

Advantages of CAVE2 are that it's bigger and multiple people can view and experience the platform at the same time. The screens are able to depict a very crisp and colorful images, this means that data can be represented with great detail. Different controllers can be used to navigate, this allows more flexibility when designing a project. The fact that it uses inexpensive 3D glasses means that a program where there will be a lot of people viewing at the same time is affordable. There are enough screens where they can be split up to display multiple objects. Another advantage is that the person wearing the glasses that have trackers can actually navigate and the screens will depict certain objects moving closer or further away.

Some disadvantages are that there isn't screens on top or on the bottom, so a program where the user would need to look up or down would not work in this environment. This prohibits the user to be fully immersed in VR compared to HoloLens and HTC Vive. Additionally because one person is allowed to move through the VR environment everyone else have greater chances of feeling sick. Looking at the advantages and disadvantages I believe that the CAVE2 would be best used by multiple people working together to analyze data that can be depicted in 3D and in 2D.

The HoloLens is a bit different in the sense that the individual is wearing the headset and experiencing on its own. Some advantages include that the user can still view the real surroundings, so the headset allows the user to view holograms on top of the actual real environment. This is very advantageous because real objects can be enhanced with graphics. This also makes it safer because the user will not be at risk of running into a wall since they would be able to see the wall. The HoloLens also detects walls and objects which means that looking up and down are part of the VR environment. Also this device reads gestures, in a way it's like your hand is a mouse which can be convenient for just clicking and dragging.

Although it can be a good thing that the HoloLens doesn't have a controller it can also be a disadvantage in the sense that it won't read actual movement of your arms because there are no sensors in your arm, which would make it difficult to do the same as the HTC Vive. This device will not allow the user to simulate actual movements that will be read in to the VR world. The HoloLens shows holograms which are a bit transparent so the resolution and quality will not be that great, making it difficult to analyze things very up close with a lot of detail. This type of device would be best used to design in 3D or analyze 3D objects and have basic computer games in 3D that would normally require a mouse.

The HTC Vive is very different than the previous two. This device will take the user in to another world set by the headset where he can only see that world and not any real surroundings, so the user is more immerse into the VR world than the previous two. The user can look up and down and still be in the world. The user also has two controllers, one for each hand, the controllers have sensors so that it can read the arm movements. This definitely taking it a step further because now there can be programs that require actual and accurate movements from the user. Additionally this means that users will feel less sick because their actual movements are being read into the device and act on. Also the controllers have buttons which allow for more functionalities and more complicated movements.

The Vive is very immersive, but this means that there is more of a potential for the user to hurt themselves with its real surround environment or to hurt someone else nearby because they can't see. This also means that unless the actual environment is safe enough and big enough the user can't walk around too much. The VR surroundings in the device are very accurate to size and the device will not allow for very small objects to be seen with great detail. Also the Vive has a big and bulky wire connected to the headset which if not careful with will case the user to trip over. Looking at all the pros and cons the Vive would be best used for programs where it actual movements matter and have to be accurate, because the user is given a full 360 in every direction, a program where the VR environment is important would also be a good fit. For gamming purposes where the user will use its hands to actually play is a great idea, as well as visiting a historical place through VR.