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ICTN4040

04/11/16

### **Rise of Robotics**

Security, a key aspect of assuring that important things are kept safe, is evolving daily. According to the National Information Systems Security Glossary, information security is defined as “the protection of information systems against unauthorized access to or modification of information, whether in storage, processing or transit, and against the denial of service to authorized users or the provision of service to unauthorized users, including those measures necessary to detect, document, and counter such threats” (University). The question is, to what extent is too far when it comes to the privacy of the individuals who need this information to be protected?

It seems that in today’s current society robotics is becoming a big thing. Are these robots here to dynamically replace humans or are they fulfilling their purpose on protecting things the way they are intended to? Are we really on the way to being in the age of the movie “I, Robot”? Slack Alice, of Infosecurity Magazine, states that once the super intelligent artificial intelligence (AI) machine is made and giving the technology and capacity to develop, over time, they would “outstrip” their intended purpose. With the AI constantly evolving in that way, humans would become a second class status in the long run preparing us for enslavement or even worse, genocide (Alice).

There are positive aspects to robotics in some fields. The armed forces are using artificial intelligence to be their eyes and ears before stepping into combat. These robotics are patrolling the areas and carrying the firearms to destinations, according to Dr. Andrew Goldenberg. These robotics are monitoring the temperature and landscape areas as well for the individuals in the agriculture (Brumson).

One particular branch of the armed forces, Army, has voiced that they are willing to cut on personnel numbers and adopt more robots in the near future. The Army is using robotics to help active soldiers carry heavy cargo while in combat. These robots look like the K-9 that the armed forces train. Also, the armed forces speak on having autonomous vehicles to transport supplies as well (Ackerman).

Another type of robotic is the home security system. This system has many vendors who supply you with the basic hardware needed to protect your valuables in your home. One of the companies that comes highly recommended and is used by many people is the American District Telegraph Company, better known as ADT. With over 140 years in the business and 6.5 million customers, they are one of the fastest growing companies using robotic hardware to effectively monitor a home. Having one of these security systems installed in your home guarantees alerts if away from home, access through mobile applications to secure, and control your home (turn off lights, close garage, activate alarm system, etc. (Security)).

Along with the security systems in households, you also have robots that do daily chores. There are robots that vacuum and even mow the lawn. The downside these types of robots are they have some security and privacy risks. The robots typically operate off the home network;

therefore, if that network is breached, hacking the robot can be simple if the default passwords have not been changed. Also with these robots having cameras and microphones they store a lot of sensitive information about the owners. If hacked, the hackers potentially have classified information that can lead to blackmailing and other sorts of illegitimate purposes (Dimov).

There are steps that can be taken to try and protect yourself from damage. One of those would be to know the product you are about to purchase. Do not go out and just buy a robot of some sort without knowing anything about it. Also you will want to update the software on the robot normally.

Also another example of robotic that plays a role in information security is the robots that Microsoft has roaming their campus at Silicon Valley. Microsoft calls the fleet of security robots “K5” and they are standing at five feet and weigh three hundred pounds. These robots are equipped with GPS, 360 degree HD video, thermal imaging, and behavioral analysis. Although the robots are not equipped with weapons, they do sound an alarm if needed to dispatch a human security guard. Microsoft recently reported that these are future goals for the robots but are not active on their campus (Khan).

One vital aspect to the developing of robotics is in the medical field. When having robotics in this field of work it places a lot of responsibility and reliability on the robot and its operator. At all times, the operator needs to be sure that robot has not been tampered with before any type of proceeding. These robotics are assisting surgeons with their procedures. An example of surgeon robotic would be the Da Vinci Si HD Surgical System. This system looks like an octopus holding knives.

Figure 1Da Vinci Si HD (10.2011)



The robot is known for its capabilities of reducing the incisions needed to about one to two centimeters. Also, this robot cuts the patients stay in half, reduces the cost of procedures by about one-third, and allows for a less painful and quick recovery process (10).

Another robotic in the medical field that is used is the CyberKnife Robotic Radiosurgery System. This system is a non-invasive option to treatment of tumors rather they be cancerous or not. The system uses an image guidance technology to track, detect, and attack tumors. The bot properly administers radiation to damaged tissue keeping healthy tissue out of harm way. This procedure with this bot also cuts into the recovery process and cost factor (10).

With these different types of robots out here in the world, we have to take into consideration the rights and acts that can be violated. The Workforce Investments Act is an example of one act that would be hindered with robots taking over the workforce. This act provides incentives for state governments and local employers to provide education, job training and retraining. Thus, in the long run, the local governments will see their budgets be affected and in the end have to make some cuts in vital areas in of the communities (Houston).

With these robots coming in and possibly depleting the human workforce, what effects would this place on the economy? The world goes round with money being spent and if money is not being made then a recession can begin ultimately leading to another depression. This is where I ask the question is it logical to continue to manufacture these robots to be used? Of course most of the educated class will not be greatly affected from this being that their jobs require the human mannerisms. The thing that matters most to humans is actually having a human interact with them to make whatever experience so much more enjoyable.

In the long run robotics are evolving the way we operate in the world today. Whether it is from a food aspect or it is from an armed forces aspect in the end lives are at risk. The faith we put in developers to ensure the safety of the robot and for us as humans is extraordinary. The urge to make life as simple as possible is what will keep robots being produced. Are we making the right decision by doing so?

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