**Appendix G**

**Discussion #3 - Finch & Tene - Welcome to the Metropticon (first 35% of the Discussion – Grad course)**

[JODY BLANKE](https://merceru.instructure.com/courses/56121/users/11212)

Jan 7, 2021 at 7:56pm.

In this great article by Kelsey Finch and Omer Tene called [*Welcome to the Metropticon (Links to an external site.)*](https://ir.lawnet.fordham.edu/cgi/viewcontent.cgi?article=2549&context=ulj)*,* the authors discuss many important issues pertaining to smart cities. **Focusing first on Part I of the article** (*Smart City Innovation: Urban Utopia*), what grabbed your attention?

[**Student1**](https://merceru.instructure.com/courses/56121/users/90996)

Feb 1, 2021 Feb 1, 2021 at 7:03pm

The issue I have with smart cities is that they constantly **collect large volumes of data** using cameras and sensors for numerous applications such as traffic monitoring and safety. Due to aggressive data collection, several civil rights activists and researchers have concerns about the **Invasion of privacy.** I agree that continuous data collection helps government authorities understand every aspect of their citizens’ lives but If such data falls in the wrong hands, the **consequences can be terrible**.**It is a two edged sword**. It Assists police and can be far helpful to keep the country under guard but if the enemy gets access the same will be equally or more harmful.

**Data security** is a major issue that is associated with collecting data for smart cities. It can't be overlooked. Large data vaults are prone to various cyber attacks. **Cybercrime** is increasing day by day. Cyber criminals are constantly improving themselves and gaining more and more expertise. **Cyber attacks and hacking** are increasing due to this. They gain illegal access to citizen data and misuse it. For example, in the city of Del Rio, Texas, a ransomware attack shut down multiple servers in City Hall. All government operations were handled using pen and paper along with no access to historical records. Such **cyber threats can be disastrous for any smart city** and **pose a major threat to citizen data**

I came across the Article below, it talks about the key issue of smart issues, here is my view on it:

**Exposing the dark side of smart cities**

**Smart cities have the ability to transform the lives of the citizens.**

**However, there is a dark side to these smart cities that can go unnoticed.**

1) **Public education and Engagement:**

As we know smart city means a city built of technology. So **everything is replaced by technology** from the education system i..e **the very way towards education to human** **interaction** i.e the way numan interact or in fact it replaces human interaction although it may be considered as benefit in time of coronavirus. Smart cities are built with billions of dollars but there is one **drawback: it assumes that all people in it are techno-smart**. Imagine a person doesn't know how to use a particular app or a system built in a city, he/she will be stuck and because it is a tech-city, there is a rare chance to find a human to help. Now if we talk about education, teachers and white boards are getting replaced by ppts and videos. Let's take ourselves for example, we are conducting discussions online about human interaction and a change in way towards education. Many of my subjects require me to access some or the other platform to submit my homework. It is an **expensive way towards education in replacement of human interaction.** I am personally not a fan of it.

2) **Infrastructure:**

The major source of expense is the infrastructure in smart cities. Governments, entities, etc spend **billions of dollars** in it. Is it even possible in the majority part of the world? Many countries in the world are still **poor**, they can **hardly afford their livelihood**. Even if we talk about America, **can all people afford to live in smart cities?** isn't a great population struggling to meet their food and rent needs? ***would people like this huge finance to be spent on them , a real human in need or technologies and development?*** Is it not true that they can't afford education for their children? And smarter the city expensive the education. Our mercer university has built an canvas platform for online education i.e smart education in pandemic, has that increased or decreased our expense?

3**)Power:**

I strongly believe **smart cities and the environment are enemies**. Smart cities are killing and disrupting nature/environment like anything. Guys, just think about the **power usage** this kind of city requires. And it is **24\*7**!!! In times of **global warming** it is time to shift towards otherways. The smart cities utilizes the major part of electricity and water and the world is moving towards scarcity. Global warming has become everyday news. Isn't it true everyday we are warned to **save electricity, save water**? We are informed everyday about how much resources in the world are left and how many years that will cover?

**"Leave something for the next generation!" I hear that voice in my ears everyday.  Does this happen with you guys too? I would like to hear my classmates thoughts on it too.**

4)**Privacy and Security:**

And we come to our favorite topic of privacy and security threats due to technologies and loT's. We all have i believe have discovered till now the threat to our privacy due to these devices and survillences and smart city has all of it. ***(Let's get into this part later in detail***)

5)**Data bias:**

Ring a bell? we talked about the privacy and discrimination, the misuse and market made out of our datas collected by the companies. And I talked a lottt.

***We will continue on this also later*** in detail because I still have a lot to talk about on this topic. And data bias is I believe a very important topic and stand alone in itself. There are many sides to it, moreover it requires public awareness.

I would love to hear my classmates' view on this?

[**Student2**](https://merceru.instructure.com/courses/56121/users/98740)

Feb 1, 2021 Feb 1, 2021 at 7:50pm

Hey Student1!

right off the bat, I really like how you took over many concerning factors especially billions of dollars being spent on infrastructure when a an alarming part of the world struggles to put a bread on their tables. It reminds me of the quote "***rich is getting richer and poor is getting poorer "***which makes me wonder perhaps what we see might be the remnant of this quote.

Shifting from platforms in order to submit homework might be beyond just a mere hustle, what if in doing so we are compromising being plagiarized. It might be exceedingly daunting if the assignment involves putting ideas and one's own perception with statistical disposition of a finding. Mercer introducing and forming their own portal and hence, smart education might have or haven't caused fluctuation in our expense. However, I am sure of one thing. We definitely are saving up on Mercer's utility bill by taking online classes from our dormitories and increasing net expenditure of city's utility.

[**Student2**](https://merceru.instructure.com/courses/56121/users/98740)

Feb 1, 2021 Feb 1, 2021 at 7:09pm

 Prompts that article issue in introduction is quite fascinating. Revolutionization has been the utmost priority of human race and its inescapable advances are undeniably visible in today’s century. This phenomenal process has not taken place overnight, instead world has been nurtured in a series of advance treads. We as human and society have learnt a great deal from our mistakes and from history time and time again, this is why we see world fleet to this position. Previous paper that we have seen and read provides and extension to this paper. The internet of things that is established already in our world shows that we have reached that smart city point.

Reflecting on my above words, I believe that even though the world might change for a better by strengthening technologies and health care systems of our societies, but on what terms. We find ourselves being compromised for our personal information on each day which might affect us in long terms. Such sensitive information makes many entities prone to a devastating loss if computational currency overrules us because sensitive data that is provided to the different applications can be breeched by the hackers.     
  
Urban cities and its dwellers hone their advances to reach an even elevated position, especially with ***COVID-19*** situation at hand. It won't be long when world shift completely to online intangible universal currency. No one knew we’d be so close to witnessing the dynamics of what humans anticipated ages ago, not by plan by the circumstances that nature has imposed on us. Bitcoins doesn’t seem so bad now? Do they?

Where the article mentions the fact that city dwellers might be in a mix situation of lost and found, we can have a preview of 2020 which lured humanity into loss of communication and human interaction. We might also find ourselves in a found condition if we look at certain applications like Citymapper, which provides an extensive information about landscapes, topology and directions to find our way around, rather than using conventional approach of pulling over and asking for directions like our parents did.

Keeping the city lights on who doesn’t like a city all lighted up. Its monitoring is however a very different story, consumers taking charge for the better by limiting and keeping a keen eye on consumption is a profitable energy resource utilization which will benefit the authorities that run our cities. The article raised a concern about pollution in the start is an alarming situation which technologies can remedy for example sensor-enabled trash cans. Dominancy of such technology can boost the world-famous slogan of reuse and recycle. Although, in other condition the proceedings might be opposite.

[**Student3**](https://merceru.instructure.com/courses/56121/users/90556)

Feb 1, 2021 Feb 1, 2021 at 7:33pm

After reading through the first section, I realized that the author has fascinatingly established a connection between the old cities and smart cities of today. At the very start, it came to my mind that the city-dwellers in previous times were passing a simple life as there was nevertheless minimal flow of information from one end to the other. However, in this smart and modernized era, any information can be transfer within micro seconds to any corner of the world. After establishing the connection in my mind, I moved ahead into the first section and entered into smart cities!

Having been read the first section, I found out that the flow of information in smart cities is pretty much necessary in order to keep city-dwellers on the right track. For example, there were no complex locations and ways in recent times in comparison to current era which is full of interconnected roads, railways and subways etc. and the person can easily get off track in these huge smart cities. For this reason, Google Maps came into existence as the company has attained all the exit and entrance routes which can help the lost person to get on track. This is basically the foundation of smart cities!!

Moreover, many applications have been developed through collection of data from social accounts of common men in order to launch applications which could be useful to larger population. For instance, the amount of traffic in different areas of New York city at different times can be determined through tweets and check-ins by people. After collecting such data, the app providers can guide the most interesting places to visit in New York city to strangers. Continuing with the same example, less and excessive traffic hours can also be determined through those apps. So, the concept of smart cities has been linked with excessive flow of information and the use of that data by different companies has enabled people to conveniently roam around in newer smart cities.

[**Student2**](https://merceru.instructure.com/courses/56121/users/98740)

Feb 2, 2021 Feb 2, 2021 at 6:46pm

 Hey Student3!

A very good take on the article. when you said that city-dwellers lead simple life with minimal flow of information and now since the information via data is flowing at a rigorous rate opposite must be true. I wonder if the simplicity is metaphor for lack of information flow, or rudimentary power of human metacognition at certain point in time? Even if the data and information is provided who is to say if it has helped cities to rise. What if its derivative of conditions and ambience that surrounds humanity in a particular time period. Have you considered an incorrigible indolent behavior of the city dwellers which pushes humanity to establish easement as we move ahead in decades and perhaps centuries. I believe that its not the flow of information and data propelling cities forward, its the constructivist thinking of the dwellers, what they see, how they perceive and in which manner they perform having naturally registered information (which includes they learnt facts, they saw and sorted their surrounding and how they used what they thought they saw to develop a better city). And that's just what I think. I would love to know what are your thoughts on it too.

[**Student3**](https://merceru.instructure.com/courses/56121/users/90556)

Feb 3, 2021 Feb 3, 2021 at 2:58pm

Oh yes, I totally agree with your point that its the constructivist thinking of city dwellers which has led to development of smarter cities but the thing is that constructivist thoughts are directly linked with the inflow and outflow of information. Basically, city dwellers would not be able to develop smart cities without capitalizing on the information and simulate that in order to develop new algorithms. However, I also agree with your point that the city dwellers recognized the need to make things easy going forward which persuaded them to think constructively. There is a popular saying that **"where there is a will, there is a way"**so the city dwellers would be having a positive will to bring a change, that is the reason we are living in a much more modern and sophisticated era.

[**Student2**](https://merceru.instructure.com/courses/56121/users/98740)

Feb 3, 2021 Feb 3, 2021 at 7:43pm

 Hey Student3!

absolutely, constructivist thoughts are employed in developing algorithms after consideration of the whole hierarchy of remembering, understanding, applying, analyzing, evaluating and than creating a SMART goal. However, I do believe that inflow and outflow of information might be the stepping stone before putting a constructivist theory which is solely dependent upon new knowledge created by reflecting upon personal perception, but that's just me. What are you insights about it?

[**Student4**](https://merceru.instructure.com/courses/56121/users/85381)

Feb 4, 2021 Feb 4, 2021 at 5:36pm

I strongly agree with you that the flow of information in smart cities is essential. The data which can help citizen has great experience of living in a smart city. For example, in a megacity like Tehran (Capital of Iran) one app like Waze throughout its data collected from traffic flow and analyzing traffic flow offers to the drivers the best route to their destinations. The importance of this flow of information is getting valuable, to the extent that it becomes a strategic power for the government. On the other hand, this bunch of information acts as a great assistant to form citizen’s daily life, via offering the best locations to hang out, for shopping, or even the best opportunity for business, through sorting and classifying the data generated.

[**Student5**](https://merceru.instructure.com/courses/56121/users/86926)

Feb 1, 2021 Feb 1, 2021 at 7:48pm

The thing that grabbed my attention is the innovations of Smart City that makes our lives so much easier.   
Thanks to the development of mapping in Smart City in both physical and cultural way, we can less get lost in the big cities, I couldn't imagine how can I can handle life now without things like "google maps". It doesn't just show us the ways to go, but also help us to know the exact time when buses/trains arrive or even which way the traffic is bad, then we can change the route to save our time.   
Parking spaces, tolls, road construction, and conditions have been solving in Smart City too. These can all be monitored and optimized in real-time, and help us to save significant time and money. In Smart City, we could know which parking lot is available, then we don't have to run around the city to find one.  
**With accessible digital sensors, advanced communication networks, and sophisticated analytics**, we now can monitor and control electricity use, better allocate resources, respond to emergencies, and control many other challenges that we have faced such as health, crime management, education, water, energy, etc.   
The development and innovation of Smart City are impressive that make us can believe in the near future of a better environment where is more pleasant to live in.

[**Student6**](https://merceru.instructure.com/courses/56121/users/98422)

Feb 2, 2021 Feb 2, 2021 at 6:25pm

 I agree that technology in the smart city makes our lives more convenient and comfortable. We can use google map to navigate the route, check the traffic, and calculate the fastest route to plan and manage time well. From your discussion, It seems that technology and smart city can help people to save their time. Smart cities can also provide a green living too, imagine separate automatical trash and smart cars, car  is driving without driver but technology. However, smart car do not happen soon, but in the future, smart car will change the way of driving due to the sensor technology and decrease the number of accidents. Moreover, smart car will be designed to save energy; city will more greener. It is obviously that technology provide life more convenient, save time and money, and make city more greener and liveable.

[**Student5**](https://merceru.instructure.com/courses/56121/users/86926)

Feb 2, 2021 Feb 2, 2021 at 11:38pm

I don't know if you have heard about the self-driving cars of Tesla yet, they now can drive without a driver to control. The problem is that Tesla now is quite expensive for mass citizens, but I guess very soon, in America, it will change every car to self-driving because we already have the technology and the infrastructure here also allowes and support self-driving car to be developed. In other small countries, I think the self-driving car is still a hard technology to apply because the former infrastructure is really important.

[**Student7**](https://merceru.instructure.com/courses/56121/users/97325)

Feb 1, 2021 Feb 1, 2021 at 8:05pm

 In this brilliantly written article by Kelsey Finch and Omer Tene, when focusing on the first part, there has been a lot of benefits discussed of the Internet of Things enabled smart cities. Especially when it comes to transportation, enabling city residents an optimistic vision not only to an eco-friendly environment but a smart life in a utopian smart city. One thing that caught my attention is the use of **Data-Driven** applications. The ability to collect data, leveraging the state-of-the-art technologies, using it on real-world application, providing practical and effective results from it. In my humble opinion, smart cities are the way to go forward. I vouch for it because they are making the world a better place by optimizing cost, time, material, and providing a chance to **AI enabled technology to permit its breakthrough**. Not only do they optimize real-world issues well but they **profile each and every individual separately and cater them differently**, according to their data. Moreover, they eradicate many of the urban city issues that cause problematic inconvenience, enabling an AI-based world that accomplishes successful living.

First and foremost, the rise of **Big Data Analytic**s, with the help of **Machine Learning**, has enabled many of the real-world use cases that may have been a fantasy in the earlier times. Whether it’s a single individual going to work or the whole city of people reaching different locations, this technology is striving hard to become the **future of smart cities**. The use of subways, buses, cars, taxis, bicycles, sidewalks, parking spaces, tolls, traffic, and road construction, can all be optimized and provide time-consuming results. For example, as the article states, “bus service, Bridj, “**collects millions of bits of data about people’s commutes from Google Earth, Facebook, Foursquare, Twitter, LinkedIn, the census, municipal records and other sources**” in order to design dynamic bus routes, using technology to make transit even more efficient.”. Furthermore, people who drive in the city, are now served with AI-enabled parking and toll alert payment systems, significantly saving the everyday hindrance of parking. Interestingly, with the rise of **Computer Vision**, there has been license plate recognition software implemented throughout cities that can **identify and track license plates on-the-go**, through camera. This indicates a virtuous start to keeping surveillance on the road to **prevent hit-and-run and further criminal activities**. Not to mention, smart grids have been efficiently providing basic necessities in an optimizing behavior. This creates new business opportunities as well as new jobs for the people, providing both durable and immediate benefits, creating a world of new possibilities that are yet to come, improving cultural growth towards modernization.

Consequently, smart cities have much more to conquer in this era, whether it’s better allocation to parking spots, or threatening situations caught by Computer Vision, data-driven applications have enable smart cities to actively provide and sustain a luxurious and high-class lifestyle promoting an ecofriendly and optimized cost and time saving environment. Thus, this data-driven technology has been **enabled for the people, by the people, to the people**.

[**Student8**](https://merceru.instructure.com/courses/56121/users/97346)

Feb 1, 2021 Feb 1, 2021 at 9:33pm

 After reading the article, I got an idea of A smart city is an urban area that collects data from different sensors, with driving-technology of the internet of things and big data flows, with the concept of monitored and optimize the efficiency of performance and connect to city-dweller.

As the topic1, Finding yourself, Citymapper is an application that can show where to go to destination in real-time and track the multiple forms of transit in New York—matching people with their favorite subways musician. It is a useful application, showing how to use real-time data in practical ways. Another interesting point of this topic is the Livehoods. This project makes me surprise how the researcher can use data to find the quite impossible result. The project studies the city's social dynamics on a large scale and defines what reflect the character of life.

The second topic, Getting Around, mentioned city planner efforts with data-driven public transit to improve the city's transportation by monitored real-time to save time and money—for instance, bus service that generates data from social media and makes the route more efficient. Moreover, the most noticeable point for me, as the article mentioned the electronic toll. Because I always use the RFID tags to pass every toll gate highway in Thailand. This fantasy technology will improve our traffic congestion: design new efficient routes, decision making for building new road or highway.

The last topic, Keeping the Lights On, the point that caught me is a data-driven infrastructure system, how they can allocate resources and effort to eliminate industrial urbanization. And smart grid that provides usage of electricity, so we can control or access real-time energy consumption to forecast demand and more. Another interesting point is IBM's Recology Project trying to provide the most effective recycling program and use it in different neighborhoods. This project might be another way to reduce pollution and making new renewable energy. The array of things is the smart city model, collecting real-time data and analyzing infrastructure, activity, and sufficient detail to make the city more liveable and more efficient. Chicago is an excellent example of how smart cities work in real life; I think we can learn from Chicago to apply the smart city to our home town.

[**Student9**](https://merceru.instructure.com/courses/56121/users/97934)

Feb 1, 2021 Feb 1, 2021 at 10:29pm

The first part of the article shows the relationship between the modern era city and the old-time city. The things have revolved during the time. Significant changes have occurred during the time.

Firstly, in the old-time people use to live a simple life. They weren’t that much advanced in technology nor was their privacy in danger. The flow of information has change with time. Very less tracking devices in old time. In the smart city or the modern era information is shared, tracked and collected. The data is one of the most important part of the modern era.

Secondly, the technology does have helped the mankind. It has improved their lifestyle. The smart city is very much connected. To travel to anyplace you don’t usually need to know the track Google map does the work. The technology has led the people design the city for their ease. Data is open source in todays world and which has helped the urban planner to plan in the best way as per the dynamics, structure and character.

Thirdly, the data has let the city grow. The weather is forecast, the city traffic information is seconds away, city is connected to internet. Virtual everyone is connected in the city. People have developed apps for their ease and benefit other evens. Infinite amount of data is collected and analyzed. Smart city is built with blocks of data and will exist only when the data flow is not interrupted.

[**Student10**](https://merceru.instructure.com/courses/56121/users/98802)

Feb 2, 2021 Feb 2, 2021 at 12am

I. SMART CITY INNOVATION: URBAN UTOPIA

Since their earliest days, cities have been imbued with a sense of progress and promise. Today, they are home to the newest trends and technologies, capable of driving national agendas and discussions on their own. Cities, at their best, are “hubs of human connection, fountains of creativity, and exemplars of green living.”10 At their worst, “they still suffer the symptoms of industrial urbanization: pollution, crowding, crime, social fragmentation, and dehumanization.”11 Smart cities, however, promise to ameliorate these frictions of urban life, optimizing services to cater to individual needs and preferences and furnishing real-time solutions to the hardships and inconveniences of city life. Moreover, they promise to usher city-dwellers into a new era of tech-driven efficiency and quality.

[**Student11**](https://merceru.instructure.com/courses/56121/users/98695)

Feb 1, 2021 Feb 1, 2021 at 10:31pm

 When it comes to smart city innovation, the first thing I imagine the city would look like cities in fiction movies. I find that interesting to take a quick view of smart cities because I am a big fan of " Blade Runner" one of the best pictures about the future world or future cities. Most moviemakers usually describe future cities as a place where is full of robots, flying cars, anything that is automatic, but human will live in hard conditions, the huge gap between the rich and the poor, people always be tracked and lose much privacy. This imagination could make the movies thrilling and interesting. In fact, currently, many cities are investing and applying new technologies in order to approach smart cities, this trend is inevitable because of the benefits and convenience these cities bring people.

However, the real smart cities of Kelsey Finch, which may appear in the near future, are different from these fiction movies. Real smart cities base on fundamental aspects: smart navigation, smart transportation, and smart infrastructure.   
    First, Kelsey Finch mentioned "Finding yourself" which relates to the combination of developed navigation technology and data collection. We can observe that easily today, many apps or real-time maps are helpful for people to go to any corners of the city correctly. Besides that, data that people create every can be collected and contributed to be described as a full data set of a landmark.

Second, a modern and convenient transport system is a crucial goal that smart city plans approaching. Transportation is improving due to the support of software and AI, in the future, computer systems will totally control transport, it can manage transport efficiently without much money. In addition, vehicles will be upgraded to adapt to the new development. Self-driving cars will play important roles base on their safety and efficiency.

Finally, a smart city needs smart and efficient infrastructure. Computer systems can access to manage the city grids like electricity, water, and gas. Data of people, houses, or buildings can be collected and analyzed to determine the best way to supply utilities to city residents conveniently. Technologies in smart cities support finding the way to use fuel resources efficiently, which brings green life for the whole of the city.

In conclusion, by contrast to fiction movies describing the pessimistic future of cities, I strongly believe that technologies will bring benefits to cities, not only address current bad issues but also facilitate the lives of citizens.

[**Student6**](https://merceru.instructure.com/courses/56121/users/98422)

Feb 1, 2021 Feb 1, 2021 at 10:34pm

In today’s modern world, technology becomes dominant, gathering everything closer. Our life is more comfortable when using technology, such as checking the traffic through the application before going out. The new era of tech-driven, smart city makes the city more efficient. From this article, the author introduces how smart city is. I surprise that technology can make citied cleaner and greener, like automatic-recycling trash. I am interested in smart grid technology the most because It relates to most of the utilities around us.

Map application such as Google map is an interesting technology, helping from getting lost and finding the fastest route. We can manage time daily by tracking the real-time traffic to avoid congestion or prepay tolls fee technology by using camera. The study of *“the dynamics, structure, and character of a city on a large scale.”* draws my attention; I am surprised that public tweets, social check-in are useful than I think. People's activities can shape the city, and the smart city can provide convenient facilities such as data-driven designing public transport route to more efficient from the most frequent route.

Smart grid is an incredible technology that combines many technologies such as sensor technology and data collection to facilitate people in the metropolis. Smart grid provides real-time access to energy consumption data, allowing to predict the demand of energy use and keep previous data. Moreover, we can manage electricity use in households, offices, or industries more efficiently, plan the energy demand and support the future EV car trend.

[**Student12**](https://merceru.instructure.com/courses/56121/users/86925)

Feb 2, 2021 Feb 2, 2021 at 7:06pm

 I totally agree with StudentX points, smart cities would bring benefits to human lives. As StudentX mentioned smart cities include location marking, smart transportation, smart grids. For me personally, the section also grabbing most of my attention is "finding myself". I also use Google Maps as an excellent example for supporting my idea.

It is obvious to state that Google Maps is the best real-time map in the world. This map can define the user's current location and find the best route to arrive at destinations. Google also provides voice assistance to support the drivers during the trips, which I think is helpful. Google Maps also shares resources with other taxi booking apps like Uber or Lyft that is becoming popular and well known by citizens. Moreover, base on the myriad of information that is created by people by checking at landmarks, data about any locations in the cities will be updated and navigation will be improved frequently. In addition, one of the great things that Google Maps brings me is the "near me" function that is function can determine restaurants, hospitals, hotels, ATMs, supermarkets, or even police offices near my current location. I am confident when I am in a strange place with Google Maps.

Finally, Google Maps is one of the software assistances for smart cities. I suppose that in the future smart cities will be far much amazing than that Google Maps is.

[**Student5**](https://merceru.instructure.com/courses/56121/users/86926)

Feb 2, 2021 Feb 2, 2021 at 11:56pm

I do support your idea about how amazing Google maps is. I remembered whenever I was on a trip by metro/bus (with using Google maps for showing me the way), it would always ask me how the train/bus was, like crowded or not. And yes, I always received the notification before I hop on a train if it was full of people. It is collecting information about the traffic from those who are joining it and I think it's so so smart and useful. Much better is when Google maps tell us which way is stuck, then we can change the route and don't have to be desperate between the bad traffic.

[**Student12**](https://merceru.instructure.com/courses/56121/users/86925)

Feb 1, 2021 Feb 1, 2021 at 10:47pm

 Through Part I of the article, the author has indicated many undeniable benefits of Smart Cities using development of technology to navigate and facilitate the city-dwellers' lives.

**Finding Yourself** - Indeed, we are easy to get lost or being stuck in complex traffic systems, and now it becomes more convenient when we are provided with many applications of maps such as outstanding "google maps". An another app mentioned is Citymapper which has ability to track multiple forms of New York's transit or another app matching people with their favorite subway.

**Getting Around** - The smart cities was promised to expand range of new transportation services. For example, Bridj- a bus service collecting millions data about people's commute to decide the bus route. Another bus service BreakShuttle provides the route going back home for college students by realizing their needs. One more significant beneficial example comes from smart cities is Electronic toll collection system, which allows drivers can prepay tolls, eliminating the need to stop at toll plazas. Similarly, a car's navigation system enables drivers to find and reserve the parking spots without wasteful driving.

**Keeping the lights on** - The density of population carries a heavy burden of electricity and water systems. And now, users can easily and instantly track reports of consuming quantity, which helps them to control the usage. In addition, based on consumption data, utilities or the government can accurately compute and predict the demand of local citizens, from that ensure sufficient and sustainable energy sources or consider to utilize the renewable energy sources. A remarkable achievement of Smart Cities is to help manage the waste, for instance, sensor-equipped trash cans enable to sort recycling automatically. And the IBM's Recology project mentioned "determining types and quantities of materials in San Francisco’s waste stream, pinpointing the location, types, and amounts of waste that need to be collected for sorting or composting, or identifying the most effective recycling programs to provide in different business districts and neighborhoods"

In a nutshell, by collecting, compiling, and analyzing, city-dwellers are receiving lots of advantages from many researches, experiments, and inventions, which make their lives become more efficient convenient, promising the future of advanced and sustainable.

[**Student10**](https://merceru.instructure.com/courses/56121/users/98802)

Feb 1, 2021 Feb 1, 2021 at 11:58pm

 Although privacy advocates may yet stand in for Jane Jacobs and other social reformers in this modern urban planning debate, it is far from clear that smart cities are mere panaceas. Smart cities bring cutting-edge monitoring, big data analysis, and innovative management technologies to the world of urban planning, promising to make cities “more livable, more efficient, more sustainable, and perhaps more democratic.”7 Of course, “clever cities will not necessarily be better ones.”8 There is a real risk that, rather than standing as “paragons of democracy, they could turn into electronic panopticons in which everybody is constantly watched.”9 They are vulnerable to attack by malicious hackers or malfunction in their complex systems and software, and they furnish new ways to exclude the poor and covertly discriminate against protected classes.

This Article asks whether the compelling benefits of ubiquitous data collection can be squared with privacy concerns, whether our future cities will evolve into dystopian urban panopticons or into utopian spaces without crime, pollution, or over-crowding. Part I of the Article describes the benefits and promises of data-driven, hyperconnected smart cities, including technologies to navigate and traverse urban spaces and cultures, as well as more efficient and eco- friendly smart infrastructure systems. Part II describes some of the privacy risks and challenges attendant with bringing big data and ubiquitous sensors to every public—and private—space, including normalizing surveillance, institutional paternalism, increasingly intrusive monitoring, data overload, and discrimination. Part III argues for smart systems to be developed without becoming systems of mass surveillance. It calls for big data privacy solutions such as access rights and data featurization, de-identification, and enhanced transparency to be deployed via both law and technology.

[**Student13**](https://merceru.instructure.com/courses/56121/users/98741)

Feb 2, 2021 Feb 2, 2021 at 2:45am

If we don't talk about city dwellers' privacy at this point, it seems like smart city is really beneficial from a lot of aspects.

In the first part of article, the author explained detailedly about what an urban smart city function like. It describes the benefits and promises of data-driven, hyperconnected smart cities, including technologies to navigate and traverse urban spaces and cultures, as well as more efficient and ecofriendly smart infrastructure systems.

Even though the article is published in 2016, but the author has already introduced a transit apps named "Citymapper" that won in an App Quest Competition back in 2013 for its integrating location services with real-time data and its ability to track multiple forms of NY’s transit. So you can imagine how much further the technology has been developed till today. Furthermore, this kind of apps not only help people to navigate and socialize, but the public data conducted from these apps could also help academics/advocates/urban planners to develop city improvement such as municipal borders/demographics/economic development/resources/geography/planning/etc.

There are many other more benefits/potential benefits from smart technology. As the author explained in the article by providing many other examples like Chicago’s “Array of Things”, he was trying to tell the people that driven by the technological promise of the IoTs and the intelligent planning systems of big data, plenty of city improvement/development/infrastructure can be done while saving businesses, residents, and governments significant time and money.

These examples are all from years ago. As I mentioned earlier, today's technology must be more advanced than ever. More and more smart innovations shows up to the public for people's convenience. The newest one pop up in my head right now is the Amazon's new cashier-free Grocery store. Consumers can just walk in,  then grab and go without  interacting with a cashier. They will be sent a receipt and charged to their Amazon account as soon as they leave the store. How cool is that? Anyone has more interesting example to share?

[**JODY BLANKE**](https://merceru.instructure.com/courses/56121/users/11212)

Feb 2, 2021 Feb 2, 2021 at 9:52am

 Student13, you are right. Since this article is several years old, there is considerably more sophisticated technology today. But as you might imagine, there are also more complicated problems arising from that newer technology.

[**Student13**](https://merceru.instructure.com/courses/56121/users/98741)

Feb 3, 2021 Feb 3, 2021 at 6:57pm

That is correct! This is why I stated at the very beginning of my argument that if we do not talk about city dwellers' privacy concerns at this point, smart city technology is beneficial. Problems/concerns arising from newer technology is definitely severe and inevitable which I pointed out in the second part of discussion.

[**JODY BLANKE**](https://merceru.instructure.com/courses/56121/users/11212)

Feb 2, 2021 Feb 2, 2021 at 9:57am

We are beginning to see more of a city's infrastructure prepare for self-driving cars. In Atlanta, over the last several years, we have seen the return of traffic circles (roundabouts) and the introduction of many dedicated merge lanes (with signs that typically tell drivers to Keep Moving, although many still slow down or stop). These features cater well to self-driving cars. Human drivers are less efficient than self-driving cars will be.

[**Student7**](https://merceru.instructure.com/courses/56121/users/97325)

Feb 2, 2021 Feb 2, 2021 at 12:02pm

 Interestingly, I have heard about it in the past. The transportation will require the usage of **Wi-Fi, GPS, and other sensor-based products**, installed in that vehicle, providing real-time information needed to avoid difficulties and properly following the traffic regulations. Where a person may fail at some point, a computer, however will take over.

All in all, the transport will reach from point A to point B. If that happens successfully, then the car will reach its destination. This could be the new bright future that many **companies and venture capitalists are looking forward to**. A vision where driverless cars could take over, removing the hectic driving needs of everyday life. **A system that co-ordinates even before acknowledging the other entity which has not been seen by the naked eye yet**, resembles a perfect opportunity and a structure to introduce. Hence, could change the urban landscape as well. This idea transformed by self-driving cars or autonomous vehicles in the country could revolutionize the way Atlanta is designed.

Coming back to the point, one thing to note is that there is still **no perfect driverless car yet**. We may see **Tesla** taking action first hand but there is **certain level of error that require trade-off** between the decision of scenario A or scenario B, **making machines somewhat amateur in that decision-making as compared to the human brain**. Furthermore, this introduces a series of questions as about the **responsibility of crashes, hacking of car system and tempering the monitors of insurance companies**, providing edge in the wrong direction which may or may not be beneficial for insurance or other companies. Therefore, the distance between a human, sitting and driving a car versus a machine that completely takes over a car, still proves that there are some issues to shed light upon.

While no one bats an eye when this transition is happening, this paradigm shift change is coming, the transportation region facility will transform Atlanta and other regions as well, providing a proper policy and rules to be governed and to be followed by individuals. Hence, self-driving cars are taking over but there is still a human co-ordination required at most steps to ensure there are zero casualties till a permanent solution is proposed by the autonomous vehicle companies, which may be right around the corner.

[**Student14**](https://merceru.instructure.com/courses/56121/users/98539)

Feb 2, 2021 Feb 2, 2021 at 12:18pm

 I think things like self-driving cars and other advancements brings up an interesting point of culpability and liability. While human drivers are less efficient, we also know who to blame when things break down or when an accident happens. Say that you are driving and make an illegal turn and cause an accident. Easy enough to assign blame, but what happens if a self-driving car does it? Well, is it your fault because your car did it? Probably. What if it did it because of bad data from the analytics department that feeds it information? Are companies going to be liable for any mistakes? There will have to be laws to address these things that will lag behind the technology as they tend to do. It is not just self-driving cars though, there are several “internet of things” or smart city benefits that could simply fail due to technological error. Sensors, cameras, and computers are not infallible.  Of course, nobody makes more mistakes than humans, it would just be interesting to see what happens when a computer glitch shuts down a city.

[**Student11**](https://merceru.instructure.com/courses/56121/users/98695)

Feb 2, 2021 Feb 2, 2021 at 12:27pm

 The self-driving car is an amazing topic to discuss. I have several ideas about technological development. I have to say that self-driving cars are brilliant inventions that are combined by many technologies including the Internet of things, artificial intelligence (AI), and developed transport systems. Thus, self-driving cars bring both advantages and disadvantages.

The most negative impact that I could imagine about these cars is that these cars and transport systems, in general, can be attacked by hackers or cybercrimes. Since self-driving cars and smart transport systems operate base on IoT sensors, data networking between vehicles and data center of the governments, which is totally possible for hackers to access the data center and take the control of vehicles. If crime can take advantage of the errors of the car to commit crimes, the results would be very terrible.

However, I strongly believe that the significant advantages of self-driving cars would justify. First, computer systems on these cars will operate far much accurately rather than human, the cars themselves can calculate the distance between other obstacles, find the best route, act immediately when unexpected things happen. Moreover, these cars also help the environment, they can efficiently optimize the fuel used, so the cars will release less CO2 into the air.

Overall, self-driving cars can not only reduce accidents on the road but also give people more relaxation. Although potential threads of self-driving cars like hackers are serious and dangerous, I believe these kinds of cars are an inevitable trend.

[**Student15**](https://merceru.instructure.com/courses/56121/users/88417)

Feb 2, 2021 Feb 2, 2021 at 3:57pm

 Yes I think and reports shows as well that human drivers are less efficient that self driving cars. Here are some pros and cons of self driving cars.

Automation can help reduce the number of crashes on our roads. Government data identifies driver behavior or error as a factor in 94 percent of crashes, andself-driving vehicles can help reduce driver error. Higher levels of autonomy have the potential to reduce risky and dangerous driver behaviors.

Equity is another major consideration. Self-driving technology could help mobilize individuals who are unable to drive themselves, such as the elderly or disabled. But the widespread adoption of autonomous vehicles could also displace millions of people employed as drivers, negatively impact public transportation funding, and perpetuate the current transportation system’s injustices.

[**Student5**](https://merceru.instructure.com/courses/56121/users/86926)

Feb 2, 2021 Feb 2, 2021 at 11:26pm

I have heard a lot of self-driving cars and known that Tesla cars can self-drive now. And yes, I have seen many of them on the street, this means the Atlanta infrastructure is already good enough for this type of technology to develop. I believe the self-driving car will not just make our life more pleasant (stop being tired of driving a long way to work/home), but also can help us to prevent a lot of unexpected car accidents caused by human problems, such as feeling sleepy, mistaken the gas pedal instead of brake... etc.

[**Student14**](https://merceru.instructure.com/courses/56121/users/98539)

Feb 2, 2021 Feb 2, 2021 at 12pm

 What grabbed my attention the most was not only the large amount of data available, but how this data comes from different places and is accessible by different people. When dealing with smart cities, who gets access to all the data collected? For a city to be truly smart there must be some rationale flow of information between the government, private companies, and public. Take license plate recognition software for example. Do we want private companies to have the ability to track where we go? Do we want the government to be able to do that? Now the biggest question is how much can I go in and see all the data collected on me or my vehicle? It would make sense for the public to have access to some of these records, but it could also make it ripe for abuse for someone like a stalker or burglar. The author states that with public data, social media, and machine learning technology academics, advocates, and urban planners can better study “the dynamics, structure, and character” of a large city but noticeable leaves out just regular people.

[**Student15**](https://merceru.instructure.com/courses/56121/users/88417)

Feb 2, 2021 Feb 2, 2021 at 3:46pm

In the first part of the article the author discusses the beauty and innovations of Smart City and smartness of the smart cities which started to happen that makes our lives so much easier grabbed my attention.  
I think the biggest and more convenient is the development of mapping in Smart City in both physical and cultural way, we can less get lost in the big cities, Nowadays we people couldn't imagine life without things like "online maps". It doesn't just show us the ways to go, but also help us to know the exact time when buses/trains arrive or even which way the traffic is bad, so that we plan our route to save our time.   
In big cities Parking spaces, tolls, road construction, and conditions have been solving in Smart City too. These can all be monitored and optimized in real-time, and help us to save significant time and money. In Smart City, we could know which parking lot is available, so that we don't have to run around the city to find a parking space. Same is the other innovations of the smart cities like cameras, online ticket system which is making a great significance in saving time, money and giving the government a great advantage.  
Another innovation is accessible digital sensors, advanced communication networks, and sophisticated analytics, we now can monitor and control electricity use, better allocate resources, respond to emergencies, and control many other challenges that we have faced such as health, crime management, education, water, energy, and much more.  
these new technologies have begun to carve out new niches to help make city living more efficient and cost-effective, offering both short- and long-term benefits and made us believe that the future is really

[**Student16**](https://merceru.instructure.com/courses/56121/users/95844)

Feb 2, 2021 Feb 2, 2021 at 5pm

so the thing is which concerns me is the way this is been done. The data which is been collected should be dealt with strict privacy laws like nobody wishes his car license plate to be tracked and this information goes to private companies. even though many urban planners on the government side and other big companies are contributing to life easier for residents but they are using this information in their use one way another.

[**Student16**](https://merceru.instructure.com/courses/56121/users/95844)

Feb 2, 2021 Feb 2, 2021 at 4:52pm

 In this part basically, the author describes the benefits and how smart cities are said to benefit the people living. Along with this, he explains how is the life and privacy of residents is been compromised. so it's a very important topic which needs our attention but is mostly overlooked.

Since cities are the best hub of human connection. Most of the modern technologies or you may say the hybrid cities are evolving which in a way tracks your every moment and I think as the population grows urban planning is a must thing to do. crimes and other such acts should be monitored in a way to make life safer for the residents. The cultural and road maps are readily available a person can easily navigate himself to the destination. Smart cities provide a live example of urban planning like by collection of analytical data stakeholders may identify which part needs more public transport and in a way provide residents a better living place. so the urban planners are using the data which is been taken in such a way that residents' privacy is been comprised. Take an example when analytical research is been done on the area or the hotspots for public transport so the route of the transport is increased which in a way affect the people doing taxies. The smart grid system is the name given to highly monitored analysis which in a way benefits the urban planners to do good for the residents but the thing which concerns me is by this each car every moment of a person is ben monitored and this information is been collected even though its privacy breach of the personal life. later this information can be used to control our lives or as a whole used in a way we do not wish to. The thing which concerns me is even though this privacy breach and collection of information on us and later using information for the betterment of the resident is been pratice. And this is for sure the way described in the article it surely did, smart cities have few very much needed benefits. but their should be some laws for the information been collected and later been utilized.

[**Student17**](https://merceru.instructure.com/courses/56121/users/8741)

Feb 2, 2021 Feb 2, 2021 at 5:29pm

What really grabbed me was how efficient living will become in the future. We will no longer have to worry about driving or get upset being stuck in traffic. We can hopefully just sit back and relax in our automated vehicles which should reduced accidents and heavy traffic. Public transportation could also receive a huge boost from smart cities by making them faster and more efficient than ever before. The amount of data the are able to collect on our travel patterns is a bit much though.

It seems the can use google earth and other apps to see the slots we frequent and maybe sell that information.  The overall quality of life improvements from technology being integrated into city infrastructure would outweigh many of the potential cons. So many mundane parts of city living would be eliminated and cities would also be cleaner than ever before.

[**Student9**](https://merceru.instructure.com/courses/56121/users/97934)

Feb 2, 2021 Feb 2, 2021 at 6:03pm

 The tech friendly cities have developed and have prosper in the best manner to benefit the human race. Many are enjoying the technology and have accepted it as the part of life, whereas many believe the technology is very complex and is ruling the human race.

On the one hand, people believe that they are prospering toward the modern era. Smart parking, toll alert, RFID, intelligent use of electricity is what they want live in. Everything can be access and control through the smart phones and laptops. So, controlling is seconds away from human. Arise of the new technology is beneficial. For example: the parking of cars is made simpler and easy. The license plate of the car is been monitored that how long was the car parked and when it left the parking and left the vacant space for other cars. The other users enjoy it, as it saves a lot of time. The data is saved in the cloud technology which enables the driver to reserve nearby spot without wasteful driving. Autonomous car is the part of the present and future world. Separate lanes are been dedicated to it. Machine learning and artificial intelligence had led us the autonomous project which doesn’t limit us to the automobile only. The autonomous robot does your household work. So, the technology has advanced and made human life simpler.

On the other hand, increase in technology has led to increase in complicated problems. Human race doesn’t have privacy anymore. The social media platform is where they willing share their information with the people they are connected, yet the other part is that they are been tracked and the information is been used for company’s interest. In the current era the technology is of machine learning, artificial intelligence and Internet of Things is on trial bases are we don’t identify the error in it. We are unaware of the problems they can cause us and the problems can be unsolvable for certain time. The bigger picture is that in the modern era we have no privacy. We are an open book and are been controlled by the tech.

To conclude, newer technology has pros and cons. It depends on us how we use it or how we are been used for it.

[**Student4**](https://merceru.instructure.com/courses/56121/users/85381)

Feb 2, 2021 Feb 2, 2021 at 6:51pm

I strongly share your vision, since as we have read in this article, I think, the benefits of living in a smart city are much greater than the concerns which are mentioned by the authors. The simplest example can be the usage of the transits app which is F(x) of collected data for drivers to have a safer trip in the city. As you illustrated to the auto-drive technology of the latest generation vehicles, which can be sync by the smart in frustration of city, offers a new possibility that is the result of a smart city. It definitely decreases the amount of traffic, increases the safety of driving, and subsequently, avoids the accidents and expenses of urban maintenance.

[**Student18**](https://merceru.instructure.com/courses/56121/users/90788)

Feb 2, 2021 Feb 2, 2021 at 5:40pm

 Smart cities unite foundation and innovation to improve the lives of residents and improve their connections with the metropolitan climate. The Internet of Things (IoT), is the underlying technology smart cities are based upon. Made as a feature of the shrewd innovation development, the IoT empowers different items and elements to speak with one another through the internet. By making an organization of items equipped for shrewd cooperations, the entryway is opened to a wide scope developments.

By delivering more innovation equipped for communicating across platforms, IoT creates more information that can help improve different parts of day by day life. Smart cities can recognize the two chances and difficulties progressively, lessening costs by pinpointing issues before their development and dispensing assets all the more precisely to increase their impact.

As the world became interconnected, urbanization led to increased population density. Intermingling of lives, cultures, technologies and etc led to many issues. Navigating in complex transit systems of urban cities is hard but is made easy using technological advances of IoT.

Smart city technology, be that as it may, have really helped started to give both physical and social guides to help direct the lost, just as the  only inquisitive, towards a more noteworthy comprehension of where things and individuals, and occasions, and assets are in the city. Using modern technological advances, life is made easier. This in turn helps gather data that gives out essential information to life advancement in the urban environments. Academics, developers, researches all are benefited equally.

One more essential thing is that advance surveillance systems are made possible due to IoT. Everything can be monitored in real time and problems are rectified within short time. Traffic systems are also improved due to this and services like Uber, Lyft and etc took advantage of this technology to make cities more smart and helpful.

The smart cities are becoming success stories due to media attractions and positive results. Advance data driven dynamic systems are self sustainable reducing the need of human interactions. Technologies like Smart grids and communications networks and their analytics allow the authorities to better allocate the resources according to the needs.

Smart cities have made life easier but the details are emerging with modernization and future will show if cons and pros of this technology is balanced.

[**Student4**](https://merceru.instructure.com/courses/56121/users/85381)

Feb 2, 2021 Feb 2, 2021 at 6:29pm

In **“WELCOME TO THE METROPTICON: PROTECTING PRIVACY IN A HYPERCONNECTED TOWN”** (2016), Kelsey Finch and Omer Tene explain the smart city, which is the newest revolution in urban planning. The authors mentioned that phenomenon of the smart city is driven by the technological promise of the Internet of Things and the intelligent planning systems of big data. They are concerned about the balance of power between city governments and city residents since they believe that this threat can destroy Privacy and urban anonymity. Their concerns are base on many aspects such as 1. Rather than standing as a symbol of democracy, they could turn into a place in which everyone is monitored 2. They can be attacked by hackers 3. Unwanted discrimination between the poor and protected classes. Overall, they’re going to answer these questions that whether advantages of collecting data can be squared with privacy concern, and whether the smart city evolve into a dystopian urban?

For the first thread, as I have read in the first part of this amazing article, I think, what grabbed my attention is the duality inherent in this phenomenon, known as the smart city. As the authors mentioned in their article, the first side is the benefits that describe efficient and eco-friendly smart in frustration. The tendency of humans to live in a smart city, caused it to become a trend of driving national agendas. Smart city technology, however, helps people to access everything they need, such as physical and cultural maps, monitoring the flow of traffic, increasing the safety of living in a city, improving the ecofriendly frustration. For example, as is mentioned in the article, those who are going to get from point A to Z can use a comprehensive transit app such as **Citymapper**. As a person who is using this kind of technology, I’m dependent on that in my daily life.

   Another great benefit that is amazing for me, is the possibility of analyzing public behaviors information such as actual route data and how people actually use this city, that can offers how to shape the urban landscapes and the social texture of city life such as economic development, resources, and planning. For example, it tells us that the people who live in Atlanta upper side, tend to travel to midtown or downtown for work or leisure, but seldom in reverse.

To sum up, I think as I understand from the authors’ statement in the first part, living in a smart city, includes benefits that caused a positive tendency for people. However, it’s important to be aware of problems such as privacy concerns that can be a trend in our future social life.

[**Student3**](https://merceru.instructure.com/courses/56121/users/90556)

Feb 2, 2021 Feb 2, 2021 at 6:54pm

Secondly, The thing that caught my eye is that less privacy and advancement in the technology. The ruling factor is been the technology and has made us accept to live with no privacy. The technology has eased our life. It has given us control over the daily life routine problem related to traffic, education, health, energy and many more.  
Firstly, the innovation of the smart city is like a dream come true. Everything is connected to each and other and has made things simpler. The better environment to live in. Where things are automated and have relax human race. So, generally people are happy with the advancement in the technology. The technology such as Big data has screened out information for our betterment. Millions of consumers of the technology app have provided the significant data to have a prosper world.  
Secondly, has technology made are life more complicated? The privacy is word we know as we don’t have it anymore. The personal information is open to everyone. The smart cities track us, then only they can the smart. Monitoring our cars to know where there is traffic and where there is parking places.  Monitoring our consumption of energy to give us a fixed plan to live our life. Human design the algorithms to have a better living standard or maybe to track human race. Lastly, advancement in the technology for smart city is very useful yet it has many complex abilities in it.

[**JODY BLANKE**](https://merceru.instructure.com/courses/56121/users/11212)

Feb 2, 2021 Feb 2, 2021 at 6:42pm

In Part II of their article (Smart City Challenges: LIfe Inside the Panopticon), the authors discuss many interesting things. What do you think about the statement that "privacy may be . . an artificial construct of the industrial age?" Is it true that there was (is) less privacy in a small town?

Again, this article is six years old (I keep looking for newer articles to replace these first three, but they are all such great articles). "Creepy" was just beginning to be a concept with regard to the web. What has happened to creepy since then?

CCTV, sensors under the skin, tracking eye movement and heart rates during video game experiences, face detectors, Street Bump and inadvertent discrimination - lots of interesting topics. What got your attention the most?

[**Student2**](https://merceru.instructure.com/courses/56121/users/98740)

Feb 3, 2021 Feb 3, 2021 at 7:13pm

 Hey StudentX!

where you mention about games and heart rate detection. It made wonder if the technology so extensive as to figure out the heart rate is amid us, how is it possible to undermine the fact that there has been fatality due to playing for extended durations. It is already known that human need rest for cell turn over by renewal process, failing to achieve this can trigger heart arrhythmias and hence tachycardia. Do you believe if there is something that could be done to prevent such instances?

[**Student15**](https://merceru.instructure.com/courses/56121/users/88417)

Feb 3, 2021 Feb 3, 2021 at 7:19pm

 In this part I totally agree with author as privacy may be an anomaly, an artificial construct of the industrial age. In a small village or town privacy is a thing that no one knows or thinks about. Because everybody knows each other in a way or other. And if something happens every body tells each other so there is no privacy.   
On the other hand in big cities privacy matters and things are change like everybody can live anonymously without anyone knowing them, like many authors and novelists discussed in the article.  
But this was something before the internet, as now days with the social media, internet and internet of things the world became a small town and everybody is just one click away from seeing.  
Honestly, what was once considered creepy is pretty much normal nowadays, pretty much everything is being tracked somehow. and every thing and everybody is interconnected in away or other in those government big databases.  
The tracking eye movement and heart rates during video game experiences and real face detectors are the inventions that got most of my attention. with these inventions i think everybody on earth is traceable.

[**Student11**](https://merceru.instructure.com/courses/56121/users/98695)

Feb 3, 2021 Feb 3, 2021 at 8:06pm

 As I know, apart from applying in the gaming industry, tracking eye movement and face detectors have been applied profoundly in many industries.

First, I want to introduce several current developments in tracking eye movement. The most important application of these eye sensors is seen in the retail industry. In order to increase the number of items sold, stores are engaging to adopt eye-tracking sensors. For example, base on these sensors, the seller would know what items that customers pay more attention to, the sellers would give customers promotions to encourage them to buy. Other industries, that apply these sensors, are psychology and medicine. Doctors or scientists can recognize the movement of the patient's eye to serve research purposes.

Next, I really excited to talk about the face detector application. the most famous successful item including face recognition is the iPhone. The face recognition system on iPhone is very impressive. Security systems are all base on face recognition, users unlock their phone by their face, log in to apps just by putting the phone in front of the user's face. Moreover, customers can completely authorize their bank transactions just by their faces. I consider the face security on iPhone as the best security that I have used.

[**Student6**](https://merceru.instructure.com/courses/56121/users/98422)

Feb 3, 2021 Feb 3, 2021 at 8:26pm

 Good evening StudentX,

Your idea is such an interesting, It will be useful for sure if sensor can detect and also alarm like Apple watch function. It can be detected and alert to us if we have abnormal breath or fall hard. Gamers such as my little brother seem overwhelming of playing game, he can play all day all night without eating, this technology will help to protect unexpected accident.

[**JODY BLANKE**](https://merceru.instructure.com/courses/56121/users/11212)

Feb 3, 2021 Feb 3, 2021 at 8:45pm

 Student13, you mention sensors under the skin. Many people in the U.S. put chips in their dogs so they can find them if they get lost. When I ask classes how many people would put a chip in their child, most people think that would be awful. But if you asked a parent whose child was lost or kidnapped, I think you would get a very different answer. I agree that we are not that far away from sensors under the skin.

Student11, you may know this already, but all of the face recognition data is kept on your iPhone. It is never sent back to Apple.

[**Student13**](https://merceru.instructure.com/courses/56121/users/98741)

Feb 3, 2021 Feb 3, 2021 at 8:55pm

 That is a great point of view I never thought about. It just really complicated for me when it come with sensors under skin.   
As christian, people believes that it might be the prophesied mark of the Beast in the bible..

[**Student15**](https://merceru.instructure.com/courses/56121/users/88417)

Feb 3, 2021 Feb 3, 2021 at 9:40pm

 Talking about sensors under the skin, it have many more applications than just tracing. Making tiny under-the-skin implants that continuously measure a person’s blood glucose, heart rate, and other physiological conditions become a reality.

Technology limitations have largely hampered current efforts to make these micro sensors small. Too small for battery power, the sensors require a reader near them that constantly detects signals such as chemical or pressure changes using magnetic fields.

For a reader to make sense of the signals, the sensor must be large enough to create a strong signal in the reader. So far, researchers have not been able to create viable micro sensors below 1 millimeter.

I believe that would be a positive step but if we have a full command over it and can guarantee everybody's privacy.

[**Student11**](https://merceru.instructure.com/courses/56121/users/98695)

Feb 4, 2021 Feb 4, 2021 at 9:06am

 Hi Dr. Blanke, I really don't know that the face recognition is not sent back to Apple, that may be great to know there is at least one company protecting users data well. However, there have both negative and positive sides when not sending back this information.

About advantages, users do not have to worry that Apple would take advantage of this information. On the other hand, If the face recognition is not stored in the Apple data center, users can not recover when losing iPhone.

[**JODY BLANKE**](https://merceru.instructure.com/courses/56121/users/11212)

Feb 4, 2021 Feb 4, 2021 at 9:51am

 Student11, to me that is a fair tradeoff. I would rather just have to train the phone again to learn my face than to have that data stored in the cloud somewhere without knowing who has access to it.

[**Student11**](https://merceru.instructure.com/courses/56121/users/98695)

Feb 4, 2021 Feb 4, 2021 at 1:17pm

I strongly agree with you. That is one of the reasons why I chose the iPhone, not only elegant design but also strong security. I also heard that since Facebook collects too much data from users, the Facebook app on the iPhone will have some restrictions somehow.

It's good to hear that, Apple usually protects the customers well.