PDR

AI for Society

TONY JIANG

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Introduction

This is my Personal Development Report (PDR). My name is Tony, and I am from Aruba. I came to the Netherlands to study ICT software engineering. In my downtime, I like to go hiking or exploring different places in the Netherlands.

The reason I choose this minor is to learn how AI is developed like what type of data is it getting, how would it use the data, etc. This will give me insight into how AI models work, as I currently use AI primarily as a search engine or for explanations on software methodologies and best practices.

Individual Project

For my individual project, I want to create a top-hit song prediction AI that new artists can use to improve their songs and increase their chances of making a hit. For example, the AI could provide feedback on whether the energy of their song should be higher or lower to enhance its hit potential.

Group Project

For our group project, we have been tasked with creating an AI tutor for secondary schools in the Netherlands. The AI tutor will serve as an assistant to teachers, allowing them to manage all learning materials within the system. Students can use the AI tutor to ask questions about the materials when they need further clarification.

Additionally, the AI tutor will provide exercises tailored to each student's learning level and monitor their progress. If a student is struggling, the AI tutor will notify the teacher so they can provide additional support.

Learning Outcome 1 Societal Impact

This learning outcome focuses on considering the impact of your AI project on society in different perspectives. Think about how your AI project will affect society and take data regulations regarding users into account.

First Evaluation: week 4

Self-assessment

I assess myself as orienting because I have started to consider the societal impact of my individual project, including both its positive and negative effects. The positive impact of my project is helping new artists improve their songs to become top hits. However, there are also potential negative impacts, which I have outlined in my Personal Challenge Proposal document.

I also talked to one of the teachers about the societal impact that I thought about. Some positive and negative impact it could have.

For the group we haven't thought about it yet.

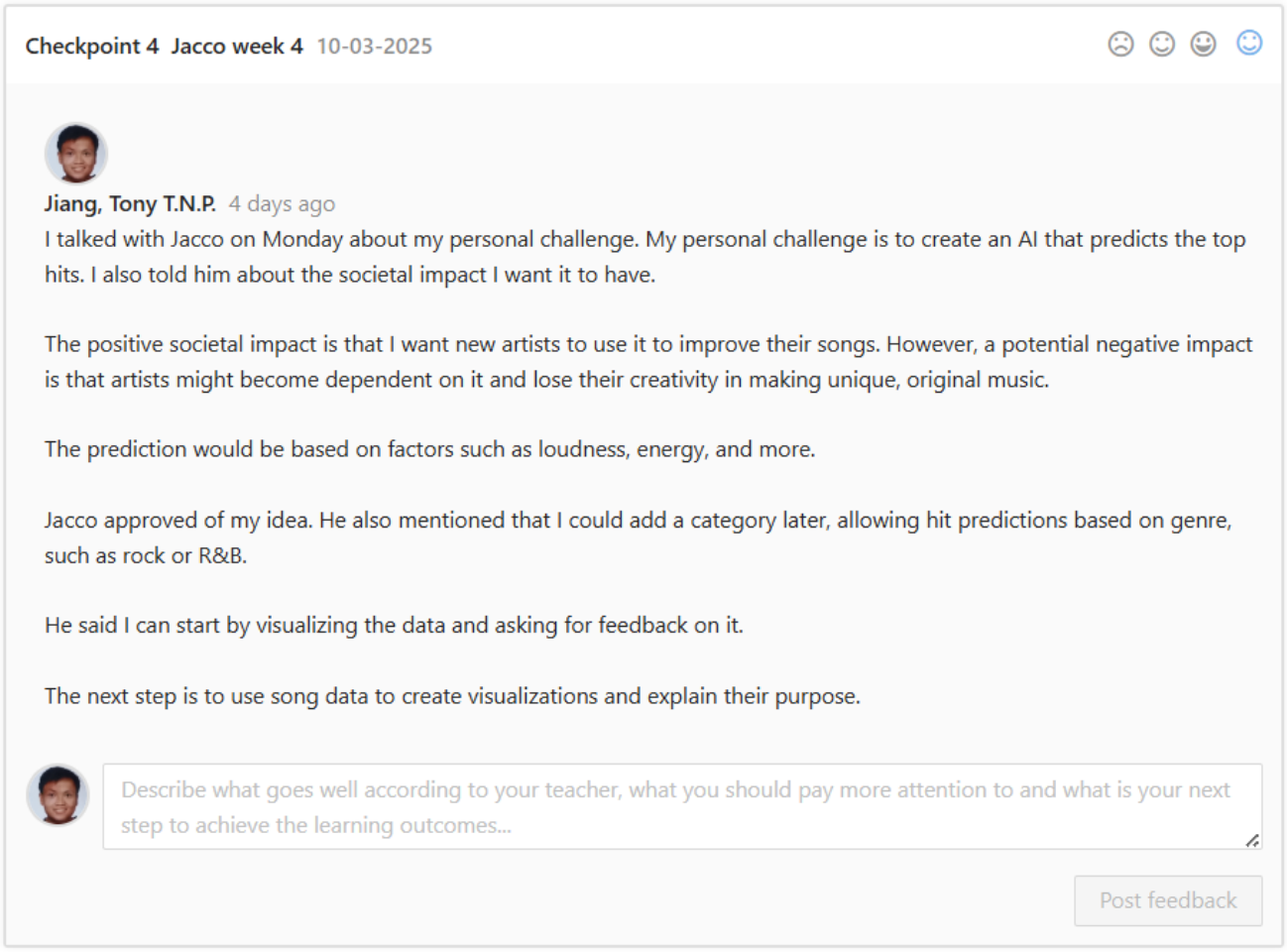
Feedback Evidence

Here is the part of the societal impact that I wrote about in my Personal Challenge Proposal document.

Contextual Part

For the contextual aspect, I have considered the societal impact. On the positive side, it can help new artists refine their songs to increase their chances of becoming hits. However, a potential downside is that new artists might rely too much on it and lose their creativity in developing unique music. Additionally, my personal challenge includes problems I need to solve, such as defining what makes a song a hit. All challenges I face during this process will be documented in a report. With this, I will fulfill learning outcomes 1, 2, and 6.

Here is the FeedPulse feedback that I talked to Jacco about my societal impact.



Second Evaluation: week 8

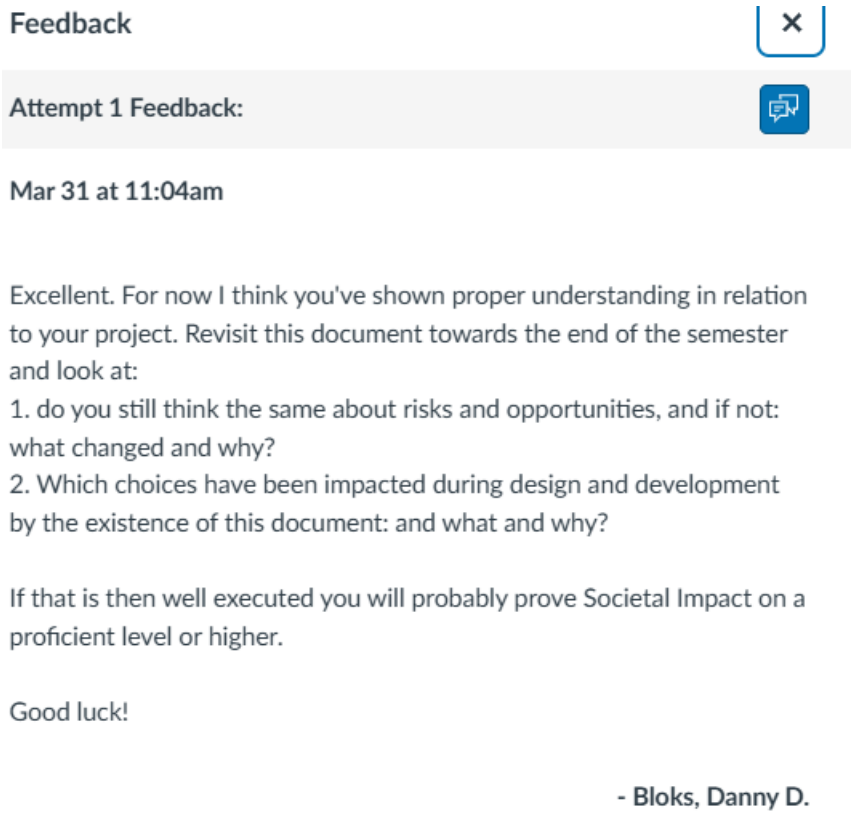
Self-assessment

I assess myself as a beginner because I have created a Societal Impact document in which I consider different perspectives on my individual project, such as its potential impact on society, including privacy, data usage, target users, transparency, hateful and criminal actors and other considerations that have to do with Societal Impact. Additionally, I received feedback from Danny that the document was good, and I plan to review it again at the end of the semester to see if my views have changed since I first wrote it.

Feedback Evidence

Here is the Societal Impact document that I have written for my individual project and below that I the feedback I got from Danny on my Societal Impact document that I need to revisit later on.

Societal Impact Document



Feedback

Attempt 1 Feedback:

Mar 31 at 11:04am

Excellent. For now I think you've shown proper understanding in relation to your project. Revisit this document towards the end of the semester and look at:
1. do you still think the same about risks and opportunities, and if not: what changed and why?
2. Which choices have been impacted during design and development by the existence of this document: and what and why?

If that is then well executed you will probably prove Societal Impact on a proficient level or higher.

Good luck!

- Bloks, Danny D.

Third Evaluation: week 12

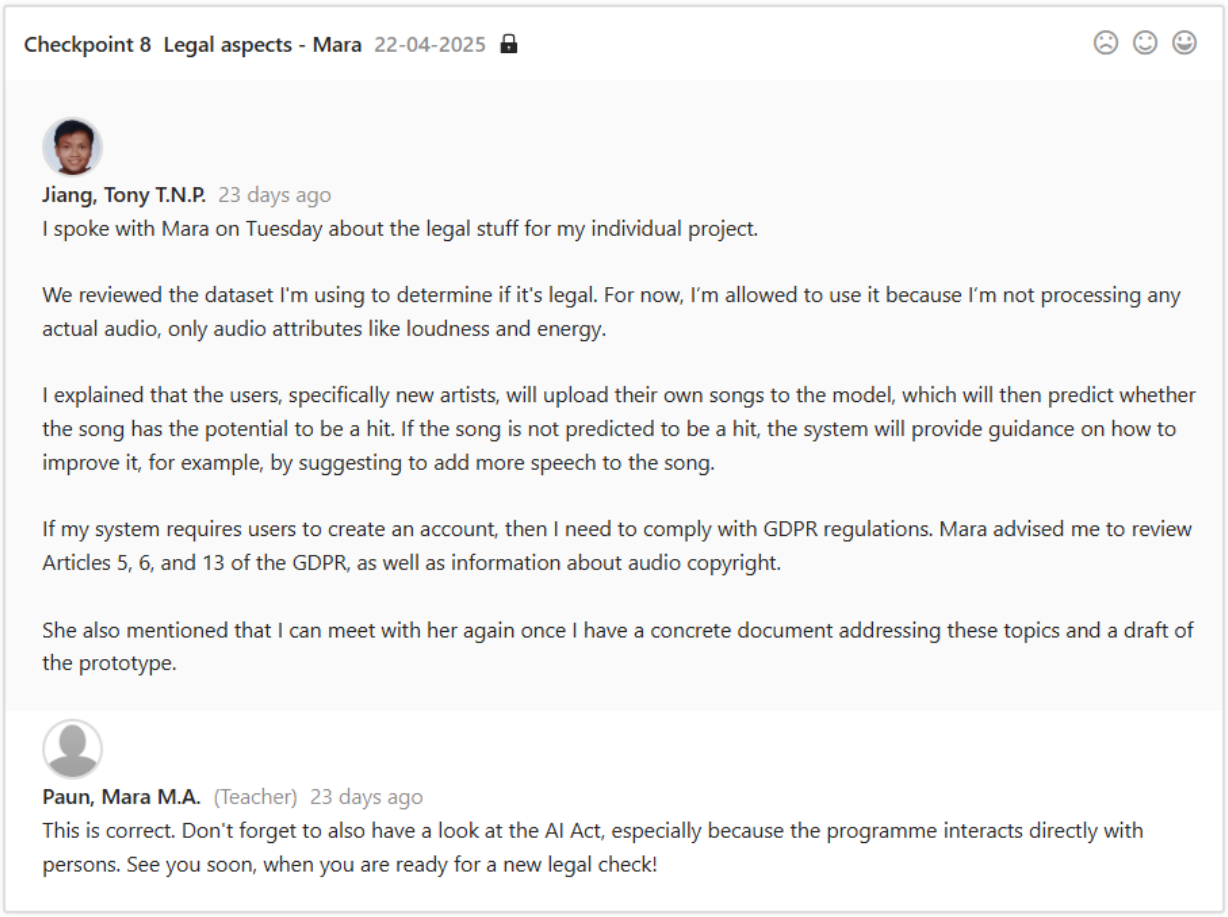
Self-assessment

4 pts	3 pts	2 pts	1 pts	0 pts
Advanced	Proficient	Beginning	Orienting	Undefined

I assess myself as beginning because I still need to revisit the Societal Impact document and evaluate whether there have been any changes since the first version. I also spoke with a legal consultant and received feedback on my individual project, indicating that I need to create a document covering the legal aspects of my personal project.

Feedback Evidence

Here is the feedback I got from Mara, the legal consultant, which I need to create a document for my individual project about legal coverage.



Checkpoint 8 Legal aspects - Mara 22-04-2025

Jiang, Tony T.N.P. 23 days ago

I spoke with Mara on Tuesday about the legal stuff for my individual project.

We reviewed the dataset I'm using to determine if it's legal. For now, I'm allowed to use it because I'm not processing any actual audio, only audio attributes like loudness and energy.

I explained that the users, specifically new artists, will upload their own songs to the model, which will then predict whether the song has the potential to be a hit. If the song is not predicted to be a hit, the system will provide guidance on how to improve it, for example, by suggesting to add more speech to the song.

If my system requires users to create an account, then I need to comply with GDPR regulations. Mara advised me to review Articles 5, 6, and 13 of the GDPR, as well as information about audio copyright.

She also mentioned that I can meet with her again once I have a concrete document addressing these topics and a draft of the prototype.

Paun, Mara M.A. (Teacher) 23 days ago

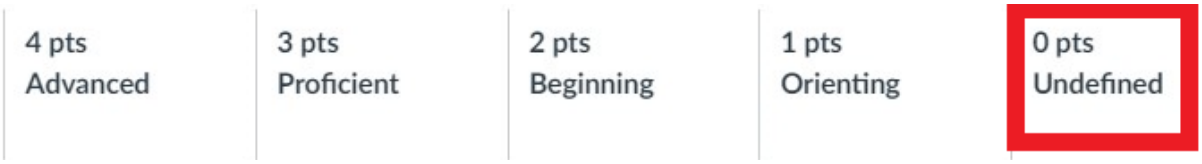
This is correct. Don't forget to also have a look at the AI Act, especially because the programme interacts directly with persons. See you soon, when you are ready for a new legal check!

Learning Outcome 2 investigative Problem Solving

This learning outcome focuses on you to be able to identify problems within your AI project and develop solutions to address them.

First Evaluation: week 4

Self-assessment



4 pts	3 pts	2 pts	1 pts	0 pts
Advanced	Proficient	Beginning	Orienting	Undefined

I assess myself as undefined. I have yet to identify problems in my individual project and group project.

Feedback Evidence

No evidence.

Second Evaluation: week 8

Self-assessment

I assess myself as a beginner because, for my individual project, I created a Societal Impact document where I reflected on potential problems that could arise. For example, if I were to sell my project, an AI model that predicts top hit songs, to a company, it might be used in a way that changes its original purpose. I also proposed a solution to address that issue.

For my group project, we researched a problem by formulating it as a question, writing down the methodology we are going to use from the DOT framework, investigating it, documenting our findings, testing possible solutions, and drawing a conclusion. One example of a problem we explored was: “How can an OpenAI assistant be implemented for the AI Tutor?”

Feedback Evidence

Here is the evidence about the problem I thought about if I sold my individual project and the solution I came up with. It from my Societal Impact document in the “Future” section.

> If this AI tool is ever bought by another company, I will ensure that:
>
> - Strong user data protection is in place (if user data is ever collected).
> - Clear documentation defines the AI’s intended purpose and ethical use.
> - A strict license agreement prevents unauthorized modifications that could harm users or change the AI’s intended design.
>
> This approach will protect users and ensure that the AI remains an ethical and helpful tool for new artists.

Societal Impact Document

Here are the research documents we have done for the group.

RAG

OpenRouter

OpenAI Assistant

Third Evaluation: week 12

Self-assessment

I assess myself as beginning because there are still some problems with the dataset in my individual project that I don't yet know how to solve. To address this, I asked for feedback and consulted with the technical teachers.

In the group, problem-solving hasn't been an issue thanks to my teammates. We define different solutions and validate them by considering various perspectives. For example, version 2 of our architecture was too technical for the client, so we created a third version that was less technical and included explanations. Another example is when we weren't sure what information we needed for the AI Tutor, so we created a draft class diagram to clearly define the information required for the AI Tutor.

Feedback Evidence

Here is the feedback, where I consult the problem with Jacco the technical teacher.

Checkpoint 9 Jacco week 12 12-05-2025

Jiang, Tony T.N.P. 3 days ago

I spoke with Jacco on Monday about my visualization project.

I showed him the visualizations and explained what they represent and who the intended audience is. The feedback he gave me was:
-The first visualization is too general. I should make it more specific, for example by focusing on genres.
-The second visualization is more focused and shows which genres are saturated. It could be used to suggest generating songs using AI in less saturated genres.

He also suggested an additional idea for a visualization: analyzing and visualizing the relationships between audio features to see which features are more connected and exploring those further.

I told him that I'm currently training a model using XGBoost to predict whether a song is a hit. I asked what the ideal target accuracy should be and whether I could add more songs to the dataset later. He advised:
-The ideal prediction accuracy should be at least 80%.
-You can add more songs later, but you should first train the model with your current data. Once new data is added, retrain the model on the updated dataset.

I also mentioned that some Kaggle data is missing columns, such as tempo. Jacco suggested that I could fill in missing values by finding songs in the same genre and using the average of the closest matching audio features.

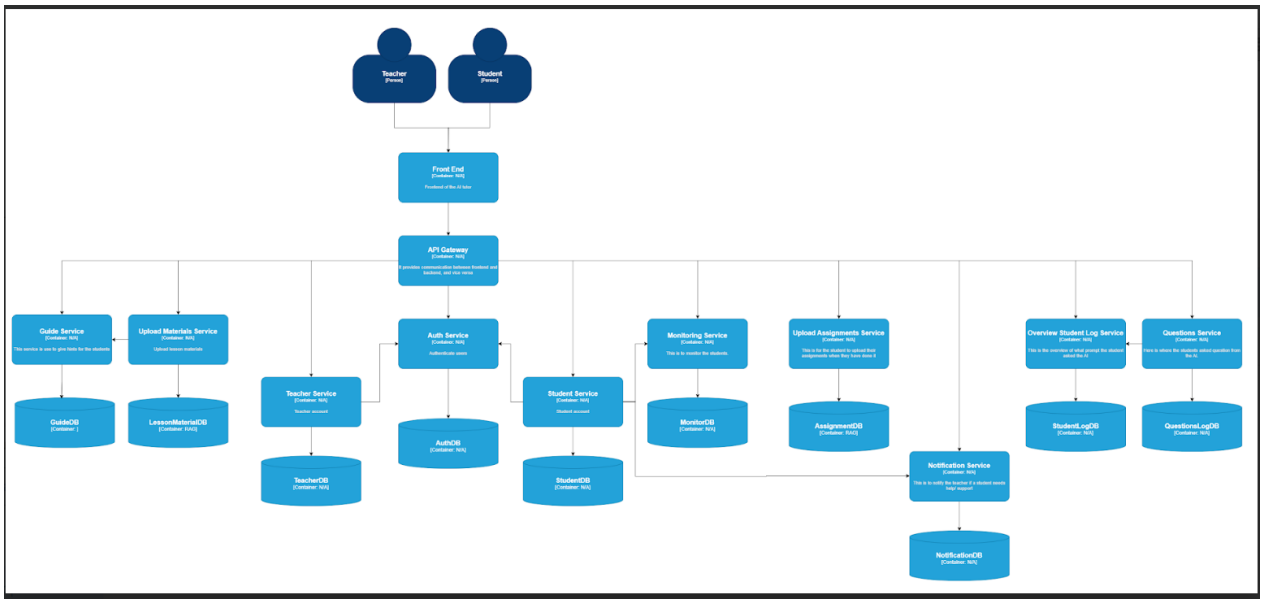
Additionally, he mentioned that I could eventually build a model that generates a potential hit song using the patterns from my second visualization and the trained model. This can be done after the predictive model is complete.

To-Do List:
-Refine the existing visualizations
-Add new visualizations based on the feedback
-Reach at least 80% prediction accuracy

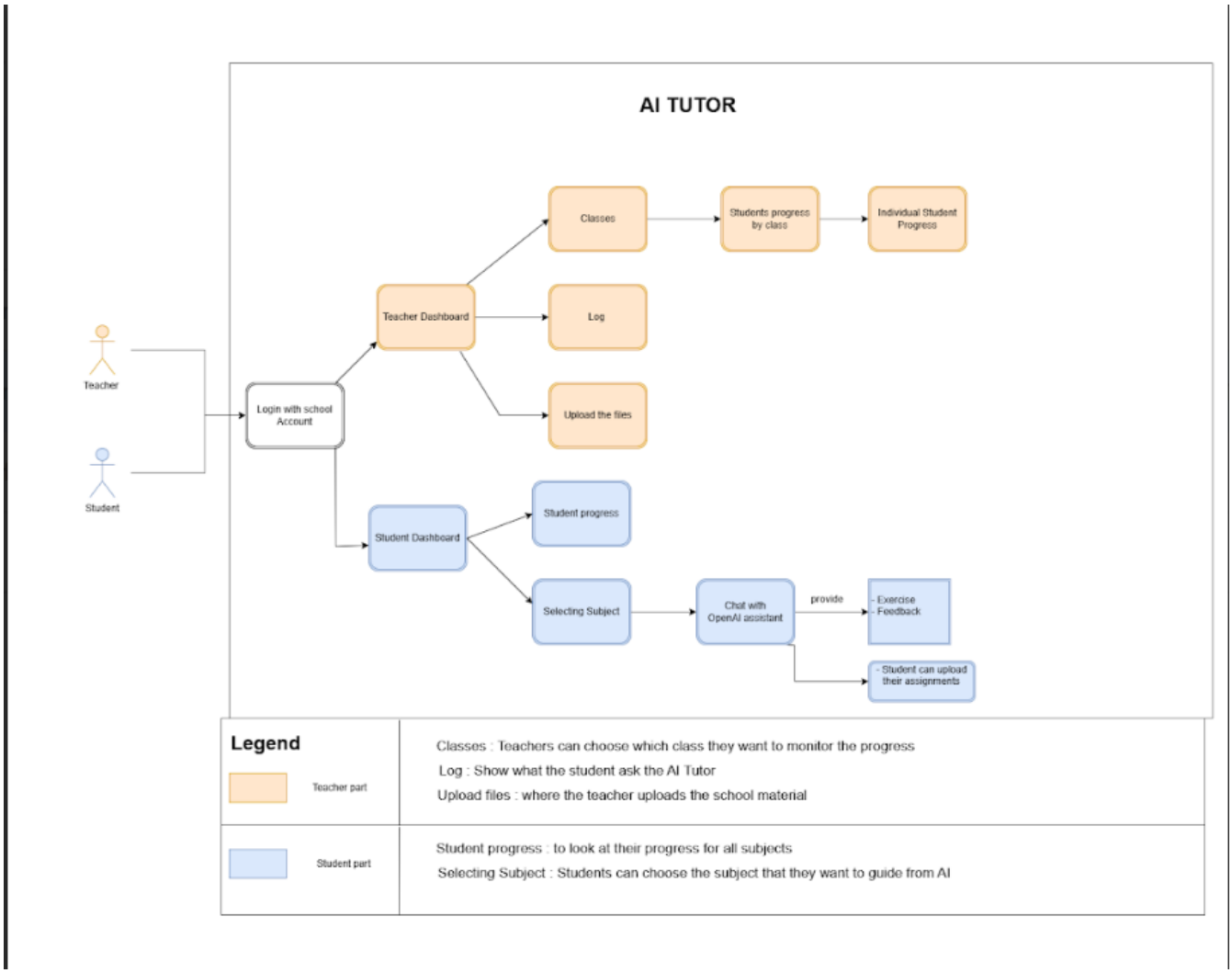
Snoeren, Jacco J.P.H. (Teacher) 3 days ago

Yes. In general try to close the gap between the technical side and the user side. What are you trying to achieve for them? The technical part is done properly, good job :)

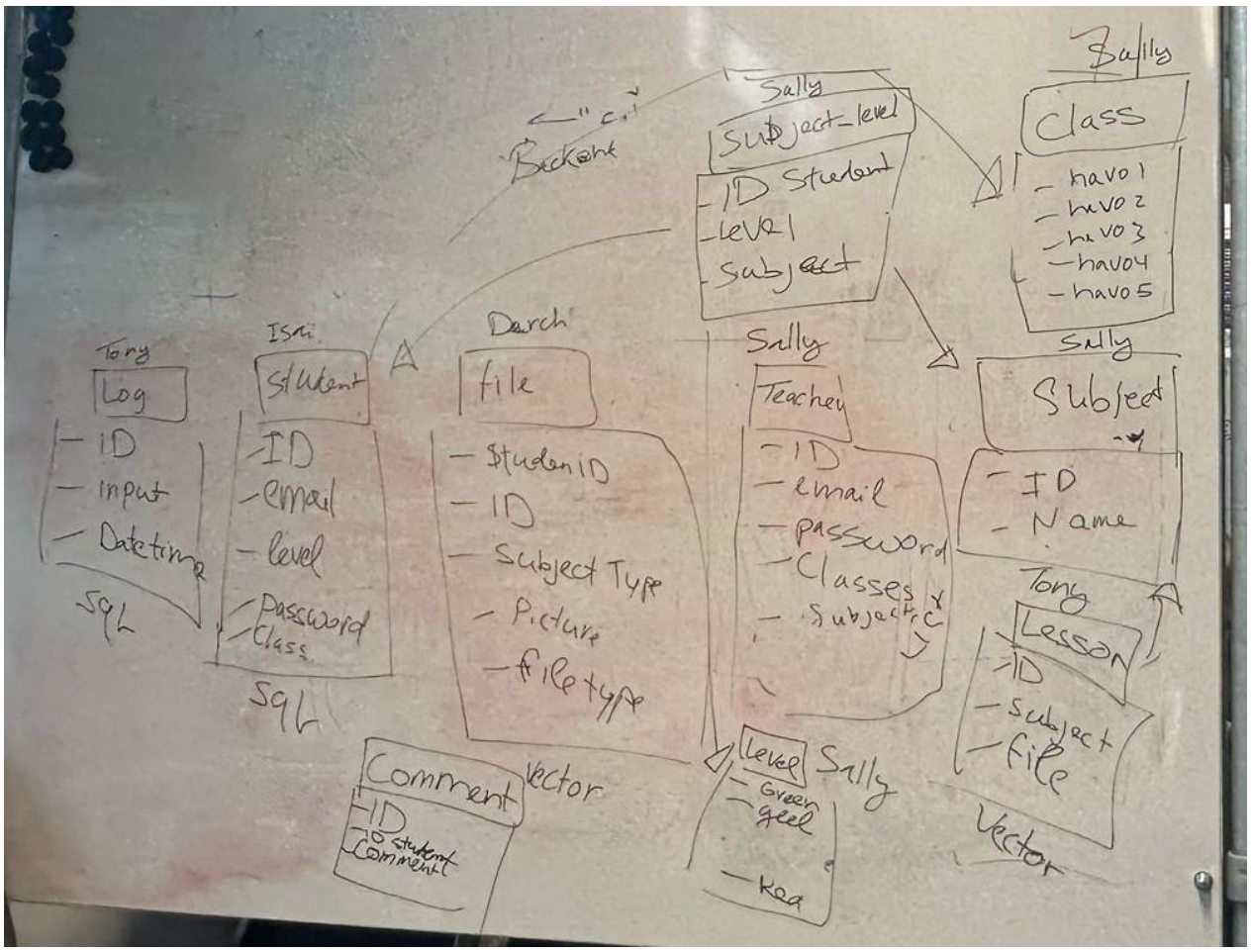
Here is the second version of the architecture, which is very technical.



Here is the third version of the architecture, which is more understandable for the client.



Here is the draft of the class diagram that we made.



Learning Outcome 3 Data Preparation

This learning outcome focuses on collecting data, estimating its volume, and using it appropriately in your AI project.

First Evaluation: week 4

Self-assessment

4 pts	3 pts	2 pts	1 pts	0 pts
Advanced	Proficient	Beginning	Orienting	Undefined

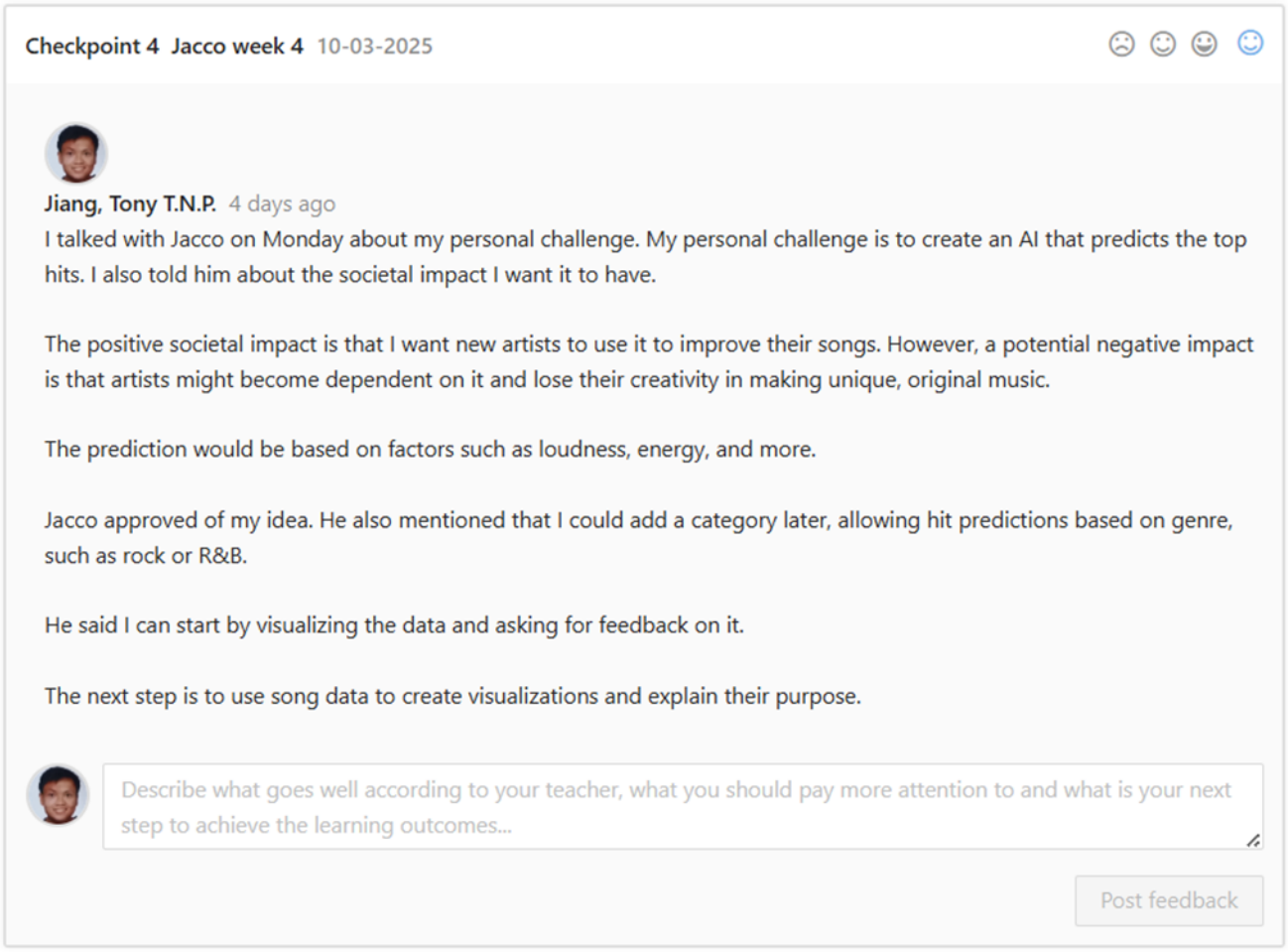
I assess myself as orienting because I have explored the data I need for my individual project. Specifically, I analyzed song data for hit song prediction. I examined the attributes that could be

useful for prediction, such as the song's energy, loudness, and other relevant features, instead of using the song's MP3 file.

Additionally, I received feedback from Jacco, who said it's a good idea.

Feedback Evidence

Here is the FeedPulse that I had feedback from Jacco after discussing the song data with him, including the attributes I can use for my hit song prediction.



Second Evaluation: week 8

Self-assessment

I assess myself as a beginner because, in the Societal Impact document, I reflected on data accuracy, the type of data being collected, and how that data is being used. I also cleaned my dataset by removing unnecessary columns and empty entries to ensure they wouldn't interfere with the model training and testing process.

For the group project, we are using exam assignments from examenblad.nl to test the OpenAI assistant, which we are using to build an AI tutor. Since the OpenAI assistant is already pre-trained, we don't need to train it ourselves instead, we focus on instructing the model on how to work with our specific data. The data that is being uploaded is a PDF, but it can be other file types.

Feedback Evidence

Here is the evidence that I thought about the data in my Societal Impact document.

Data

The data collected for the AI model has its limitations and subjectivity. A song's success can be influenced by various factors, including:

- Culture
- Marketing strategies
- Personal preferences

To address these challenges, the AI model will use a diverse dataset and be continuously improved through testing and feedback.

To maintain accuracy, the dataset will be regularly updated with new trending hit songs, and the model will be monitored to ensure long-term sustainability of insights.

Currently, no artist data is being collected. However, if artist data is needed in the future for example when artists upload information such as their name, bio, contact details, or performance analytics, GDPR compliance will be required. This includes obtaining explicit consent, ensuring data security, and allowing artists to control their data.

Here is where I clean my data for my individual project.

Cleaning Data

Before we begin with anything, the data should be cleaned first.

Remove Missing Data

```
# Add csv data to songs
songs = pd.read_csv("universal_top_spotify_songs.csv")

# Drop useless column
songs.drop(columns=['album_name', 'album_release_date'], inplace=True)

# Fill in the null for country to Global
songs['country'] = songs['country'].fillna('Global')

# Drop null name and artists cell
songs = songs.dropna(subset=['name', 'artists'])

# Show the total number of null in each column.
print(songs.isnull().sum())
```

[ ]

```
spotify_id          0
name                0
artists             0
daily_rank          0
daily_movement      0
weekly_movement     0
country             0
snapshot_date       0
popularity          0
```

Here is the mention of what you can upload for the OpenAI assistant and give instructions on what to do. Also below is the research document we did on OpenAI Assistant.

OpenAI Assistant Web-based

To set up the assistant on the web, you need to define a name for it and specify system instructions so that the assistant knows what to do. For example, you can provide instructions for the assistant to print out all capitalized words.
You also have the option to upload files, which the assistant can use to retrieve information. The file type can be PDF, Word document, text file, and CSV. Additionally, you can enable the assistant to write code based on the provided files.

OpenAI Assistant

Third Evaluation: week 12

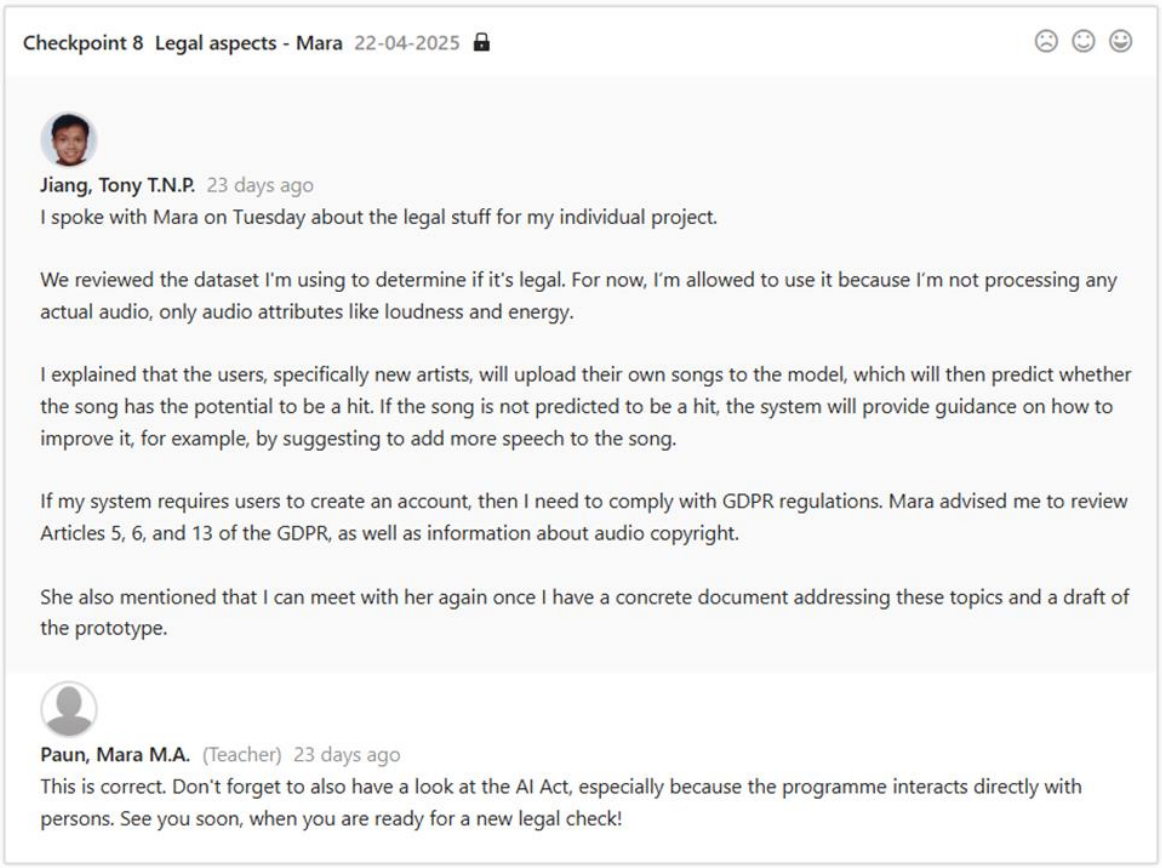
Self-assessment

I assess myself as beginning because my individual project is still missing a legal document, such as a GDPR document, outlining what user data I'm collecting and how I plan to use it. What I currently have in place is data cleaning, including removing duplicates for both visualization and model training/testing purposes. The data used for visualization is slightly different from the data used by the model, for example, the model does not use the 'track_artist' field, as it has no relevance for prediction but for visualization you can use it. The model is trained on song attributes and predicts whether a song is a hit.

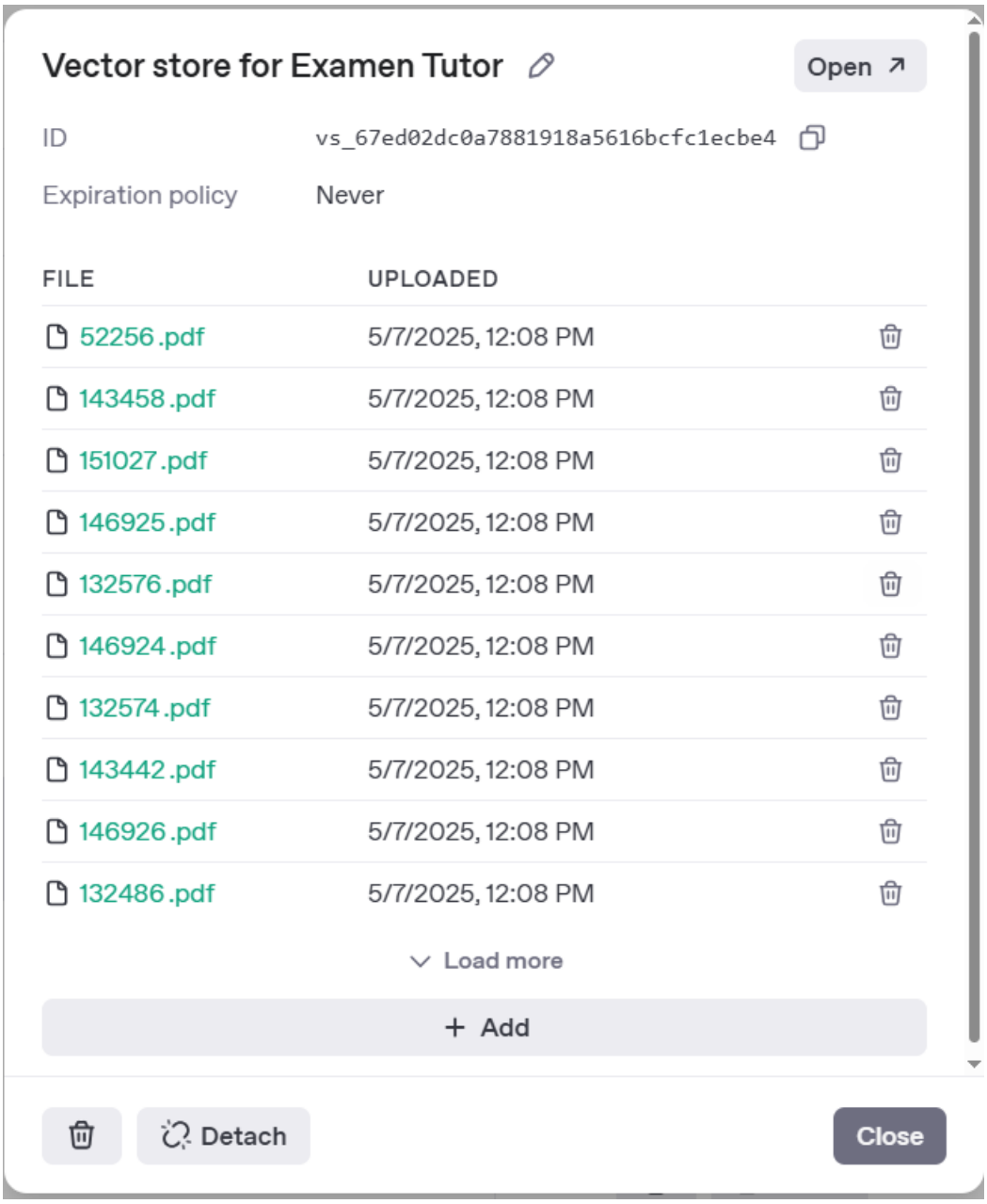
As a group, we are still missing GDPR documentation. The data we are using include PDF files from lessons available on examenblad.nl, from the client, and from a group member who has access to PDF lesson materials provided by a teacher.

Feedback Evidence

Here is the feedback I got from the legal consultant on making a GDPR document.



Here are the PDF files for the AI Tutor.

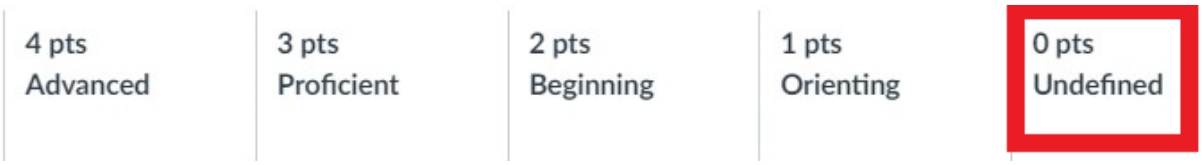


Learning Outcome 4 Machine Teaching

This learning outcome focuses on training an AI model with the data provided to ensure it serves its intended use. Additionally, it involves testing the model to verify that it has been trained correctly

First Evaluation: week 4

Self-assessment



I assess myself as undefined because I haven't looked into training an AI model for my individual project and group project yet.

Feedback Evidence

No evidence.

Second Evaluation: week 8

Self-assessment

I assess myself as orienting because, in our group project, we have just started creating a prototype of the AI Tutor using the OpenAI Assistant API. We uploaded exam documents to test the data and see how it works. We gave the model specific instructions on how to use the data and how to respond, in order to better understand how the OpenAI Assistant works and how we could implement it for the AI Tutor. Since the OpenAI Assistant is already trained, we only need to provide it with the specific instructions we want it to follow.

Feedback Evidence

Here is the research document we created on the OpenAI Assistant, explaining how we tested it and evaluated how it works.

OpenAI Assistant

Third Evaluation: week 12

Self-assessment

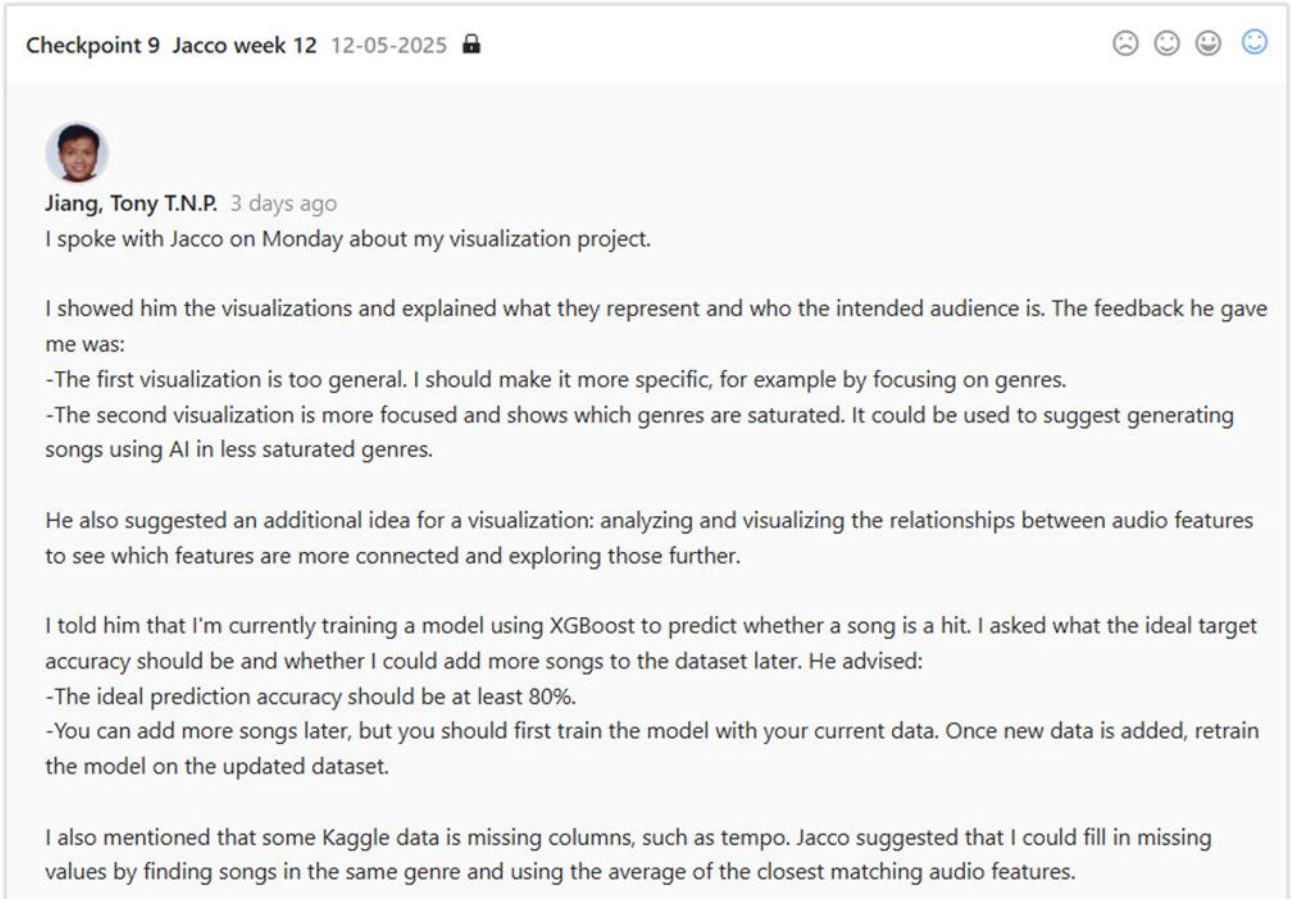
4 pts	3 pts	2 pts	1 pts	0 pts
Advanced	Proficient	Beginning	Orienting	Undefined

I assess myself as beginning because, in my individual project, I'm currently training my model to reach 80% accuracy. I also discussed this with Jacco.

For the group project, we are currently focusing the AI Tutor on a single subject: English. Based on the test we conducted during the AI event, where visitors at our booth are able to try and break the AI Tutor like a student might, we identified areas that need improvement. We still need to work on making the AI Tutor respond only to questions related to the English lessons provided in the PDF files. It should also be able to answer user questions in different languages.

Feedback Evidence

Here is the feedback when I told Jacco, that I'm currently training my model.



Checkpoint 9 Jacco week 12 12-05-2025

Jiang, Tony T.N.P. 3 days ago

I spoke with Jacco on Monday about my visualization project.

I showed him the visualizations and explained what they represent and who the intended audience is. The feedback he gave me was:
-The first visualization is too general. I should make it more specific, for example by focusing on genres.
-The second visualization is more focused and shows which genres are saturated. It could be used to suggest generating songs using AI in less saturated genres.

He also suggested an additional idea for a visualization: analyzing and visualizing the relationships between audio features to see which features are more connected and exploring those further.

I told him that I'm currently training a model using XGBoost to predict whether a song is a hit. I asked what the ideal target accuracy should be and whether I could add more songs to the dataset later. He advised:
-The ideal prediction accuracy should be at least 80%.
-You can add more songs later, but you should first train the model with your current data. Once new data is added, retrain the model on the updated dataset.

I also mentioned that some Kaggle data is missing columns, such as tempo. Jacco suggested that I could fill in missing values by finding songs in the same genre and using the average of the closest matching audio features.

Additionally, he mentioned that I could eventually build a model that generates a potential hit song using the patterns from my second visualization and the trained model. This can be done after the predictive model is complete.

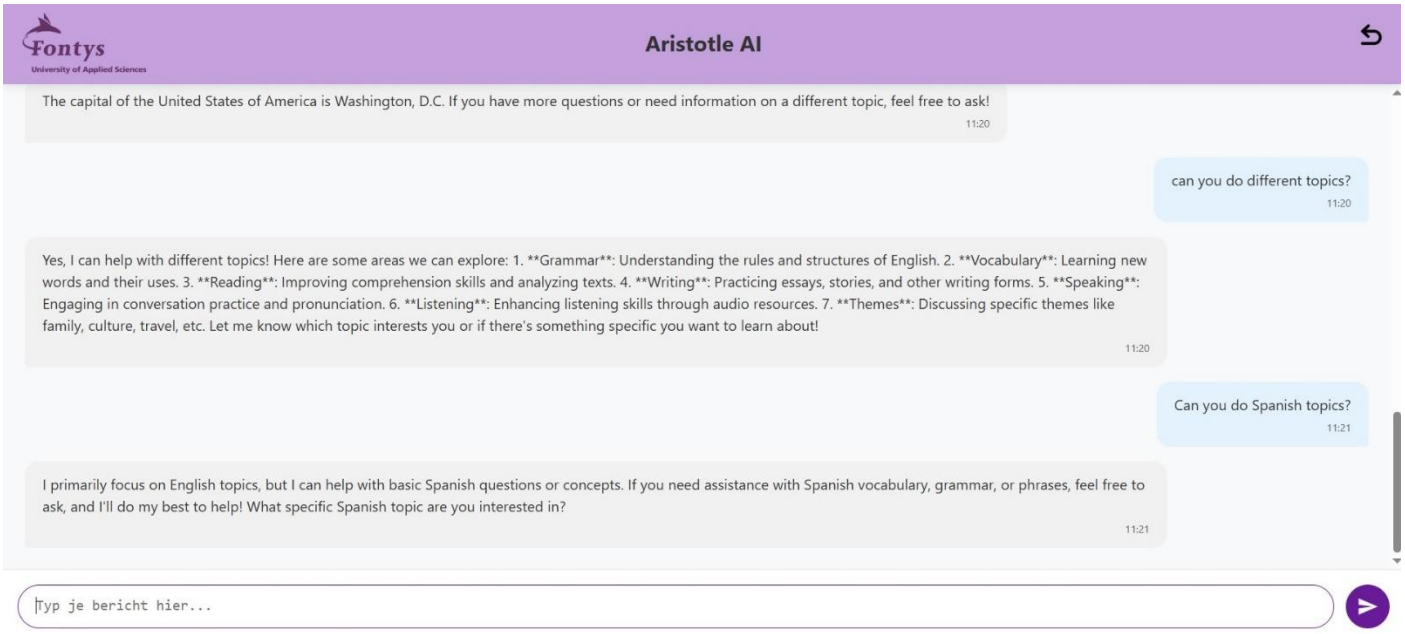
To-Do List:
-Refine the existing visualizations
-Add new visualizations based on the feedback
-Reach at least 80% prediction accuracy

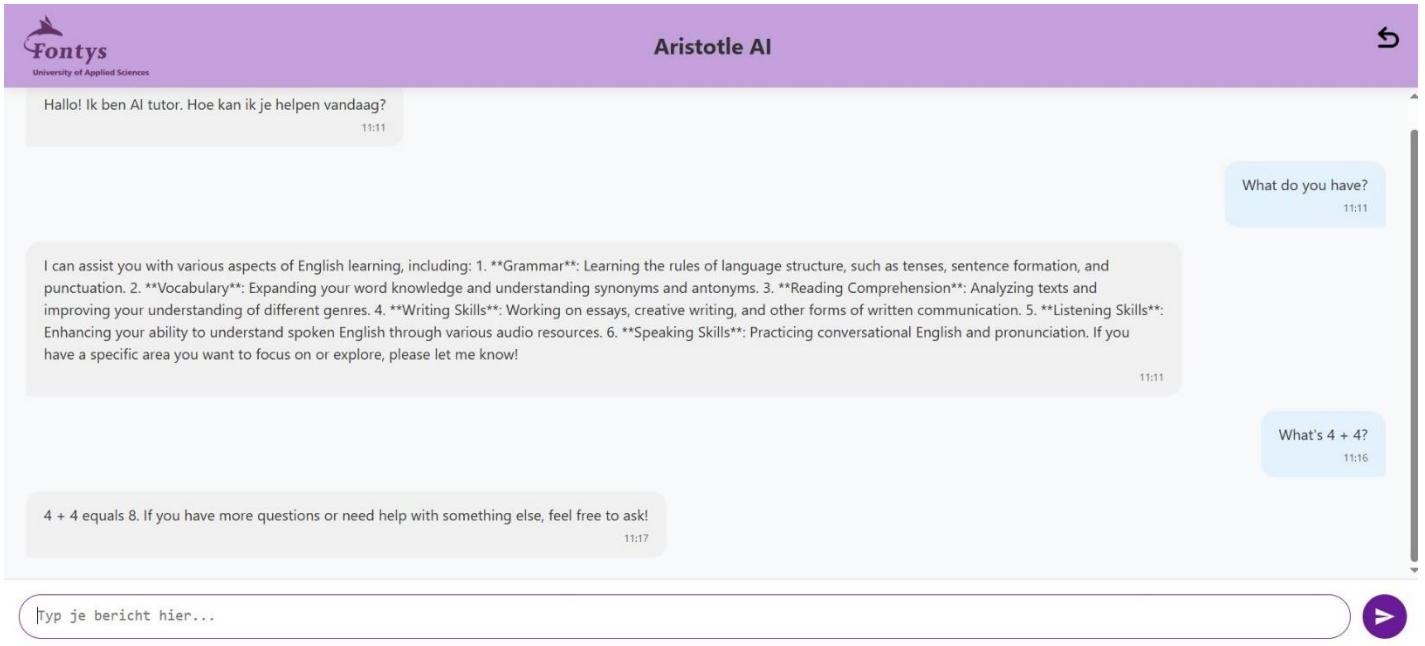
Snoeren, Jacco J.P.H. (Teacher) 3 days ago
Yes. In general try to close the gap between the technical side and the user side. What are you trying to achieve for them? The technical part is done properly, good job :)

Here is the feedback we have written down on what we need to fix for the AI Tutor during the event.

```
AI Tutor Fix
Fix to only answer engish subject
When A student ask in a different language, the AI tutor should answer back in the same language.
When answering in a different language it should only give answer with the provide subject only.
```

Here is the test of what the audience did on the AI Tutor, that we need to fix.



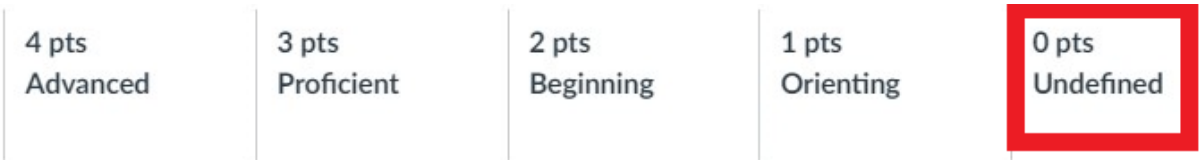


Learning Outcome 5 Data Visualisation

This learning outcome focuses on presenting data in a meaningful and educational way about the data, allowing the target users to interact with and understand the information that is being displayed.

First Evaluation: week 4

Self-assessment



I assess myself as undefined because I have not yet started visualizing my data in a meaningful way for either my individual or group project.

Feedback Evidence

No evidence.

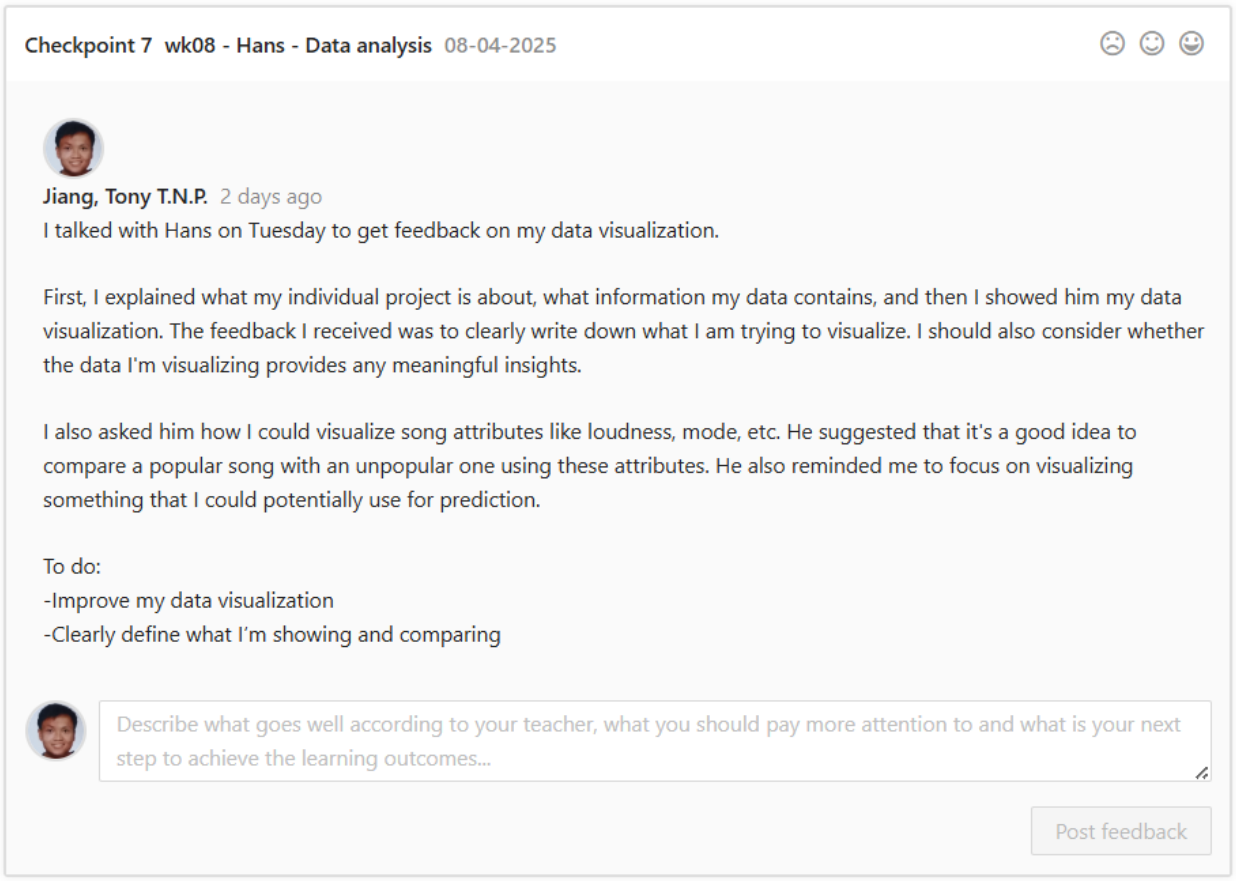
Second Evaluation: week 8

Self-assessment

I assess myself as orienting because I have just started working on the visualization for my individual project, trying to understand what to visualize in a meaningful way. I also received feedback on my data visualization, on what to fix, what to visualize and how to do it, so now I'm planning how to showcase it effectively and explain why I chose to visualize the data in that way.

Feedback Evidence

Here is the feedback I got from my data visualization.



Third Evaluation: week 12

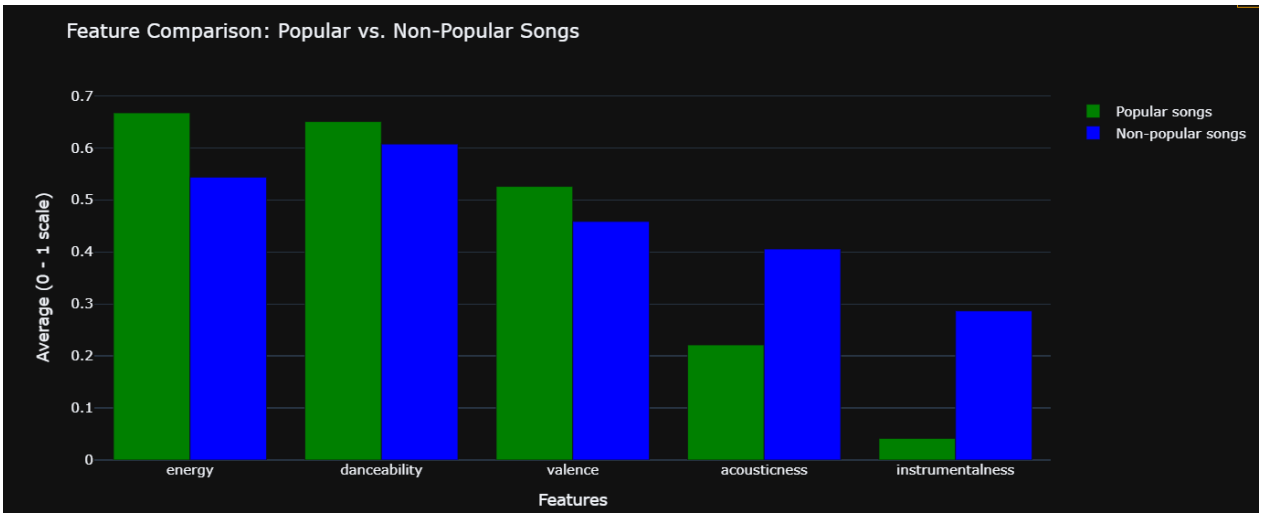
Self-assessment

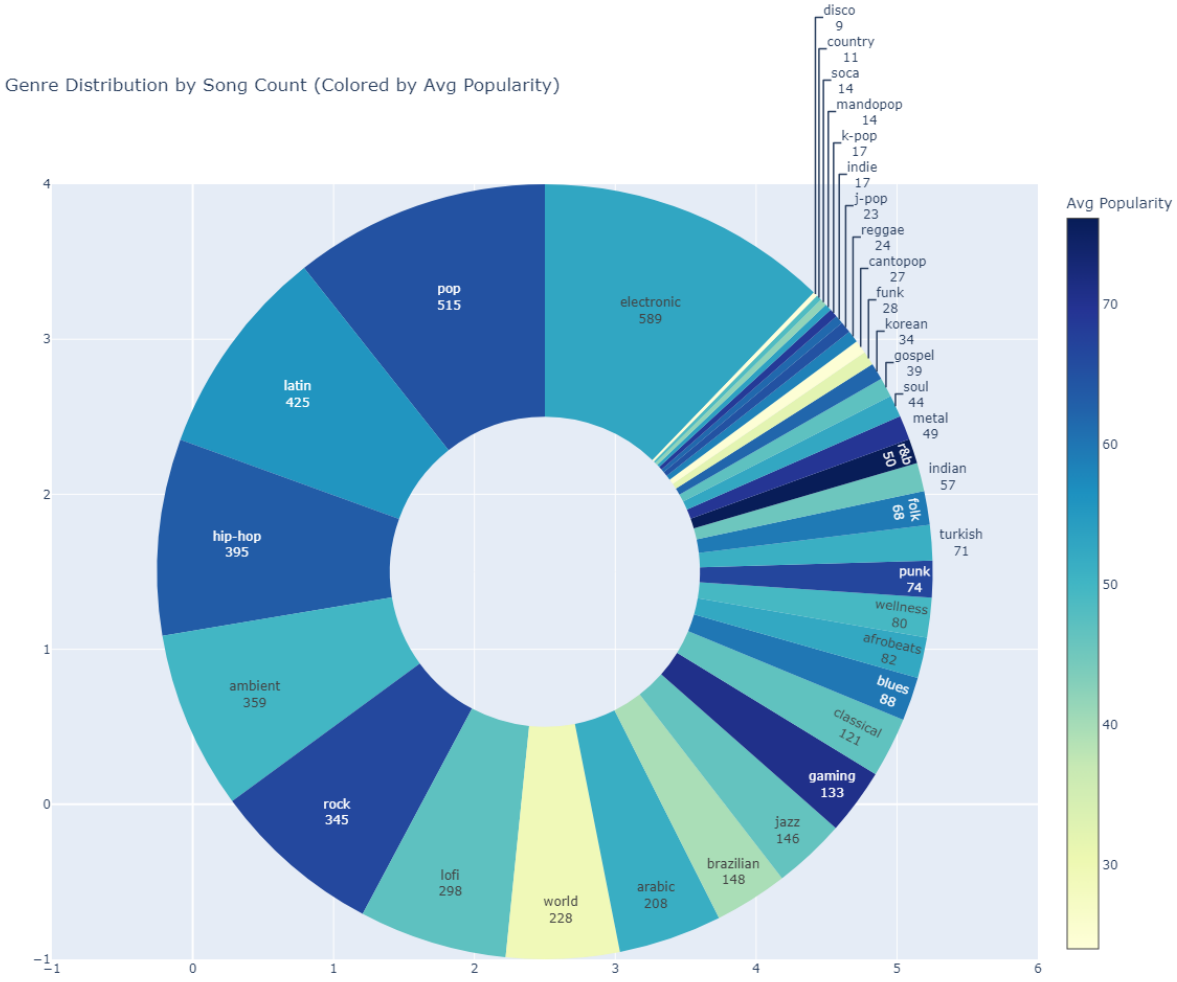
I assess myself as beginning because, although I now understand what the data visualization does and who it is meant for, I still struggle a bit with deciding what exactly to visualize in my individual project. I created some visualizations and received feedback on what to improve and what to consider.

As for the group project, we created a demo showing how the AI tutor works, highlighting the features that are currently functioning.

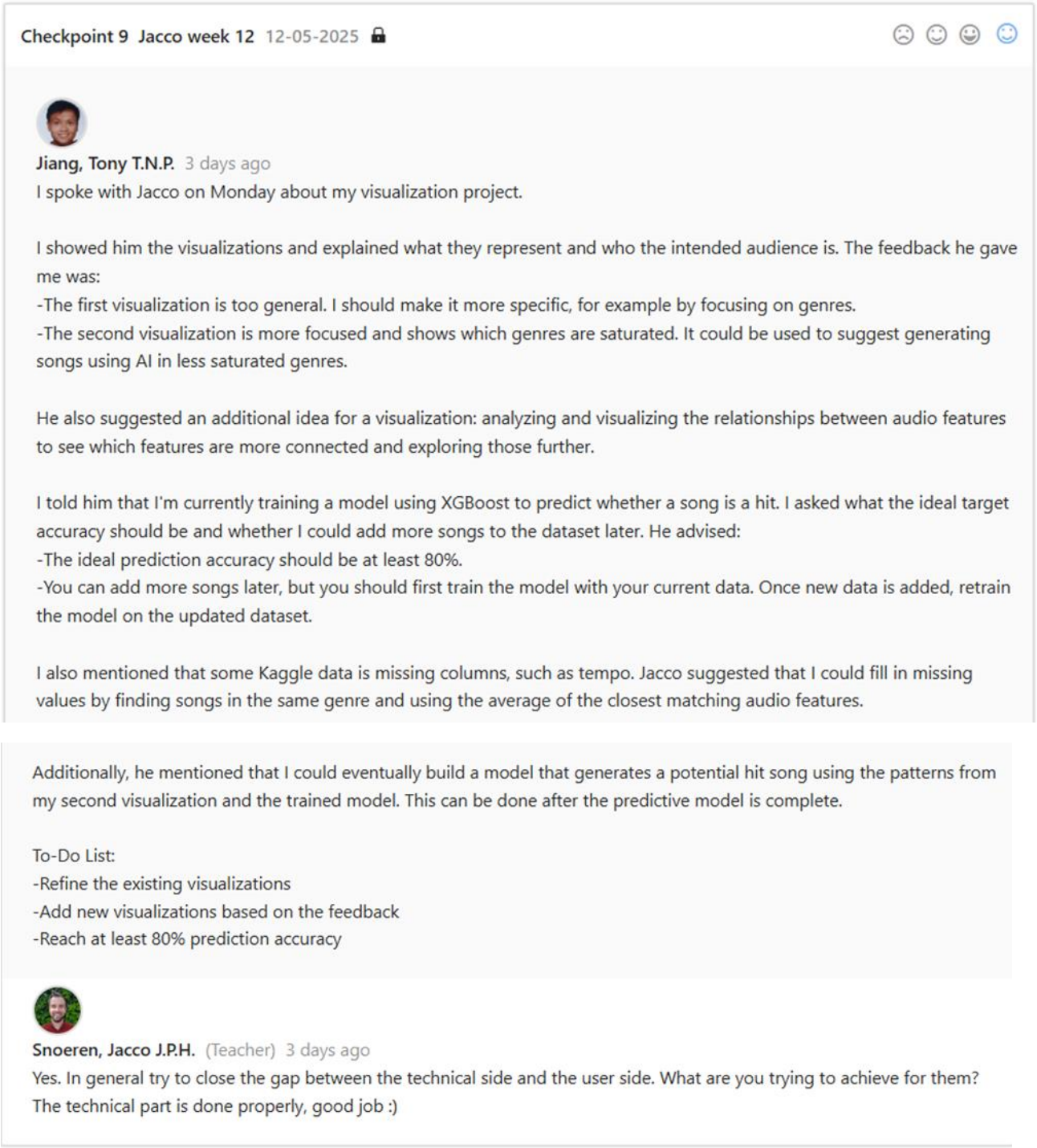
Feedback Evidence

Here are the visualizations that I made and got feedback on for my individual project.





Here is the feedback I got from Jacco about my visualization



Checkpoint 9 Jacco week 12 12-05-2025

Jiang, Tony T.N.P. 3 days ago

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I showed him the visualizations and explained what they represent and who the intended audience is. The feedback he gave me was:
-The first visualization is too general. I should make it more specific, for example by focusing on genres.
-The second visualization is more focused and shows which genres are saturated. It could be used to suggest generating songs using AI in less saturated genres.

He also suggested an additional idea for a visualization: analyzing and visualizing the relationships between audio features to see which features are more connected and exploring those further.

I told him that I'm currently training a model using XGBoost to predict whether a song is a hit. I asked what the ideal target accuracy should be and whether I could add more songs to the dataset later. He advised:
-The ideal prediction accuracy should be at least 80%.
-You can add more songs later, but you should first train the model with your current data. Once new data is added, retrain the model on the updated dataset.

I also mentioned that some Kaggle data is missing columns, such as tempo. Jacco suggested that I could fill in missing values by finding songs in the same genre and using the average of the closest matching audio features.

Additionally, he mentioned that I could eventually build a model that generates a potential hit song using the patterns from my second visualization and the trained model. This can be done after the predictive model is complete.

To-Do List:
-Refine the existing visualizations
-Add new visualizations based on the feedback
-Reach at least 80% prediction accuracy

Snoeren, Jacco J.P.H. (Teacher) 3 days ago

Yes. In general try to close the gap between the technical side and the user side. What are you trying to achieve for them? The technical part is done properly, good job :)

Here is the video demo of the group project.

https://stichtingfontys-my.sharepoint.com/:v:/g/personal/457292_student_fontys_nl/EfvvklgYYdRBqd8gvvsc9igB4ZYKLD_tt0LIRCKl3HjnZw?nav=eyJyZWZlcnJhbEluZm8iOnsicmVmZXJyYWxBcHAiOiJPbmVEcml2ZUZvckJ1c2luZXNzIiwicmVmZXJyYWxBcHBQbGF0Zm9ybSI6IldlYiIsInJlZmVycmFsTW9kZSI6InZpZXciLCJyZWZlcnJhbFZpZXciOiJNeUZpbGVzTGlua0NvcHkifX0&e=ntiI69

Learning Outcome 6 Reporting

This learning outcome focuses on creating a report about your AI project or group project in a best-practice manner. The reporting can be from project proposals, process documentation, etc.

First Evaluation: week 4

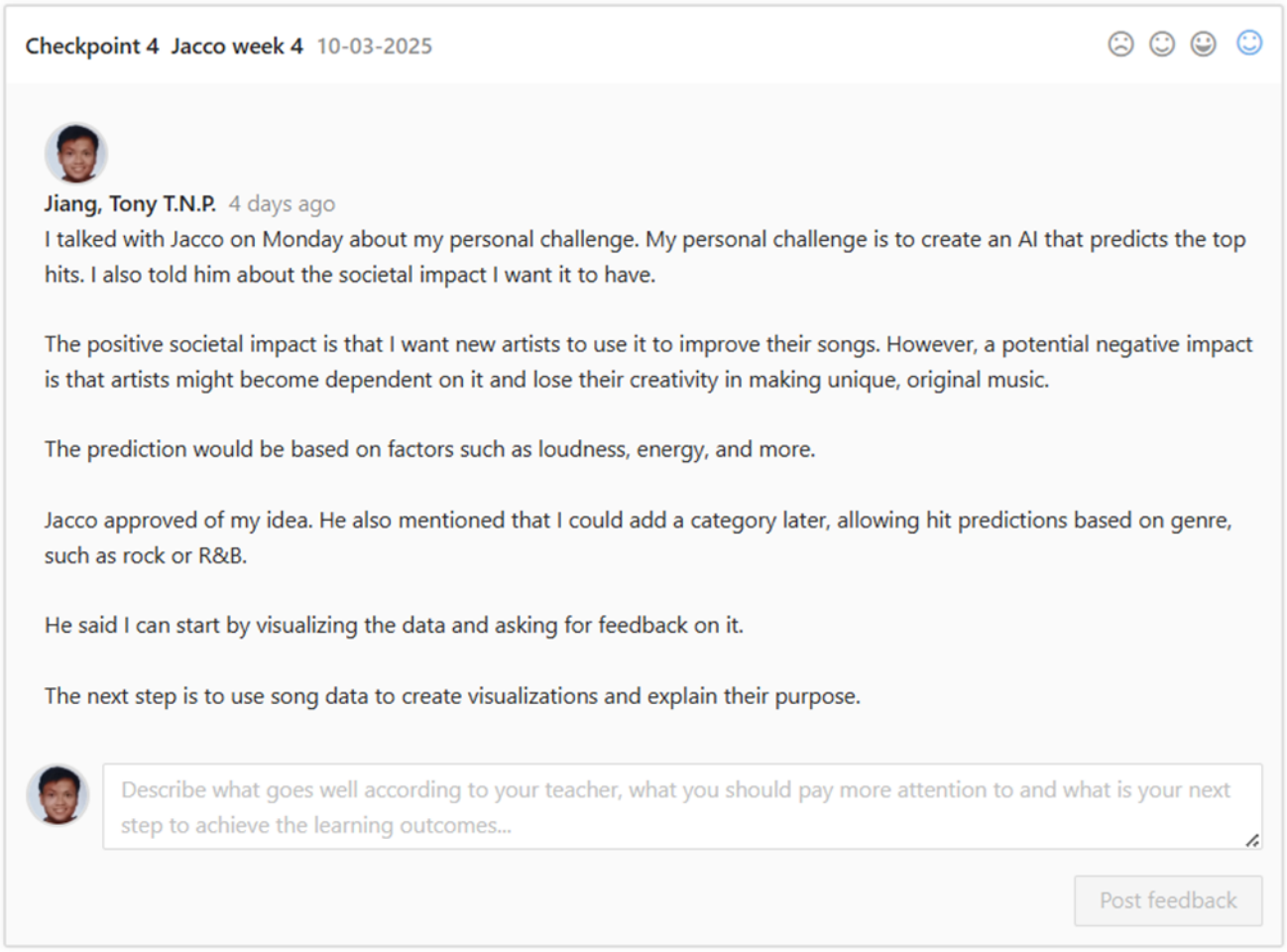
Self-assessment

I assess myself as orienting because for my individual, I have created a Personal Challenge Proposal outlining what I want to do for my individual project. I also asked Jacco for feedback to ensure my idea is feasible.

For the group project, we created a Group Project Proposal, which is currently in draft form. We have already asked Danny for feedback on areas for improvement. Currently, the proposal is under review by the client.

Feedback Evidence

Here is the FeedPulse where I have talked to Jacco about my Personal Challenge Proposal.



Second Evaluation: week 8

Self-assessment

I assess myself as beginning because, in addition to having a Personal Challenge Proposal for my individual project, I also created a Societal Impact document. In it, I reflected on how my project could impact society both positively and negatively, and I considered how to prevent any negative impacts. Additionally, I received feedback that the document is good, and I plan to revisit it by the final delivery to see if my views have changed or remained the same.

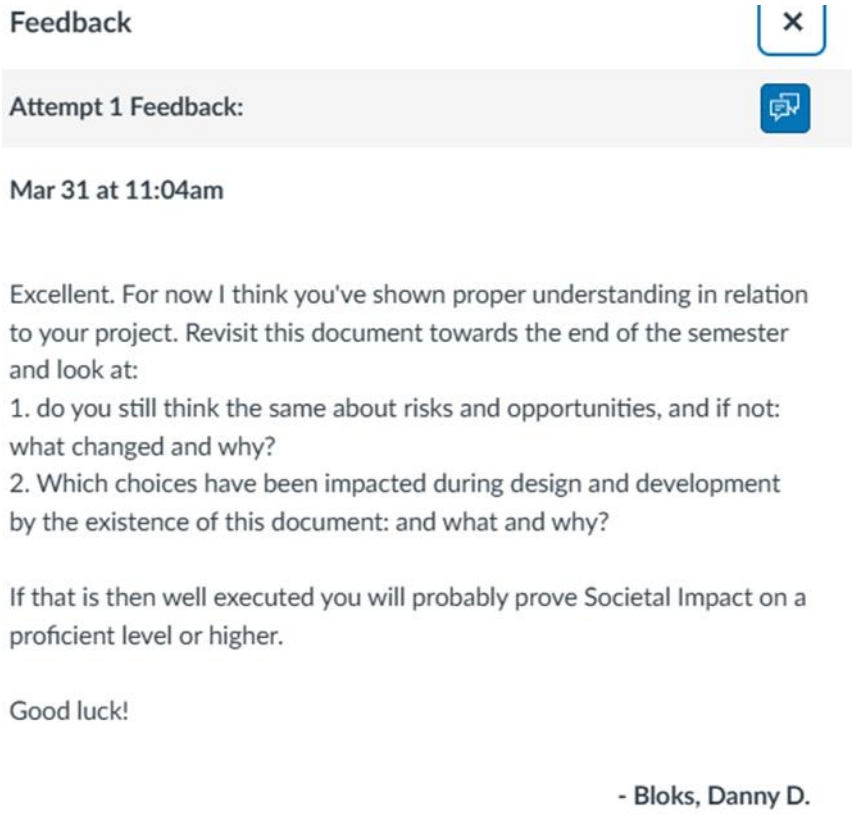
For the group project, we created a Group Project Proposal for ourselves, the clients, and the teachers, to ensure everyone is aligned on what needs to be done this semester. We also created a

User Stories document, a Front-End Paper Prototype (wireframe), and a research document where we investigated a specific problem and explored possible solutions.

Feedback Evidence

Here is the Societal Impact document for my individual project and the feedback for it.

Societal Impact Document



Feedback

Attempt 1 Feedback:

Mar 31 at 11:04am

Excellent. For now I think you've shown proper understanding in relation to your project. Revisit this document towards the end of the semester and look at:
1. do you still think the same about risks and opportunities, and if not: what changed and why?
2. Which choices have been impacted during design and development by the existence of this document: and what and why?

If that is then well executed you will probably prove Societal Impact on a proficient level or higher.

Good luck!

- Bloks, Danny D.

Here are documents from the group project that I mention.

Group Project Proposal - AI Tutor

User Stories

Front-end paper prototype

Here are the research documents from the group.

RAG

OpenRouter

OpenAI Assistant

Third Evaluation: week 12

Self-assessment

4 pts	3 pts	2 pts	1 pts	0 pts
Advanced	Proficient	Beginning	Orienting	Undefined

I assess myself as beginning because, for my individual project, I'm still missing a GDPR document. I also need to go back and review my Societal Impact document to see if there are any changes after creating the prototype. The Jupyter Notebook is still a work in progress.

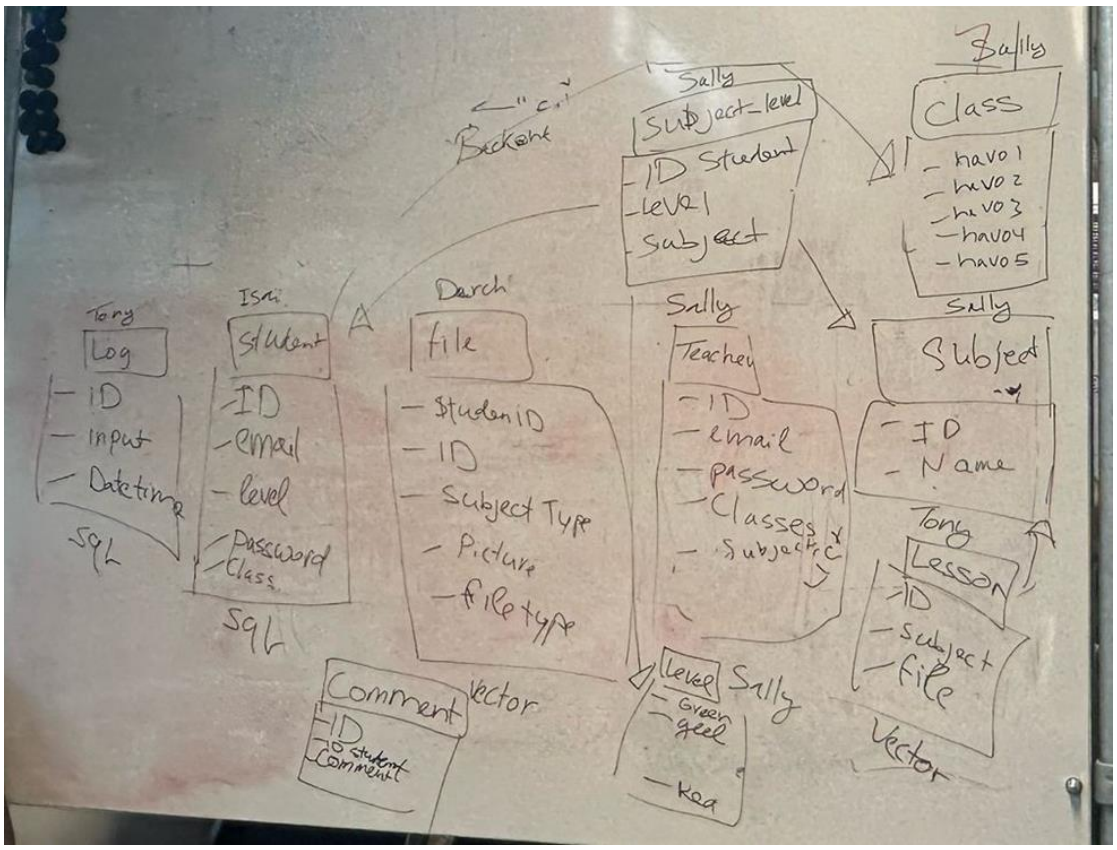
For the group project, I'm still missing the GDPR document and a handover document. However, we have recently created a new report: the Architecture Design document, and we also developed a class diagram for the AI Tutor.

Feedback Evidence

Here is the group document.

Architecture Design

Here is the Class diagram for the group.



Learning Outcome 7 Personal Leadership

This learning outcome is about innovating, problem-solving, adaptability and taking initiative in your personal AI project, the group project and personal development. Additionally, it emphasizes on being aware of how much you can learn and keeping your professional goal in mind for your future work field.

First Evaluation: week 4

Self-assessment

I assess myself orienting because I have taken the initiative in my individual project by seeking feedback and consulting teachers on how to begin and what to consider. I asked for guidance on where to find data online and whether my project idea was feasible. Initially, I was unsure where to start, but after discussing my ideas, reflecting, and receiving feedback from the teachers, I was able to define a project that I wanted to create.

Before joining a group project, my groupmate Le Thi Thuy (Sally) and I worked together to come up with an idea for the ideation project. We discussed the project's problem, goal, advantages, disadvantages, and other relevant aspects. After the discussion we created an ideation document for the idea we had discussed.

For the group project, we have thought about our priorities, what tasks to complete first, and the time constraints we must consider before the end of the semester. We have outlined our plans for this semester in the Group Project Proposal. We had feedback from Danny on what to improve on the Group Project Proposal and currently it’s in review with the client.

Feedback Evidence

Here is some feedback from FeedPulse that I had discussed with the teachers about the individual project.

Checkpoint 2 Wk02 - Contextual Consult (DannyB) 17-02-2025

Jiang, Tony T.N.P. a month ago

I talked with Danny on Monday about the individual project and what is needed for it. I told him about some of my interests, like skateboarding and baseball, and how I could use these interests to create a topic for my individual project.

He told me that skateboard data is hard to obtain and that there isn't enough of it available. He mentioned that I could try reaching out to a company partnered with Fontys that works with skateboard data, but he wasn't sure if they would provide access.

On the other hand, baseball is a good option because a lot of data is available. He suggested checking Kaggle for datasets. He also advised that it's better to have a large dataset, ideally around a million data points, so I can explore various aspects of the data. For example, with baseball data, I could make predictions about a player or a team's performance for the season.

He gave me an idea of what to focus on: finding a dataset with a large amount of data, choosing a topic that interests me, consulting with others if needed, and then developing my project.

We also discussed PDR, which is somewhat like a portfolio. The PDR serves as a reading guide and is used to evaluate whether a student understands the material before discussing it with the teacher.

For my next step, I plan to search for a dataset with a large amount of data that interests me and then determine what I want to do with it.

Checkpoint 3 wk03 - Mon - Coen 24-02-2025

Jiang, Tony T.N.P. 19 days ago

I talked with Coen on Monday about my idea for my personal challenge. I told him about my plan to implement music genre prediction as an extension of my previous project from the Advanced Software semester. That project was a web-based music guessing game where users have five tries to guess the song they are listening to. Each attempt extends the duration of the song being played, with the first try lasting only three seconds.

I want to add music genre prediction to this game so that when an admin adds a new song, the system automatically predicts its genre. This would save the admin time since manually assigning genres can be subjective, as different people may categorize the same song differently.

Coen mentioned that my idea is more of a feature rather than a project with societal impact. He suggested that I could turn it into a game where users guess the genre, making it more socially interactive by encouraging collaboration in identifying genres.

He also suggested a music recommendation system, but I explained that there are no data contain user interaction data in the music dataset, which would be necessary for personalized recommendations.

Additionally, I pitched an idea about building an AI model that predicts the name of skateboarding tricks from video clips. He said it could be done within the given timeframe, but the accuracy would likely be low (around 30%) since a large dataset of trick videos would be needed for reliable predictions.

To summarize, the next step is to think of an AI-based idea with a strong social impact and build around it.

Here is a snippet of the ideation document that we created.

Paper Prototype AI tutor: AI-stoteles

By Ly phan - Tony Jiang

Context

Jan van Brabant and WereDi are secondary schools that want to develop an AI tutor for their students. This AI tutor will serve as a personal assistant to help students understand the curriculum provided by their teachers. It is not intended to replace teachers but to support students in their learning. The AI tutor can be used at home to offer exercises that improve students' comprehension of the material. Additionally, if students have questions about their lessons, the AI tutor will provide explanations tailored to their understanding, regardless of how simple the question may seem. Teachers will upload the content that students need to learn to the AI tutor and use it to monitor students' progress. The AI will also provide hints to teachers if any students need extra help.

Second Evaluation: week 8

Self-assessment

I assess myself as beginning because I actively seek feedback and talk to the teachers when something is unclear, such as getting feedback on documentation, understanding how things work, or technical stuff like: what to consider when creating data visualizations and their purpose.

Creating the Societal Impact document was new to me, and I wasn't sure if I had written it correctly or fully considered how my individual project might affect society. So, I worked on the document and gained a better understanding that there is a lot to consider, such as privacy and how a project can impact a person's life. After that, I took the initiative to ask for feedback to see if I had missed anything.

As a group, we also took the initiative to ask for feedback from both our clients and our group coach on the work we completed. For example, we created an architectural design of the AI Tutor for our group project and presented it to Danny, our group coach, to get feedback before showing it to the client.

Additionally, we created a research document to outline the problem we identified, how we investigated it, and the solution we developed.

Feedback Evidence

Here is the recent feedback on how to get feedback on documentation and about the data visualization example.

Checkpoint 6 Wk06 - Societal Consult (DannyB) 25-03-2025 🔒 ☹ ☺ 😀

Jiang, Tony T.N.P. 17 days ago

On Tuesday, I spoke with Danny about the Societal Impact document, getting feedback on documents, and where to place my research questions.

Societal Impact document
I asked Danny what I needed to do if I had the Societal Impact document and whether it needed to be completed. He explained that the purpose of the document is to encourage reflection on aspects such as privacy and human rights from the potential Assessments Subject PDF. It is not necessary to copy the entire Potential Impact Assessment document, it serves only as a reference to help structure the Societal Impact document. Additionally, the first draft does not need to be fully completed. When I feel that it is ready, or if I want feedback on the draft, I can submit it for review.

Getting feedback on documents.
I asked how to receive feedback from teachers. Danny showed me that feedback can be requested when submitting documents through Canvas and after that, I can message teachers on Teams to ask them to review my work.

Where to put research questions
I asked where I should write my research question for my individual project. Danny advised me to create a separate research document where I can record both my research question and the research I conduct. He also recommended adding the methodology at the bottom of the research document.

I also asked when we are getting feedback on the PDR documentation, and Danny mentioned that he has been busy but expects to review it in the coming weeks. Lastly, I explained that my individual project focuses on developing a song prediction AI that can predict top hits. The goal is to assist new artists who may lack the resources of well-established musicians, helping them refine their songs to increase their chances of success.

To do:
Submit my Societal Impact document on Canvas and ask for feedback on it.

Checkpoint 7 wk08 - Hans - Data analysis 08-04-2025

Jiang, Tony T.N.P. 2 days ago

I talked with Hans on Tuesday to get feedback on my data visualization.

First, I explained what my individual project is about, what information my data contains, and then I showed him my data visualization. The feedback I received was to clearly write down what I am trying to visualize. I should also consider whether the data I'm visualizing provides any meaningful insights.

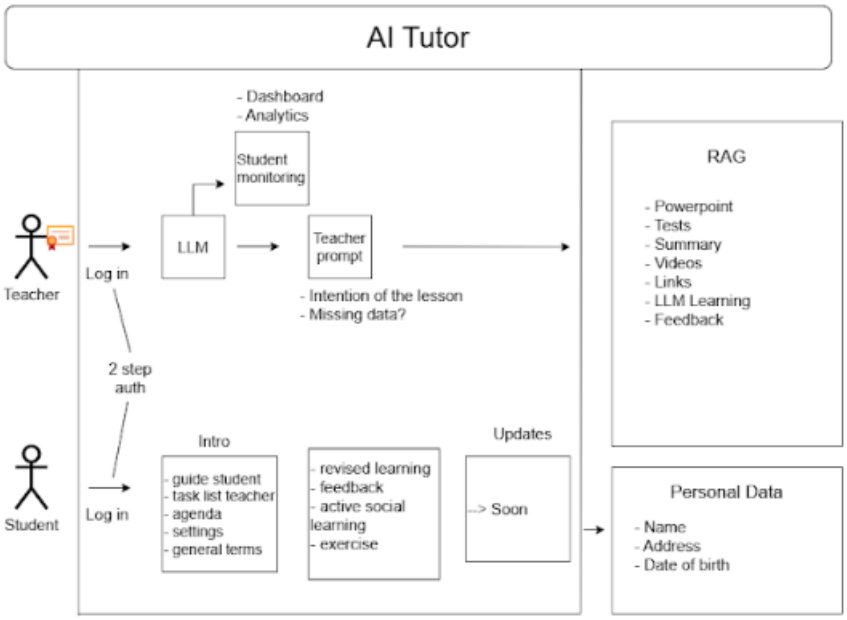
I also asked him how I could visualize song attributes like loudness, mode, etc. He suggested that it's a good idea to compare a popular song with an unpopular one using these attributes. He also reminded me to focus on visualizing something that I could potentially use for prediction.

To do:
-Improve my data visualization
-Clearly define what I'm showing and comparing

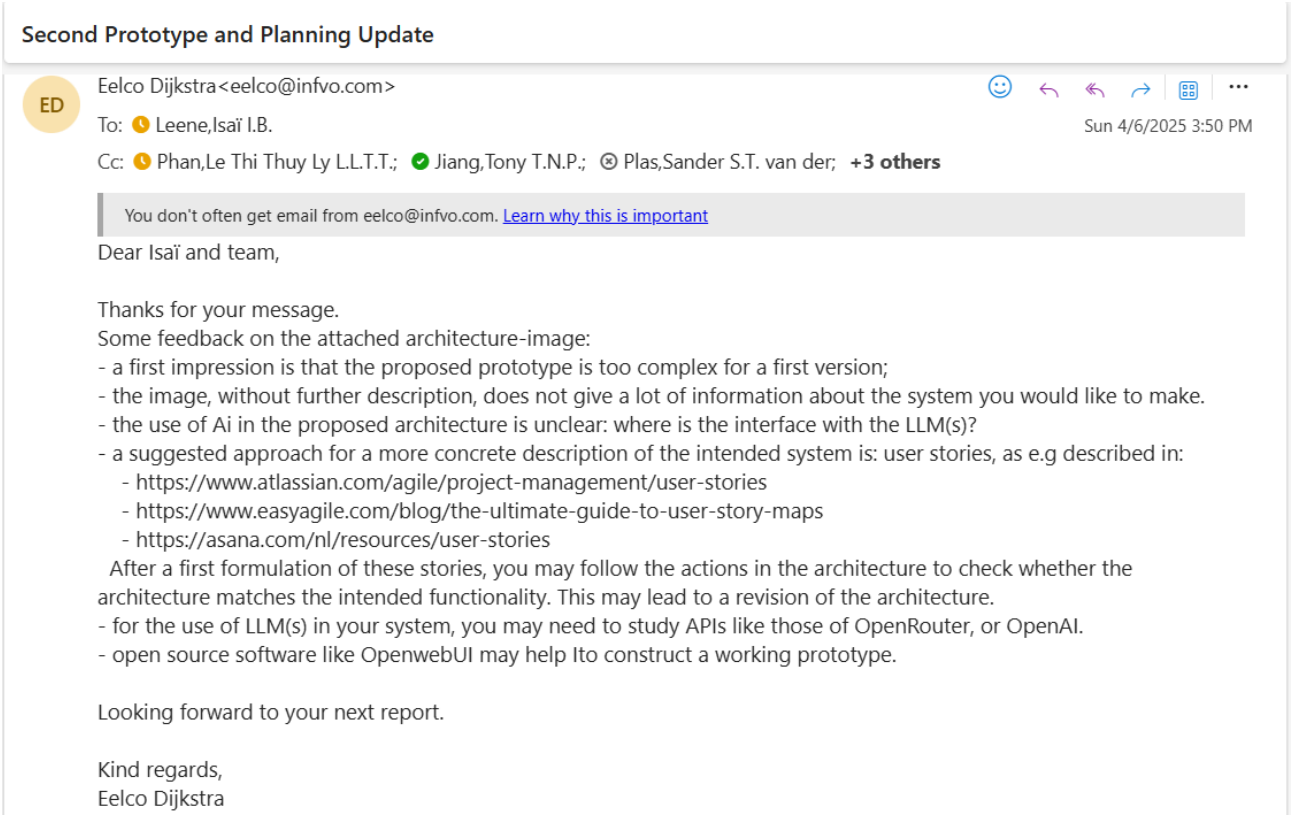
Describe what goes well according to your teacher, what you should pay more attention to and what is your next step to achieve the learning outcomes...

Post feedback

Here is the first version of architecture design of the AI Tutor we showed and explained to Danny and got feedback on it, that it's good and clear for the client.



Here is getting feedback from the client when we ask for feedback on the second version of the architecture design of the AI Tutor.



Second Prototype and Planning Update

ED

Eelco Dijkstra<eelco@infvo.com>

To: Leene,Isaï I.B.

Sun 4/6/2025 3:50 PM

Cc: Phan,Le Thi Thuy Ly L.L.T.T.; Jiang,Tony T.N.P.; Plas,Sander S.T. van der; **+3 others**

You don't often get email from eelco@infvo.com. Learn why this is important

Dear Isaï and team,

Thanks for your message.
Some feedback on the attached architecture-image:
- a first impression is that the proposed prototype is too complex for a first version;
- the image, without further description, does not give a lot of information about the system you would like to make.
- the use of Ai in the proposed architecture is unclear: where is the interface with the LLM(s)?
- a suggested approach for a more concrete description of the intended system is: user stories, as e.g described in:
  - https://www.atlassian.com/agile/project-management/user-stories
  - https://www.easyagile.com/blog/the-ultimate-guide-to-user-story-maps
  - https://asana.com/nl/resources/user-stories

After a first formulation of these stories, you may follow the actions in the architecture to check whether the architecture matches the intended functionality. This may lead to a revision of the architecture.
- for the use of LLM(s) in your system, you may need to study APIs like those of OpenRouter, or OpenAI.
- open source software like OpenwebUI may help Ito construct a working prototype.

Looking forward to your next report.

Kind regards,
Eelco Dijkstra

Here are the research documents we did for the group.

RAG

OpenRouter

OpenAI Assistant

Third Evaluation: week 12

Self-assessment

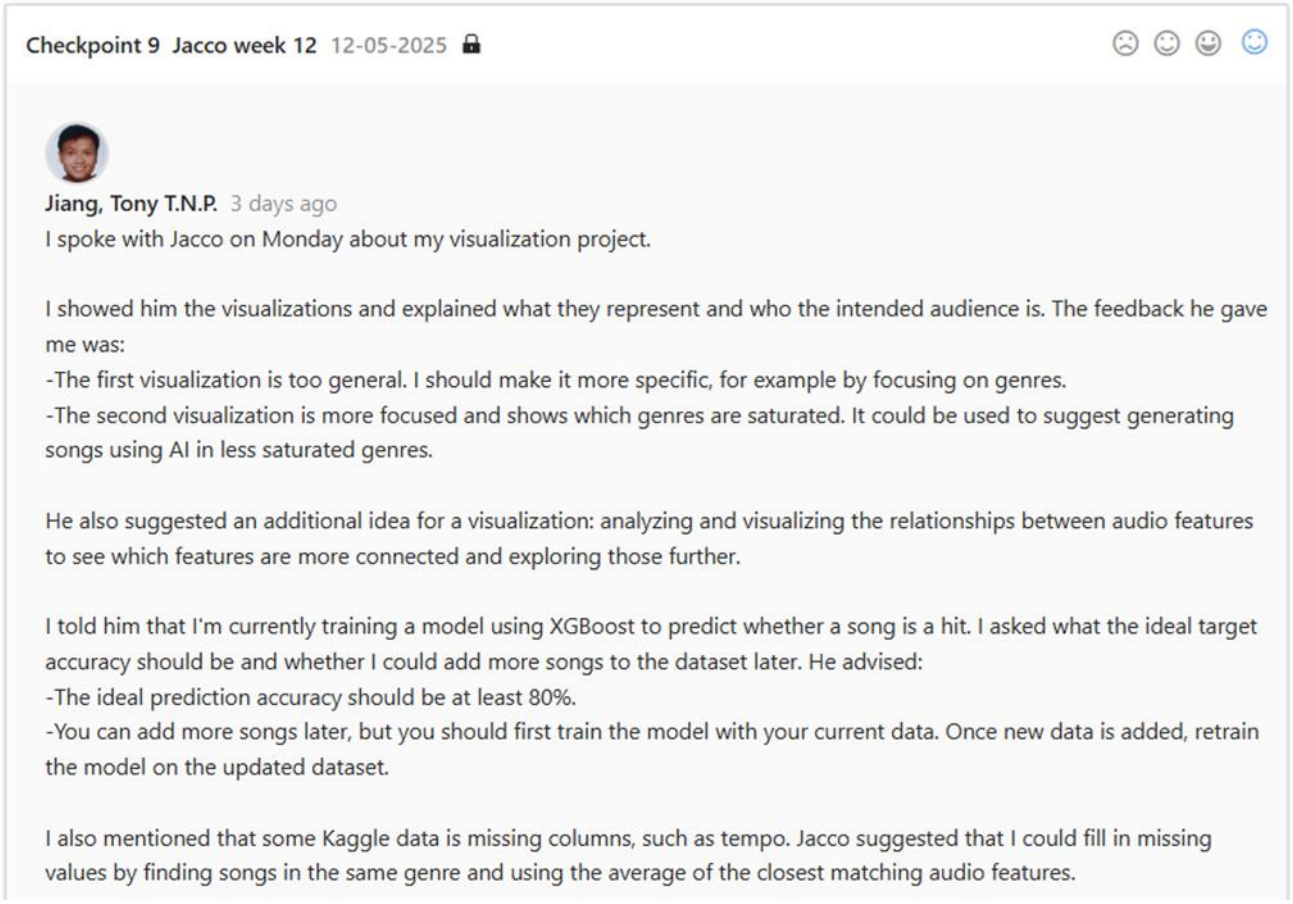
4 pts	3 pts	2 pts	1 pts	0 pts
Advanced	Proficient	Beginning	Orienting	Undefined

I assess myself as proficient because I actively seek feedback when I have questions or when something is unclear in my individual project. I keep the teachers informed about my progress and I add a “to do” tasks to the feedback I receive, showing what my next steps will be.

For the group project, we hold a stand-up meeting every Monday where we outline our tasks for the week and divide them among group members. We also try to keep Danny updated on our progress and ask for feedback on how we're doing. Additionally, we conducted a peer feedback session where we highlighted each other's strengths and areas for improvement for each other to better improve ourselves. Every two weeks, we try to schedule a meeting with the client to present our progress. If we have questions in the meantime, we reach out to him via email.

Feedback Evidence

Here is the recent feedback I got. As you can see there is the" to do", letting the teacher know what's my next plan.



Checkpoint 9 Jacco week 12 12-05-2025

Jiang, Tony T.N.P. 3 days ago

I spoke with Jacco on Monday about my visualization project.

I showed him the visualizations and explained what they represent and who the intended audience is. The feedback he gave me was:
-The first visualization is too general. I should make it more specific, for example by focusing on genres.
-The second visualization is more focused and shows which genres are saturated. It could be used to suggest generating songs using AI in less saturated genres.

He also suggested an additional idea for a visualization: analyzing and visualizing the relationships between audio features to see which features are more connected and exploring those further.

I told him that I'm currently training a model using XGBoost to predict whether a song is a hit. I asked what the ideal target accuracy should be and whether I could add more songs to the dataset later. He advised:
-The ideal prediction accuracy should be at least 80%.
-You can add more songs later, but you should first train the model with your current data. Once new data is added, retrain the model on the updated dataset.

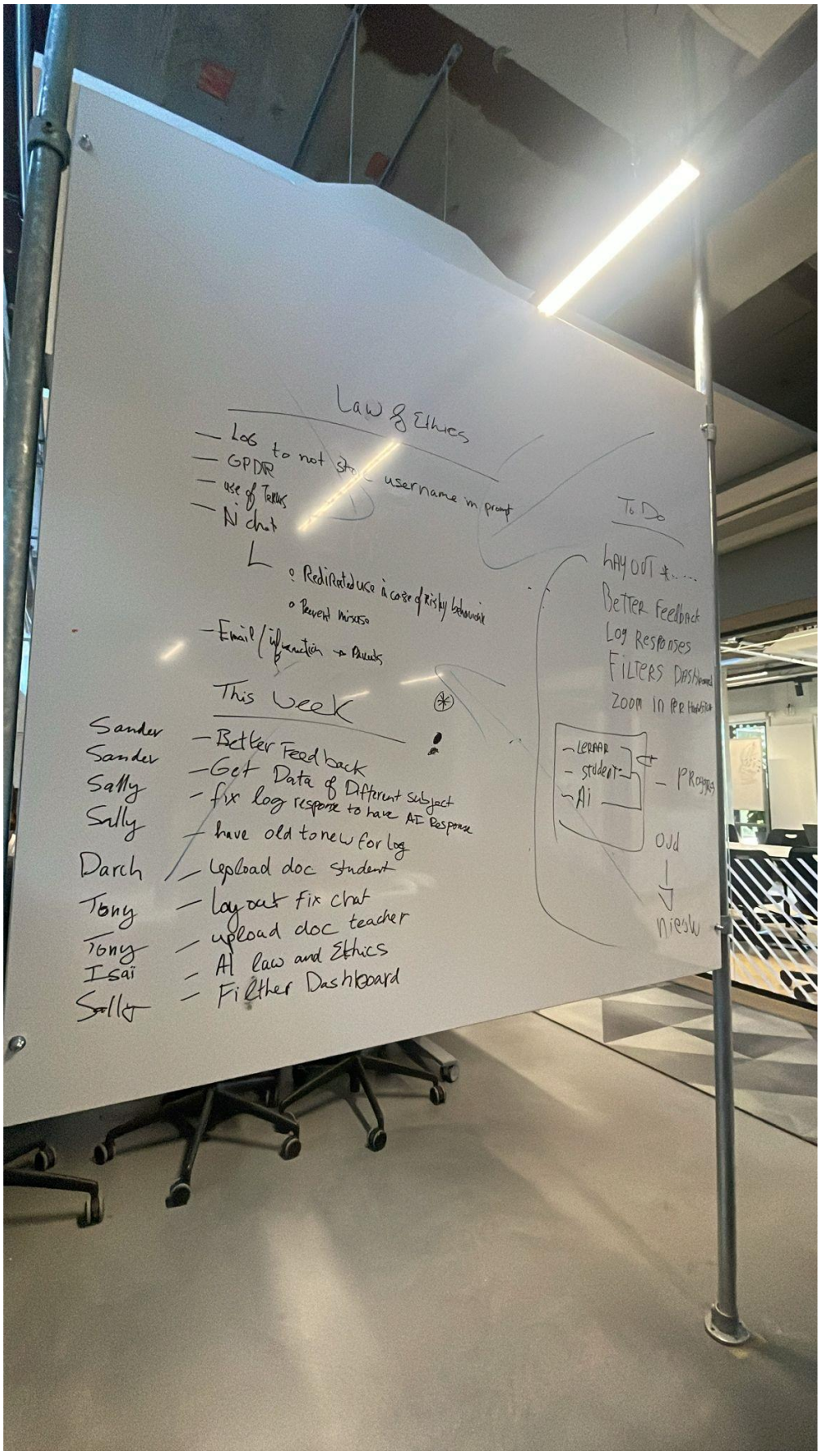
I also mentioned that some Kaggle data is missing columns, such as tempo. Jacco suggested that I could fill in missing values by finding songs in the same genre and using the average of the closest matching audio features.

Additionally, he mentioned that I could eventually build a model that generates a potential hit song using the patterns from my second visualization and the trained model. This can be done after the predictive model is complete.

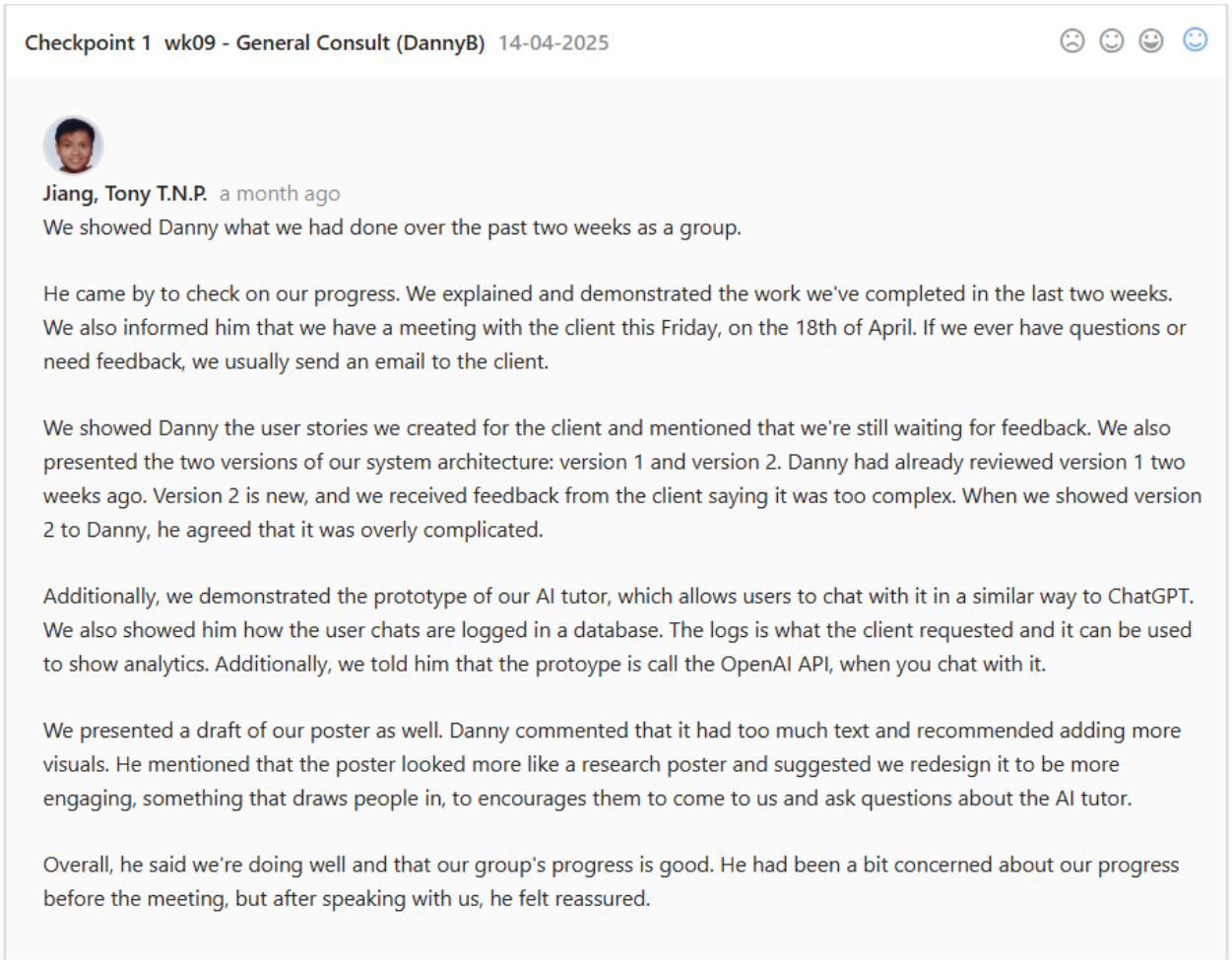
To-Do List:
-Refine the existing visualizations
-Add new visualizations based on the feedback
-Reach at least 80% prediction accuracy

Snoeren, Jacco J.P.H. (Teacher) 3 days ago
Yes. In general try to close the gap between the technical side and the user side. What are you trying to achieve for them? The technical part is done properly, good job :)

Here are the tasks that we divided on Monday this week during the standup meeting.


Law & Ethics
— Log to not store username in prompt
— GPDR
— use of Tokens
— AI chat
L
o Redirect/reduce in case of risky behaviour
o Prevent misuse
— Email/information → Parents
This week
Sander — Better Feedback
Sander — Get Data of Different subject
Sally — fix log response to have AI Response
Sally — have old to new for log
Darch — Upload doc student
Tony — layout fix chat
Tony — upload doc teacher
Isai — AI law and Ethics
Sally — Filther Dashboard
To Do
layout ...
Better Feedback
Log Responses
Filters Dashboard
Zoom in Per Hoofdstuk
— LERAAR
— student
— AI
— PRompts
OJd
nieuw

This is the feedback we got from Danny for the group.



Checkpoint 1 wk09 - General Consult (DannyB) 14-04-2025

Jiang, Tony T.N.P. a month ago

We showed Danny what we had done over the past two weeks as a group.

He came by to check on our progress. We explained and demonstrated the work we've completed in the last two weeks. We also informed him that we have a meeting with the client this Friday, on the 18th of April. If we ever have questions or need feedback, we usually send an email to the client.

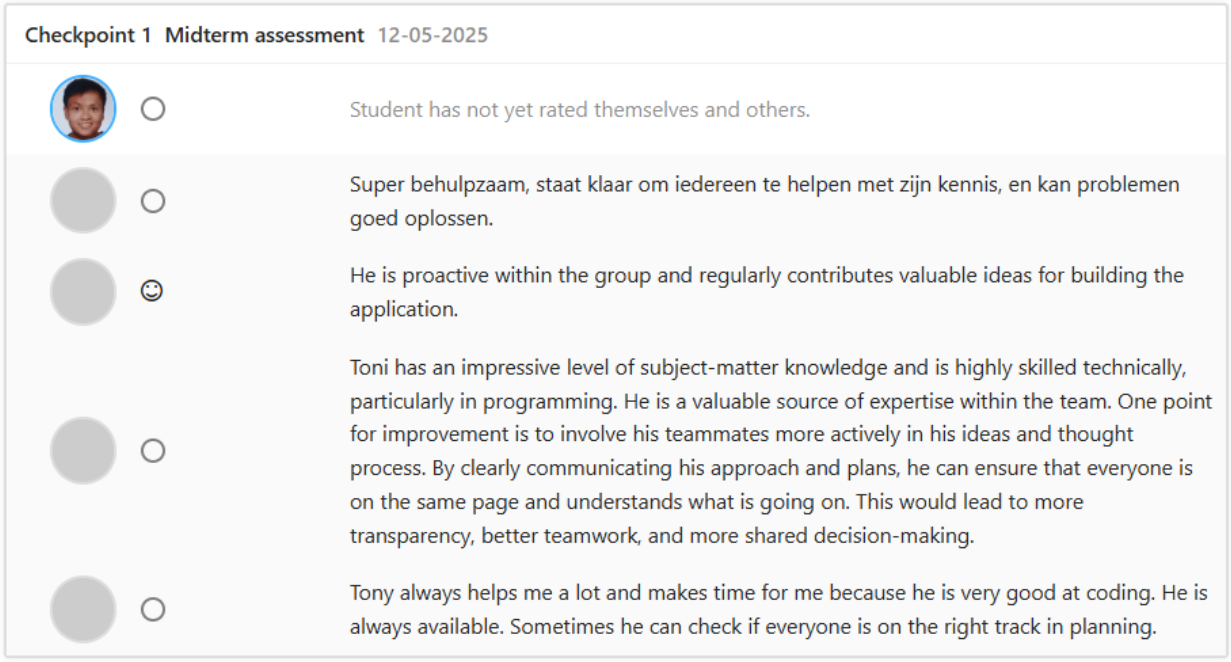
We showed Danny the user stories we created for the client and mentioned that we're still waiting for feedback. We also presented the two versions of our system architecture: version 1 and version 2. Danny had already reviewed version 1 two weeks ago. Version 2 is new, and we received feedback from the client saying it was too complex. When we showed version 2 to Danny, he agreed that it was overly complicated.

Additionally, we demonstrated the prototype of our AI tutor, which allows users to chat with it in a similar way to ChatGPT. We also showed him how the user chats are logged in a database. The logs is what the client requested and it can be used to show analytics. Additionally, we told him that the protoype is call the OpenAI API, when you chat with it.

We presented a draft of our poster as well. Danny commented that it had too much text and recommended adding more visuals. He mentioned that the poster looked more like a research poster and suggested we redesign it to be more engaging, something that draws people in, to encourages them to come to us and ask questions about the AI tutor.

Overall, he said we're doing well and that our group's progress is good. He had been a bit concerned about our progress before the meeting, but after speaking with us, he felt reassured.

Here is the peer feedback we did.



Learning Outcome 8 Personal Goal

This learning outcome is about defining your own goals for your future field of work. It serves as your personal challenge for growth and development.

First Evaluation: week 4

Self-assessment

I assess myself as orienting because I have defined my personal goal in my Personal Challenge Proposal. I have reflected on what I want to learn from AI for Society and how I can apply it to my future work.

Feedback Evidence

Here is the part where I define my personal goal in my Personal Challenge Proposal.

Personal Goal

My personal goal is to learn the basics of how an AI model works, including the process of providing it with data and how it will use that data in a practical way. This will help me understand the fundamental concepts needed to implement an AI model in my own applications or future company projects, giving me a solid starting point in my software development.

Second Evaluation: week 8

Self-assessment

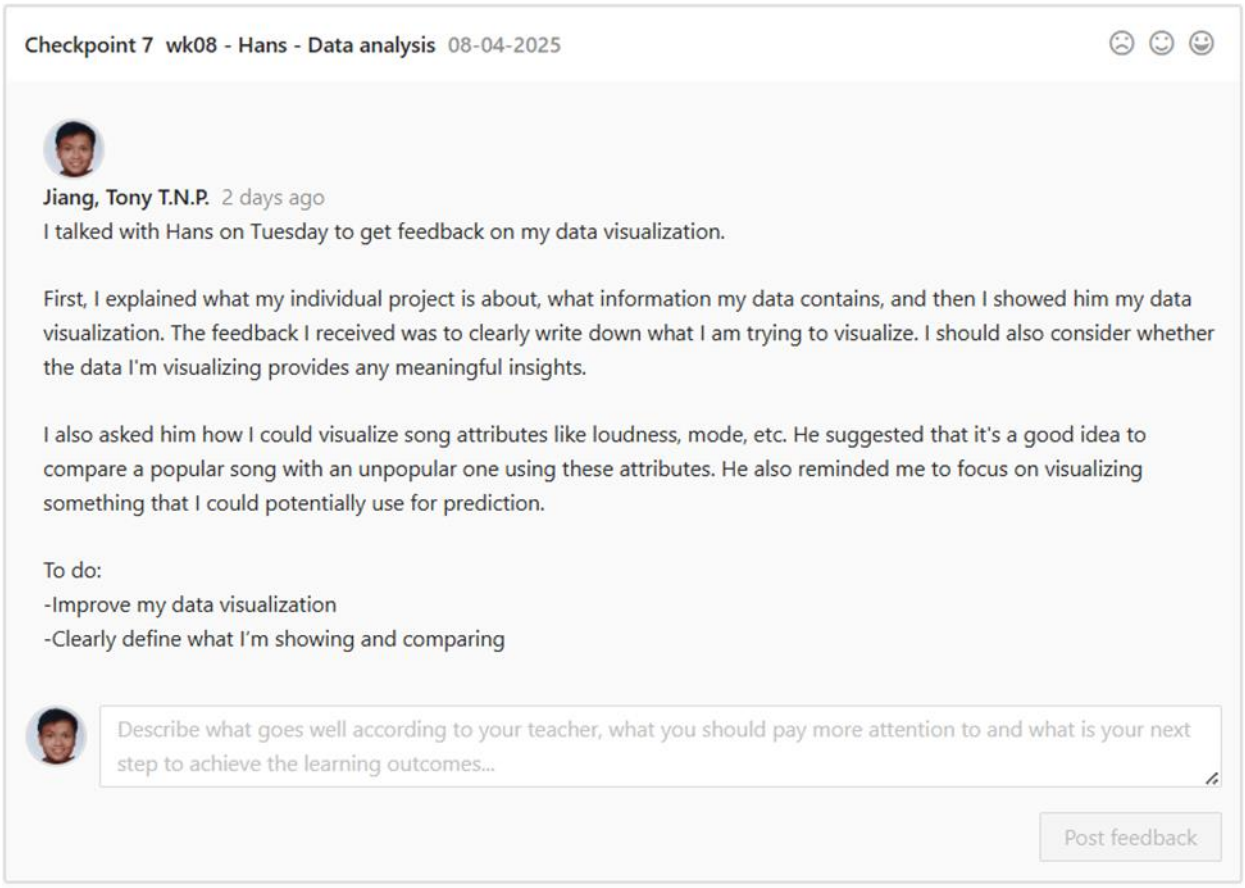
I assess myself as beginning because I now have some basic knowledge on how to work with data and what societal impact to consider when building an AI tool, with this I'm learning the process of implementing an AI.

For the data, I'm currently working on data visualization. I have already prepared the data by cleaning it and removing unnecessary entities. I now know how to start working with the data; I just need to decide how to visualize it and what aspects to focus on. I received feedback on my data visualization and now need to reflect on it and clearly explain what I'm trying to visualize.

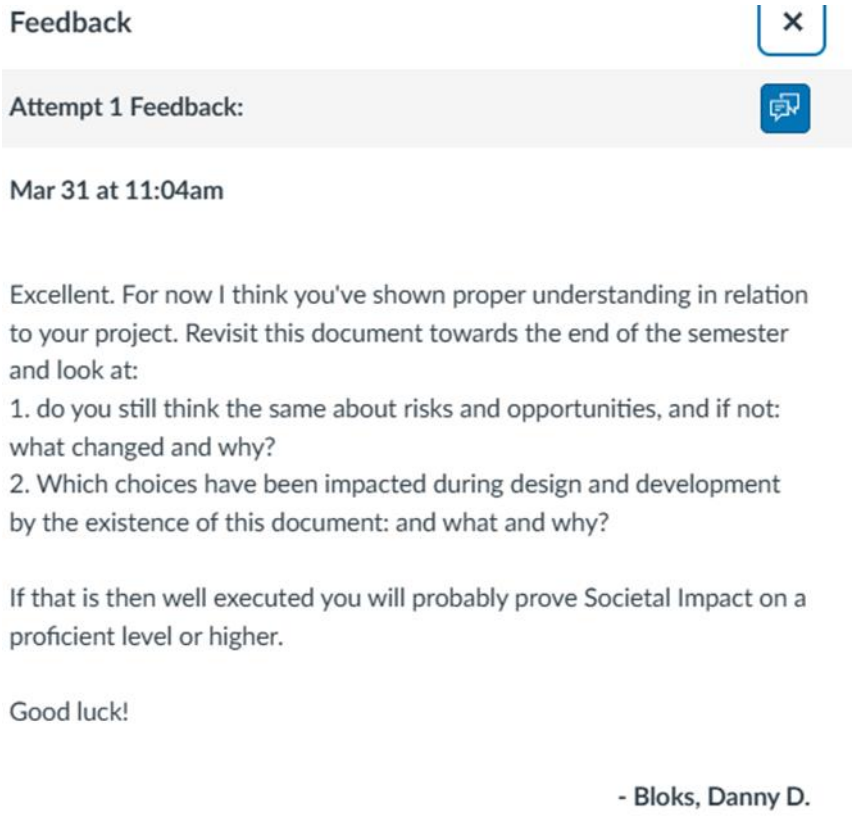
For the societal impact, I've learned that when building something with AI, in my case, using an AI tool to predict top hits, it's important to consider the societal impact of what you create. So, when I create my own product for a future company, I'll make sure to reflect on it and document its societal impact. The feedback I received on my Societal Impact document shows that I've thought thoroughly about my personal project. Now, I just need to revisit the document later to see if any changes are needed.

Feedback Evidence

Here is the feedback I got on how to fix and understand what I need to visualize for my data to understand the process of making visualization.



Here is the feedback that I understand the societal impact and I know what to consider when building my own AI for future company.



Third Evaluation: week 12

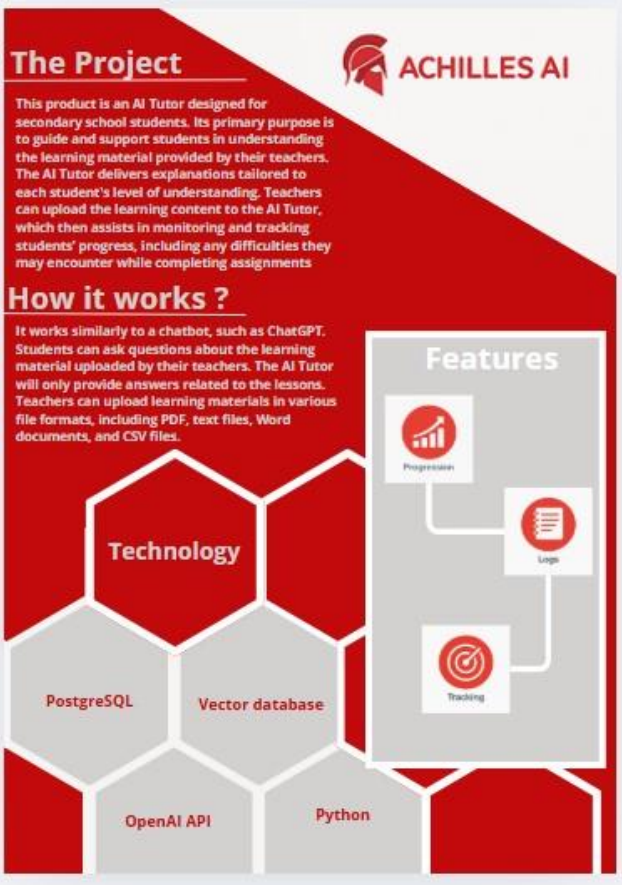
Self-assessment

For the group project, I contributed to the first version of the poster and received feedback on it. I learned that the initial version looked more like a research poster rather than one designed to attract an audience and invite questions about the project. It also contained too much text and was missing the planning section.

Additionally, during the AI event, I learned how to explain and present the group product in a clear and understandable way, since not everyone in the audience has a technical background. I focused on explaining things in simple terms, but if someone asked a technical question, I responded in a more technical manner. When one of my group members didn't know how to answer a technical question, I would step in to help. This taught me how to collaborate effectively and support each other when interacting with the audience.

Feedback Evidence

Here is the poster version 1.



Here is the feedback from Danny about the poster.

Checkpoint 1 wk09 - General Consult (DannyB) 14-04-2025

Jiang, Tony T.N.P. a month ago

We showed Danny what we had done over the past two weeks as a group.

He came by to check on our progress. We explained and demonstrated the work we've completed in the last two weeks. We also informed him that we have a meeting with the client this Friday, on the 18th of April. If we ever have questions or need feedback, we usually send an email to the client.

We showed Danny the user stories we created for the client and mentioned that we're still waiting for feedback. We also presented the two versions of our system architecture: version 1 and version 2. Danny had already reviewed version 1 two weeks ago. Version 2 is new, and we received feedback from the client saying it was too complex. When we showed version 2 to Danny, he agreed that it was overly complicated.

Additionally, we demonstrated the prototype of our AI tutor, which allows users to chat with it in a similar way to ChatGPT. We also showed him how the user chats are logged in a database. The logs is what the client requested and it can be used to show analytics. Additionally, we told him that the protoype is call the OpenAI API, when you chat with it.

We presented a draft of our poster as well. Danny commented that it had too much text and recommended adding more visuals. He mentioned that the poster looked more like a research poster and suggested we redesign it to be more engaging, something that draws people in, to encourages them to come to us and ask questions about the AI tutor.

Overall, he said we're doing well and that our group's progress is good. He had been a bit concerned about our progress before the meeting, but after speaking with us, he felt reassured.

This is our booth.

Retrospective

Fill in for the final version.

Conclusion

Fill in for the final version.