

Mindfulness in VR Gaming

by Beccy Burrows

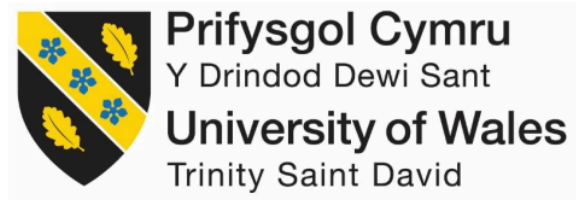
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Mindfulness in VR Gaming

by
Rebecca Burrows

Project Proposal
ACCA6020

Project submitted as part of the requirements for the
award of
BA (Hons) Computer Games Design

This study will research into 'Mindfulness in VR Gaming' with the aim to create a calming environment for players. I will be investigating into how user interaction within a game's environment can contribute to emotion and produce serenity for players.

In the UK, 38% of workers in the gaming industry suffer with mental health disorders ^[1], in addition to 1 in 3 gamers ^[2]. With almost 50% of Britons playing video games ^[3], it is a prevalent question on how can a sedentary hobby for most, impact mental health, and how can we create a positive change?

For my project to be successful, I need to prove that there is a correlation between a game's environment and player's emotional wellbeing, which I will work towards through concisely constructed aims and 'S.M.A.R.T' objectives. The aims and objectives have been split into two parts, consisting of research and planning, and practical elements, as can be seen below:

Part	Aim	S.M.A.R.T Objective
Research and Planning	Research into environments that create a sense of calmness and promote mindfulness.	- Specific: Conduct in depth research into the generation of serenity within an environment using real world locations and game scenery. - Measurable: Research will consist of at least five attributes that promote peace that I can add to my environment. - Achievable: Use published research papers, books and other credible sources surrounding a link to mindfulness and the environment. - Relevant: This will establish the foundation for my environment's serene atmosphere. - Time-bound: Complete before December.
Research and Planning	Conduct research into the benefits of mindfulness, and practices and techniques.	- Specific: research into mindfulness and global practices that improve mood/mindset. - Measurable: Research will consist of at least three practices/techniques that I can add to my VR environment. - Achievable: Personal Evaluation of games as primary research, in addition to testing and monitoring calmness (e.g. heartbeat). Secondary research of credible sources. - Relevant: This will prove how effective mindfulness can be to aid mental health. - Time-bound: Complete before Christmas break.

Research and Planning	Explore how VR can prove useful for immersing players into a calmer state of mind.	- Specific: Conduct in depth research on how VR headsets immerse players further than other forms of gaming. - Measurable: Get me and others to use a VR and play current VR games and completing a survey. - Achievable: research papers, books, and credible sources about VR. Get myself and others to use VR and play current games and complete a survey. - Relevant: Research will aid me with creating a realistic immersive experience that can alter a player's mood and help to eliminate distraction (e.g. motion sickness) and become aware of competitor products/games. - Time-bound: Complete before the Interim Viva.
Practical	Implement a serene environment into unreal engine that can be used in VR.	- Specific: create an environment that promotes mindfulness using completed research and conforms to a correct scale for optimal VR use. - Measurable: evaluate the environment that eliminates motion sickness and promotes calmness with surveys and heartbeat trackers. - Achievable: use extended knowledge of UE and implement knowledge from research - Relevant: create an atmosphere for players to practice calmness and peace, helping to achieve mindfulness in VR gaming. - Time-bound: Complete by February/March reading week.
Practical	Implement interactivity into created environment	- Specific: implement at least three interactive elements in the environment - Measurable: aim for players to engage with interactivity, with at least 70% of players saying interactivity helps with mindfulness - Achievable: using UE's built in VR mechanics to implement interactivity that supports mindfulness. Explore sound design and the five senses. - Relevant: increased interactivity generates more immersion and can help promote a calm state of mind. - Time-bound: Complete by Easter break.
Practical	Player Testing	- Specific: evaluate the environment with a focus group to monitor the effectiveness of the environment and if it promotes mindfulness. - Measurable: aim for players to engage, with at least 70% of players saying the environment helps with mindfulness and positive results from measurements (e.g. heartbeat). - Achievable: creating a focus group of a researched target market and using university VR's to conduct a test. - Relevant: The test will allow me to act on feedback and compile results to demonstrate my environments effectiveness. - Time-bound: Complete once all other aims have been addressed.

At the end of the project I will be delivering a polished 3D environment, adapted for VR use, that aids players with mindfulness. The environment will be interactive as well as thoroughly researched and evaluated for optimal performance and effectiveness of producing tranquillity.

I will be looking at credible sources of information varying from how nature can benefit mental health^[4] to mindfulness techniques specific to gamers^[5]. Only very recently has mindfulness in VR gaming become a popular topic, which aids researching due to most articles and journals being published within the 2020's. This topic is interesting to explore as there is much to address, as it has not been fully researched in depth. For example, the American Psychological Association (APA) states there is 'a limited understanding of the ways VR can support or hinder mindfulness'^[6], along with controversial factors of whether VR is bad for our health^[7] and if long-term use of mindfulness VR practices will be harmful. There are some ethical considerations surrounding VR gaming that I would need to explore, such as addiction, privacy and blurring reality and virtual reality through immersion^[8].

By creating a peaceful interactive VR environment, I will be able to conduct primary research and gather data to benefit the gaming industry on how to further immerse and connect players in other aspects of gaming, how gaming can be used to better mental health and even how players play games depending on their state of mind.

I will be looking at research conducted by the APA^[6] as their work is related to the human mind and how mindfulness can affect it. I will also look into JMIR Serious Games^[9], as their work focuses on creating games for health benefits.

By exploring the potential of VR gaming as a platform for mindfulness and considering credible sources to further research, and generating defined aims and objectives, this project aims to establish a solid foundation for my undergraduate dissertation.

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[2] "StackPath," *esports-news.co.uk*. <https://esports-news.co.uk/2021/02/25/uk-gamers-show-highest-level-of-awareness-about-mental-health/>

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Mindfulness in VR Gaming

GRADEMARK REPORT

FINAL GRADE

GENERAL COMMENTS

81 /100

BA GAMES – PROJECT PROPOSAL – ACCA6020
INDEPENDENT PROJECT (5%)

Student Beccy
Burrows _____
Mark 81

Intro / A&O (500 words)		
Project title; Identification of a specific problem to be investigated; Well-defined aims and SMART objectives; Explaining why this project is worth doing; Discussion of what the project needs to do in order to be a success; Description any deliverables that will be produced at the end of the project	40	33
- Project title could perhaps be improved upon. While to the point about the contents of the project, perhaps it could be shown in the form of a question you're posing to be explored?		

-
Aims and objectives fluently outlined, each using their own SMART format. Very well done. Break down and separation of research and practical goals is very good.

-
Value of project is explained. What results are you hoping to gather/what are you expecting to happen as a result of the project? How will you analyse any data gathered?

-
The grounding of your proposal in established research is good, with a cohesive explanation as to why it is of value to explore. Continue your research into therapy using VR and potentially phobia therapy using a VR medium further?

-
The results needed for the project to succeed have been clearly defined. When regarding the use of heart monitors etc., elaborate on what type and how this will be set up/used. Are you going to screen for any pre-existing conditions or medications what could interfere with your projects findings?

- The deliverable is within reasonable scope and is fitting for the project.		
Background to the Project (500 words)		
Description of how the work to be done by in the project relates to the work identified in the literature review; Discussion of any ethical issues raised by the project Identifying what has already been done within the field; Topic familiarity; Brief literature review using appropriate sources - 6-8 journal papers and book chapters rather than just websites; Selection of relevant models & concepts - There is a description of research to be conducted that is extensive in nature and shows a good understanding of the topic chosen. - Ethical concerns have been considered in the document. Perhaps look into further VR related concerns? (Motion sickness etc.) - There seems to be a good base of knowledge in the subject area with a clear familiarity of the topic and how this research	40	32

could benefit the pre-existing material (or lack of, in this case). - Sources used are appropriate and of a wide variety, not just limited to games design but also grounded psychological based research.		
Document Presentation		
Correct spelling, grammar and punctuation; Flow of narrative/fluency; Coherence; Word processed ; Correct use of referencing with bibliography; Strict word limit - Document is formatted very well with good spelling, grammar and punctuation throughout. - The flow of the document is excellent and laid out in a very easy to follow manner. - Referencing is correct with use of IEEE Format throughout, complete with reference list and bibliography.	20	16

TOTAL	100	81

PAGE 1
PAGE 2
PAGE 3
PAGE 4
PAGE 5
PAGE 6