Virtual reality the future ethical issues philosophy essay

Introduction

In the latest science fiction television show " Caprica" [14], citizens from Caprica city are able to access a virtual reality called V-World using simply a " holoband" that is worn like a pair of glasses. The V-World contains various locations where people can go virtually to socialize and play games. One of these locations is the V-club where citizens, mainly adolescences, go to party and perform immoral acts, such as taking drugs, without the worry of any legal or physical consequences.

The virtual world depicted in this show is at present considered to be science fiction and the level of virtual-reality technology currently available lacks both realism and accuracy. However the V-world does highlight various ethical issues that may become more apparent as VR technology advances and even reaches the same levels of believability as that found in this science fiction portrayal.

What is Virtual Reality

Traditionally VR is thought of as being a computer generated 3D environment that is accessed using various devices such as head-mounted displays, data gloves, and data suits [1][5]. This definition is quite restrictive as the VR system could also be available using projection and other means of interactivity with the user [1]. Another form of VR that is commonly available to everyone is gaming. Typically first-person 3D games provide the gamer with a virtual world that can be explored whilst interacting with various computer generated subjects. With the advent of online gaming one can even interact with fellow human gamers through their avatars.

The extent to which a virtual environment is experienced as being similar to the real world depends on the level of detail and the amount of interactive features available, that is, highly realistic VR worlds would be needed to make the user feel immersed and actually feel that he/she is in another reality [1][3]. Currently this level of realism is lacking, but in recent years VR has been used professionally in prototyping and ergonomic testing in industrial design, architectural design and urban planning, medical and surgical simulation and training in medicine, for scientific visualization and simulation in science, for data visualization in finance, and for battlefield animation in military training [1]. However VR is not currently available for the general public where, in the future, it will provide various applications such as education, training, communication, cooperative work, therapeutic use, and entertainment [1]. These virtual worlds could be used to cut down on costs of actually performing certain training in the real world [3]. Also virtual worlds, together with robotics, could be used to perform certain dangerous tasks, thus reducing the risk of injury or even loss of life [3]. VR could be used to teach students, for example, by allowing them to explore virtual representations of past events in a history class [3]. VR can also be seen as an extension of television and other entertainment environments, which will no doubt bring about advertising within these virtual worlds [3]. This may create greater risks of misleading the consumer as these adverts would posses a level of realism not found in today's media products. Hence a means of monitoring such activities would have to be found [3].

Apart from being a technological project, VR can be seen as a utopian concept [4]. In fact VR is subjective and can be seen as an experience and

not a piece of technology [4]. One could even consider the act of reading a book as being immersed, mentally, into a virtual world. Having said that, VR is normally considered to be a computer program that creates a virtual world where users can interact with each other and other objects. This interacting, especially with other human users, by means of the internet, posses various ethical issues that will be discussed within the next section.

The Ethics of Virtual Reality

Virtual worlds of the future, increasing in realism and applications, will raise various ethical issues [1]. Some of these issues will be common to all applications of VR, but others will be related to particular areas of use [1]. In a realistic and freedom oriented VR users would be able to perform such immoral acts as murder, mutilation, torture, rape, robbery, and grand theft [1][3] without worrying about any consequences that may result from performing such acts in the real world. These controversial acts can be seen within the primitive VR systems found today in computer and console games [1]. Many games today allow the user to perform the above mentioned acts, not only without consequence, but often gamers are rewarded extra points for the immoral acts [1].

The debate on controversial computer games is similar to the one found in other media such as television and films [1], ranging from censorship to outright banning of certain games. Pro-censorship groups suggest that these games promote anti-social behaviour and may induce gamers to go out and perform these immoral actions in the real world [1]. On the other hand anti-censorship groups argue that performing these immoral acts within games do not actually harm anyone and thus the choice should be made by each

individual whether or not to engage in playing them [1]. Also there is no evidence that such games would cause individuals to act immorally in the real world [1]. Actually games could be considered to allow the user to release frustrations and act out fantasies or desires that they might otherwise act out in the real world [1]. VR systems based on these computer games will also allow the user to acquire experience of performing the previously mentioned immoral acts and motor skills and ways of thinking associated with such actions would also be learned [1]. The actual morality of performing these acts within a virtual world is highly debateable.

The designers of any VR system would have ultimate control over what was and what was not possible within their system [1][2][3]. This would suggest that they would have a moral duty to reflect on the way behavioural options and their consequences are designed in their system [1], but if game design can be taken as an example this moral duty is often put aside to make way for greater sales of their product. Designers could restrict these actions from certain groups, such as children, whilst allowing adults to perform them but with the real world consequences of such acts also being simulated within the system [1][3].

Currently this moral debate is restricted to computer games, but in the future certain moral issue would also be present in VR systems that are used for various applications [3]. Some of these applications, in contrast to games, may have moral consequences in the real world as well. Such applications as training and educational VR may be used to depict what consequences would occur in real life if certain incorrect actions were to be performed. This

would allow the students/trainees to learn from their mistakes virtually without performing them in real life [1].

Another ethical issue which may arise from VR systems that become more and more realistic is that of representation [1], that is would it be correct to simulate actual places and persons in a virtual world to a degree that would be indistinguishable from the actual real world counterpart. Representational aspects of VR simulations depend on the following choices:

" The inclusion or exclusion of real world objects or features,

Choices concerning the level of detail and realism by which objects or features included in the simulation are represented,

The selective misrepresentation or idealized representation of objects or features for pragmatic purposes,

The use of stereotypes in the representation of people, things, and events,

Built in assumptions about cause and effect relationships and implicit narratives,

Choices in the visualization of abstract domains." [1]

The above choices can become morally controversial if they affect other individuals or groups negatively because of the way the VR system depicts their interests [1]. When a VR application favours the ideas and choices of certain individuals or groups it is said to be a biased representation of the real world counterpart [1], this is when certain values or interests of

stakeholders are insufficiently accounted for [1]. Misrepresentation can also occur in which some aspects of the simulation are incorrect when compared to the accepted standards of accuracy [1]. These two representation failures could lead to biased beliefs in users that may lead to practical consequences or system may become less useful to users that do not hold these beliefs [1]. This is why it is important for the designer of the system to avoid misrepresentation and to strive to cater for all values and interests of all stakeholders of the system [1].

Although in other mediums, such as paintings, these types of biases can be seen as artistic and certain misrepresentations can be accepted, with VR the level of realism may become so accurate that anyone using the system may be misled to believe them as truths [1].

Another ethical issue is advertisement within these virtual worlds. Often consumers are abused or misled by advertisement on other mediums such as television. This abuse would certainly be present in VR and would pose a greater threat, due to the realistic nature of the medium [3]. The monitoring system and codes of practice currently available today to ensure consumer rights must be updated to provide these same rights to users of the more persuasive VR medium [3].

Morality issues will certainly be different for individual VR system and multi-user ones [3]. This is because the actions performed within a private VR world could be considered to be private to the individual performing them and thus the person may feel that they have every right to do as they please [3]. However actions performed in an open multi-user VR world may inflict

certain non physical offences, such as slander, libel, and verbal degradation, to other users of the system and these actions may be punishable accordingly in the real world [3]. Having said that, the individual systems could still pose moral issues but these are more subjective and open to debate [3].

Ultimately individuals, as in the real world, should be free to make their own decisions whenever possible as it is often the case that not everything that is disapproved of can be considered unethical [4]. People generally act in order to obtain happiness and if this happiness is obtained without harming other individuals then maybe these acts could be allowed in the virtual world [4]. However if harm can come to others then valid consequences should be in place to deter these actions from being performed. A code of ethics could determine when certain actions are deemed to be legitimate and when they are not [4]. However ethical principles are often difficult to be accepted universally and many theories exist [4]. Some of these theories will be discussed later on.

One last note, not mentioned previously, is the actual physical consequences of using VR technology over long periods of time. Some people have complained about chronic fatigue, nausea, and other side effects of using VR and although these effects are still unproven they may require further restrictions to be put in place to determine the total time one should stay connected to the virtual world. This can already be seen in the game industry where gamers are constantly reminded to take regular breaks during game play [2][5].

The Stakeholders

There are many stakeholders involved with design, creation, monitoring, and use of VR systems. Each one has a major role to play when thinking about ethical issues.

First of all the designers and creators of the VR system, as previously discussed, have a moral duty to weight the benefits and consequences of allowing certain immoral acts to be performed within their system, especially by children. Ultimately, if the designers create a highly restricted system then the chances of the users performing unethical acts is highly unlikely. This restriction however may be seen to go against the concept of VR which strives to depict a real or fictional world as much as possible. Restrictions however should definitely be put in place to safeguard the well being of minors and failure to do so may result in physiological and physical consequences.

Government and other authorised bodies should be put in place to monitor the design and actual use of any VR system. As done in all other mediums such as television and gaming, codes of ethics, guidelines and legislations are set up to ensure the mediums are designed and used in a moral and ethical context by all. This set of rules should be updated to ensure their effectiveness when applied to the VR systems. Governments have a major role to play, ensuring abusers face real world consequences and the general privacy and safety of the public is upheld.

The user of the VR systems can be considered to be the most responsible of all stakeholders when engaging in any unethical functions within the VR

worlds. It is extremely hard to monitor these types of actions within private individual worlds and it may be the case that only the user will be able to make the right or wrong decisions when faced with these moral issues. Sometimes however these moral issues are debatable and are subjective to each individuals beliefs of what is ethical and what is not and often it is the case that an individual will perform such acts without considering them to be unethical.

Laws, guidelines and policies

As VR is a relatively new technology and it has not actual hit mainstream consumer use, it is hard to find any current laws and legislation set up to ensure the wellbeing of all stakeholders of the systems. Having said that, guidelines and policies, currently in effect within the computer and console gaming industry, can be useful in trying to identify the main issues that will be encountered later on within the VR industry.

Video games is one of the most popular mediums used by Europeans and safeguarding the freedom of expression for creators and gamers is essential [6]. However in providing for this freedom it is of the up most importance that we do not jeopardise our youth, creating potential psychological harmful affects that may have devastating consequences [6]. One major measure to ensure this is to provide different levels of access to different age groups and the EU has provided a set of ratings to facilitate parents in making choices when purchasing video games for their children [6].

In trying to establish the level of protection found in all member state the EU sent out a questionnaire asking each state to elaborate on various subjects

such as age rating/content rating systems, whether any member had enforced any bans on particular video games, etc [6]. All member states replied and it was found that Germany, Ireland, Italy and the UK had actually banned certain violent video games [6], whilst Malta currently only relies on general legislation and has no particular law that aims at protecting children against violent and other harmful content in games [8][9].

The EU adopted the Pan-European Game Information (PEGI) system in 2003 and consecutively the PEGI online was launched in 2007 due to the high increase in online games being produced.[6] These system were created to help parents make informed decisions when buying games for their children and it is supported by all major console and game manufacturers [7]. PEGI labels are placed on packaging of games to identify suitable age groups that should be allowed to play certain games, also undesirable content such as violence, sex and/or nudity, gambling, and online gaming are clearly depicted using various icons [7]. Although in Malta these labels can be seen on most of our gaming products, mainly due to the fact that most imports come from the EU, they are not enforced and currently a child can still purchases games that are not recommended for his/her age group without consequence to the shop owner [8]. The EU is currently pushing to create a consolidated stance by all member states, one where the PEGI system is backed by legislation and feedback is constantly provided to ensure the system is up to date and effective [6].

A school shooting incident in Finland, where an 18 year old killed various people, created more concern after his actions were considered to be in part due to violent game play [8]. These types of consequences are maybe

extreme cases but there is substantial fear that performing such violent acts could be considered to be " normal" by children especially when their morality development is still in a fragile stage [8]. With the advent of VR these issues may be taken to the next level, when the realism found in such systems could further persuade the infants and create a delicate thin line between what is real and what is virtual.

One other legislation currently used for most mediums and technologies where individual's personal data maybe subject to abuse and used without the person's consent, is the data protection act [10]. This act basically states the following:

" To make provision for the protection of individuals against the violation

of their privacy by the processing of personal data and for matters connected therewith or ancillary thereto." [10]

Individual's personal data should not be used or passed to third parties without the users consent. This legislation protects individuals and deters designers of VR systems creating virtual representations of them without their consent, also any similarities with respect to their personal data is also protected [10]. Representation issues, discussed earlier, where the designers of a system are bound morally to make sure that all stakeholders are correctly represented and representation is therefore unbiased is further backed by the data protection act, ensuring that stakeholders are not wrongfully represented within the system and even worse represented without their consent.

Ethical Theories

Two fundamental types of ethical theories exist, Consequentialist and Deontological, often known as duty theory [11]. These theories may help to determine whether a particular action performed in a VR world is ethical or not and a brief description of both theories follows.

Consequentialist theory holds that if performing a particular action brings about an overall good to all stakeholders then it is considered morally right [11].

Even such acts as killing another person may be considered to be good if the outcome of that person's death brings about consequences that are good for the majority of stakeholders [11]. These theories are often called Utilitarian as they provide a notion of utility in producing good consequences [11][12].

Utilitarian theories have three parts:

a theory of value

a principle of utility

a decision procedure

Theories of values distinguish what is considered to be good and bad consequences. For example pleasure and happiness may be considered to be good consequences, whilst pain and unhappiness are deemed to be bad or evil consequences [11][13].

Principle of Utility strives to produce the greatest increase of good value consequences, or at least the least bad values, when taking into consideration all possible actions available in a particular situation [11].

Decision procedure is the final process of deciding how it can be determined which action performs the greatest utility to the majority of the stakeholders [11] and this also can be divided into two:

Act utilitarian theory which holds that utilitarian principles should be applied to each particular situation. In fact this type of decision procedure is often called situation ethics [11][13].

Rule utilitarian theory which holds that the decision which action to take in most situations can be determined by using particular rules such as telling the truth, thus it rejects the situation by situation notion as it is considered difficult to accurately predict consequences for our actions [11][13].

Consequentialist decisions become rather complicated, especially for act utilitarian, as it is very hard to quantify consequences for each particular situation [11]. Furthermore utilitarian theories do not provide adequate ways to decide open distribution of good consequences between just and unjust actions [11][12].

Deontological or Duty theories hold that an action can be considered to be ethical if it is backed by a particular duty rule and only if it does not conflict with other rules [11]. Deontologists reject the Consequentialist idea that a bad action can be considered good if it has a majority of good consequences [11][12]. Duties are derived from various sources such as religion,

psychology, and culture [12] and these theories can also be seen to be split into act and rule deontologists:

Act deontologists hold that every judgement made is particular to each action and any rules used are at best generally induced from past experiences [11]. Some act deontologists hold that judgement can often be made using a moral intuition that is built into our conscience [11]. Others believe that judgement is often passed due to ones knowledge of freedom and thus responsibility for any decisions made [11].

Rule deontologists believe that one should act in a manner that does not violate any one of a group of non-teleological standard of duties, consisting of one or more rules [11]. Having a multiple number of rules may lead however to a situation where one rule might contradict another [11].

Immanuel Kant's rational rule deontology holds that " the fundamental laws of morality are the same for every rational being" [11] and an action is morally right only when it is performed with a sense of duty [12]. Kant, a famous philosopher, explains how his theory does not rely on a fixed set of rules but it provides a number of formal tests to ensure correct ethical conduct [11]. He believes that free will is the one concept owned by rational beings that allow them to rationalise what is good and what is bad [12][13].

To this extent Kant highlights the following:

Each action should be done with a sense of duty and in good will.

Would you consider others acting in the same way you did to be justified?

Never use rational beings to achieve some goal personal [12].

Although relying on a set of duties to determine whether a particular action is good or bad can be considered justifiable, ignoring consequences completely may result in others suffering [12].

Analysing VR ethical issues

One can analyse the ethical issues mention before by applying the two major theories discussed in the previous section. Firstly, however, we should summarise these issues in point form so that any analysis can be effective.

The Performance of immoral acts such as murder and robbery both within a single person VR world and a multi-user online experience.

The design and implementation phase of any VR system.

Representation of objects and human subjects within a VR world.

Advertisement within commercialised VR worlds.

The Physical and Physiological consequences from using a VR system over long periods of time.

We will first analyse the above points from an Act utilitarian point of view and in doing so pinpoint any consequences and/or side-effects that may occur.

The first point, whether immoral acts performed in VR worlds are ethical, can be analysed first for a single person and then for multi-user worlds. In a single person VR system, it can be deduced that no other persons are

involved with any actions performed within the system and thus it can be argued that consequences for any action will be inflicted by the user alone. However performing such acts and in many cases, when taking gaming into consideration, being rewarded for these actions may create the consequence of the individual, especially if an adolescent, gaining the impression that these immoral acts are in some way acceptable and thus he/she may perform them in real world situations. When the acts are performed within multi-user environments a virtual society can be created where the users of the system accept that these immoral acts are " normal" and this may lead to deeper physiological consequences within the real world. However if the context of the virtual world is to be taken into consideration, it can be seen that, for example, the killing of a particular user, that takes part in various immoral acts and is inflicting great harm to the majority of the users, can be considered acceptable for the greater good of the entire virtual community. It can be said that allowing these immoral acts within any VR system without providing adequate consequences will result in a majority of negative real world consequences.

During the design and implementation of any system, the designer must consider the needs of all stakeholders. If a restricted virtual world is created which does not allow the user to perform many tasks that can be performed in the real world, he/she would be considered as limiting the VR with respect to realism. This may have the consequence of many users feeling unsatisfied with the system and thus unhappy. This may also reduce the number of users of the system and thus create financial burdens for the industry. Again limiting the realism of a VR world can also be seen as creating a majority of

negative consequences and thus the designer should strive to make the systems as realistic as possible.

Representation of human subjects should be done as realistically as possible and should only be done with the consent of the person involved. Failure to do so may result in negative consequences for that person, such as other users of the VR system creating a biased opinion of the subject. However if the person in question is a public figure, such as a politician, and any portrayal of him/her is accurate then it may be seen that it would serve the greater good to allow other persons to be able to examine this person in a virtual world. This argument can only be considered for public figures however and when it comes to objects, biased representations or even misrepresentations may cause users to build certain ideas on them that would not be applicable in the real world and thus could be detrimental or even harmful to the general public. Thus it can be considered that misrepresenting objects and humans in a virtual world will cause a majority of negative consequences.

Misleading advertising is currently present in all major mediums and the adverse effect on consumers is clear. Within a virtual world the strength of advertising would increase substantially and an advert that misleads the general public will always be considered to produce negative consequences. In fact the only persons gaining from this type of advertising would be the company that is selling the product, but as laws are in place and would most certainly be updated for VR, the companies would probably still suffer negative consequences mainly due to lawsuits and other financial burdens.

Physical and mental strains are often causes of many symptoms such as fatigue and tiredness. However if the user takes pleasure in the activity being performed, one may suggest that these side-effects are worthwhile. On the other hand if the use of VR systems would in some way reduce the output given by any individual to the real world society, then one could consider the VR system as contributing to various negative consequences such as inadequate work performance. Overall however these symptoms are highly subjective and the general happiness of each individual may actual improve, resulting in a more positive attitude when leaving the VR world.

From our analysis using the Act utilitarian theories we deduce that immoral acts performed in a VR world would most probably create negative consequences in the real world, if these acts are not accompanied by corresponding consequences in the virtual one. However, omitting the ability to perform these acts within the system may result in a non realistic one that would not be liked by the majority of users. Representation is to be kept as realistic and non-biased as possible to obtain the least negative consequences possible and advertising should be monitored extensively, as it is already done in most mediums. Finally the pleasure involved in using these systems would probably outweigh the physical and mental side effects and safety features could be implemented to allow users to take regular breaks, thus eliminate them altogether.

Kantian duty ethics upholds that it is everyone's duty to treat other people with respect and taking this fact into considerations we may proceed to analyse the various ethical points made.

Using Kantian ethics, users of a single person VR system are essentially not interacting with other rational beings and thus no duty laws can be broken. However when interacting within a multi-user VR world, each individual must consider each virtual representation of the actual person as a rational being. Thus performing the immoral acts on anyone rational would mean failing the various tests described within the previous section. That is the user would not be acting out of duty, and he would definitively not like others to do the same to him. Also performing the act to the other person would probably be done to gain some personal advantage within the virtual world. Thus using Kantian ethics it can be seen ethical to perform these acts within a single person environment but not in a multi-user one.

When designing the system the designer will try to please as many stakeholders as possible. He/she does this with a feeling of good will and as a duty to them. He/she would most probably, being a VR designer, expect other VR systems designed by others to contain a very high level of realism and the global acceptance of his design is his main concern. Thus under Kantian ethics designing a system that contains a high degree of realism when compared to the real world is considered to be ethical.

Representation of humans and objects must be considered separately. As an object is not a rational being then under Kantian ethics, all tests are passed and thus any object can be represented in any way by the designer. However when representing humans the designer should be held by duty to create a fair and objective portrayal as he/she would most definitely not enjoy viewing himself within a VR system where he/she has been misrepresented. Going back to objects if the representation is created to

mislead other rational beings then it may also be considered to be unethical. Generally misrepresented persons and objects within a VR system can be considered to be unethical.

Advertising is in general a means for a particular company to gain sales by portraying their product as the best possible solution for a particular market. If this portrayal is misleading then the company is seen to be using other rational beings to gain profit. Also it would be expected that any CEO of a company would not like to be mislead this way himself. One thing is for sure, no company endures the expenses of advertisement out of a sense of duty and good will, but the main goal is to make a greater profit. When VR is considered, misleading advertisements would have a far greater persuasive power and they would always be considered to be unethical in nature.

Finally physical and mental strain due to prolonged VR use is hard to analysis using Kantian ethics due to its subjective nature. If the designers of the VR system are aware with certainty that their system will caus