A Glance at Ethics in the Digital Era

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Abstract

This paper explores the complex world of computing ethics. The paper revolves largely around philosophical debates. As with most, if not all, philosophical debates, there is no clear-cut solution. Indeed, after exploring the literature on the subject, more questions were raised than were answered. As such, this paper aims to bring some of those questions to the forefront for the reader to consider and ponder as an independent exercise.

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The Trouble of Ethics in Modern Times

There have been countless societal changes during the past century [the 20th century]. This century alone witnessed two World Wars, the end of colonialism, civil rights movements, and the automobile to name a few. This century also saw countless scientific advances such as the introduction of the turing machine, the studying of computability and computation, theories of relativity and quantum mechanics, mapping of the first DNA structure, and air travel. During this time period, the number and variety of home appliances increased dramatically due in part to advancements in technology, the availability of electricity, and increases in wealth and leisure time. By the end of the 20th century, there had been more technological advances than in all of preceding history. Communications and information technology, transportation, and medical advances have changed the way that we live our lives ("20th Century"). With this increased pace of development and change, the old institutions of ethics and law have continued to slip further behind the times leaving a quagmire of questions and opposing viewpoints and motives. There is no holistic ethical framework which has been developed or adopted up to this point in time [circa 2011].

Two Sides of the Computing Ethical Framework Debate

In computing journals there has been some discussion and claims that computer ethics is unique. Herman Tavani explores what is meant by this claim in a paper titled "The Uniqueness Debate in Computer Ethics: What Exactly is at Issue, and Why Does it Matter?" and breaks the arguments down for analysis.

There is debate currently about whether there is anything special or unique about the moral problems considered by computing ethicists (Tavani 37). On one side of the debate are

those who believe that there is nothing new or special about the ethical issues involving the use of computers. The viewpoint held by this group could be considered the *classical* view in much the same way as there are *classical* economists compared to the *holistic* economists. The classical viewpoint would be that a crime is a crime and that privacy violations are privacy violations regardless of whether they involve the use of computers.

On the other side of the debate, mostly philosophers, are those who believe that at least some aspects of computing ethics are unique. For example, one subset of this group might argue that some ethical issues did not exist before the introduction of computers, and as such, these issues are new and unique. Another subset of this group might argue that Information/ Communication Technology (ICT) has introduced certain moral problems which simply cannot be analyzed or understood with conventional moral frameworks. (38).

Information Ethics (IE)

Computer ethics and its importance has significantly grown over the past decade. From a rather small number of professionals, scientists, librarians, and philosophers it has become a mainstream component of applied ethics and philosophy. One of the reasons for this is the wide propagation of computers to the masses (Ess 89). No longer is a computer the size of a room, and so expensive that only a handful of people in the world can afford one. Today, nearly everybody in a developed country has some form of computer in the house. Information ethics (IE) has seen quite a lot of work by Luciano Floridi. A substantial portion of his work is now known as ICE: Information and Computing Ethics (90).

Information ethics is a new field of study for those interested in the moral dimensions of Information/Communication Technologies. IE is a radical move from the anthropocentric view

of moral agency towards an info-centric view. Allison Adam, in her paper "Ethics for Things" explores how IE can be used as an ethics framework for *things*.

Adam notes that one of the interesting changes in IE is that humans no longer need to be the center of moral agency. In fact, nonhumans can also be moral agents in the IE framework. It was Floridi who extended the classification system to include nonliving things. Essentially, treat all objects whether they are living or not in an info-centric way. K. E. Himma says that part of the argument depends on whether information objects [whether they are living or not] have an intrinsic value (Adam 150). This idea of intrinsic value will be discussed further in a following section.

By tweaking IE to include this viewpoint of moral agents it is hoped that a framework can be built for the digital era. However, there is still a lot to think about, particularly in terms of artificial intelligence. Nonetheless, this could offer a seamless approach towards moving forward with how objects in our moral world react.

However, the debate is not settled, and likely never will. This is because this is a philosophical debate. It is unlikely that all points of contention will ever be fully resolved to the satisfaction of all parties. However, the discussion of ideas is progressing nicely with constructive feedback and dialogue (Ess 95). Perhaps we can achieve a usable, but not perfect, framework in time.

Knowledge as Property

The world has been moving very quickly away from what has essentially been production to information. Essentially what is happening is that a new economy is rising. This new economy is called the information era. Most of the value that is added to the economy is

created by the brain rather than muscle. Today, quite a bit of work involves the manipulation of information and the deployment of knowledge rather than the manufacturing of physical objects (May 1039).

In the old days, the workers did not own the means of production. The factory was commonly owned by someone other than the worker. Today, however, the means of production has shifted to the brain of the worker. This means that workers are now the ones in control. This also means that the assets of the company lie within its workers and owners of intellectual resources. The end result is that companies cannot own their most important assets—human capital (May 1040). However, through various institutions such as the copyright and patent systems, companies can own the output of their human capital to a limited extent.

According to May, the information revolution was largely successful because capitalists tried to make the information economy similar to that of the existing material goods economy. Specifically, the legitimization and expansion of property and knowledge and information. What this means is that those providing the creativity are not the ones who benefit the most from that product. Instead, the control of intellectual property remains with the companies.

Large corporations and other companies use the patent system to make sure that they can control the valuable knowledge and information that their workers produce. One of the byproducts of this is that the expenses to file a patent are so astronomical that it makes it difficult for inventors to protect their innovations. Nate uses James Dyson as an example of this situation. Dyson was forced to abandon one of his innovations in his vacuum cleaner patents because he was unable to afford the renewal fee when trying to start production. As a result, that innovation is now being used by his competitors. Similar opportunities for exploitation also exist in the

copyright system (May 1043-44). How does all of this affect the ethical framework that should apply to computing? One thing for certain is that it makes the distinction between morality and law more difficult to separate.

Example Scenarios

The legality of how this very paper was written can be used to demonstrate the moral gray area that computing creates. This paper was written with the use of voice recognition software known as Dragon Dictate. The author of this paper had personally bought a student version of the software specifically for this task. However, the software was not available as an electronic download. Instead of getting to work immediately, the author would have had to wait for several days to receive the software in the mail. Keep in mind, the bank account of the purchaser had already been debited for the amount of the purchase.

In order to be productive, and since the purchase had already been made, the author downloaded a *cracked* version of Dragon Dictate off the Internet. Was this morally wrong? Was this illegal? On one hand, the software had already been paid for in full. Additionally, when any software is purchased in general, only licenses are granted to the purchaser. There need not be a transfer of any sort of physical medium. Perhaps, a discussion about when ownership transfer actually takes place could be raised. However, that is much like trying to determine whether abortion is morally right or wrong by determining when a fetus is considered *alive*.

Norman Bowie uses a similar example or analogy in “Digital Rights and Wrongs: Intellectual Property in the Information Age.” This example builds on Richard De George’s example from 1999. In this example, one of the characters named Joe records the popular movie “Sound of Music.” This movie was playing on a television channel. However, Joe was going to

be away for the evening, so he intended to watch the movie when his schedule was more convenient. De George notes, that this is both common and legal. Joe may record as many programs and movies as he wants for later viewing. This is as long as the viewing is only for personal use and not for resale or for rent. However, another character, Richard, intended to record the movie as well, but made a mistake and set his VCR to the wrong channel. As a result, he mistakenly copied the incorrect television show. In this case, Richard's reasoning was that since it was legal for him to copy the movie directly from the television there was no principle difference to making a copy from Joe's tape. After all, he has already paid for the cable service, and has no wish to watch the program that he has accidentally recorded. Now let us add a third character, Tom, to the situation. Tom simply forgot to set his machine to record. Rather than call his friends to see if any of them had taped the show, he simply went to the Internet and asked if anyone had made a copy from the TV broadcast that he could copy. Tom's reasoning in this case is similar to Richard's. Tom does not see any principal difference between his recording of the show directly or getting it from someone else who had recorded it directly and legally. It should be noted that all three of these characters have legally paid for the television service (Bowie 77-78).

De George's example highlights the difference between legality and morality. It is Bowie's opinion that Joe's taping of the movie is legal. However, it is Bowie's opinion that copying the movie from someone who supplies it on the Internet is illegal. Bowie believes that Richard getting a copy from a friend is also of questionable legality. Whether Bowie is correct in these conclusions is up for debate. One thing that can be said for certainty is that all three characters felt that they had done nothing wrong (Bowie 78).

Value of Information Objects

An interesting point that Philip Brey raises in "Do We Have Moral Duties Towards Information Objects?" is whether we should be placing an intrinsic value on objects that previously had no value. This was an idea originally raised by environmental philosopher Callicott in 1995. Callicott notes that people do not normally seem to assign an intrinsic value to information objects (Brey 110).

The reason that Brey brings this points to the forefront is that he argues against Floridi's approach to Information Ethics. Instead, Brey argues that IE can only succeed if it moves away from a value centered ethics to a respect centered ethics in which information objects must be respected because of some other sorts of value (Brey 114).

Why is the argument about whether information objects have intrinsic value important? Here is an example to demonstrate this importance. Let us say that you own a statue. A burglar breaks into your house and steals the statue. Most, if not everybody, would say that this is burglary and theft. Now let us take this simple analogy to the digital age. Let us say that you have a JPEG image a statue. A JPEG file is made up of a sequence of 1s and 0s—the language of computers. This file is an information object. If the file is intrinsically worthless, then is it morally wrong to make copies of this information object? If someone were to make a copy of this image for themselves they would not be depriving you, the owner of that copy, from continuing to have this image. Ignoring the quagmire of copyright law for the time being, is the action of copying the image in this instance morally wrong? The answer to this question could depend on whether there is intrinsic value placed on the information object. If the file is worthless then there is no tangible harm. However, if the file does have some sort of worth, then

there is some tangible harm. What about the value through respect as proposed by Brey? Must society respect the uniqueness of the objects and restrain itself from copying even if it has the ability? What affect would this have on future innovation through derivative works?

The Monetary Bias

So far, the concept of ownership has been ignored, so let us extend this case to a MP3 music file and incorporate an owner. Let us say that the information object now has some sort of value placed on the contents within. For example, a musician would say that his musical piece has some sort of value to society. In the physical realm the artist can control and manipulate accessibility to the product to some extent to achieve financial gains. However, in the digital world creating similar barriers is much more difficult. Additionally, the comparison between the physical world and the digital world does not help answer the moral question. If a person sees the actions or the products of another first and is able to duplicate the actions or product, is that morally right or wrong?

If you hear a song on the radio, is it morally right or wrong to think about it after you have heard it. Obviously, you cannot help yourself but think about the song once you have started. We could say that a transference of knowledge has taken place in this situation. In fact, we could also say that the knowledge was copied from one object to another in this instance. Morally, at this point, does it matter whether the object has intrinsic value?

Product or Service?

When a person buys a DVD containing a movie, does that person received that movie as a product or as a service? This is an important distinction to make. If the person receives the movie as a product, then it seems reasonable that the person should be able to do what he or she

pleases with that movie. However, if the person receives the movie as a service instead, then the selling organization presumably has more control over the use of that item.

There has been much confusion over this point in recent years. If the purchase is a product then it would seem natural for the buyer to be able to do as he or she pleases with that purchase. However, the presence of digital rights management (DRM) takes away the freedom that a buyer might otherwise have if the item is a product sale. In this case the sellers of the DVDs treat the sale as a service or as a license to view. However, they make the sales under the pretense of ownership. They say that when a consumer purchases a movie in the form of a DVD that it is theirs to keep. It is theirs to do with as they please. That is at least the premise.

The cognitive dissonance present in this case lies in the following fact. Today, a movie is sold on DVD under the pretense of product ownership, but it is treated as a license to view without the corresponding rights or abilities. For example, if what was truly being purchased was simply a license to view then why is there so much controversy over consumers copying media from, for example, friends? If the consumer has simply purchased a license to view then what difference does it make where the source of the material came from? And yet, if the sale was as a product of true ownership to the user why are there barriers in place [DRM] to stop the buyer from doing as he or she pleases with the contents?

This cognitive dissonance is exploited and abused on both sides. One example of this abuse can be found in the digital millennium copyright act (DMCA) which was enacted in 1996 and criminalizes the production and distribution of technology, devices, or services intended to circumvent measures that control access to copyrighted works (“Digital Millennium Copyright Act”). This law, while it may have had good intentions, removes freedoms from the consumer

that fall under the category of fair use. A prime example of this can be found in GNU/Linux operating systems in the last decade. During that time period, applications that could play back DVDs containing movies that were encrypted were [and still are] in violation of this law. This is the case whether or not the purchaser of the DVD has a legal standing to free access of its contents.

This situation raises the question, should all software artifacts be treated as a service or as a licensing rather than as a product? The first-sale doctrine is an area of further discovery left as an exercise to the reader. It is excluded from this paper because it begins to move away from the ethical questions to those of law. As has already been established, there can be differences in ethical beliefs and the law.

Is there a Conclusion?

As with all questions of morality there is no clear answer. Just as there are arguments on both sides about whether it is morally right or wrong to kill a murderer, there are arguments on both sides about whether certain actions that involve technology are morally right or wrong.

Many institutions such as the intellectual property systems of the United States further muddy the waters. It is against the law to use a patented technology without remunerating the inventor. But the question must be asked, should that patent have been granted in the first place? Many patents seem to be just vague ideas that do not really provide any useful information on the actual implementation.

The only thing that can be said for certainty at this point is that the distinction between morality and law must first be separated before proceeding. Any ethical framework developed specifically for the digital age must be kept separate from what is lawful and unlawful. This is to

avoid any bias that may come from monetary gains to be made. At least, it is an attempt to reduce bias.

Here is a thought provoking idea: it seems that historically, the younger generations adopt the moral practices of the previous generation only in part. This makes the digital age that we have entered a particularly unique and important event. It is the morality that the last generation or two, and the morality of the next one or two generations that will lay the foundation for the moral system of the digital era well into the future.

Perhaps, the act by older generations who cling to traditional, physical, moral views may cause the feeling of *oppression* to occur within current generations. The end result being that morality will be skewed towards rebellion and avoiding the status quo, so that they can *stick it to the man*. If this is true, then there could be dire consequences to the very foundation of morality in the digital age moving forward, perhaps not for the better. There are already cases where, for example, students do not feel that plagiarism is morally wrong. They say that this is the new age where new creations are formed by taking existing creations piecemeal to make something new in a quickly changing environment, where there is little time, and no impetus to seek down *owners* to request usage permissions (Miller).

A Personal View

In this section I will give my own personal view on the matter. This is not in any way a complete framework, but simply my own personal viewpoint which is still in the formation process. Having grown up with computers, perhaps I can provide a unique perspective: one that is probably shared with others of the same generation.

First, let us find a physical analog to the idea of an information object. For this example let us use a cardboard box. For this example, we will say that a cardboard box is equivalent to an information object. Generally, we say that a cardboard box does have some sort of intrinsic value. This intrinsic value is determined by the components of which the box is made. The reason for this is that the primary component, trees, are a constrained resource. The cardboard box, as an object, has no intrinsic value. However, the material that the cardboard box is made of does have an intrinsic value which has been determined arbitrarily through economics by humans.

An information object can be thought of in the same way. An information object has no intrinsic value alone. However, in the case of an information object, it is not made up of any components that are considered constrained resources. Whereas the production of additional cardboard boxes does indeed incur tangible usage of constrained resources, the production of information objects does not incur the same tangible usage. The one exception that could potentially be made is the resource of human capital: our time. Perhaps, there is a tangible cost in the initial creation of an information object; however, the creation of additional information objects that are identical to the first, do not incur additional tangible loss of human time.

The cardboard box is simply a container for more valuable objects. For example, a cardboard box sitting out on the side of the road, empty, has no value. Likewise, an information object that is empty also has virtually no value. If the cardboard box has contents of value, then people are willing to pay some floating amount of money to obtain that physical asset.

A Contrived Physical Scenario

Let us apply our abilities of the virtual world to the physical world. For this example, let us say that a craftsman builds some ornate wooden objects and places them inside the cardboard box.

Let us also say, hypothetically, that three people are interested in obtaining the contents of this cardboard box [the ornate objects] and engage in an auction. The contents of this box are unique in the physical world. There are no substitutes. The price, or value, of the object will be determined when two of the people are no longer willing to bid a greater amount. That is, the value will continue to ratchet upwards until two of the bidders drop out. The resulting highest bid price thus becomes the value of the object.

Now, reset the scenario and see what would happen if it were possible to duplicate objects in the physical world at no cost. Let us say, that the cardboard box, along with its contents, could be duplicated perfectly at no additional cost. The craftsman is still in possession of the original object and has absolute control over it. As such, the option over how and when to perform the initial distribution of that objects still exists. Let us say that the winner, however, decides to allow the other two bidders free access to his won item. In this scenario, the other two bidders are able to duplicate the cardboard box and its contents [we will say that they have special mental abilities]. The craftsman still made the original sale of his original ornate objects. As such, the craftsman is no longer the rightful owner. The winner with the highest bid still has possession of his box. Thus, neither the craftsman nor the winning bidder have *lost* anything, or had anything *stolen* from them.

What can we say about this scenario? Is this fair to the original craftsman? Perhaps it is, and perhaps it is not. It is difficult to say. This is the ambiguity that has arisen as a result of the direction that society has taken with the transition from physical production to information knowledge. In the mind of the craftsmen, this scenario is simply not fair. The craftsmen would probably feel as though he deserved or had some inherent right towards attaining something in exchange for those two additional copies. On the other hand, the two bidders with the copies, do not feel as though they are required to remunerate the original craftsmen in any way. For one, their efforts cost the original craftsman no time nor additional resources to produce those additional copies. Second, it is they [the copiers] that had to exert the power to create the copies. Finally, it was the rightful owner of the original object [the winning bidder] that granted the copiers access to the object.

The argument could be made that the winning bidder, and the one in physical possession of the original has been, in some way, deprived of being the holder of the *only* such artifacts in existence. What is the value of that privilege? I would argue that the value is the price that the bidder agreed to pay. If the bidder anticipated that the work would be copied, then the bid price would reflect that knowledge in advance.

What if the the current owner stipulates that the only way to view the object is by agreeing not to copy it? This is a different situation, because now it is not the morality of copying an object that is in question, but the issue of abiding to a mutual agreement. This is the crux of the problem today with groups such as the MPAA or RIAA suing people who downloaded a movie or song. The people that are downloading these assets have not agreed to be bound by any non-copy clause with the original creators, even if the original creators may have made such an

agreement with the individual to whom they first made the sale and is now allowing others to make copies. Perhaps this can still be deemed wrong by law, but is it a moral issue to the tertiary downloader? That is a difficult question to answer in and of itself.

A Real Virtual Scenario

Now it is time to apply the above contrived physical scenario to a real virtual scenario. An artist performs a new musical piece and creates a digital file containing the song. The artist wishes to make money from her creation, so instead of selling the physical song she decides to sell licenses to listen to the song. Now, copying a song to listen to without a license is against the law rather than being a question of morality. Morally, copying a song from a friend to listen to it without having paid the license fee is immoral simply because doing so is against the terms of the original distribution.

The problem that we run into here, is that it should not matter how or where the copy of the song was obtained as long as the listener possesses a valid and legal license to listen to said song. If the listener has paid his or her license fee, then it should not matter where he or she obtained a copy of the song. The source could have been iTunes, it could have been bit torrent. What really matters is that the listener has obtained a license to listen to the song. The crux of the problem, however, is that today the law does not reflect this reality. Instead, the law reflects a reality where the point of distribution is treated at the same level as the license. Indeed, the deeper root of the problem appears to be the inconsistency in applying existing laws in such matters.

Where can We go from Here?

Society as a whole must decide how to treat these new phenomena. Never before has it been possible to copy objects at no cost. Current laws reflect a reality where it is assumed that control over distribution can be achieved and monitored. However, this is simply not the case today. The advent of the Internet has made the transfer of information and objects near instantaneous. Proposed solutions by lobbyists to these problems include requiring, for example, Internet service providers to enforce the law themselves. While such a law would be beneficial to copyright holders it short circuits due process. Such a policy would become a menace to society in my opinion.

In sum, the following are my tentative conclusions and recommendations for moving into the future.

1. Information objects have no intrinsic value. However, we must acknowledge that the information contained within does have some sort of value. As such, we must accept that once this information has been released and is no longer under our direct control, that we have no reasonable right to expect that we can continue to control the use thereof. The same mechanisms that allow us to control physical distribution no longer apply in the virtual world. It is my opinion, that methods such as digital rights management (DRM) are half baked solutions and attempts to achieve the same kind of physical distribution control. We must first realize that the rules have changed.
2. The rules have changed and we are reluctant to leave for old ways. However, it is vital that we leave our old ways and move into the future to be successful.

This requires that we revisit the way in which we value objects and how we treat them. We must develop a consistent system of values via respect of some kind towards the contents of information objects.

3. Lawmakers must realize that, today, right now, there is a cognitive dissonance that is unmaintainable moving into the future. For example, if it is illegal to copy a song from a friend and such occurrences are treated as theft, but society does not view it as a *theft,* then attempting to enforce such laws is futile and negative to society as a whole.

Keep in mind, that these are just my personal viewpoints and thoughts at this point in time. I am still in the process of grappling with these new realities as we all must continue to do so. To close this paper, I will share two things of which I am certain of:

1. We must take a holistic view of this problem. Any changes that we make to the system will have ramifications not only to society, but also on economics, and a multitude of other areas.
2. We must take action now. Indeed, it may already be too late. Recent generations have a drastically different view of the situation than older ones. This difference will only grow with time.

In sum, it has been demonstrated that our current frameworks are not proving entirely useful in approaching these questions. The current system which is intertwined with law has lead to a scenario where certain parties may have more control over the eventual outcome—an outcome that may not be in the best interests of society as a whole. There is ample evidence, both in philosophy, and in the real world to advocate the gathering of a great conference and the

construction of new frameworks and approaches that can be used to bring about a satisfactory resolution to the majority at large. The saying that goes, "I want this done yesterday," is quite fitting for this situation. I fear that we have waited too long in answering these questions.

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