job Title: Lecturer & researcher

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[LinkedIn](#)



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[LinkedIn](#)



Fieke Geurts

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Relation to TICT: Ambassador of Environmental Impact category

[LinkedIn](#)



Daniëlle Arets

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Danny Bloks

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[LinkedIn](#)



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Relation to TICT: Counselor

[LinkedIn](#)



Sebas Nouwen

Job Title: Lecturer & researcher

Relation to TICT: Ambassador of human value category

[LinkedIn](#)



Mark de Graaf

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Relation to TICT: Counselor

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Relation to TICT: Programmer

[LinkedIn](#) / [website](#)



Reviewing Companies

Atos [LinkedIn](#)

12CU Smart Spaces [LinkedIn](#)

Pro-Act IT [LinkedIn](#)

INFO@TICT.IO

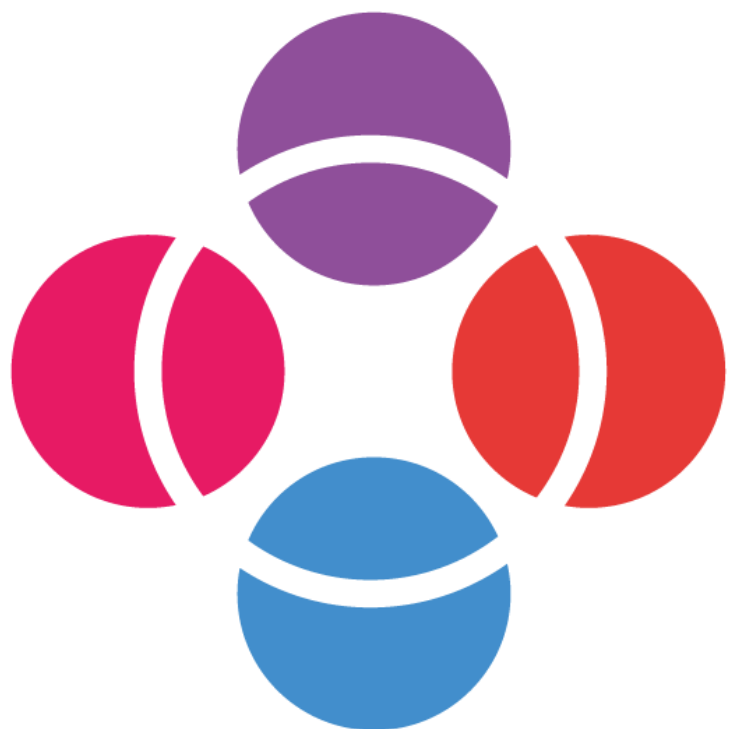
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