The World Wide Web has changed our lives since its inception. With the advent of the World Wide Web, we now have more information than ever imaginable, available at our finger tips. If you are looking to an answer to a question, most people probably turn to the internet for their answer; as opposed to just twenty years ago when someone would go to the library and search through hundreds of books and encyclopedias to find an answer to a question. The World Wide Web has opened our eyes to what some people publish on the internet. The internet is a culmination of HTML code that forms what we see in our browsers – web pages. Web pages contain text, pictures, videos, and other media. Recently, the World Wide Web has introduced humans to a new medium known as social media. The World Wide Web is both a source of an infinite amount of helpful information, but also contains harmful information.

 Nigel Shadbolt, professor of artificial intelligence at the University of Southampton, UK says it best, “The web is too important not to understand” (Thompson, 2010). With the evolution of the World Wide Web, it is very important to learn about how it works. As with any new technology, theory, or concept, there must be an ‘expert’ on the matter, and for the World Wide Web, the ‘expert’ is being developed now – web science. It is important to understand all facets of the World Wide Web such as technical, social, legal, and political (Thompson, 2010). Without an understanding of these web science concepts we will not be able to develop the World Wide Web into a tool that can be used to better society. There are already web scientists that have set out to make the World Wide Web more intuitive for its end-users. They are trying to develop what they are calling “web 3.0” that will try to truly understand a query that we type into a search engine, instead of just returning results that simply match words in our query (Thompson, 2010).

 The World Wide Web probably seems like a very useful tool to many humans; however, there is a dark side to the World Wide Web, known as the ‘dark web.’ The dark web is just a sub set of the World Wide Web. Dark web pages and information are stored just like every other page on the internet; these pages just contain information that is harmful to society. The dark web can be information on terrorists or web sites that sell prescription drugs to people that have not been prescribed them. In an effort to avoid being prosecuted for their illegal actions, members of the World Wide Web that participate in dark web have a variety to ways that they can prevent government officials from finding out where they are located. Participants of the dark web circumvent being caught by bouncing their information from random servers that are located all throughout the world with each request that they send over the internet. This method of surfing the World Wide Web is very hard to track because each request is using a different web server. Users of the dark web also use ‘fake’ money to pay for their illegal objects. They use a standard gaming money that is not traced to names but only user names. This method of payment allows users to buy and sell illegal items on the internet without being caught (BBC, 2012).

 Another interesting question that many people have proposed about the World Wide Web is, How big is it? This is a logical question that anyone could ask because they want to know how much information is on the World Wide Web and how fast is going to grow. Some web scientists refer to this as the web’s ‘body mass.’ While in most any other case, this question would have a very simple answer, but when it comes to the World Wide Web, there is not simple answer. According to Maurice de Kunder, author of www.worldwidewebsize.com, the size of the World Wide Web changes every day (de Kunder). There is no scientific way to calculate the actual size of the internet. The most common method of determining the size of the World Wide Web is called crawling. Crawling is where a search engine such as Google goes out on the internet and indexes as many pages as it can find, and has time to find. “The size of the index of a search engine is estimated on the basis of a method that combines word frequencies obtained in a large offline text collection (corpus), and search counts returned by the engines” (de Kunder). Determining the actual size of the World Wide Web is a daunting task that will take a bit more perfection before an accurate number can be derived.

 The World Wide Web is a vast collection of information that can both help and harm society. Through the use of the internet, we can further our knowledge on an interesting topic, stay abreast of our friend’s latest accomplishments and pictures, and shop until we drop. However, there are some people who participate in the ‘dark web,’ which is place that has illegal activity such as the purchasing of illegal drugs or piracy through peer-to-peer transfers. The World Wide Web is also so large that is hard for web scientist to arrive at an accurate number of how big the internet really is. We have come a long way with the internet since its inceptions in the 1980s, but we have a long way to go before we understand everything that there is to know about it.

Intellectual property is something that is very important in education today. Students have been raised in a society where it is acceptable to download music, movies, and games for free. Many parents and guardians have begun downloading these items for free at home because they are trying to save money, but in turn, our students are observing these actions and think that they are okay practices because mom and dad are doing them. So, with that being said, it is our job as educators to teach our students the value of intellectual property and how it should be observed and cited, and given credit where credit is due. Some ways to explain this to students is to show them videos from the Center for Social Media that explain what intellectual property is and why it is so important. We as teachers can also teach our students that if you break these laws, there are consequences. We can do this by talking about law suits that are out there where people have gone to jail or had to pay large sums of money for stealing someone else's intellectual property. There could also be some fun and creative games or activities that would engage students into learning about intellectual property. In order for someone to understand the ethical issues of stealing intellectual property through the use of bit torrent sites and other means, the student must have some sort of ethical background. Without some sense of ethics, there really is no hope for students. Again, in order to show students the importance of stealing, music, movies, and games, showing them lawsuits that relate to these issues and the outcomes can really change someone’s life. It would be great if there was a case that you could show them and talk to them about that was close to the area in which you teach. I think that it is important to get students to understand that stealing someone else's intellectual property is like someone stealing their iPhone or iPod. It really tends to hit home with students when you can relate this information to something that is personal to them. Piracy is something that is all around us and to be quite honest, it's something that will probably be here for a while. The best way to educate students is to show them the repercussions of what can happen when they steal someone else's intellectual property so that they become afraid of what could happen to them and hopefully they will stop downloading music, movies and games. It is most important to teach our young students about this as early as possible. If we started teaching the basic principles of this in first grade and then building upon this each year thereafter, we could really hope to see a change in society and the number of pirated law suites in this country decrease. Not to be selfish, but if we begin teaching this information earlier, then when I have to teach these students at a college level it will already be in their minds and I will not have to focus so much on what stealing intellectual property actually is.

References

BBC. (2012). The dark web - the internet's secret black market [Web]. Retrieved from http://www.youtube.com/watch?v=r86k2vCEhuA

de Kunder, M. (n.d.). The size of the world wide web (the internet). Retrieved from www.worldwidewebsize.com

Groc, I. (2008). Spotlight on the Dark Web. PC Magazine, 27(4), 21-22.

Thomson, R. (2010). Web science puts cyberspace under the microscope. New Scientist, 206(2759), 20-21.