Optimizing Investor Engagement: Requirements for Pitching Innovative Media Technologies to Potential Investors

By:
Olaf Roest
502935

Supervisor:
Herman Paassen

This thesis was submitted in accordance with the graduation requirements of:

Saxion University of Applied Sciences
Academy of Creative Technologies

Almelo - Netherlands
[January] [2025]

Acknowledgments

Table of Contents

List of Abbreviations

Symbol	Description
AI	Artificial Intelligence
AR	Augmented Reality
BA	Business Angel
BP	Blueprint
CMGT	Creative Media and Game Technologies
DD	Double Diamond
FO	Family Office
GEF	Growth Equity Firm
HR	Hyper Reality
HRC	Hyper Reality Company
IMTS	Immersive Technologies and Storytelling Projects
IPO	Initial Public Offering
LBO	Leveraged Buyout
m/s	Meters per Second
MAD	StudioMAD
NUI	Natural User Interface
PwC	PricewaterhouseCoopers International Limited
ROI	Return On Investment
Saxion	Saxion University of Applied Sciences
SFX	Sound Effects
UE	Unreal Engine
USD	United States Dollar
USP	Unique Selling Point
VC	Venture Capitalist
VR	Virtual Reality
WiFi	Wireless Fidelity

List of Figures

List of Tables

Abstract

This study investigates the creation of successful plans to draw in and involve investors in Hyper Reality (HR), a cutting-edge Virtual Reality (VR) experience that combines virtual and physical interactions. The study identifies key elements of a prototype investor kit that is suited to the requirements of potential investors by addressing the difficulties StudioMAD (MAD)'s interns had getting Hyper Reality ready for market launch. The study looks at both theoretical and practical approaches to investor engagement using the Double Diamond framework, emphasising the variations in investor types, their contributions—both financial and non-financial—and their investment objectives. The study also explores how to create important documents and a demonstration of Hyper Reality that are tailored to the needs of Venture Capitalist (VC)s and Business Angel (BA)s, such as a pitch deck and executive summary. Iterative testing was done on prototypes of these materials to improve their usability and impact. The results provide practical insights for promoting sustainable growth in early-stage ventures and help to clarify how media and technology projects can strategically approach investor relations.

Keywords: Investor Engagement, Hyper Reality, Virtual Reality (VR), Media Technology Investments, Business Angels, Venture Capitalists, Pitch Deck Design, Executive Summary, Immersive Experiences, Investor Relations, Prototype Development, Early-Stage Startups, Innovation in Media Technology

Introduction

StudioMAD

StudioMAD (MAD), based in Almelo, is a creative film studio which has undergone a re-branding campaign from December 2023 to January 2024. They are now known as "Fools for Motion" which symbolises their organizational desire to produce more dynamic and innovative products. This is contrary to their previous branding revolving around corporate video production. Since 2011, MAD has been creating these corporate videos for notable clients such as Grolsch, ABB, and Thales. Their new branding, and corporate angle is focused on this "Fools for Motion" slogan, showing that they do not just produce high-quality video content, but also have an affinity for creating content that conveys very specific energies to the viewer, as visible in their Team Namibia video [1] Besides these video projects, StudioMAD is working hard to combine the physical and virtual world with projects such as "ReCharge Delic and Huda" [2], "How It Is Made" style showcases [3] and the Hyper Reality Project [4].

Figure 1: Fools for Motion banner

Hyper Reality

The Hyper Reality (HR) project has gone through 3 generations. Little information is available about the first generation. HR's version 2 "Hyper VR" already functioned as a feature ready demonstration. Everything MAD wanted for the product itself has been included, such as loose object tracking; mechanical aspects such as a door that opens when an item is unlocked; and a 1:1 scale room. Now in its third generation, Hyper Reality (HR) is ready for investor presentation. But before that can be answered, what exactly is HR?

It is the next evolution in immersive experiences, build by students from Saxion University of Applied Sciences, utilizing the strengths of Virtual Reality (VR). HR incorporates VR's best features: positional and rotational tracking of the body, head, and audio; eye-tracking for intuitive interactions; and the ability to use Natural User Interface (NUI)s for immersion in virtual worlds. However, where VR falls short in providing believable and consistent NUI feedback, HR excels. It does so by integrating real-life tracked objects into the play area. These objects are then used in the experience to ground the users' experience. HR offers users a more tangible and immersive experience, bridging the gap between virtual and physical realities, and thereby reducing motion sickness.

In HR Version 3 "The Submarine" these features are all again available, however in this iteration with much less costly and complex hardware, bringing down the price of HR to a point where it may become a realistic investment option. Additionally, new features are added; such as multiplayer, tetherless playing and more. Besides the technical improvement, the story between the two generations has changed as well. The latest story, from "The Submarine" is that a new world is opened to the user, where two players assume the roles of researchers in an underwater facility exploring the ocean floor's mysteries. Upon awakening in their lab, they find it in a state of emergency, with a power outage and a repeating intercom message instructing them to override the shutters to asses the situation. Once visibility is restored, the shutters rise, revealing the vast ocean floor and the facility's research equipment. Suddenly, a giant fish monster swims past the lab. It's time to confront the creature. Grab your weapon, enter the lift, and prepare to battle the ferocious beast on the ice caps.

(a) Hyper Reality V3 inside view in VR.

(b) Hyper Reality V3 inside view in real life.

(c) Hyper Reality V3 outside view in VR.

(d) Hyper Reality V3 outside view in real life.
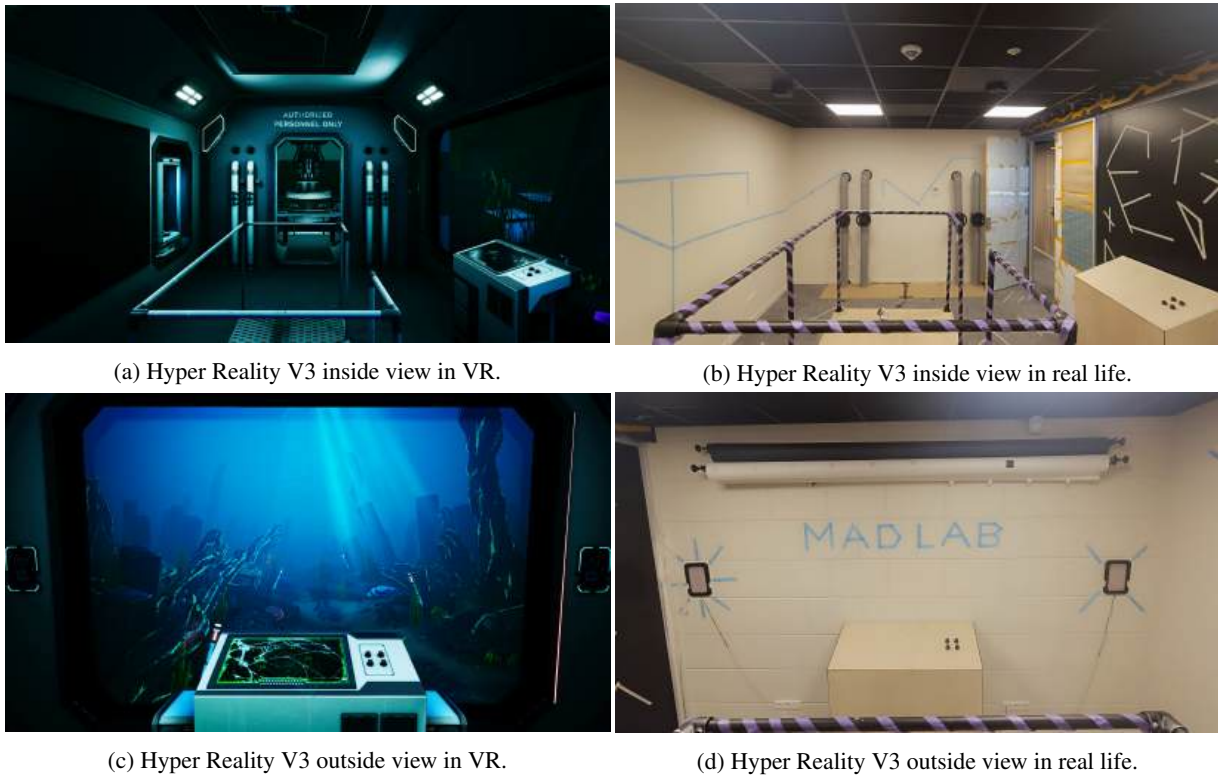
Figure 2: Hyper Reality's VR and real life comparison.

Problem Statement

With the third version of HR, it has become evident to MAD that it is time to launch HR. In a world that is continuously on the verge of a financial collapse, this could prove to be difficult. Therefore MAD wants to be as ready as possible for opportunities that may come their way. MAD will be better prepared to attract and retain investors' attention by researching what materials investors need; when they need them; and how they should be presented. While there are many schools of thought on how to attract investors and what steps to take to attract these people, none are specifically tailored to investments in new forms of media such as HR. To address this gap, this research aims to develop marketing materials tailored to optimize investor engagement for the HR project.

Research Questions

Main research question:

To gain and maintain investor interest in MAD's Hyper Reality (HR) project, what should a prototype investor kit feature?

Sub research questions:

1. How do types of investors differ in terms of financial contributions, non-financial support, investment conditions, objectives, and exit strategies?

2. What key documents should be included in a prototype investor kit during the acquisition phase?

   - How should these documents be designed?
   - What information should be contained in these documents?

3. What is the role of a product prototype/demo in an investor kit?

- What needs to be done for the Hyper Reality (HR) experience to get to a satisfactory result for these investors?

Significance of the Study

This research aims to develop marketing materials tailored to optimize investor engagement for the Hyper Reality project. The research gives the reader new or refined insight into the procurement of investors, all the way from theory to practical implementation and branding. Organizations such as MAD will be able to reduce the stress and workload required to attract investors for their products. Furthermore, this research will contribute to a clearer understanding of how media and technology organizations can strategically approach investor relations, which may lead to more sustainable growth in the long term.

Methodology

The Double Diamond (DD) model is a design framework, commonly used in many design industries such as industrial design, game design, and other industries where iterations are continuously made. The method consists of 4 phases: Discover, Define, Develop, and Deliver. In the Discover phase, the goal is to understand all the relevant problems, their causes and effects. After which the Define phase, where all the data is combined into key issues to tackle. With this defined set of problems, it is possible to enter the Develop phase, where all possible solutions are gathered. These solutions then are tested and refined in the Deliver phase.[5] It is important to state, that people such as Tim Browne, the co-chair at IDEO, note, that:

"It's not an instruction manual on how to design, it's an invitation to get involved" [6]
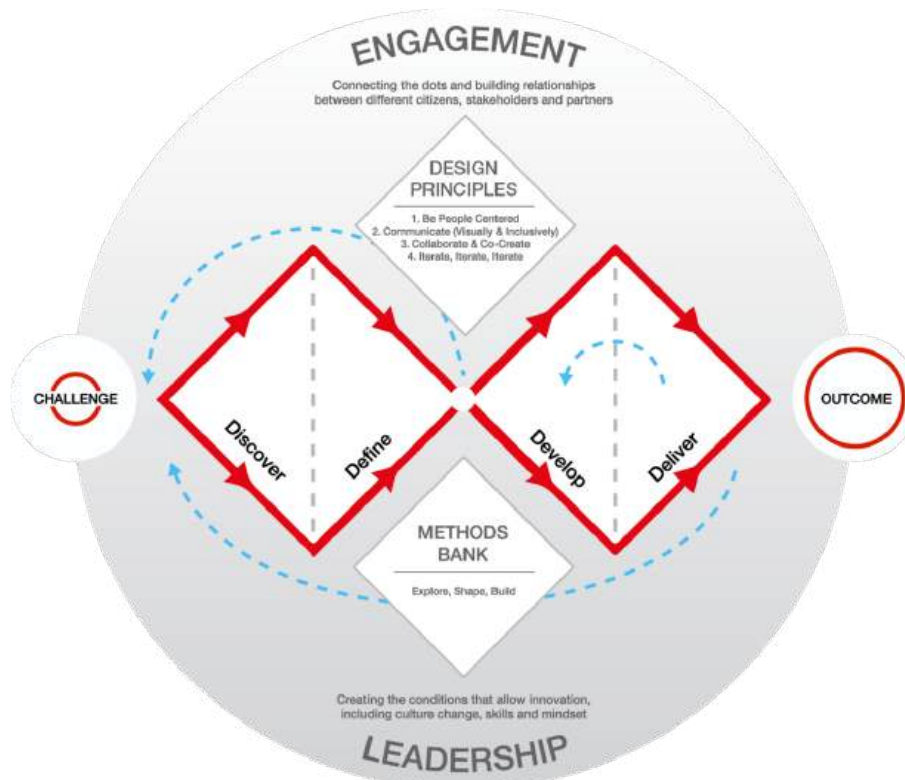
Figure 3: The Double Diamond Model as specified by [5]

Using this model, this research focuses on the first three steps of the model to produce investor-centered solutions. This application method of the Double Diamond, has the advantages of being more thorough in the theoretical, and intellectually challenging segments, as a trade-off to producing fewer and lower quality prototypes.

This research applies the first three phases of the Double Diamond model to address both theoretical and empirical subquestions. To provide clarity, the research divides its approach based on the nature of each subquestion.

Subquestion 1, and 2, will be answered from a theoretical standpoint. Meaning, they will focus on the Discover and Define phases of DD. To do so a comprehensive review of academic literature has been selected using Google Scholar and Consensus. The papers have been selected with a priority of peer-reviewed status, number of times cited, and fitting the chosen search queries such as:

- What are effective strategies to attract angel investors?

- Investor expectations in early-stage startups

- Requirements and metrics in startup pitch decks for investor engagement

- Investor perspectives on executive summaries and pitch decks?

- Key financial metrics valued by early-stage investors?

- Investor expectations for market scalability in media technology

- Effective strategies for attracting investors in media technology

Subsequently the answers from subquestion 2 will be used to develop and deliver a prototype investor kit for MAD's HR project. The final phase of DD will be the focus of subquestion 3. This is possible due to that the first 3 phases of DD have already been performed by a capable team for the HR product. The Develop and Deliver phases for both subquestion 2, and 3, involve creating and administering surveys to a variety of professionals to gauge their reactions. These reactions will then be used to guide multiple other iterations; MAD's focus during pitches, and further investment rounds.

Subquestion 1: Types of investors

When discussing the possibilities with MAD's owners, it became clear that MAD would spin off HR as its own company. This means that HR the company (now referred to as Hyper Reality Company (HRC)) would start without any assets or financial history. (For more information on company structures see: [7])

[8] Found that most investment professionals are male (88%), between 35 and 45 years old, with 11 years of experience as an investor. Their educational background is often business and economics (79%). Finally, there are six main investor types: Banks, Family Office (FO), Business Angel (BA), Venture Capitalist (VC), Banks, Growth Equity Firm (GEF), and Leveraged Buyout (LBO). While all these investors can provide both equity and loan financing, banks typically prefer loan structures over equity deals [9]. The other five primarily invest through equity acquisition in companies of various sizes. Since the HR project has no prior funding, MAD requires investors willing to invest in the so-called SEED stage through stages A, and B. GEFs and LBOs rarely invest in these early stages [8], so for the purpose of this study, they will be excluded. This leaves us with FOs, BAs, VCs, and Banks as potential investment sources.

To clearly compare these sources, the following criteria are established based on [10], [11] [12]:

1. Financial Contribution: The amount and timing of the investor's monetary input across funding stages.

2. Non-Financial Contribution: The investor's additional value beyond financial input, such as expertise or network access.

3. Investment Requirements: Key factors the investor prioritizes when considering an investment.

4. Investment Goals: The investor's objectives for their contribution.

5. Exit Strategy: The investor's expected method for realizing returns on their investment.

Each criterion is assessed on a relative scale compared to other investment types in order.

Financial Contribution

Bankers primarily offer loans rather than equity investments. This approach results in a wide range of loan offerings, from small business loans of €500 [13] to amounts exceeding €3 million [14]. Moreover, banks provide various loan and credit structures, including but not limited to bank guarantees [15], and right of pledge clauses [16].

Family Office (FO)s often invest substantial amounts into companies. PricewaterhouseCoopers International Limited (PwC), which tracks Family Office investment activity, collected data on median deal sizes in USD. In 2022, this figure was $10.1 million across multiple stages (Seed, Series A & B, Series C & D). Out of their sample of 4,736 investments that year, 1,688 (36%) were in the range of $1 to $10 million, and 1384 were in the seed stage. This aligns with the calculated investment requirement for Hyper Reality Company (HRC)'s in [17]. Interestingly PwC also noted that nine out of ten investments from family offices were "club deals," where multiple family offices collaborate to raise the required capital under one banner.

Business Angel (BA)s are typically the smallest investors, often collaborating to raise sufficient capital. According to [18], the average BA investment is around $330,000—well short of HRC's $1.3 million requirement [17], but is primarily done in the seed stage. This financial constraint means the initial BA must tap into their network of fellow investors to collectively meet HRC's funding needs.

Venture Capitalist (VC)s are in terms of funding capabilities closer to FOs than BAs, with similar investment capacities. VCs average an impressive $11.7 million per deal, according to [18]. This is particularly noteworthy given that their behavior is more akin to BAs. Like BAs, VCs invest heavily in seed-stage companies, but they seem to prefer Series A investments over all other stages [18].

Non-Financial Contribution

In addition to financial contributions, investors provide valuable non-financial capital, including knowledge, expertise, and access to their professional networks. Since HRC will have to work for multiple years with these people to make a positive Return On Investment (ROI) It is important to consider what they bring to the table besides their cash.

Bankers   It is often assumed that banks are primarily concerned with financial returns and are more transactional in their approach. The research supports this, as bankers tend to focus heavily on the Return On Investment (ROI), profitability, and creditworthiness of a project (see next subsection). However, they can still provide certain non-financial benefits:

- Financial Expertise: Despite their emphasis on loans and ROI, banks provide deep financial expertise that can assist HRC or MAD in optimizing capital structures, managing risk, and identifying financial instruments that may improve cash flow.

Family Office (FO)   In contrast to bankers, FOs usually do not have collateral covering their investment. This means that a FO is much more involved into the success of HRC. In turn it is in their best interest to help the entrepreneur with developing the business. FOs have a list of capabilities such as:

- Access to Talent: FOs often help in building strong executive teams by leveraging their family bonds to have a seat at the board while providing high-quality educated people.

- Multi-disciplinary specialism: FOs, having multiple people often have experts on specific subjects.

Business Angel (BA)   typically bring a wealth of experience, either from founding companies or serving as high-level professionals in specific industries. Their insights extend beyond mere capital investment, enabling them to influence product strategy, business operations, and scaling efforts. They do this by offering:

- Mentorship: BA have experience they should and want to share, offering insights on coaching management , operational management and monitoring the project.[19] [9]

- Networking Opportunities: Due to their individual involvement into each investment, they build personal and professional relationships quickly. This might give HRC the opportunity to build key partnerships, and find additional investors. [19]

- Operational Knowledge: Due to their industry knowledge, they can and should bring strategic advice on product development [20], marketing, and hiring the development team.

Venture Capitalist (VC)   tend to offer a mix of between BAs and FOs non-financial capital

- Mentorship: Many venture capitalists actively participate in decision-making processes, providing input on growth strategies, market positioning, and competitive analysis. [21]

- Operational Knowledge: They often specialize in certain sectors, which allows them to provide targeted advice based on current market trends, helping HRC stay competitive and innovative.[9]

- Access to Talent: VC often help in building strong executive teams by leveraging their network to recruit top-tier talent, a crucial aspect for scaling the project.

Investment Requirements

Understanding investors' contributions to the project is crucial, but gaining insight into their perspectives is essential for securing long-term support. Frameworks like the Empathy Map emphasize the importance of truly understanding stakeholders. Empathy mapping demonstrates that comprehending a client goes beyond surface-level knowledge, requiring consideration of their thoughts, actions, expressions, and feelings. This section aims to compare investors' needs, similar to how empathy maps visually represent client needs. By gaining insights into our investors' viewpoints, we can:

- Anticipate and proactively address their concerns (subquestion 2)

- Align our project presentation with their specific interests and priorities (subquestions 2 and 3)

- Develop communication strategies that resonate with their decision-making processes. (subquestion 2)

- Identify potential synergies between their expertise and our project's needs (later stage communication).

This deep understanding allows us to tailor our approach. This maximizes the appeal and effectiveness of MAD's project in the eyes of potential investors. By empathizing with investors' feelings, we can create a personalized investment opportunity that aligns with their goals and values, thereby increasing the project's chances of success. Therefore, below, in Table 1 are the factors each investor type mentioned which will allow us to choose what type of investors to tailor to.

Factor/Importance	Actively Avoid	Minimally Favorable	Slightly Favorable	Favorable	Highly Favorable	Must-haves
Collateral						BANK
Leverage					BANK	
Cash Flow					BANK	
Presence of other Family Offices						FO
						FO
Value Added by Product						BA
						VC
Non-financial Value the Investor Brings to the Project						BA
Competent Management Team					FO	BA* VC**
High International Scalability				BA		
Innovation-centered Business Models				VC		
Environmental Threats				BA		
Current Profitability		BA	VC			BANK
Presence of Other Reputable Investors	FO				BA VC	
Lock-in & Save Business Model	BA				FO	

Table 1: What is important to each investor type before considering a deal. Rated on a 6-point*** scale and based on: [9], [8], [22], and [23]
* Specifically the personal match between BA and entrepreneur's personalities.
** Especially the entrepreneur's thorough familiarity with the industry, their leadership capability, and risk evaluation skills.
*** The positioning and wording used in the scale above is intended as a general guide and does not reflect exact numerical research data. Interpretations should be viewed in context and not as definitive scientific measurements.

Investment Goals

In addition to their expectations for the company, each investor type also has specific objectives. Much like their investment criteria, The paper outlines these goals by synthesizing the key points mentioned in the relevant literature in Table 2 below.

Goal/Importance	Irrelevant	Minor Goal	Moderate Goal	Tertiary Goal	Secondary Goal	Primary Goal
Profitability				FO		BANK
Revenue Growth			FO	BA VC	BANK	
Financial Control					BANK	
Company Growth	BANK			VC		BA
Protect and Preserve Assets For Future Generations						FO
Diversification				FO		
Business Influence						BA
Involvement in The Entrepreneurial Process				BA		

Table 2: What are the goals of each investor type. Rated on a 6-point* scale and based on: [9], and [8]
* The positioning and wording used in the scale above is intended as a general guide and does not reflect exact numerical research data. Interpretations should be viewed in context and not as definitive scientific measurements.

Exit Strategy

As the time to exit approaches, investors must consider how they will realize returns on their investment. Each investor type has a distinct exit strategy:

Banks when using debt to finance the expansion of HRC, banks do not exit in the same way as equity investors. Their exit technically occurs once the loan is repaid. However, after repayment, the bank will likely attempt to maintain the relationship with HRC, often by offering new financing options for future growth.

Family Office (FO)s are long-term investors focused on generational wealth preservation. Their strategy may involve not exiting within the same timeframe as other investors. When they do exit, they often seek to sell to strategic buyers, such as the previously mentioned Growth Equity Firms or through Leveraged Buyouts).

Venture Capitalist (VC)s focus on high-growth potential and typically aim for exits within 5-10 years, often through IPOs, mergers, or acquisitions. They look for opportunities to sell their shares at a substantial profit, usually when the business reaches a valuation milestone, often achieving returns of 5-10x their initial investment.

Business Angel (BA)s are smaller investors with limited capital to support later-stage investment rounds, such as Series C or D. As a result, they often exit before these stages, usually by selling their shares to VCs or, in some cases, directly to GEFs or LBOs, capitalizing on the higher valuation achieved by the company.

Conclusion

In conclusion, the objectives and requirements of banks are not aligned with MAD's goals for HRC. This primarily stems from their demand for collateral and secondarily from the limited support they offer to a fledgling company like HRC.

On the other hand, FOs may likely reject HRC due to their aversion to risk and preference for longer-term exits. However, it would be unwise to dismiss an FO outright if one crosses MAD's path, as their networks, insights, and feedback can provide significant value. Additionally, retaining an FO could prove beneficial when HRC seeks to expand internationally, as outlined in [17].

This leaves HRC with two remaining investor types, BAs and VCs. This paper wholeheartedly recommends both of these investor types for HRC. While there are theoretical differences between the two. These distinctions might be too generalized to definitively accept or reject individual investors. Therefore the recommendation is to strategically position HRC's investor kit for both of these investor types.

Subquestion 2: Necessary documents

Now that it is clear who MAD has to target for HRC. The next step is to find what documents these people need to invest in the project.

In all communication, the investors expect that the entrepreneur is clear, transparent and thorough. [24] As partners in business it needs to be clear that the investment is beneficial for all parties; that the data presented is accurate; thoroughly researched; and that the entrepreneur does not keep information to themselves. [24] The documentation MAD provides potential investors is the framework for convincing them that MAD possesses these qualities. This framework consists of 3 or 4 critical documents depending on the investor type. For a BA these are the:

1. Executive Summary

2. Pitch Deck

3. Business Plan

VCs require more information, meaning that the financial projections displayed in most business plans are not enough. To limit the scope of this research, only the executive summary and pitch deck will be defined in this chapter. This is due to the business plan's detailed financial data, in it MAD needs to show their detailed plans. MAD does not have this data yet, hence it is agreed that researching and creating a business plan prototype is outside the scope of this research. MAD will pick this up themselves when the research period has passed.

Executive Summary Research

The executive summary is the first document sent to potential investors [25], acting as a concise way to share the project's main points [26] while not simply summarizing the pitch deck, but directing the reader [27]. It should be just a couple paragraphs [25]. Its purpose is to give investors a clear snapshot of the business, focusing on the problem, the solution, and strategic opportunity [25] (also known as Unique Selling Point (USP)), while including high-level financials and a compelling call to action. For MAD, this document can be leveraged in cold e-mails and as a follow-up after networking events to potentially interested parties.

From the investor's perspective, this summary immediately addresses several of their concerns. BAs will be looking for a well-rounded, competent management team and alignment between their own investment goals and MAD's objectives. VCs, on the other hand, will prioritize evidence of scalability and significant market opportunity. To combine both of these, document with a maximum of 1000 words to allow for readability [28], with a structure such as this is recommended:

1. Problem Statement:

   (a) Clearly define the problem MAD is solving, highlighting its relevance to customers and its market urgency. "Why this document (and the project it represents) matter" [26].

2. Solution Statement:

   (a) Describe the product and its USP. Include the company's overarching goals and how MAD plans to achieve them.

3. Solution's Value:

   (a) Tie the solution back to MAD's goals, explaining the expected outcomes, both financial and social. This can include market penetration, or broader societal impact, and how much money you want for what return [25].

4. Conclusion:

   (a) Reinforce the most critical points, such as the USP, and provide a call to action by directing investors to the full pitch deck or company website for more detailed information.

By structuring the executive summary this way, MAD can effectively communicate its value proposition while addressing the specific interests of BAs and VCs. If this executive summary is positively received by the investors, the next item to be send to these investors is the pitch deck.

Pitch Deck Research

The pitch deck is a visual expansion on the executive summary, offering more detailed insight into the company's potential, business model, and market opportunity. For MAD, it should focus on (inter)national scalability, the Hyper Reality aspect as USP, subject knowledge and financial projections.

A well-structured pitch deck typically spans 7-15 slides, striking a balance between storytelling and data. It includes key elements like the problem the company is solving, the solution, market potential, and financials. [29] Importantly, it visually presents MAD's story, house-style and growth potential. To break it down clearly, below is a walk-through for each section and an explanation how it helps build a strong case for attracting investors.

Title (1 slide)

Capturing your audience is key in every aspect of media, and the first impression of the pitch deck is this key. MAD needs to find a slogan to put on the title slide which captures the audience. [29] In the case of Klima Figure 4, below they immediately showed that their solution was a mobile app, giving an intuitive understanding of the product and allows them to link into the problem and solution.
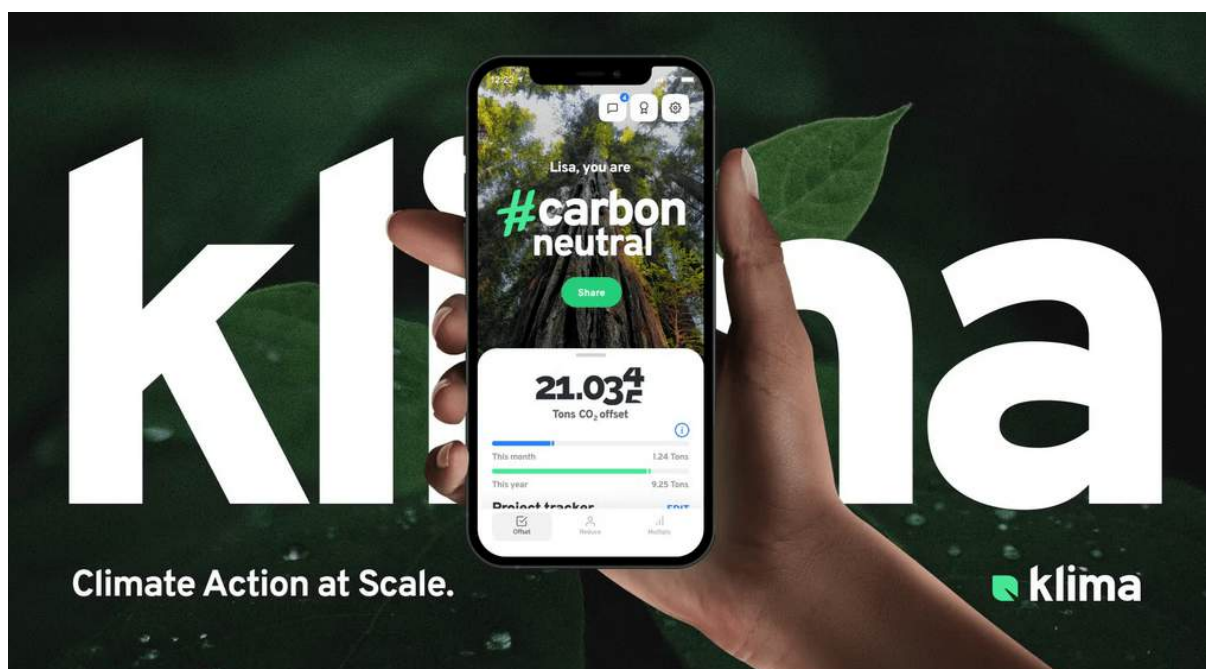
Figure 4: Klima's pitch deck title slide [30]

Problem, Opportunity, and Solution (3+ slides)

These key slides should clearly define the problem MAD is addressing, supported by research and statistics. This is immediately followed by the solution, with an emphasis on its USP. To avoid confusion in the investors, visuals such as product demo video can help the investors create a more intuitive understanding of the product. Alongside this, it is important to immediately address the opportunity, as obvious as it may seem to the entrepreneur, it may just fly over the head of the investor. In the example below in Figure 5a, this is done by defining the market as "Millions want to take action but don't know how". This signifies that there is a considerable market for the company to capture. [31] By doing this in a numerical manner, the entrepreneur also suggest a suitable exit moment for the investors.

(a) Klima problem statement

(b) Klima opportunity statement

(c) Klima solution Slide 1 of 13

(d) Klima solution Slide 2 of 13

Figure 5: Problem, opportunity and solution for Klima's pitch deck [30]

Business Model (2-3 slides)

At this point the investor has likely made a decision whether or not to invest based on the product and personal interaction with MAD. So from this point onward, they start looking for reasons not to invest. In these slides, MAD needs to make sure investors do not get any arguments to not invest, instead make sure that they get locked into the thought of investing in HRC. This is done by showcasing MAD has the business model thought out by showing how HRC will generate profit. This could include revenue streams, pricing models, and customer acquisition strategies. Investors want to see a viable plan for turning the solution into profit. This could be through the earlier mentioned methods, but these are not necessarily the best. In practice they are looking for what most humans are looking for: confirmation. Therefore, showing that users are interested in the gaming aspect of HR should be enough to confirm the profitability of the investment.
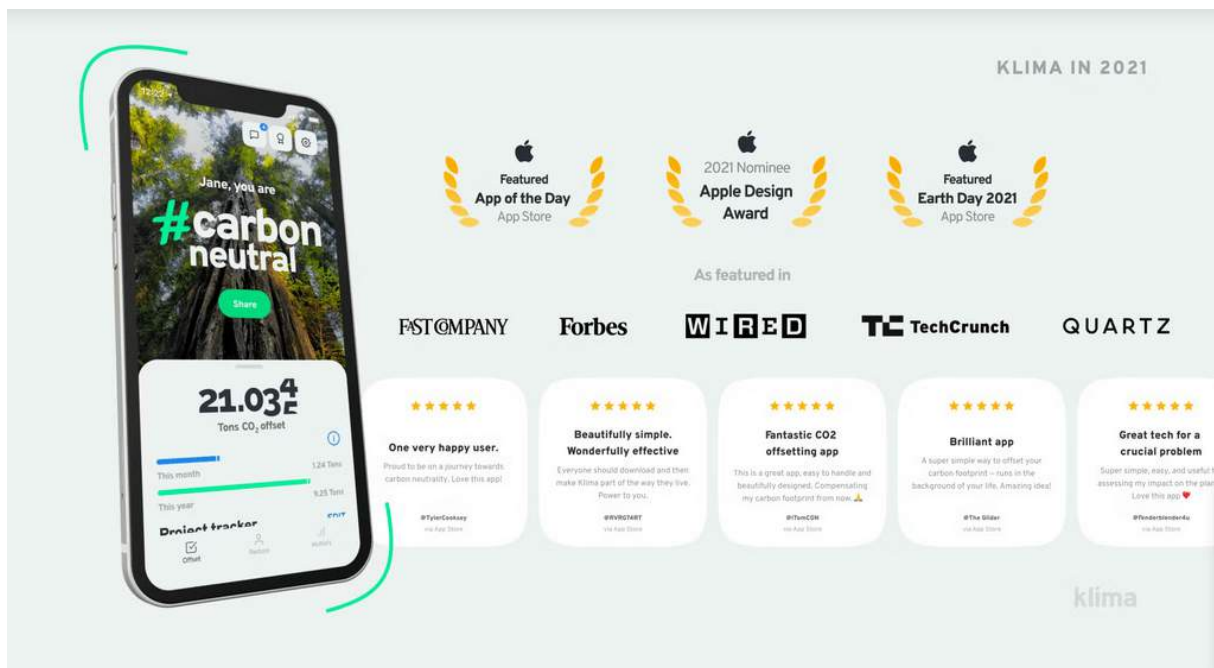

Figure 6: Klima's showcase of business model success [30]

Financial Projections (optional 1 slide)

Out of 15 pitches with successful funding in, [32] 6 showed their financial projections in a high-level manner, which is within the margin half of all the pitches. Therefore, it could be stated that this is not a necessary component to have in all of the pitch decks. In the case of HRC, it would be foolish to use financial projections, as HRC does not have the correct reputable evidence to insert into these slides, nor do the financial projections, made by Saxion University of Applied Sciences students fit within the expected return rates of investors. If HRC does choose to include Financial Projections into their pitch deck, it should contain a high-level overview of revenue forecasts, profit margins, and key financial metrics. It ought to show projections for at least the next 3-5 years to appease both the BA and VC.

Team (1 slide)

The team slide in MAD's pitch deck is critical to winning over investors. It showcases key executives and their ability to lead the company. As described in the previous chapter, this is the single most important aspect for both BAs and VCs. Leadership credibility is tied to a strong understanding of both the market and technology. Unfortunately, MAD's leadership has repeatedly outsourced essential research to students; this may disadvantage them in convincing MAD has this strong understanding. To gain the trust of potential investors, it is therefore advised to MAD's team that they either: A. Bring in individuals with expert knowledge and experience before presenting to investors, or B. Show that the leadership is personally involved and fully understands the key aspects of the business. Without this, they may risk appearing unprepared to meet the rigorous expectations of BAs and VCs. When MAD has done either method they can use Figure 7's great example to fill out their roles within the project.
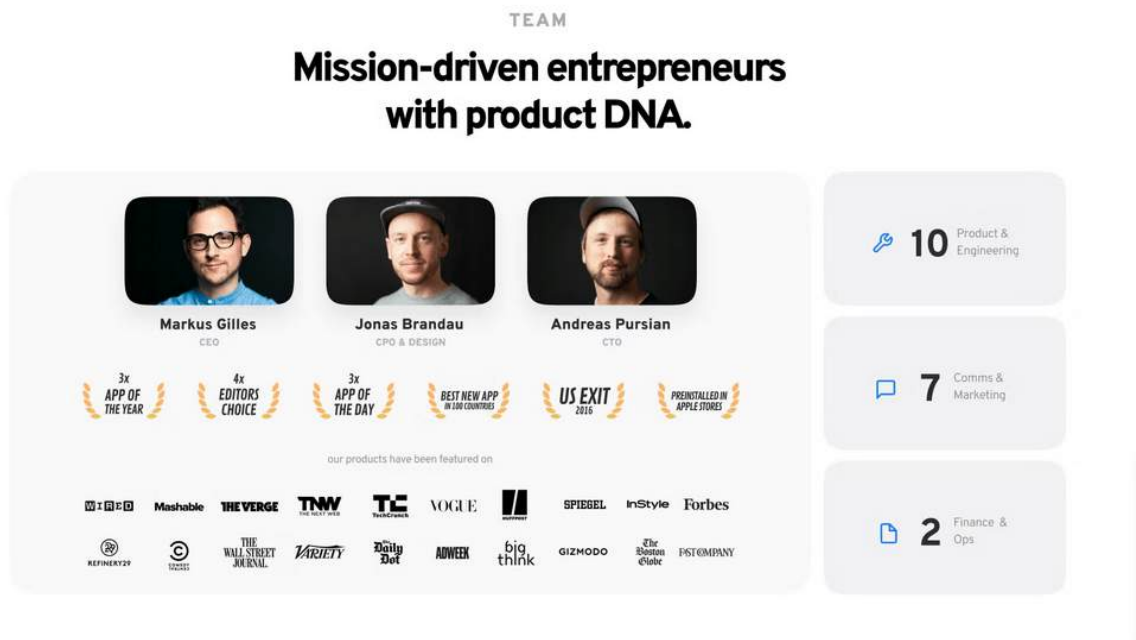
Figure 7: Klima's key team showcase [30]

Call to Action (1 slide)

As the final slide, the Call to Action is MAD's chance to make investors act. It ought to be clear and straightforward, like Klima.com's simple "Join" message in Figure 8. This slide encourages investors to take the next step, whether it's setting up a meeting or learning more. MAD should keep it direct and aligned with the pitch to leave a strong, confident impression.

Figure 8: Klima's Call to Action [30]

Executive Summary Production

As described earlier, AI tools were used to create the executive summary. The executive summary gives a clear and brief overview of the project, highlighting the problem, the solution, and the strategic opportunity. Rather than just summarizing the pitch deck, it directs the reader's attention to the key points. Using AI, the development process was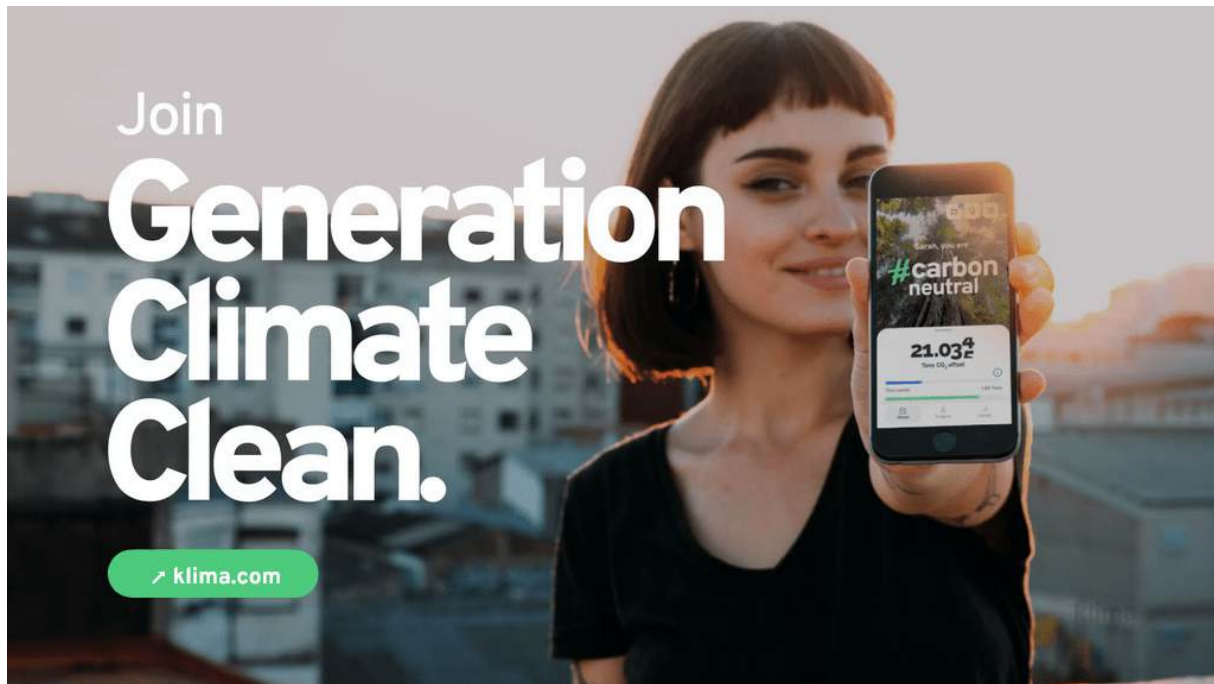 made more efficient; helped keep the document within the recommended 1000-word limit; and helped organize the information in a way that addresses investors' concerns. For complete transparency, the entire CHATGPT 4o log is available as Appendix 6.

Development

Final: The Hyper Reality project is an innovative VR experience that combines physical and virtual spaces, creating an immersive and interactive environment. Developed by students interning at StudioMAD, the project aims to deliver a cutting-edge Virtual Reality (VR) experience while keeping costs significantly lower than other VR solutions. We achieve this by using affordable hardware without compromising the quality of the experience, offering a better solution than traditional, expensive hardware.

The most distinctive feature of this system is that players can physically interact with objects in the game that also exist in real life, adding a new layer of immersion unmatched by any other system. The multiplayer option further enhances engagement by allowing users to share the experience with others, integrating it into a wine-and-dine facility.

Hyper Reality has the potential to revolutionize the VR industry with its innovative approach. While it is still in its early stages, the project demonstrates significant promise, presenting an exciting opportunity for investors to support a groundbreaking venture.

Pitch Deck Production

As mentioned in earlier sections and chapters, the pitch deck is an important instrument for acquiring investors. Using the insights obtained in previous chapters, it is possible to create an investor-focused pitch deck in just two revisions. These variants will be reviewed in two separate test cycles. The first iteration incorporates feedback from design and art professionals, whose feedback ensures that the styling is unified and visually appealing. The second stage focuses on financial professionals as substitutes for investors, who will review the quality and usefulness of the supplied information.

Iteration 1 Development

The creation of this pitch deck began with a request for all art assets from MAD's branding collection. Unfortunately, this request was denied. Instead, the design process was directed to use the website [4] and the document "Hyper Reality Presentatie.pdf". Unfortunately, the provided document was several years old and no longer applicable to the current product. As a result, the decision was made to start over, using only the font and HR logo text from the sources. In addition, a close to original colorpalette. To start, a set of backgrounds was created using Microsoft Designer which utilizes the "DALL.E 3" model. [33]
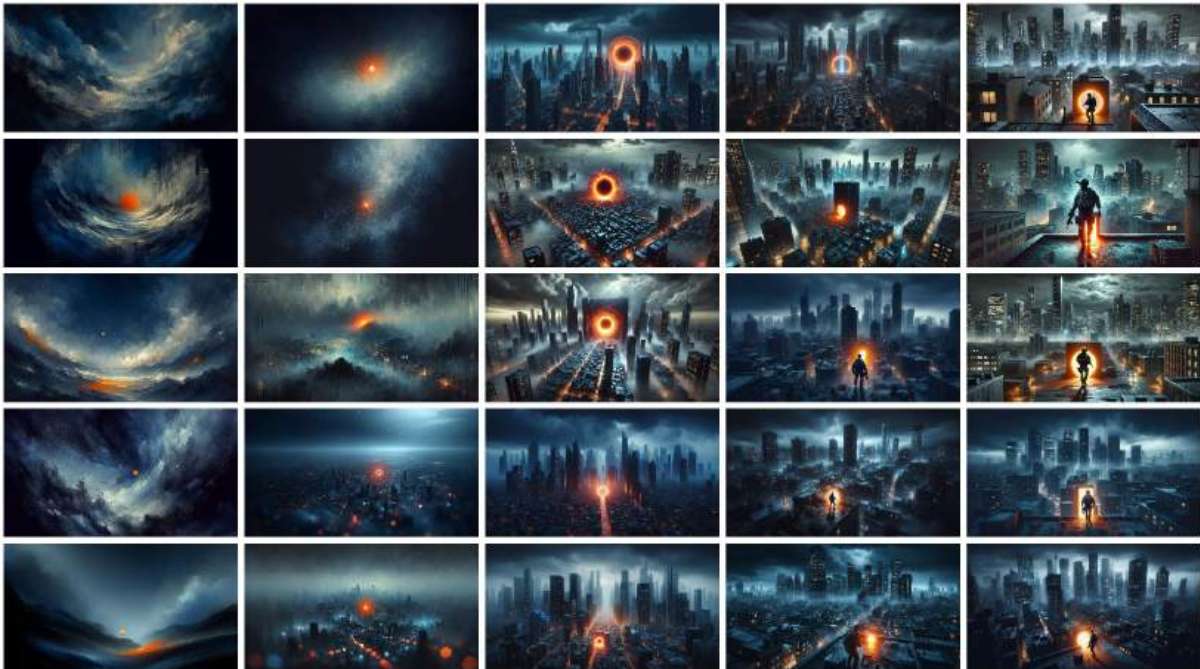
Figure 9: AI generated backgrounds
Created with the prompt: "A hyperrealistic dark, blue, and gray cityscape at night, with towering skyscrapers and dimly lit streets. The sky is overcast with heavy clouds, casting a gloomy atmosphere over the city. In the center of the scene, a man dressed in airsoft gear stepping into the portal"

These images were then edited by adding transparent layers to create less detailed, darker, and more suitable backgrounds for the deck resulting in Figure 10.

Figure 10: Backgrounds Editing - Process

The first slide is centered on the core brand. The HR logo is prominently displayed against the background, accompanied by a new slogan. The use of white text for general items to contrast against the background was deliberate, with key highlights using the same orange hue as the portal. This combination ensures that when investors quickly scan the slides, their attention is drawn to the highlighted words, emphasizing key points.
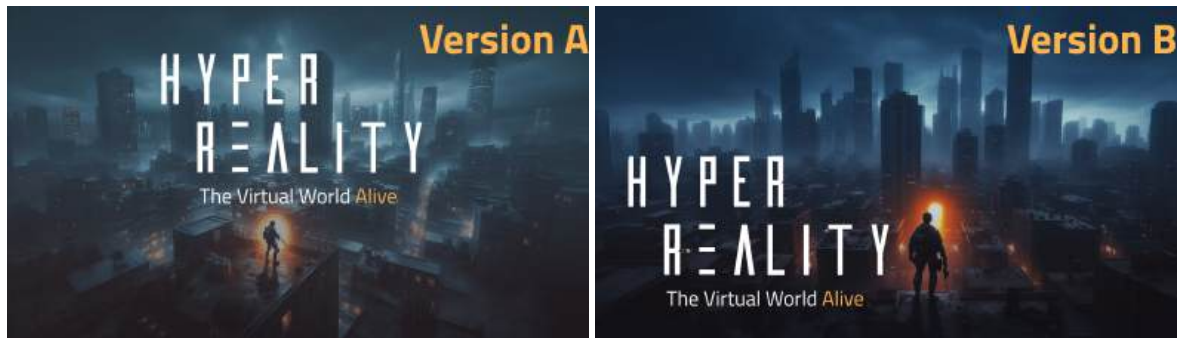
Figure 11: Pitch Deck Iteration 1 - Title Screen Options A/B

The second slide shows the problem statement, which answers the critical question: Why should the investor care? It addresses the shortcomings of existing solutions, which are either financially unsustainable or provide gimmicky, artificial feedback to users. These flaws limit the technology's ability to reach a large market.

Figure 12: Pitch Deck Iteration 1 - Problem Statement A/B/C

The third slide presents the opportunity. A new image was chosen and processed to match the existing color palette and placement scheme, ensuring visual cohesion. The goal of using this new image is to show not only the soldier, but also their wives and children, which must subconsciously demonstrate that there is a market for them as well. Aside from this, the inverses of the identified problems are presented. For example, instead of using

26

terms like "costly" or "complex," the slide emphasizes attributes like "scalability" and "cost-effectiveness." This reframes the narrative and highlights the value of HR.
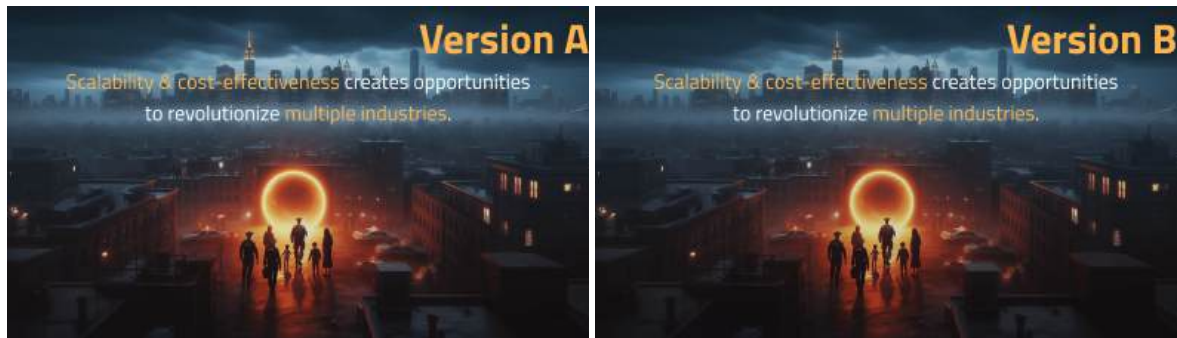

Figure 13: Pitch Deck Iteration 1 - Opportunity - A/B

The deck becomes a little more difficult to design as the fourth slide moves on to the solution. Here, the difficulty is in explaining the product's benefits in a way that even investors who are not tech-savvy can grasp. To do this, the solution is split into three distinct sections that mirror the UX; Entry, Immerse, and Debrief. it starts with Entry, where people arrive at the facility; get their headset fitted; and enter their stasis tubes. Then during the "Immerse" phase, the HR portion of the experience, which involves overcoming monsters and solving puzzles. Lastly the "Debrief" phase concludes with a chance for players to network, eat a snack, and discuss their experiences.

Figure 14: Pitch Deck Iteration 1 - Solution - A/B/C/D

The fifth section illustrates the business model using data from "Hyper Reality Presentatie.pdf". However, as previously stated, this information is significantly outdated. Recalculating these figures is beyond the scope of this paper, so the original, incorrect numbers are presented as a placeholder. To create some resemblance of accuracy, up-to-date data on market expectations have been incorporated from [34], [35], [36], [37], [38], [39] and [40] providing a more accurate context for understanding the potential of the business model.
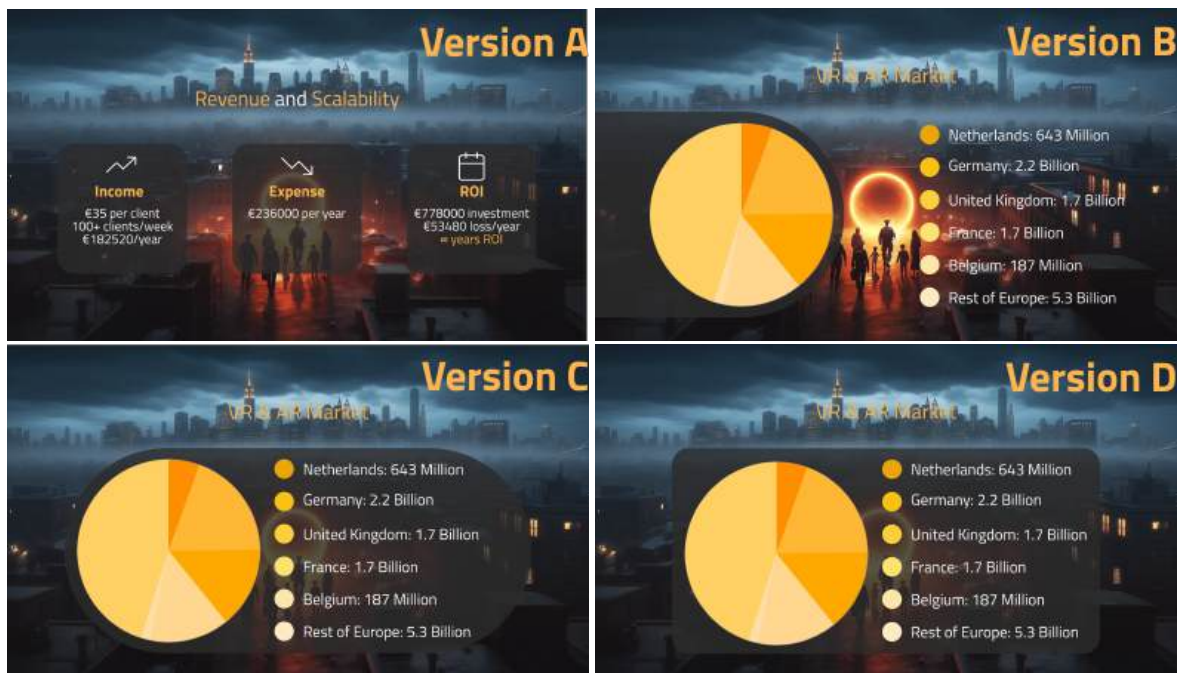
Figure 15: Pitch Deck Iteration 1 - Business Model - A/B/C/D

The pitch deck's sixth, and second to last section focuses on the project's team. This slide posed significant challenges during the design process because of its disproportionate importance to investors. As previous chapters have shown, the team is frequently the most important factor that investors consider when deciding whether to fund a project. However, the situation in Hyper Reality is more complex. A team of students created the product, development, marketing materials, technological research, financial analyses, and other essential components, but they are not officially affiliated with MAD. Instead, MAD delegated nearly all aspects of the project's development to students. As a result, featuring MAD's internal team on this slide would be misleading to investors, given their limited involvement in the project. At the same time, representing the students as a team would be equally inaccurate, as they were never officially employed by MAD. This ambiguity reveals a significant misalignment between the project's execution and MAD's representation, raising questions about how to authentically portray the HR team while meeting investor expectations. As a result, it was decided to simply show noone in particular by featuring MAD employees who were not involved in any capacity as placeholders. This approach used MAD's existing photo style for consistency while ensuring that credit was not improperly given.

Figure 16: Pitch Deck Iteration 1 - Team - A/B/C

The pitch deck's seventh and final section is a straightforward call to action that aims to leave a lasting impression on potential investors. It prominently features the logo, reinforcing brand recognition, as well as a variation of the slogan designed to encourage engagement. The "Join" call-to-action was chosen for its simplicity and effectiveness in encouraging investors to take the next step in exploring the HR opportunity. By keeping the design simple and the message direct, this slide ensures a strong and memorable conclusion to the pitch deck, which aligns with the overall goal of attracting investor interest.

Figure 17: Pitch Deck Iteration 1 - Call to Action - A/B/C

Iteration 1 Testing

The initial pitch deck was tested with feedback from the following design and art professionals:

- Jan Sterk

- Wouter De Vries

- Valeria Palanciuc

- Maik Rehorst

- Wouter Meermans

- Stephanie Extercatte

- Brynn Rothuis

- Wessel Busscher

Where applicable, an A-B testing strategy was used, presenting various versions of the same slide for comparison. Participants were asked to identify their preferences and explain why. In cases where A-B testing was not appropriate, only qualitative questions were asked to gather feedback. For a full review of the tests performed, "Pitch Deck Design Feedback Survey" contains the entire survey, including all responses.

The feedback gathered per slide is:

Title: Version B was preferred for its natural eye movement between text and background. However, its bottom-heavy design felt cluttered, and the absence of a clear focal point made the title less visible. Version A was praised for its central title, which provided an immediate focal point, as well as its portal background, which drew the viewer in.

Problem: Version B was prefered because of its readability, with white and orange text placed in the darkest part of the image, resulting in strong contrast. Reviewers also liked the framing, which effectively drew attention to the content. However, some people thought the background was visually busy, recommending a greyscale or blur adjustment for simplicity.

Opportunity: Version B was preferred because of its darker background, which gave it a cyberpunk feel and better suited the futuristic theme. Reviewers suggested that improving text readability could increase focus on the content. However, some feedback indicated difficulty distinguishing between the versions, with readability issues persisting in both.

Solution: The feedback here was divided between Version B and C. Version B was prefered due to its clean layout and bottom-level navigation, which felt less distracting than version A and C. Version C was praised for while minimising clutter. However, the icons in both versions were unclear without accompanying text, reducing their usefulness as progress indicators.

Business Model: Version A received overwhelming support for its clarity and ability to convey information. Reviewers noted that Version A had specific numbers and clear language, making it easier to understand than other versions, which lacked detail and relevance. As mentioned earlier this was a design choice to hide the negative Return On Investment (ROI). Some reviewers also suggested making the "VR & AR Market" label more readable.

Team: Version A was chosen for the larger images and text, which made it visually clear and accessible. However, some people suggested that the title be made more readable for the next iteration.

Call to Action: Lastly here version C was chosen, it has the same background as used in the beginning slides and has a relatively aggressive join message.

Other Remarks: Reviewers found the pitch deck to be visually appealing, with a good style and color scheme. Aside from that, text readability needed to improve.

Iteration 2 Development

The design process for Version 2 concentrated on incorporating reviewer suggestions while improving the overall deck and consistency between slides.

Title: The central alignment from Version A was used, along with a bolder font to improve readability against the city background, to improve readability. Resulting in Figure 18.

Figure 18: Pitch Deck Iteration 2 - Title

Problem: To reduce visual busyness, the background was given a subtle 4-point blur. Also the text was made semi-bold to increase clarity and impact. Resulting in Figure 19.
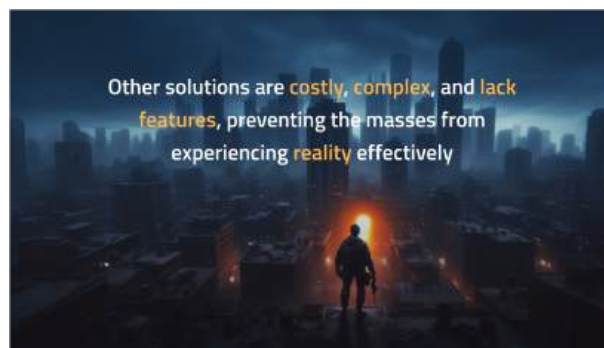

Figure 19: Pitch Deck Iteration 2 - Problem

Opportunity: The opportunity slide retained Version B's darker tone but received a slight blue colour correction to better match the theme. Reviewers' concerns about readability were addressed by adjusting text placement and contrast. Resulting in Figure 20.

Figure 20: Pitch Deck Iteration 2 - Opportunity

Solution: The solution slides presented a unique challenge. While the bottom navigation was popular, its unconventional placement as headers contradicted common expectations. To ensure consistency throughout the deck, Version A was chosen, with updated backgrounds and text adjustments. Resulting in Figure 21.

(a) Pitch Deck Iteration 2 - Solution Into

(b) Pitch Deck Iteration 2 - Solution Entry

(c) Pitch Deck Iteration 2 - Solution Immerse

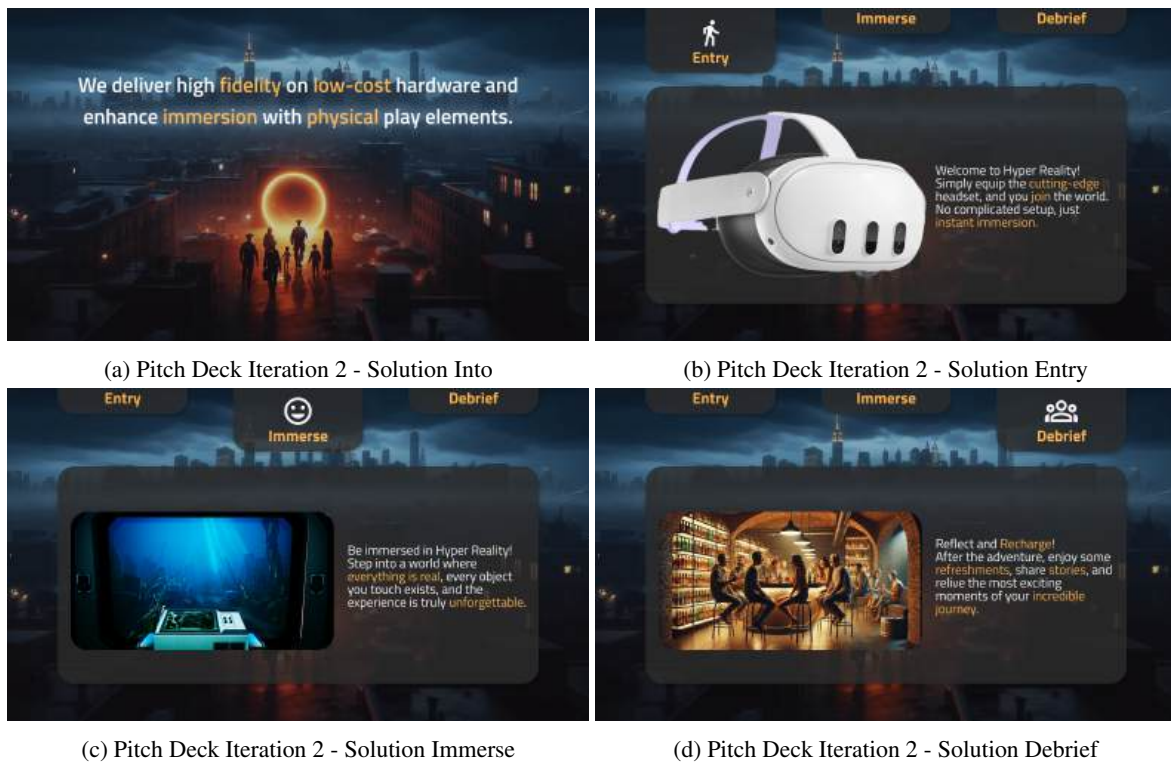(d) Pitch Deck Iteration 2 - Solution Debrief

Figure 21: Pitch Deck Iteration 2 - Solution

Business Model: The clear and detailed Version A of the business model slide was enhanced by improving label readability, such as for "VR & AR Market," and ensuring graphs were properly aligned with data. Resulting in Figure 22.

Figure 22: Pitch Deck Iteration 2 - Business Model

Team: This maintained Version A's large portraits. However, the title, which position deviated significantly from the other slides, was completely removed, allowing the content to stand alone. Resulting in Figure 23.
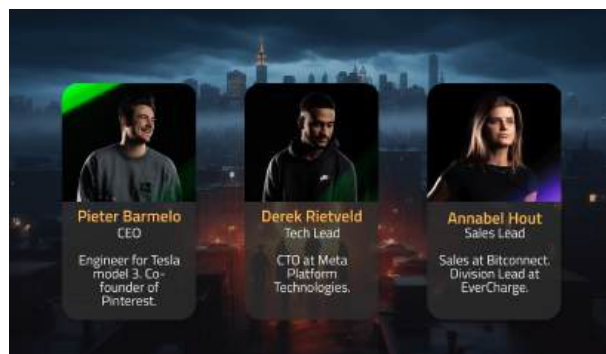

Figure 23: Pitch Deck Iteration 2 - Team

Call to Action: Finally, the call to action slide only received the darker background for consistency with the other slides. Resulting in Figure 24.

Figure 24: Pitch Deck Iteration 2 - Call to Action

Conclusion: Version 2 shows an open response to feedback, acknowledging the fact that 2D design is not everyone's strong suit. The goals from gathering feedback on the design have been successfully completed.

Iteration 2 Testing

The second iteration of the pitch deck was tested by financial specialists as substitutes for investors. The specialists were sources through a personal network, but were instructed to not hold back their feedback. The objective

was to determine whether the financial data was understandable and up to investor standards. Feedback on the completeness, relevance, and clarity of the financial data was gathered through a survey similarly to "the design survey" and visible as "Pitch Deck Finance Feedback Survey".

The feedback was very beneficial with some useful suggestions such as including risk analyses. Summarizing the findings in the survey are as follows:

- A risk analysis is wanted.

- Every reviewer said investing in this was not a good business choice

- Information clarity was sufficient.

- The pitch deck grabbed their attention enough.

Due to time and information constraints it was not possible to implement a risk analysis into a third iteration of the pitch deck.

In conclusion, the process reaffirmed the significance of striking a balance between taking the investors into a story as well as showing them hard financial data. Even though the input from financial experts was useful more specialized input and a more proficient 2D designer could be advantageous for subsequent iterations.

Summary

The pitch deck was created to effectively communicate StudioMAD's Hyper Reality project to potential investors while staying consistent with MAD's branding for HR and meeting investor expectations. With limited access to MAD's full branding assets, key elements were chosen based on availability and matching to the original concept. Artificial Intelligence-generated imagery was used to significantly speed up the design process, and the signature orange was used to create visually appealing slides that emphasised key points.

The content structure was informed by previous chapters' research on investor preferences and pitch deck design. The slides were designed to tell a compelling story, beginning with the problem and opportunity and progressing to the solution, metrics, team, and projected results. This ensures clarity and addresses investor concerns like scalability, market potential, and team credibility.

The pitch deck went through two rounds of testing. The first round of visual design feedback from art professionals resulted in layout and readability improvements. The second round, which focused on content, saw financial professionals rate the completeness of information, resulting in improved data presentation opportunities.

This iterative process ensured that the pitch deck combines visual appeal, branding consistency, and investor-focused content, resulting in a compelling and professional tool for MAD's investor outreach.

Subquestion 3: Product prototype

Old Prototype

This section highlights the prototype developed for MAD prior to the research period. This prototype had several significant changes and issues made to it, including but not limited to:

- An engine upgrade from Unreal Engine Version 5.4.2-v67 to Unreal Engine Version 5.4.3-v68 caused compatibility issues.

- Tracking inconsistencies led to headset drift within the Virtual Reality environment as seen in Figure 25b.

- Graphics glitches such as in Figure 25a.

- Sensors only registered input in one direction, making certain minigames excessively difficult.

- Sensors lacked a "safe" zone and instead required a singular "safe" value, further increasing the difficulty of completing minigames.

- The absence of ambient audio reducing immersion.

- Machines in the room produced no sound during interactions.

- There was no in-game guidance, requiring a gamemaster to assist players throughout the experience.

- Multiple other game-breaking bugs.

These and many other issues significantly hindered the usability and player experience of the prototype, underscoring the need for further refinement during the research period.

(a) Graphics glitches & players passing through each other. (b) Improper hand tracking.

Figure 25: Before research period state of Hyper Reality (HR) project.

New Prototype

Development

Working together with Wessel Busscher, the new Hyper Reality prototype was developed with the goal of creating a final working demo for the potential investors. To do this a split was decided, where Wessel Busscher took the expert role in the more complex technical facets of VR. He ensured that the system's specific technical requirements

were satisfied by addressing the unique challenges of VR development. Traditional game design components, which in this instance also required a great deal of technical know-how, are what will be talked about in this paper. The project's multiplayer component, along with the incorporation of hardware and server-based interactions, made the design process more intricate. The product of this collaboration is a prototype that successfully struck a acceptable levels of technical stability and innovative gameplay.

This section first demonstrates the added sound design and integration, including specialization and intricacies with the multiplayer aspect. Second it will show some interesting improvements in the Hyper aspect of Hyper Reality (HR). Lastly a short section on improving the startup process for when developers are not available.

Audio: Audio development involved a combination of implementation, creation, and engineering. Starting with the engineering challenges, it is important to note that this prototype does not rely on a single audio device. Instead, it involves two headsets and a server, where events triggered in one headset always route through the server to affect the other headset, as illustrated in Figure 26.
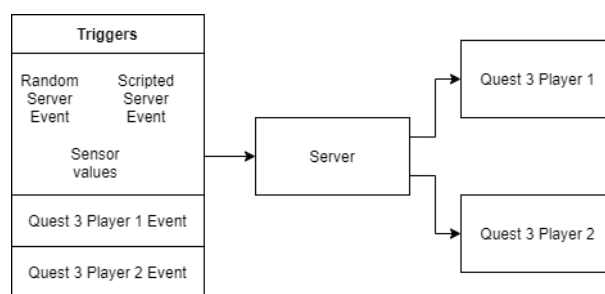

Figure 26: Audio flowchart illustrating the communication between all devices

This setup introduces significant challenges in timing audio, particularly because the headsets' built-in speakers serve as the output devices (Figure 27). With multiple sets of speakers in the same room, spatial audio must account for the players' positions relative to each other. Sound travels at approximately 343 m/s, and human hearing can localize sound with an accuracy ranging from 1-2 degrees [41] to 20 degrees [42], depending on the test methodology and other factors.

Figure 27: Speaker placement on the Meta Quest 3

Additionally, routing all data through the server via WiFi introduces latency, potentially causing the perceived location of audio to differ from its actual source. To address these challenges, a central control system using Unreal Engine Blueprint (Figure 28) was implemented and deployed on all devices in the chain.
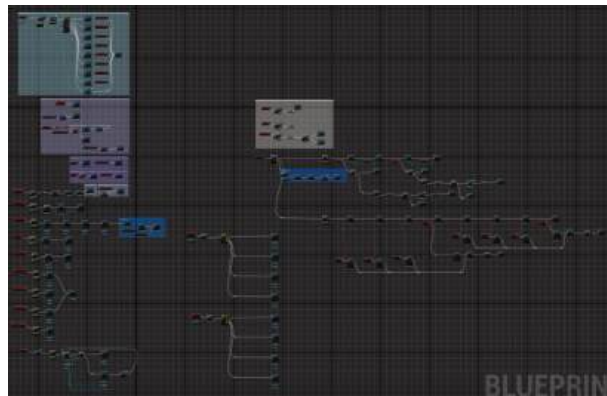
Figure 28: Room Controller BP

This Blueprint effectively bypasses an additional step in the audio trigger chain, helping to synchronize audio playback between players. This synchronization is particularly crucial for server-triggered audio, which accounts for the majority of interactions.

From there, the process involved implementing all the sounds created during the IMTS project, and designing new ones, such as the generator startup sound. Examples of how the SFX are made in UE BPs is shown in Figure 29.

(a) SFX Generator cycle.
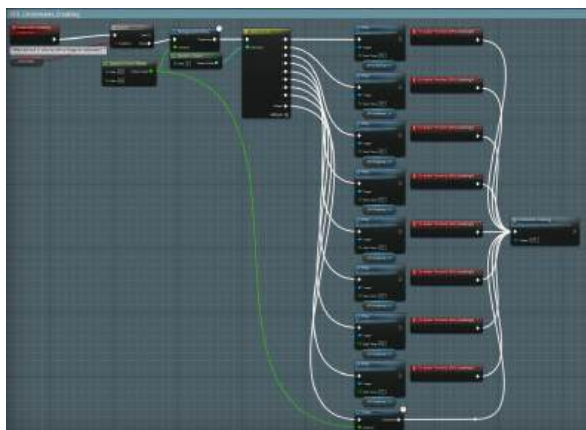
(b) SFX Underwater Creaking cycle.

(c) SFX InitialAlarm cycle.

(d) SFX Shutters effect.

Figure 29: Examples images of SFX implementation.

Specialization has been done in UE's own audio engine. This was done to avoid creating bugs by using a plugin in the already very experimental project. This resulted in static audio sources placed around the scene as in Figure 30.

Figure 30: Spacial audio bubbles in UE

To wrap up, the audio implementation for HR was a rewarding task, requiring creative solutions to complex technical issues like latency and spatial accuracy. But rewarding in the sense that there was a product that worked as intended.

Hyper: There are several steps in the communication flow from the sensors to the headsets Figure 31, where each one adds latency. Motion sickness issues and a sense of detachment between the virtual and physical worlds could result from this [43]. A number of strategies were taken into consideration in order to reduce these effects. The obvious solution was to reduce latency in each step, but this had already been covered in a prior Saxion course. Rather, the emphasis shifted to improving the accuracy of transmitted data and increasing the frequency of server updates.
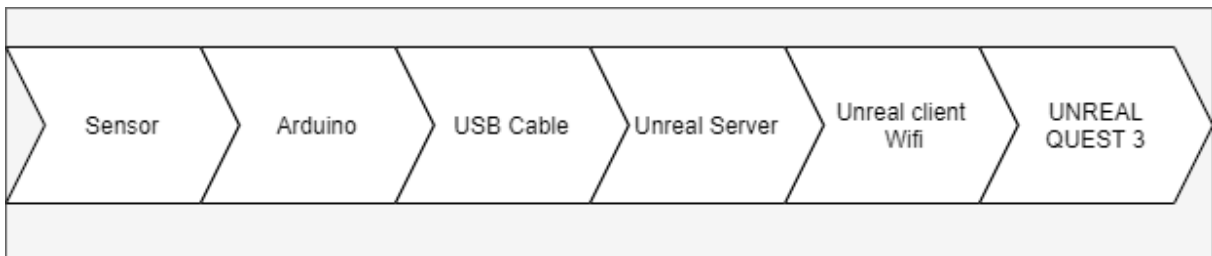

Figure 31: Data flow from sensors to Meta Quest 3 headsets.

Just six extra bits were added at the beginning of the process, increasing the data capacity from 1,024 to over 65,000 values. By removing the need for interpolation in Unreal, this modification not only increased accuracy but also successfully decreased latency by one frame (10–16 ms, depending on the scenario) without causing an

increase in transmission delay. Although players might not notice this improvement right away, cutting down on needless latency guarantees a more fluid and accurate experience, which is essential for preserving the system's overall quality.
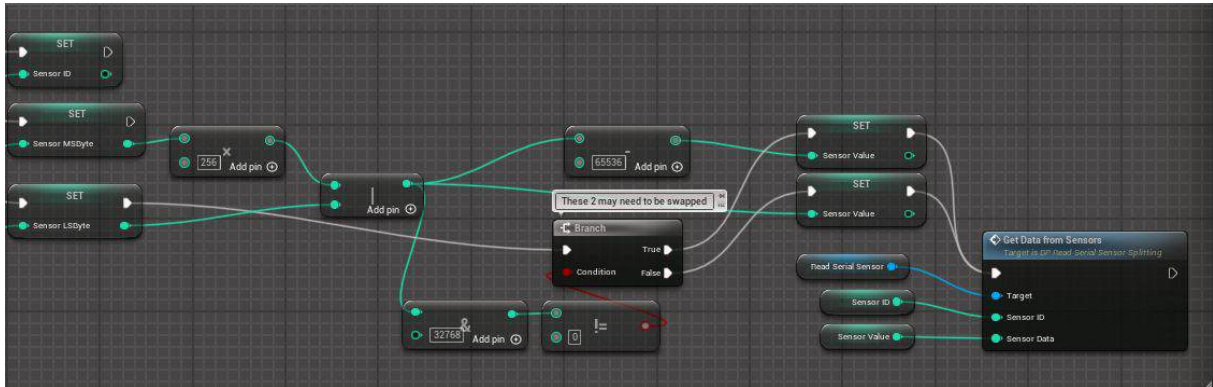

Figure 32: UE BP math for positive and negative values

Then When all the minigames are completed and it is time to start the lift, a value is written to the microcontroller Figure 34.

Figure 33: Simple call mechanism to trigger lift action

This starts the lift movement routine that is hardcoded Figure 34. This method might appear straightforward and dismissing to all coding conventions, but it was chosen for reasons other than merely cutting engineering expenses. The fire risk posed by the lift's absence of overvoltage, overcurrent, and short circuit protection was a crucial factor. The "up" and "down" pins can never be turned on simultaneously thanks to the lift sequence being hardcoded into the Arduino. This reduces the possibility of electrical problems and ensures safe operation.

Figure 34: Lift controller code

Startup: Lastly, significant improvements were made to the startup procedure to streamline the process. While the previous method was not overly complex, it required prior experience and involved multiple steps or a long

startup time. That long method was to unplug the server from the wall and reconnect it, which forced a full restart of the Windows machine and everything connected to it. This restart was necessary because the microcontroller needed to reset its sensor values and the UE application needed to restart. This second one was quite easy with a simple batch file, but Windows does not allow USB ports to be fully powered off through the commandline to facilitate the microcontroller reset.

To address this, a solution was bodged where a Windows batch file sends a raw letter "c" to the microcontroller. The microcontroller interprets this as a signal to write to its shutdown register, triggering a reset [44]. Then Windows flushes the read and write buffer of this letter. Lastly, instead of requiring the operator to perform these tasks manually (including starting the Unreal server) all steps were consolidated into a single batch file. This improvement simplifies the startup process to two clicks and can be seen in Figure 35.

```
@echo off

echo Closing all COM port sessions...

:: Flush COM ports (1 to 255)
for /l %%i in (1,1,255) do (
    if %%i GEQ 10 (
        set "COMPORT=\\.\COM%%1"
    ) else (
        set "COMPORT=COM%%1"
    )

    :: Use delayed expansion to properly resolve COMPORT variable
    setlocal enabledelayedexpansion
    echo Attempting to flush !COMPORT!...
    mode !COMPORT! baud=115200 parity=N data=8 stop=1 >nul 2>&1

    if not errorlevel 1 (
        echo !COMPORT! is available. Sending %VALUE%...
        echo|set /p=c > !COMPORT!
        echo !COMPORT! flushed and restarted.
    ) else (
        echo !COMPORT! not available or skipped.
    )
    endlocal
)

:: Start the HyperRealism_VRServer.exe application
echo Starting the VR Server...
cd "C:\Users\100FatHyperReality\Desktop\HyperRealityserver\WindowsServer"
start "" .\HyperRealism_VRServer.exe -log

echo All tasks completed.
echo The window will close in 1 minute...
timeout /t 60 >nul
exit
```

Figure 35: Start sequence for entire server-side HR experience.

Testing

Participants were chosen based on if they had to have never played the experience before and availability. The finished product was tested via a survey and approximately half of experiences were filmed by the administrator. This guaranteed that the feedback was objective and came from people who had no prior knowledge of the minigames or objectives.

The Players were taken into the demo room to start testing, and were given the directive to start the experience by pressing the UE logo and that they have to work together. They were then encouraged to play on their own after that. The administrator stayed in the room to help players only if they got stuck, similar to the monitoring strategy used in escape rooms. This arrangement preserved the experience's flow while permitting natural interactions.

Participants their responses made it immediately clear that they had a great time playing the game, as evidenced by their vocal expressions of excitement and enthusiasm. But it also became clear that most players were confused about what to do next while playing. "What do I need to do now?" and similar phrases were heard, both amongst players and directed at the test administrator. This feedback made it clear that the experience needed more precise instructions. Something interesting to note is that even though these phrases were uttered, when asked in the survey everyone rated the guidance at least a 4 out of 7. Figure 36
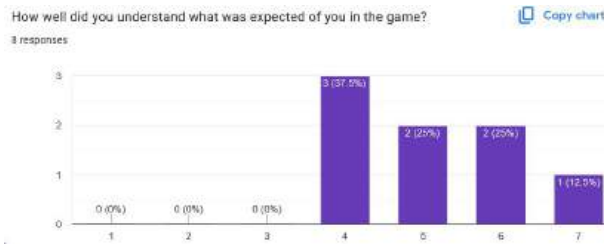
Figure 36: How well did you understand what was expected of you in the game?

Other interesting findings from testing can be summed up as:

- Voiceover instructions worked well but proved unreliable unless they continuously repeated until the task was completed.

- Standard game design elements, like flashing lights to indicate points of interest, were helpful but insufficient on their own.

- Cooperative minigames where players couldn't see the effects of their actions and had to rely on their partner's feedback were found to be overly confusing.

- Clear labeling is essential for all items. For example, the lift in the demo lacked recognizable features, leaving players to assume it was the next step simply because it was the only unused object.

- Sensors needed to be appropriately sensitive. EG: handscanners need little force, while valves need to resist turning.

- Players wanted to explore for themselves, not having an experienced player with them.

- Nearly all players mentioned in the survey that they felt somewhat unsafe even with Wessel Busscher his improvements to accuracy. Some of these mentioned hitting their guns on the roof when in the lift.

Summary

To sum it up, the creation of the new Hyper Reality prototype addressed major technical and design flaws and represented a significant improvement over its predecessor. A more polished experience was achieved by working together to find solutions for issues like user guidance, data latency, and audio feedback. High levels of user enthusiasm were found during testing, but it also revealed areas that needed improvement, like improved safety features and clearer instructions. All things considered, the prototype serves as a strong basis for investor demonstration, demonstrating both creative design and technical feasibility.

Final Products Summary

This section serves as a short recap for the final products created.

Investor Research:

Investor research has been the theoretical section, creating understanding for a previously foreign target audience. It is now clear that to convince them a short list of requirements is needed. In the case of Venture Capitalist (VC)'s and Business Angel (BA)'s these are:

- A value added to society with the product.

- A non-financial way the BA can add to the project.

- A competent management team with expert knowledge on the product's subject, audience, and technical limitations.

- A plan for significant company growth.

- Influence into the business and entrepreneurial process.

Executive Summary:

Pitch Deck:

The pitch deck has been a primairly practical section created to serve as a framework for MAD to add their missing financial sections to.

Figure 37: Entire pitch deck

Hyper Reality (HR) Demo:

The Hyper Reality demo has been massively improved, to the point where it is ready to be shown to potential investors. Players and administrators now have a simplified startup of the Meta Quest 3 headsets and game, which are set up in a simplified manner. When they get into the game, they are greeted with spatial audio, and improved physical haptics all to improve the immersive experience.This created a very good demo experience for MAD's purposes: [Youtube showcase of Hyper Reality Demo](https://).

Discussion

The difficulties of coordinating state-of-the-art technology with realistic market demands were brought to light by this project. Ascertaining hardware compatibility and controlling investor expectations under strict time constraints were among the problems that surfaced, even though others, like device communication and particular game design difficulties, were successfully fixed. A fully Unreal Engine-based audio system, for example, significantly improved user experience but also highlighted the need for additional optimisation in multi-device communication when using speakers.

My ability to investigate people's needs and adapt materials to a variety of viewpoints was demonstrated during the pitch deck creation process. In-depth data and risk analyses were necessary for financial experts, but everyone is trusted by attractiveness. I was able to successfully blend substance and style in my pitch deck by striking a balance between these conflicting demands. My ability to balance strategic and creative thinking was proven by this experience, and it is a skill I intend to develop in my next position.

But I also saw where I could improve. Since I am not an engineer, I require skilled engineers like Wessel Busscher for projects like this. It was also challenging to stay consistently focused while seated in a small office alone without any interaction.

In the future, I see myself serving as a link between market demands and technological innovation in any sector, not just Creative Media and Game Technologies. My desire to lead interdisciplinary teams by fusing creative vision with realistic execution has been reinforced by this project. I want to help create innovative, user-focused solutions by honing my technical abilities and utilising my capacity to coordinate the interests of various stakeholders.

In summary, the Hyper Reality project exemplifies the possibilities of student-led creativity. In addition to improving technology, game design, and investor appeal, it has also offered insightful information about how to overcome obstacles in the industry. MAD can begin positioning itself in this new market by putting the lessons learnt and suggested recommendations into practice.

Conclusions

The Hyper Reality prototype and its investor materials, including the pitch deck, marked a significant step in aligning MAD's technology with what investors are looking for. The project showcased the importance of a working demo backed by research, by solving key technical issues such as audio, the "Hyper" aspect, and feedback. which had previously impacted the user experience. Feedback from many players helped refine the prototype to better meet the needs of both users and investors.

On the technical side, the prototype demonstrated the students ability to combine physical and virtual spaces effectively. This created a clear advantage in the competitive VR market.

The pitch deck supported this by highlighting the project's key benefits—cost-effectiveness, scalability, and immersion—while addressing common investor concerns. While the current financial outlook is not ideal, it provides a strong foundation for MAD's future projects.

Recommendations

To save MAD the trouble of reading the entire paper for the main points, the recommendations are provided as a list. This guarantees clarity and makes the points actionable.

- Include a comprehensive risk analyses to the pitch deck.

- Update the financial projections to inform potential investors.

- Focus on showcasing benefits like cost-effectiveness, scalability, and the seamless blend of physical and virtual experiences.

- MAD's management team should gain expertise in game development.

- When hiring for an expanded Hyper Reality experience hire people with tangible experience in VR development.

- Follow the order discussed in this paper for when, what and how to give information to potential investors.

- Implement clearer player guidance to minimize reliance on administrators during demos.

- Collaborate with established entertainment companies to enhance market presence and validate the technology.

- Create comprehensive high-quality demo videos for investors, marketing, and internal information sharing.

- Explore cost-effective hardware solutions such as the Meta Quest 3S that maintain quality and immersion.

- Link both headsets to the same developer account to setup automatic start of game.

Bibliography

[1] StudioMAD. *2024 Paralympians from the land of the brave*. 2024. URL: https://www.studiomad.nl/cases-video/team-namibia---paralympics-2024. (accessed: 09.09.2024).

[2] StudioMAD, Delic, and Huda. *DELIC x HUDA - RECHARGE*. 2024. URL: https://www.studiomad.nl/cases-video/delic-dome. (accessed: 04.11.2024).

[3] StudioMAD. *Delic & Huda - ReCharge | Reset*. 2024. URL: https://www.youtube.com/watch?v=kPHmYIgIuiI. (accessed: 04.11.2024).

[4] StudioMAD. *Hyper Reality - coming soon*. 2024. URL: https://hyper-reality.nl/. (accessed: 09.09.2024).

[5] Design Council. *Framework for Innovation*. URL: https://www.designcouncil.org.uk/our-resources/framework-for-innovation/. (accessed: 03.10.2024).

[6] Tim Browne. *The Double Diamond*. URL: https://www.designcouncil.org.uk/our-resources/the-double-diamond/. (accessed: 03.10.2024).

[7] KVK Netherlands Chamber of Commerce. *The Holding Company*. URL: https://business.gov.nl/starting-your-business/choosing-a-business-structure/the-holding-company/.

[8] Block Joern et al. "Private equity investment criteria: An experimental conjoint analysis of venture capital, business angels, and family offices". In: *Journal of Corporate Finance* (2019). (accessed: 04.10.2024).

[9] Mason Colin and Stark Matthew. "What do Investors Look for in a Business Plan?" In: *International Small Business Journal* Vol 22(3): 227–248 (2004). DOI: 10.1177/0266242604042377. (accessed: 04.10.2024).

[10] Melissa S. Cardon, Cheryl Mitteness, and Richard Sudek. "Motivational Cues and Angel Investing: Interactions among Enthusiasm, Preparedness, and Commitment". In: *Entrepreneurship Theory and Practice* 41.6 (2017), pp. 1057–1085. DOI: 10.1111/etap.12255. URL: https://doi.org/10.1111/etap.12255.

[11] Tyzoon T. Tyebjee and Albert V. Bruno. "A Model of Venture Capitalist Investment Activity". In: *Management Science* 30.9 (1984), pp. 1051–1066. ISSN: 00251909, 15265501. URL: http://www.jstor.org/stable/2631723 (visited on 10/15/2024).

[12] Robert Wiltbank et al. "Prediction and control under uncertainty: Outcomes in angel investing". In: *Journal of Business Venturing* 24.2 (2009), pp. 116–133. ISSN: 0883-9026. DOI: https://doi.org/10.1016/j.jbusvent.2007.11.004. URL: https://www.sciencedirect.com/science/article/pii/S0883902608000128.

[13] 5in5. *Regel eenvoudig en verantwoord een kleine zakelijke lening tot € 5000,-*. 2021. URL: https://www.5in5.nl/. (accessed: 10.10.2024).

[14] Floryn. *Bedrijfslening aanvragen*. 2024. URL: https://www.floryn.com/zakelijke-lening. (accessed: 10.10.2024).

[15] KVK. *Bank guarantee*. URL: https://business.gov.nl/finance-and-taxes/general-information-on-financing/bank-guarantee/. (accessed: 10.10.2024).

[16] KVK. *Give your bank or financier the right of pledge*. URL: https://business.gov.nl/finance-and-taxes/funding-and-loans/funding-by-private-investors-or-banks/give-your-bank-or-financier-the-right-of-pledge/). (accessed: 10.10.2024).

[17] Mike Jansink et al. *Optimizing the Hyper Reality Experience*. Tech. rep. Saxion University of Applied Sciences, 2024. (accessed: 09.09.2024).

[18] Chloe Goodshore. *What Is the Difference Between an Angel Investor and a Venture Capitalist?* 2022. URL: https://www.business.org/finance/loans/what-is-the-difference-between-an-angel-investor-and-venture-captialist/. (accessed: 09.10.2024).

[19] Ramon DeGennaro P. "Angel Investors: Who They Are and What They Do; Can I Be One, Too?" In: *The Journal of Wealth Management* (2010). (accessed: 14.09.2024).

[20] Supradeep Dutta and Timothy Folta B. "A comparison of the effect of angels and venture capitalists on innovation and value creation". In: *Journal of Business Venturing* (Aug. 2015). (accessed: 14.09.2024).

[21] Joel A.C. Baum and Brian S. Silverman. "Picking winners or building them? Alliance, intellectual, and human capital as selection criteria in venture financing and performance of biotechnology startups". In: *Journal of Business Venturing* 19.3 (2004). Evolutionary approaches to entrepreneurship: Honoring Howard Aldrich, pp. 411–436. ISSN: 0883-9026. DOI: https://doi.org/10.1016/S0883-9026(03)00038-7. URL: https://www.sciencedirect.com/science/article/pii/S0883902603000387.

[22] PWC. *How family offices globally are investing in a brighter future*. 2023. URL: https://www.pwc.com/gx/en/services/family-business/family-office/family-office-startup-investments-worldwide-2023.html. (accessed: 07.10.2024).

[23] George Haines, Judith Madill, and Allan Riding. "Informal Investment in Canada: Financing Small Business Growth". In: *Journal of Small Business & Entrepreneurship* 16 (Mar. 2003), pp. 13–40. DOI: 10.1080/08276331.2003.10593306.

[24] *Understanding Investor Expectations And Goals*. URL: https://fastercapital.com/topics/understanding-investor-expectations-and-goals.html. (accessed: 02.12.2024).

[25] Louise Levison. *Filmmakers and Financing (Fifth Edition)*. Ed. by Louise Levison. Fifth Edition. Boston: Focal Press, 2007. ISBN: 978-0-240-80828-4. DOI: https://doi.org/10.1016/B978-0-240-80828-4.50007-1. URL: https://www.pdfdrive.com/filmmakers-and-financing-fifth-edition-business-plans-for-independents-d186137617.html. (accessed: 05.11.2024).

[26] Julia Martins. *How to write an executive summary, with examples*. Feb. 2024. URL: https://asana.com/resources/executive-summary-examples. (accessed: 24.10.2024).

[27] Philip Yaffe. "The Secrets of Writing a Truly Useful Executive Summary". In: *COMMUNICATION COR-NER* (2020). (accessed: 05.11.2024).

[28] Lauren N. brodsky. *How to Write an Executive Summary*. URL: https://projects.iq.harvard.edu/files/hks-communications-program/files/how_to_write_an_exex_summ_to_use_4_18_18.pdf. (accessed: 24.10.2024).

[29] Sarah Kiefer. *How to structure your pitch deck to win over investors*. URL: https://pitch.com/blog/pitch-deck-structure. (accessed: 22.10.2024).

[30] *Klima Climate Action at Scale*. URL: https://pitch.com/public/54cc93b8-cf10-4483-b27d-0002abaed0e1. (accessed: 23.10.2024).

[31] Alejandro Cremades. *Pitch Deck Template: Exactly What To Include*. July 2018. URL: https://www.forbes.com/sites/alejandrocremades/2018/07/28/pitch-deck-template-exactly-what-to-include/. (accessed: 02.12.2024).

[32] Athena Lam. *15 great pitch deck examples from successful startups*. URL: https://pitch.com/blog/15-great-pitch-decks-from-successful-startups. (accessed: 22.10.2024).

[33] Microsoft. *Create Images*. URL: https://designer.microsoft.com/image-creator?scenario=texttoimage. (accessed: 18.12.2024).

[34] FactMR. *Location-Based VR Entertainment Market*. URL: https://www.factmr.com/report/location-based-vr-entertainment-market. (accessed: 09.01.2025).

[35] Statista. *AR & VR - Europe*. URL: https://www.statista.com/outlook/amo/ar-vr/Europe. (accessed: 09.01.2025).

[36] Statista. *AR & VR - Netherlands*. URL: https://www.statista.com/outlook/amo/ar-vr/netherlands. (accessed: 09.01.2025).

[37] Statista. *AR & VR - Germany*. URL: https://www.statista.com/outlook/amo/ar-vr/germany. (accessed: 09.01.2025).

[38] Statista. *AR & VR - France*. URL: https://www.statista.com/outlook/amo/ar-vr/france. (accessed: 09.01.2025).

[39] Statista. *AR & VR - United Kingdom*. URL: https://www.statista.com/outlook/amo/ar-vr/united-kingdom. (accessed: 09.01.2025).

[40] Statista. *AR & VR - Belgium*. URL: https://www.statista.com/outlook/amo/ar-vr/belgium. (accessed: 09.01.2025).

[41]   James Makous and John Middlebrooks. "Two-dimensional sound localization by human listeners". In: *The Journal of the Acoustical Society of America* 87 (June 1990), pp. 2188–200. DOI: 10.1121/1.399186.

[42]   G Rhodes. "Auditory attention and the representation of spatial information". In: *Perception and Psychophysics* 42 (Feb. 1987). DOI: 10.3758/BF03211508.

[43]   URL: https://virtualspeech.com/blog/motion-sickness-vr.

[44]   Nspotts Nspotts. *Teensy 4.1 software reset code*. Mar. 2024. URL: https://forum.pjrc.com/index.php?threads%2Fteensy-4-1-software-reset-code.74572%2F.