

# UltiStats

Ice hockey is a sport that is evolving drastically around Europe and that is quite visible in the Netherlands too.

Currently, there are no statistics for coaches or referees being taken, only for players. Most players also coach or ref so they have certain statistics on their name but no platform exists right now where that data is combined. This is where this platform comes in place - by combining data around a person and not a role.

Created by: karinakozarova  
Created on: April 9, 2022 9:16 PM  
Changed on: April 10, 2022 9:03 AM

Context of use: Education  
Level of education: Bachelor

# Technology Impact Cycle Tool

UltiStats

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## Impact on society

What impact is expected from your technology?

*This category is only partial filled.*

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

When you look at different people in hockey, there are those who fulfill multiple functions (player, coach, and referee). The statistics for that are currently not being combined anywhere.

This is really a problem because the full picture of an individual, involved in hockey is not present.

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

*This question has not been answered yet.*

### **How is this technology going to solve the problem?**

*This question has not been answered yet.*

### **What negative effects do you expect from this technology?**

*This question has not been answered yet.*

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

*This question has not been answered yet.*

### **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.**

*This question has not been answered yet.*

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UltiStats

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## Hateful and criminal actors

What can bad actors do with your technology?

*This category is only partial filled.*

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

Statistics by itself are flawed from the start, especially when you do not know if they are all the possible ones. this system is also vulnerable to that. A bad actor can use fake statistics by putting wrong information in the system to get up higher in the hockey world without proving it was genuinely done by the person.

### **Can fakers, thieves or scammers abuse the technology?**

*This question has not been answered yet.*

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

*This question has not been answered yet.*

### **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.**

*This question has not been answered yet.*

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

*This question has not been answered yet.*

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

*This question has not been answered yet.*

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UltiStats

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## Privacy

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

*This category is only partial filled.*

### **Does the technology register personal data? If yes, what personal data?**

The technology does register personal data, as in the function of the person hockey-wise, and the data is linked to that person, be it, for example, goals scored, games won or penalties made. It also collects data about age, height, weight, nationality and date of birth.

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

*This question has not been answered yet.*

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

*This question has not been answered yet.*

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

*This question has not been answered yet.*

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

*This question has not been answered yet.*

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

*This question has not been answered yet.*

# Technology Impact Cycle Tool

UltiStats

---

## Human values

How does the technology affect your human values?

*This category is only partial filled.*

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

The concern is that there are people who can look into the statistics of the person and imply those numbers as the level of that person and see this as something good or bad. This can affect the judgment of for example scouts when it comes to a player's level in hockey or a coach's ability to win games. People base their judgment already on the numbers only.

### **How does the technology influence the users' autonomy?**

*This question has not been answered yet.*

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

*This question has not been answered yet.*

### **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.**

*This question has not been answered yet.*

# Technology Impact Cycle Tool

UltiStats

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## 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**

IJshockey Nederland

**How is this stakeholder affected?**

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**Did you consult the stakeholder?**

Yes

**Are you going to take this stakeholder into account?**

Yes

**Name of the stakeholder**

NOC\*NSF

**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**

IIHF

**How is this stakeholder affected?**

-

**Did you consult the stakeholder?**

Yes

**Are you going to take this stakeholder into account?**

Yes

# Technology Impact Cycle Tool

UltiStats

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**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.**  
*This question has not been answered yet.*

# Technology Impact Cycle Tool

UltiStats

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## Data

Is data in your technology properly used?

*This category is only partial filled.*

### **Are you familiar with the fundamental shortcomings and pitfalls of data and do you take this sufficiently into account in the technology?**

People can make their judgments just based on what they see in the statistics instead of actually looking at the person. If data is not up to date this can also be an issue. The technology takes this into account by showing when was the data last modified and by keeping a full history of all additions, removals, and modifications.

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

*This question has not been answered yet.*

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

*This question has not been answered yet.*

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

*This question has not been answered yet.*

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

*This question has not been answered yet.*



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## Inclusivity

Is your technology fair for everyone?

*This category is only partial filled.*

### **Will everyone have access to the technology?**

*This question has not been answered yet.*

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

The technology inherits some built-in biases - nationality, age, weight, height, achieved results. These can be used for discrimination. However, the data is already present and the system itself does not discriminate based on it.

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

*This question has not been answered yet.*

### **Is everyone benefitting from the technology or only a a small group?**

#### **Do you see this as a problem? Why/why not?**

*This question has not been answered yet.*

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

*This question has not been answered yet.*

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

*This question has not been answered yet.*

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UltiStats

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## Transparency

Are you transparent about how your technology works?

*This category is only partial filled.*

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

There is no tutorial for this technology but there is an index page that it is explained what's the purpose of it, how it might be biased, and how data collection works. This way we are transparent and the user is well informed and warned.

### **If the technology makes an (algorithmic) decision, is it explained to the users/stakeholders how the decision was reached?**

*This question has not been answered yet.*

### **Is it possible to file a complaint or ask questions/get answers about this technology?**

*This question has not been answered yet.*

### **Is the technology (company) clear about possible negative consequences or shortcomings of the technology?**

*This question has not been answered yet.*

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

*This question has not been answered yet.*

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## Sustainability

Is your technology environmentally sustainable?

*This category is only partial filled.*

### **In what way is the direct and indirect energy use of this technology taken into account?**

The only possible improvement is by using servers that are eco-friendly (for example powered by solar or wind energy).

### **Do you think alternative materials could have been considered in the technology?**

*This question has not been answered yet.*

### **Do you think the lifespan of the technology is realistic?**

*This question has not been answered yet.*

### **What is the hidden impact of the technology in the whole chain?**

*This question has not been answered yet.*

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

*This question has not been answered yet.*

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## Future

Did you consider future impact?

*This category is only partial filled.*

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

The big goal of this project is to build up a network of statistics in hockey and provide data to be able to improve different aspects based on that. With the growth of the project, the data will also grow and predictive functionalities can be unlocked that can push the sport of ice hockey further in its development.

### **Sketch a or some future scenario (s) (20-50 years up front) regarding the technology with the help of storytelling. Start with at least one utopian scenario.**

*This question has not been answered yet.*

### **Sketch a or some future scenario (s) (20-50 years up front) regarding the technology with the help of storytelling. Start with at least one dystopian scenario.**

*This question has not been answered yet.*

### **Would you like to live in one of this scenario's? Why? Why not?**

*This question has not been answered yet.*

### **What happens if the technology (which you have thought of as ethically well-considered) is bought or taken over by another party?**

*This question has not been answered yet.*

### **Impact Improvement: Now that you have thought hard about the future impact of the technology, what improvements would you like to make? List them below.**

*This question has not been answered yet.*