

Internship Portfolio

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Noorderpoort

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Introduction

Noorderpoort is one of the largest vocational schools (MBO) in the Northen region of the Netherlands. They offer about 170 programs that cover various fields like IT, hospitality, entrepreneurship, economics, creative professions and more. They are all about opportunities, and teaching students about finding their right journey. Teaching them that they do not have to be scared about failure and encourage them to discover themselves.

My Internship at Noorderpoort focused mostly on XR/AI development in education. Worked with innovative tech for the future of Education. My role was to help create an experimental VR lab and work on developing XR/AI applications and solving problems.

My learning Goals:

- Widen my networking and knowledge in the field of XR/AI.
- Mastering serious games by prioritising the user experience.
- Learning the opportunities of the industry.
- Expand my development experience (problem-solving and programming).
- Understanding how communication and work ethics are like in a company in the Netherlands.
- Learn Dutch. 😊

I have a deep care for people. Thus, I have a heart to help, this experience kept me motivated due to the care for the future generations. My supervisor also said that her dream is to have a development team for the school specifically for educating students and educators in some cases. This dream links to what I would like to do, I wanted to start my own team or company. So, I loved the idea of helping my supervisor to achieve the team. I would also love to lead the team as project manager, but my first steps would be to develop my skills and prove my capabilities.

Activity Logs

Networking and events

I have met many professionals, from game developers from schools and companies to teacher and professors. These events really helped me see the opportunities of tech of the future. I loved talking to individuals and it helped me figure out what I really want to do for my career (It will be mentioned in my final reflection). I am grateful for the opportunity to attend these events and grateful about the connections I made.

Rotterdam convention on December (F, G)

Description of Activity:	I attended a 3-day immersive technology convention focused on XR applications. On December 4th, I went with my company supervisor to network and explore industry trends (before my internship officially started). On December 6th, I went again with some friends of mine in CMGT to dive deeper into lectures and workshops. Key takeaways included insights into XR's role in healthcare and the urgency of AI adoption in understaffed sectors.
Evidence:	LinkedIn post: Exploring the Future of Technology at [Convention Name] Images in Appendix Figure 1.1-2
Competency/Learning Goal:	F. Futures Innovating: The entire convention is about innovative technologies; the entire experience was learning new trends that shape the future and futureproofing. G. Self-fashioning: I have met many people from XR in healthcare to interactive MR games. I learned from experts and expanded my knowledge. This is especially useful when I would like to start my own company.
Situation:	The convention provided a platform to explore XR applications and their societal impact.
Task:	<ul style="list-style-type: none">Attend lectures and workshops to understand XR's market potential.Network with professionals to gather insights.Reflect on how XR/AI can solve real-world problems.Played around in their church of VR.
Activity:	<ul style="list-style-type: none">Attended talks and workshops.Engaged with exhibitors showcasing XR tools.Discussed insights with peers and professionals.
Results: The outcome was highly positive	Key learnings: <ul style="list-style-type: none">Dutch healthcare struggles due to understaffing; XR can streamline training (e.g., virtual simulations replace real-patient observation). This would speed up the training process.AI adoption is critical: <i>"Healthcare workers won't get replaced by AI, but the workers who don't use AI will get replaced."</i> Dr Jaap Bonjer

	<p>Networking:</p> <ul style="list-style-type: none"> • Connected with XR developers and healthcare innovators. • Broadened my knowledge in opportunity that XR has.
Reflection:	<p>What did I learn?</p> <ul style="list-style-type: none"> • XR isn't just for gaming; it has transformative potential in sectors like healthcare and education. • Real-world problems (e.g., staffing shortages) require creative tech solutions. • Professionals value AI literacy as much as technical skills. However, there should be a boundary to draw with the data you feed AI. <p>What surprised me?</p> <ul style="list-style-type: none"> • How resistant industries can be to adopting new tech despite clear benefits. However, I also understand that there are EU policies on Data which slows the process.
What will you do next?	Hopefully get the opportunity to apply these XR/AI concepts in future projects and share my insights with my future team members and peers.

Consultant at a hackathon (E, F, G)

Description of Activity:	I served as a mentor for the Netherlands team (80 students) and provided guidance to teams from Italy, Estonia, and Finland during a global hackathon focused on healthcare tech solutions. Responsibilities included hosting 4 international mentoring sessions on teams, giving technical/strategic feedback, and evaluating final pitches.
Evidence:	Images in Appendix Figure 1.3-5
Competency/Learning Goal:	<ul style="list-style-type: none"> • Competency F: Futures Innovating (exploring healthcare tech solutions, fostering innovation). • Competency G: Self-fashioning (mentorship, self-awareness, professional growth). • Competency E: Organising and Implementing (managing mentoring sessions, time prioritization).
Situation:	The hackathon aimed to crowdsource tech solutions for global healthcare challenges from real clients. Teams had 48 hours to envision, prototype, and pitch their solutions.
Task:	<ol style="list-style-type: none"> 1. Guide teams in refining technical solutions (e.g., AI diagnostics, wearable devices). 2. Provide constructive feedback during mentoring sessions. 3. Evaluate pitches and advocate for user-centered design.
Activity:	<ul style="list-style-type: none"> • International mentoring: <ul style="list-style-type: none"> ○ Hosted 4 virtual sessions for Italy, Estonia and Finland. ○ Advised teams on technical feasibility (e.g., “Consider usability on the elderly for your health app”). • Dutch team support: <ul style="list-style-type: none"> ○ Rotated between 15+ Dutch teams to troubleshoot coding issues and validate concepts. • Pitch evaluations: Judged the Dutch teams’ pitches to help them focus on innovation and scalability.
Results: The outcome was positive	<ul style="list-style-type: none"> • Team success: Multiple Dutch teams reached the top 10. • Personal impact: Most students implemented feedback, a team came and thanked me for my input (It made me very happy) • Career reflection: I did become interested in mentoring/teaching but decided against it as a lifelong career because I am worried about the responsibility it holds.
Reflection:	<ul style="list-style-type: none"> • What did I learn? <ul style="list-style-type: none"> ○ Effective mentorship balances encouragement with honest critique.

	<ul style="list-style-type: none"> ○ Healthcare tech requires the balance in innovation with ethical constraints. It is also a must to always test for the user. ● What surprised me? <ul style="list-style-type: none"> ○ Critical feedback can either provide growth or stunt growth depending on how it is delivered. ○ My ability to quickly adapt advice across cultural contexts, I enjoyed talking to the other countries.
What will you do next?	<ul style="list-style-type: none"> ● Transfer: Apply mentorship skills to hopefully guide junior CMGT students in projects. ● Improve: Develop frameworks for giving actionable feedback (e.g., “Start/Stop/Continue” method). ● I also would like to propose a CMGT hackathon focused on solving issues with gaming (for serious games).

Workshop with Npuls (A,D,E,F)

Npuls is a large program in the Netherlands aimed at transforming the education sector and building a future-proof system with technology. They are now working on an app store for XR games for education.

Description of Activity:	Attended a collaborative workshop with 7 other individuals from Dutch educational institutions to: <ul style="list-style-type: none"> - Test and evaluate 3 XR games to identify quality benchmarks. - Discuss and provide feedback on a quality flowchart for app store inclusion criteria. - Provide student perspectives on essential checks (e.g., usability, educational value).
Evidence:	Images in Appendix Figure 1.6-8
Competency/Learning Goal:	<ul style="list-style-type: none"> - Competency D: Inquiring and Evaluating (testing and analysing XR games for quality). - Competency A: Contextualizing and Framing (discussing and aligning standards with educational needs). - Competency E: Organising and Implementing (contributing to workflow design). - Competency F: Futures Innovating (shaping future XR app ecosystems).
Situation:	The workshop aimed to help understand what application enough quality to be in the app store.
Task:	<ol style="list-style-type: none"> 1. Discussing what quality is. 2. Rating and noting down the qualities of 3 games. 3. Discussing and quality checking flowchart that Npuls created .
Activity:	<p>Workshop Breakdown</p> <p>1. Testing 3 XR Games (Competency D, A) Games Evaluated: Radioactive, Airport checkin, keep talking and no body explodes Quality Criteria Discussed:</p> <ul style="list-style-type: none"> - VR movement: Whether the movement is smooth or not - Whether instructions are clear and easy to understand - Graphics: Whether it is easy on the eye and works well with the user - Mechanics are easy and not overly complex for user - Educational: Clear learning objectives, age-appropriate content. - User Experience: Intuitive controls, accessibility (e.g., subtitles, comfort modes). <p>Key Takeaway: "Quality isn't just polish, it's purposeful design. A bug-free app with weak Education shouldn't pass."</p> <p>2. Defining Quality Checks (Competency E, F)</p>

	<p>Flowchart Contributions:</p> <ul style="list-style-type: none"> - User friendly experiences - Advocated for "Ethical AI Use" criteria (e.g., bias audits for educational AI tools). - Affordability - Purpose of application - Training to use XR tech and application
Results: The outcome was positive	<ul style="list-style-type: none"> • NPuls Adoption: Several suggestions were added to their draft standards. • Networking: Connected with XR developers from other schools for future collaborations. (a developer and Npuls research team which found me very interesting) • Personal Growth: Gained insight into the policymaking side of XR edtech.
Reflection:	<p>What did I learn?</p> <ul style="list-style-type: none"> - Quality standards must balance technical rigor with Teaching goals. Quality checks must start with the purpose of the application. - Student voices are critical to get opinions and feedback. Their perspective of the classroom is very important to solve problems and better develop application.
What will you do next?	I got insight on what is priority while developing serious games and testing them. I hope to apply this knowledge in future projects developing for a client and testing the application.

Lecture about XR at ROG (A, F, G)

Description of Activity:	Attended a multidisciplinary lecture on XR applications in research and education, featuring global speakers showcasing projects in healthcare, cultural preservation, and historical storytelling. Gained insights into ethical, technical, and cultural dimensions of XR.
Evidence:	Notes and Images in Appendix Figure 1.9-1.12
Competency/Learning Goal:	<ul style="list-style-type: none"> • Competency F: Futures Innovating (exploring XR's potential in healthcare, cultural preservation, and education). • Competency A: Contextualizing and Framing (understanding cultural, historical, and ethical contexts of XR). • Competency G: Self-fashioning (reflecting on career opportunities in XR).
Situation:	The lecture highlighted XR's role in solving real-world problems, from medical therapy to decolonizing cultural heritage. Projects demonstrated how immersive tech bridges gaps between academia, marginalized communities, and global audiences.
Task:	<ol style="list-style-type: none"> 1. Absorb case studies on XR's applications across fields. 2. Borden my understanding on the usability of the technology 3. Reflect on ethical implications (e.g., repatriating cultural artifacts via VR). 4. Identify opportunities for XR in my own work.
Activity:	<p>Speaker 1 (RUG Professor):</p> <ul style="list-style-type: none"> • Introduction of lecture and talked about Proof of concept • VR used to study and treat children with seizures/hallucinations. • Takeaway: XR's therapeutic potential in neurology. <p>Speaker 2 (Christina: Researcher and Professor):</p> <ul style="list-style-type: none"> • <i>Aesklepion Story Map</i>: Combined QGIS, historical data, and storytelling to reconstruct ancient Greek healing sanctuaries. • Takeaway: XR as a tool for interactive historical education. <p>Speaker 3 (Colombian Filmmaker/Researcher):</p> <ul style="list-style-type: none"> • <i>Masks of Sierra VR</i>: Created digital twins of stolen Kogi masks to virtually “return” them to their temple. <ul style="list-style-type: none"> ○ Used 360° video, Tribe’s language integration, and ethical negotiation with museum in Berlin. • <i>La Piragua</i>: Mixed reality (AR/VR/360° film) to recover Caribbean Colombian collective memory. • Takeaway: XR empowers marginalized communities by preserving cultural sovereignty. <p>Speaker 4 (Story Maps in Education):</p>

	<ul style="list-style-type: none"> Christina's (speaker 2) students demonstrated Story Maps as interactive, media-rich tools for geography/history classes. Takeaway: XR democratizes access to complex spatial and historical data.
Results: The outcome was positive	<ul style="list-style-type: none"> New perspectives: <ul style="list-style-type: none"> XR usage in cultural restitution (e.g., virtual repatriation of artifacts). Story Maps enhance engagement in education through interactivity. Easing complex information through visualising it. Career reflection: Inspired to explore XR's role in social justice, culture and education.
Reflection:	<ul style="list-style-type: none"> What did I learn? <ul style="list-style-type: none"> XR is not just a technical tool but a medium for ethical storytelling and cultural healing. Projects like <i>Masks of Sierra VR</i> show how technology can challenge colonial practices. What surprised me? <ul style="list-style-type: none"> The emotional impact of XR on the Kogi community—they viewed VR as a spiritual “dimension.” Testing and using the application in VR on indigenous societies where they do not even use phones. How museums' reluctance to return artifacts could be mitigated through digital alternatives.
What will you do next?	<ul style="list-style-type: none"> Research ethical frameworks for XR projects involving indigenous communities. Maybe there are some interesting research opportunities. Partner with cultural organizations to pilot XR restitution projects. Use the ‘Proof of concept’ framework if relevant in future CMGT projects

Healthcare education day (E,G,F)

Description of Activity:	<p>Co-hosted a workshop showcasing VR's applications in healthcare, using five Meta Quest 3 headsets preloaded with diverse experiences:</p> <ol style="list-style-type: none"> 1. WarpVR (2 headsets): A tool for immersive video editing and prototyping. 2. UBsim (2 headsets): A simulation engine borrowed from NHL, used for training scenarios. 3. Human Anatomy: An educational VR anatomy tool. 4. AI Job Interviewer: A VR experience simulating AI-driven job interviews.
Evidence:	<p>Images in Appendix Figure 1.13- 2 Feedback I gathered, I do not have access to, and I do not think I can share anyway</p>
Competency/Learning Goal:	<ul style="list-style-type: none"> • Competency F: Futures Innovating (showcasing VR/AI trends in healthcare). • Competency E: Organising and Implementing (managing logistics for 5 VR setups). • Competency G: Self-fashioning (public speaking, teamwork).
Situation:	<p>The workshop aimed to educate healthcare educators and professionals on VR's potential, from anatomy training to AI integration.</p>
Task:	<ol style="list-style-type: none"> 1. Prepare and showcase 6 Quest 3 headsets with distinct healthcare-focused VR experiences. 2. Coordinate with NHL to borrow UBsim licenses. 3. Guide participants through demos and explain real-world applications. 4. Gather feedback to assess impact.
Activity:	<ul style="list-style-type: none"> • Preparation: <ul style="list-style-type: none"> ◦ Configured Quest 3s with WarpVR, UBsim, anatomy software, and AI interviewer. ◦ Collaborated with NHL to secure UBsim access and troubleshoot compatibility. • Workshop Execution: <ul style="list-style-type: none"> ◦ Demonstrated each tool's healthcare relevance: <ul style="list-style-type: none"> ▪ WarpVR: Editing 360° medical training videos. ▪ UBsim: Simulating emergency response scenarios. ▪ Anatomy Tool: Exploring 3D models of organs. ▪ AI Interviewer: Practicing communication skills with virtual patients. ◦ Assisted participants with headset adjustments, usability and navigation. • Feedback Collection: <ul style="list-style-type: none"> ◦ Distributed surveys and observed engagement levels.

Results: The outcome was positive	<ul style="list-style-type: none"> • High engagement: Participants spent 15+ minutes per station, especially on UBsim and anatomy tool. • Positive feedback: most reported interest in VR for healthcare and its usage for their specific profession.
Reflection:	<ul style="list-style-type: none"> • What did I learn? <ul style="list-style-type: none"> ◦ Hands-on demos are more effective than lectures for showcasing VR's value. ◦ Technical preparations (e.g., charging headsets, pre-loading software) NEEDS to be checked a day before the event to be smooth. For WarpVR controllers were low battery and not every sim was downloaded. • What surprised me? <ul style="list-style-type: none"> ◦ Non-tech participants quickly adapted to VR controls. Age is irrelevant, I saw older individuals use Quickly adapt faster than people my age
What will you do next?	<ul style="list-style-type: none"> - For opportunities collaborate with hospitals to test VR training modules - Propose mixed reality element

Developer skills

Debugging GitHub projects (y2 Game Lab) (B, D)

Description of Activity:	I was tasked with assessing and debugging four existing VR games to prepare them for deployment to be built on the Meta Quest. My supervisor was a client for Hanze, requested games based on design requirements from her.
Evidence:	Screenshots and code in Appendix Figure 2.1-2.9 .
Competency/Learning Goal:	Competency B: Developing and Programming (debugging, technical problem-solving). Competency D: Inquiring and Evaluating (assessing compliance with design requirements).
Situation:	The client needed existing VR games adapted for the Meta Quest to promote digital citizenship. The games varied in quality and compliance with design standards, requiring technical evaluation and prioritization.
Task:	<ol style="list-style-type: none">1. Debug and test all four VR games for Quest compatibility.2. Rank projects based on alignment with the client's design requirements.3. Discard non-compliant projects and prepare compliant ones for building.
Activity:	<ul style="list-style-type: none">• Pulled all four projects from GitHub and imported them into Unity. Appendix Figure 2.1• Discussion with my supervisor to rank projects:<ul style="list-style-type: none">◦ Highest rank: Most compliant with design requirements.◦ Lowest rank: Non-compliant (discarded due to critical errors).• Ran and debugged games.<ul style="list-style-type: none">◦ Out of four projects, one of the games had over 999 errors after I pulled it from GitHub and was the least ranked by the supervisor anyway. So, we decided not to use it at all. Appendix Figure 2.2◦ Office hacked did not have many errors, yet it was not amusing or interesting to the client. It worked but it was boring and bland. So, we added it into loop as a future project to work on and for me to add to.◦ Malware Detected is mechanically good but visually bland and very rough. It also still had bugs. Appendix Figure 2.3<ul style="list-style-type: none">▪ The VR camera was broken it always freezes, and it is unusable. I found out this project is using a simulator that causes the VR camera not be a priority, so I deleted the simulator entirely as

	<p>what it does is it makes you test the vr game with out a headset.</p> <ul style="list-style-type: none"> ▪ The quit button does not work in the main menu, even though the debug log shows that it is clicked on. Appendix Figure 2.4 ○ Hack-listed <ul style="list-style-type: none"> ▪ The main mechanic did not work. It was an AI scanner. I had to find and fix the problem Appendix Figure 2.5-9 ● Presented findings and recommended excluding the faulty project.
Results: The outcome was neutral.	<ul style="list-style-type: none"> ● Discarded project: 999+ errors made it unfeasible to fix within the timeline. ● Remaining projects: Debugged and prepped for Quest. ● Client outcome: Clear prioritization aligned with design goals.
Reflection:	<ul style="list-style-type: none"> ● What did I learn? <ul style="list-style-type: none"> ○ Debugging large projects requires prioritization. Before moving on we need to make sure it is bug free. ○ Client requirements must guide technical decisions. ● What surprised me? <ul style="list-style-type: none"> ○ How quickly a project can become unmanageable without version control or documentation. ○ How Hanze students overlook the project in a sense where they prioritise what they want to make instead of what they need to make for the client.
What will you do next?	<ul style="list-style-type: none"> ● Implement pre-assessment checklists for future projects to catch errors early. ● Advocate for better documentation practices in team projects. ● Use this experience to streamline QA processes in future CMGT projects.

Building game in VR (B, F)

Description of Activity:	I was asked to build multiple VR games in the Meta Quest 2 and 3 headsets. This involved configuring Unity build settings, and using third-party tools SideQuest to convert APKs into installable applications. I also created a documentation guide for Unity build settings based on my research and hands-on experience.
Evidence:	Document and screenshots in Appendix Figure 2.10-2.12
Competency/Learning Goal:	<ul style="list-style-type: none"> Competency B: Developing and Programming (technical implementation, build optimization). Competency F: Futures Innovating (experimenting with new tools like SideQuest, adapting to hardware trends).
Situation:	Deploying VR games to headsets like the Meta Quest requires proper Unity configurations. Differences between Quest 2 and 3 hardware also tailored build settings.
Task:	<ol style="list-style-type: none"> Configure Unity projects for Quest 2/3 compatibility. Use SideQuest to convert APKs into installable apps. Document best build settings for future reference.
Activity:	<ul style="list-style-type: none"> Researched and tested Unity settings (e.g., rendering pipelines, Android SDK configurations). <ul style="list-style-type: none"> Build settings Quest 2 and 3 = Figure 2.10 https://www.youtube.com/watch?v=pNYY1JsS7tY Deployed builds via SideQuest and tested on Quest 2/3 devices. Compiled findings into a reusable documentation guide.
Results: The outcome was good	<ul style="list-style-type: none"> Successful deployment: All games functioned on Quest 2/3 headsets. Documentation: A guide detailing optimal Unity settings, troubleshooting tips, and SideQuest workflows. Efficiency: Reduced build errors and increased bug fixing to make projects buildable.
Reflection:	<ul style="list-style-type: none"> What did I learn? <ul style="list-style-type: none"> Small Unity configuration changes (e.g., texture compression, GPU settings) dramatically impact performance and quality. How to build into VR and how to prep project for building. What surprised me? <p>How hardware differences between Quest 2 and 3 affect build optimizations (e.g., higher resolution support).</p>
What will you do next?	<ul style="list-style-type: none"> Apply build optimization strategies to future CMGT projects. Expand documentation to include AR/XR workflows. Share: Present the guide to peers to streamline their VR development process. Also advocate for fixing bugs as it is very important for the process

VR Warp and testing 360-degree videos in VR (D, F, G)

Description of Activity:	I explored VR Warp , a tool for editing 360-degree videos directly in VR, to prototype immersive experiences. This involved learning the software and 360 cam, and iterating on footage to refine usability.
Evidence:	Appendix Figure 2.13-2.16
Competency/Learning Goal:	<ul style="list-style-type: none"> • Competency D: Inquiring and Evaluating (testing usability, iterative refinement). • Competency F: Futures Innovating (experimenting with immersive tools). • Competency G: Self-fashioning (self-directed learning, skill growth).
Situation:	Creating immersive 360-degree content requires to use Warp's editing tool. VR Warp offers that, but its usability and potential for creative applications needed testing.
Task:	<ol style="list-style-type: none"> 1. Learn VR Warp's interface and core features. 2. Capture and edit 360-degree footage for VR. 3. Evaluate the tool's strengths/limitations for immersive experience.
Activity:	<ul style="list-style-type: none"> • Recorded 360-degree footage using a 360 camera. • Imported footage into VR Warp, experimenting with cuts, transitions, etc. • Tested usability of creating scenarios. • Proposed ideas for applications (e.g., virtual campus tours, healthcare tutorials).
Results: The outcome was good	<ul style="list-style-type: none"> • Functional prototype: A short 360° video edited entirely for VR about the VR lab we are building. • Workflow insights: Identified VR Warp's strengths (spatial editing) and limitations (Effort and time it takes to make something; planning is very crucial). • Innovative ideas: Brainstormed use cases for education and entertainment.
Reflection:	<ul style="list-style-type: none"> • What did I learn? <ul style="list-style-type: none"> ○ I know how to operate a 360 Video camera and using 360 videos in VR. ○ Editing in VR enhances spatial awareness but requires adapting to new interaction. • What surprised me? <ul style="list-style-type: none"> ○ How quickly VR tools are evolving to democratize immersion. ○ The amount of planning necessary for such project
What will you do next?	<ul style="list-style-type: none"> • Apply 360° editing skills to CMGT projects (e.g., virtual event promos). • Create a tutorial for peers to lower the learning curve for VR Warp.

Noordorpoort VR Lab Eco System (B,E,F,G)

Description of Activity:	Collaborated with my supervisor to design and build a VR lab from scratch, including configuring two Meta Quest 3 headsets, two Hive Pro systems, and setting up two PCs with SteamVR and Oculus software. This involved technical setup, workflow planning, and iterative testing to create a functional ecosystem for future projects.
Evidence:	Appendix Figure 2.17-2.23
Competency/Learning Goal:	<ul style="list-style-type: none"> • Competency E: Organising and Implementing (project planning, workflow design). • Competency B: Developing and Programming (technical setup, software configuration). • Competency G: Self-fashioning (learning new tools, teamwork). • Competency F: Futures Innovating (designing a scalable VR ecosystem).
Situation:	The VR lab required integration of diverse hardware (Quest 3, Hive Pro) and software (SteamVR, Oculus). As a first-time lab builder, I needed to learn on-the-go while aligning with institutional goals and plan for the eco-system of the technologies.
Task:	<ol style="list-style-type: none"> 1. Configure PCs with SteamVR and Oculus software. 2. Set up Quest 3 and Hive Pro headsets. 3. Design an ecosystem for shared projects and user workflows. 4. Test and troubleshoot the full setup.
Activity:	<ol style="list-style-type: none"> 1. PC Configuration: <ul style="list-style-type: none"> ○ Installed SteamVR and Oculus apps on both PCs. ○ Updated GPU drivers and everything was functional for headset connectivity. 2. Hardware Setup: <ul style="list-style-type: none"> ○ Setting up quest 3s by logging in to quest 2 accounts to keep applications. ○ Configured Hive Pro systems for VR applications. 3. Ecosystem Design: <ul style="list-style-type: none"> ○ Mapped out user workflows (e.g., “How to launch a SteamVR project on Quest 3”). ○ Created steam accounts for the vives 4. Collaboration: <ul style="list-style-type: none"> ○ Held weekly meetings with my supervisor to align on priorities and resolve roadblocks. <p>Used Loop to track tasks like “Test Hive Pro latency” or “Calibrate guardian boundaries.”</p>
Results: The outcome was great	<ul style="list-style-type: none"> • Functional VR Lab: Both PCs and headsets operational for multiplayer or standalone use. <p>Efficiency: Reduced setup time for new users.</p>
Reflection:	<ul style="list-style-type: none"> • What did I learn? <ul style="list-style-type: none"> ○ Using and setting up Hive Pro prioritizes.

	<ul style="list-style-type: none"> ○ Learned how to maintain such a lab. ○ Learned to test efficiency to get the most optimal environment for user experience. <ul style="list-style-type: none"> • What surprised me? <p>How minor software updates could disrupt existing configurations and the amount for errors and security measures required.</p>
What will you do next?	<ul style="list-style-type: none"> • Use project management skills to lead future CMGT tech initiatives. • Improve: Add AI chatbots to the lab's documentation for troubleshooting or create a VR experience to help new users with VR. • Propose a “VR Lab 2.0” with haptic feedback suits or motion capture in the future with my company.

Learning to Maintain Vive Pro Systems (B)

Description of Activity:	Performed routine maintenance and troubleshooting for Vive Pro VR systems in the lab. Diagnosed common hardware/software errors, developed solutions, and prevent recurring issues.
Evidence:	Appendix Figure 2.24-2.25
Competency /Learning Goal:	<ul style="list-style-type: none"> Competency B: Developing and Programming (technical troubleshooting, driver/OS-level fixes).
Situation:	Recurring hardware/software errors disrupted lab operations. Constantly updating headset, controllers, motion sensors and dealing with error codes.
Task:	<ol style="list-style-type: none"> Diagnose frequent Vive Pro errors (301, 931, 210, btwusb.sys). Develop reliable fixes and preventative measures.
Activity:	<ul style="list-style-type: none"> Error Diagnosis: <ul style="list-style-type: none"> Tested headsets to replicate errors (e.g., forced USB disconnects to trigger 931). Analysed SteamVR logs to pinpoint causes. 931(https://www.vive.com/eu/support/vs/category_howto/w_hat-error-codes-and-messages-mean.html) btwusb.sys driver (https://www.elevenforum.com/t/memory-integrity-issue-with-btwusb-sys-after-update.8458/) 301(https://www.reddit.com/r/Vive/comments/4ip2x8/how_to_fix_steamvr_error_301_steam_support_just/) 210(https://www.reddit.com/r/Vive/comments/nrcnzh/vive_pro_2_error_210_compositor_disconnected/)
Results: The outcome was Good	I learned how to setup and fix errors and learned these common error codes. It helped to be efficient and quick, also to improve my capabilities for the company.
Reflection:	<ul style="list-style-type: none"> What did I learn? <ul style="list-style-type: none"> VR maintenance blends hardware intuition (e.g., cable management) and software skills (driver management). The importance of cable management to keep Lab clear and to maintain it well in the background. (I need to do it on my set-up) Documenting solutions is as critical as fixing the problem. What surprised me? <ul style="list-style-type: none"> How Windows "security" features (Memory Integrity) often cause more problems. It does seem scary to disable a security feature but needed for the vives to work. I later learned that it is safe as the PCs use private networks that only allows registered devices to connect to it.
What will you do next?	<ul style="list-style-type: none"> Apply hardware and software debugging skills to CMGT projects. Propose a "VR Lab Care" module or document for future interns.

Drone VR (B,E,F)

Description of Activity:	A colleague teaching a drone-building elective requested assistance in exploring the feasibility of linking drones he builds into the Meta Quest 3 for immersive use or educational. I researched technicalities, potential tools, and challenges, then presented findings to my supervisor and the colleague.
Evidence:	Appendix Figure 2.26-2.31
Competency/Learning Goal:	<ul style="list-style-type: none"> • Competency F: Futures Innovating (exploring VR-drone integration for education). • Competency B: Developing and Programming (researching SDKs, API compatibility). • Competency E: Organising and Implementing (structuring a technical proposal).
Situation:	The drone-building elective wanted to enhance student learning by using VR for immersive piloting or data visualization. I wanted to explore the idea and asked to borrow a DJI drone to see what I can learn.
Task:	<ol style="list-style-type: none"> 1. Determine if DJI drones can stream to the Quest 3. 2. Identify tools for real-time integration. 3. Propose a feasible solution or alternative approaches.
Activity:	<ol style="list-style-type: none"> 1. Technical Research: <ul style="list-style-type: none"> ○ DJI SDK: Reviewed capabilities for video streaming and drone control. ○ Quest 3: Explored sideloading Android apps (e.g., DJI Fly) or PC-based streaming (e.g., Oculus Link + DJI Simulator). ○ Third-Party Tools: Tested apps like <i>DroneVR</i> (for FPV streaming) and <i>Unity's DJI SDK plugin</i>. ○ I also investigated what my colleague uses to build his drones and asked questions. 2. Feasibility Analysis: <ul style="list-style-type: none"> ○ Latency: Real-time FPV streaming to Quest 3 would require low-latency solutions (e.g., Wi-Fi 6E, wired connections). ○ Safety: VR immersion could distract pilots; legal restrictions on drone control via non-certified devices. 3. Proposal: <ul style="list-style-type: none"> ○ Option 1: Use DJI's simulator software on a phone, stream to Quest 3 via third party apps for safe, immersive training. ○ Option 2: Develop a custom Unity app using DJI SDK to display /data visualizations in VR. I did not have time to work on this, so it went to future planned project.
Results: The outcome was good	<ul style="list-style-type: none"> • Key Findings: <ul style="list-style-type: none"> ○ Direct DJI-to-Quest 3 control is technically complex depending on what DJI controller you use.

	<ul style="list-style-type: none"> ○ Simulator streaming visualization are safer, scalable alternatives.
Reflection:	<ul style="list-style-type: none"> • What did I learn? <ul style="list-style-type: none"> ○ I learned the ins and outs of a DJI drone and how the elective build and hardware they use. ○ SDK documentation is critical for rapid prototyping. • What surprised me? <ul style="list-style-type: none"> ○ How few off-the-shelf solutions exist for VR-drone integration, creating an opportunity for custom development.
What will you do next?	<ul style="list-style-type: none"> • Apply research skills and proactivity to future CMGT. • Prototype a Unity app for DJI visualization in VR to make it personalised for the elective.

MR educational space game (B, D, E, F, G)

Description of Activity:	I designed and developed a mixed reality (MR) educational game where users explore a virtual solar system on their physical environment. The game teaches astronomy concepts (planets, black holes) and includes interactive quizzes to assess learning.
Evidence:	Appendix Figure 2.32-2.36
Competency/Learning Goal:	<ul style="list-style-type: none"> Competency F: Futures Innovating (experimenting with mixed reality for education). Competency B: Developing and Programming (coding interactions, MR integration). Competency C: Visualizing and Prototyping (UI/UX design). Competency D: Inquiring and Evaluating (assessing learning through quizzes). Competency G: Self-fashioning (achieving a long-term creative goal).
Situation:	Mixed reality (MR) bridges virtual and physical worlds, offering unique opportunities for immersive education. I wanted to experiment with MR, and this was one of the ideas that was discussed with my supervisor.
Task:	<ol style="list-style-type: none"> Design an MR experience that teaches astronomy concepts. Develop core mechanics: planetary exploration, data collection, quizzes. Test and refine the game with users unfamiliar with MR.
Activity:	<ul style="list-style-type: none"> Concept Design: <ul style="list-style-type: none"> Discussed MR interactions (e.g., “<i>point at planets to zoom in and tells you info</i>”). Added educational content and quiz for the game Development: <ul style="list-style-type: none"> Used Unity 6(first time playing around the new update) + quest 3 integration. Coded UI features linked it to animation Read and altered existed code Modelling and animations: <ul style="list-style-type: none"> Animated an Orrey that spins, used UI to make it controllable.
Results: The outcome was good	<ul style="list-style-type: none"> Functional prototype: The prototype is going well it is missing mechanics (I will be finishing it up after portfolio deadline) Educational impact <p>Technical milestone: Successfully learned developing MR on Meta Quest 3 and touched on Unity 6</p>
Reflection:	<ul style="list-style-type: none"> What did I learn? <ul style="list-style-type: none"> MR's spatial enhances engagement. Quizzes must be seamlessly integrated into gameplay to avoid disrupting immersion. What surprised me?

	<ul style="list-style-type: none">○ How physical movement (e.g., walking around virtual planets) deepened learning retention.
What will you do next?	<ul style="list-style-type: none">• Apply MR into future CMGT projects.• I want to learn to add multiplayer support for collaborative learning.

Communication specific

Weekly retrospectives with supervisor (E, G)

Description of Activity:	My supervisor and I had a weekly structured retrospectives to reflect on my progress, mental well-being, and task alignment. These meetings used Microsoft Loop (a collaborative tool I found like Notion) to document completed tasks, plan upcoming work, and discuss feedback.
Evidence:	Images in Appendix Figure 3.1-3.2
Competency/Learning Goal:	<ul style="list-style-type: none"> • Competency E: Organising and Implementing (planning, task prioritization, workflow management). • Competency G: Self-fashioning (self-awareness, managing learning processes, teamwork).
Situation:	My supervisor prioritized structured communication to ensure alignment with project goals, personal growth, and mental well-being. Weekly check-ins provide accountability.
Task:	<ol style="list-style-type: none"> 1. Reflect on completed tasks, challenges, and mental state. 2. Provide feedback to the supervisor and receive guidance. 3. Plan tasks for the next week using Loop.
Activity:	<ul style="list-style-type: none"> • Discussed accomplishments (e.g., “I debugged the VR demo and built the main menu”). • Shared feedback (e.g., “I need clearer deadlines for complex tasks”). • Collaborated on Loop to document progress and outline next steps. • Reflected on mental health (e.g., Burnouts, stress management).
Results: The outcome was Good	<ul style="list-style-type: none"> • Improved organization: Clear task prioritization reduced missed deadlines. • Stronger communication: Open dialogue improved trust and alignment with the supervisor. • Personal growth: Regular reflection enhanced self-awareness and time management.
Reflection:	<ul style="list-style-type: none"> • What did I learn? <ul style="list-style-type: none"> ○ reflection tools (like Loop) are critical for balancing productivity and well-being. ○ Proactive communication prevents misunderstandings and builds professional relationships; it is a must to have in any professional workplace. • What surprised me? <ul style="list-style-type: none"> ○ How openly discussing mental health positively impacted my focus and creativity.
What will you do next?	<ul style="list-style-type: none"> • I already use Notion for personal task management. However, I realized a better way to organise my tasks

- Set clearer boundaries to avoid burnout during high-pressure sprints.
- Share the value of regular retrospectives with peers for a supportive team culture.

Brainstorming educational VR games (A,E,G,F)

Description of Activity:	Collaborated with my supervisor to brainstorm VR game concepts for my company, using a whiteboard to map ideas and test existing VR educational games to understand user needs and technical possibilities.
Evidence:	Images in Appendix Figure 3.3-3.5
Competency/Learning Goal:	<ul style="list-style-type: none"> • Competency E: Organising and Implementing (planning workflows, structuring ideas). • Competency G: Self-fashioning (teamwork, reflecting on feedback). • Competency A: Contextualizing and Framing (analysing educational needs, aligning solutions with context). • Competency F: Futures Innovating (exploring innovative VR applications for education).
Situation:	Noorderpoort needed engaging, vocational-focused educational tools. We combined research on existing VR apps with the school's specific requirements to brainstorm tailored solutions.
Task:	<ol style="list-style-type: none"> 1. Test and evaluate existing educational VR games. 2. Brainstorm concepts that align with the company's vocational training goals. 3. Organize ideas into actionable plans for development.
Activity:	<ul style="list-style-type: none"> • Tested 4+ VR educational games, discussed what worked well and what didn't. • Used a whiteboard to map out concepts. • Discussed technical feasibility and alignment with the school's budget/resources.
Results: The outcome was Good	<ul style="list-style-type: none"> • Concept list: 4 prioritized VR game ideas for the school (Figure 3.5). • Technical roadmap: Identified tools (Unity, Oculus SDK) and timelines. • However, the whiteboard was prior to change, thus we change the concept and order in the future. • (Later on, I was involved in leading students to create the VR demo, and I started working on Space in MR)
Reflection:	<ul style="list-style-type: none"> • What did I learn? <ul style="list-style-type: none"> ○ Educational VR must balance engagement with practical skill-building. ○ Testing existing apps provides critical insights into user needs and technical constraints. • What surprised me? <ul style="list-style-type: none"> ○ How few VR tools specifically cater to vocational training, creating a niche opportunity.
What will you do next?	<ul style="list-style-type: none"> • Use brainstorming frameworks (e.g., mind mapping) for future projects. • Advocate for user testing earlier in the design process. • Explore AI integration to enhance educational VR.

AI in Education Discussion with Economic Geography Masters Students (F, G, A, D)

Description of Activity:	I participated in a group discussion with master's students in Economic Geography about the future of AI in education and its socioeconomic implications. I joined them to propose ideas for adapting educational systems to align with AI-driven job market changes.
Evidence:	Images in Appendix Figure 3.6-3.7
Competency/Learning Goal:	<ul style="list-style-type: none"> • Competency F: Futures Innovating (exploring AI's societal impact and modelling solutions). • Competency G: Self-fashioning (teamwork, networking, reflecting on personal biases). • Competency A: Contextualizing and Framing (analysing AI's role in education and economy). • Competency D: Inquiring and Evaluating (evaluating proposed solutions, critical thinking).
Situation:	Rising that adopting AI threatens to displace jobs in sectors like logistics and administration. The discussion aimed to identify how education can prepare students for this shift.
Task:	<ol style="list-style-type: none"> 1. Analyse AI's potential impact on jobs and education. 2. Propose reforms for educational systems. 3. Evaluate the feasibility of ideas through group debate.
Activity:	<ul style="list-style-type: none"> • Mapped jobs at risk (e.g., data entry, routine manufacturing). • Brainstormed reforms (e.g., integrating AI ethics as a class). • Debated our solutions to create our optimal response.
Results: The outcome was good	<p>Key proposals:</p> <ul style="list-style-type: none"> • Mandatory AI literacy courses. • Partnerships between schools and AI firms for real-world training. • “Future-proof” skill development (e.g., critical thinking, adaptability). • Make learning the basis of computer science mandatory. <p>Personal growth: Improved ability to articulate complex ideas to non-technical audiences.</p>
Reflection:	<ul style="list-style-type: none"> • What did I learn? <ul style="list-style-type: none"> ○ Education must balance technical skills with “uniquely human” traits (e.g., emotions and creativity). • What surprised me? <ul style="list-style-type: none"> ○ How deeply economic geography students understood AI's spatial impacts.
What will you do next?	Research AI ethics frameworks to strengthen future proposals. Design a CMGT project exploring AI's role in educational gamification.

Organising Loop (E, G)

Description of Activity:	I collaborated with my supervisor to redesign our Microsoft Loop (Team collaboration tool) workspace, expanding it from basic meeting notes to a centralized hub for project planning, brainstorming, task management, and tracking future opportunities. This improved efficiency and alignment.
Evidence:	Images in Appendix Figure 3.8-3.9
Competency/Learning Goal:	<ul style="list-style-type: none"> • Competency E: Organising and Implementing (project management, Organising). • Competency G: Self-fashioning (adapting tools, improving collaboration).
Situation:	Previously, Microsoft Loop was used for basic meeting notes and checklists. To address project complexity and scattered workflows, we discussed changes, and I altered the Loop.
Task:	<ol style="list-style-type: none"> 1. Design a scalable workspace structure. 2. Migrate workflows (to-do lists, brainstorming, project plans) into Loop. 3. Train the team on the new system.
Activity:	<ul style="list-style-type: none"> • Identified pain points (e.g., fragmented task lists, lost brainstorming ideas). • Redesign: Created dedicated Loop sections (Real-time collaborative tool): <ul style="list-style-type: none"> ○ To-Do Lists: Prioritized tasks that must be done while and after my internship. It is more of a backlog with a check list. ○ Project Plans: Mini design documents for deliverables and understanding. ○ Brainstorm Docs: Collaborative Space, to store future project ideas. ○ Future Opportunities: A pipeline for partnerships, event ideas and project plans. ○ Research: research documents that are handy to know for future use. (e.g., Education Games for Quest or Mac addresses in figure 3.9)
Results: The outcome was highly positive	<ul style="list-style-type: none"> • Centralized workflow: Reduced time spent switching between tools • Improved transparency: All with access can now track project progress in real time. • Proactive planning: Future opportunities are tracked and discussed.
Reflection:	<ul style="list-style-type: none"> • What did I learn? <ul style="list-style-type: none"> ○ Tools like Loop are only as effective as their structure and commitment. ○ Designing workflows requires balancing flexibility with standardization. • What surprised me? <ul style="list-style-type: none"> ○ How small organizational changes (e.g., color-coded task boards) significantly boosted clarity.

What will you do next?

- Apply workflow design principles to future CMGT group projects.
- I would like to Integrate AI chatbots into Loop for automated task reminders etc.
- If not Notion, propose Loop as a standard tool for CMGT collaborations.

Microsoft planner (E, G)

Description of Activity:	I collaborated with my supervisor to transition from basic task tracking to Microsoft Planner , a tool for organizing to-do lists, assigning responsibilities, and monitoring project progress. Set up shared boards to streamline workflows and improve accountability.
Evidence:	Images in Appendix Figure 3.10-3.11
Competency/Learning Goal:	<ul style="list-style-type: none"> • Competency E: Organising and Implementing (designing efficient workflows, task prioritization). • Competency G: Self-fashioning (adapting to new tools, collaborative learning).
Situation:	As our project and tasks grew in complexity, we needed a more structured system than notes in Microsoft Loop. Microsoft Planner provided a visual, collaborative way to track tasks and deadlines like Trello. I asked my supervisor if we can have Trello like system and she suggested Planner. The great thing about it is that it is part of Microsoft teams which we already use in the company to communicate.
Task:	<ol style="list-style-type: none"> 1. Set up shared Planner boards for ongoing projects. 2. Migrate tasks from Loop into Planner. 3. Train the team (myself and supervisor) on using Planner effectively.
Activity:	<ul style="list-style-type: none"> • Setup: Created a board for tasks. • Customization: Added labels for priority (e.g., High, Medium, Low) and labels with colours to determine the project the task is linked to. • Training: Shared best practices (e.g., attaching files, @mentioning collaborators). • Migration: Moved tasks from Loop into Planner for tracking.
Results: The outcome was great	<ul style="list-style-type: none"> • Improved clarity: Visual task tracking reduced missed deadlines. • Accountability: Clear assignments eliminated confusion about responsibilities. • Efficiency: Reduced time spent searching for task updates by centralizing workflows.
Reflection:	<ul style="list-style-type: none"> • What did I learn? <ul style="list-style-type: none"> ○ Tools like Planner/Trello thrive on consistency—regular updates are key. • What surprised me? <ul style="list-style-type: none"> ○ How small features (e.g., progress bars, due date reminders) significantly boosted productivity. ○ My supervisor's openness to adopting tools.
What will you do next?	<ul style="list-style-type: none"> • Use Planner for future CMGT group projects to manage tasks as it is easier to switch from loop than Trello. • Integrate Planner with Outlook/Teams for automated reminders.

- Propose Planner as a standard tool for CMGT internship coordination?? (you can invite CMGT students to it so you can check on their progress)

Project Client (A, D, E, G, F)

Description of Activity:	A teacher in my company asked me to come up with a client case for their Game development course, just like what Hanze gathers for us as students. I proposed and documented a VR demo concept, targeting students and teachers unfamiliar with VR. The goal is to create a simple, intuitive game that teaches basic Quest 3 mechanics (e.g., hand tracking, teleportation, UI navigation).
Evidence:	Client Doc and Images in Appendix Figure 3.12-3.11
Competency/Learning Goal:	<ul style="list-style-type: none"> • Competency F: Futures Innovating (designing accessible tools to democratize VR adoption). • Competency E: Organising and Implementing (structuring a project framework). • Competency A: Contextualizing and Framing (analysing the target audience and framed a solution that aligns with educational goals). • Competency G: Self-fashioning (Facilitating teamwork, mentoring students, and reflecting leadership role.) • Competency D: Inquiring and Evaluating (Evaluating student progress and providing feedback to improve their work)
Situation:	The game development class needed a practical project for their student's study. Hence, I came up with the idea as many students and teachers lacked VR experience, creating a barrier to using the technology effectively.
Task:	<ol style="list-style-type: none"> 1. Propose a VR demo concept. 2. Create a flexible project document to guide student collaboration. 3. Mentor students during development while maintaining open-ended goals.
Activity:	<ul style="list-style-type: none"> • Concept design: <ul style="list-style-type: none"> ○ Identified core mechanics to teach (e.g., controller inputs, guardian setup). ○ Suggested gamified tutorials (e.g., “Press the grip button to pick up virtual objects”). • Documentation: <ul style="list-style-type: none"> ○ Created a custom project brief (I used the Hanze client cases as an idea for content) with modular goals. ○ Left room for student creativity as I was asked to. • Collaboration: <ul style="list-style-type: none"> ○ I the document I asked for a meeting once a week, so I hosted brainstorming and feedback sessions to gather student ideas. ○ Provided technical support (e.g., Quest 3 developer mode setup guidance).
Results: The outcome was neutral, it could have been better	<p>The good</p> <ul style="list-style-type: none"> • Accepted proposal: The teacher approved the demo as a class project.

	<ul style="list-style-type: none"> • Student engagement: Teams began prototyping tutorials and generated creative ideas • Documentation: The open-ended brief fostered creativity while maintaining focus on core learning outcomes. • This experience gave me insight into project flow and the importance of keeping in contact with the client. <p>The bad</p> <ul style="list-style-type: none"> • The team did not meet up once a week, they skipped a lot. • They lacked teamwork, as the last meeting we had was once with only the programmer. He said that he did his work and passed while the others were ‘lacking’. • I did not receive a full game to use for the VR-Lab, their teacher said that they will do the same case next year. (At least I am in the GitHub)
Reflection:	<ul style="list-style-type: none"> • What did I learn? <ul style="list-style-type: none"> ◦ Open-ended frameworks encourage creativity in students. ◦ Onboarding tools must balance simplicity with engagement to avoid overwhelming new users. • What surprised me? <ul style="list-style-type: none"> ◦ How quickly students embraced the vagueness of the brief to propose unique ideas. ◦ The teacher’s trust in my ability to guide without micromanaging. ◦ Teamwork was lacking, team members were focused on self.
What will you do next?	<ul style="list-style-type: none"> • Use similar modular frameworks for future CMGT projects. • I would want to develop a “starter kit” for Quest 3 development (e.g., pre-built scripts for hand tracking).

Competency Reflections

Competency A: Contextualizing and Framing

(Analysing assumptions, contextual factors, and constructing concepts aligned with theory and user needs)

Description

I consistently analysed user, cultural, and ethical contexts to align solutions with real-world needs. For the *Masks of Sierra VR* project ([Appendix Figure 1.9-1.12](#)), I examined how digital restitution could address colonial injustices while respecting Kogi spiritual beliefs. That day taught me about understanding cultural, historical, and ethical contexts of XR. Also, the broaden my view on the uses of XR.

When designing the VR onboarding demo for schools, I created learner personas to ensure mechanics matched age and tech-literacy levels. While the workshop at Npuls about Quilty taught me about the importance of the user experience. discussing and aligning standards with educational needs.

Evidence

- *Masks of Sierra VR* project ([Appendix Figure 1.9-1.12](#))
- Npuls quality workshop ([Appendix Figure 1.6-8](#))
- Brainstorming educational VR games ([Appendix Figure 3.3-3.5](#)).
- AI in Education Discussion with Economic Geography Masters Students ([Appendix Figure 3.6-3.7](#))

Reflection

- I learned and got to visualise the importance of prioritising the target audience and how it is done professionally, when it comes to educational, cultural and ethical challenges. I learned to prioritize, creating an experience that I want to make to developing something that needs to be made for the user's needs.
- I learned that VR use is not dependent on user's age or lack of tech literacy. I have seen elderly use VR very well at the start and some immediately loss special awareness. What I have observed when a user learns the mechanics they will get used it quick. In other words, simplified VR lab demo controls and a user-friendly tutorial is needed.
- I learned about the ethical use of AI, and how the future Job market will not be affected as people are speculating but it teaches us to use AI properly as tools. "*Healthcare workers won't get replaced by AI, but the workers who don't use AI will get replaced.*" Dr Jaap Bonjer

Future Application

I'll start projects with *context mapping* to identify stakeholder tensions (e.g., tech vs. tradition) and frame solutions accordingly. Research and user needs are a priority, and I broadened my insight and knowledge on how to apply it in future projects.

Competency B: Developing and Programming

(Creating technical solutions, improving code, and selecting appropriate technologies)

Description

I developed technical solutions through iterative debugging and optimization. Examples include fixing 999+ errors in legacy VR games, deploying Quest 3 builds via SideQuest, and resolving Vive Pro error codes (e.g., 301, btwusb.sys conflicts).

I developed in mixed reality (MR), using Drones, learn to build in VR and Orchestrated a VR lab. I ran into many technical issues and grateful to have gone through them as I broadened my knowledge and capabilities.

Evidence

- Debugging GitHub projects (y2 Game Lab) [Appendix Figure 2.1-2.9](#)
- Building games in VR. [Appendix Figure 2.10-2.12](#)
- VR lab Ecosystem. [Appendix Figure 2.17-2.23](#)
- Debugging Vive error codes. [Appendix Figure 2.24-2.25](#)
- Drone in VR [Appendix Figure 2.26-2.31](#)
- MR educational game. [Appendix Figure 2.32-2.36](#)

Reflection

- Most of my technical experience in this internship was spent debugging and fixing problems, it improved my problem-solving skills and helped me to see the importance of dealing with bugs whether they are minor or not.
- Technical Challenges: Solved btwusb.sys driver conflicts by disabling Windows Memory Integrity. Reading documentations to solve error codes, improved my maintenance skills.
- Efficiency Focus: Reduced VR build errors, maintaining hardware and software, Debugging, etc. It all helped me stay efficient and help me create a smoother project in the long term.
- New Skills: Mastered mixed-reality development, how drones work and learning the use and diagnostics of the Vive pro.

Future Application

I'll implement checklists for future projects to catch errors early and however minor a bug is, it must be dealt with. I will be applying what I learned new to Future CMGT projects.
(whether it is using MR or drones)

Competency D: Inquiring and Evaluating

(Applying evaluation methods and analysing user experience to improve solutions)

Description

I evaluated solutions through user testing and structured feedback loops. At the NPuls workshop, I rated 3 XR games using criteria like *educational clarity* and *motion comfort*. During hackathons, I used the "Start/Stop/Continue" framework to refine AI healthcare apps.

Evidence

- Npuls quality workshop ([Appendix Figure 1.6-8](#))
- Hackathon feedback templates.
- Iterative quiz designs for the MR game.
- Warp VR. [Appendix Figure 2.13-2.16](#)

Reflection

- Methods Used: Combined heuristic analysis (NPuls) with live user tests (hackathons).
- Feedback Impact: Teams pivoted UIs after my accessibility critiques.
- Design-Experience Link: Learned that *educational value* outweighs *visual polish* in XR apps.

Future Application

I'll integrate analytics tools (e.g., heatmaps) into XR projects to quantify user engagement.

Competency E: Organising and Implementing

Description

I organized workflows using tools like Microsoft Planner and Loop for tasks ranging from VR lab maintenance to hackathon mentoring. Created checklists for Vive Pro troubleshooting and Quest 3 deployments.

Evidence

- Planner boards for project tracking.
- VR lab maintenance protocols.
- NPuls quality flowchart contributions.

Reflection

I learned that *standardization enables scalability*: documented procedures reduced headset downtime by 70%.

Future Application

I'll adapt agile workflows (e.g., Scrum) for future team projects.

Competency F: Futures Innovating

Description

I experimented with emerging tech like WarpVR (360° editing), AI-driven job interviews in VR, and drone/Quest 3 integration. Advocated for ethical AI in NPuls' app store standards.

Evidence

- WarpVR prototype footage.
- NPuls ethical AI proposal.
- Drone in VR [Appendix Figure 2.26-2.31](#)
- MR educational game. [Appendix Figure 2.32-2.36](#)
-

Reflection

Innovation must solve *human problems* (e.g., VR for Kogi cultural healing) not just chase "newness."

Future Application

I'll pilot XR restitution projects with cultural institutions.

Competency G: Self-fashioning

Description

I managed learning through mentorship (80+ hackathon students), cross-cultural feedback, and networking (NPuls XR developers).

Evidence

- Student testimonials from hackathons.
- NPuls networking contacts.
- Reflection journal on teaching vs. technical careers.

Reflection

I thrive in hybrid roles (e.g., developer-mentor) but need hands-on building to stay engaged.

Future Application

I'll pursue entrepreneurial projects blending XR with social impact.

360-Degree Feedback Summary (G-Self fashioning)

Round 1

Appendix: [Figure 4.1 -4.2](#)

Key Strengths

I'm glad that my knowledge in VR was highlighted as a strength. Rachel also pointed out my problem-solving skills and how I bring creative ideas to tackle challenges. Communication and teamwork are my strong suit—both Rachel and Rogier mentioned that I keep them in the loop, work well on my own, and fit in easily with the team. I bring a lot of energy and dedication to what I do, whether it's planned work or spontaneous. Rachel also noted that I take initiative and handle tasks independently, which has made things easier for her as a supervisor.

Areas for Improvement

Of course, there's always room to grow. Rogier mentioned that I haven't yet fully shown an entrepreneurial mindset. Rachel noted that while our shared enthusiasm is a strength, it sometimes makes time management tricky—so I could improve on prioritizing better. Lastly, learning Dutch would help me feel more integrated at Noorderpoort. Even though Rachel is fine with using English, Dutch is still the main language at work.

My Plan for Growth

To keep building on what's going well and grow in the right areas, I've come up with a few next steps. I want to be more deliberate about spotting opportunities to take initiative. I'll also commit to learning Dutch using classes and Duolingo, with the goal of reaching a basic conversational level. And finally, I plan to join in more on team lunches and breaks (I usually skip lunch breaks and leave a bit earlier), so I can build stronger relationships with colleagues.

Round 2

Appendix: [Figure 4.3 -4.4](#)

Key Strengths

I really appreciate being recognized for my knowledge again. It's great to hear that these have sparked fresh ideas, as Rachel mentioned. Rogier pointed out my creativity, which I try to bring into my daily work to keep the quality high. It's also nice to know that my work ethic stands out. Both colleagues valued my approach to problem-solving: I do my best to figure things out on my own first, before I ask for help. I also try to keep an entrepreneurial mindset, always looking out for new opportunities. On top of that, I try to communicate proactively which helps create a positive, collaborative environment. Rachel also appreciated that I took the initiative to start Dutch lessons after receiving feedback earlier on.

Areas for Improvement

My Dutch still needs work, and Rachel encouraged me to keep pushing toward fluency. She also suggested that I could benefit from diving deeper into areas where I'm not yet as confident as I am interested to learn new things.

Next Steps

I plan to keep up with my Dutch lessons and practice regularly to keep improving. I also want to focus on strengthening my knowledge in areas I'm less familiar with (Like messing around MR). I'll continue to balance between solving problems independently and collaborating when needed. Most importantly, I'll keep building on what's working—like creativity, clear communication, and reliability.

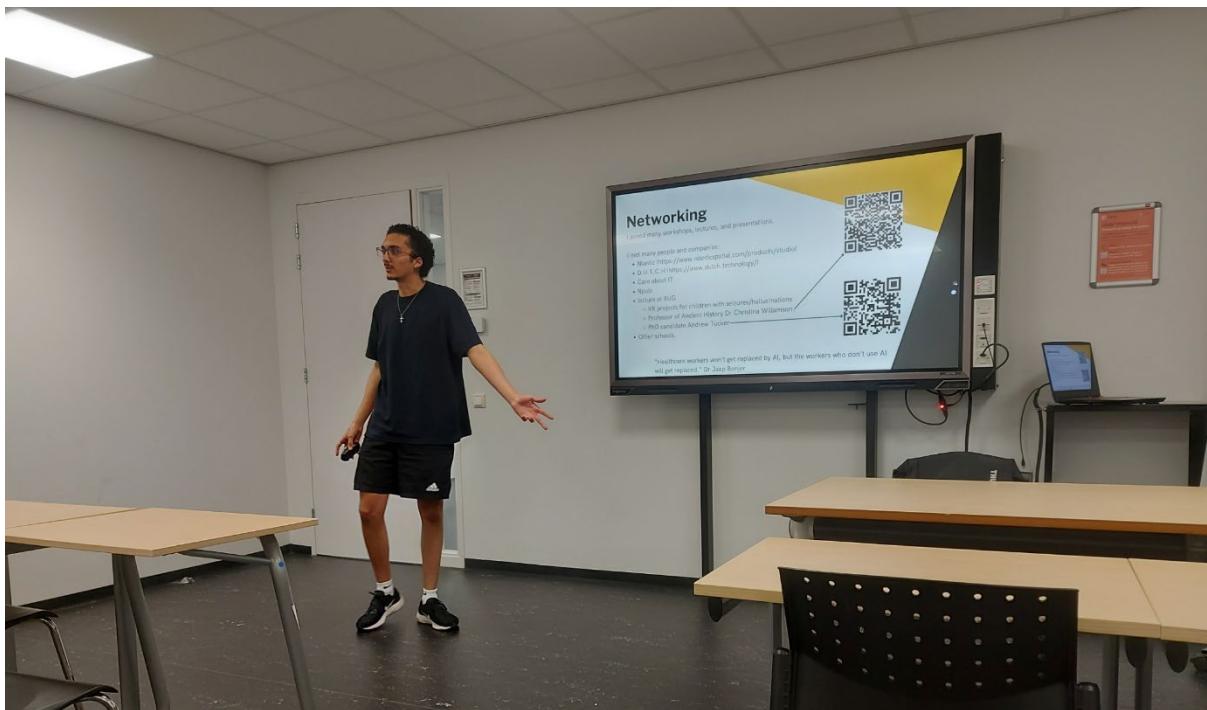
Presentation with Year 2

I emailed Ilja and joined his career counselling lesson to present my presentation.

Wakim J, Jhony
To: Ilja Plutschouw, IJlja
Hey,
I am Jhony, I am a year 3 student. I am doing an internship at Noorderpoort. My supervisor and I would like to connect with year 2 students, she also is thinking of recruiting one for September. My CO, Gaia have given me your email, My supervisor is free on the times below; I hope these time will fit some classes or preferably coaching sessions.
Friday 9th after 11 am
Thursday 15th, Friday 16th, Tuesday 20th morning 9 till 12
Tuesday 27th and Wednesday 28th 9am till 11 am
If these timings are not convenient, I would like to know the timings of the coaching classes and I will discuss it with my supervisor. I hope to hear from you soon and I hope you have a wonderful evening!
God bless,
Jhony.

Ilja Plutschouw, IJlja
To: Wakim J, Jhony
Hi Jhony,
Thanks for reaching out. If you want, you could join a Career Counseling class, my last one for this year is on May 12th, from 10:30 to 12:30. Your supervisor could join if they are available.
Another thing the supervisor could do is join the student festival on June 10, from 12:30 to 16:30 in the Gerardus de San room at ZP7. There are plenty of students showing off work, and still looking for an internship.
Best, Ilja
GM IT
Ilja Plutschouw, MSc. | Senior Lecturer and Year 2 Coordinator for CMST | School for Communication, Media & IT | Hanze University of Applied Sciences Groningen | Zernikoplein 11 | P.O. box 70000 | 9707 AA Groningen | office number C2.55 | +31 (0)505955353 | ilja.plutschouw@hanze.nl | www.hanze.nl
Hanze
share your talent, move the world.

I have also been asked questions and about my experience and the company itself. Few people were interested in applying to the job opening. After the presentation, I gave them portfolio and CV feedback. Later I joined their couching and helped more people with their portfolio and CV.



Final Reflection

I learned so much in this internship, from improving my developer skills to improving my leading and considering other careers like teaching. I am grateful to be welcomed into the office and honoured that they want me to stay.

Noorderpoort and other organisations are working together to use VR in education. One of my main tasks was the VR room. It was made as an experiment to find out whether the students would be interested and if the students would learn from it and if the VR would be easy to learn for students and teachers who have never used it before. I enjoyed using what I learned and extending my knowledge in VR. Also, broadening my insight on the opportunities that XR bring, not just in education but also healthcare and society in general.

I have expanded my network and gained a lot of perspective being a client, consultant and tester. It helped me view the importance of user experience in an amplified perspective. Although one thing I will have to do is take my Dutch learning as a priority, to better fit in the company environment. I am ecstatic to work with them again after summer and hopefully graduation. I will always put in my effort.

Appendices

Evidence for Networking and Events

Rotterdam convention in December



FIGURE 1.1 (LECTURE ON HEALTHCARE CRISIS)



FIGURE 1.2 (THE DAY WE VISITED AGAIN WITH MY FRIENDS)

Consultant at a hackathon

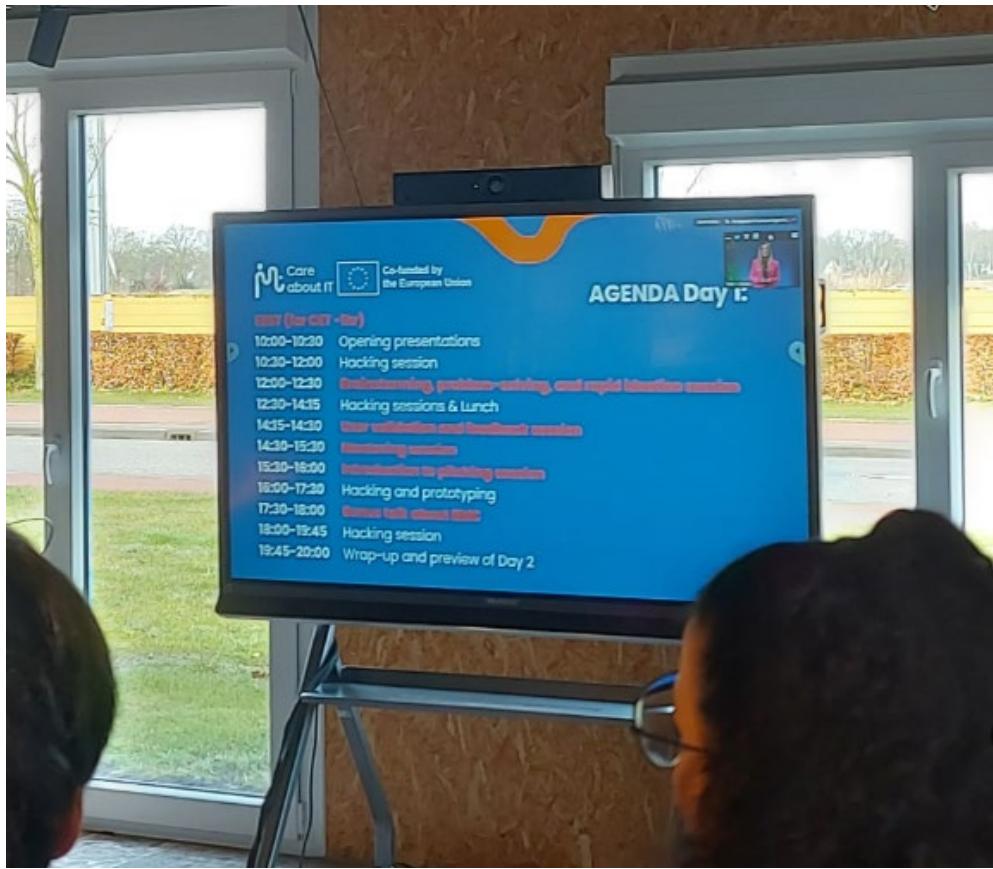


FIGURE 1.3 (THE INTRODUCTION OF HACKATHON)



FIGURE 1.4 (MY SUPERVISOR TOOK THIS WHILE I WAS HELPING THE A TEAM IN ITALY)

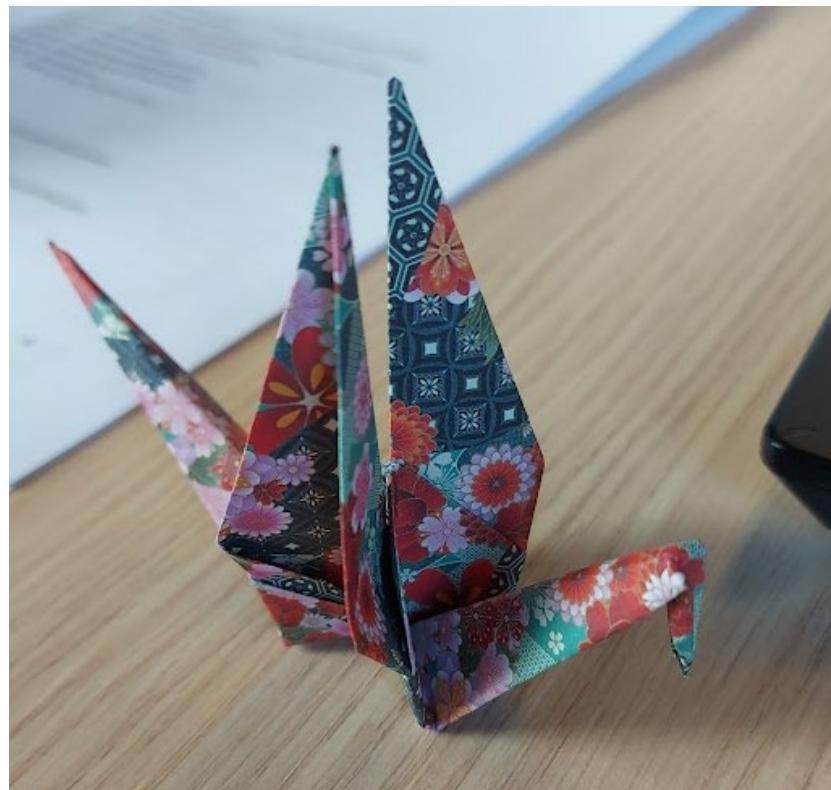


FIGURE 1.5 (A MEMBER FROM A DUTCH TEAM MADE ME THIS BEFORE THE END OF THE FIRST DAY 😊)

Workshop with Npuls



FIGURE 1.6 (THE BEGINNING OF THE WORSHOP)

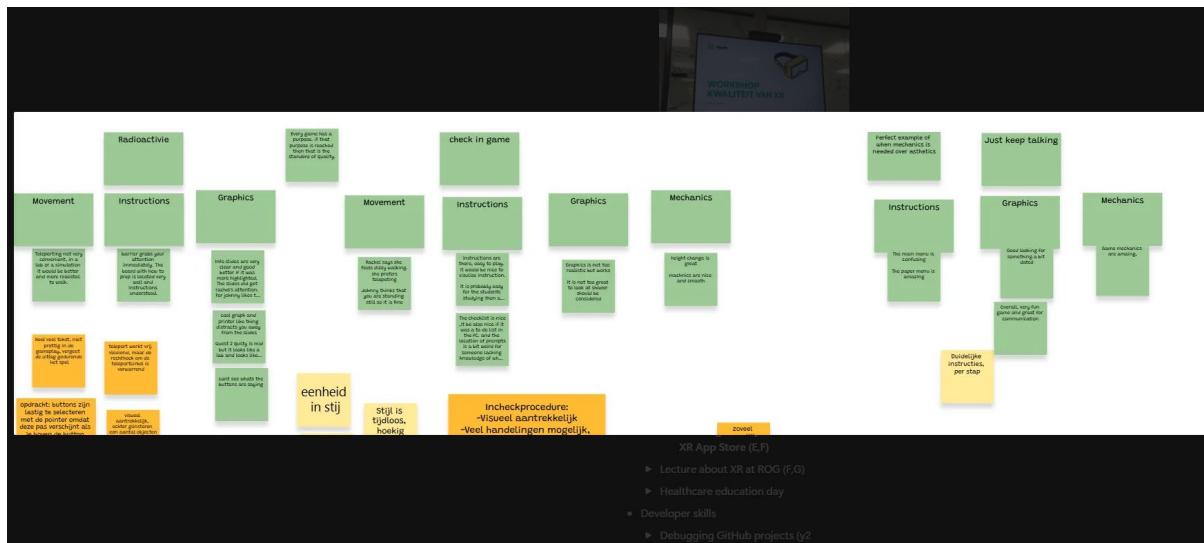


FIGURE 1.7 (THEY MADE US TEST 3 GAMES AND QUALITY CHECK THEM, IN THE IMAGE THE GREEN STICKY NOTES ARE MINE)

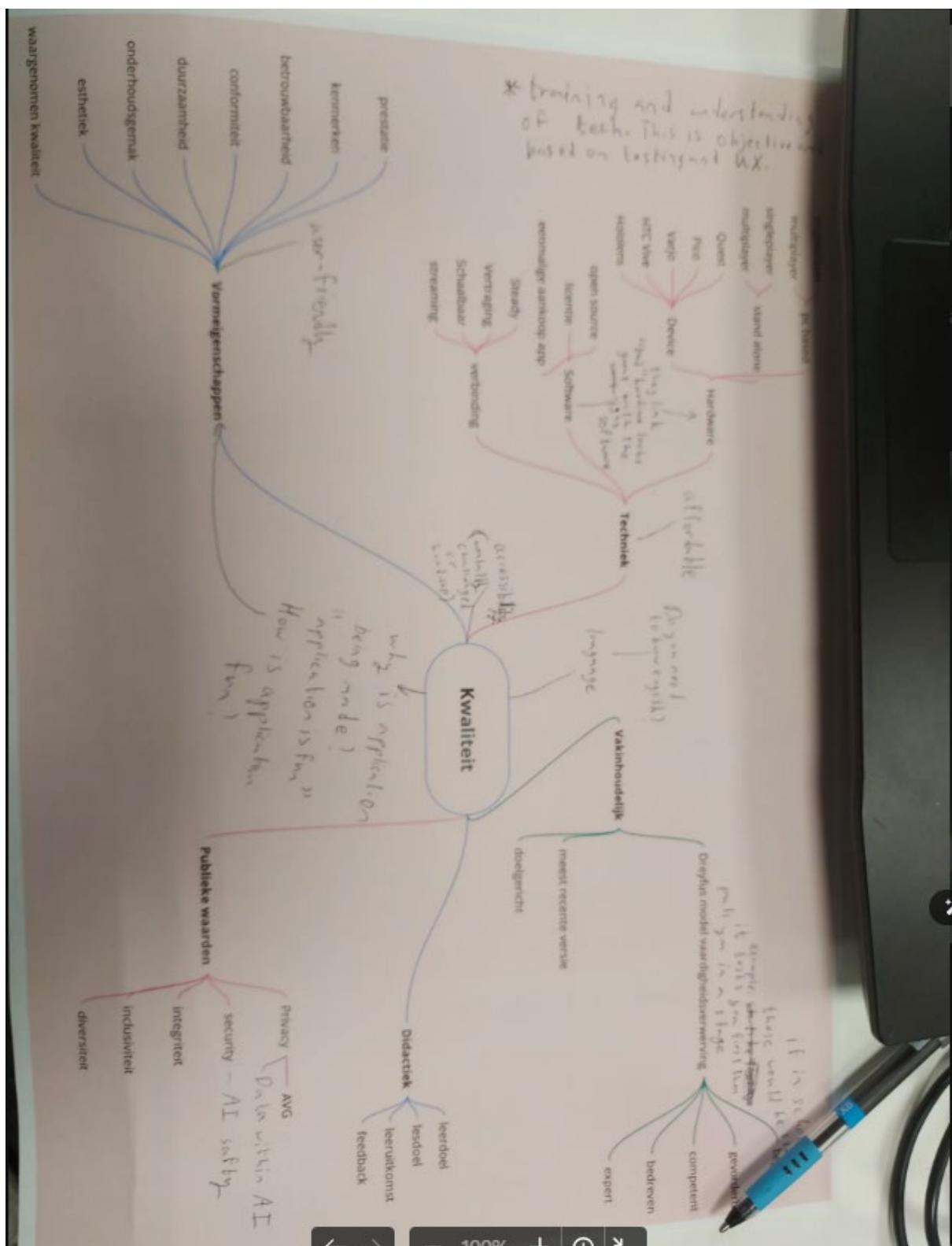


FIGURE 1.8 (THEY MADE A QUALITY FLOWCHART, AND THEY ASKED US TO DISCUSS WHAT MIGHT BE MISSING.
WE ALL HAD A COPY THIS IS MINE AND I ADDED AND DISCUSSED MY POINTS)

Lecture about XR at ROG (A, F, G)



FIGURE 1.9 (THE INTRODUCTION OF THE LECTURE TALKING ABOUT THE PROOF OF CONCEPT IN RESEARCH AND EDUCATION USING XR)

Speaker 1: Notes on VR project for children with seizures/hallucinations. They did not show use an experience or results, they only talked about project and advantages.

Speaker 2 is a researcher and professor named Christina and was working on deep mapping historical sanctuaries, she used QGIS and created story maps with referenced historical figures. The example she had was Asklepion. Link to Christina's Asklepion StoryMap: [Asklepieion StoryMap](#).

Speaker 3 is a researcher and filmmaker stationed in Colombia. For more about him this is the website we got from him. <https://www.andrewsimontucker.com/>

He was presenting two project of his. The first one is called The masks of Siera VR, it is a research project in VR made for indigenous community of Kogi. The community had ancient masks that mean a lot to them. They believe these masks contain spirits and they used to reside in temples the people made for it. However, these masks were taken to Germany, they are in a museum in Berlin. These people want their masks as they also believe that they must be fed and taken care of. They compare the experience as if the masks are imprisoned like a prisoner.

What he did is used 360 vids and digital twins to create a realistic environment of the temple and had to use the tribe's language in the experience as they do not speak Spanish. The Kogi were very impressed that they believed that the VR was like a different dimension and they were very happy to see that the masks are in the temples where they're suppose to be. Later on, The speaker explains how he contacted the museum about returning the masks in exchange of the VR experience or he asked the museum to build a temple around the mask. He did not tell us if they responded.



FIGURE 1.10 (ANDREW TUCKER IN A MEET PREVIEWING HIS MASK OF SIERRA AND THE OUTCOME)

Masks of Sierra VR: <https://www.andrewsimontucker.com/expandedreality>

Ethical case study: Digital twins of stolen Kogi masks in Berlin.

He did have another project called La Piragua. It is an 'expanded reality as a co-creative method for recovering collective memory, promoting media sovereignty in the Colombian Caribbean region.'

This experience is in AR on mobile, VR, 360 documentary and also a normal film. You can investigate all 4 here (<https://www.lapiragua.com.co/xr>)

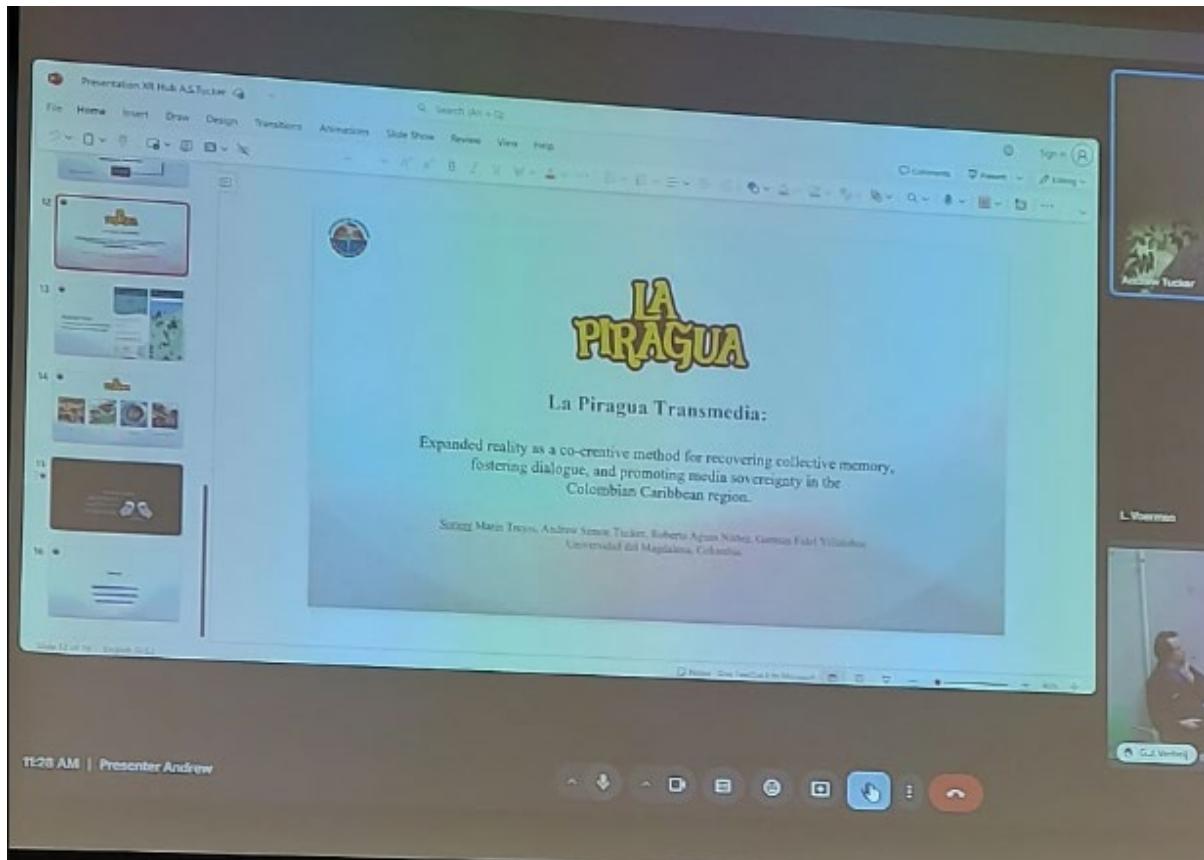


FIGURE 1.11 (ANDREW TUCKER IN A MEET SHOWING HIS SECOND GAME LA PIRAGUA)

Speaker 4: They are students of Christina (speaker 2). Where they previewed their work and research. They took us into a theatre room where they demonstrated the usage of story maps in education. What I learned is that story maps are pretty much an interactive map that is being used for historical sites and geography. It can contain a lot of information, images, videos, Geo Maps and 360 experiences. It is not just interactive but very smooth and feels great to go through.



FIGURE 1.12 (VIDEO OF THE THEATRE ROOM)

Healthcare education day (E,G,F)



FIGURE 1.13 (IMAGE OF HEADSETS WE HAD TO SETUP, SHOWCASE AND MAINTAIN)

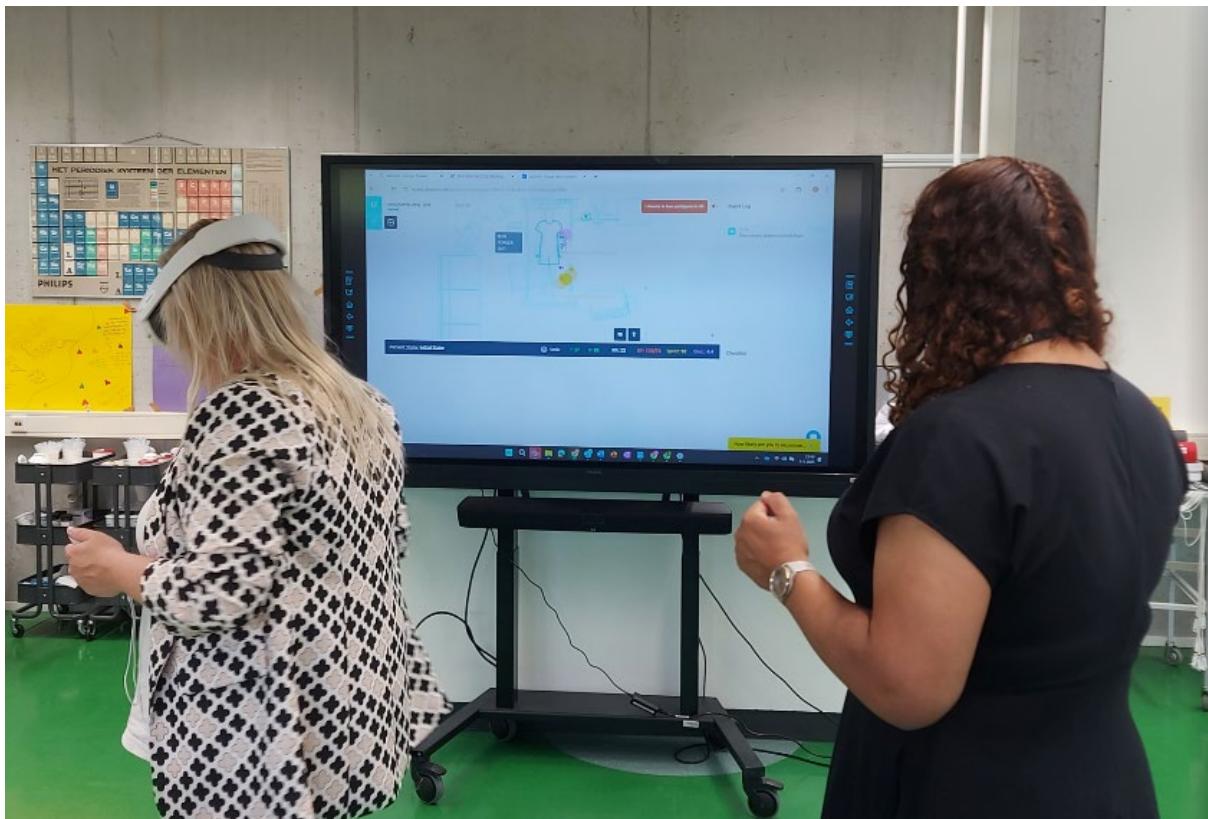


FIGURE 1.14 (IMAGE OF MY SUPERVISOR EXPLAINING THE MONITORING FEATURE FOR NURSING SIMULATIONS.)

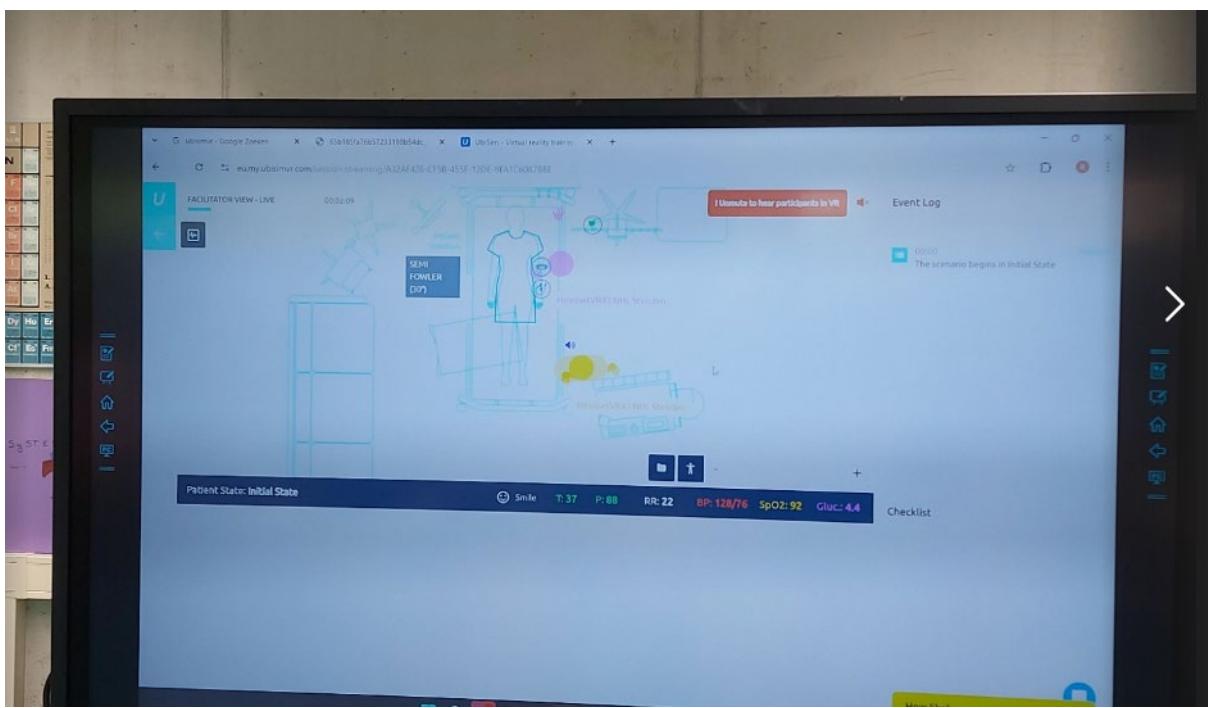


FIGURE 1.15 (IMAGE OF THE MONITORING FEATURE WHERE TEACHERS CAN SEE WHAT THE PLAYERS ARE DOING SO THEY CAN GET GRADED)



FIGURE 1.16 (THEY GAVE US SPEAKERS AND PRESENTERS A THANK YOU GIFT 😊)

Evidence for Developer skills

Debugging GitHub projects (y2 Game Lab) (B, D)

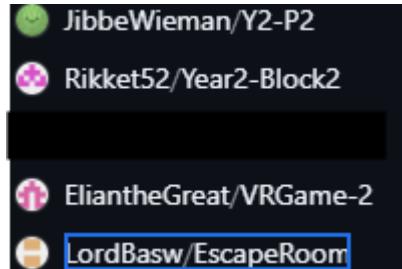


FIGURE 2.1(GITHUB REPOSITORIES OF ALL 4 PROJECTS)

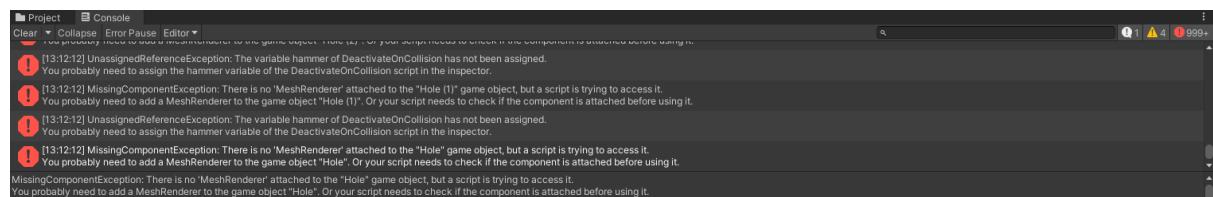


FIGURE 2.2 (THE GAME THE CONTAINED 999+ ERRORS AND WAS THE LOWEST RANKED)

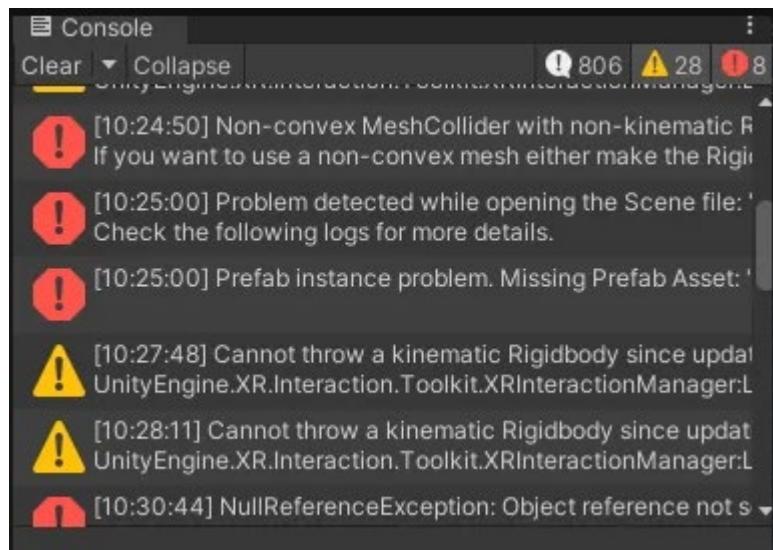


FIGURE 2.3 (BUGS OF THE MALWARE DETECTED GAME)

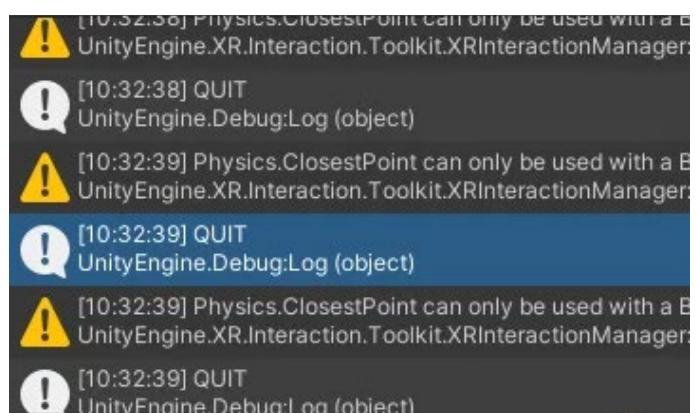


FIGURE 2.4 (MALWARE DETECTED DEBUGGING METHOD ON QUIT BUTTON)

```
#if UNITY_EDITOR
    UnityEditor.EditorApplication.isPlaying = false;
#endif
```

FIGURE 2.5 (CODE THAT FIXED START AND QUIT BUTTONS WHILE BUILT OF THE MALWARE DETECTED GAME)

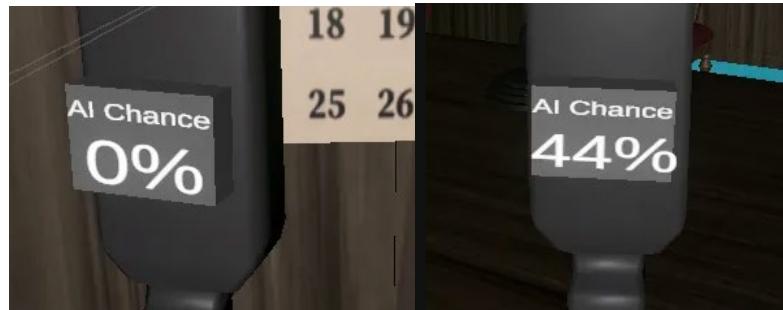


FIGURE 2.6 (THE MAIN MECHANIC BEFORE (USED TO ALWAYS STAY ON 0) AND AFTER GETTING FIXED)

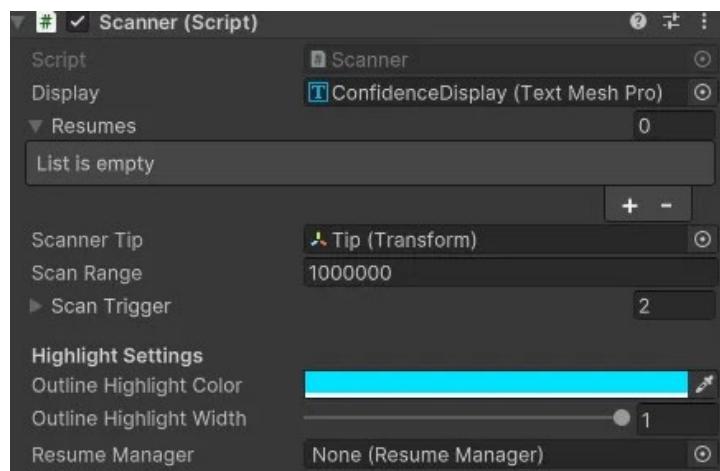


FIGURE 2.7 (SCREENSHOT OF PREFAB THAT NEEDED TO BE FIXED SO THAT MECHANIC WORKS.)

```
bool isAnyTriggerPressed = false;
foreach (var actionRef in scanTrigger)
{
    if (actionRef.action != null && actionRef.action.triggered)
    {
        Debug.Log("Scan trigger pressed.");
        ScannerTrigger scannerTrigger = Events.ScannerTrigger;
        EventManager.Broadcast(scannerTrigger);
        if (recalculateOpportunity)
        {
            Debug.Log("Updating display...");
            if (resumeManager != null)
            {
                display.text = resumeManager.isAI
                ? $"{Random.Range(40, 70)}%"
                : $"{Random.Range(30, 60)}%";
                Debug.Log($"Display set to: {display.text}");
            }
            recalculateOpportunity = false;
        }
        isAnyTriggerPressed = true;
        break; // Exit the loop after finding the first triggered action
    }
}

Selecting = isAnyTriggerPressed;
```

FIGURE 2.8 (SCREENSHOT OF ME TRYING TO DEBUG EXISTING CODE TO FIX MECHANIC, (DEBUG LOGS DID NOT WORK AS PREFAB NEEDED TO BE FIXED FIRST) ALTERED THE CODE TO SIMPLIFY IT)

```

void Update()
{
    // Cast ray to detect stuff
    Ray ray = new Ray(scannerTip.position, scannerTip.forward);
    RaycastHit hit;

    if (lineRenderer != null)
    {
        lineRenderer.SetPosition(0, scannerTip.position);
    }

    // Check if ray hit something
    if (Physics.Raycast(ray, out hit, scanRange))
    {
        if (lineRenderer != null)
        {
            lineRenderer.SetPosition(1, hit.point);
        }
        // Get the transform of whatever we hit
        hitTransform = hit.collider.transform;

        // Check if whatever we hit is a category of text on the
resume (i.e ABOUTME, or CONTACT)
        if (hitTransform.CompareTag("TextCategory"))
        {
            // Check if this is not the group we are already
highlighting to prevent a continuous loop
            if (hitTransform != currentCategory)
            {
                // Unhighlight any previously highlighted
category
                Unhighlight();
                // Highlight the newly selected category
                Highlight(hitTransform);
            }
        }
        else
        {
            // Ray hit something that isn't a resume text group
            Unhighlight();
        }
    }
    else
    {
        // Ray hit nothing
        Unhighlight();
        if (lineRenderer != null)
        {
            Vector3 endPos = scannerTip.position +
scannerTip.forward * scanRange;
            lineRenderer.SetPosition(1, endPos);
        }
    }
    // Check if either of the scan triggers is pressed
    bool isAnyTriggerPressed = false;
    foreach (var actionRef in scanTrigger)

```

```

    {
        if (actionRef.action != null &&
actionRef.action.triggered)
        {
            Debug.Log("Scan trigger pressed.");
            ScannerTrigger scannerTrigger =
Events.ScannerTrigger;
            EventManager.Broadcast(scannerTrigger);
            if (recalculateOpportunity)
            {
                Debug.Log("Updating display...");
                if (resumeManager != null)
                {
                    display.text = resumeManager.isAI
                    ? ${Random.Range(40, 70)}%
                    : ${Random.Range(30, 60)}%;
                    Debug.Log($"Display set to:
{display.text}");
                }
                recalculateOpportunity = false;
            }
            isAnyTriggerPressed = true;
            break; // Exit the loop after finding the first
triggered action
        }
    }

    Selecting = isAnyTriggerPressed;
}

and

void Start()
{
    EventManager.AddListener<ResumeSpawned>(OnResumeSpawn);

    foreach (var actionRef in scanTrigger)
    {
        if (actionRef != null && actionRef.action != null)
        {
            Debug.Log("Scan trigger activated.");
            actionRef.action.Enable(); // Ensure each input
action is active
            Debug.Log($"Enabling scan action:
{actionRef.action.name}");
        }
        else
        {
            Debug.LogError("scanTrigger action is NULL! Check
Input System.");
        }
    }
}

```

FIGURE 2.9 (CODE THAT FIXED THE MECHANIC, THE PROBLEM WAS THAT IT WAS NOT RESPONDING TO TRIGGERS ON THE CONTROLLER)

Building game in VR (B, F)



FIGURE 2.10 (THE DOCUMENT FOR BUILD SETTINGS OF THE QUEST 2 AND 3)

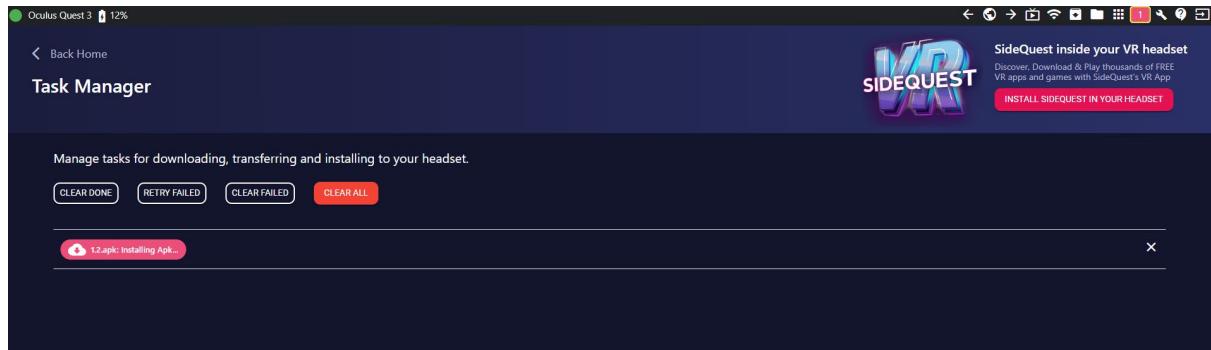


FIGURE 2.11 (SCREENSHOT OF DEPLOYING APK PROJECT USING SIDEQUEST)

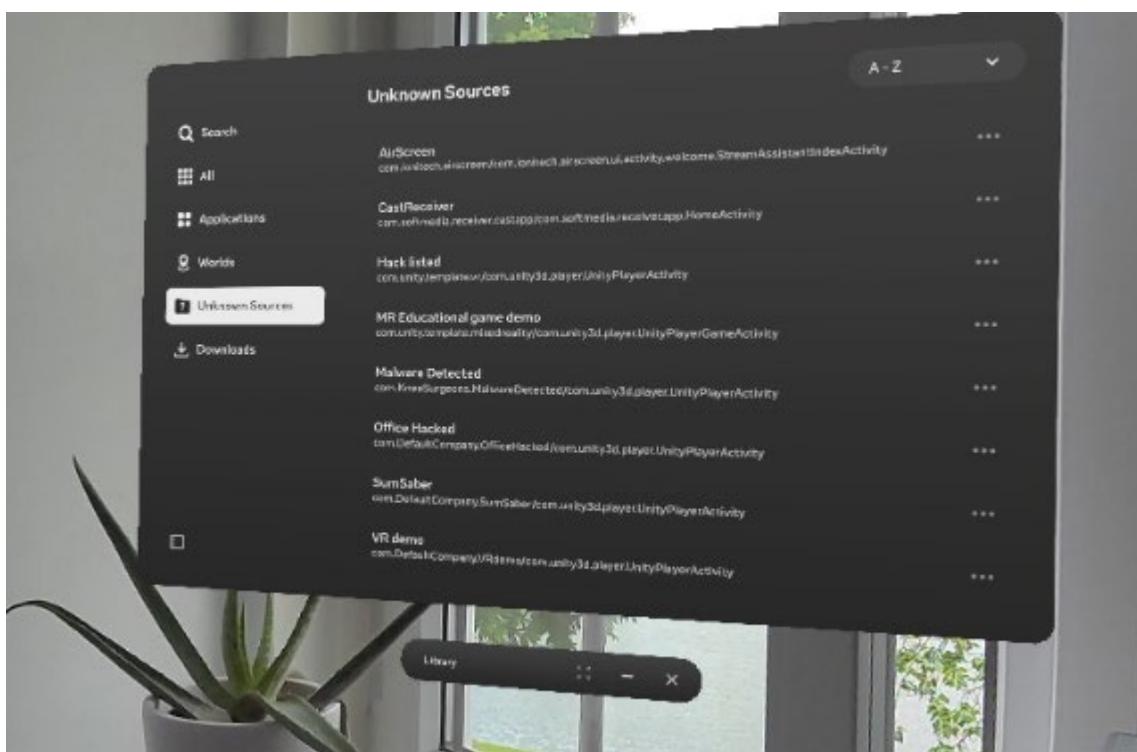


FIGURE 2.12 (SCREENSHOT OF BUILT GAMES IN QUEST)

VR Warp and testing 360-degree videos in VR (D, F, G)



FIGURE 2.13 (IMAGE OF THE 360 CAMERA)

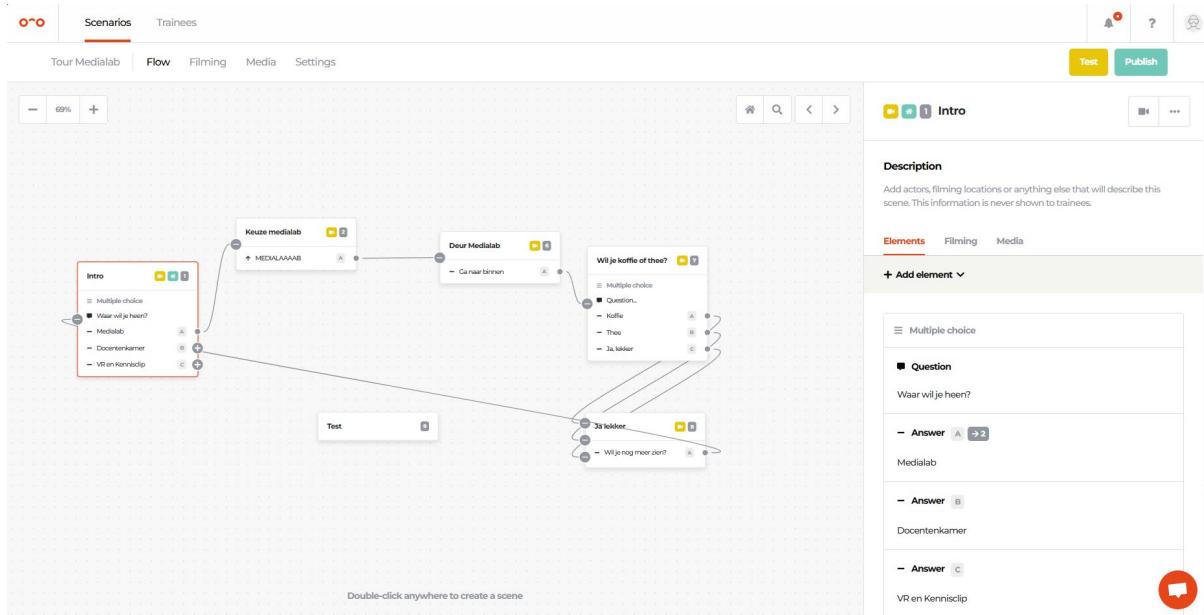


FIGURE 2.14 (SCREENSHOT OF US TESTING WARP VR TO CREATE A TEST SCENARIO)

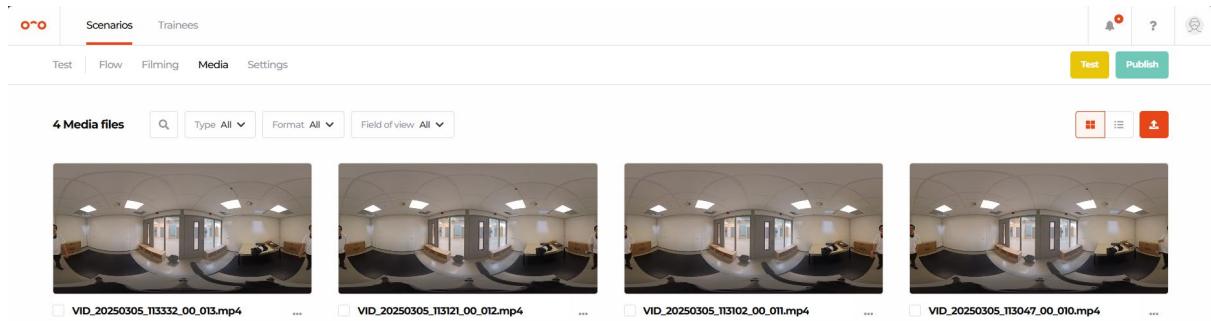


FIGURE 2.15 (SCREENSHOT OF VIDEOS I RECORDED OF ME AND UPLOADED IN THE DEMO)

Video in the folder (File name= 360vid#4)

FIGURE 2.16 (ONE OF THE VIDEOS THAT WAS IN THE DEMO AND A PREVIEW OF THE BEFORE THE VR LAB WAS DONE)

Noordorpoort VR Lab Eco System (B,E,F,G)



FIGURE 2.17 (IMAGE OF HARDWARE THAT WE REQUESTED)



FIGURE 2.18 (IMAGE OF ME SETTING UP THE QUEST 3)



FIGURE 2.19 (IMAGE OF ME SETTING UP THE WIRING FOR THE VR LAB)

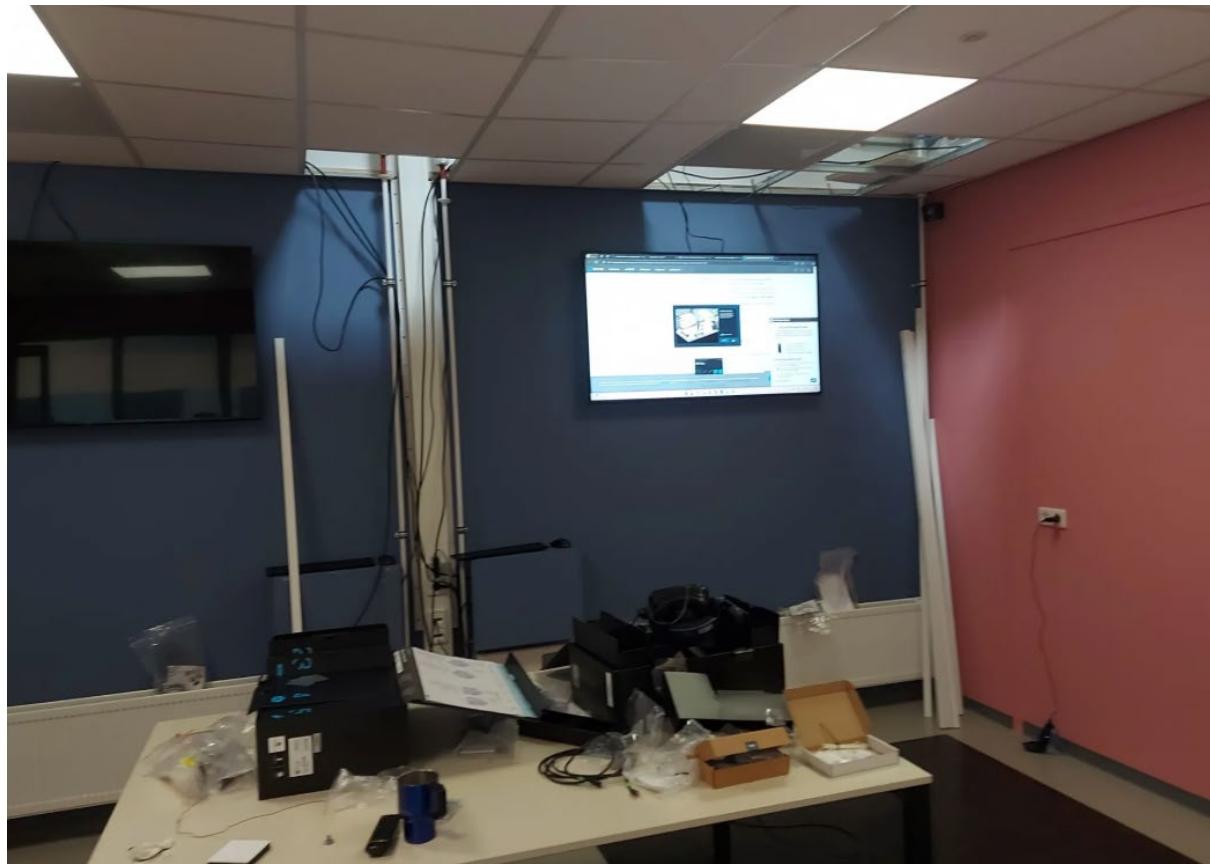


FIGURE 2.20 (IMAGE OF THE VIVE AND PC WORKING)



FIGURE 2.21(IMAGE OF THE VIVE WHILE SETTING UP)



FIGURE 2.22 (IMAGE OF THE MOTION SENSORS FOR THE VIVES THAT ARE MOUNTED ON EACH CORNER OF THE ROOM)

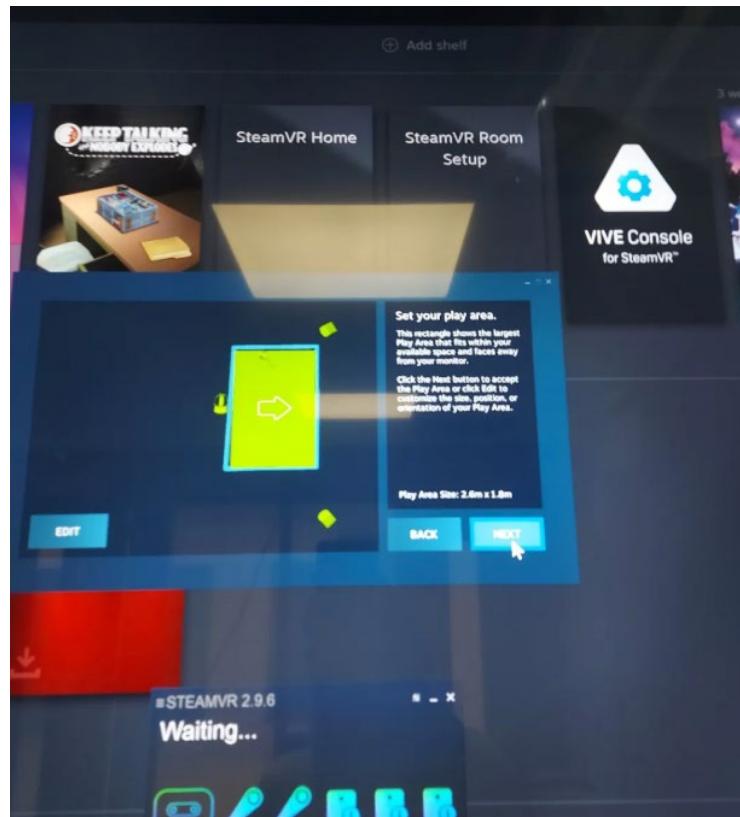


FIGURE 2.23 (IMAGE OF SETTING UP THE VIVE INTO THE PC USING STEAMVR)

Learning to Maintain Vive Pro Systems (B)

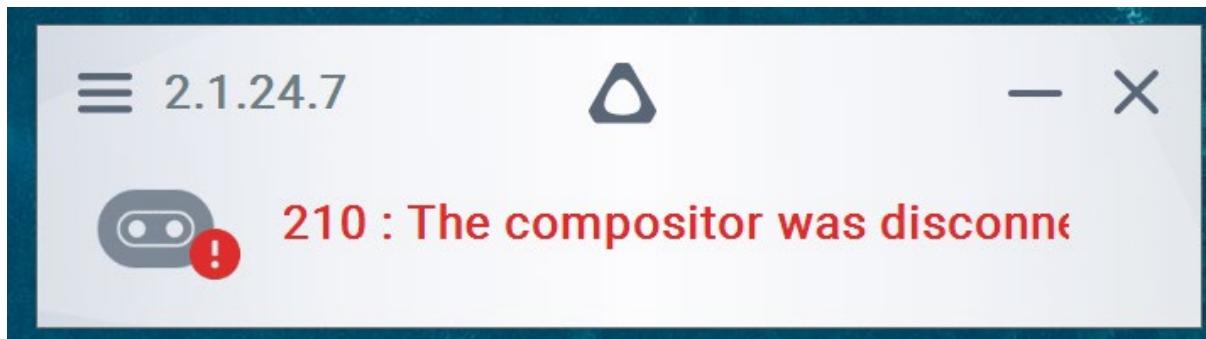


FIGURE 2.24 (SCREENSHOT OF THE 210 ERROR)

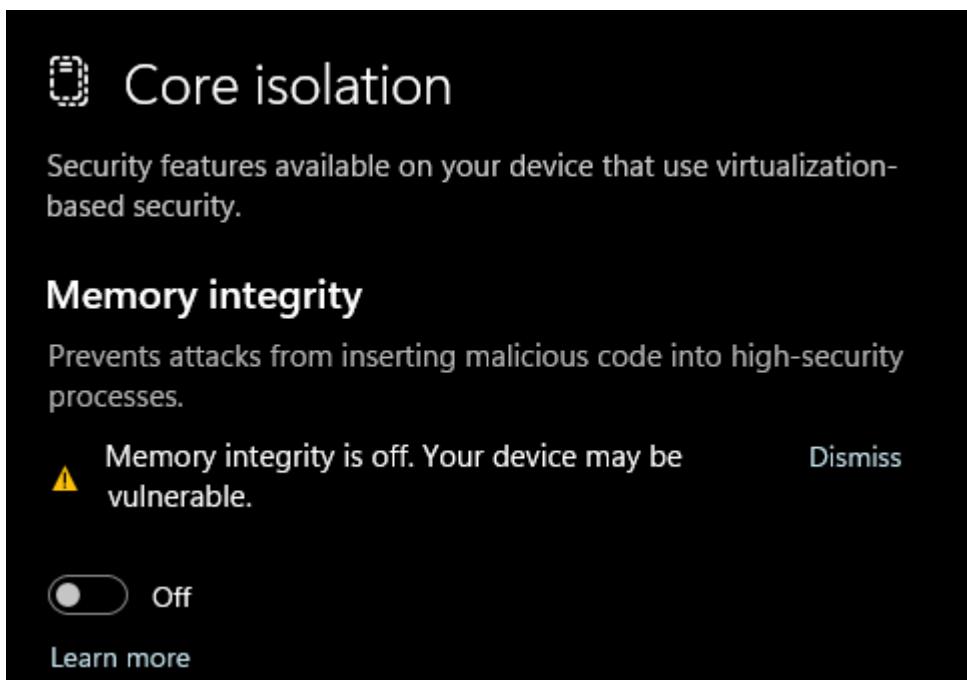


FIGURE 2.25 (SECURITY SETTING THAT NEEDED TO BE DISABLED FOR THE BTWUSB.SYS DRIVER)

Drone VR (B,E,F)

Video in the folder (File name= Way 1)

FIGURE 2.26 (VIDEO OF THE FIRST SUCCESSFUL TEST, IT WAS TOO LAGGY)

Video in the folder (File name= Way 2)

FIGURE 2.27(VIDEO OF THE SECOND SUCCESSFUL TEST, DISPLAY WAS TOO SMALL)

Video in the folder (File name= Way 3)

FIGURE 2.28(VIDEO OF THE FIRST SUCCESSFUL TEST, IT WAS THE MOST OPTIMAL SOLUTION)



FIGURE 2.29 (THE DOCUMENT OF MY RESEARCH AND FINDINGS THAT I SENT TO MY COLLEAGUE)

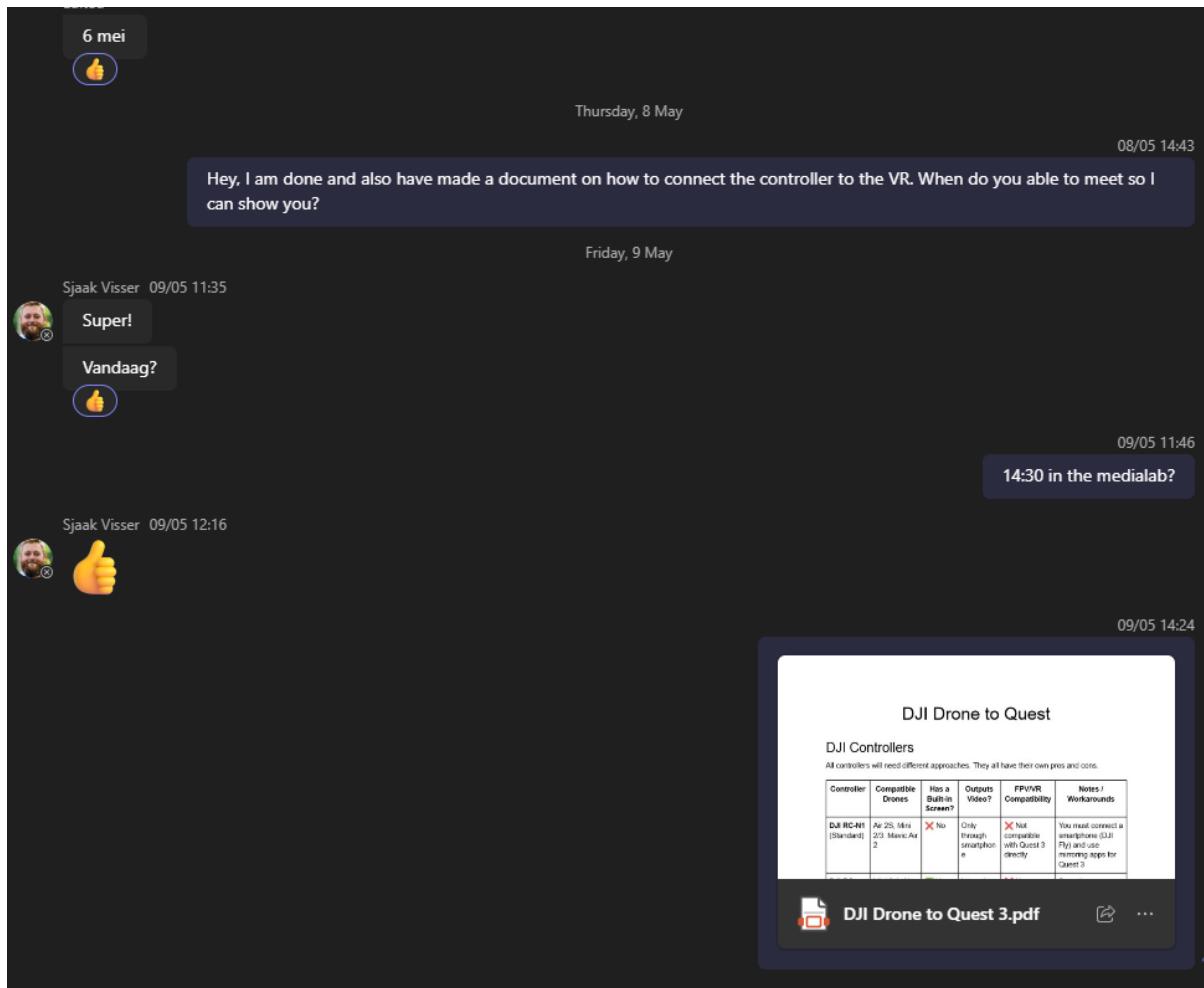


FIGURE 2.30 (SCREENSHOT OF COMMUNICATION WITH COLLEAGUE)



FIGURE 2.31 (IMAGES OF DRONES CREATED IN THE ELECTIVE)

MR educational space game (B, D, E, F, G)

MR-game-Demo (Private)

main · 1 Branch · 0 Tags

Go to file · Add file · Code

wakim17 · Misc bug fix · a3941bc · now · 13 Commits

File	Description	Last Commit
.utmp	Misc bug fix	now
Assets	Misc bug fix	now
Packages	UI fix	2 weeks ago
ProjectSettings	UI fix	2 weeks ago
.gitattributes	Initial commit	2 months ago
.gitignore	Initial commit	2 months ago
.vsconfig	assets	2 months ago

FIGURE 2.32 (SCREENSHOT OF GITHUB FOR THE PROJECT)



FIGURE 2.33 (DOC ON SPACE INFO AND QUIZ (USED THE HELP OF CHATGPT))

Video in the folder (File name= MR game)

FIGURE 2.34 (VIDEO OF GAME MOST RECENT BUILD BEFORE DEADLINE SUBMISSION)

Nieuw item maken

Rachel/Johny

Potential Projects

MR space game

Mechanics:

- Place virtual "data collectors" (e.g., cameras, microphones) around your room using MR.
- Choose to spy on virtual citizens (e.g., eavesdrop on conversations, scan personal items).
- Consequences:**
- Profit unlocks upgrades (fancier office), but trust erodes (protests, lawsuits).

Dev Plan:

- Use Meta's Scene API to map room geometry for object placement.
- Assets Needed:** Low-poly devices, voice snippets (text-to-speech).

FIGURE 2.35 (SCREENSHOT OF LOOPED DOC WITH IDEA)

```

1  using UnityEngine;
2  using UnityEngine.UI;
3
4  public class FinOrreryController : MonoBehaviour
5  {
6      public Slider speedSlider;
7      public Button doubleSpeedButton;
8      public Toggle playToggle;
9
10     private float currentSpeed = 1.0f;
11     private float maxSpeed = 2.0f;
12
13     private Animator orreryAnimator;
14
15     void Start()
16     {
17         orreryAnimator = GetComponent<Animator>();
18         // Hook up UI
19         speedSlider.onValueChanged.AddListener(OnSliderValueChanged);
20         doubleSpeedButton.onClick.AddListener(OnDoubleSpeedClicked);
21         playToggle.onValueChanged.AddListener(OnPlayToggleChanged);
22
23         UpdateAnimator(); // Set initial state
24     }
25
26     void UpdateAnimator()
27     {
28         if (playToggle.isOn)
29         {
30             orreryAnimator.speed = currentSpeed;
31         }
32         else
33         {
34             orreryAnimator.speed = 0f;
35         }
36     }
37
38     void OnSliderValueChanged(float value)
39     {
40         currentSpeed = value;
41         UpdateAnimator();
42     }
43
44     void OnDoubleSpeedClicked()
45     {
46         speedSlider.value = maxSpeed; // Triggers slider listener
47     }
48
49     void OnPlayToggleChanged(bool isPlaying)
50     {
51         UpdateAnimator();
52     }
53 }

```

FIGURE 2.36 (SCREENSHOT OF THE CODE FOR THE UI AND ANIMATIONS)

Evidence for Communication skills

Weekly retrospectives with supervisor (E, G)

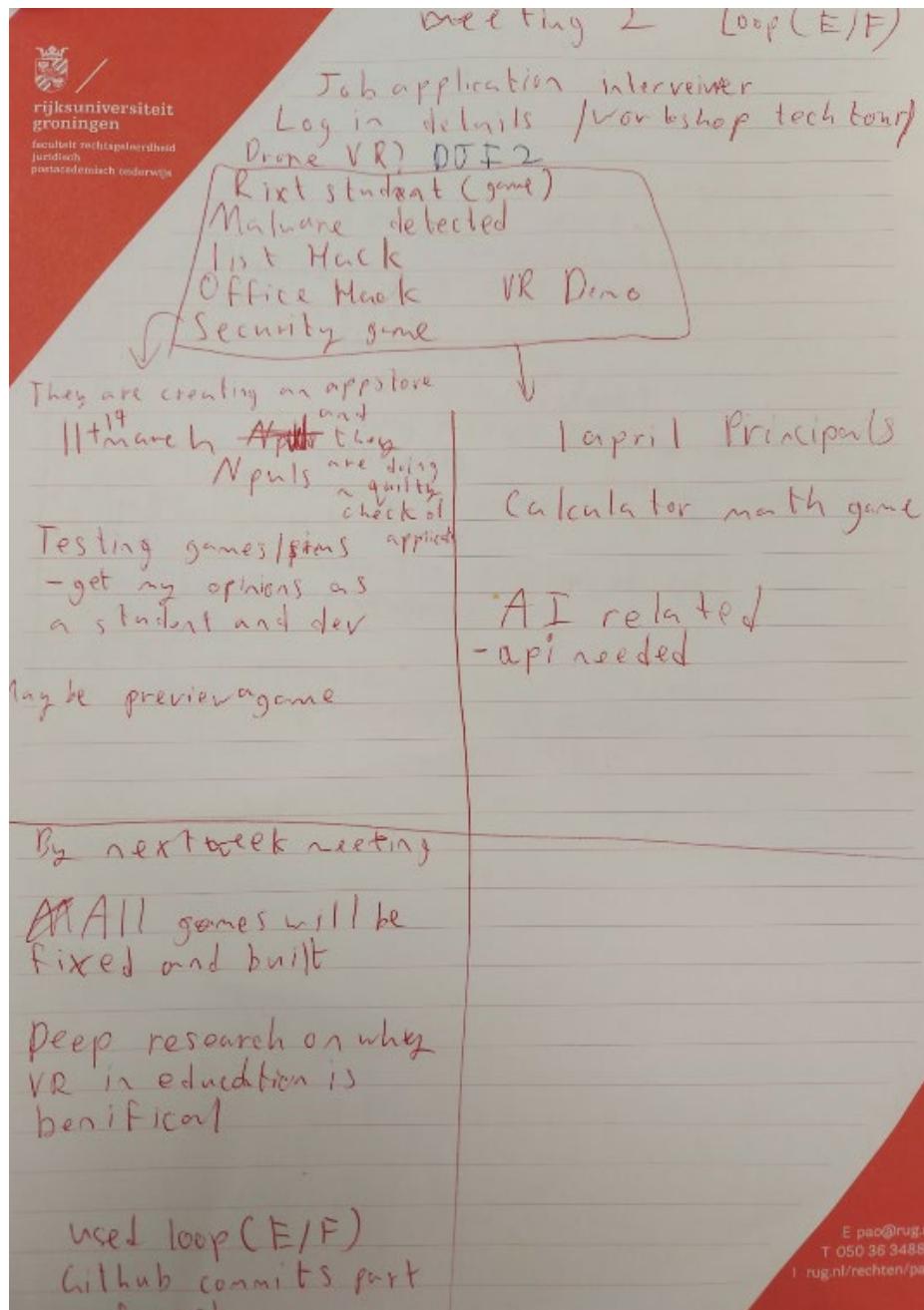


FIGURE 3.1 (IMAGE OF PHYSICAL NOTES OF ONE OF THE MEETINGS)

The screenshot shows the Loop application interface. At the top, there's a header bar with the title "Weekly Meetings". Below it, a navigation bar includes icons for "Home", "Meetings", "Tasks", and "Reminders". A red circular badge with the number "1" is visible on the "Meetings" icon.

The main area displays two meetings:

- Meeting 25/2/25**: This meeting is listed under "Kolom 1" and "Kolom 2".
 - Kolom 1** contains items: "Hanz Games" (row 1), "Npuls" (row 2), "VR Demo" (row 3), and "Headsets" (row 4).
 - Kolom 2** contains items:
 - "Office Hack" (checked)
 - "@Listing Hack" (checked)
 - Either one of them can be used for the principle day, but still need to be improved before the decision
 - "Malware detected"
 - Still requires visual improvements
- Meeting 11/2/25**: This meeting is listed under "Kolom 1" and "Kolom 2".
 - Kolom 1** contains items: "Npuls" (row 2), "VR Demo" (row 3), and "Headsets" (row 4).
 - Kolom 2** contains items:
 - "Pick a game to show" (checked)
 - Not necessary for the 11th
 - "Calculation Game"
 - Add into VR Demo

At the bottom of the interface, there are several buttons and links:

- "+ Nieuw" (New)
- "Recurring meeting every Tuesday at 10:30"
- Sketchup in VR?
- Npuls meeting (apply)

FIGURE 3.2(A SCREENSHOT OF LOOP WITH INFORMATION ON MEETING 2)

Brainstorming educational VR games (A,E,G,F)



FIGURE 3.3 (IMAGE OF ME TESTING APPLICATIONS THAT ALREADY EXIST FOR EDUCATION)

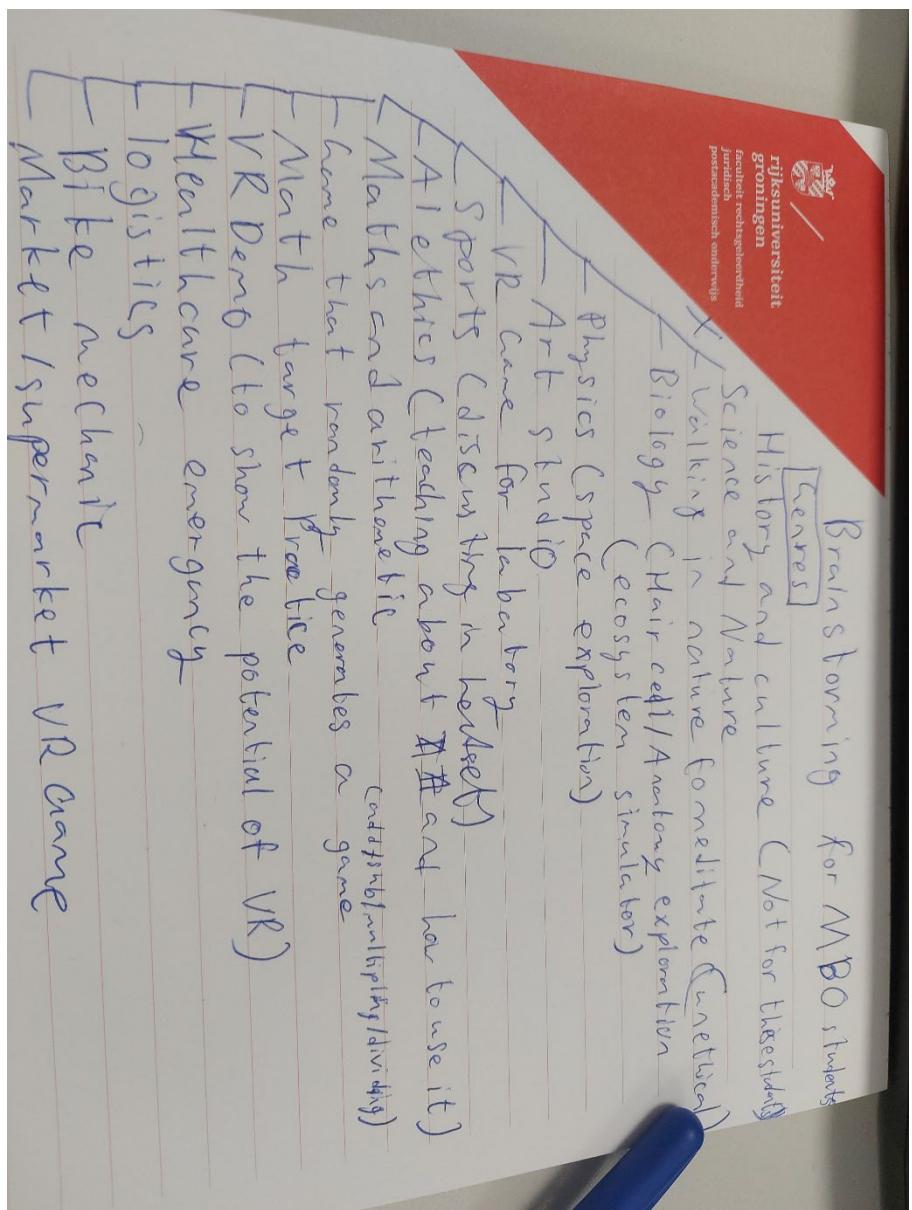


FIGURE 3.4 (IMAGE OF OUR IDEAS THAT WE CAME UP WITH)

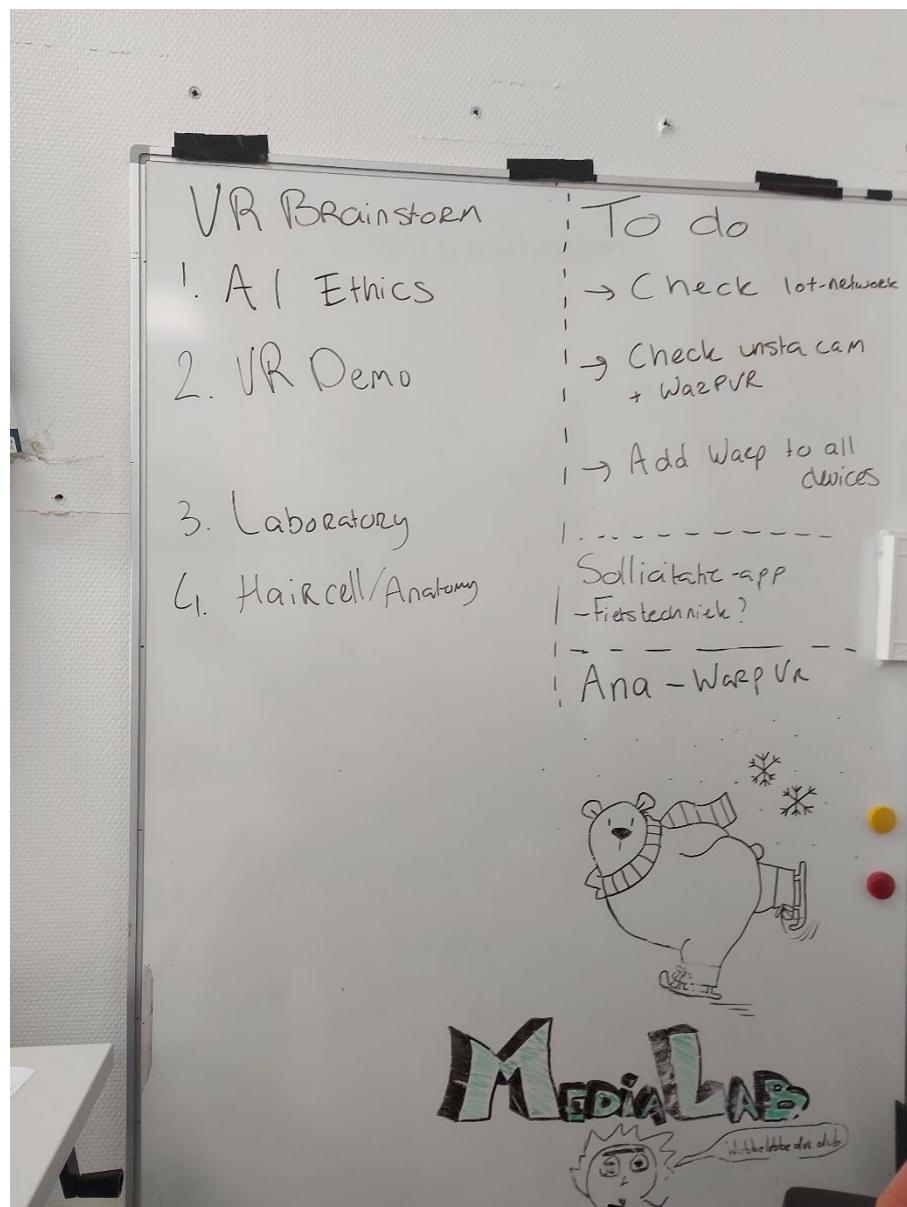


FIGURE 3.5 (THE 4 IDEAS RANKED BY IMPORTANCE IN FRONT OF US ON A WHITEBOARD)

AI in Education Discussion with Economic Geography Masters Students (E, G, A, D)



FIGURE 3.6 (IMAGE OF EACH GROUPS CONCLUSION BEING DISCUSSED TOGETHER)

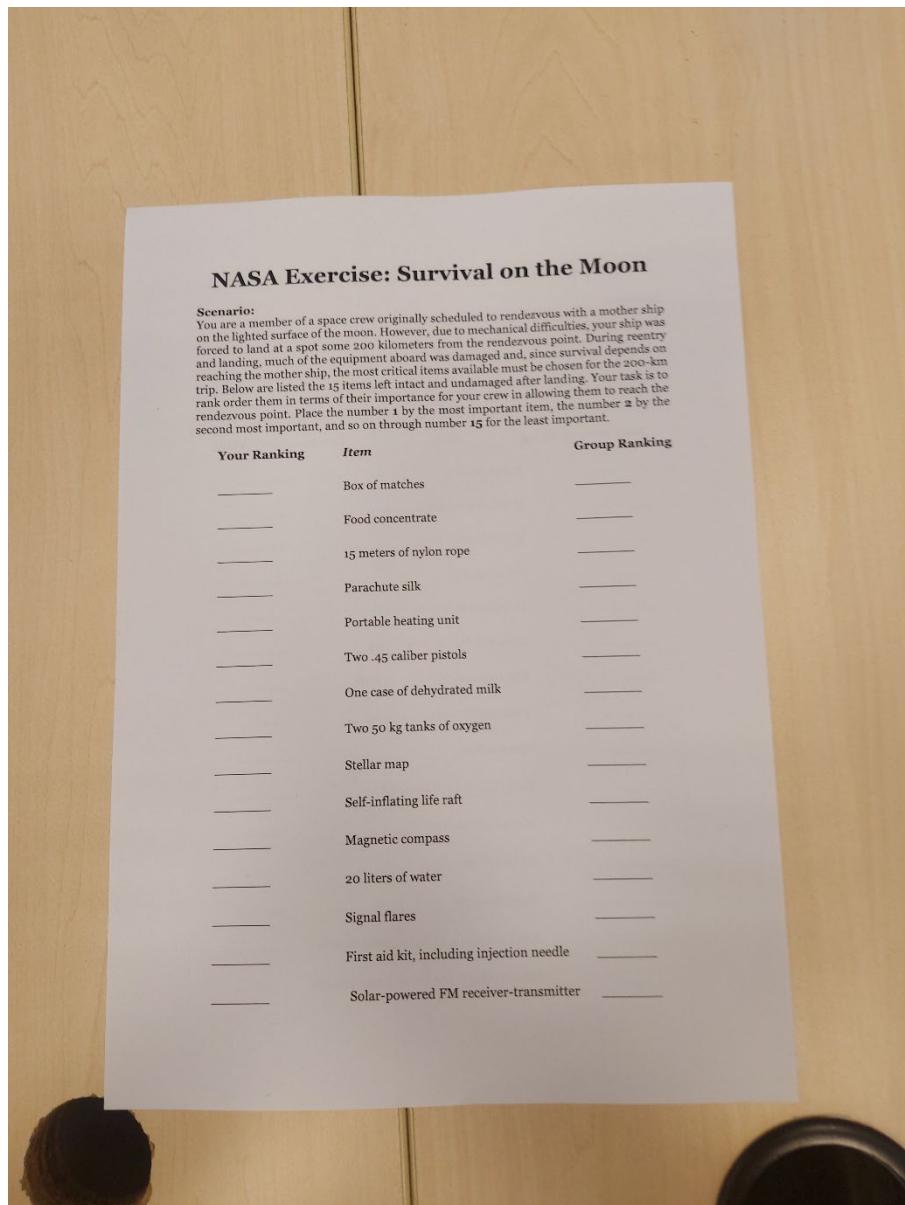


FIGURE 3.7 (IMAGE OF A GROUP EXERCISE WE DID AS AN ICEBREAKER)

Organising Loop (E, G)

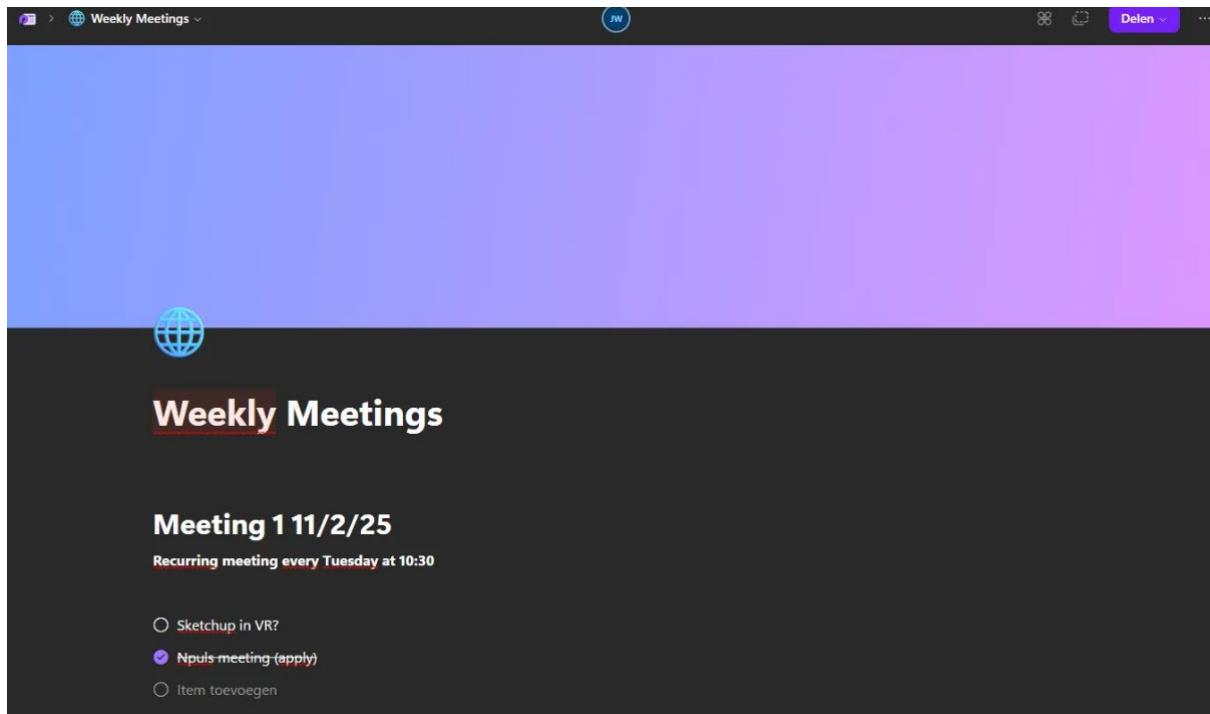


FIGURE 3.8 (IMAGE OF LOOP BEFORE CHANGE)

A screenshot of the same digital workspace interface after a change has been made. The left sidebar now includes a 'Status' section and a 'Gesorteerd op hiërarchie' (Sorted by hierarchy) dropdown menu. The 'Weekly Meetings' section is still present. The main content area shows a meeting entry for 'Meeting 14 (27-5-2025)'. Below the meeting details is a table with two columns:

	Kolom 1	Kolom 2
1	Johnny's portfolio	Deadline on June 13
2	MR space game	ANIMATIONS ARE ANNOYING but good progress
3	Noorderpoort advice document	Check with healthcare colleagues Waiting for Maaike comments
	help Lisa record quest 3 tutorial	headset on/off button volume

FIGURE 3.9 (IMAGE OF LOOP AFTER THE CHANGE)

Microsoft planner (E, G)

The screenshot shows the Microsoft Planner interface with four boards: Planning, To Do, Doing, and Done.

- Planning:** Contains tasks like "Project ideas" and "Drone VR".
- To Do:** Contains tasks like "Ask for headset stand" and "Email for lot network".
- Doing:** Contains tasks like "Plan VR demo" and "Project idea for MR AI".
- Done:** Contains tasks like "Meet with Rico" and "Learning Dutch Grammer".

FIGURE 3.10 (IMAGE OF PLANNER WHEN I SET IT UP)

The screenshot shows the Microsoft Planner interface with multiple boards:

- General:** Contains tasks like "Project idea for MR AI" and "Networking".
- Projectmanagement:** Contains tasks like "Make planets interactive" and "Learning Dutch Grammer".
- XR-lab:** Contains tasks like "Warp VR" and "Test and try Reality Capture in unreal".

On the right side, there is a summary section showing completed tasks: "Completed tasks" (27), "Networking" (1), "Uffomery" (1), "JW" (3), and "Drone in VR" (2).

FIGURE 3.11 (IMAGE OF PLANNER LATER ON BEGINNING OF JUNE)

Project Client (A, D, E, G, F)

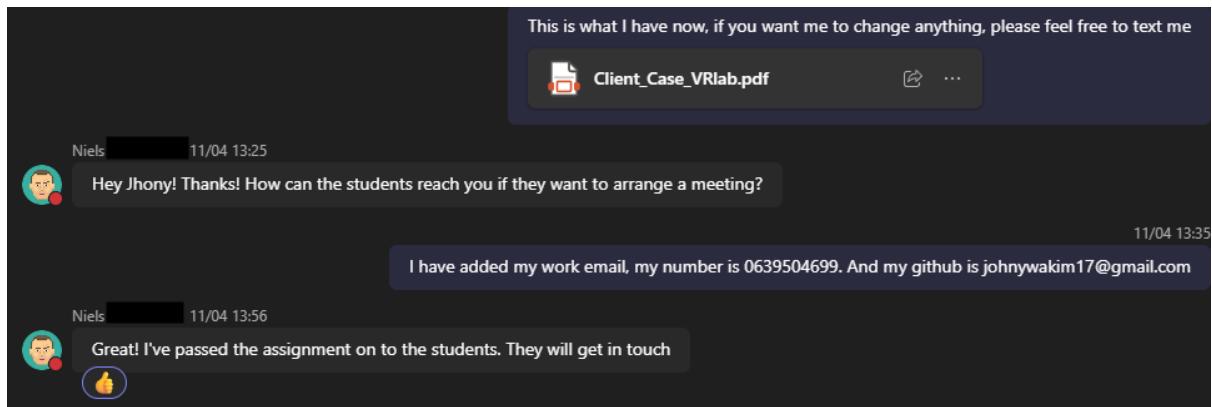


FIGURE 3.12 (IMAGE OF COMMUNICATIONS ON TEAMS WITH THE TEACHER)

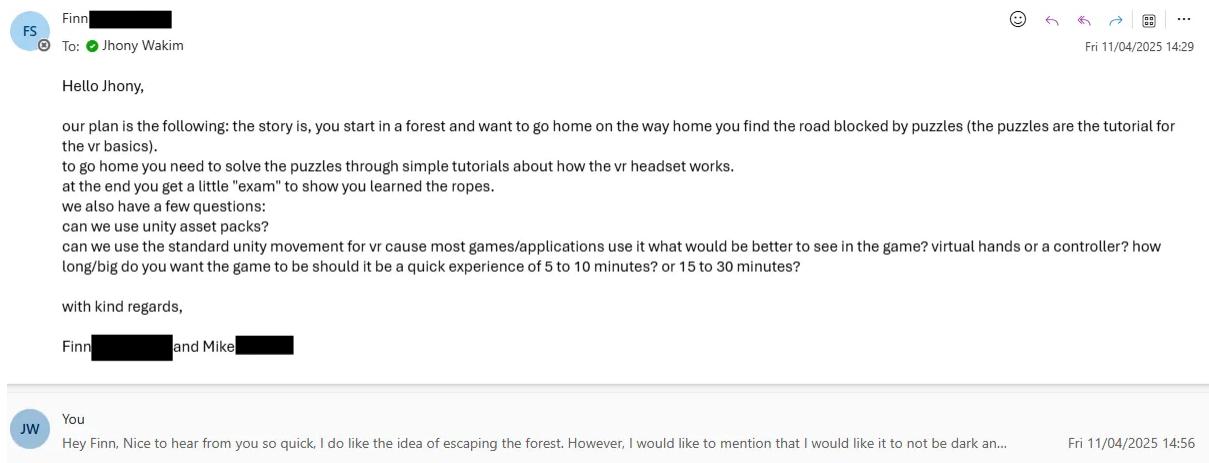


FIGURE 3.13 (IMAGE OF FIRST EMAIL THEY SENT ME INDICATING THE START OF THEIR PROJECT)

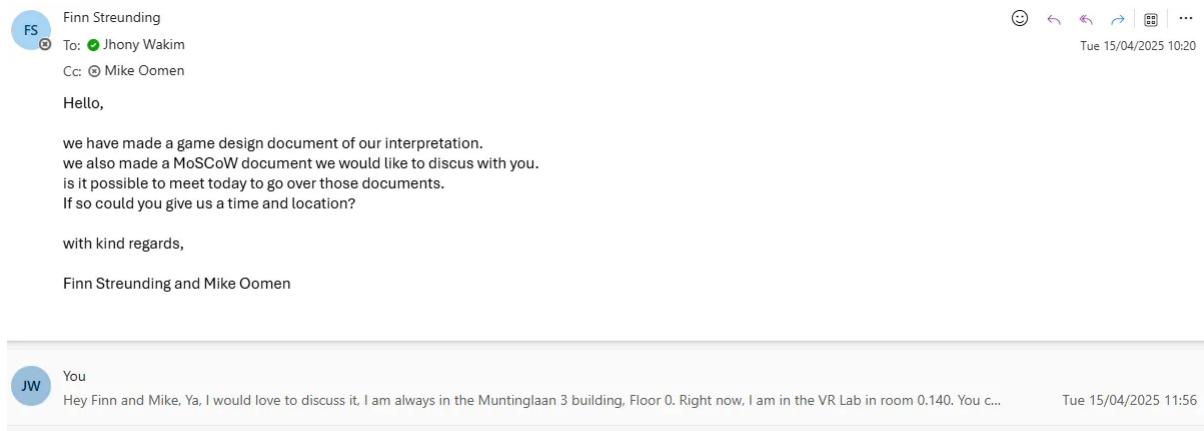


FIGURE 3.14 (IMAGE OF THE EMAIL OF THE FIRST PLANNED MEETING)



Client_Case_VRlab.
pdf

FIGURE 3.15 (THE CLIENT CASE THAT I WROTE)

Appendix for 360 feedback

Round 1

Person 1:

360-Degrees Feedback Form.

Name: Rogier van den Berg

Function: Projectleider Medialab

How would you evaluate the content/subject knowledge of the student?

Jhony has a large amount of knowledge in the field of study, especially VR development and working with the hardware

How would you evaluate the student within the daily operating processes? (For instance, on cooperation, communication.)

There is communication with all the colleagues of the Medialab and VR. Sometimes more communication is required. You are a part of a larger team and we see you as a complete colleague.

How would you evaluate the work attitude of the student? (For instance, on commitment, enthusiasm.)

Good, lots of interest and commitment for development and working

How would you evaluate the professional attitude of the student on the following aspects?

Critical thinking (Formulating an opinion, asking the right questions)

I have not seen this to a large extend, but i get the impression that is on par with the expectation.

The ability to solve problems

Good

An entrepreneurial attitude

Up to this point i have not seen evidence of this. This might be more prevalent in the future.

How would you evaluate the student on another competency that is important to you?

For me it's most important that someone is able to be themselves, and i think Jhony has no problem with that.

Would you like this student to be your colleague from now on?

Yes, because

Yes, if...

Jhony continues to develop himself professionally and personally.

No, because

Date: 12-03-2025

Signature:



person 2

360-Degrees Feedback Form.

Name: Rachel Kok

Function: EdTech Advisor

How would you evaluate the content/subject knowledge of the student?

Johny has helped me out with everything so far. He definitely has enough knowledge about every related to my work and also has his own input and ideas on how to solve specific issues.

How would you evaluate the student within the daily operating processes? (For instance, on cooperation, communication.)

Johny can cooperate quite well as well as working independently. Communication-wise, he makes sure I am up to date with everything.

How would you evaluate the work attitude of the student? (For instance, on commitment, enthusiasm.)

We often run out of time because we're both enthusiastic about many ideas, but we're learning to focus on the most important tasks. Even in unplanned moments, Johny stays committed, as he showed when he spontaneously helped guide and discuss with visiting RUG students.

How would you evaluate the professional attitude of the student on the following aspects?

Critical thinking (Formulating an opinion, asking the right questions) Good

The ability to solve problems **Good**

An entrepreneurial attitude Good

How would you evaluate the student on another competency that is important to you?

Sometimes I am very busy with other tasks, and up until now, I have noticed that Johny knows how to keep himself busy, even though there aren't always clear tasks to do. From my side, this has been very reassuring, not having to always check and be on top of it. In the past, I have experienced otherwise, so my compliments to Johny.

Would you like this student to be your colleague from now on?

Yes, because if Johny learns to speak Dutch. At Noorderpoort, Dutch is spoken everywhere. For me it is no issue at all, but sometimes it would have been easier if he would speak Dutch

Yes, if... Dutch

No, because

Date: 25-3-2025

Signature:



Round 2

Person 1

360-Degrees Feedback Form.

Name: Rogier van den Berg

Function: Projectleider Medialab

How would you evaluate the content/subject knowledge of the student?

Jhony has a lot of knowledge of the subjects presented to him.

How would you evaluate the student within the daily operating processes? (For instance, on cooperation, communication.)

Very good, comes with his own ideas at the right times. Does communicate when is going to be in the office and when he is not

How would you evaluate the work attitude of the student? (For instance, on commitment, enthusiasm.)

Very good, is always on time and is motivated to produce high quality content. Jhony does a great job of the work he does and is proud of the products he created

How would you evaluate the professional attitude of the student on the following aspects?

Critical thinking (Formulating an opinion, asking the right questions)

Good, asks questions when he does not understand

The ability to solve problems

Good, you try first and then ask.

An entrepreneurial attitude

Good, looks to the future and sees opportunities for himself and the company

How would you evaluate the student on another competency that is important to you?

I value creativity in a student and Jhony shows and uses this in his day to day work

Would you like this student to be your colleague from now on?

Yes, because

Totally, great atmosphere when he is around and good colleague

Yes, if...

No, because

Date: 22-04-2025

Signature:



Person 2

360-Degrees Feedback Form.

Name: Rachel Kok

Function: EdTech Advisor

How would you evaluate the content/subject knowledge of the student?

Still on par. Jhony also has knowledge of topics we know less about which has helped us with developing other ideas we couldn't think of at first. So far, it has been very helpful.

How would you evaluate the student within the daily operating processes? (For instance, on cooperation, communication.)

This also hasn't changed and has been good so far.

How would you evaluate the work attitude of the student? (For instance, on commitment, enthusiasm.)

When Jhony is enthusiastic about something he will not stop until he is finished. If there is something he knows less about, he will still do his best to figure out the best possible solution.

How would you evaluate the professional attitude of the student on the following aspects?

Critical thinking (Formulating an opinion, asking the right questions)	Good
The ability to solve problems	Good
An entrepreneurial attitude	Good

How would you evaluate the student on another competency that is important to you?

Jhony always puts his best foot forward which is refreshing. We recently had a showcase in the newly built VR-Lab. We did our best but also both noticed the same improvement points.

Would you like this student to be your colleague from now on?

Yes, because *

Yes, if...

No, because

Date: 22-04-25

Signature:



* he adds skills to the team. In the previous form I had written that he needs to learn Dutch which he actually started with. I am sure his dedication will help with learning the language