

Global Positioning System affect on Everyday Life

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Research Paper

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Since the dawn of time people needed a guide to get them where they wanted to go and back again. Today, the Global Positioning System has revolutionized how people travel and function every day. In the modern world, GPS generally assists people with travel but is useful in other areas of life. The GPS system we know today did not appear out of thin air. It has evolved over time from various developments in navigation. An early method to determine position was a compass. By using a magnetized pointer and Earth's magnetic field, a compass could point anyone in the direction they wanted to go. Recently the compass has been supplanted by a more advanced GPS device. The original GPS was known as the Navstar Global Positioning System and was first brainstormed at the Pentagon in 1973. In 1978 the first operational GPS satellite was launched. By the mid 1990s the system was fully operational with 24 satellites (James, 2009). Randy James (2009) describes how the current positioning system functions and how it uses satellites,

By calculating the difference between radio signals received from four or more satellites, GPS receivers on the ground can determine their own location, speed and elevation with great accuracy — usually within a few meters or even less. Satellites are regularly replaced as they age and fail; there are currently more than 30 in space, with the extras used as spares and backup.

Since the mid 1990s this satellite positioning system has made its imprint in the everyday lives of people.

There are many benefits associated with the use of GPS. First it should be known that a GPS is not only used for a vehicle. Garmin describes the different types of GPS they manufacture; on the road, on the go, on the trail, into sports, on the water and in the air (Garmin,

2011). This gives anyone the opportunity to use a GPS for any occasion. The main reason for its popularity among users is its ease and simplicity. Many cars come equipped with GPS or it can be chosen as a feature. With it being preinstalled a driver can choose a destination and listen to a simple voice as they are driving. This ease shines in comparison to looking at a piece of paper and risk an accident while driving. Along with its simplicity a GPS also offers time management. No longer do people have to figure out their own schedule while driving, walking or, biking. The GPS user chooses which type of route they want to take. For example; fastest route, shortest route, and avoid tolls. A GPS navigation tells people the arrival time to their destination from their starting point and also factors in any stops along the way. The customization of a GPS is also a great benefit. With any GPS the user can customize the map to their liking. Maps come in different colors suitable for day or night driving. Different GPS brands have options for XM weather and radio, mp3, and voice options. Many also have different cars to choose from as the icon for the current position. The GPS navigation system is a helpful tool in getting from point A to point B for anyone that has resources to use one, but it also has some downsides.

The GPS navigation system is still an electronic device. It is not magical; therefore, it will not always be in perfect working condition. For one, a GPS will occasionally need updates. Manmade creations shape daily travel. Buildings and roads are always changing so those changes must be reflected in the electronic GPS device. Even natural occurrences such as rain, mountains, and caves interfere with the satellite signal. Just because there are thirty operating satellites does not mean that GPS will always get their signal. Teng Wei-chung is a professor at the National Taiwan University of Science and Technology and perfectly describes how the satellite system and natural earth interact, "GPS devices have to be in touch with at least three or more satellites at once and the line of sight frequencies can be easily scattered by obstructions

like buildings, bridges and even natural phenomena such as clouds, rain or snow” (Teng, 2011). These types of obstructions can lead people to an incorrect destination, so being mindful of how much signal the GPS can get is always a concern. Other than electronic concerns, the use of a GPS does come with a potential social impact.

It has been said that the use of technology has greatly decreased human’s ability to interact face to face. The days of stopping at the local mom and pop gas station for directions are gone. So many people rely on their GPS that they are losing time away from communicating to another person. Talking to a GPS isn’t going to help someone’s communication skills. Some people can get in a gadget haze over their GPS. Some people are so hung up on the features of their GPS that they are taking that time to figure out how they want their GPS to be. Even though a user can become somewhat obsessed with the use of their GPS it does increase one’s sense of direction. By looking at different maps and different routes to destinations a GPS user can figure out how to get anywhere. One great feature in some GPS devices is for off-roading. An offroad enthusiast can take their truck and GPS off road and create their own map. This gives the driver a chance to find that trail again or create new maps at any time. This is a great feature for people that like to explore new areas. It might hinder their face to face interaction, but it sure assists people in having fun.

The use of satellites has also been used as a tracking device. The use of the GPS satellites as a tracking device has positive and negative aspects. Many criminals all over the world have been found because governments, law enforcements, and judges have used GPS tracking to find them. Satellite signal combined with cameras make it easy to track anyone. The only issue is that satellites are already public use. Law enforcements still must get a warrant to use GPS tracking devices, but when it comes down to it that device is using public signal (Ganz, 2005.) There will

always be an ongoing debate about whether it is ethical to use a personal GPS device to track people. Some people will think it is okay to use it because it will help find and detain the criminals of the world. Whereas other people believe that anyone anywhere can track someone else. For instance, parents can now buy a feature with many of the children's mobile devices to track where they are going. People can also do this for their spouses, so on and so forth. Some people will think that is an invasion of privacy and some think it is a useful tool. The debate about the privacy of GPS will be ongoing because it really depends on the beliefs of individuals.

In conclusion, it is clear to see how the GPS navigation system impacts the everyday life of people. The use of satellites has proven helpful when traveling and also with tracking people down. The GPS brings up a debate of ethics when used to track down people, but its use for destination purposes outshines any negative impact it can have. Any use of technology can potentially decrease a person's social skills but that is an inevitable part of life and advancement of civilization. It is astonishing how a simple electronic device can affect a person's life. In the modern day it has become an essential part of travel and outdoor time. There are probably not too many people in this world that are gung ho over using a compass when a colored screen with a map can show it all for them. It goes to show how technology has shaped the world we live in.

Ganz, John S. (2005). It's Already Public: Why Federal Officers Should Not Need Warrants to Use GPS Vehicle Tracking Devices. *The Journal of Criminal Law and Criminology*, 95. Retrieved from <http://www.jstor.org/stable/3491405>

This is a useful source because it describes the reasons why GPS are used as tracking devices and how satellite are public information.

Garmin. (2006-2011). *Products*. Retrieved from <https://buy.garmin.com/shop/shop.do?cID=132&ra=true>. Accessed March 1, 2011.

This source is useful because it shows the different product Garmin sells which proves they have a wide variety for a different customers.

James, Randy. (May 26, 2009). *A Brief History of GPS*. Retrieved from <http://www.time.com/time/nation/article/0,8599,1900862,00.html>. Accessed on March 1, 2011.

This source is relevant to the paper because to understand GPS it is important to know the history and where they came from. They did not just pop out of nowhere and this article gives specific dates about the development.

Kaplan, Elliot D, Christopher J. Hegarty. (2006). *Understanding GPS: Principles and Applications*. Artech House Inc: Massachusetts.

This book also gave history to the GPS but also knowledge on how they work. I did not find it completely relevant to explain how a GPS works, but the history was helpful.

Weiss, Chris. *Pros & Cons of GPS Systems*. Retrieved from http://www.trails.com/facts_5327_pros-cons-gps-systems.html. Accessed on March 2, 2011.

The pros and cons of GPS systems may not be common sense. This source describes some things that some people may not know about GPS.

Yeh, Joseph. (March 3, 2001). *CF urges public not to fully trust GPS navigation devices*. Retrieved from <http://www.chinapost.com.tw/taiwan/national/national-news/2011/03/03/293160/CF-urges.htm>. Accessed March 3, 2011.

This source was relevant because it is current and shows that there are problems outside the U.S. Even Chinese scholars believe that GPS cannot be fully trusted. This is helpful when demonstrating the negative aspect of GPS.