



NAME: Rekeningrijden Final
DATE: May 17, 2025 11:40 AM
DESCRIPTION OF TECHNOLOGY




HUMAN VALUES 


If the road pricing becomes mandatory, it may conflict with the views of citizens:

Some citizens may value privacy a lot and do not want their car to be constantly tracked.


Some citizens may believe the technology does not have (significant enough) impact on climate change for the pros to outweigh the cons.

TRANSPARENCY 


We cannot assure that we as humans will not have individual influence on the system. only that we try our best not to.

IMPACT ON SOCIETY 


To encounter the climate change, the member states of the European Union have decided to introduce road pricing, a vehicle has to pay a price per km at a certain place, date, and time.

STAKEHOLDERS 


- Belgian citizen with car
- Interpol
- Belgian government
- Foreign governments

SUSTAINABILITY 

The development of this product will involve producing tracking boxes that can be placed in cars. Thus, the lifespan would ideally be the same as the lifespan of a car. If you compare this to a phone, which has an average lifespan of 4.7 years and is full of sensors and internet connectivity, this seems like a very reasonable lifespan.


HATEFUL AND CRIMINAL ACTORS 

The technology can be abused by removing or manipulating the device that transmits GPS coordinates. A better approach would be a design with devices that recognize license plates along the roads. Users have less influence on this.


DATA 

Yes, route tracking may not be fully accurate due to signal strength and because the data is only sent every x seconds. We do take this fact into account when creating the billing service.

FUTURE 

PRIVACY 

Yes, Road Pricing does register personal data. This personal data contains users, their vehicles and information about the vehicles. Additionally, the system tracks a users driving history such as timestamps, the vehicle used and GPS coordinates. The system uses this data to calculate billings for specific users.

INCLUSIVITY 

No, all actions are based on real world movements.


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HUMAN VALUES 

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


To help you answer this question think about sub questions like:

- If two friends use your product, how could it enhance or detract from their relationship?
- Does your product create new ways for people to interact?...

TRANSPARENCY 

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

- Is it easy for users to find out how the technology works?
- Can a user understand or find out why your technology behaves in a certain way?
- Are the goals explained?
- Is the idea of the technology explained?
- Is the technology company transparent about the way their...

IMPACT ON SOCIETY 

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


Can you exactly define what the challenge is? What problem (what 'pain') does this technology want to solve? Can you make a clear definition of the problem? What 'pain' does this technology want to ease? Whose pain? Is it really a problem? For who? Will solving the problem make the world better? Are you sure? The problem definition will help you to determine...

STAKEHOLDERS 

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


When thinking about the stakeholders, the most obvious one are of course the intended users, so start there. Next, list the stakeholders that are directly affected. Listing the users and directly affected stakeholders also gives an impression of the intended context of the technology.

...

SUSTAINABILITY 


In what way 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 service you want this technology to provide and how this could be achieved with a minimal use of energy. Are improvements possible?

HATEFUL AND CRIMINAL ACTORS 

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


Can you imagine ways that the technology can or will be used to break the law? Think about invading someone's privacy. Spying. Hurting people. Harassment. Steal things. Fraud/identity theft and so on. Or will people use the technology to avoid facing the consequences of breaking the law (using trackers to evade speed radars or using bitcoins to launder...)

DATA 

Are you familiar with the fundamental shortcomings and pitfalls of data and do you take this sufficiently into...


There are fundamental issues with data. For example:

- Data is always subjective;
- Data collections are never complete;
- Correlation and causation are tricky concepts;
- Data collections are often biased;...

FUTURE 


What could possibly happen with this technology in the future?

Discuss this quickly and note your first thoughts here. Think about what happens when 100 million people use your product. How could communities, habits and norms change?

PRIVACY 

Does the 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. Think hard about this question. Remember: personal data can be interpreted in a broad way. Maybe this technology does not collect personal data, but can be used to assemble personal data. If the technology collects special personal data (like...

INCLUSIVITY 

Does this technology have a built-in bias?

Do a brainstorm. Can you find a built-in bias in this technology? Maybe because of the way the data was collected, either by personal bias, historical bias, political 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....

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