GPS – IS IT ACCURATE

[Pick the date]

Somerset College – Science Report

An experimental report on the Science/Technology of GPS (Global Positioning System)

BY: Jayden Sully

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SOMERSET COLLEGE – SCIENCE REPORT

Introduction

The main problem I will be focusing on is that modern GPS in phones may not be accurate enough to find lost items like phones and other GPS enabled items. I will be focusing on this topic as modern society really doesn't like losing valuable items like phones or children. By doing this test we will be able to see how accurate GPS that is open to the public is in different phones and in different parts of a state and therefore we will be able to find ways to make modern GPS technology more accurate and easier for the public to access. I will be using different types of GPS enabled devices like Samsung and Apple devices for my experiments. My experiment will show you the distance of accuracy.

Aim

The aim of this experiment was to see how accurate GPS technology could be in different areas and if it could be used to accurately track your devices and/or children when they were lost or out and about.

Hypothesis

If a newer generation smartphone is tracked then it will be more accurate than an older generation smartphone because the technology inside it will be more powerful and therefore more accurate

Variables:

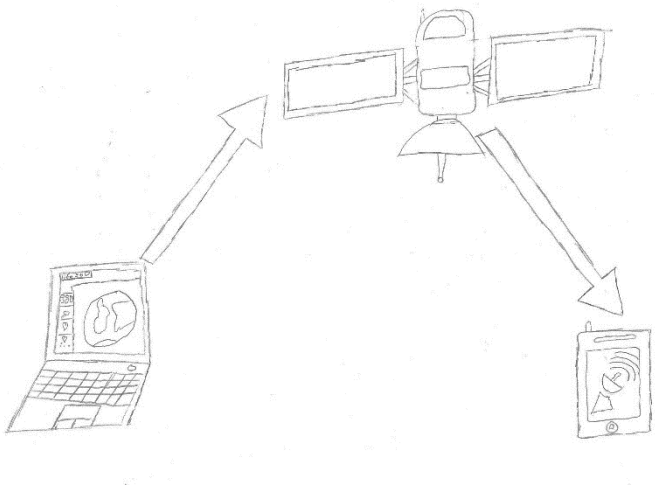
Variable:	Variable Discussed:
Independent	The independent variable I am changing is the type of phone (IPhone to Samsung) with this variable I will be testing the accuracy of each of the two phones.
Dependent	The dependant variable I will be testing is the accuracy (in metres) of the GPS inside each of the two phones.
Controlled	The controlled variable is the location of the test which was in the quadrangle at Somerset College.
Uncontrolled	The uncontrolled variable is the line of sight between the phone and the satellites and sometimes a plane, cloud or building will get in the way therefore making the phones less accurate during the test.

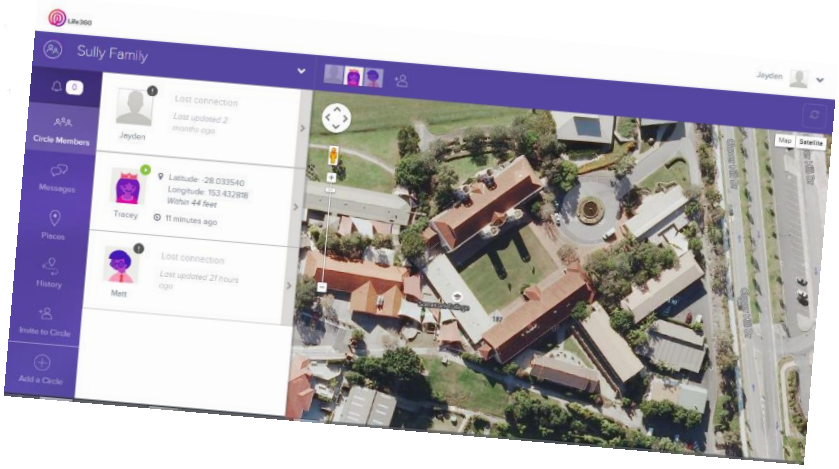
Method

An account Life 360 is created, then two mobile phones were added to the system and then the phones were tracked to waypoints around the town, then all the data from the phones was compiled and added to bar graphs to show the accuracy rate of each phone.

Method (Continued)

1.	Create an account on Life 360
2.	Add two (2) phones to the account
3.	Walk around an oval refreshing Life 360 and recording results
4.	Add all the data into a bar graph



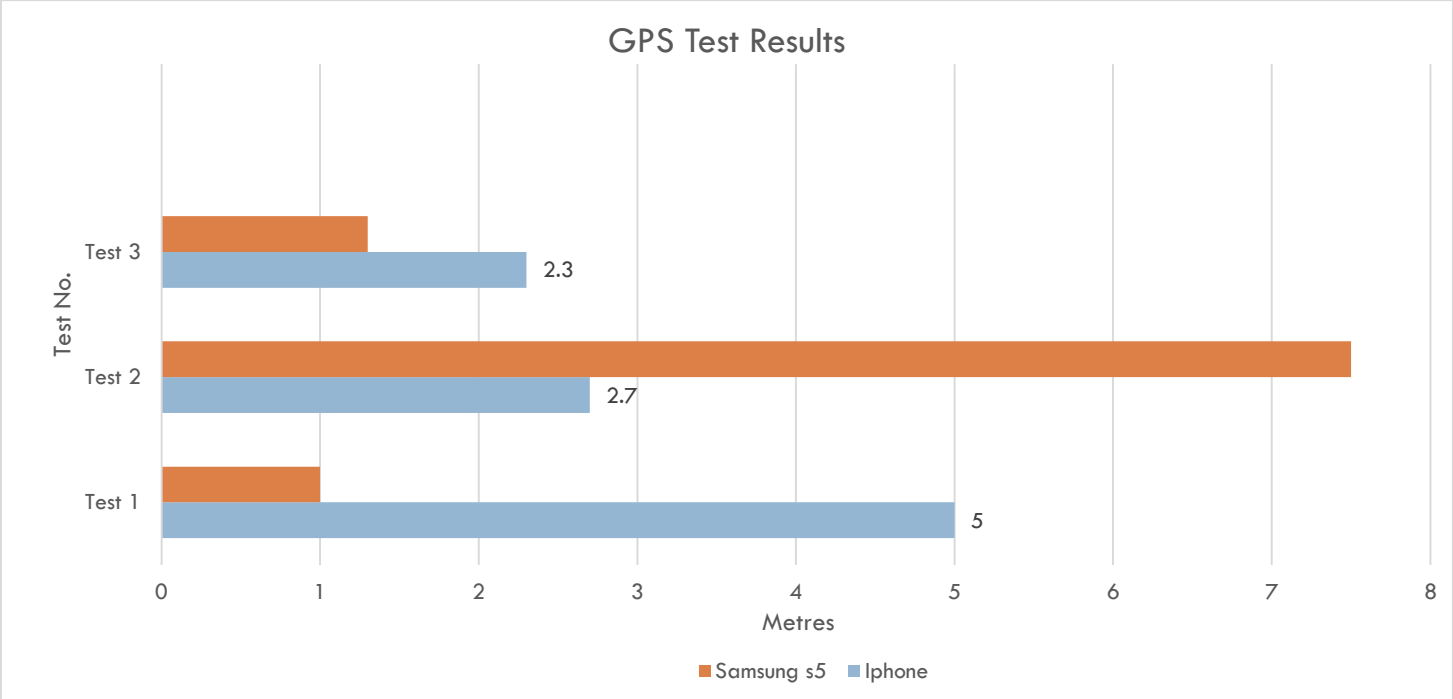


Data:

Phone	Try 1(meters)	Try 2 (meters)	Try 3 (meters)
IPhone 4s	5m	2.7m	2.3m
Samsung s5	1.0m	7.5m	1.3m

Data Processed:

Phone	Try 1(meters)	Try 2 (meters)	Try 3 (meters)	Average
IPhone 4s	5m	2.7m	2.3m	3.34m
Samsung s5	1.0m	7.5m	1.3m	3.26m



Discussion:

The data that I have collected has shown that the newer version phones have a better GPS accuracy than an older generation phone such as the IPhone 4s. I believe this is because the Samsung Galaxy s5 has newer and more refined GPS software than the IPhone. I was also surprised with sudden decrease of accuracy with the Samsung during test 2, I believe that this occurred due to a loss in signal connection due to interference from a building or tower in the quad.

Improvements:

If I was to improve anything about this test it would be the phones were built around the same time but one was made about six months after the other making the test less accurate.

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