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The IT world hardware wonders

The IT world is full of hardware wonders. Some of those hardware wonders consist of a single hardware item and also a combined set of hardware pieces. The item of hardware that will be described here is the hardware that will be used to create a simulator shown in the link provided (youtube). For those that want an example of what will be explained here. Anyone remember the TV show STAR TREK the next generation? Within some of the episodes they would show characters using a device called the halo deck. The halo deck was a room or space of a 360 degree 3d image being displayed around the user or users of the image of their choice. This simulator is one of the first created simulators aside from military simulators, which are created for gaming. Some of the hardware pieces used to create the simulator is the dome structure that the simulator is contained in. The high definition projectors and screens within the dome. LED lighting to help create the mood lighting and lighting effects of the game played. Because the game chosen is Modern Warfare 3, the use of paint guns will be set to create a life like environment with in the simulator dome. The last and most important piece of hardware used in this simulator is the rolling track pad they use to make the environment even more life-like.

The dome can be made of any fabric or canvas material. The dome is very similar to a tent with its support poles that hold the material in the shape of a dome. The support poles or frame can be made of lumber, PVC, or electrical metal tubing (EMT) (geodesicframe). The dome will have and entrance/ exit door that can be zippered or Velcro closed to enclose the dome

with an uninterrupted 360 degree view. This dome will allow the user to feel like they are in a unique environment that is completely enclosed to the image they are experiencing.

The next piece of hardware for creating a life-like environment is the projector that displays the image. The use of a high definition 1080p projector would be the best hardware choice. Consider the distance from the projector to the screens within the dome. The length of the circumference of the dome will need to be calculated to determine the quantity of projectors. Most projectors will display up to a 110" diagonal image. In the example video referenced below used 5 high definition projectors to give the user a full 360 degree view (projector).

Another great piece of hardware used is led lighting with led module strings. The entire dome will be integrated with led lights to help set the overall mood lighting interaction between the software and user. In the game there could be bright flash bombs the user will encounter and the led module strings (superbrightleds) will help simulate the color and light that the flash bomb projects. Also when you get hit the screen shows a red blood smear across the screen and again the led will project the red led to help the environment be more realistic.

The software chosen within this example is a first person shooter. The use of paint guns will be incorporated to give another aspect of a life-like simulation for the user that can be wirelessly controlled, and shoots 34 rounds per second (hacknmod). There will be turrets of 3 to 4 paint guns per turret. There will be 5 turrets used to surround the user so when the game interacts with the user the paint guns will respond and fire. This hardware feature will be probably the 2nd most important feature when making a simulator environment like you actually within the game.

The APPBLASTER gun will interface the user control of the gun, telling the game to shoot when the user triggers. This gun is traditionally used with IPOD games. The iPhone or

iPod slots into the gun and then using the rubber prodders controls the action on screen when you pull the trigger (pocket). The software mobile mouse will sync wirelessly to tell the game to shoot. The gun hardware will be calibrated to shoot and aim when one or the other trigger is used. This vital piece of hardware is used to tell the game to shoot when the user triggers with the gun. Along with the APPBLASTER the XBOX connect will be used to detect any jumping or crouching. Kinect responds to how you move (xbox), again 2 more pieces of hardware that creates life-like simulator.

The last and most important hardware feature within the simulator is the Omni-directional treadmill. This unique treadmill that is roller driven will allow the user to walk forward and backward or in any direction at any speed to control a virtual character. The user will control the character freely with the use of 10 Infra-Red cameras surrounding the user. The cameras will monitor the real-time position of the user.

In the IT world, there are many hardware pieces that make our lives more convenient and easier to enjoy life. The simulator here and others to come will give us the ability to interact, learn and play in a whole new way. These are truly the halo decks of our time. The domes used to enclose the environment, the high definition projectors to display the image as if you actually doing there and doing it, led lighting that helps or enhance your mood environment, and ultimately the roller track pad that lets you walk in in the enclosed place creating the most life-like environment you could enjoy with the hardware wonders in the IT world.

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