CS-499-Q2866 Computer Science Capstone

5-1 Journal: Computer Science Trends and Artifact Update

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# Datafication

The first trend I found interesting and very significant in our field of computer science as well as our everyday life, consumers, workers, or citizens is datafication. Datafication is a catchword that has been used throughout technology and is typically related to Big Data whether it is in our personal lives or work. Datafication is in everything from communication (Facebook, Instagram, etc), surveillance, shopping, ordering food (apps from McDonalds, Burger King, Chick-fil-a, etc), to listening music, controlling our lights, and thermostat like Alexia, Google Home or Winks to name a few that involves technology and has a digital footprint. There has been an increase in datafication in our lives which has resulted in a flood of data to companies and organizations. For example, Insurance companies can use this data to create a risk profile and business models, banking to determine the probability of you paying your debut or loans, hiring and recruiting will use the data to replace certain test such as character test (Vaishnav, 2018).

The explosion of data has a major impact on the computer science field because devices such as computers, tablets, cell phones, routers will result in a need for larger data storage, faster processors, resilient networks and more complex data mining tools. It will most definitely affect consumers and workers. As new and better devices are hitting the market at faster paces, consumers will believe they need to upgrade to a new device that will allow them to search large amounts of data faster than their pervious devices. Streaming or searching data will cause an increase in their data usage based on their internet service provider and/or cell phone carrier policy which could have a major impact on the home budget as you will pay more to stream data at the most fastest speeds possible. To meet the consumers demands, the workers will be impacted as they will be upgrading the infrastructure to meet the market place, selling new products that keep in stride with increasing usage data trends.

# Internet of Things (IoT)

The next trend I looked at is the Internet of Things (IoT). This is a phrase that is used constantly at work. IoT incorporates products and smart devices like cell phones, watches, AI like Alexia, Siri, and Google Home, etc. as these devices and many others are always gathering data. I will be talking about a device that my wife has implanted in her chest. This device is a Linq Loop Recorder which is a heart monitor. This device is a IoT device that gathers data constantly. Every night, the monitor, sends data to a base unit sitting on the night stand. The base unit then transmits data about her heart to a system which her Cardiologist has access to review the data. The system does not require the Cardiologist to constantly review the data and has triggers, once tripped, will notify the provider immediately in return they will contact my wife to either check on her or provide guidance on what she needs to do at that time. There are many other IoT devices that I have mention previously in datafication part of my paper. There are cars now that communicate with each other, let you know if you are falling asleep or drifting out of your lane, to light bulbs, thermostats, doorbells and watches. I have found smart devices such as robotic lawn mowers that cut your grass and receives input from multiple sensors and input from an app on your cell phone, self-flushing toilets, T.V. like Amazon Fire and much more (Hall, 2018).

Computer Science is affected by IoT devices in many ways. Security is one of the important needs for us to focus on and have better security practice. It is very convenient for us to connect our devices to the internet but by doing so it makes us very vulnerable. Individuals like my wife, with an implanted medical device, could have disturbing affects if someone were to hack these types of devices. An adversary could cause a pacemaker to malfunction, make smart cars shut down in route to their destination or change directions, or hold your house hold operations hostage or communicate with others within your house undenounced to you. You should always practice the best security practice and measures and implementation like keeping your deices’ software up to date, as well as being aware of your privacy and protecting your rights.

With the upsurge of IoT devices in use effects workers because they will have to think about better security measures and implementations, improved infrastructure and controls. The consumer is impacted because their devices are more vulnerable which could impact their right to privacy and some of these devices can consume large amounts of bandwidth on their network.

# Update on Artifacts for ePortfolio

I created an SQLite database connection in my Android Application. I used SQLite to create the connection and scripted the creation of the database and tables. I then tide the database to the Registration Page in my application. I was able to create an account for logging into my application. I also added checks to see if the user currently existed and displays a message letting you know if the user already exists. If not then, it will add your information to the database. Once you enter your information, it will redirect you to the login page for logging in. For the login page, I wrote code to check your userid and password. If it does not match what is in the database it will then display you an error that either your userid or password is incorrect. The next database, I will create is the travel database to hold the information about the destinations such as prices, favorites, descriptions, etc. I also made the globe clickable (hidden access) to show the list of users. This will not be a part of the final product as it is only used to make sure the users are being added to the database. I still have a little work to do in retrieving the data. I also made changes to my repository and had to recreate it since I made some mistakes with in my repository. I know I am still behind in my project but starting to feel much better about having a working database that I can build upon.

All of my work is committed and pushed up to my central git hub repository located at the following address: <https://github.com/rwhittaker5150/rwhittaker5150.github.io>

# References

Hall, P. (2018, January 31). *Digital Trends*. Retrieved from The best robotic lawn mowers: https://www.digitaltrends.com/cool-tech/best-robot-lawnmowers/

Marr, B. (2017, December 4). *Forbes*. Retrieved from 9 Technology Mega Trends That Will Change the World in 2018: https://www.forbes.com/sites/bernardmarr/2017/12/04/9-technology-mega-trends-that-will-change-the-world-in-2018/#368185e55eed

Vaishnav, T. (2018, March 26). *Apiumhub*. Retrieved from The concept of datafication: https://apiumhub.com/tech-blog-barcelona/datafication-examples/