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Introduction to Language and Technology

Tech exploratory

Oct, 11,2022

Technology is the application of knowledge to reach functional goals. Technology has become an increasing presence in our society. Technology plays a significant role in our society today. It affects the way individuals communicate, learn and think. However, it additionally has positive and negative effects on the world. Technology has brought many new methods of electronic communication, digital marketing, and traveling. Throughout the paper, technologies from three different centuries will be discussed along with their intended and unintentional effects. Three technologies that will be discussed are airplanes from the 20th century, location-based services from the 21 century, and lastly artificial intelligence and machine learning that are currently being developed to improve our society, marketplace, and lives.

On December 17, 1903, a powered aircraft made its first successful flight at Kitty Hawk, North Carolina. The inventor of the aircraft was Orville and Wilbur Wright, the brothers. Since they were young, the brothers dreamt of creating mechanical objects. They experimented with the idea of flight after their father introduced them to a rubber band-powered toy helicopter. They were young men with a mechanical tendencies and ambition. They grew up building mechanical objects such as bicycles, cars, and other repair products. The brothers began their serious work in aviation after hearing about the death news of Otto Lilienthal, a flying accident. The brothers

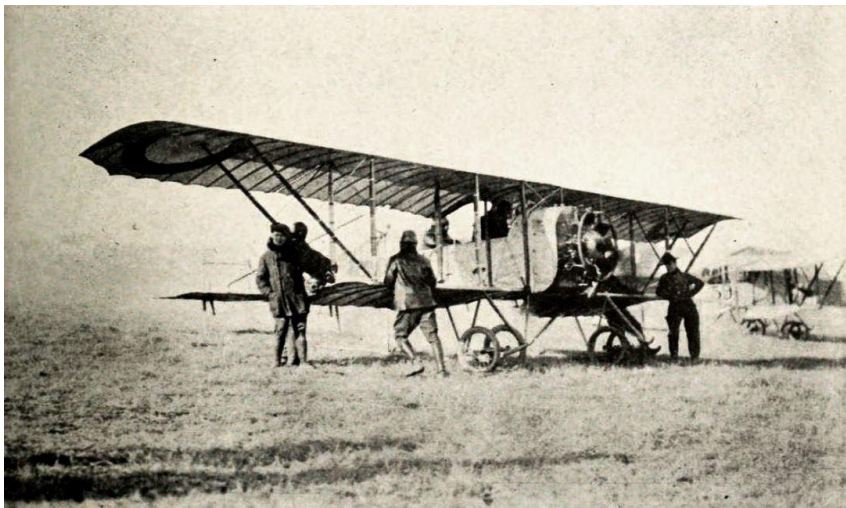
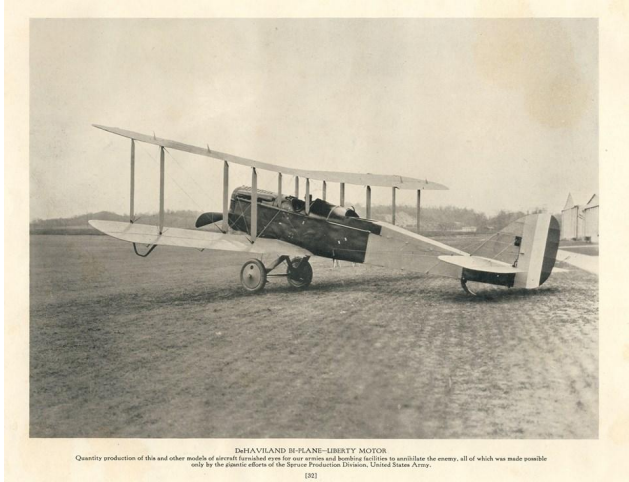
began their airplane experiment in their repair shop with the equipment they used to build bicycles. They also used funds from their repair shop to build the aircraft. They successfully created the aircraft with their equipment and funding in 1903. The illustration of the aircraft will be demonstrated down below. The purpose of the invention was to explore their interest and mechanical tendency, however, airplanes became extremely beneficial later. specifically during WW1. (The Wright Brothers, by David Romanowski)

At the start of the First World War, aircraft like the B.E.2 were primarily used for observation. Aircraft were crucial for learning where the enemy was based and what they were up to since there was no way to gather intelligence. After WW1 the innovators began expanding airplanes at an elevated level. After many trials and alterations, the first airplanes with passengers began in 1914. (A progressive of flight— timeline). This led to many changes in our society, work, and lives. People's lives around the world began to transform due to the innovation of the airplane. People began traveling, exploring, and working outside of their birth city. It likewise became easier to see the loved ones that lived far away from them. It also became harder for numerous people because their loved ones began exploring and traveling to a new world for job opportunities.

According to the textbook, “The economic impact of civil Aviation on the U.S economy” “Civil air transportation plays a major and growing role in economics around the world. In the U.S more than 5,000 public-use airports support over 18,000 air transport and 210,000 general aviation aircraft performing about 50 million airport operations. The number of passengers enplaned at U.S airports is approaching 1 billion, about 100 million more than a decade ago”. Not only the airplane shaped our lives but it also enhanced our economy, income, and culture. Many job opportunities were created due to the invention of the airplane. People started working

as flight attendants, pilots and etc. They also began traveling around the globe to big cities to start up their businesses and jobs. Which led to the combination of cultures. For instance, immigration is a result of airplane innovation. Citizens around the world are immigrating to new cities to build their dream life. Overall, the invention of the airplane is excellent for our economy and society. It has shaped our lives, marketplace, work, society, interests, dreams, and culture throughout the years, however, there are a few unintended effects associated with the innovation of airplanes.

The unintended consequence of the airplane's invention is its contribution to climate change. Emissions from Aviation are significant contributors to climate change. Airplanes burn fossil fuel which not only releases CO₂ emissions but also has strong warming non-CO₂ effects due to nitrogen oxides (NO_x), vapor trails, and clout formation triggered by the altitude at which aircraft operate. (Articles, airplane pollution). These non-CO₂ effects contribute twice as much to global warming as aircraft CO₂. Emissions from aviation are growing faster than any other mode of transport. CO₂ emissions alone from fights within Europe have increased by 28% since 2013. According to the European Union's Transport and Environment Department, the combination of CO₂ emissions, other gasses, and water vapor trails make flying responsible for 5% of all global warming. Not only airplanes making our lives easier, faster, and better but also destroying our globe. In conclusion, every innovation has its pros and cons.



Picture of first designed aircraft

(2nd topic Location Based Services)

Location-based services can be determined as services that incorporate a mobile device's location or position with other information to provide additional value to a user. Location services have a long tradition. Since the 1970s, the U.S Department of Defense has been utilizing the global positioning system (GPS). For example, GPS originally was formulated for military purposes, but the U.S government decided in the 1980s to make the systems-positioning data freely available to other industries worldwide. It has become extremely beneficial ever since. It has also transformed the ways we socialize, interact, work, shop, market, promote, etc. It has furthermore enhanced our economy and income around the world.

According to the textbook "Location-Based Services" by Jochen Schiller, "widespread interest in location-based services (LBS) and the underlying technology as discussed in this book has really started to boost only in the late 1990s when a new type of localization of technology and new market interest in data services was sparked by mobile network operators. In approximately 1997, mobile networks were widely deployed in Europe, Asia, and the United States, and income from telephony services has proven to be significant to mobile operators' ". The development of LBS improved income and also increased the rate of tourism around the world. Many people around the world began to explore new nations with the assistance of location-based services. For instance, I was exploring Thailand this summer with the assistance of location-based services. It has allowed me to get from one location to another easily. I was also unaware of the language and area around me therefore using location-based services was extremely beneficial to me. Additionally, research that was conducted in Switzerland stated that LSB is considered to be a promising service in the tourist industry. (Location-Based Services in Tourism).

LBS furthermore has driven entrepreneurs to promote their businesses online and achieve profitable results with the assistance of location-based services. For example, the author of the article, “Location Based Marketing 101” has stated significant points in his article to demonstrate how location-based marketing is enhancing our marketplace and economy. In the article, it was stated that “location targeting can help businesses increase in-store visits because you can use some of the technologies mentioned earlier to target ads to customers when they’re within range of a particular business or competitor”. This shows that location-based services allow the business owner to attract more customers. Overall, our world has entirely changed with the assistance of location-based services. It has simplified shopping online and also promotes our businesses online to target particular customers in particular settings. It has also made it easier for employers to track their employees and monitor if they are performing their job from the right place at the right time.

In addition to that, there are also a few cons associated with location-based service innovation. Just as GPS trackers allow users to share their location with friends and family, they also allow users to accidentally share their whereabouts with stalkers. This is extremely dangerous for children, especially as some apps give almost anyone permission to track their location. Parents should always create regulations prohibiting their children from adding followers to any app the children are exposed to. Moreover, many companies also take advantage of location trackers to send targeted ads to customers by following them all the time and building up a profile based on their habits. LBS can be extremely dangerous for children and individuals who are unaware of their privacy settings. Many cruel incidents are also occurring around the world due to certain technological innovations. Some people are taking advantage of the innovations to harm others and a few are taking advantage to bring integrity to the world. As I

have mentioned earlier every innovation has its pros and cons. As human beings, we must be aware of the intended and unintended consequences of every new development.

(3rd topic Artificial intelligence)

Artificial intelligence is the power of a computer system to simulate human cognitive functions such as learning, and problem-solving. Through AI, a computer system uses math and logic to stimulate the reasoning that people use to learn from new information and make decisions. Machine learning is an application of AI. It's the process of using mathematical models of data to help a computer learn without direct instruction. This enables a computer system to continue learning and improving on its own, based on experiences. A recent technology that is being developed with artificial intelligence and machine learning process application is called natural language generation. Natural language generation is known as a software process that is driven by artificial intelligence that produces natural written or spoken language from structured and unstructured data. It also helps the computers to give feedback to users in human language so that they can comprehend. Many content marketers around the country are finding greater value in artificial intelligence and natural language generation. Overall, NLG is assisting content makers in increasing the rate of productivity and income. (Mike Kaput, NLG Everything You Need to Know).

There are a few disadvantages associated with artificial intelligence and machine learning. For instance, it makes us human lazy. According to the article Advantages and Disadvantages of Artificial Intelligence by Nikita Duggal, the majority of laborious and repetitive operations are automated by AI technologies. We tend to use our brains less and less because we do not need to memorize information or solve puzzles to complete tasks anymore because of the innovation of artificial intelligence. In the article, Nikita also spoke of the future

generations and they may experience issues as a result of this AI addiction. The assistance of AI also increases the rate of unemployment. For example, in specific more technologically advanced countries like Japan, robots are regularly being used to replace human resources in industrial companies. Altogether, there are pros and cons associated with the development of artificial intelligence. One way is formulating and making much work effortless for us and simultaneously taking away a lot from us. For instance, preventing us from using our brains less and less every day.

In conclusion, there's no doubt that technology has changed our world forever, both in good and bad ways. In a good way, it has given rise to a civilization that is intelligent, connected, and free. For instance, nowadays we can fly to foreign countries and explore new cultures. Which is very thrilling and entertaining. With the assistance of location-based services, we are also living an easier, smarter, and faster life. Nowadays everyone can access any knowledge and information because of artificial intelligence and machine learning. I acknowledge that the innovation of different technologies has impacted us as a society greatly. However, as I have mentioned several times throughout the papers that there are also intended and unintended consequences associated with every change and innovation. Technology has made us dependent on AI power and robotic knowledge which is harmful. We are also exposing our personal information which can lead to cyber-attacks and other cruel crimes we may not be conscious of. The excessive use of airplanes is causing climate change around the globe. Therefore, it is best to be appreciative of every innovation and be conscious of the unintended effects it comes with.

Works Cited

“The Airplane.” *Google Books*, Google,
<https://books.google.com/books?hl=en&lr=&id=FrvrkXYDCL8C&oi=fnd&pg=PP15&dq=airplane%2Bhistory%2Bscholarly%2Barticles&ots=bEkd8RV1a7&sig=H067BZjG5O5A5QINHBep3OSrHXI#v=onepage&q&f=false>.

Bejan, A, et al. “The Evolution of Airplanes.” *Journal of Applied Physics*, API Publishing, 28 July 2014, <https://dukespace.lib.duke.edu/dspace/handle/10161/8957>.

“Location-Based Services.” *Google Books*, Google,
https://books.google.com/books?hl=en&lr=&id=wj19b5wVfXAC&oi=fnd&pg=PP1&dq=Location%2Bbased%2Bservices&ots=leRn6rueIi&sig=hcpApj_UHYFzphcg_s-02Ms_hb4#v=onepage&q=Location%20based%20services&f=false.

Federal Aviation Administration.

https://www.faa.gov/about/plans_reports/media/2020_jan_economic_impact_report.pdf.

authors, All, and Haosheng Huang <http://orcid.org/0000-0001-8399-3607>. “Location Based Services: Ongoing Evolution and Research Agenda.” *Taylor & Francis*,
<https://www.tandfonline.com/doi/full/10.1080/17489725.2018.1508763>.

Location-Based Services in Tourism an Empirical Analysis of Usage Behavior.

https://www.ak-tourismusforschung.org/wp-content/uploads/2018/05/8-1_Ehlers-Uphaus_Location-Based-Services-in-Tourism.pdf.

Applications of Artificial Intelligence in Machine Learning ... - Citeseerx.

<https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.695.5829&rep=rep1&type=pdf>.

“Pap9-4TQK: D1wqtxts1xzle7.Cloudfront.net : Free Download, Borrow, and Streaming.” *Internet Archive*, https://archive.org/details/perma_cc_PAP9-4TQK.

Kaput, Mike. “Natural Language Generation (NLG): Everything You Need to Know.”

Marketing AI Institute, Marketing AI Institute, 26 Sept. 2022,

<https://www.marketingaiinstitute.com/blog/the-beginners-guide-to-using-natural-language-generation-to-scale-content-marketing>.

“Airplane Pollution.” *Transport & Environment*, 2 June 2022,

<https://www.transportenvironment.org/challenges/planes/airplane-pollution/>.

