

# Potential Impact Assessment

Genuine Challenge 2: Chess opening predictor

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Created on: June 15, 2021 7:24 PM  
Changed on: June 15, 2021 7:47 PM

# Technology Impact Cycle Tool

## Potential Impact Assessment

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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?

The projects goal is to reduce the time players have to spend for their preparation on a specified player.

Nowadays people replay tens if not hundreds of games in preparation for the match with their opponent, this technology will change that by analyzing your opponents games for you to predict the opening they will play against you!

### 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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## 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?**

There is only an extreme scenario where this technology could be used to avoid the consequences of breaking the law, which is when a player is cheating during the opening and lets his defence be the fact that this technology predicted this opening, hence no cheating was involved. However, we can't be held responsible when cheating takes place in an over the board game, because the onsite referee is responsible for catching this kind of behaviour in the act.

### **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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### 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?**

This technology does not directly register personal data, however it does register peoples usernames, which might be traced back to the player if they have decided to link their personal information to their chess account.

#### **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.*

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## 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?**

This technology might affect the identity of the users, when the user would have a different idea about their (in)balanced openings and kind of gets put in place due to this technology, which might offend the user in a way.

### **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.*

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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

Chess players (might use this technology to improve their own gameplay or prepare for an opponent)

### 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

Chess trainers (might use this technology to improve their students gameplay)

### 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

Chess engines (might use this technology to improve their strength)

### How is this stakeholder affected?

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### Did you consult the stakeholder?

Yes

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

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Yes

**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.*

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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?**

Since this data is collected from online games, we can't guarantee that no cheating has taken place. We also can't collect any information about the settings in which these games were played (were the player under the influence of anything for example?).

#### **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?

Bias has been reduced due to the fact that the collected data consist of the last x amount of player games from the website (API) of lichess. However the dataset itself does contain bias ofcourse, since it was acquired from only one source, whilst there are a lot of other source.

## 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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## 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?**

Making money from this technology is not one of the goals, hence no business model needs to be disclosed.

How the technology works and what will be done with the users data will be disclosed in an user manual which will be publicly accessible

### **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 direct energy use of this technology takes place when training the model with the dataset. The indirect energy use for this project will be the hosting of the website where this model will be hosted. When delivering this project the website will most likely be hosted on firebase, which is not optimal, so after the delivery the website will be run locally when necessary.

### **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?**

This technology might be expanded with the use of chess engines to evaluate the predicted openings, giving the user a better understanding for what to play to achieve an advantages position.

**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.*