

Personal information

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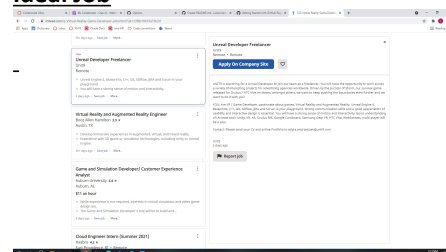


Hey, my name is Christopher and I'm a 27 year old man from Australia, I have very little university education and have spent much of my youth travelling abroad. I predominantly speak English, but have some basic knowledge of Vietnamese. I have 2 major hobbies, these being Gaming and working out, I believe that these 2 activities create a nice balance between relaxation and discipline. Back home I have a dog named Duke, he is a Husky of about 6 years old whose main hobbies are eating and swimming.

Interest in IT

When it comes to IT, I have always had some moderate interest throughout high school, but I never really chose it as a career path as I was always told that it was not a viable source of income. However as the years passed on I continued to dabble in making gaming PC's and trying to find ways to optimize software. The things that piqued my interest in IT would have to be watching the success of companies like Facebook, Amazon and also Tesla and SpaceX. Seeing these companies do so well in a field that I had been led to believe were dead-ends was truly inspiring. So at a later age, here I am in an attempt to re-imagine my career path and pursue something that has always been seen as a hobby in my past. I am particularly interested in the area of VR, in the aspects of it being the future of gaming and also its potential benefits in physical training. I have chosen to come to RMIT as they offer a fully online course that allows me to work whilst also studying, and they also have a good reputation for technology and business studies. In the course I hope to get a clearer view of where I would specifically like to go with a career in IT.

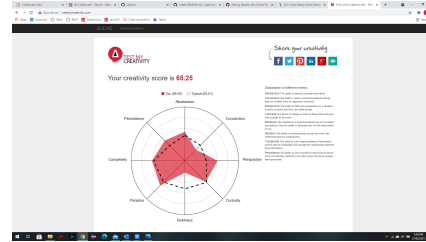
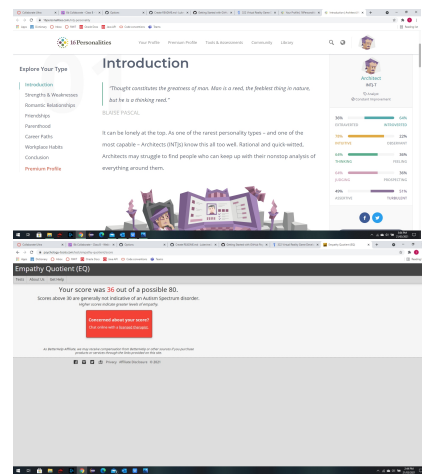
Ideal Job



<https://www.indeed.com/q-Virtual-Reality-Game-Developer-jobs.html?vjk=c3f6b18b33a73b2d>

This job advertisement is for a freelance VR game developer. In my own words, I would say that this job is looking for someone who is somewhat experienced with VR technology but not so experienced that they would be jaded. In this job you would be analyzing their current project and adding to it from a fresh perspective, giving their project a wider diversity. This job is looking for a person who has a broad set of VR development skills, so that you may have input on multiple aspects of their development. Unfortunately I don't currently have any skills that they would find desirable, except my passion for IT and gaming in particular. In order to be considered for this position, I would be required to complete an IT degree where I specialized in programming and development. After that I would seek out internship with any gaming company in order to get experience and muster a collection of positive and reliable references.

Personal Profile



The results of these tests show that I am a moderately creative person who likes to sit back and only have input when I think it is necessary. When I have something to say, I expect to be listened to and respected. When looking for a team a should look for one that already has a mature and efficient command structure, so as to avoid and wasted time.

Project Idea

Full-body Incorporated gaming

The platform proposed here is an extension of other previously developed VR and body incorporated gaming systems. Instead of only the visual and perhaps some involvement of the outer extremities, this project proposes a gaming system that is completely reliant upon physical movement. This system wouldn't have any controller, the player is instead put into a suit (think of a budget Iron Man) where if they move a foot, their character moves a foot, if the player walks forward and swings their arms, then the character on screen does exactly the same.

The motivation of this project is to increase the physical involvement of a player into the game. There have been countless systems where the character is partially physically involved, but never a system where it is 100%. The secondary reason for this is to increase the physical activity of gamers who spend many hours every day sitting down and playing with only fingers and hands (think of the amount of hours Twitch streamers spend sitting with proper activity).

There is a lot of data that indicates gaming to be a contributing factor to obesity and consequently all the diseases that people are prone to once they reach this stage.

This project can miraculously give a person the correct amount of daily activity whilst simultaneously allowing them to enjoy their favourite hobby.

To go into detail about the system, we would be looking at a square cage-like structure that would have the suit suspended from multiple points in the cage. This suit would be made to go onto a player's feet, legs, waist, arms, hands and head. It would be designed so that it could be adjusted to suit a player's dimensions perfectly and comfortably. The system would also incorporate a type of VR headset, which would give the participant the visual interaction with the game.

The suit will not assist the player in movement at all, instead the terrain and interaction within the game will dictate how much force the player will have to physically exert in order to successfully interact with the game. With the suit, there will be a setting option that will allow the player to adjust how difficult it will be to move the suit. This will allow people of different fitness levels to play, to motivate players to increase the level of physical difficulty with the suit there will be an added reward system within the game that gives a greater reward to those on a higher physical difficulty setting. Within the cage the suit will be utilizing a hydraulic system that will apply the appropriate amount of negative resistance for the player to move e.g. if the player put more effort and force into their leg movements their character will walk or run faster, respectively, if the in-game character is faced with an incline slope then the hydraulic system will change to add the appropriate amount of resistance on the player's body. This system would automatically adjust settings to work with individual games.

I believe that this system also has great potential in training for police and military personnel.

There could be real-life training simulation for them that could be loaded into this system and used to give new recruits a more in-depth look and feel into situations that they may potentially be exposed to in the future.

As a third and final application of this system, it could also be used as an aid in physical rehabilitation centers, where a patient who has had an injury which caused them to be bed-ridden, could use this as an alternative to regular boring physical therapy methods. In the case of physical therapy use, there would have to be stringent safety measures within the suit to avoid over-exertion or re-injury of a recovering patient. These safety measures would also have to be considered in the other uses of the system, but not so sensitive.

The software used in this system would have to use a system like Unity for the VR headset portion of the ensemble, this is an extremely innovation piece of software that would be perfect for incorporation into our system.

For the physical hydraulic portion of the system it would be optimal to use a slim-line system the takes up little space, as well as using minimum energy for the task at hand. There is also potential for using a system that captures the kinetic energy from the player and converts it into electricity that can be again used to power the system, but I think this will be a more feasible prospect in the future.

The skills needed for this project will be quite broad. It will require professionals from the fields of software development, programming, engineering, physiological professionals.

The software teams will have to develop a system that will allow the players suit to interact with the game and the game to to suit respectively.

The engineering team will have to consult with physiological professionals to design the actual suit, so that it is as safe and efficient as possible.

Perhaps the biggest part of the is project is the amount of programming that will be needed, this team will have to involved all all aspects of the project to ensure everything is written to communicate the whole system.

If this project is successful, it would redefine gaming and even training for the whole world.

It could significantly help with the issue of inactivity within the gaming community, it could revolutionize training in combat fields by allowing people to have a more realistic yet safe training environment.

References:

1: Unity 2021, viewed 21 March 2021, <https://unity.com/>

2: Hydraulic & Pneumatics 2016, viewed 21 March 2021, <https://www.hydraulicspneumatics.com/news/article/21886588/fluid-power-gives-robot-arms-all-the-right-Hydraulic>