

Data Centralization and Tracking in a Technologically Advancing Society

Ramy Saboungui

Dr. Richard Lachman

DG8001: Foundations of Digital Media

December 10, 2015

Data Centralization and Tracking in a Technologically Advancing Society

Introduction

Data today has finally proven that it rules the world. We live on data, from our DNA to our online experiences. We generate and use data all the time; we generate data in our sleep. As the Internet constantly evolves so do our experiences and expectations of it. We have recently understood that collecting data is not enough; we are also at a stage of exploring new data with new tech devices that allow us to do so. Intel has been one of the leaders in the rise of IoT; they provide optimum solutions for various industries (Intel, 2015) that allow new types of data collection, tracking, monitoring, and analyzing.

Smart Market

With the help of Intel, other corporations like Apple are considering entering new industries with smart solutions. In June this year, rumors broke loose about the Apple Car and how Apple is planning to give Tesla a run for its money. It wasn't until The Wall Street Journal, Reuters, and the Financial Times reporting it that this has shifted from a rumor to reality. An article written on *Tech Times* reveals that Apple has requested testing space from the GoMentum Station in San Francisco (Looper, 2015). He also mentions that Apple is not the only company testing and considering a market entry of autonomous cars; Google and Uber are doing the same.

User Adaptation

Everybody is adapting to smart technology. It starts with smart devices like Fitbit and Nest products but in the future, more smart wear will infiltrate the market and will provide data we never thought was possible to acquire. They will do so intuitively on our day-to-day lives and in every second of it. They will do so efficiently not because of their advanced capabilities but simply because of their ability to connect with each other and combine different forms of data, analyze it all, and send the most appropriate feedback based on its full analysis of the

data collected. It's only a matter of time before smart gets personal and in every minute of our lives. It's not wrong to say that it already is slowly doing so. With the infiltration of wearable tech, new data can be collected about a person's body (www.fitbit.com). Data can include things like the user's location, heart rate, and all day activities such as tracking runs, calculating distance, tracking steps climbed, and recording active minutes throughout the day.

Further Adaptation and User Experience

We tend to often neglect issues behind our tracked data such as privacy and security in order to use new tech and software that will not provide access unless the user gives their consent on the terms. Although everybody should really read the terms and conditions before accepting anything online, sometimes users simply accept without having to read them. Over time we have allowed several companies to collect our data and now, they are able to control certain aspects of our Internet experiences based on the tracking and analysis they have done. These experiences can range from anything like advertisements to personalized search results based on your filter bubble. As a step forward, companies would like to target their consumers more and strive to find new ways to do so.

A Smart World

The world wants smart, at least the people who know what smart is. Smart stands for Self-Monitoring, Analysis, and Reporting Technology. Mini computers are and will be everywhere around us. They speak to each other and aggregate, combine, and release data back to the sources they were programmed to work for. The Internet of Things is rapidly evolving more and more. We are no longer discovering the Internet; the world is ready for an Internet iteration to make it smart. We want our smart devices to identify our behavior and be able to adapt to it over time.

Everyone Connected

We are in a world where devices send data back and forth to other devices everywhere and to ourselves all the time and instantly. Over time we will realize that data we need and want will be provided without us having to ask for it; we will value intuitive devices that personalize our experiences but we worry that some of our data might fall into the hands of people, corporations, or other world entities that we wouldn't want our data to be with.

According to the article *Internet of Things (IoT): A vision, architectural elements, and future directions*, Internet of Things comes in three connecting models being the Internet oriented or middleware, object oriented or sensors, and the semantic oriented or knowledge (Gubbi, Buyya, Marusic, & Palaniswami, 2013). The world currently has many IoT devices but not all of them are connected together. In the next decade we will see more connectivity of different smart devices and more smart cities emerging that are autonomously controlled.

Data Centralization

We have seen that in recent events giant Internet media platforms like Google and Facebook are pivoting, restructuring, and expanding their organizations due to technological advancements. Google has pivoted to become Alphabet Inc. now (abc.xyz) and is restructuring the company to become a group of companies with the largest being Google. Alphabet now is known as a conglomerate and a parent company of subsidiaries that provide smart solutions in industries such as Health, Estate, Internet, and Scientific Research and Development. Google Ventures and Google Capital are other subsidiaries that handle funding new ventures and investing in long term tech trends. With their Project Fi, they also aim to provide a new Internet technology that connects you to the fastest network available for you whether it's Wi-Fi or one of their partner's LTE networks (fi.google.com/about/network).

Knowing this, I question myself about the data that is being generated, analyzed, and stored in Alphabet's servers. If we look at Alphabet and keep in mind all of the services and

solutions they provide, we can tell that they track us almost everywhere. If we also keep in mind that companies like Alphabet now will only grow bigger. The services and solutions they provide offer possible privacy and security risks, yet these services are so essential to a point where they are still used by millions despite their knowledge of these risks. Because we want new and intuitive tech, data centralization is not far from reality.

Data Centralization and Tracking in a Technologically Advancing Society

The most important things to keep in mind are that many entities have different interests using the same technology. According to an article called *Semantics for the Internet of Things: Early Progress and Back to the Future*, IoT in the future will have an extra component that will be far more developed than what it is now, there will be a fourth model known as Actionable Intelligence or Wisdom. The Wisdom model creates decisions based on data that has been collected, analyzed, stored, monitored, and iterated through time and sends intuitive feedback based on this (Barnaghi, Wang, Henson, & Taylor). In other words devices will learn and could possibly make decisions for us.

Systems Mythology Toolkit

With smart devices everywhere creating and tracking all sorts of data, and with IoT and it's four connected models in mind and also the emergence of new tech like virtual reality and Nest devices, I wonder what would happen in the next 10 – 30 years when a world entity centralizes all the data of the world in one place and has full control and authority over it? I will be using the Systems Mythology Toolkit to provide four different viewpoints with different entities controlling data centralization and tracking and what are the possible scenarios and outcomes out of each of them.

Blue Archetype

Each government of the world has centralized all the data flow in their countries and are tracking everything. They believe by connecting everything in a country, autonomous and efficient control will be achieved. The government will use data centralization and tracking to operate in a rapid yet structured, logical, and in an objective manner.

The government's interest is to have more control over the public and implanting a RFID chip in every person would be the ideal way to track everyone. They promote data centralization and tracking in positive ways to the public. Picture this: In case of a health emergency, your personal chip will alert a nearby doctor and send him the data and organize an automatic appointment to go see him and based upon your arrival he would know you, your condition, and how he can help.

Having the city working autonomously and efficiently isn't the only purpose of the government centralizing and tracking data. Placing a RFID chip in everything avoids things like terrorism. They seek to control every individual anywhere on the grid and believe this leads to optimum efficiency. Everything will be recorded from their social status to their background, health, occupation, and their financial status. They would know if any terroristic planning is happening and would be able to pin point everything about it and therefore these attacks don't exist anymore. Nothing is private, everything about every individual is exposed and there is nothing to be done about it.

All government processes will be automated including filing taxes. The job opportunities are no longer the same. IoT devices eliminating the job market and job opportunities decrease by day. The ones that do exist will be given to the person with the better online reputation. They provide more efficiency in less time and cost less. Corporations work solemnly for the government and the people are slaves. The government leaves no gaps. Smart cities and connected industries track and send data all the time down to everyone's very own home.

Red Archetype

Giant Internet media platforms are at a constant battle of who can redesign the Internet for the people. They now control the world and governments are collapsing.

The competition is fierce and this creates more tech advancements as time progresses. Alphabet Inc. is one of the leaders of this Internet revamp. They have their hands in almost everything, easing the public's Internet experiences day by day. They have personalized everything from advertisements to personalized and intuitive online searching.

Advertisements are catered to every individual and are released depending on what the individual needs, the time they need it by, importance, and their reputation online. There is minimal input required from the individual as all the data is tracked right from everywhere; home appliances, cars, buildings, and streets that are all connected through Alphabet.

Picture this: A smart fridge recognizes that there is no milk. The fridge owner Sam is on his way to work and finds milk ads on billboards with his name and a personalized copy. To be able to see this Sam has to opt in and wear Google Contact Lens or Google Glass, this will provide an entry into the personalized Internet. While wearing any of them, he sees milk bottles in all different sorts of places like the office kitchen. He then clicks on the virtual milk bottle and clicks purchase. As soon as Sam arrives home, he finds milk delivered to him and all monetary transactions are done automatically; drones are used for shipping.

The public's data is also sold to any corporation certified by Alphabet. Ethics have been a thing of the past; if an individual doesn't agree with how his data flows through Alphabet's servers, then this individual has to come to consensus with the fact that they can't use Alphabet's Internet; the only Internet where you can search. You will have to resort to Facebook's Internet; the competition is endless.

Facebook provides a new smart Internet as well and has a virtual reality component; a basic version of this is free for everyone. They bring social to the Internet and have the other half of the market share. They provide an ad free Internet that connects everyone around the world in a virtual environment. Both companies thrive to shift consumers to their Internet and provide personalized incentives for them.

Green Archetype

Data centralization and tracking has changed human behavior. Devices now know what you want, when you need it, and devices also determine how and where to deliver. People don't give devices input anymore; devices are personalized and learn how to make everything work for every individual. Picture this: Sam is old school and likes to still experience store visits although everyone else shops online. Sam walks into a Nike store and picks up a pair of shoes and walks out. He doesn't need to worry about payment as he was detected getting into the store, carrying a product and getting out. Sam's new shoes have a personalized cost based on his data and who he is in the society, in fact, everything has a personalized cost for everyone.

Every payment is autonomous and safe. There are no breaches, The Internet shares privacy by design. The public's data is absolutely safe. It is in their full control and every individual has the power to determine what type of data is being shared and to who it is shared with. This is also autonomous and instantaneous.

Transport has never been easier, autonomous transportation allows for an easy, safe, and efficient way to travel for everyone. Public Transport is also free; the true luxury lies in personal autonomous cars like the Tesla or the Apple Car.

Devices constantly learn their owner through all sorts of personalized data that is being collected; if data was collected and the individual does not want it online anymore, they have the ability to wipe it out completely. People share the ability to be forgotten online.

Purple Archetype

What if there's an underlying interest with anyone wanting to centralize data and track it all the time. What if that interest is purely evil, what if they say we have privacy but we don't. What if we are not secure and the intuitive devices we trust make decisions that are not in our favor?

Data centralization and tracking should be forbidden and abolished. Data is not private and secure as we thought. Anonymous now are after destroying the Internet. They are after ending digital slavery; people have become ignorant and rely too much on technology and now its time for a change. The hacktivists attempt to blackout the entire Internet and while a decision is still being made whether they should refresh a new Internet or wipe it off completely. They know one thing is for sure and that is IoT must not exist; it creates a dumb public living in a smart environment.

They have realized that new tech solutions have taken over far too many jobs and people are suffering because of this. People now resort to do anything to survive; tech solutions are limiting opportunities by the day. By hacking in and blacking out the Internet, they will be able to reshape it back to how it was before or at least towards a newer approach.

Giant Internet media platforms have been exposed; the mysterious days are now over. Anonymous is slowly convincing people to shut down and provides support to anyone that does so. They are building a big public army with one goal in mind. Data centralization and tracking did ease lives, but it also destroyed many. People do not want to be online slaves anymore but do not have the choice; one cannot live without being online. Their reputation would drop and so will their ability to make money or be credible in a society that thrives on online data. Anonymous has a way off of that mindset; their online revolution will continue until their goal is reached.

References

- Intel. (2015). *IoT Devices are Powered by Intel® Hardware and Software*. Retrieved from <http://www.intel.com/content/www/us/en/internet-of-things/products-and-solutions.html>
- Looper, C. (2015). Apple Car May Be Real After All: New Report Explains Why But Don't Get Your Hopes High. Retrieved from <http://www.techtimes.com/articles/77002/20150816/apple-car-may-be-real-after-all-new-report-explains-why-but-dont-get-your-hopes-high.htm>
- Gubbi, J., Buyya, R., Marusic, S., & Palaniswami, M. (2013). Internet of Things (IoT): A vision, architectural elements, and future directions. *Future Generation Computer Systems*, 29(7), 1645-1660.
- Barnaghi, P., Wang, W., Henson, C., & Taylor, K. (2012). Semantics for the Internet of Things: early progress and back to the future. *International Journal on Semantic Web and Information Systems (IJSWIS)*, 8(1), 1-21.