LINE SORSDAHL AASEN

MEDST 255 – NEW TECHNOLOGIES

11. DECEMBER 2018

Read all the instructions in the final exam instructions carefully before beginning! You’re required to write into this document, and adding the necessary pages. Re-save this file as your own, and submit it to me on December 11, 2018.

**Essay Question I.**

**New technologies have always produced unintended consequences. One result of this would be how UX designers and engineers face a number of 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.**

UX stands for user experience. A UX designer’s primary job is to avoid dissatisfaction. In addition, the UX designer aims to improve usability and extend productivity for when the user interacts with the product or service. Through techniques such as task analysis, beta testing design interface flowcharts and usability testing storyboarding, the UX designer obtains information to understand how the user interacts with the technology and how to improve its design.

As discussed in class, UX designers face a number of ethical quandaries and challenges. There is a rise of automatization where human work is devalued, where apps and programs are replacing jobs humans used to do. In addition, artificial intelligence is contributing to de-skilling. Aircrafts are now flown partly, or mostly, by computers that are too advanced for humans. The systems used in the Boeing Dreamliner and the F-35 Lighting II are so complicated that humans rely on artificial intelligence to fly them. We now experience that new technologies are taking over for human power. Concerns arise because of the changes automation brings, work can become de-humanized, reduction in worker growth, and value of rewarding work is disappearing. UX designers have to take into consideration the humans that will work with the new technologies so that efficiency and optimization do not become more important than the humans themselves.

UX designers have to think about the fact that the usage of the product or service does have a risk of not ending in user's best interest. They also have to recognize that the product or service they make always have the potential to be misused intentionally. As a Norwegian, I find the example of monitoring or “Kid trackers” interesting. I believe that it is invading children’s and teenager’s privacy and I also believe that the kids being monitored, especially teenagers, are changing their behavior because they know, or suspect, they are being monitored. It can lead to dangerous situations where the kids are challenging their limitations, or they manipulate their movements by leaving the tracker along their way. The UX designer has to take into consideration how different users will use the product differently.

Persuasive design is used to influence the user’s behavior because of how it is designed and its characteristics. As an intern at a Danish technology start-up, I experienced working with UX designers. Beta testing, where the finalized prototype and app was tested by users, showed how the design influenced the user. We wanted the user to move through the app in a specific way. Through the testing and design changes, we were able to manipulate in which order the user completed the tasks. In addition, the developers implemented notifications and pop-ups that reminded the user to use the app when they had not interacted with it for a long time. Having seen how easily one can manipulate the behavior through design has made me think about how I use apps and if they influence my choices. Shopping apps and social media platforms are places I have noticed persuasive design. When a pop-up with an offer comes up, it is hard to not click to get more information about the offer. In the next second, you are at the checkout, with a discount, and more likely to buy the product.

I believe UX designers are helpful to customers. In today’s rapidly changing world, where technology is becoming an increasingly important part of our lives. Not all users will pick up a new device and have the time or skills to immediately understand how to use it. By having professionals researching and testing the products and services that are offered, more people will enjoy the use of a new device or a program easier and faster.

UX designers have a lot of power to influence the users, but they also have a responsibility. They have been put in this position because of new technologies. What I think is important is that the designers of the programs and software are aware of their power. In addition, the consumers need to be aware of the manipulating powers that the design has. If we, as consumers, approach new technologies with a critical mindset, we can realize when and how we change our behavior because of the design. I cherish the opportunities, the democratization of the internet, and the increasingly available information that digital technology has brought us, but I believe we have a responsibility as consumers, producers, and citizens to approach them with thought and use them wisely. For users, I think it is important to be aware of the existence of persuasive design to be able to make choices based on what we want to do and not what other people are forcing upon us.

**Essay Question II.**

**The rise of digital technology has had a massive impact in 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 worldwide 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 have impacted the arts. What are some specific developments that have impacted artists? In what ways are they unrewarding and in what ways are they beneficial?**

Some of the core characteristics of the digital world are that it is electronic, it is networked, and it is interconnected.

The digital world has turned physical material into electronic form. We can record elements from the physical world to digital form, manipulate electronic information or integrate the information into existing works, creating digital art, copy an original, and we have “unlimited” storage space. This development can provide solutions to problems. I once had a teacher who encouraged the class to read news online. Why? He was allergic to ink and when newspapers started to publish content online, he found a solution to his problem. Now he could read the news without getting an itchy nose and running eyes. In addition, he discovered that the news published online were much more up to date than the newspaper that was created a day ahead.

The material in the digital world is in electronic form, which means that it is networked; it can be moved and shared worldwide. This means that new artists can sit in their homes and share their art to a large audience instantly. The tropical house musician, Kygo, started his career from his bedroom in the town Bergen in Norway with equipment for $1000, sharing his remixes on Facebook and on the audio and music-sharing website Soundcloud. He learned how to create music with the software Logic through tutorials on YouTube, and when he was booked for an event he also learned how to DJ online. It is a great example of a story of success resulting from the rise of the prosumer. Pointing out one of the statements given from an interview for Billboard: his Internet fame was growing. The expression of Internet fame is interesting because, without the rise of new technologies, such a statement would never be said. Today, musicians and artists can base their success on how famous they are online; how many followers they have on social media, and how many people are streaming, sharing, and making new remixes of their songs.

The digital world has democratized the art industry because more people can learn, create, produce, and distribute their art. Equipment has become available at lower costs; anyone can purchase a digital camera, a computer and download an editing program, and in a few hours, and post a finished film on platforms such as YouTube, Soundcloud, and Instagram in a matter of minutes. As the artist Moby is stating in the film PressPausePlay, now everyone at any age can do what used to take a long time, in just hours and minutes.

Digitalization has made art interconnected. It is open to modification and public interaction. It is no longer a one-way process where the art moves from the creator to the audience. Now, the art can be shared back and forth, between artists, between viewers, and between countries. The example with how the music video was created by the musician Ólafur Arnalds and an Argentinian guy, he was contacted by online, is a great example of how digital technology provides new opportunities. Not only did they produce beautiful art, but the digitalization also connected people with similar interests across the world.

The digitalization has also brought unrewarding impacts for artists and the audience. If everyone has the opportunity to create mediocre music, then the world will be filled with mediocre music. In today’s art industry, artists have a shorter period of success. Going back to the interview with Kygo, he states that he has to enjoy the time of his success because he knows it could be over tomorrow. A problem for artists today is that their audience wants everything quickly and easily. News posted a few hours is ago are considered old. A “new” song we heard a month ago is old. While new technologies provide opportunities for everyone to make everything fast, it also limits the time of its popularity. These fast-moving artists and their pieces of arts, will they be as impactful as those artists who spent hours, days and years to develop their art? As several of the people in the movie discuss, the imperfection that used to be in music provided feelings and vulnerability, but today's music is too perfect. The search for perfection has exceeded realness and humanity. Becoming the next hype has become the goal for new artists.

Today artists need to connect with their audience in a new way. They do not show their humanity through their recorded and perfected art, they have to show it through live shows and concerts. On the bright side, new technology has brought new opportunities for displaying art and we do not know where the future will bring us. Concerts, where the music is a piece of a magnificent show and the visuals play as much part, is an example of how convergence is also a factor for digital art.

Despite the negative effects the digital world has on the arts, I believe that it has brought more good than bad. Not all music, film and art have as much meaning behind it, but much of it is still beautiful. In the end, the digitalization of art has brought more opportunities and choices for both artists and the audience. It has also connected people from all over the world, sharing common interests.

**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 technological innovation do you think we need most and why?**

Human enhancement technology enables people who are born without, or experience loss, of limbs or senses, can be helped to live a better and more rewarding life that give them new opportunities. 3D printing enables us to reconstruct bones and body parts. Prosthetics can be produced for better functionality for a human, but it can also lead to better confidence. Different types of sensors can detect and communicate error in organs in the body, which means that lives can be saved. An example of this is “Wrap-Around Heart Sensors Array” that sends detailed information about the heart of a patient. A cochlear implant is another invention that enables people who have lost their hearing to restore it by the use of a technological implant. Researchers are in the process of bioprinting skin, blood vessels, kidneys, hearts, livers, etc.

Human enhancement is one of the reasons I consider myself an optimist when we talk about new technologies. Where I believe we are crossing a line is when technologies enhance humans to a stage we were never meant to be. Stating that these technologies can make us stronger, faster and better, makes me think about the fact that new technologies facilitate new methods of doping. Chemical substances are now used to enhance the performance of athletes, but will the future involve technological implementations that will improve performance? This is a field that requires extensive regulations; however, if we think back, people who lived before the aircraft was invented must have thought that people thinking that we one day would fly were crazy. Similarly, today we might think that having nanobots working inside our body is too futuristic, but with the pace that technology is moving forward today, we might see it in existence in our lifetime.

An area I am skeptical about is to use human enhancement in the military. The military is researching and developing methods for soldiers to be able to read each other’s minds in case of injury and to coordinate attach. As Michael Chorost calls it, “Telempathy”; being able to communicate electronically by having devices measuring neural activity, and knowing another person's feelings or their physical sensations. The problem that emerges for me is that countries such as the United States and Russia have and are using a huge amount of resources for developing and improving their military force; one the other hand, underdeveloped countries do not have the same resources or competence to fight these military empires. There is and will always be inequalities; however, technological human enhancement can contribute to make these inequalities even larger.

The technological innovation I think we need the most is nanobots that work inside of severely sick people that can repair cells and make them well faster and without long and extensive periods of sickness. Researchers are developing nanobots that can be drilled into cancer cells, killing them in 60 seconds. This kind of developments of human enhancement is what we need the most because they will save lives, curing patients more effectively and with less pain. In addition, it will save money for hospitals because the treatment time will be shorter. Cancer cases are predicted to increase worldwide, meaning, at this point, we need to develop a cure. In the future, it would be great to be able to detect cell changes already before a child is born and by injecting nanobots to alter the cells in the unborn child, we can save lives and improve the lives for people.

To conclude, I will say I am a technological optimist, especially when we talk about human enhancement for the medical field to help those with limitations and to cure diseases that we today do not have a cure for. On the other hand, it is an area that needs extensive testing and needs to be regulated. It is important to spend resources on nanotoxicology, which is an area to find out if nanotechnology is harmful to humans and the environment. We can use nanotechnology to improve the human body and the environment, but it is important that we make sure we do not do any harm to our planet and its life. I believe we can benefit the most from human enhancement for people who experience disadvantages because of loss of limbs or senses, and for elderly. The only place I can justify implementation and use of “Telempathy” is for elderly that are not capable of communicating how they are feeling. On the other hand, I believe that this leads to a completely new discussion of privacy. We humans do not want to share everything we think and new human enhancement technologies should be invented with that in mind.

**Recourses:**

**Essay Question I.**

“255\_WEEK09\_UXD”. Kiely Room 315, Queens College, NY. 30 Oct 2018. PowerPoint/Lecture.

“What Is Persuasive Design?” *Interaction Design Foundation*, The Interaction Design Foundation, 2018, www.interaction-design.org/literature/topics/persuasive-design.

**Essay Question II.**

Barshad, Amos. “Billboard Cover: Kygo on His Rise to Fame -- 'I Have to Enjoy It While It Lasts'.” Billboard, Billboard, 19 Feb. 2016, www.billboard.com/articles/news/cover- story/6882495/billboard-cover-kygo-rise-fame-dance.

Dworsky, David and Victor Köhler, directors. *PressPausePlay*. House of Radon, 2011.

“255\_WEEK10\_TECH&ART”. Online. 5 Nov 2018. PowerPoint/Audio lecture.

**Essay Question III.**

Brodie, Callum. “These Tiny Robots Can Kill Cancer Cells.” *World Economic Forum*, World Economic Forum, 14 Sept. 2017, www.weforum.org/agenda/2017/09/nanobots-kill- drill-cancer-cells-60-seconds/.

Gurdita, Akshay. “5 Most Promising 3D Printed Organs for Transplant.” *All3DP*, All3DP, 4 June 2018, all3dp.com/2/5-most-promising-3d-printed-organs-for-transplant/.

“255\_WEEK12\_CREATIVE-FUTURE-THINKERS\_1”. Kiely Room 315, Queens College, NY. 20. Nov. 2018. PowerPoint/Lecture.