QUICKSCAN - CANVAS

H-drive

NAME: H-drive
DATE: May 15, 2026 11:18 PM
DESCRIPTION OF TECHNOLOGY

HUMAN VALUES

The H-drive can replace a person because it can be used in a fabrication process. It can also make the lifes of people working on the production life easier.

TRANSPARENCY

The H-drive is a complex machine, that is not easily understood. The H-drive consist of a detailled mechanical design, multiple black-box electrical componenents and is driven by complex control techniques.

IMPACT ON SOCIETY

The H-drive is a stroke xy-stage with three linear moving coil brushless alternating current synchronous actuators in an H-configuration. The H-drive is a pick and place machine, that can move with one micrometer accuracy. Right now the controllers of the H-drive are not yet tuned, and the safety features of the machine are lacking. The safety is an immense problem, because the machine is not safe to use. The lack off tuning makes the machine unstable.

STAKEHOLDERS

- Fontys Hogescholen
- The high-precision industry
- Nelis van Lierop

SUSTAINABILITY

Energy has not been taken into account, except to limit the energy consumption of the H-drive in sleep mode. The machine uses ennergy from the regular powernet and is able to shut down completely. After the H-drives life cycle certain parts can be reused or recycled, but not all.

HATEFUL AND CRIMINAL ACTORS

On itself the H-drive cannot break the law, however it can be used to fabricate illegal technology's.

DATA

No, the only data the H-drive can receive, is the position it needs to go to. The only data the H-drive can send out is it's position.

FUTURE

When the technology is used on a large scale, high precision technology can be made cheaper than before. The effect of this is that the cost of technology decreases and we as human can devellop more complex technology.

PRIVACY

No.

INCLUSIVITY

The H-drive only bias is that it uses the metric system.

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QUICKSCAN - CANVAS - HELPSIDE

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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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Fontys University of Applied Sciences