Tracking Devices

Student’s name

Institution
Tracking Devices

Introduction

Nowadays, tracking devices have become a part of life of every human being – they help people to know where their laptop, or cell phone, or car is, and it makes them feel safer. The technology develops, and tracking devices develop along with it. Tracking devices have been integrated in every part of modern life. With their help, parents know where their children are, and police officers will quicker find a prisoner who has escaped; besides, if a cell phone is lost or a car is stolen, with the help of such tracking devices, a person may find them. On the other hand, there are people who think that such devices are made by government, by militaries to spy ordinary citizens. Perhaps, the real matter of things will always be unknown.

This research paper is aimed at outlining main advantages and disadvantages of modern tracking devices and proposing theoretical solutions. The point is that human beings strive to make everything perfect, although sometimes, it goes not the way people want it. That is why tracking devices need to be perfected along with the development of modern technologies, for example, nano technologies.

The paper will be divided into four parts: the problem part will contain a short overview on problems that a tracking device may cause in the future, or it causes nowadays; the literature overview part will contain the overview of what has been done in this field; the methodology part will contain theoretical approach on the way of conducting the research; the solution part will contain theoretical approaches that may solve problems that were mentioned in the first part.

Problem Statement

Nowadays, tracking devices have become irreplaceable in humans’ life; some people cannot even imagine their life without them. The point is that such devices are not perfect,
which may lead to several problems. A tracking device may lose a signal, for example, or interpret the received data improperly. Besides, tracking devices are expensive, and not every person may find money to buy it. However, smartphones have built-in tracking devices, which insures a person that, in case of loss, a phone will be found. It has been already mentioned that there is a belief that government uses tracking devices to spy citizens. On the other hand, private providers may allow their customers to use tracking devices for knowing where members of their families are. However, this may lead to criminals tracking a person, “hunting” him or her. Those people who have tracking devices integrated in their cell phones may become objects of hackers that are hunting for information and may stalk people in the future. The problem is that federal authorities that use tracking devices to spy offenders have as developed technologies as criminals do; that is why tracking devices may become the main tool in a war between criminals and authorities, and ordinary people may be victims in that war.

Tracking devices for children are ineffective as well. There are three main disadvantages of such technology:

- False belief of security. If a criminal wants to kidnap a child, he or she will do that even if a child has a tracking device. Besides, a criminal may know how to disable such a device, so parents cannot feel secure with such innovative tool. Moreover, teenagers who want to escape parental control will either hide such a device or disable it;

- Price. Although tracking devices become more and more popular, their price remains high, and not every family may find such money;

- Fear and mistrust. If parents give a child such a device, it may cause a child’s feeling of mistrust, especially a teenager. Psychologists state that those children that are
monitored may feel that the whole world around them is unsafe, which may lead to developing of different phobias in the future.

The issue of tracking devices is studied since the very beginning. Some researchers suggest that such devices violent the right given by the Fourth Amendment (Myers, 10), the others argue that such devices are not useful, especially, when tracking criminals. However, the main point is not to find disadvantages, but to find ways how to make tracking devices perfect that people could use them without any fear. Research articles and other scientific works that were studied show that scientists do not try to find the solutions of these issues; in turn, they only argue about devices’ imperfectness. The main idea of this project is to show that a tracking device may be perfect, and people may not fear to use it, no data will be lost. This research paper is aimed at showing theoretical ways of solving all the problems.

**Literature Review**

The problem of tracking devices and their safety has been studied not only by scientists, but also by militaries because tracking devices have become popular in human life. To my opinion, this problem should be studied thoroughly because people trust a life of their children to a tracking device. Scientists from all over the world, as well as programmers and militaries, have studied different kinds of tracking devices, for example, tracking devices for children, for the elderly, pets and animals, cell phones, computers, cars, airplanes, etc. The most researches have been conducted in the branch of tracking devices for the elderly because old people need to be observed, especially those who have such diseases as Alzheimer’s disease. People who suffer from this disease are not self-reliant; that is why they need to be cared of until the end of their life. Sometimes, their relatives do not have time to spend the whole day with them, and it might be expensive for them to hire a nurse who will take care of a patient. In addition, they are not willing to send a person who has Alzheimer’s disease to a retirement home. The peculiarity of this disease is that patients forget everything
and become uncontrolled. In such cases, tracking devices become helpful in the life of the whole family. In Toronto, scientists conducted the research that helps to understand whether tracking devices are good or not for people with Alzheimer’s diseases and outlines several features:

“Loss of privacy: Tracking devices have the potential to be used for ongoing surveillance in addition to locating a person who is lost. Loss of freedom: People have the need to walk around and access the outdoors freely. Caregivers concerned about the risk of a person getting lost may impose restrictions. These may limit the size of person’s environment, or the ability to go outside. The use of a tracking device may also increase the person’s freedom Loss of contact with caregivers: Relying on technology may decrease the amount of interaction a person has with caregivers. For example, if a person wore a device that alerted caregivers when he/she was exiting the building, caregivers might not check in as regularly as they would when the person was not wearing a device. For those who provide care: Limits of technology: No single technology can guarantee a person with Alzheimer’s disease will not leave a building or that they will be found. Costs: Purchase and maintenance costs of these devices may be unaffordable. For police and search and rescue personnel: Government monitoring its citizens: Police do not want to use the technology to monitor citizens’ activities, only to facilitate search efforts and help people with Alzheimer’s disease get home safely and quickly. However, some people may feel that the use of tracking devices is an invasion of privacy and that police and others are acting as “big brother”” (Copper, n.d.).

Methodology

The main idea of this research is to understand whether tracking devices are useful and safe. Every research should be based on the data that is collected by the
researcher. In this case, the methodology part will contain methods that may be used while conducting this research.

There are different methods of analyzing the information. They all are divided into different types. This research is aimed at showing how foreign students overcome such problems. In the end, according to the results received, it will be clear what recommendations students should follow not to have any cultural and language barriers. The research methods are the following ones:

- A quantitative method;
- A qualitative method;
- Interviewing:
  1. Face-to-face interviews;
  2. Telephone interviews;
  3. Computer Assisted Personal Interviewing (CAPI);
- Questionnaires:
  1. Paper-pencil questionnaires;
  2. Web based questionnaires.

In the conducted research, such methods as questionnaires (both the paper-pencil and web based questionnaires) and the method of a quantitative research to collect and calculate the data will be used. The research will be a quantitative one; besides, it will be an online research. The amount of people participating in the research will be one thousand, and they will be questioned using such social networks as Facebook and MySpace. Every person will be given a short list of questions on which they should answer only “yes” or “no”. The questions are:

1. do you use tracking devices?
2. do you think tracking devices are useful for people with Alzheimer’s disease?
3. is it true that a teenager knows how to disable a tracking device?

4. how do you think, will tracking devices help to decrease the amount of criminal offences?

5. how do you think, is there any danger when using tracking devices?

Besides, every respondent will be asked to outline the main advantages and disadvantages of tracking devices, which will help the researchers to determine strong and weak points in this field of studies and find such solutions that will strengthen weak points and not weaken the strong ones. It is supposed that the main disadvantages will be:

- Citizens’ spying;
- Unprotected user’s data;
- Low speed of transferring information;
- Expensiveness, which satisfy a developer but does not satisfy a customer;
- Fear to loose data.

After the research is conducted, researchers will analyze the data and make conclusions; however, the main purpose of the research is to propose the theoretical solution, which will make tracking devices better in the nearest future.

Solution

All the problems mentioned above are the main ones to be solved by the developers of tracking devices of the future. The most essential problem that should be solved is the problem of data protection of citizens who use tracking devices. People buy tracking devices to feel secure that is why such technologies should meet the expectations of customers. The way how to secure sending and receiving data may ensure stable popularity for tracking devices. The disadvantage of such approach is that the price of tracking devices will increase, which means that they will be sold less. The problem is to find a solution that will satisfy
both a customer and a developer. To my mind, the best method to protect data of customers is to develop a new secure code. Besides, this code should be developed secretly so nobody knows about its existence, which will ensure that a criminal will not track a person. On the other hand, modern technologies enable criminals to hack the code very fast. That is why developers should work on implementing a new secure code every month or every several months.

The other way to make a tracking device perfect is to program a device on deleting all the data after a cell phone or car is stolen. This will help to decrease the possibility that a criminal will use the data of a person. Besides, a tracking device should have more possibilities to be found. For this reason, a system of better connection should be developed.

The main problems that have to be solved in the future are the problems of data security and better connection, so it is possible to track a device even it is far from the place where it was stolen. Besides, the methods of data collection and interpretation should become simpler, which will decrease the time needed to decode it and find where a lost property locates.

Moreover, tracking devices for cell phones and smartphones should be perfected because they contain the most information about its owner. Buying a cell phone, a person should be sure that he or she might safely use it without fear that even being robbed, all the data will not be lost or used by somebody else. Besides, every customer should be explained advantages and disadvantages of having such a cell phone because some people may have fear that they are spied by federal organizations.

**Conclusion**

Tracking devices have become as useful, so a cornerstone of many premonitions in modern life. This research paper was aimed at outlining the main achievements that have been made in this field of studies and proposing ways of solving the problem of modern tracking devices that are not secure. Besides, the paper contains theoretical approach on the
methods of conducting the research, which will help to understand clearly advantages and
disadvantages of tracking devices. In this research, the quantitative method will be used;
moreover, all questionnaires will be available in such social networks as Facebook and
MySpace, so more people will be able to answer those questions. It is supposed that one
thousand of respondents will answer the proposed questions; this will help to understand
clearly the point of citizens’ view.

There are different types of tracking devices that are used in all spheres of modern
life. However, they are not perfect. This paper has determined the main problems that a
tracking device may cause and suggested theoretical solution of them.

There has been many articles written on this issue; however, the situation nowadays
remains the same: tracking devices are expensive, although they still cannot secure people’s
life. The problem is that tracking devices have become too important in human life, and even
an ordinary citizen cannot imagine his or her life without such a gadget; besides, its
advantages are widely advertised. The solution is to create special data coding system that
may protect the information and safe ways of delivering information.
Bibliography


http://www.springer.com/cda/content/document/cda_downloaddocument/9780387738567-c1.pdf?SGWID=0-0-45-540602-p173754520

http://www.isis.georgetown.edu/CAIMR/Workshops/miccai/cleary_tracking.pdf


http://webstaff.itn.liu.se/~matco/TNM053/Lectures/Lecture%2004%20-Tracking.pdf

National Institute Of Justice. (2012). Selection and application guide to offender tracking systems for criminal justice professionals” Retrieved from

Myers, D. (2012). The warrantless use of GPS tracking devices: Fourth Amendment protection restored through the application of an analytical framework. Journal of
Law, Technology & the Internet, 3(1). Retrieved from
http://law.case.edu/journals/JOLTI/Documents/Myers%20new.pdf

Welty J., “GPS Tracking Devices and the Fourth Amendment”, (2008) retrieved from