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MEDST 255 –

New Technologies  
  
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**Final Exam, Spring 2019**

**Essay Question I.**

**New technologies have always produced unintended consequences. One result of this would be how UX designers and engineers face several new ethical challenges today with the rise of technology regarding our interaction with it and dependence on it.**

**What is the primary job of a UX designer? Discuss the principle ethical quandaries faced by UX designers. What is persuasive design? Discuss the ways you feel this positively and/or negatively affect user behavior.**

The role of a UX designer is complex, challenging, and multifaceted. The primary job of a UX designer is to design and focus on user experience using methods like prototyping, information design, visuals, interaction, and information architecture. When creating a product or technology, the first step that a UX designer must do is research. They have to identify a target audience, identify needs and then set goals.

They do this by focusing on the following areas: usability, content strategy, visual design and determining the interaction between product interfaces and humans. UX designers implement their product designs by working in a team and collaborating. They must be able to coordinate across various departments to create a successful product. The next important step for them to focus on is prototyping. This refers to when UX designers create a sample of the product to be tested and tried out before launching the final product. A prototype can range from a wireframe sketch to an interactive working interface. The goal is to be able to test the product and resolve usability issues. It can also reveal data and areas for improvement. The final product is then engineered. (Babich 2018)

With the rise of technology and an increase in our dependence on it, UX designers face a set of new ethical challenges. The unintended consequences of new technologies pose challenges for designers.

The increase in automation and design of optimized systems to eliminate dangerous, repetitive, or tedious work leads to a dehumanization of human work. Workers intellectual and emotional value is put at stake in order to yield maximum production by machines. "The question for the UX professional who designs these work experiences then is: at what point must efficiency and optimization yield to human concerns?" (Gribbons 2018).

Another issue faced by UX designers is their ability to influence and alter behavior. The way that systems and interface are designed these days, a significant amount of power is placed on influenced content shown to the user. For example, the 2018 elections harnessed the power of algorithms and social media to influence the voting decision of people. They were shown content that led to biased decisions. UX designs must decide how to use this power of influencing behavior and the outcomes it will lead to.

The convergence of technologies can also lead to ethical decisions to be made by UX designers. The convergence of technologies can tax our attention spans in a way that threatens the limits of human capabilities. For example, automotive cars offer the convenience of entertainment, phone, GPS, stereo systems and other features. However, the consequence of this is that it limits the attention of drivers and distracts them, which may put them in a life-threatening situation. From a financial standpoint, the multiple features are a high selling point but when human safety is taken into consideration, probably not!

**“**Persuasive design is an area of design practice that focuses on influencing human behavior through a product’s or service’s *characteristics*.” (The Interaction Design Foundation). With the rise of user-generated content and social media, persuasive design is being discussed rapidly. The rise in interactive technology makes it easier to influence behavior. Designers now have the opportunity to adapt to the user’s input, needs, and context—a point which allows it to use the most appropriate social principle of persuasion (e.g., praise or reciprocation) in a specific situation. Through this, designers can tailor user experience. They can incorporate persuasive elements into their products as they have all the data available. For example, sponsored ads or ads that follow you around after you view a product are persuading people to purchase a product. With modern technology, sellers can do so in discreet ways than before.

Another example of persuasive design is when companies or online services offer a free sample or a freebie. By offering users something in advance, they are more willing to purchase it. For example, Amazon.com offers users a month's free trial of its prime service. By doing so, users can experience convenience, and they are more likely to purchase it after the "free trial." This is a form of persuasion. Persuasion is an art, and UX designers must instill in their final designs to be successful.

**Essay Question II.**

**The rise of digital technology has had a massive impact on the international creative community. Small digital video cameras and editing software have made it easier than ever for aspiring filmmakers to make a movie. Inexpensive recording software has done the same for musicians. Digital photography now rivals the traditional chemical process for resolution, while image manipulation is simpler and more sophisticated than ever before. Ultimately, the Internet provides a global platform for artists of all stripes to share his/her work.**

**What are some of the core characteristics of the digital world? Discuss how these and new tech developments have impacted the arts and creative culture. What are some specific developments that have impacted artists? In what ways are they unrewarding, and in what ways are they beneficial?**

The core characteristics of the digital world are composed of the traits of digital technology. The three main characteristics are:

1. Electronic: material exists in digital form and does not have to be physical. With digital technology, artwork can be created online and graphics made using various software and programs.   
2. Networked: it can be easily shared and transferred across platforms. The content can be edited, shared or changed easily. It is also instantly available.   
3. Interconnected: information can freely and easily move between various audiences and points. There is no formal chain of flow. (DeFelice, A.)

These characteristics and the formation of the digital world have impacted the arts and creative culture. New technology has impacted arts in the way it is produced, distributed and discussed. It also has an impact on the costs of production; change from physical artwork to digital production and the piracy issues related to it. People now can share their artwork with the world through the Internet. As technology changes and cinema evolved, it also impacted story telling. We now have access to so much information and an opportunity to connect with other artists. Instant access to knowledge provides endless opportunities. There are not digital arts that can exist only due to new technology, which is used to produce it. These opportunities did not exist before. Artists can provide humans with a completely new experience at art shows, online viewing experience, and light shows.

Also, artists are now turning to the web to display and sell their art. Rather than a local museum or art show, they are now able to reach a global audience. Further, with additional services like crowdfunding, they can generate revenue using new sources. The fabrication, manipulation, remix, distribution and remixing of art is now much more frequent and more accessible through new technologies.

Development of technology has affected artists in all fields. I will discuss specifically its impact on the film & TV industry.

The digital age has transformed the film and TV industry ranging from the way it is produced, edited and consumed. In a short period, the film industry went from silent, black & white movies to 4D movies. The benefits of this digital transformation are many. The film crews are now smaller due to improvements in cameras, drones, lighting, and sound effects. There is no longer a need to create an effect physically; much of it can be done digitally. The editing process is much quicker, cheaper and faster. It also allows for more visuals and animations to be incorporated easily. Also, with the introduction of on-demand streaming services, there is no longer a need for the audience to visit a local theatre or rely on scheduled TV programming. The audience has countless options for consumer media. However, the adverse effects are the issues of piracy and illegal streaming. Companies lose much money as film and TV can be easily transferred over the Internet and downloaded illegally. Also, the concept of releasing movies on DVD or cassettes is dying out, and stores are going out of business. (The Impact of Technology in the Film Industry).

Moreover, developments in technology have not only affected the film industry but also the music, visual arts, graphic designing, animation, and print industry. There have been significant shifts in the ways that these industries now operate. Streaming and on-demand services, digital over print media, online galleries vs. museums are just some of the factors that have evolved in these industries. In my opinion, the benefits of new technologies outweigh the adverse outcomes. Every technology will bring along some dangers of piracy, loss of real art or sharing concerns but it must be kept in mind the wonders of these technologies.

**Essay Question III.**

**Human enhancement technology converges nanotechnology, biotechnology, information technology, and cognitive science to improve human performance, attempting to temporarily or permanently overcome the current limitations of the human body through natural or artificial means.**

**Discuss some specific developments in human enhancement technology. Do you have trouble with the idea of these technologies making us stronger, faster, better? Do these advancements come at any cost? Such as privacy issues or a question of morals? What are your thoughts on the premise of these technologies making us (humans) more connected to technology? What technological innovation do you think we need most and why?**

**Discuss some specific developments in human enhancement technology. Do you have trouble with the idea of these technologies making us stronger, faster, better?**

Human enhancement technology is “any attempt to temporarily or permanently overcome the current limitations of the human body through natural or artificial means.” The convergence of various technologies makes it possible to treat illness, disability, enhance human capabilities that would not have been possible with traditional medical technology. Human enhancement technology is rapidly growing, and there are examples of those that exist and many that are still being developed, which will revolutionize the future of enhancement technology. (DeFelice, A.)

"Examples of human enhancements include cosmetic surgery, mood-altering substances, drugs to improve physical strength and stamina, genetic modifications to ensure future children are healthier or more intelligent and medical procedures to prolong our lifespan dramatically." (Nicholls 2018)

Cosmetic surgery is one of the fastest growing fields in human enhancement technology. People are now opting to undergo elective surgeries for the sake of improving their physical appearances, and this may include Lasik eye treatment, botox, breast implants, liposuction, hair transplants and more. The success of these surgeries is very high, and with the help of technology and laser, these surgeries are relatively quick and straightforward.

Some future human enhancement technologies include biomedical gerontology that is the study of human life span. It aims to prevent deaths caused by old age, heart diseases and Alzheimer's. Through this technology, the life span of humans will be extended, and they can expect to live for 150 more years. Another example is cybernetics, which examines how sensory reactions can be improved using technology. The aim is to restore lost senses and help people recover from paralysis. There have already been many successful experiments with chips placed into people to create cyborgs, part human machine and give them the ability to communicate telepathically. In my opinion, if these technologies can help make humans better, faster and stronger, then it is well worth to continue researching and developing it.

Human enhancement technology comes at a cost that questions the morals and ethics of this development. By using technology to improve one's eyesight or improve a physical human trait, it gives him an advantage over the other. In the future, it is possible that all pilots will be required to undergo vision enhancement surgeries to perform their job better. This is unfair and leaves little room for personal choice. Further, with genetic engineering, it is possible for parents to select and determine the traits of their children. It can be understood as creating a customized child with specific eye color, muscle strength, intelligence level and so on. This can have a detrimental impact on human diversity and give some an unfair advantage over others. (Science Daily)

It must also be considered that only those who can afford to get these resources or enhancement benefits will enjoy from it. This will create a gap in society. Only companies that can afford to hire enhanced humans will benefit from higher profits compared to a small mom and pop store. Also, how will one determine competence? If all athletes will have the power to take a substance to improve their performance, then the value of competition is no longer real. Also, mood enhancement drugs or technology to cure depression is a way of altering a person's behavior. The way people act emotionally is a significant factor of social relations and communication but if that is being altered by technology, how does one remain faithful to him or her?

Human enhancement technologies are opening up tremendous new possibilities. However, they are also raising important questions about what it means to be human. These technologies are currently geared towards upgrading or restoring physical and psychological abilities for medical purposes. Although, an individual has the opportunity to decide if he wants to use a human enhancement technology and it is a personal decision. However, his personal decision has an impact on the whole society as it alters the ways that we live and communicate. Also, it increases our dependence on technology. In my opinion, the development of human enhancement technology is the step forward into the future, especially in the fields where it is required.

Technological innovation is required in the military field, and there is already much technology being used that has improved performance and saved lives. The Internet is an example, which started as a military investment and was initially used by them but is now a worldwide necessity. Enhancement technology in the military field has helped reduce the need for sleep, increase the brain's capacity to retrieve information pertinent to a specific mission, and assist in decision-making under stress. There have also been advancements in military medical management where technology is used to pinpoint the exact location of the injury. Also, exoskeletons and prosthesis are being developed to help improve endurance and sustainability. If technology can help create super soldiers, then this is a technology that we need!

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**ESSAY 1**

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**ESSAY 2**

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