

Industry Based Evolution Project Report

On

Fitbit Data analysis

Submitted in partial fulfillment of requirements for the Course
CSE18R375 - Digital Forensics

Bachelor's of Technology

In

Computer Science and Engineering

Submitted By

Adith Sivadasan

9919004009

Abi Nivesh

9919004006

Harish Babu

9919004108

Under the guidance of

Dr. A. FRANCIS SAVIOUR DEVARAJ



Department of Computer Science and Engineering

Kalasalingam Academy of Research and Education

Anand Nagar, Krishnankoil-626126

August 2021

ABSTRACT

Tracking Location History

When you turn on Location History, you may see a number of benefits across Google products and services, including personalized maps, recommendations based on places you've visited, help finding your phone, real-time traffic updates about your commute, and more useful ads.

Location History is turned off by default for your Google Account and can only be turned on if you opt in. You can pause Location History at any time in your Google Account's Activity controls. You control what's saved in your Location History. You can view the places where you've been in Google Maps Timeline, which you can edit or use to delete your Location History. Important: Some of these steps work only on Android 8.0 and up. Learn how to check your Android version. Google only receives Location History for each device where you are signed in and you have Location Reporting turned on. You can change the Location Reporting setting for each device where you're signed in, and limit which devices provide location data to be included in Location History. If you want to change your Location History settings, you can choose to: Report your location from only some of your devices, but not others. Report your location from all your devices. Turn off Location History for your Google Account. Your location won't be reported from any of your devices and you will not have new Location History recorded to your account. Your settings for other location services on your device, like Google Location Services, Location Sharing, and Find My Device, aren't changed.

DECLARATION

I hereby declare that the work presented in this report entitled “**Fitbit Data Analysis**”, in partial fulfilment of the requirements for the course CSE18R375- Digital Forensics and submitted in **Department of Computer Science and Engineering, Kalasalingam Academy of Research and Education (Deemed to be University)** is an authentic record of our own work carried out during the period from **AUGUST 2021** under the guidance of Mr. **Dr. A. FRANCIS SAVIOUR DEVARAJ**.

The work reported in this has not been submitted by me for the award of any other degree of this or any other institute.

Adith Sivadasan
9919004009
Abi Nivesh
9919004006
Harish Babu
9919004108

ACKNOWLEDGEMENT

I express my deep gratitude to Mr.Dr. A. FRANCIS SAVIOUR DEVARAJ for their valuable guidance throughout my training.

ABI NIVESH S - 9919004006
ADITH SIVADASAN - 9919004009
HARISH BABU S S – 9919004108

TABLE OF CONTENTS

1. ABSTRACT	i
2. CANDIDATE’S DECLARATION	ii
3. ACKNOWLEDGEMENT	iii
4. TABLE OF CONTENTS	iv
5. LIST OF FIGURES	v
Chapter 1 INTRODUCTION	1
1.0.1 Objectives	1
Chapter 2 PROJECT DESCRIPTION	2
Chapter 3 CONCLUSION	6
APPENDIX	6

LIST OF FIGURES

2.1	Simulate a Fitbit Device	3
2.2	Synchronizing the device Data	3
2.3	Extracting the data from the synchronized site	4
2.4	Converting into .csv format	4
2.5	Importing in Google earth pro software	4
2.6	Configuring the data format	5
2.7	Saving it in .kst format	5
2.8	Analyse the location	5

Chapter 1

INTRODUCTION

Given an introduction about your project...

1.0.1 Objectives

List the objectives of the project work...

1. To Simulate a Fitbit Device
2. Synchronizing the device Data
3. Extracting the data from the synchronized site
4. Converting into .csv format
5. Importing in Google earth pro software
6. Configuring the data format
7. Saving it in .kst format
8. Attaching the Data to map
9. Analyse the location

Chapter 2

PROJECT DESCRIPTION

The Fitbit App will communicate with the Fitbit device via Bluetooth Low Energy (BLE). It is important that the mobile device keep bluetooth turned on during data collection periods.

For the most robust data collection, we recommend making sure the “All-Day Sync” option is turned on. Using All Day Sync will enable the mobile application to periodically sync with the Fitbit device when it is in range and connected to the mobile device. This can be as often as every 15min. As for needing location service on, this is only needed when the app needs the bluetooth IP address of the device.

Do a more extensive search and you will find other tracker companies also need location services turned in.

It is all explained on the Android developers site

So why is this so?

It was discovered an open door, think major security problem, in the Bluetooth protocol of Android 5. Androids fix was made this needed.

Use the tools found in your phones settings, do a sync with location services on, you will see that your phones location was never requested.

My feeling is that since it makes my phone way more secure, im ok with it. Besides turning location services off does not save battery, and becomez a hassle when i need GPS.

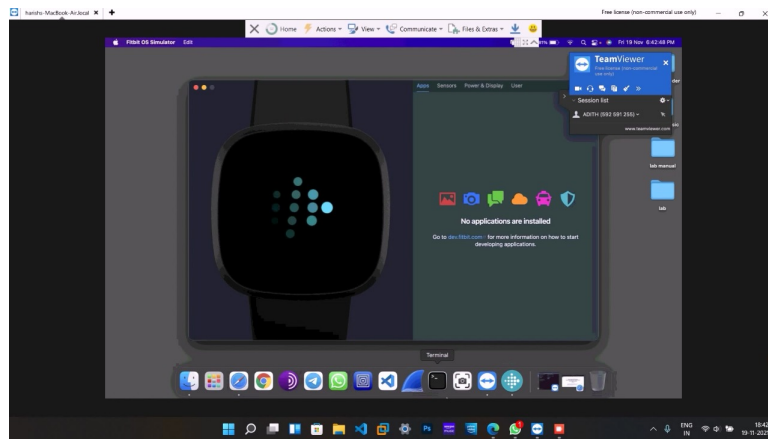


Figure 2.1: Simulate a Fitbit Device

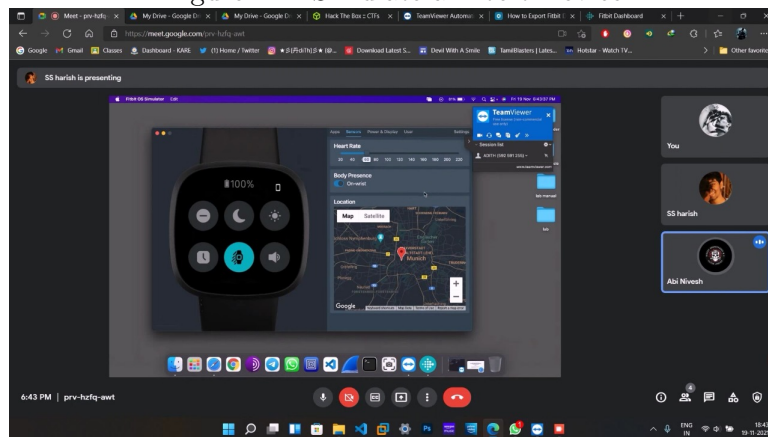
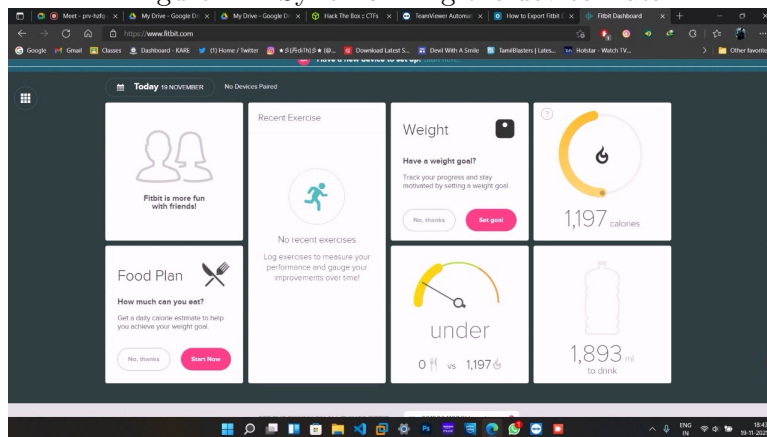


Figure 2.2: Synchronizing the device Data



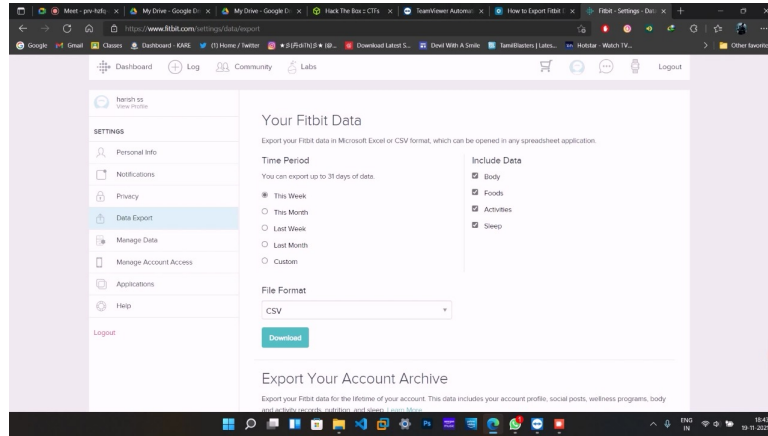


Figure 2.3: Extracting the data from the synchronized site

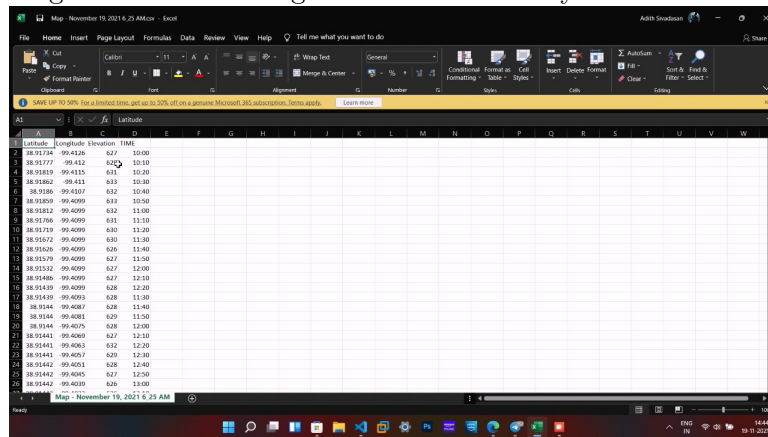


Figure 2.4: Converting into .csv format

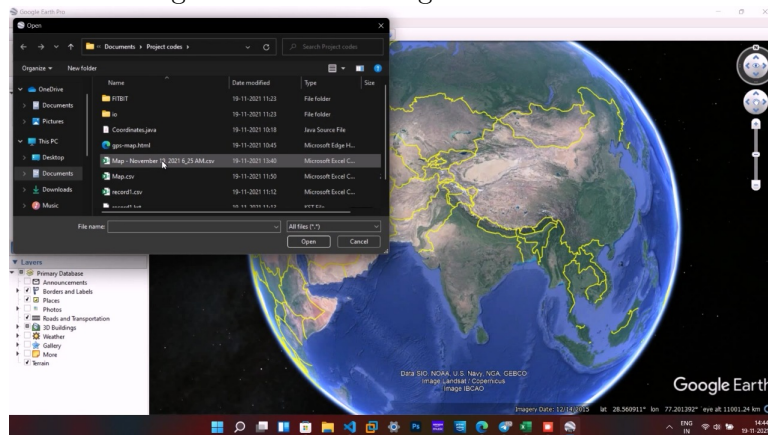


Figure 2.5: Importing in Google earth pro software

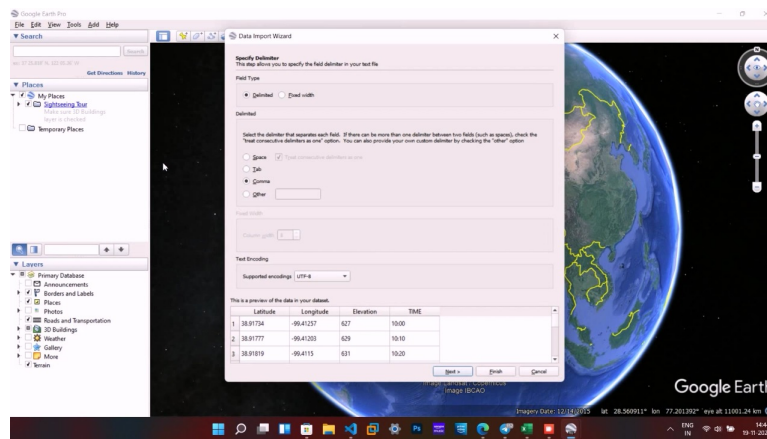


Figure 2.6: Configuring the data format

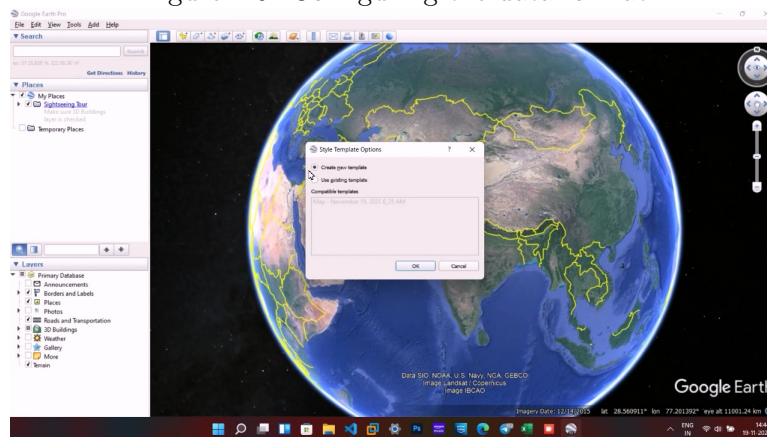


Figure 2.7: Saving it in .kst format

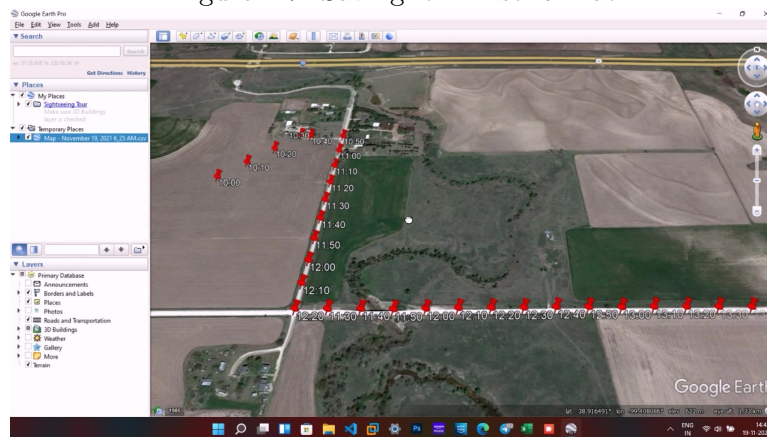


Figure 2.8: Analyse the location

Chapter 3

CONCLUSION

We Have succeeded in Implementing a Fitbit simulator and Extracted Its Location History With the help of the synchronized data from site and Analyzed it using The Google earth pro Software.

SOURCES

For further video references see: <https://youtu.be/wyurmRNkY-M>

Fitbit Simulator :<https://simulator-updates.fitbit.com/download/latest/win>

Fitbit synchronized Website:<https://www.fitbit.com/>

Google Earth pro:https://www.google.com/intl/en_in/earth/

TheEnd