Artificial Intelligence

GROUP SEMINAR

Principles of Interaction Design
Dr. Gabriela Avram

Group Members

Anthony Egan,
Cian Maning,
FionnDaly and
Shalvi Raj

INTRODUCTION

In this report we discuss how our group conducted a seminar exploring Artificial Intelligence. This was a topic that we were all interested in and found relevance with in regard to our Thesis. We aimed to acknowledge this relevance in our topics of research as well as investigate topics that would be interesting and thought provoking for our classmates. We also saw this as a great opportunity to hear our classes opinions on such a divisive topic.

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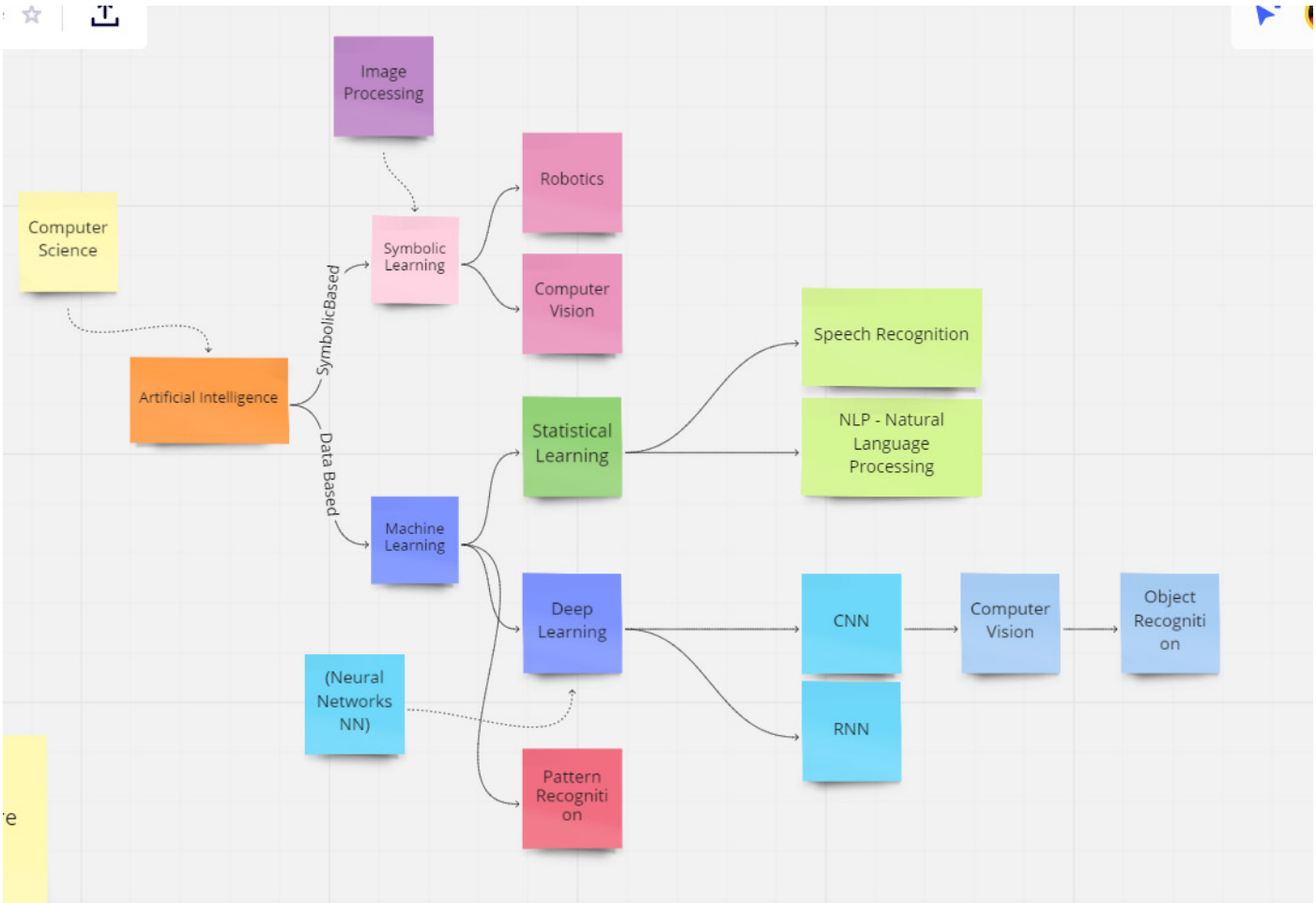
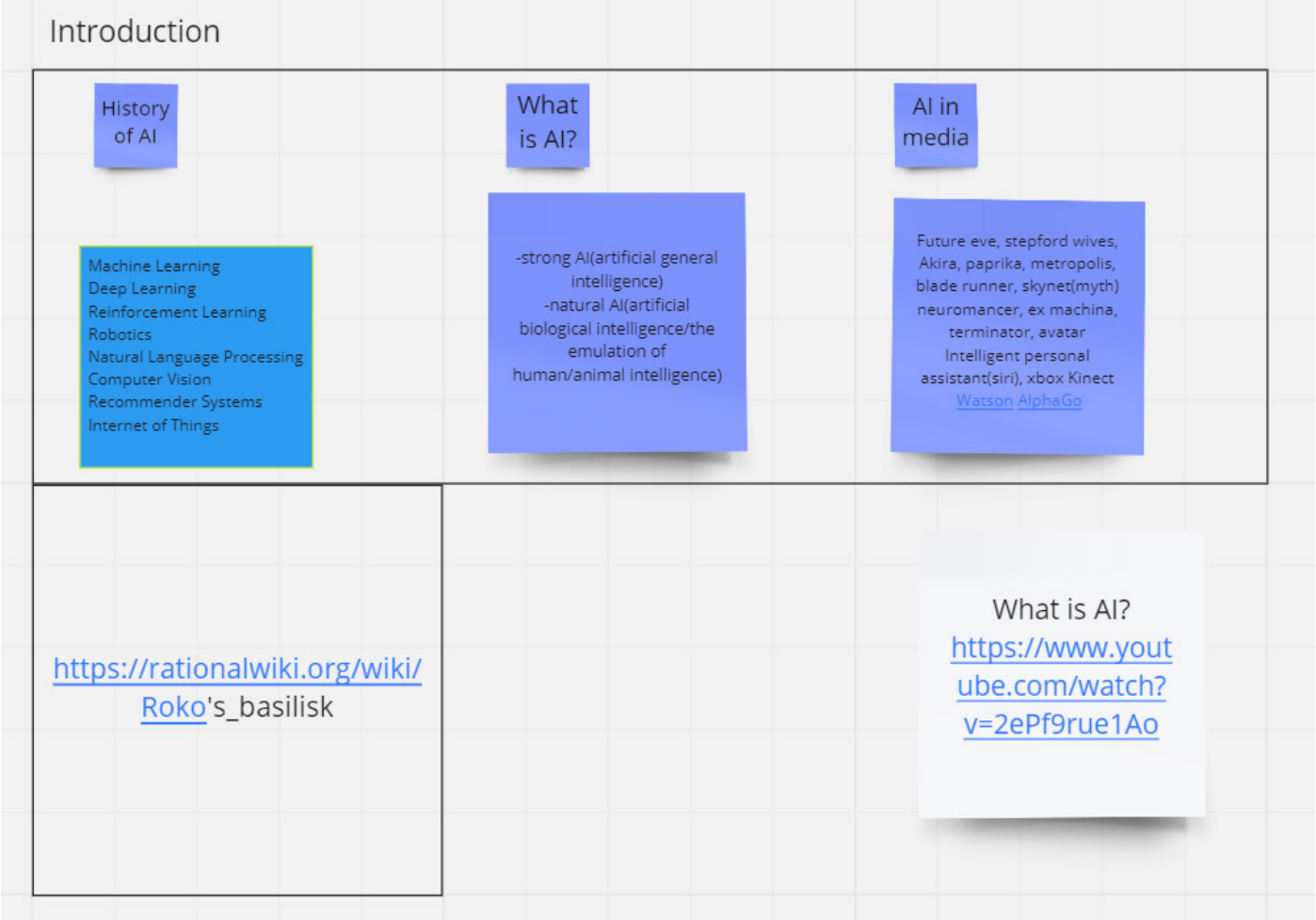
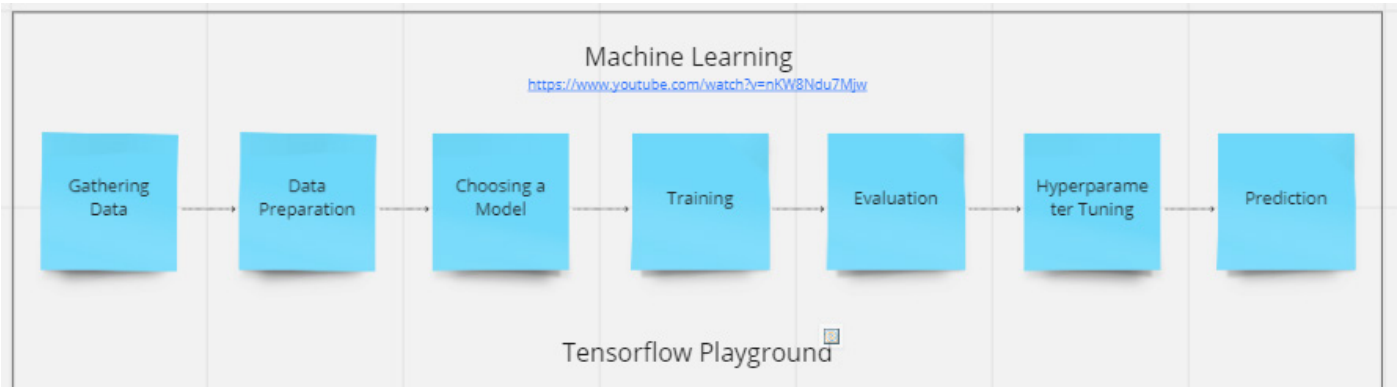
TOPIC

We primarily picked the topic because we were unaware of the depth and significance of the field and found this as a great opportunity to learn about the subject. All of us found the topic relevant and interesting.

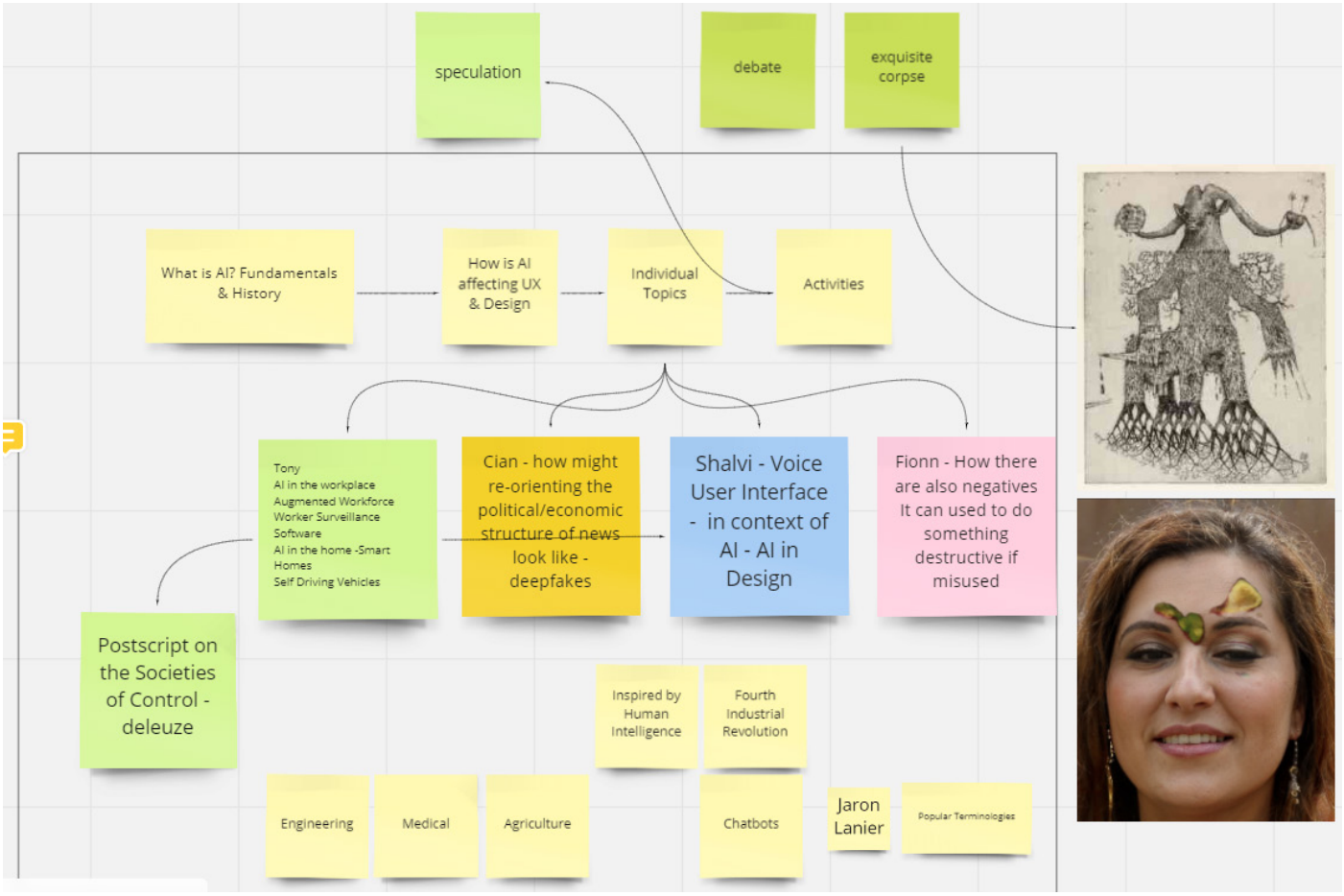
We all found ways to relate the topic to our respective thesis topics. We all took time to read about the topic and understand the scope of the topic. We took multiple brainstorming sessions within the group to have mutual understanding. Also, to give the whole presentation a direction which is interesting and useful to our audience as well. In addition to the direction, it was helpful to figure out our individual topics together.

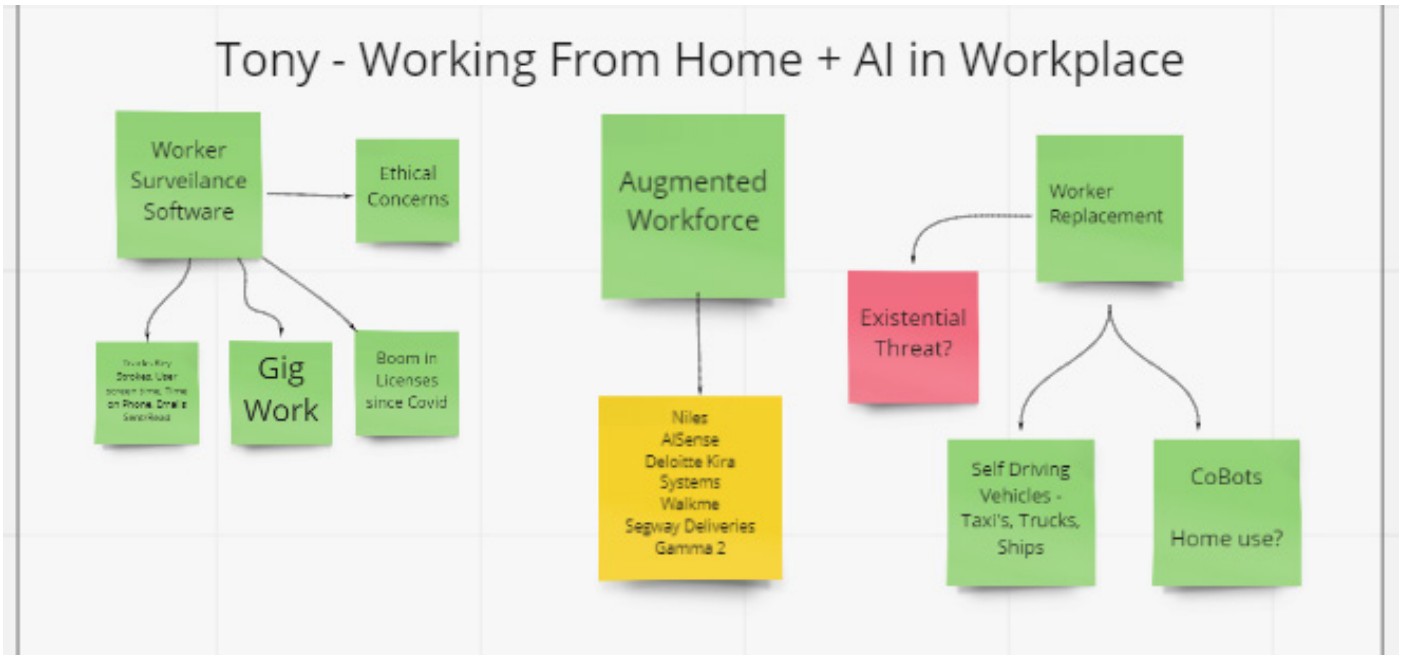



Introduction
History of AI
What is AI?
AI in media
Machine Learning
Deep Learning
Reinforcement Learning
Robotics
Natural Language Processing
Computer Vision
Recommender Systems
Internet of Things
-strong AI(artificial general intelligence)
-natural AI(artificial biological intelligence/the emulation of human/animal intelligence)
Future eve, stepford wives, Akira, paprika, metropolis, blade runner, skynet(myth) neuromancer, ex machina, terminator, avatar Intelligent personal assistant(siri), xbox Kinect Watson AlphaGo
https://rationalwiki.org/wiki/Roko's_basilisk
What is AI? https://www.youtube.com/watch?v=2ePf9rue1Ao


Machine Learning
https://www.youtube.com/watch?v=nKW8Ndu7Mjw
Gathering Data
Data Preparation
Choosing a Model
Training
Evaluation
Hyperparameter Tuning
Prediction
Tensorflow Playground

BRAINSTORMING SESSIONS





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EMAIL

We sent an email to our class to build up to the seminar. The email basically was a teaser for the planned seminar. The email consisted of three links to really fun AI websites for people to try.

Semantris – NLP word association game

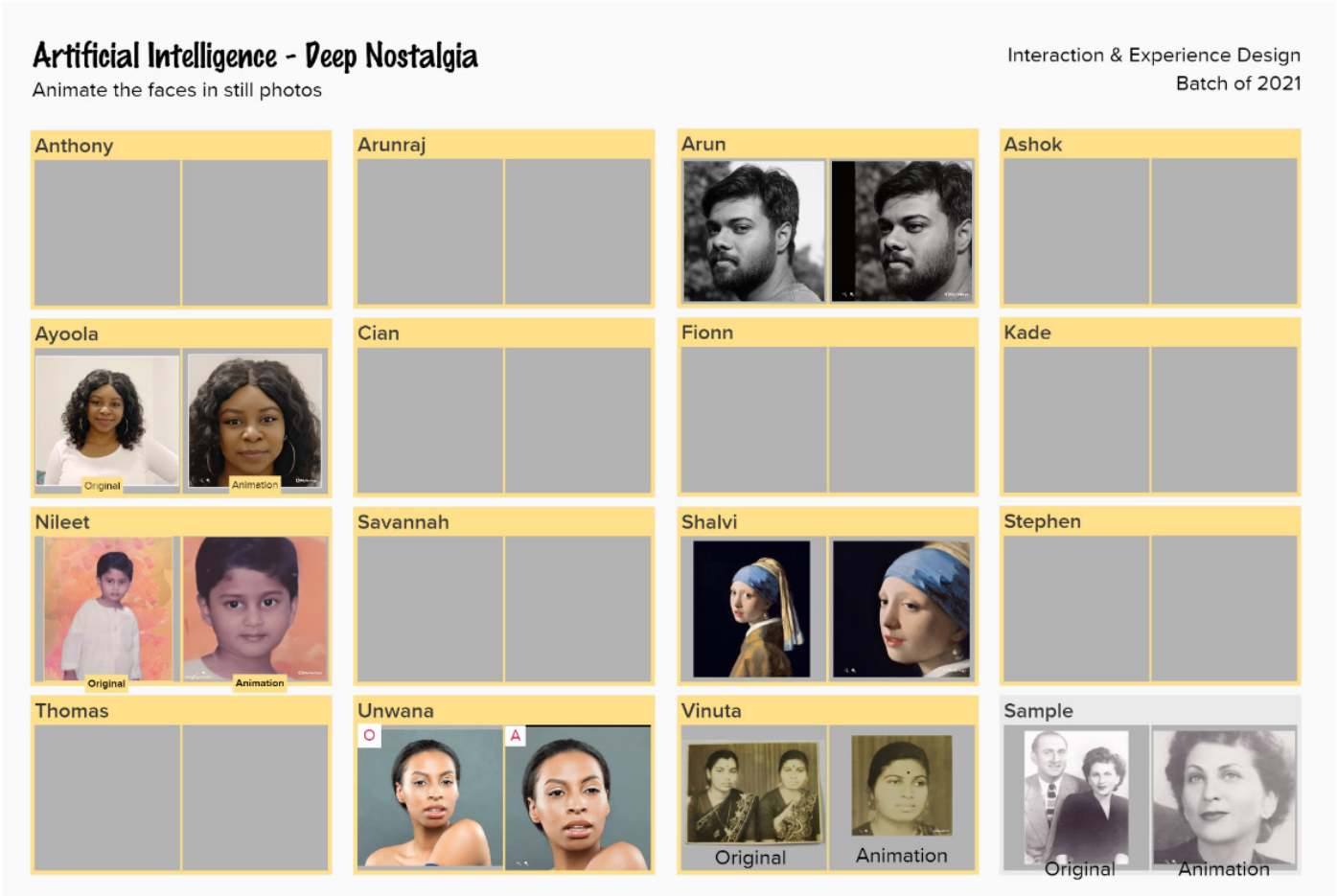
Even Stranger Things – Strange poster generator

Quick, Draw! – AI Pictionary

It was followed by an activity to create an animation using the latest AI trend of deep nostalgia. The trend was released in the same week as the seminar. We expected to see really creative animations from our batchmates. We created a mural board to see all of them together. Unfortunately, not everyone contributed but the seminar was in a very busy week.

The next section was a material requirement for the 4th activity. But, we fell short of time and we could not actually conduct the final activity.

The last part was a list of links we wanted people to see to get aquainted with the field. Those were short and informative videos along with a paper.



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PRESENTATION

We planned to conduct the presentation in the first hour of the 4-hour seminar. The order was Shalvi, Anthony, Fionn, followed by Cian. We had the first activity conducted after Shalvi's and Anthony's slides, to lighten the mood. After the first activity, Fionn and Cian completed their slides.

Shalvi: Introduction, AI in UX and UX in AI

I covered the basic introduction of the field to get people in the zone. I wanted to cover the introduction in a way to make it helpful even for those people who were new to the field, like I was. In the introduction slides, I covered the definition, AI-lexicon, timeline along with the sub topics Machine Learning and Deep Learning.

The topics I covered for AI's influence in a domain was UX. It was to understand how it is influencing the field of UX and design on a broader way. The topics were AI in UX and UX in AI. The former is how AI has introduced new tools and intelligence to effect the user experience. The latter covers how important UX is while designing AI interfaces. I broadly covered basic guidelines and principles, examples in addition to sharing important links for people inclined to learn more.

I also included a list of important websites using AI to create tools for designers. It was interesting to uncover the latest developments in AI. Getting aware of the myths in the field and how the field is unravelling in the current world.

Anthony: AI in Workplace

For my Thesis I am looking at the current state of remote working and ways that it can be improved. I felt that AI could have some interesting implications for this as work is often a topic of conversation in this area.

My presentation segment started with an introduction to the autonomous workforce. I defined autonomous robots and then started presenting some interesting examples of the autonomous workforce that appears to be on the horizon. This section of my presentation covered autonomous delivery from Tusimple and Amazon, Autonomous bartenders like Yanu, Autonomous pharmaceutical dispensaries from Omnicell, Autonomous farm machinery from John Deere and ASI, Autonomous construction machinery from Built Robotics, and finally the autonomous security robot, Hello Nimbo. This was an attempt to give scope on the amount of industries that are being touched by AI and some of the technology being used.

I then started talking about the augmented workforce. Again, I began with a definition of what this was and followed by showing some interesting examples of this type of AI as we're starting to see it become more common in the workplace. I looked at Deloitte Kira systems, a document reviewing software, Project management software, briefly touched on Journalism software which Cian would be presenting in more detail and then Acountancy & Finance software.

Finally I went into some of the more remote work focused topics. One of the most common examples of AI in remote working that I found was worker surveillance software. This software had seen a large increase in customer base since the beginning of the pandemic and in my opinion has some questionable implications. I spoke briefly about Amazon warehouse as this is a prime example of worker surveillance software and how it's been used in our time. I then reviewed the gig economy which AI has given rise to with AI powered management Apps such as Deliveroo and Uber. I finished my presentation with a list of questions and concerns that I felt my presentation topics had prompted and things that I felt should be discussed in relation to AI in the workplace. I ended my presentation and handed over to Fionn.

Fionn: AI in Transport

The topics I covered was AI in transport and the creation of the first Activity. Artificial intelligence has a large presence in terms of transport. There are many fields that AI covers in relation to transport such as cars, trains, ships and aeroplanes. I also discussed autonomous cars and AI in relation to public transport and the potential benefits it holds for the future.
My aim was to explain to the class all the important information that I learned whilst researching AI in transport. I started by explaining how AI is progressing rapidly, that there are organisations such as the EU transport commission spending billions on AI transport projects. I then briefly explained the fundamentals behind AI in transport and how it works. I spent a substantial period on road transport in relation to AI as it has become the most developed and successful branch of AI transport. I showcased how 'Platooning' works in road transport for trucks. Platooning works by a driver being present in the first truck. The trucks following the first truck do not require a driver as they mimic every movement of the first truck through wireless communication.

The Final topics I discussed were AI in relation to public transport and autonomous cars. I explained potential benefits AI can have in public transport.

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The final topic I discussed was autonomous cars, how they work and how close to a reality they are.

Throughout my part of the presentation, I explained the limitations of AI at different stages. I described the problems that also associated with AI. The most relevant topics include ethical reasons, for example if an AI controlled vehicle kills someone on the road who is at fault? Would a human driver of had the ability to avoid the accident, and who does the insurance fall on? All these questions were address and discussed.

Cian: AI in Politics

Through group deliberation we understood that linking the specific focus of our artificial intelligence exploration to our fyp is important. At that point, my fyp had germinated around areas of financial systems and their impact on mental health, transpiring to the ideological agendas of news authorities, maintaining a general interpretive theoretical framework of critical theory throughout.

I decided to focus on the intersection between my understanding of artificial intelligence and my fyp hitherto that point. The content collated themes of media using A.I. innocuously to how it might be implemented with far greater abhorrent intentions and touching briefly upon the geopolitics of it. I focused on one specific instance of this more sinister deployment using a Cartography of Controversy to interrogate its complex network of affect and impact. The intention was to frame and exemplify the depth and breadth of it is potential for ideological means. This is a link to it hosted on Miro https://miro.com/app/board/o9J_lRshZys=/. It maps how artificial intelligence in quite a basic way was utilized by an intersection of aristocrats with conservative political interests to usurp power. The controversy spans the Brexit campaign, Donald Trump's election, military tactics, U.K. electoral law, the monopolizing and creation of and informational echo chambers in websites and news sites to exercise power. This political stream further meanders in the presentation to cover other political topics around its possible use in social media comments to laud the members of the political parties in power to shroud dissent and conflate their public image to speculating how U.S. president Biden might approach A.I., while president. If I had more time, I would have also covered how A.I. is used as a control mechanism in China to enforce the countries social credit system, specifically enforcing the rules of Covid-19 lockdowns.

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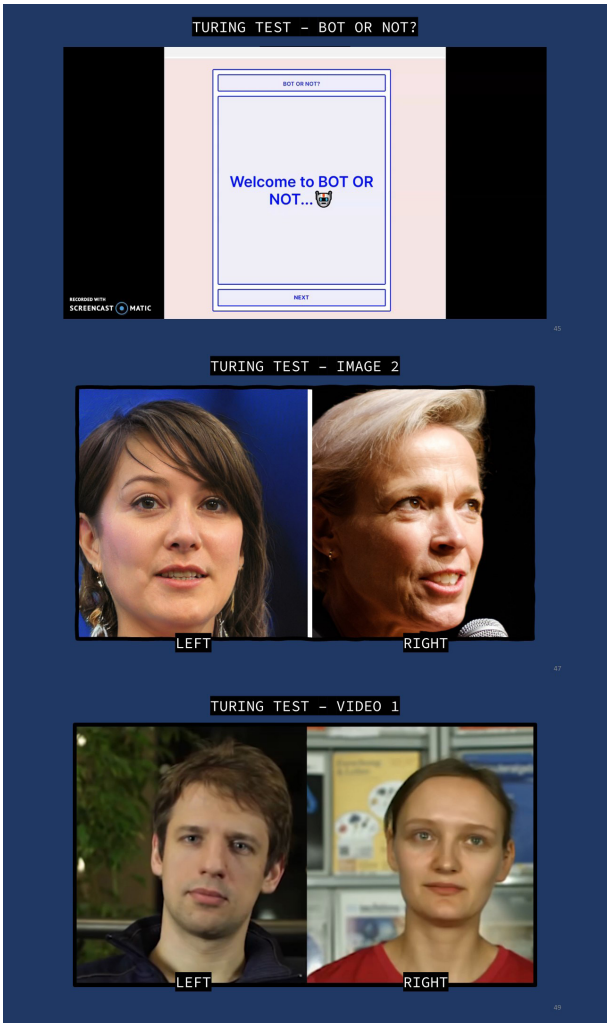
ACTIVITY 1

The first activity was created with the intention of being fun and light-hearted as an introduction to AI and showcasing the power AI contains. The first part of the activity was a screencast of the game 'Bot or not'. Bot or not is a game which is run by either a human or an AI bot. The idea behind the game is the user does not know whether they are talking to an AI bot or a human. You have three rounds which are all a minute long to ask the bot or human questions to decipher if they are real or not. The conversation was carried by Fionn and we then let the class choose if they thought it was a human or bot.

The second part of the activity was a guessing game. For this activity, the class were shown two pictures, one picture was a real person, and the other picture was a person created by AI. We let the class choose which face they thought was real. The final part of the activity was also a guessing game except this time with videos. We presented the class with two videos of people talking. For example, one of the videos was Barack Obama and the other video was Donald Trump. In the video the two ex-presidents were talking, and the class had to decide which they thought was real. This also sparked conversation around the ethical question with AI.



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ACTIVITY 2

We returned from our first break after the presentation to start Activity 2. This activity would be carried out in groups of 3 in the Microsoft Teams group rooms. The participants would work on a shared Mural board. We asked them to each look around their room or home and pick an inanimate object. They would then have to think about that object if it had a brain and or some form of autonomy. Then they were to think abut how it might behave and what it might be able to do. We asked that they share a photo of this object on the mural board where they would be working and discuss their idea amongst their group. Everyone would then return to the main room where they would each present their own idea.

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Group 1 (with Anthony): The group I was in the room with for the activities was Gabriela, Savannah and Nileet. I let them know at the beginning that I would be available in the room if they had any questions and reminded them of the time that we had to make it back for. The groups took to the activity and were very vocal as they populated the Mural board with their ideas. Gabriela designed a smart wardrobe which she explained would be able to manage clothing and let you know what needs to be cleaned. Savannah designed a candle that could detect presence and release an array of fragrances based on your mood as well as detect changes in atmosphere. Nileet designed a plant that acts more like an interactive pet with the ability to pour water and look after itself as well as control aspects of the room it's in such as temperature. The group shared their ideas with one another before I informed them that it was nearly time to return to the main room where all of the participants presented their ideas.

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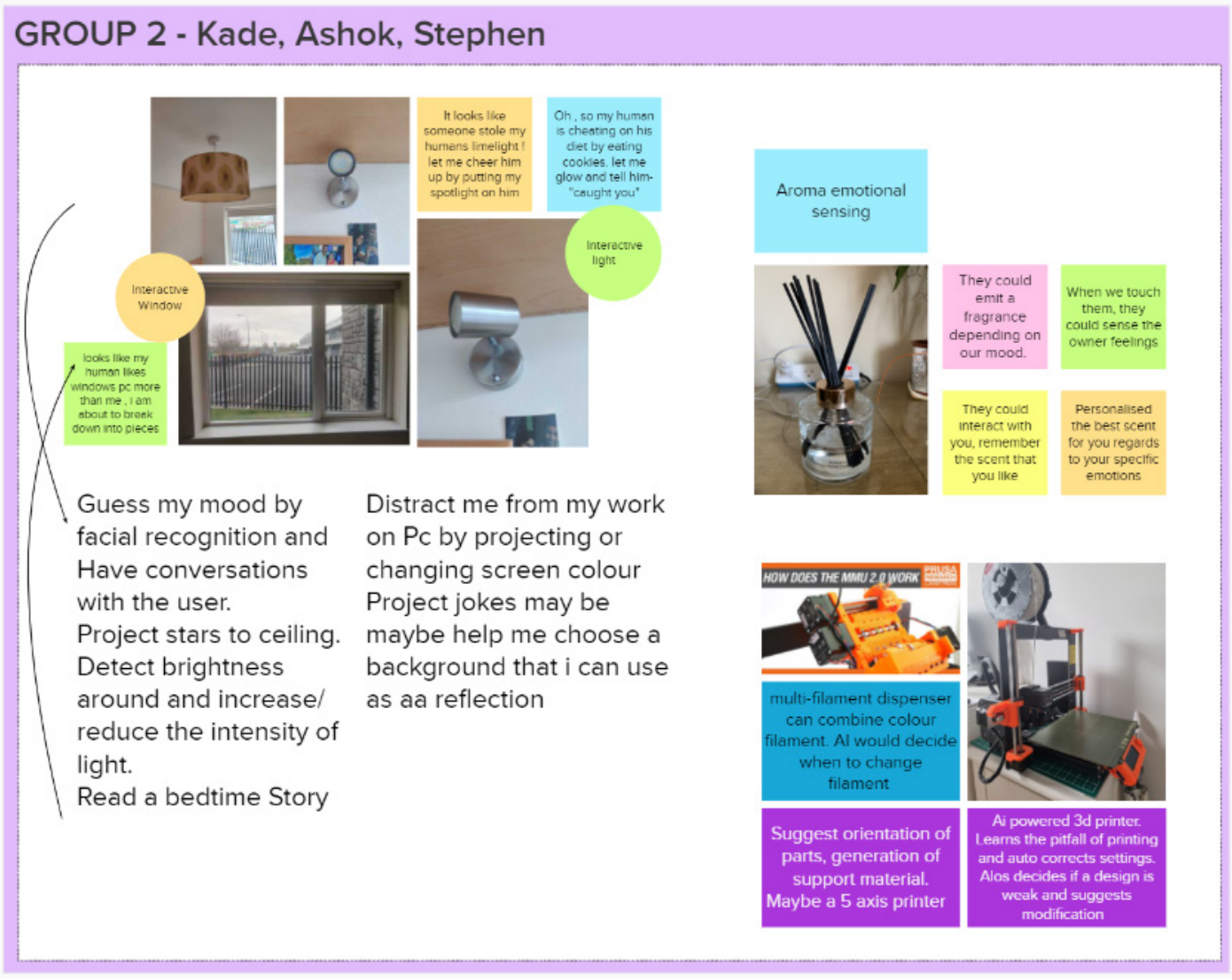
Group 2 (with Cian): In group two, composed of Kade, Stephen and Ashok. There was casual communication around how they were responding to the brief of picking an item in their room and integrating artificial intelligence with it. Everyone got along quite well, I got an immediate sense of comfort sharing the MS teams' room with them. Stephen imagined how his 3D printer could utilize perfect intelligible measurement protocols to avoid remaking scenarios, thinking specifically of how this is common among people who have not used a 3D printer before - mismeasuring and mis-imagining. Kade imagined an intelligible lamp/ aroma transfuser that reacted to the time of day and your activity in a room with the objective of improving the person occupying the rooms mood. While Ashok imagined the window in his room to the ground floor outside could adjust light and increase privacy according to the time of day and his personal schedule.



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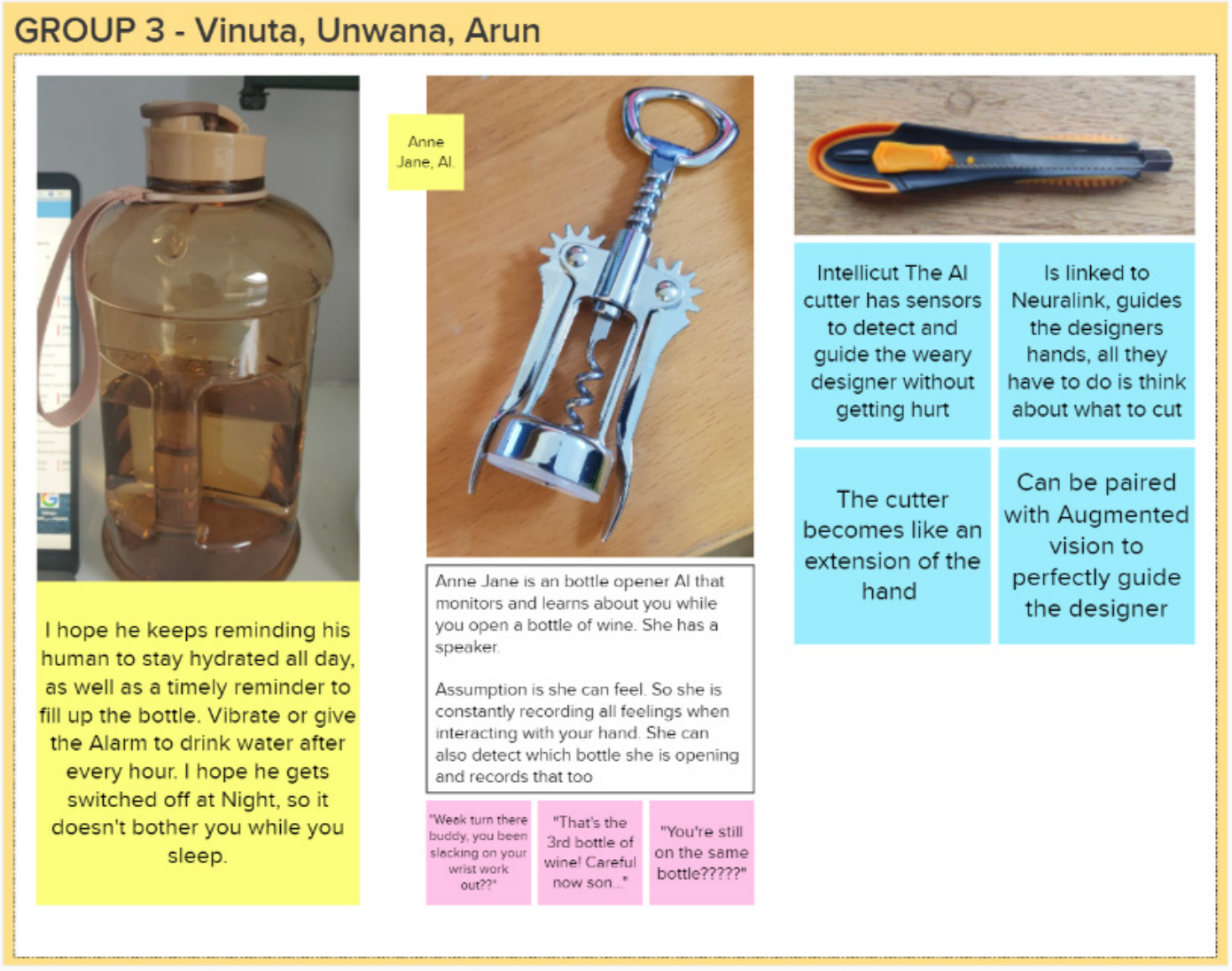
Group 3 (with Fionn): My group was composed of Vinuta, Unwana and Arun. I was purposely paired with this group as I had not been working in a group with them yet. I thought the ideas created during this workshop were fascinating. Vinuta came up with an idea for an interactive bottle. A bottle which reminds you to drink water when needed, through a vibration/alarm method to notify the user. Unwana came up with an AI bottle opener that has the potential to monitor your drinking habits for better in areas such as sensible drinking. Arun created an AI blade, he described it as an extension of your hand. It has the potential to connect with your brain to seamlessly cut out the design you are thinking of. The group then discussed their ideas amongst themselves before presenting to the class.



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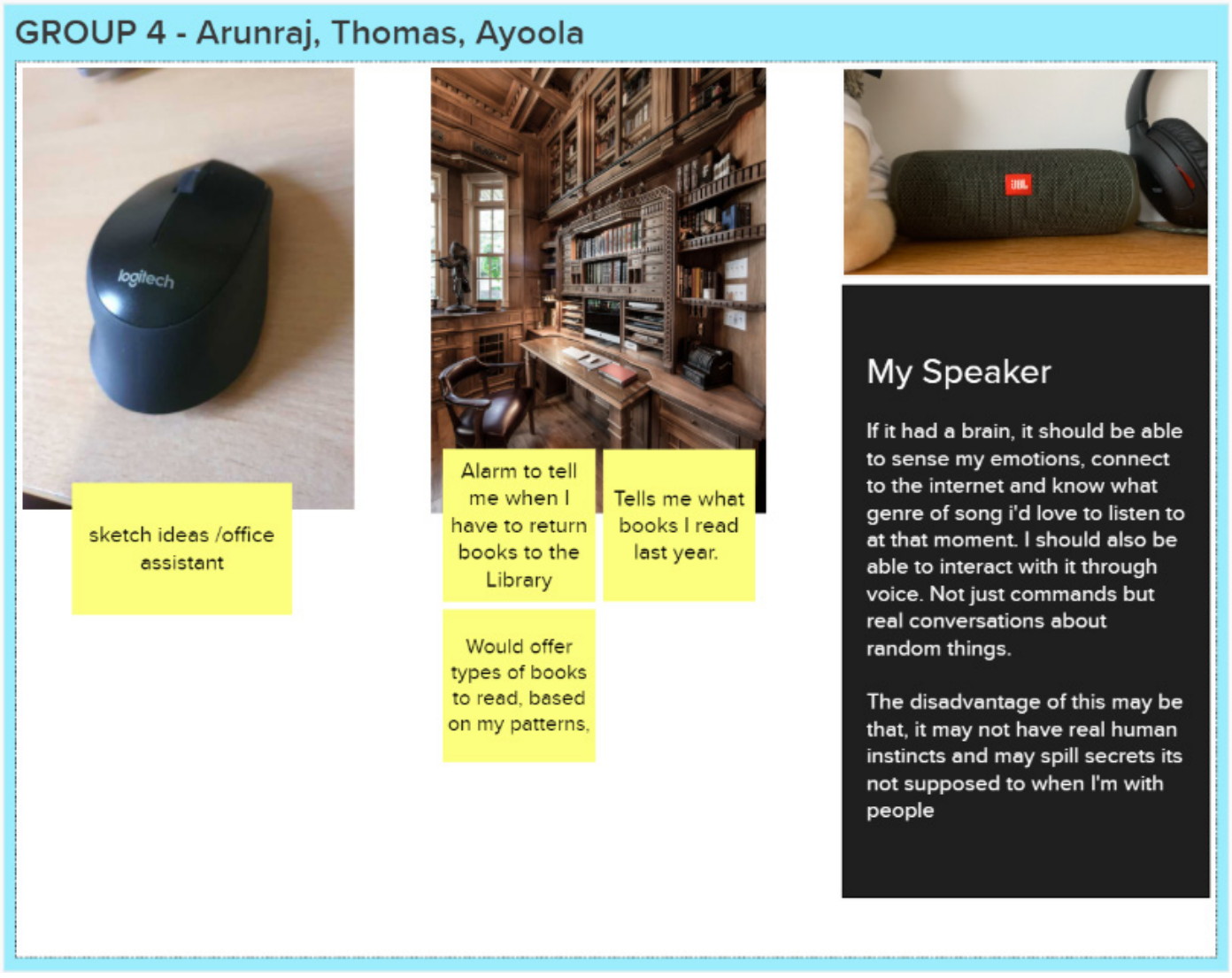
Group 4 (with Shalvi): In group four, composed of Arunraj, Thomas and Ayoola, it started of well with the discussion of what had to be done, but they all got into their own zone while working on the task. It was interesting to see how they were able to relate these objects with their everyday needs and observations. They were all able to imagine how their object could make their life easier. Ayoola, even pointed out how it could be a problem in a few scenarios. Indicating to the importance of incorporating context in an AI interface.

Improvement: We could have asked to pick one object and define/elaborate it together with the group members, it ended up being an individual task rather than a group work.



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ACTIVITY 3

What is most appealing from a fundamental human point of view with AI is the vision of it subverting the human. The short discourse around the choices of debate questions had a defintivie lure towards the ethics of A.I.

We had one intention, which progressively became further framed and refined through discussion – to provoke thought, to speculate upon what if scenarios within within the not so distant future. Multiple scenarios were generated, such as if the car were to have a choice between avoiding an oncoming car crash which might potentially kill the driver or kill multiples either side, or if someone stope dyour car to rob it, how might the AI respond to such a scenario.
We decided upon the teacher proposition as it was accessible, provocative but lacked the transgression of scenarios around people dying or a crime being committed.

The merit of the first proposition of whether A.I. is good or bad for humanity was specifically in it's flexibility to be interpreted, and its capacity to generate debate.

Group 1 (with Anthony): On return to the room the group quickly emersed themselves into the next activity which was a debate. The group were defending the idea of AI being used in place of teachers. They came up with some strong arguments such as the idea of AI being tailored to suit the student and learning about a student's individual style of learning which could make it a more efficient teacher for the individual. They discussed how AI could give improved and tailored feedback specific to the individual.

Gabriela spoke about her experience with Duolingo and how it can draw back to areas where you may have struggled or made mistakes previously as well as revisiting items to ensure that you truly understand them. They also made a point for the idea of making information more relatable based on topics already covered by students, drawing reference to it, connecting to different modules and or subjects to draw parallels between the learning. I had to interrupt the group to let them know that it was time to go back for the presentations as they were coming up with ideas and arguments for their topic consistently. The groups returned to the main room for their presentations. After both groups and made their case for their stance in a topic, I opened up a poll using Microsoft forms so the class could vote for the stance that they agreed with. Both results suggested that the class were sceptical about the future of AI.

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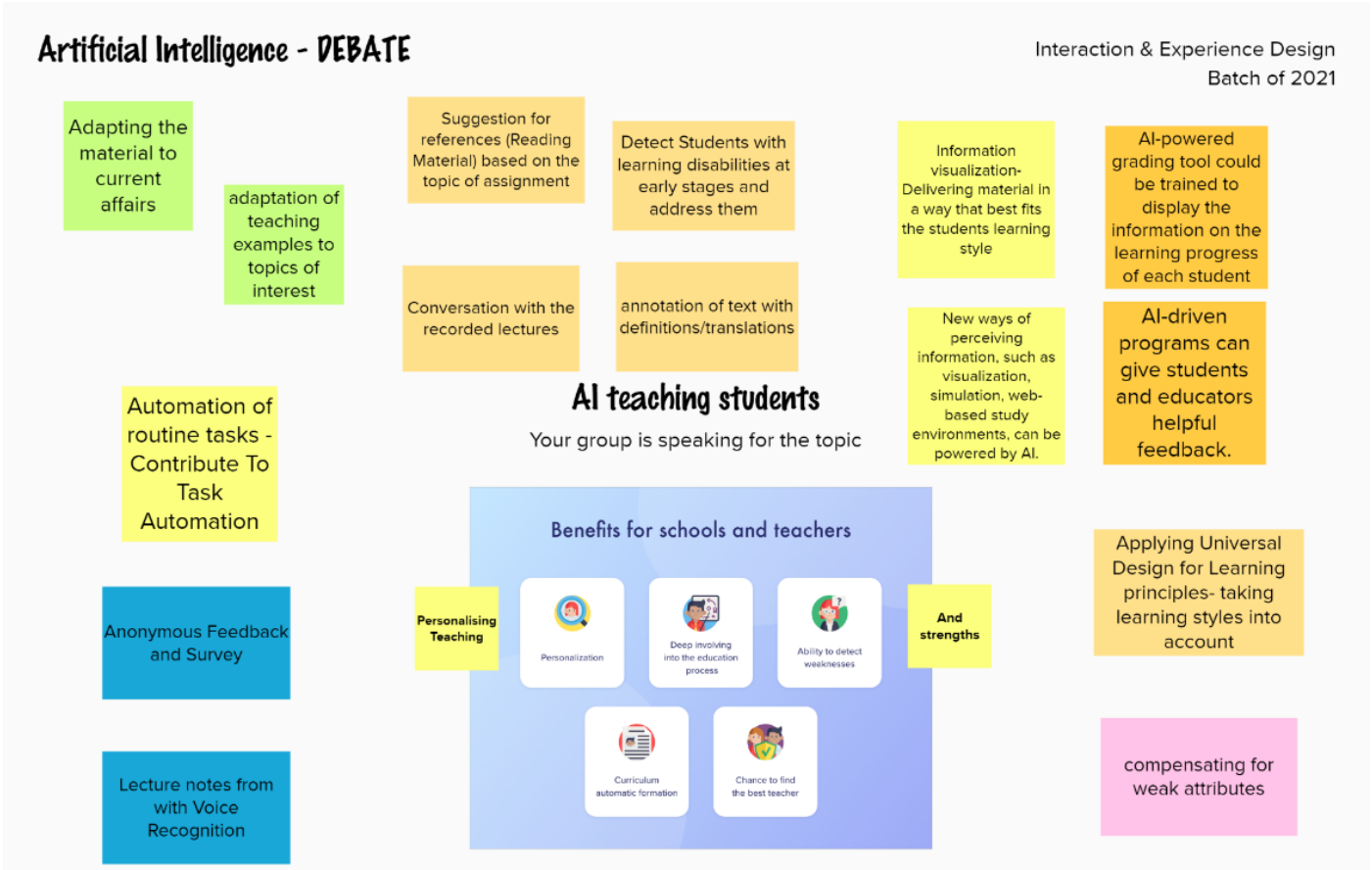
Group 2 (with Cian): My group positioned their argument upon a humanistic stand point in which they argued against A.I. broadly speaking being used as a teacher. This brainstorming phase mapped multiple reasons why it wouldn't be good to have A.I. as a teacher, but didn't quite identify an over arching, comprehensive argument to argue their position. Brainstorming traced negative reasons from the economical, social and technological mostly hacking, as to why it would not be viable. Traces of an argument were mostly circumvented from understandings that the human is irreplaceable in some crucial aspects such as dealing to emotional nuance, building meaningful relationships and specifically teaching subjects associated with that of the humanities, such a art and dancing. Their understanding of the argument ultimately became about whether to replace the human or not, and their answer was a certain no.

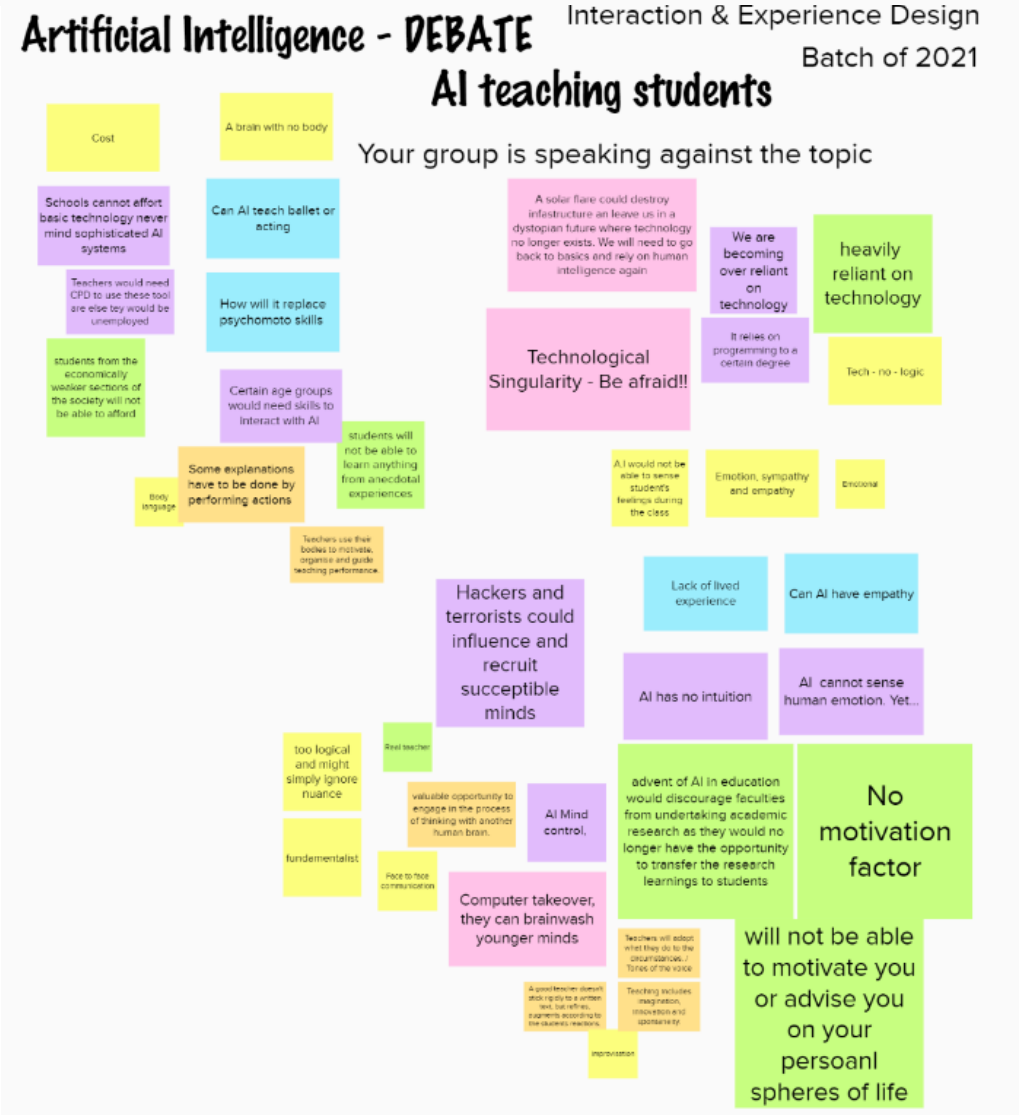
Group 3 (with Fionn): The debate was an interesting activity for our group. All the members were very vocal which was a huge help. We had to explain why 'AI is the best thing for humanity'. The group began discussing all the potential ways AI can improves out lives. The first topic that was popular amongst the group was AI having the ability to do the tedious jobs. The second beneficial thing discussed was AI having the ability to reduce human corruption in areas like politics. The remaining topics discussed all revolved around enhancing jobs. For example, AI has the potential to reduce the number of human errors. AI is becoming good at many human jobs such as diagnosing disease in medicals fields. It was also discussed that AI can enhance automation; AI can perform intensive human labour jobs without the needs for human intervention.

Group 4 (with Shalvi): The group memebers were Arunraj, Thomas and Ayoola. I found the points made by the team quite interesting. Their reference included from personal experience, movies and their imagination were intriguing. They made quite a few interesting points.

Future improvements (Cian): I was a little disappointed with the debate, or rather experiencing it in its briefness, only highlighted it's potential discursive efficacy as both a pedagogical tool and a framework to develop understandings around A.I. especially due to A.I.'s sprawling multifarity as a topic. I wouldn't have specifically given it a longer time allocation in the format that we made our presentation in but would have maybe suggested re-organizing activities to facilitate the debates potential a little more. I would have suggested to structure it through a collaborative framework similar to that in co-design, in which teams or individuals might respond to certain stimulus/prompts or nudges to encourage a response. Taking formal cues from a design game might have proved more enjoyable and informative, if for instance there was a context card implemented in which the



Group 1



Group 2

Artificial Intelligence - DEBATE

Interaction & Experience Design
Batch of 2021

AI can be used to replace humans in areas like politics to reduce corruption

Tedious and repetitive jobs can be done by AI to aid humans.

It is becoming good at many human jobs such as - diagnosing disease (In the field of Medicines), translating languages, customer services.

It will enhanced automation- AI can perform intensive human labor without the need of human intervention.

Lesser scope of Errors.

AI will be the best thing... for humanity...

Your group is speaking for the topic

TO understand if AI is good or bad, one must first consider what it is. Artificial intelligence builds understanding through Data

Data is simply information that we gather about our reality. Human and technology advancement is done through data collection and understanding.

The human mind can only comprehend so much. With the aid of artificial intelligence we can learn faster and build better.

Imagine deciphering the COVID-19 virus weeks after it's outbreak occurs and using the data to produce the best cure? There would be no real lockdown required, just need to figure out how best to deliver the antidotes which AI would once again prove invaluable

Sure the road to the perfect AI is a ways away but, in eventuality it will lead to a point where it is almost perfect.

Group 3

Artificial Intelligence - DEBATE

Interaction & Experience Design

It could replace large sections of Humanity.

Lead to loss of roles/employment as we increase reliance on AI

Could lead to the robot race becoming more advanced and more dominant in world affairs as a result.

Could software viruses end up effecting the human world or human health.

We could become dependant on the coder and their instincts and prejudices.

We have no Ethical framework or protocol established yet to define what is acceptable.

It will be impossible to define what is human communications, and what is really human experience.

Nuclear bombs

AI can be programmed to do something devastating

AI programmed to do something beneficial, can use destructive methods to achieve the goal

Autonomous weapons

Deepfakes used for fraud and identity theft

No human emotion and this is vital when it comes to team management

Privacy Violations - Criminals are using AI to steal personal details

AI cannot be the best thing for humanity if it cant think out of the box and be creative in certain situations. It can only do what it's programmed to do. Its hardly an "intelligence" if you ask me!

AI makes Humans Lazy

Loss of jobs

AI will be the best thing... for humanity...

Your group is speaking against the topic

Group 4

Artificial Intelligence

GROUP SEMINAR

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Dr. Gabriela Avram

End

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