City University of New York, Queens College

**Final Exam**

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MEDST 255 – New Technologies

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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 ***MAY 14, 2019.***

**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.**

User experience, or UX, describes the process of augmenting the satisfaction of users. This is achieved through the improvement of three key aspects, usability, accessibility, and the pleasure provided in the interaction between user and product. There are UX designers whose main responsibility is to ensure these key enhancements, from the moment the UX idea is thought up, to the moment the physical manifestation is distributed to the public.

UX designers also want their products to be useful. They want to maximize the utility of their product and they do so through techniques such as storyboarding. Storyboarding is where the designers essentially create scenarios using imaginary people with a basic issue, and demonstrate how their product can solve said issue.

It is clear through their techniques that UX designers are very thoughtful about how they want consumers to experience their product, but also how they feel while using the product. For some, this may sound like a problem, and it is one of many problems UX designers should consider when creating products.

In fact, there are five main ethical problems and challenging facing UX designers. The first is human costs and devaluing work. In short, this means that UX tech is making some jobs extremely easier to do and thus, some jobs are losing their value. The second issue is what is known as “de-skilling” work. Essentially, similarly to the first issue, human skills are becoming outweighed by ease of UX tech, leading to skilled workers not having as much of an edge as they used to over lesser skilled workers.

A third problem facing UX is their need to influence behavior. This is a serious ethical issue because UX designers want to influence their consumers but how far is too far? UX designers know how to use things like persuasive design that attracts users through aesthetic to their product. Designers are also familiar with behavioral sociology and behavioral psychology which all helps them get consumers in the palm of their hands. A fourth issue is the danger of distraction. Will our reliance on UX technology damage our attention spans and damage the capacity of our brain to learn and have sustained attention? These questions have no answers yet.

But perhaps the final and biggest problem, to me personally, is the erosion of privacy. Certain UX tech inherently invade privacy and are products of surveillance. Of course, there are some benefits, such as the ability for one to look after their elder parents remotely, or even to monitor their children’s safety. My problem lies in application that gather your personal data. I ethically have a stance against data mining, it is abhorrently unethical to me. Companies are gathering every possible smidge of data to abuse to make products that anybody will consume. I am very critical of big companies’ practice of gathering data from nearly all their products and whichever way they can.

However, I can acknowledge that this business model is necessary, but I still wish it did not exist. Nevertheless, I appreciate transparency when it comes to this issue, which is why I can respect when Google’s CEO Sundar Pichai addressed the issue at the most recent developer conference. “That focus echoed throughout the day, with the company demonstrating how many of its artificial intelligence capabilities — including some facial recognition and voice searches — are beginning to be processed on devices, rather than by constantly sending information to company servers, (Lerman & O’Brien). This is somewhat a solution to my concern with data mining, to use the data strictly to help the user and not for the company to do whatever they want with the data.

Regardless, UX designers are at the forefront of creating much of the technology that regular everyday consumers will encounter. Therefore, they have a lot of responsibility and need to think about their consumers more than as just money signs. There are some ways that these UX technologies can be positive, but I think the concerns and negative uses can balance the scales if designers are not as careful as I wish them to be.

**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 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?**

We can define the digital world by identifying its three key and inherent characteristics. These characteristics are as follows: it is electronic, it is networked, and it is interconnected. Each is self-explanatory, but it is still important to describe what each one means.

When one says, the digital world is electronic, it means that the content is electronic rather than in physical form. People who use digital technology to create art can make creations that do not have to be physically existent, but exist digitally. This is possible by recording the physical world onto digital devices, manipulating electronic content that already exists, creating from scratch on a device, or by combining any of these processes.

However, each defining characteristic has its caveats to the value of the work that is created digitally. For example, the fact that it is electronic can be good because of the amount of additional space that can be used to create, the possibilities are almost limitless. My favorite example of this is Chad Knight’s Instagram page. “Knight, a senior 3D design manager at Nike, posts a new piece [nearly every day on his Instagram account](https://www.instagram.com/chadknight/), mostly of giant, surreal, humanoid figures placed within stunningly realistic natural landscapes. On a few, you’ll zoom in numerous times because you won’t believe they’re not real,” (McDonald).

Knight’s work is the perfect example of how you can work without limits to create surreal work that looks real, which is another caveat to this work being electronic, how can we distinguish between real and fabricated. There are definitely some dangers to this, especially when the wrong people create harmful content. Also, is there any value in this work? Is there any skill to this work? Is it worth the cost if anybody can learn how to do this type of work? These are questions worth raising that I will give my own opinion about later in the essay.

Additionally, the fact that this work is networked means that it can be made available anywhere and instantly, usually free of charge. The real cool part about it though is that the content is, more often than not, interactive. Furthermore, its interconnectivity means that the work is open to modification, public interaction, and visits can be tracked, which can go either way in the good-or-bad spectrum.

Considering these issues, I believe there is immense value in digital artwork. I think that these caveats can be overcome as long as the artists form a community with each other where they can organize and collaborate with one another. Currently, I don’t believe there is such a space for them, but it would be integral for them to create such a space in order to help each other progress, and demonstrate their value in the digital landscape. This way they can unify to build awareness for the arts, while also demonstrating their skill compared to amateur artists, which is where the value and skill of this talent would be showcased best. Some people, however, debate that digital arts can have negative affects towards visual arts, but I would debate that the two can complement each other perfectly. I have seen some showcases where the physical work is accompanied by a digital and interactive program such as at the Cooper Hewitt Smithsonian Design Museum.

We need to invest in these arts because these artists are not getting the credit they deserve for the talent they possess. These creators resort to posting their work online because there is no showcase for them to properly display their work. Some of the best digital artists are hired by big companies to work for them, some freelance artists don’t want to be constrained by creating for a big company. I believe if we invest into digital artists, higher quality content will emerge and we will see some progressive uses of digital tech that will empower human beings.

**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?**

Some of the more beneficial new technology comes in the form of human enhancement technology. While I believe, this is what new technology should be geared to do, improving the human condition, whether that be physically or mentally, I still acknowledge that they also have their own issues inherent problems and doubts.

Nevertheless, we must identify some specific key developments in human enhancement technology. First, one should define human enhancement, which is any attempt to temporarily or permanently overcome the current limitations of the human body through natural or artificial means. Human enhancement also refers to the convergence of nanotechnology, biotechnology, information technology, and cognitive science to improve human performance. Some key developments in this type of technology include organ transplants, powered exoskeletons, and electronically augmented senses. These things can aid or correct certain human conditions such as types of illnesses, disabilities, enhancement of human characteristics and capacities, or the full substitution of a necessary part.

Just as an idea and a way to solve certain problems that a vast number of human beings face, I have no issue with this concept and the development of such technology. However, my issue would lie in the availability of such things to the general population which is not really about the technology. Additionally, how can we ensure the success of some developments, when some things are largely experimental and speculative.

The answer to both is answered by an experimental brain implant that is being studied in Shanghai. “The treatment — deep brain stimulation — has long been used for movement disorders like Parkinson’s. Now, the first clinical trial of DBS for methamphetamine addiction is being conducted at Shanghai’s Ruijin Hospital, along with parallel trials for opioid addiction,” (Kinetz). Additionally, this experimental treatment is being performed on a drug addict without money or loved ones, who could be deemed as expendable should the treatment not work. I have major ethical issues with this because this makes me think of a dystopia where poor, expendable people, are used as lab rats to test out treatments that could eventually work for the more privileged of society. The same article mentions how this treatment has been difficult to garner back up in Europe and the United States due to cost and ethical quandaries, therefore China finds itself at the forefront of this research.

Again, I only hope for a way in which we can ensure the effectiveness of such treatments without putting human lives on the line, but I understand that there are tradeoffs, such as how a sacrifice of a single life can save a million more. However, then it would lead to question if everybody will have the same access to effective treatments to such complex issues because this device alone can cost $100,000 to implant.

While I am of the firm belief that these amazing new technologies should be aimed towards human enhancements and progress, physically, mentally, and ideologically, I understand that there might be some tradeoffs that many people will have to live with. This area of study probably faces some of the more ethically challenging dilemmas, but personally, I think the tradeoffs will be worth the knowledge in order to ensure they will work for the people who need them most.

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