**Social Construction of GPS**

The Social Construction of Technology is an STS concept developed by Trevor J. Pinch and Wiebe E. Bijker defined as “the developmental process of a technological artifact... as an alternation of variation and selection,” (pg. 28). Specifically they found that there are different social groups concerned with a specific technology and each social group interprets the use of that technology in its own unique way. In addition to the different interpretations of the technology, each group has its own sets of problems in the world that they need the technology to solve. These different problems and different solutions compete and the ones that survive cause the development of the technology.

First and foremost, GPS was designed to help the military. The military would be considered our first social group of discussion. The problems defined earlier such as navigation, missile delivery, and search and rescue are problems the military faced and those problems were solved with the development of the GPS. So, the military social group served as one of the key factors in the development of GPS through SCOT.

Once civilians were granted access to the GPS signals, there formed new social groups that could benefit from the use of the technology. In turn, different needs of these social groups aided the development of GPS technology. Three of these social groups include law enforcement, emergency services, and the average traveler.

One of the problems that the law enforcement social group faced was keeping track of registered sex offenders. In California specifically, there was backlash after a young 9 year old girl was “sexually abused and murdered” by a registered sex offender. As the fear of sex offenders swept the country, it was required that law enforcement ensured public safety by knowing the whereabouts of sex offenders, no matter the severity of their crime. Additionally, society found other criminals coming out of jail as a significant threat to their safety and it was demanded that criminals out on parole were also kept under strict supervision of the authorities. Considering all of the information GPS was able to provide the military as to the whereabouts of the troops, GPS proved to be a reliable technology to help the police. And then came the development of the ankle bracelet. A special anklet equipped with a GPS is given to those sex offenders and criminals that are living in the outside world. This allows police and parole officers to look on a computer and learn the whereabouts of specificcriminals. If they find anyone of their delinquents out of their specified limits or in an area near a crime, they can then find the criminal and arrest them again. This reassures the public that their safety is of upmost importance and constantly being watched. The development of the GPS ankle bracelet is just one example of SCOT in action. As issues of public safety rose, law enforcement was able to respond by finding a new use of the technology.

The next social group associated with the technology of the GPS is emergency services such as the fire department or the EMT’s at the hospitals. Often when a person calls in an emergency, they are too shocked to get all the words out. So it takes a lot of time for the person answering the emergency call to calm the speaker down and discover their whereabouts. The amount of time it takes to do this could delay the ambulance or fire truck from arriving at the scene of the emergency in a timely fashion and could risk the accident getting worse or someone’s life. So, engineers started developing ways to determine where the emergency scene is by utilizing GPS technology. Not only would GPS allow the emergency vehicle driver to find the location much faster, GPS trackers in the telephones used to call emergency numbers can also help determine the location of the scene of the crime. Like using a GPS tracker in a soldiers backpack to locate a wounded warrior, GPS trackers in landline telephones and cellular phones can find the location of a person calling in an emergency. Now it is required for all cellular phones to have GPS tracking chips just in case of emergency. So, the need for an efficient means of locating emergency situations led to the development of GPS trackers inserted in the cellular phones depicting the use of SCOT in the development process of GPS technologies.

Finally, the last social group is the average traveler. In many situations the average traveler is headed for a destination that they are unfamiliar with. This can be quite scary especially if they are driving there at night. Additionally, a driver can easily become lost in an unfamiliar area which could risk their personal safety or make them even more lost if they are too scared to ask for directions. So, the general public has a problem that could be solved by a system that allows them to discover their location and get directions to a safer area. Again, like how the military could reliably navigate their way through an uninhabited desert, the general public could use GPS to navigate their way through busy highways. Thus the GPS for the car became a popular new invention. There are many different brands of GPS, such as the Garmin, that provide the user with directions to their desired location. These systems also verbally dictate the directions to the driver so they do not have to risk their safety and others safety while they try to decipher a map on the road. So, society aided the development of a new GPS technology by demanding an easier way of travel.

Overall, GPS was developed as an answer to military problems involving unreliable navigation techniques and missile delivery, as well as inefficient search and rescue methods. While the government hoped to keep this technology exclusive to the military, the technology proved to be so important in convenience and safety that it was necessary to grant civilians access to the signals as well. As civilians became more reliant on GPS, the new technology developed into many variations including law enforcement anklets to control criminals, locators for Emergency situations, and maps and directions for automobile navigators. Each of these uses for the Global Positioning System came about to support the differing needs of certain social groups, giving specific examples of the Social Construction of Technology at work.