

# The Future of AR/VR, Magnificent or dangerous? submitted to Liverpool Hope University

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## Abstract

Describe a system that is constructed to bring groups of people together. With reference to that technology, how may this be done? Emphasise why this may be of benefit and what dangers/opportunities may arise.

This paper discusses how may VR/AR technology be used for social interaction in the future and the dangers and benefits it may bring. The introduction and background will explain what both AR and VR are

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## Intro & Background

VR/AR technology has been advancing more and more each year, what was once science fiction is now reality. As the technology advances there will be changes to social interaction, just as the internet kicked off social networking AR/VR will work in a similar way. In this paper will discuss how VR/AR technology may be used for social interaction in the future. Describe a system that is constructed to bring groups of people together. With reference to that technology, how may this be done? Emphasise why this may be of benefit and what dangers/ opportunities may arise.

## What is AR/AR

AR and VR are two separate things that have a similarity, VR aka Virtual reality intends to create a complete immersion experience that closes off from the real world. Using devices such as HTC Vive and oculus rift a user can now be inside the environment of a game or in the middle of a Sahara watching lion. Essentially AR aka Augmented Reality adds visual elements to a life view often on mobile devices. An example would be the snapchat lens feature, other examples would be the Microsoft HoloLens which uses AR on glasses. This is different to VR as you are not immersed in the whole artificial environment. AR alters the surroundings a bit by adding 3D objects, sounds, videos, graphics to it.

## Area of focus

This section of the paper will discuss how social interaction with AR and VR is being used today but first what is social VR? Traditional social media users would log in and post something online for their friends to engage with, imagine if this process becomes much more immersive. This is what social VR & AR offers users. Users are able to connect on a much more personal level, letting users enjoy interacting with individuals much more naturally.

### Social Interaction with VR

One social platform of VR is VR Chat, it's a popular and free multiplayer online experience. As you may guess from the name, it's compatible with the HTC Vive and Oculus Rift virtual reality headsets. VRChat is a surreal virtual meeting space that lets people socialise, attend events, take classes, create art, play games, perform for large crowds, and explore virtual environments. VRChat is a truly social platform. Although the user has a virtual body in a virtual area, it encourages users to meet new people and spend time with friends there. The platform allows you to speak through a microphone and to hear other users through headphones or speakers.

### Social Interaction with AR

Octi is the world's first AR social platform, it can be accessed by users on a smartphone currently iPhone exclusively. Snapchat has been using AR for some of its lenses too such as masks, filters etc. What Octi are doing is a platform that focuses on the social potential of augmented reality. Octi allows you to point the camera at users and it will recognize them if they are connected to Octi. This then allows the ability to send a friend request. You are able to use stickers and other types of effects on your "profile" friends can also change your "profile" by adding glasses or a hat to you for fun. What's fascinating about this app is how quick it is at recognising faces, this is done by prioritising the search by friends of friends before searching faces from everyone on the network making it as fast as 20ms a near instant response time.

## Results and findings

This section of the paper will discuss how VR/AR technology could be used for social interaction in the future. AR/VR is something most people don't consider, this is the same with most technologies and no greater example of this is social media and the internet.

### The internet and social networking

As of the beginning of 2020 there are more than 4.5 billion users connected to the internet globally. As a direct result of this there have been more than 3.8 billion active social media users, this is 84% of the internet users, however not so long ago these numbers would seem impossible. The very first recognizable social media site was created in 1997 it was called Six Degrees. Six Degrees had an impressive number of 3 and a half million users, however the internet had 70 million this is just 0.5% of the internet users at the time. In as little as 23 years social media and the internet have grown substantially. The internet has grown 6328% and social media has grown 51328%. They now play some of the most important roles in day to day life and business. And so the question arises, will this happen with AR/VR.

### The future of social interaction with AR/VR

As discussed in the previous section of this paper VRChat is a social interaction using VR. As of early 2020 the user base is approximately 12,000, comparing this to social networking this is extremely low. However, as the technology becomes more mainstream and lower priced this will change and Facebook is aware of this. Facebook is designing their own VR social interaction called Facebook Horizon. They intend to create an extremely immersive environment to encourage more users into opting for VR. The VR app will be a mix of social places where users can mingle and chat, and other areas where they can play games against each other. VR social platforms have the potential to replace video conferencing calls. As the technology advances and the more realistic it gets soon individuals could bring themselves into the VR world appearing like a hologram to other users.

## Analysis

This section of the paper will discuss the benefits and Dangers of AR/VR being used for social interaction. There is no such thing as a digital life without consequence, and immersive mobile games are no exception. Creating AR social experiences that contribute positively to society is an ambitious goal.

### Benefits for social interaction of AR/VR

A major benefit of social interaction using VR is that VRChat users have stated its helped them through mental illness battling loneliness, depression and more. These users claim that VRChat has saved their lives giving them a community that the real world never could. VRChat has the ability to connect friends who have moved to different countries and let them play games, sit in a movie theatre or even in a bar together. This benefit gives the ability to keep relationships with friends and family strong which in turn keeps people's spirits up.

### Dangers of social interaction AR/VR

The problems with AR/VR social interaction are countless. A good example of this is the Facebook horizon, facebook admits it hasn't solved social interaction in VR yet, or privacy concerns for that matter. Essentially the problem is that the technology isn't ready, if privacy concerns are not yet solved this is extremely dangerous as any user would be able to collect your personal data with ease, knowing what you say, do, like, hate this a serious danger that cannot be ignored. Another danger is that the VR world could become prioritised to some users over real life leading them to waste away and never go outdoors. This could lead to severely high rising numbers in social anxiety which would create this superficial VR life into an addiction to escape the real world. Trolls, bigots, bullies and racists will always be an issue for social media just as it has for VRChat In the letter the VRChat team acknowledged that it was struggling with trying to maintain and shape a community that is fun and safe for everyone.

## Conclusion

It seems AR/VR social interaction could be quite dangerous however it does seem to primarily be based on the individual. A lot of the benefits mentioned were similar to those of the dangers such as mental health. Social interaction in AR/VR can both cause it and help relieve it. This is an issue that's followed social media sites like Facebook for a long time. Looking at the current state of VR/VR social networks, it seems unlikely that this thing is taking off within the next few years. The benefits of AR/VR social interaction are phenomenal, keeping relationships strong, giving the lonely company the list goes on. To conclude this paper, the future of AR/VR social interaction is both bright and dangerous as the technology becomes more available and as the software develops one thing is for certain, AR/VR social interaction will grow.