

Launching APOLLO

Creating a Simple Tool for Advanced Forensic Analysis

[github.com/mac4n6/APOLLO]



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Hi. I'm Sarah!



Pattern of Life & Investigations

Applications

Battery Level and
Charging Habits

Network
Consumption and
Usage

CarPlay Activity

Audio
Output/Input

Location Habits

Device Lock Status
& Methods

Various
Configuration
Items

Heart Rate

Steps & Distance

Camera/Flashlight
Usage

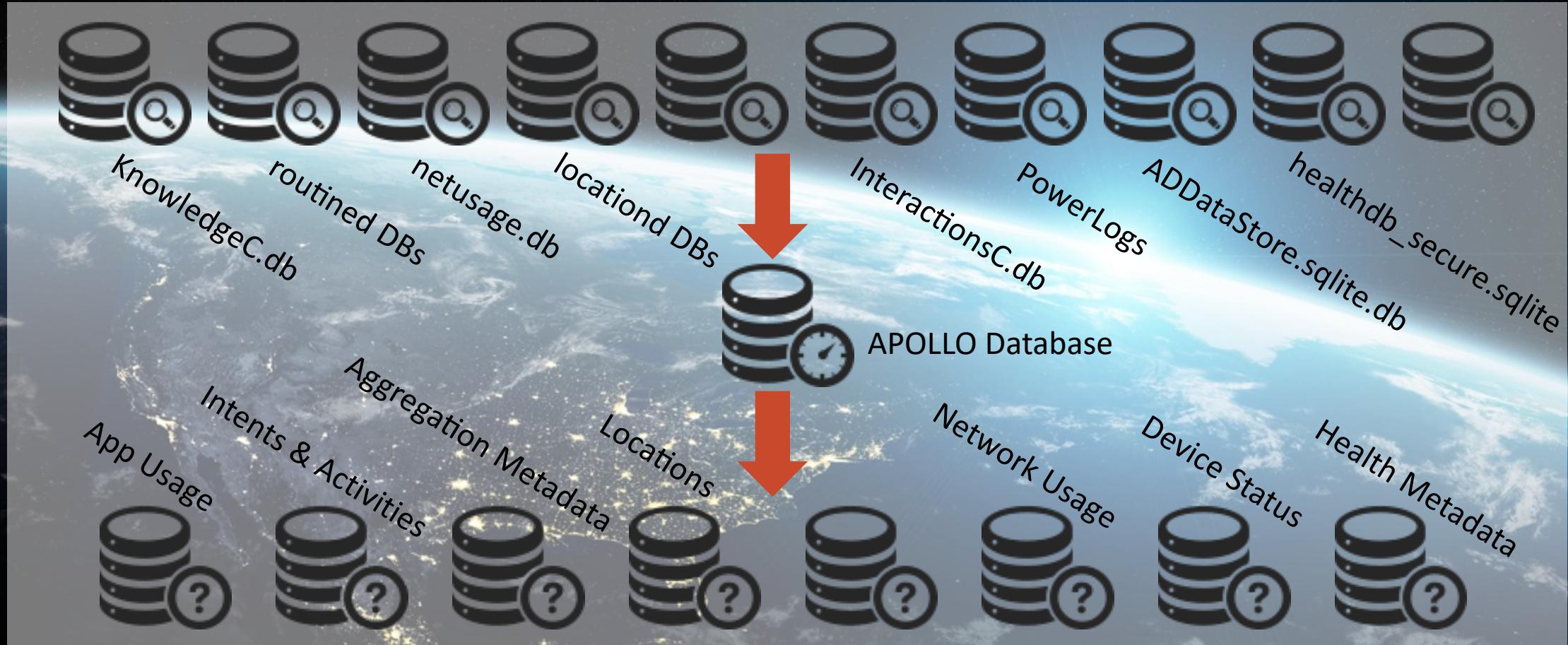
User Activities

So Many Problems...

- Data Extraction
 - Encryption
 - iOS – Cellebrite AS, GrayShift GrayKey, Jailbreak Acquisitions
- Data Correlation
 - Many, many, many SQLite databases
- Building SQL Queries
 - Research & Testing
- Analysis Time
 - Exigent Circumstances
 - Case Backlogs
 - Deep Dive Analysis
- Data Storage
 - Timestamps
 - Unix & Mac Epochs
 - Data BLOBs
 - Protobuf
 - Binary NSKeyedArchiver Plists
 - Gzips Archives
 - Temporal vs. Aggregated Records
 - Units of Measure
 - Data Values
 - 1 and 0 !=
 - True and False
 - On and Off
 - Why is there a 2!?
 - Up is Down, Down is Up

Solution: APOLLO

Apple Pattern of Life Lazy Output'er



Apple Pattern of Life Lazy Output'er (APOLLO)



- Low Bar to Entry – Easy contribution for busy forensic investigators
 - Almost anyone can develop a SQL Query
- Quick Correlation
 - Not perfect or pretty – but it works! (usually)
- Easy to update and configure SQL queries
 - Across Devices & Across OS Versions
- SQL Script Sharing
 - Each query is a separate APOLLO Module

Apollo Modules

- Dumb Script – Nothin' fancy going on here, the real work is done by the modules
 - Pro Tip: It can be used with any SQL Database and Query (Android/Windows?)
 - I'm keeping the name because its badass.
- Modules Directory – SQL Query Configuration Files, already 132 created!



```
[Module Metadata]
AUTHOR=Sarah Edwards/mac4n6.com/@iamevl twin
MODULE NOTES=What app/service is playing something, or not.

[Database Metadata]
DATABASE=CurrentPowerlog.PLSQL
PLATFORMS=IOS
VERSIONS=10,11,12

[Query Metadata]
QUERY_NAME=powerlog_app_nowplaying
ACTIVITY=App Usage
KEY_TIMESTAMP=ADJUSTED_TIMESTAMP

[SQL Query 10,11,12]
QUERY=
SELECT
    DATETIME(NOWPLAYING_TIMESTAMP + SYSTEM, 'unixepoch') AS ADJUSTED_TIMESTAMP,
    BUNDLEID AS "BUNDLE ID",
    CASE STATE
        WHEN "0" THEN "OFF"
        WHEN "1" THEN "ON"
    END AS "STATE",
    DATETIME(TIME_OFFSET_TIMESTAMP, 'unixepoch') AS OFFSET_TIMESTAMP,
    SYSTEM AS TIME_OFFSET,
    NOWPLAYING_ID AS "PLAUDIOAGENT_EVENTFORWARD_NOWPLAYING_TABLE ID"
FROM
(
    SELECT
        NOWPLAYING_ID,
        NOWPLAYING_TIMESTAMP,
        TIME_OFFSET_TIMESTAMP,
        MAX(TIME_OFFSET_ID) AS MAX_ID,
        BUNDLEID,
        STATE,
        SYSTEM
    FROM
        (
            SELECT
                PLAUDIOAGENT_EVENTFORWARD_NOWPLAYING.TIMESTAMP AS NOWPLAYING_TIMESTAMP,
                BUNDLEID,
                STATE,
                PLAUDIOAGENT_EVENTFORWARD_NOWPLAYING.ID AS "NOWPLAYING_ID",
                PLSTORAGEOPERATOR_EVENTFORWARD_TIMEOFFSET.TIMESTAMP AS TIME_OFFSET_TIMESTAMP,
                PLSTORAGEOPERATOR_EVENTFORWARD_TIMEOFFSET.ID AS TIME_OFFSET_ID,
                PLSTORAGEOPERATOR_EVENTFORWARD_TIMEOFFSET.SYSTEM
            FROM
                PLAUDIOAGENT_EVENTFORWARD_NOWPLAYING
            LEFT JOIN
                PLSTORAGEOPERATOR_EVENTFORWARD_TIMEOFFSET
            )
            AS NOWPLAYING_STATE
        GROUP BY
            NOWPLAYING_ID
)
```



Apollo Usage

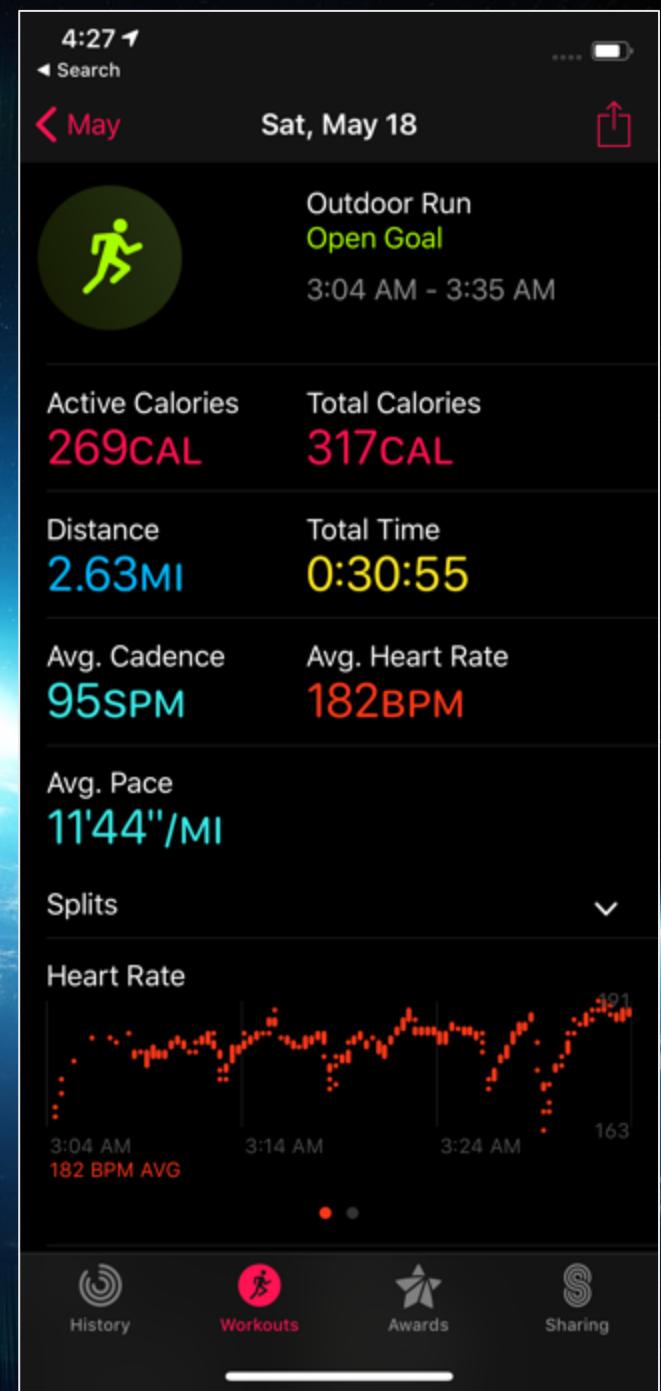
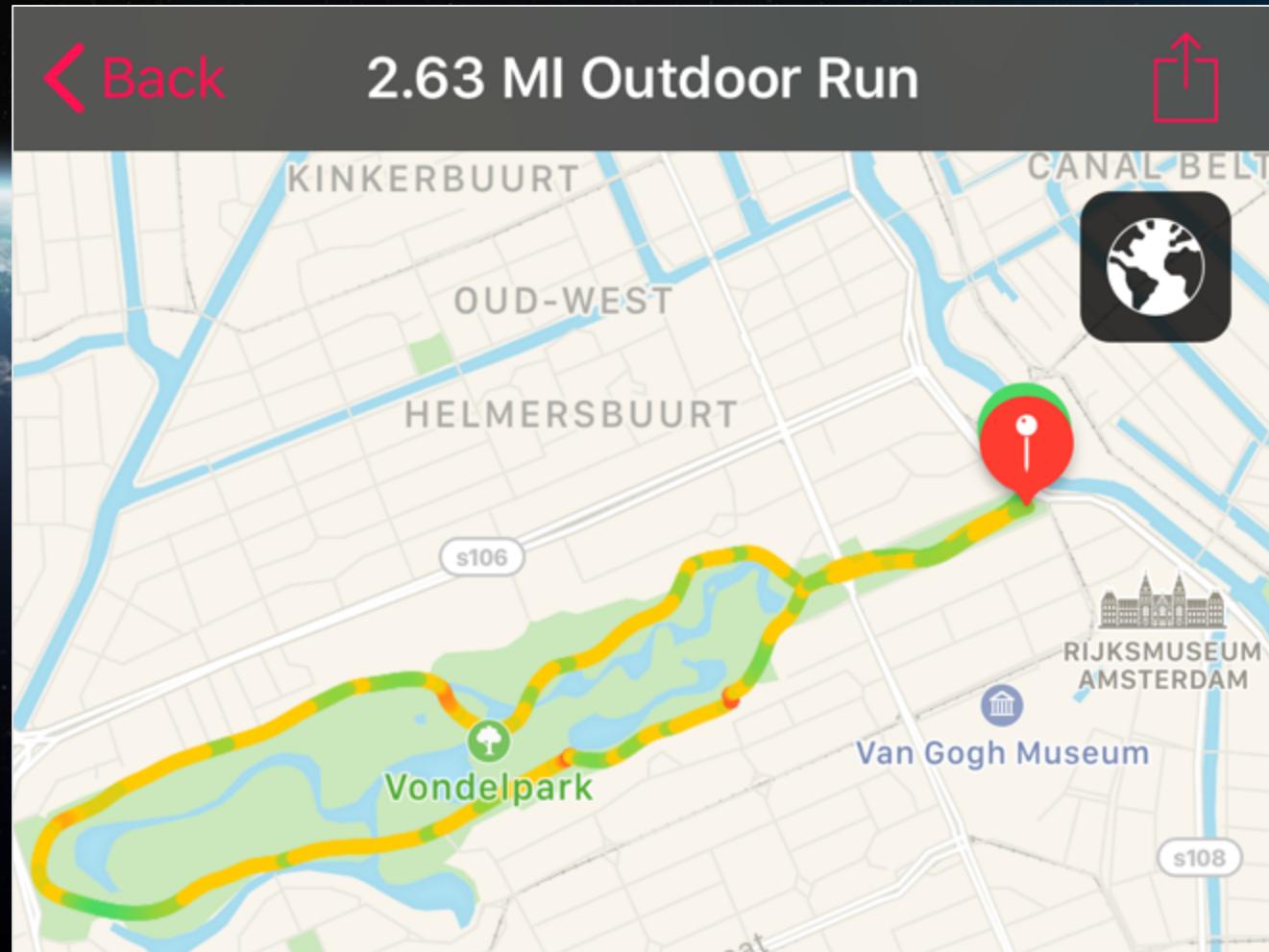
```
$ python apollo.py
-o {csv, sql}
-p {ios, mac, yolo}
-v {8, 9, 10, 11, 12, yolo}
<modules directory> <data directory>
```

The background of the slide is a photograph of Earth from space. The horizon is visible in the distance, where the blue of the atmosphere meets the black of space. Below the horizon, there's a layer of white and light blue clouds. Further down, the planet's surface is visible in shades of brown and green, representing land and vegetation. In the darker areas, which likely represent oceans or nighttime city lights, small yellow and white dots are scattered across the surface.

Health

Workouts, Heart Rate, Steps, Distance, Weather

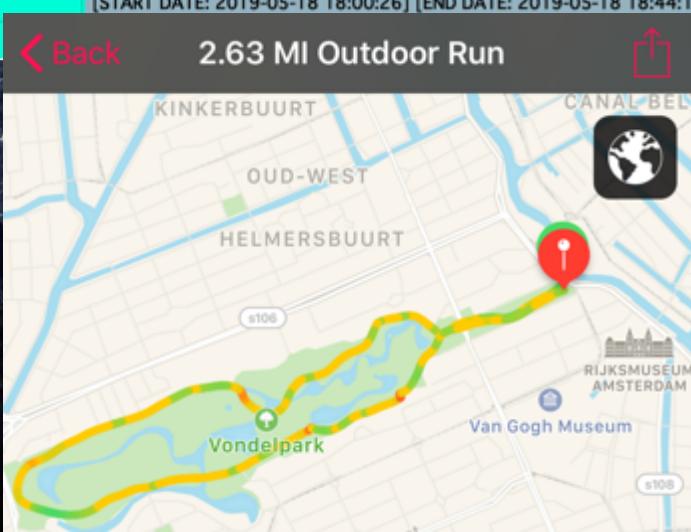
I went for a run, jog, brisk saunter.



Health – Workouts

Key	Activity	Output
2019-05-18	x workout	Filter
1	2019-05-18 08:04:14 Health Workout Time Zone	[START DATE: 2019-05-18 08:04:14] [END DATE: 2019-05-18 08:35:09] [TIME ZONE: Europe/Amsterdam] [WORKOUT TYPE: INDOOR / OUTDOOR RUN] [DURATION (IN MINUTES): 30.9213066498] [CALORIES BURNED: 269.420343612]
2	2019-05-18 08:04:14 Health Workout Location Latitude	[START DATE: 2019-05-18 08:04:14] [END DATE: 2019-05-18 08:35:09] [LATITUDE: 52.3619030501] [WORKOUT TYPE: INDOOR / OUTDOOR RUN] [DURATION (IN MINUTES): 30.9213066498] [DISTANCE: 4.27 MI]
3	2019-05-18 08:04:14 Health Indoor Workout	[START DATE: 2019-05-18 08:04:14] [END DATE: 2019-05-18 08:35:09] [WORKOUT TYPE: INDOOR / OUTDOOR RUN] [DURATION (IN MINUTES): 30.9213066498] [CALORIES BURNED: 269.420343612]
4	2019-05-18 08:04:14 Health Workout Location Longitude	[START DATE: 2019-05-18 08:04:14] [END DATE: 2019-05-18 08:35:09] [LONGITUDE: 4.88166453544] [WORKOUT TYPE: INDOOR / OUTDOOR RUN] [DURATION (IN MINUTES): 30.9213066498] [DISTANCE: 4.27 MI]
5	2019-05-18 08:04:14 Health Workout Temperature	[START DATE: 2019-05-18 08:04:14] [END DATE: 2019-05-18 08:35:09] [TEMPERATURE: 58.0 degF] [WORKOUT TYPE: INDOOR / OUTDOOR RUN] [DURATION (IN MINUTES): 30.9213066498] [DISTANCE: 4.27 MI]
6	2019-05-18 08:04:14 Health Workout Time of Day	[START DATE: 2019-05-18 08:04:14] [END DATE: 2019-05-18 08:35:09] [TIME OF DAY: DAY] [WORKOUT TYPE: INDOOR / OUTDOOR RUN] [DURATION (IN MINUTES): 30.9213066498] [DISTANCE: 4.27 MI]
7	2019-05-18 08:04:14 Health Workout Humidity	[START DATE: 2019-05-18 08:04:14] [END DATE: 2019-05-18 08:35:09] [HUMIDITY: 77.0%] [WORKOUT TYPE: INDOOR / OUTDOOR RUN] [DURATION (IN MINUTES): 30.9213066498] [DISTANCE: 4.27 MI]
8	2019-05-18 08:04:14 Health Workout Weather	[START DATE: 2019-05-18 08:04:14] [END DATE: 2019-05-18 08:35:09] [WEATHER: PARTLY CLOUDY] [WORKOUT TYPE: INDOOR / OUTDOOR RUN] [DURATION (IN MINUTES): 30.9213066498] [DISTANCE: 4.27 MI]
9	2019-05-18 18:00:26 Health Workout Time Zone	[START DATE: 2019-05-18 18:00:26] [END DATE: 2019-05-18 18:44:16] [TIME ZONE: Europe/Amsterdam] [WORKOUT TYPE: INDOOR / OUTDOOR WALK] [DURATION (IN MINUTES): 43.8440807501] [CALORIES BURNED: 363.8222222] [DISTANCE: 2.63 MI]
10	2019-05-18 18:00:26 Health Workout Location Latitude	[START DATE: 2019-05-18 18:00:26] [END DATE: 2019-05-18 18:44:16] [LATITUDE: 52.36209345] [WORKOUT TYPE: INDOOR / OUTDOOR WALK] [DURATION (IN MINUTES): 43.8440807501] [CALORIES BURNED: 363.8222222] [DISTANCE: 2.63 MI]
11	2019-05-18 18:00:26 Health Indoor Workout	[START DATE: 2019-05-18 18:00:26] [END DATE: 2019-05-18 18:44:16] [WORKOUT TYPE: INDOOR / OUTDOOR WALK] [DURATION (IN MINUTES): 43.8440807501] [CALORIES BURNED: 363.8222222] [DISTANCE: 2.63 MI]
12	2019-05-18 18:00:26 Health Workout Location Longitude	[START DATE: 2019-05-18 18:00:26] [END DATE: 2019-05-18 18:44:16] [LONGITUDE: 4.88096015883] [WORKOUT TYPE: INDOOR / OUTDOOR WALK] [DURATION (IN MINUTES): 43.8440807501] [CALORIES BURNED: 363.8222222] [DISTANCE: 2.63 MI]
13	2019-05-18 18:00:26 Health Workout Temperature	[START DATE: 2019-05-18 18:00:26] [END DATE: 2019-05-18 18:44:16] [TEMPERATURE: 64.0 degF] [WORKOUT TYPE: INDOOR / OUTDOOR WALK] [DURATION (IN MINUTES): 43.8440807501] [CALORIES BURNED: 363.8222222] [DISTANCE: 2.63 MI]
14	2019-05-18 18:00:26 Health Workout Time of Day	[START DATE: 2019-05-18 18:00:26] [END DATE: 2019-05-18 18:44:16] [TIME OF DAY: DAY] [WORKOUT TYPE: INDOOR / OUTDOOR WALK] [DURATION (IN MINUTES): 43.8440807501] [CALORIES BURNED: 363.8222222] [DISTANCE: 2.63 MI]
15	2019-05-18 18:00:26 Health Workout Humidity	[START DATE: 2019-05-18 18:00:26] [END DATE: 2019-05-18 18:44:16] [HUMIDITY: 65.0%] [WORKOUT TYPE: INDOOR / OUTDOOR WALK] [DURATION (IN MINUTES): 43.8440807501] [CALORIES BURNED: 363.8222222] [DISTANCE: 2.63 MI]
16	2019-05-18 18:00:26 Health Workout Weather	[START DATE: 2019-05-18 18:00:26] [END DATE: 2019-05-18 18:44:16] [WEATHER: SUNNY] [WORKOUT TYPE: INDOOR / OUTDOOR WALK] [DURATION (IN MINUTES): 43.8440807501] [CALORIES BURNED: 363.8222222] [DISTANCE: 2.63 MI]

2.63 MI Outdoor Run



May Sat, May 18

Outdoor Run Open Goal

3:04 AM - 3:35 AM

Active Calories 269CAL Total Calories 317CAL

Distance 2.63MI Total Time 0:30:55

Avg. Cadence 95SPM Avg. Heart Rate 182BPM

Avg. Pace 11'44"/MI

Splits

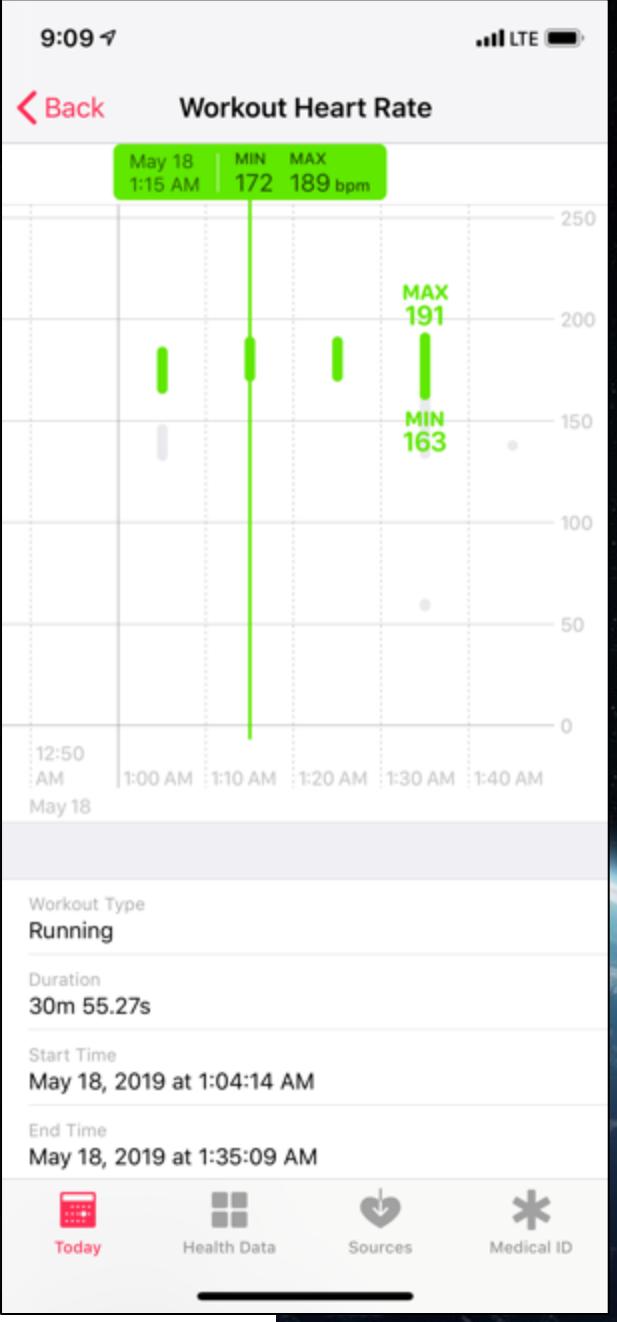
Heart Rate

3:04 AM 182 BPM AVG 3:14 AM 182 BPM 3:24 AM 182 BPM 3:34 AM 163 BPM

History Workouts Awards Sharing

Health – Heart Rate via Apple Watch

Key	Activity			
2019-05-18	health	Filter		
1009	2019-05-18 08:13:41	Health Heart Rate	[HEART RATE: 174.0] [UNITS: count/min] [QUANTITY: 2.9] [DATE: 2019-05-18 08:13:41] [SAMPLES TABLE ID: 4798950]	
1010	2019-05-18 08:13:41	Health Steps	[STEPS: 7.0] [START DATE: 2019-05-18 08:13:41] [END DATE: 2019-05-18 08:13:43] [SAMPLES TABLE ID: 4798955]	
1011	2019-05-18 08:13:43	Health Steps	[DISTANCE IN METERS: 5.92511901376] [START DATE: 2019-05-18 08:13:43] [END DATE: 2019-05-18 08:13:46] [SAMPLES TABLE ID: 4798956]	
1012	2019-05-18 08:13:43	Health Steps	[STEPS: 7.0] [START DATE: 2019-05-18 08:13:43] [END DATE: 2019-05-18 08:13:46] [SAMPLES TABLE ID: 4798960]	
1013	2019-05-18 08:13:44	Health Heart Rate	[HEART RATE: 176.0] [UNITS: count/min] [QUANTITY: 2.93333333333] [DATE: 2019-05-18 08:13:44] [SAMPLES TABLE ID: 4798961]	
1014	2019-05-18 08:13:46	Health Steps	[DISTANCE IN METERS: 4.71330920979] [START DATE: 2019-05-18 08:13:46] [END DATE: 2019-05-18 08:13:49] [SAMPLES TABLE ID: 4798962]	
1015	2019-05-18 08:13:46	Health Steps	[STEPS: 7.0] [START DATE: 2019-05-18 08:13:46] [END DATE: 2019-05-18 08:13:49] [SAMPLES TABLE ID: 4798964]	
1016	2019-05-18 08:13:49	Health Steps	[DISTANCE IN METERS: 3.72902420908] [START DATE: 2019-05-18 08:13:49] [END DATE: 2019-05-18 08:13:51] [SAMPLES TABLE ID: 4798965]	
1017	2019-05-18 08:13:49	Health Steps	[STEPS: 7.0] [START DATE: 2019-05-18 08:13:49] [END DATE: 2019-05-18 08:13:51] [SAMPLES TABLE ID: 4798969]	
1018	2019-05-18 08:13:51	Health Steps	[DISTANCE IN METERS: 4.02421033173] [START DATE: 2019-05-18 08:13:51] [END DATE: 2019-05-18 08:13:54] [SAMPLES TABLE ID: 4798970]	
1019	2019-05-18 08:13:51	Health Heart Rate	[HEART RATE: 177.0] [UNITS: count/min] [QUANTITY: 2.95] [DATE: 2019-05-18 08:13:51] [SAMPLES TABLE ID: 4798963]	
1020	2019-05-18 08:13:51	Health Steps	[STEPS: 7.0] [START DATE: 2019-05-18 08:13:51] [END DATE: 2019-05-18 08:13:54] [SAMPLES TABLE ID: 4798973]	
1021	2019-05-18 08:13:54	Health Steps	[DISTANCE IN METERS: 6.41435550363] [START DATE: 2019-05-18 08:13:54] [END DATE: 2019-05-18 08:13:56] [SAMPLES TABLE ID: 4798974]	
1022	2019-05-18 08:13:54	Health Heart Rate	[HEART RATE: 178.0] [UNITS: count/min] [QUANTITY: 2.96666666667] [DATE: 2019-05-18 08:13:54] [SAMPLES TABLE ID: 4798975]	
1023	2019-05-18 08:13:54	Health Steps	[STEPS: 8.0] [START DATE: 2019-05-18 08:13:54] [END DATE: 2019-05-18 08:13:56] [SAMPLES TABLE ID: 4798978]	
1024	2019-05-18 08:13:56	Health Steps	[DISTANCE IN METERS: 7.04038548796] [START DATE: 2019-05-18 08:13:56] [END DATE: 2019-05-18 08:13:59] [SAMPLES TABLE ID: 4798980]	
1025	2019-05-18 08:13:56	Health Steps	[STEPS: 7.0] [START DATE: 2019-05-18 08:13:56] [END DATE: 2019-05-18 08:13:59] [SAMPLES TABLE ID: 4798983]	
1026	2019-05-18 08:13:58	Health Heart Rate	[HEART RATE: 179.0] [UNITS: count/min] [QUANTITY: 2.98333333333] [DATE: 2019-05-18 08:13:58] [SAMPLES TABLE ID: 4798985]	
1027	2019-05-18 08:13:59	Health Steps	[DISTANCE IN METERS: 7.18946640426] [START DATE: 2019-05-18 08:13:59] [END DATE: 2019-05-18 08:14:01] [SAMPLES TABLE ID: 4798986]	
1028	2019-05-18 08:13:59	Health Steps	[STEPS: 6.0] [START DATE: 2019-05-18 08:13:59] [END DATE: 2019-05-18 08:14:01] [SAMPLES TABLE ID: 4798987]	
1029	2019-05-18 08:14:01	Health Steps	[DISTANCE IN METERS: 5.5139400661] [START DATE: 2019-05-18 08:14:01] [END DATE: 2019-05-18 08:14:04] [SAMPLES TABLE ID: 4798990]	
1030	2019-05-18 08:14:01	Health Steps	[STEPS: 6.0] [START DATE: 2019-05-18 08:14:01] [END DATE: 2019-05-18 08:14:04] [SAMPLES TABLE ID: 4798992]	
1031	2019-05-18 08:14:02	Health Heart Rate	[HEART RATE: 180.0] [UNITS: count/min] [QUANTITY: 3.0] [DATE: 2019-05-18 08:14:02] [SAMPLES TABLE ID: 4798991]	



Forensic Scenarios – Heart Rate

- Dragging a body down a hill and walking back up
 - Changes in Heart Rate Pattern
 - Flights Climbed
 - Testing by Investigators

MOTHERBOARD

PRIVACY

Apple Health Data Is Being Used as Evidence in a Rape and Murder Investigation

German authorities cracked a man's iPhone and found out what he was up to.

SHARE TWEET

Samantha Cole
Jan 11 2018, 8:00am

The app recorded a portion of his activity as "climbing stairs," which authorities were able to correlate with the time he would have dragged his victim down the river embankment, and then climbed back up. Freiburg police sent an investigator to the scene to replicate his movements, and sure enough, his Health app activity correlated with what was recorded on the defendant's phone.

Dragging Bodies for Science!

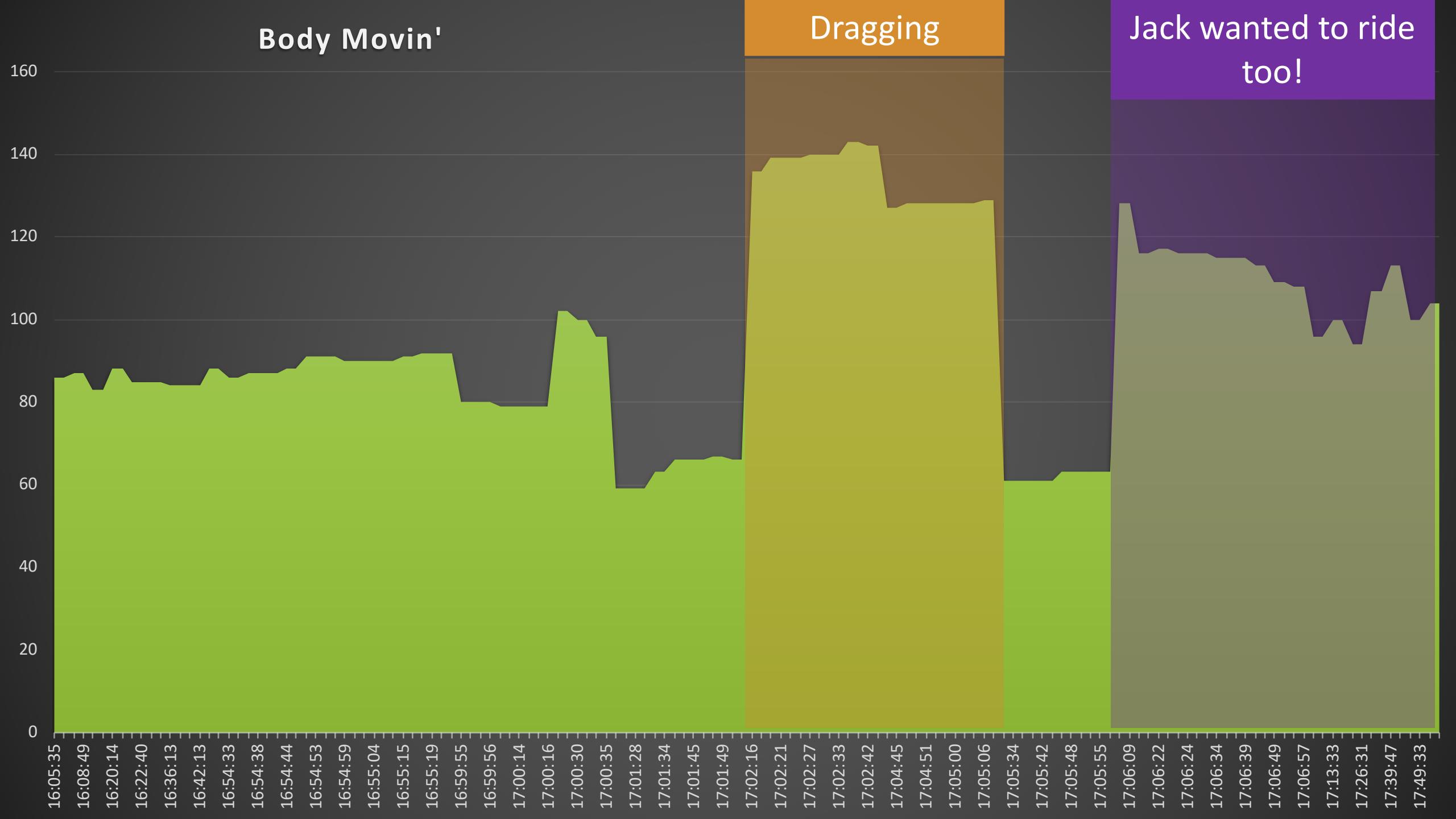


Body Movin'

Dragging

**Jack wanted to ride
too!**

16:05:35 16:08:49 16:12:14 16:22:40 16:36:13 16:42:13 16:54:33 16:54:38 16:54:44 16:54:53 16:54:59 16:55:04 16:55:15 16:55:19 16:59:55 16:59:56 17:00:14 17:00:16 17:00:30 17:00:35 17:01:28 17:01:34 17:01:45 17:01:49 17:02:16 17:02:21 17:02:27 17:02:33 17:02:42 17:04:45 17:04:51 17:05:00 17:05:06 17:05:34 17:05:42 17:05:48 17:05:55 17:06:09 17:06:22 17:06:24 17:06:34 17:06:39 17:06:49 17:06:57 17:13:33 17:26:31 17:39:47 17:49:33



Health – Steps and Distance

Key	Activity	Details
2019-05-18	health	Filter
1009	2019-05-18 08:13:41 Health Heart Rate	[HEART RATE: 174.0] [UNITS: count/min] [QUANTITY: 2.9] [DATE: 2019-05-18 08:13:41] [SAMPLES TABLE ID: 47989]
1010	2019-05-18 08:13:41 Health Steps	[STEPS: 7.0] [START DATE: 2019-05-18 08:13:41] [END DATE: 2019-05-18 08:13:43] [SAMPLES TABLE ID: 479895]
1011	2019-05-18 08:13:43 Health Steps	[DISTANCE IN METERS: 5.92511901376] [STAR
1012	2019-05-18 08:13:43 Health Steps	[STEPS: 7.0] [START DATE: 2019-05-18 08:13:43]
1013	2019-05-18 08:13:44 Health Heart Rate	[HEART RATE: 176.0] [UNITS: count/min] [QUA
1014	2019-05-18 08:13:46 Health Steps	[DISTANCE IN METERS: 4.71330920979] [STAR
1015	2019-05-18 08:13:46 Health Steps	[STEPS: 7.0] [START DATE: 2019-05-18 08:13:46]
1016	2019-05-18 08:13:49 Health Steps	[DISTANCE IN METERS: 3.72902420908] [STAR
1017	2019-05-18 08:13:49 Health Steps	[STEPS: 7.0] [START DATE: 2019-05-18 08:13:49]
1018	2019-05-18 08:13:51 Health Steps	[DISTANCE IN METERS: 4.02421033173] [STAR
1019	2019-05-18 08:13:51 Health Heart Rate	[HEART RATE: 177.0] [UNITS: count/min] [QUA
1020	2019-05-18 08:13:51 Health Steps	[STEPS: 7.0] [START DATE: 2019-05-18 08:13:51]
1021	2019-05-18 08:13:54 Health Steps	[DISTANCE IN METERS: 6.4143555363] [STAR
1022	2019-05-18 08:13:54 Health Heart Rate	[HEART RATE: 178.0] [UNITS: count/min] [QUA
1023	2019-05-18 08:13:54 Health Steps	[STEPS: 8.0] [START DATE: 2019-05-18 08:13:54]
1024	2019-05-18 08:13:56 Health Steps	[DISTANCE IN METERS: 7.04038548796] [STAR
1025	2019-05-18 08:13:56 Health Steps	[STEPS: 7.0] [START DATE: 2019-05-18 08:13:56]
1026	2019-05-18 08:13:58 Health Heart Rate	[HEART RATE: 179.0] [UNITS: count/min] [QUA
1027	2019-05-18 08:13:59 Health Steps	[DISTANCE IN METERS: 7.18946640426] [STAR
1028	2019-05-18 08:13:59 Health Steps	[STEPS: 6.0] [START DATE: 2019-05-18 08:13:59]
1029	2019-05-18 08:14:01 Health Steps	[DISTANCE IN METERS: 5.5139400661] [STAR
1030	2019-05-18 08:14:01 Health Steps	[STEPS: 6.0] [START DATE: 2019-05-18 08:14:01] [END DATE: 2019-05-18 08:14:04] [SAMPLES TABLE ID: 479899]
1031	2019-05-18 08:14:02 Health Heart Rate	[HEART RATE: 180.0] [UNITS: count/min] [QUANTITY: 3.0] [DATE: 2019-05-18 08:14:02] [SAMPLES TABLE ID: 479899]

8:59 ↗ LTE

Back Details

SAMPLE DETAILS

Steps
8 steps

Start Time
May 18, 2019 at 1:13:38 AM

End Time
May 18, 2019 at 1:13:41 AM

Source
Sarah's Apple Watch

Date Added to Health
May 18, 2019 at 1:13:45 AM

DEVICE DETAILS

Name
Apple Watch

Manufacturer
Apple

Model
Watch

Hardware Version
Watch4,3

Software Version
5.1.3

Today Health Data Sources Medical ID

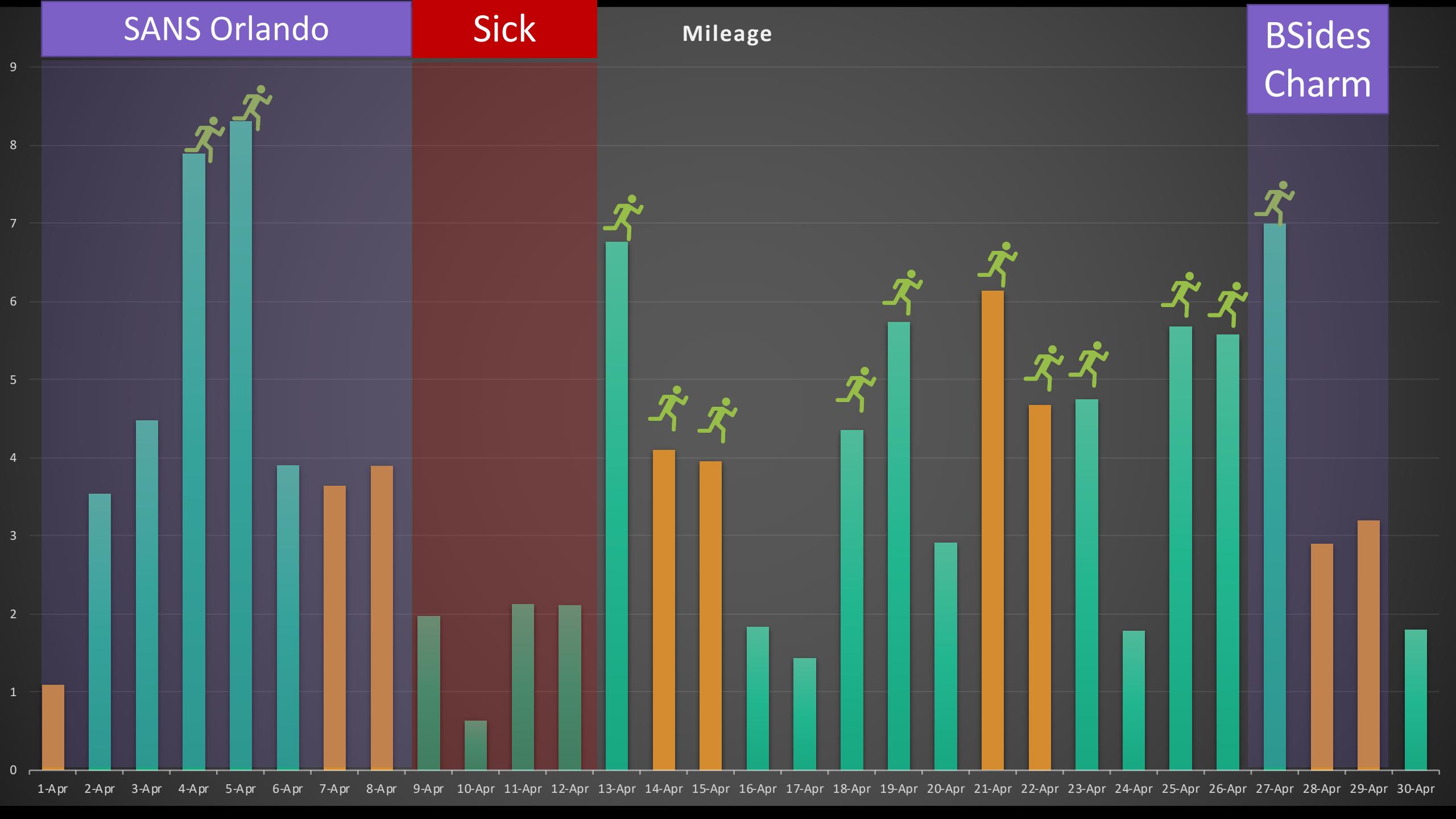
Today Health Data Sources Medical ID

SANS Orlando

Sick

Mileage

BSides
Charm



Locations – Routined & Workout

Key	Output
2019-05-18	<input type="button" value="Filter"/>
1	[INBOUND START DATE: 2019-05-18 06:05:53] [INBOUND STOP DATE: 2019-05-18 06:26:57] [COORDINATES: 52.3620551526665, 4.880139505705] [PLACE ID: 465] [DATA POINT COUNT: 533] [ZCOUNTRY: Netherlands] [ZCOUNTRYCODE: NL] [ZPOSTCODE: 5330] [ZLATITUDE: 52.3620551526665] [ZLONGITUDE: 4.880139505705]
2	[OUTBOUND START DATE: 2019-05-18 06:05:53] [OUTBOUND STOP DATE: 2019-05-18 06:26:57] [COORDINATES: 52.3620551526665, 4.880139505705] [PLACE ID: 465] [DATA POINT COUNT: 533] [ZCOUNTRY: Netherlands] [ZCOUNTRYCODE: NL] [ZPOSTCODE: 5330] [ZLATITUDE: 52.3620551526665] [ZLONGITUDE: 4.880139505705]
3	[VISIT ENTRY: 2019-05-18 06:26:57] [VISIT EXIT: 2019-05-18 08:06:05] [COORDINATES: 52.3620551526665, 4.880139505705] [PLACE ID: 465] [DATA POINT COUNT: 533] [ZCOUNTRY: Netherlands] [ZCOUNTRYCODE: NL] [ZPOSTCODE: 5330] [ZLATITUDE: 52.3620551526665] [ZLONGITUDE: 4.880139505705]
4	[INBOUND START DATE: 2019-05-18 06:05:53] [INBOUND STOP DATE: 2019-05-18 06:26:57] [COORDINATES: 52.3620551526665, 4.880139505705] [PLACE ID: 465] [DATA POINT COUNT: 533] [ZCOUNTRY: Netherlands] [ZCOUNTRYCODE: NL] [ZPOSTCODE: 5330] [ZLATITUDE: 52.3620551526665] [ZLONGITUDE: 4.880139505705]
5	[ENTRY: 2019-05-18 06:26:57] [EXIT: 2019-05-18 08:06:05] [COORDINATES: 52.3623590907138, 4.88034985854489] [LOI LATITUDE: 52.3623590907] [LOI LONGITUDE: 4.88034985854] [ZCONFIDENCE: 1.0] [ZLOCATIONUNIQUE: 1] [ZLOCATIONNAME:] [ZLATITUDE: 52.3623590907138] [ZLONGITUDE: 4.88034985854489]
6	[OUTBOUND START DATE: 2019-05-18 06:05:53] [OUTBOUND STOP DATE: 2019-05-18 06:26:57] [COORDINATES: 52.3620551526665, 4.880139505705] [PLACE ID: 465] [DATA POINT COUNT: 533] [ZCOUNTRY: Netherlands] [ZCOUNTRYCODE: NL] [ZPOSTCODE: 5330] [ZLATITUDE: 52.3620551526665] [ZLONGITUDE: 4.880139505705]
7	[START DATE: 2019-05-18 08:04:14] [END DATE: 2019-05-18 08:35:09] [LATITUDE: 52.3619030501] [WORKOUT TYPE: INDOOR / OUTDOOR RUN] [DURATION (IN MINUTES): 30.9213066498] [CALORIES BURNED: 269.420343612]
8	[START DATE: 2019-05-18 08:04:14] [END DATE: 2019-05-18 08:35:09] [LONGITUDE: 4.88166453544] [WORKOUT TYPE: INDOOR / OUTDOOR RUN] [DURATION (IN MINUTES): 30.9213066498] [CALORIES BURNED: 269.420343612]
9	[START: 2019-05-18 08:06:05] [STOP: 2019-05-18 08:34:58] [COORDINATES: 52.3623590907138, 4.88034985854489] [CREATION DATE: 2019-05-21 03:38:18] [EXPIRATION: 2019-07-13 18:02:15] [LOI LATITUDE: 52.3623590907] [LOI LONGITUDE: 4.88034985854] [ZCONFIDENCE: 1.0] [ZLOCATIONUNIQUE: 1] [ZLOCATIONNAME:] [ZLATITUDE: 52.3623590907138] [ZLONGITUDE: 4.88034985854489]
10	[INBOUND START DATE: 2019-05-18 08:06:05] [INBOUND STOP DATE: 2019-05-18 08:34:58] [COORDINATES: 52.3622038560831, 4.88038263917637] [PLACE ID: 465] [DATA POINT COUNT: 1864] [ZCOUNTRY: Netherlands] [ZCOUNTRYCODE: NL] [ZPOSTCODE: 5330] [ZLATITUDE: 52.3622038560831] [ZLONGITUDE: 4.88038263917637]
11	[VISIT ENTRY: 2019-05-18 06:26:57] [VISIT EXIT: 2019-05-18 08:06:05] [COORDINATES: 52.3620551526665, 4.880139505705] [PLACE ID: 465] [DATA POINT COUNT: 533] [ZCOUNTRY: Netherlands] [ZCOUNTRYCODE: NL] [ZPOSTCODE: 5330] [ZLATITUDE: 52.3620551526665] [ZLONGITUDE: 4.880139505705]
12	[OUTBOUND START DATE: 2019-05-18 08:06:05] [OUTBOUND STOP DATE: 2019-05-18 08:34:58] [COORDINATES: 52.3622038560831, 4.88038263917637] [PLACE ID: 465] [DATA POINT COUNT: 1864] [ZCOUNTRY: Netherlands] [ZCOUNTRYCODE: NL] [ZPOSTCODE: 5330] [ZLATITUDE: 52.3622038560831] [ZLONGITUDE: 4.88038263917637]
13	[ENTRY: 2019-05-18 06:26:57] [EXIT: 2019-05-18 08:06:05] [COORDINATES: 52.3623590907138, 4.88034985854489] [LOI LATITUDE: 52.3623590907] [LOI LONGITUDE: 4.88034985854] [ZCONFIDENCE: 1.0] [ZLOCATIONUNIQUE: 1] [ZLOCATIONNAME:] [ZLATITUDE: 52.3623590907138] [ZLONGITUDE: 4.88034985854489]
14	[VISIT ENTRY: 2019-05-18 08:34:58] [VISIT EXIT: 2019-05-18 18:02:15] [COORDINATES: 52.3622038560831, 4.88038263917637] [PLACE ID: 465] [DATA POINT COUNT: 1864] [ZCOUNTRY: Netherlands] [ZCOUNTRYCODE: NL] [ZPOSTCODE: 5330] [ZLATITUDE: 52.3622038560831] [ZLONGITUDE: 4.88038263917637]
15	[START: 2019-05-18 08:06:05] [STOP: 2019-05-18 08:34:58] [COORDINATES: 52.3623590907138, 4.88034985854489] [CREATION DATE: 2019-05-21 03:38:18] [EXPIRATION: 2019-07-13 18:02:15] [LOI LATITUDE: 52.3623590907] [LOI LONGITUDE: 4.88034985854] [ZCONFIDENCE: 1.0] [ZLOCATIONUNIQUE: 1] [ZLOCATIONNAME:] [ZLATITUDE: 52.3623590907138] [ZLONGITUDE: 4.88034985854489]
16	[INBOUND START DATE: 2019-05-18 08:06:05] [INBOUND STOP DATE: 2019-05-18 08:34:58] [COORDINATES: 52.3622038560831, 4.88038263917637] [PLACE ID: 465] [DATA POINT COUNT: 1864] [ZCOUNTRY: Netherlands] [ZCOUNTRYCODE: NL] [ZPOSTCODE: 5330] [ZLATITUDE: 52.3622038560831] [ZLONGITUDE: 4.88038263917637]
17	[ENTRY: 2019-05-18 08:34:58] [EXIT: 2019-05-18 18:02:15] [COORDINATES: 52.3623590907138, 4.88034985854489] [LOI LATITUDE: 52.3623590907] [LOI LONGITUDE: 4.88034985854] [ZCONFIDENCE: 1.0] [ZLOCATIONUNIQUE: 1] [ZLOCATIONNAME:] [ZLATITUDE: 52.3623590907138] [ZLONGITUDE: 4.88034985854489]
18	[OUTBOUND START DATE: 2019-05-18 08:06:05] [OUTBOUND STOP DATE: 2019-05-18 08:34:58] [COORDINATES: 52.3622038560831, 4.88038263917637] [PLACE ID: 465] [DATA POINT COUNT: 1864] [ZCOUNTRY: Netherlands] [ZCOUNTRYCODE: NL] [ZPOSTCODE: 5330] [ZLATITUDE: 52.3622038560831] [ZLONGITUDE: 4.88038263917637]



Locations – Routined & Workout



9:28 1 LTE

Back Amsterdam Marriott Hotel Edit

Hilfiger Stores

Marriott J. Executive Lounge

Amsterdam Marriott Hotel

DC Klinieken Amsterdam

A-Bike Rental & Tours

Hi-tec CoffeeCafe

Legal b/2b/19

3:31 PM - 8:07 AM
5/22/19 - 5/25/19

1:20 PM - 11:24 AM
5/21/19 - 5/22/19

1:24 PM - 10:26 AM
5/20/19 - 5/21/19

11:45 AM - 10:28 AM, arrived via a 6 min walk
5/19/19 - 5/20/19

3:42 AM - 4:13 AM, arrived via a 0 min walk
5/19/19

11:32 AM - 12:00 AM, arrived via a 0 min walk
5/18/19 - 5/19/19

1:34 AM - 11:02 AM, arrived via a 28 min walk
5/18/19

11:26 PM - 1:06 AM
5/17/19 - 5/18/19

This screen shows a mobile application interface for tracking locations. It displays a map of the Amsterdam Marriott Hotel area with a blue circle highlighting the hotel's vicinity. Below the map is a list of arrival and departure events with their respective dates and times.

Application Usage

Applications Used & Context

Health – Application Usage

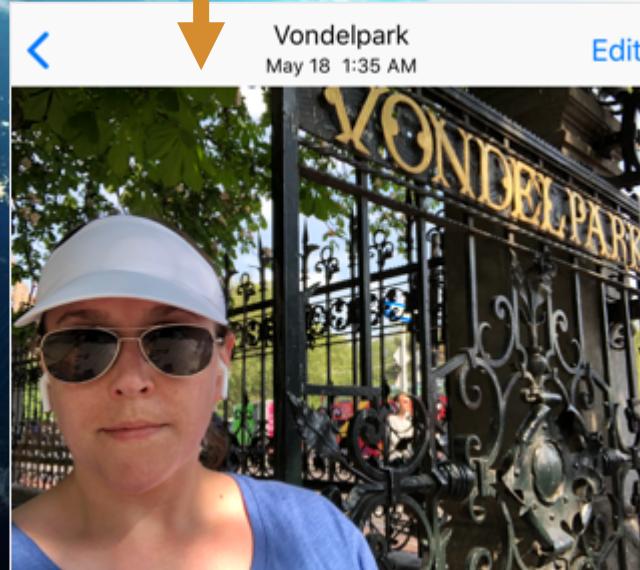
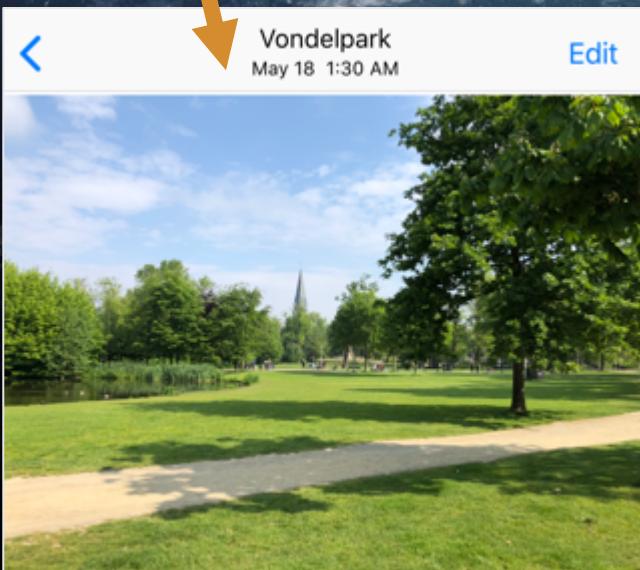
Key	Activity	
2019-05-18	application usage	Filter
43	2019-05-18 07:23:24	Application Usage [APP NAME: com.appleMaps] [USAGE IN SECONDS: 1] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T07:23:24Z]
44	2019-05-18 07:23:26	Application Usage [APP NAME: com.apple.weather] [USAGE IN SECONDS: 162] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T07:23:26Z]
45	2019-05-18 07:38:28	Application Usage [APP NAME: com.apple.weather] [USAGE IN SECONDS: 1] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T07:38:28Z]
46	2019-05-18 07:38:30	Application Usage [APP NAME: com.apple.mobletimer] [USAGE IN SECONDS: 11] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T07:38:30Z]
47	2019-05-18 07:38:52	Application Usage [APP NAME: com.apple.mobletimer] [USAGE IN SECONDS: 1] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T07:38:52Z]
48	2019-05-18 07:38:54	Application Usage [APP NAME: com.appleMaps] [USAGE IN SECONDS: 68] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T07:38:54Z]
49	2019-05-18 07:40:59	Application Usage [APP NAME: com.appleMaps] [USAGE IN SECONDS: 2] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T07:40:59Z]
50	2019-05-18 07:41:03	Application Usage [APP NAME: org.whispersystems.signal] [USAGE IN SECONDS: 7] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T07:41:03Z]
51	2019-05-18 07:41:12	Application Usage [APP NAME: org.whispersystems.signal] [USAGE IN SECONDS: 79] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T07:41:12Z]
52	2019-05-18 07:58:10	Application Usage [APP NAME: org.whispersystems.signal] [USAGE IN SECONDS: 9] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T07:58:10Z]
53	2019-05-18 07:58:20	Application Usage [APP NAME: com.apple.mobletimer] [USAGE IN SECONDS: 3] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T07:58:20Z]
54	2019-05-18 08:21:35	Application Usage [APP NAME: com.apple.mobletimer] [USAGE IN SECONDS: 1] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T08:21:35Z]
55	2019-05-18 08:21:38	Application Usage [APP NAME: com.appleMaps] [USAGE IN SECONDS: 8] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T08:21:38Z]
56	2019-05-18 08:27:15	Application Usage [APP NAME: com.apple.camera] [USAGE IN SECONDS: 8] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T08:27:15Z]
57	2019-05-18 08:29:52	Application Usage [APP NAME: com.apple.camera] [USAGE IN SECONDS: 9] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T08:29:52Z]
58	2019-05-18 08:30:18	Application Usage [APP NAME: com.apple.camera] [USAGE IN SECONDS: 6] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T08:30:18Z]
59	2019-05-18 08:35:28	Application Usage [APP NAME: com.apple.camera] [USAGE IN SECONDS: 18] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T08:35:28Z]
60	2019-05-18 08:36:05	Application Usage [APP NAME: com.appleMaps] [USAGE IN SECONDS: 3] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T08:36:05Z]
61	2019-05-18 08:36:22	Application Usage [APP NAME: com.atebits.Tweetie2] [USAGE IN SECONDS: 200] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T08:36:22Z]
62	2019-05-18 08:39:46	Application Usage [APP NAME: com.apple.Fitness] [USAGE IN SECONDS: 12] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T08:39:46Z]
63	2019-05-18 08:40:00	Application Usage [APP NAME: com.atebits.Tweetie2] [USAGE IN SECONDS: 45] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T08:40:00Z]
64	2019-05-18 09:07:59	Application Usage [APP NAME: com.apple.weather] [USAGE IN SECONDS: 28] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T09:07:59Z]
65	2019-05-18 09:18:03	Application Usage [APP NAME: com.apple.weather] [USAGE IN SECONDS: 2] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T09:18:03Z]
66	2019-05-18 09:18:07	Application Usage [APP NAME: com.apple.mobilemail] [USAGE IN SECONDS: 9] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T09:18:07Z]
67	2019-05-18 09:18:20	Application Usage [APP NAME: com.atebits.Tweetie2] [USAGE IN SECONDS: 407] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T09:18:20Z]
68	2019-05-18 09:25:08	Application Usage [APP NAME: com.apple.mobilemail] [USAGE IN SECONDS: 111] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T09:25:08Z]
69	2019-05-18 09:27:00	Application Usage [APP NAME: com.atebits.Tweetie2] [USAGE IN SECONDS: 526] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T09:27:00Z]
70	2019-05-18 09:35:47	Application Usage [APP NAME: com.apple.mobilesafari] [USAGE IN SECONDS: 2] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T09:35:47Z]
71	2019-05-18 09:35:51	Application Usage [APP NAME: com.appleMaps] [USAGE IN SECONDS: 29] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T09:35:51Z]
72	2019-05-18 09:36:20	Application Usage [APP NAME: com.apple.mobilesafari] [USAGE IN SECONDS: 4] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T09:36:20Z]
73	2019-05-18 09:36:26	Application Usage [APP NAME: com.appleMaps] [USAGE IN SECONDS: 200] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T09:36:26Z]

Health – Application Usage Pre-Workout Activity

43	2019-05-18 07:23:24	Application Usage	[APP NAME: com.appleMaps] [USAGE IN SECONDS: 1] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T07:23:24Z]
44	2019-05-18 07:23:26	Application Usage	[APP NAME: com.apple.weather] [USAGE IN SECONDS: 162] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T07:23:26Z]
45	2019-05-18 07:38:28	Application Usage	[APP NAME: com.apple.weather] [USAGE IN SECONDS: 1] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T07:38:28Z]
46	2019-05-18 07:38:30	Application Usage	[APP NAME: com.apple.mobletimer] [USAGE IN SECONDS: 11] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T07:38:30Z]
47	2019-05-18 07:38:52	Application Usage	[APP NAME: com.apple.mobletimer] [USAGE IN SECONDS: 1] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T07:38:52Z]
48	2019-05-18 07:38:54	Application Usage	[APP NAME: com.appleMaps] [USAGE IN SECONDS: 68] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T07:38:54Z]
49	2019-05-18 07:40:59	Application Usage	[APP NAME: com.appleMaps] [USAGE IN SECONDS: 2] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T07:40:59Z]
50	2019-05-18 07:41:03	Application Usage	[APP NAME: org.whispersystems.signal] [USAGE IN SECONDS: 7] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T07:41:03Z]
51	2019-05-18 07:41:12	Application Usage	[APP NAME: org.whispersystems.signal] [USAGE IN SECONDS: 79] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T07:41:12Z]
52	2019-05-18 07:58:10	Application Usage	[APP NAME: org.whispersystems.signal] [USAGE IN SECONDS: 9] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T07:58:10Z]
53	2019-05-18 07:58:20	Application Usage	[APP NAME: com.apple.mobletimer] [USAGE IN SECONDS: 3] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T07:58:20Z]

Health – Application Usage During Workout Activity

54	2019-05-18 08:21:35	Application Usage	[APP NAME: com.apple.mobletimer] [USAGE IN SECONDS: 1] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18 08:21:35]
55	2019-05-18 08:21:38	Application Usage	[APP NAME: com.appleMaps] [USAGE IN SECONDS: 8] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18 08:21:38]
56	2019-05-18 08:27:15	Application Usage	[APP NAME: com.apple.camera] [USAGE IN SECONDS: 8] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18 08:27:15]
57	2019-05-18 08:29:52	Application Usage	[APP NAME: com.apple.camera] [USAGE IN SECONDS: 9] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18 08:29:52]
58	2019-05-18 08:30:18	Application Usage	[APP NAME: com.apple.camera] [USAGE IN SECONDS: 6] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18 08:30:18]
59	2019-05-18 08:35:28	Application Usage	[APP NAME: com.apple.camera] [USAGE IN SECONDS: 18] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18 08:35:28]



Health – Application Usage Post-Workout Activity

60	2019-05-18 08:36:05	Application Usage	[APP NAME: com.appleMaps] [USAGE IN SECONDS: 3] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T08:36:05Z]
61	2019-05-18 08:36:22	Application Usage	[APP NAME: com.atebits.Tweetie2] [USAGE IN SECONDS: 200] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T08:36:22Z]
62	2019-05-18 08:39:46	Application Usage	[APP NAME: com.apple.Fitness] [USAGE IN SECONDS: 12] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T08:39:46Z]
63	2019-05-18 08:40:00	Application Usage	[APP NAME: com.atebits.Tweetie2] [USAGE IN SECONDS: 45] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T08:40:00Z]
64	2019-05-18 09:07:59	Application Usage	[APP NAME: com.apple.weather] [USAGE IN SECONDS: 28] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T09:07:59Z]
65	2019-05-18 09:18:03	Application Usage	[APP NAME: com.apple.weather] [USAGE IN SECONDS: 2] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T09:18:03Z]
66	2019-05-18 09:18:07	Application Usage	[APP NAME: com.apple.mobilemail] [USAGE IN SECONDS: 9] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T09:18:07Z]
67	2019-05-18 09:18:20	Application Usage	[APP NAME: com.atebits.Tweetie2] [USAGE IN SECONDS: 407] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T09:18:20Z]
68	2019-05-18 09:25:08	Application Usage	[APP NAME: com.apple.mobilemail] [USAGE IN SECONDS: 111] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T09:25:08Z]
69	2019-05-18 09:27:00	Application Usage	[APP NAME: com.atebits.Tweetie2] [USAGE IN SECONDS: 526] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T09:27:00Z]
70	2019-05-18 09:35:47	Application Usage	[APP NAME: com.apple.mobilesafari] [USAGE IN SECONDS: 2] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T09:35:47Z]
71	2019-05-18 09:35:51	Application Usage	[APP NAME: com.appleMaps] [USAGE IN SECONDS: 29] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T09:35:51Z]
72	2019-05-18 09:36:20	Application Usage	[APP NAME: com.apple.mobilesafari] [USAGE IN SECONDS: 4] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T09:36:20Z]
73	2019-05-18 09:36:26	Application Usage	[APP NAME: com.appleMaps] [USAGE IN SECONDS: 200] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T09:36:26Z]



Health – Application Usage Post-Workout Activity

60	2019-05-18 08:36:05	Application Usage	[APP NAME: com.appleMaps] [USAGE IN SECONDS: 3] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T08:36:05Z]
61	2019-05-18 08:36:22	Application Usage	[APP NAME: com.atebits.Tweetie2] [USAGE IN SECONDS: 200]
62	2019-05-18 08:39:46	Application Usage	[APP NAME: com.apple.Fitness] [USAGE IN SECONDS: 12] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T08:39:46Z]
63	2019-05-18 08:40:00	Application Usage	[APP NAME: com.atebits.Tweetie2] [USAGE IN SECONDS: 45]
64	2019-05-18 09:07:59	Application Usage	[APP NAME: com.apple.weather] [USAGE IN SECONDS: 28] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T09:07:59Z]
65	2019-05-18 09:18:03	Application Usage	[APP NAME: com.apple.weather] [USAGE IN SECONDS: 2] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T09:18:03Z]
66	2019-05-18 09:18:07	Application Usage	[APP NAME: com.apple.mobilemail] [USAGE IN SECONDS: 9] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T09:18:07Z]
67	2019-05-18 09:18:20	Application Usage	[APP NAME: com.atebits.Tweetie2] [USAGE IN SECONDS: 407]
68	2019-05-18 09:25:08	Application Usage	[APP NAME: com.apple.mobilemail] [USAGE IN SECONDS: 111]
69	2019-05-18 09:27:00	Application Usage	[APP NAME: com.atebits.Tweetie2] [USAGE IN SECONDS: 526]
70	2019-05-18 09:35:47	Application Usage	[APP NAME: com.apple.mobilesafari] [USAGE IN SECONDS: 2]
71	2019-05-18 09:35:51	Application Usage	[APP NAME: com.appleMaps] [USAGE IN SECONDS: 29] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T09:35:51Z]
72	2019-05-18 09:36:20	Application Usage	[APP NAME: com.apple.mobilesafari] [USAGE IN SECONDS: 4]
73	2019-05-18 09:36:26	Application Usage	[APP NAME: com.appleMaps] [USAGE IN SECONDS: 200] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18T09:36:26Z]

< Tweet

Sarah Edwards @iamevl twin

Amsterdam you have a damn fine park.
(Sorry, couldn't help myself) Had a great
#SANSAmsterdam Day -1 #DFIRfit run!

2.63 Mi Outdoor Run

1:40 AM · 5/18/19 · Twitter for iPhone

Application Usage with Context Using Intents & Activities from KnowledgeC

Key	Activity	Output
2019-05-18	application	Filter
393	2019-05-18 08:36:22	Application Usage [APP NAME: com.atebits.Tweetie2] [USAGE IN SECONDS: 200] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18 08:36:22] [END: 2019-05-18 08:39:42] [ENTRY CREATION: 2019-05-18 08:36:22]
394	2019-05-18 08:36:31	Application Activity [BUNDLE ID: com.atebits.Tweetie2] [APP NAME: None] [INTENT CLASS: T1ComposeIntent] [INTENT VERB: None] [USAGE IN SECONDS: 0] [SERIALIZED INTERACTION (HEX): 62706C69737430]
395	2019-05-18 08:39:19	Application Activity [BUNDLE ID: com.atebits.Tweetie2] [APP NAME: None] [INTENT CLASS: T1ComposeIntent] [INTENT VERB: None] [USAGE IN SECONDS: 0] [SERIALIZED INTERACTION (HEX): 62706C69737430]
396	2019-05-18 08:39:46	Application Usage [APP NAME: com.apple.Fitness] [USAGE IN SECONDS: 12] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18 08:39:46] [END: 2019-05-18 08:39:58] [ENTRY CREATION: 2019-05-18 08:39:46]
397	2019-05-18 08:40:00	Application Usage [APP NAME: com.atebits.Tweetie2] [USAGE IN SECONDS: 45] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18 08:40:00] [END: 2019-05-18 08:40:45] [ENTRY CREATION: 2019-05-18 08:40:00]
398	2019-05-18 08:40:10	Application Activity [BUNDLE ID: com.atebits.Tweetie2] [APP NAME: None] [INTENT CLASS: T1ComposeIntent] [INTENT VERB: None] [USAGE IN SECONDS: 0] [SERIALIZED INTERACTION (HEX): 62706C69737430]
399	2019-05-18 08:40:25	Application Activity [BUNDLE ID: com.atebits.Tweetie2] [APP NAME: None] [INTENT CLASS: T1ComposeIntent] [INTENT VERB: None] [USAGE IN SECONDS: 0] [SERIALIZED INTERACTION (HEX): 62706C69737430]
400	2019-05-18 09:07:59	Application Usage [APP NAME: com.apple.weather] [USAGE IN SECONDS: 28] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18 09:07:59] [END: 2019-05-18 09:08:27] [ENTRY CREATION: 2019-05-18 09:07:59]
401	2019-05-18 09:08:00	Application Activity [BUNDLE ID: com.apple.weather] [ACTIVITY TYPE: com.apple.weather.useractivity] [TITLE: None] [EXPIRATION DATE: 2019-06-17 07:38:29] [CONTENT URL: None] [DAY OF WEEK: Saturday]
402	2019-05-18 09:18:03	Application Activity [BUNDLE ID: com.apple.weather] [ACTIVITY TYPE: com.apple.weather.useractivity] [TITLE: None] [EXPIRATION DATE: 2019-06-17 09:08:00] [CONTENT URL: None] [DAY OF WEEK: Saturday]

364	2019-05-18 07:58:20	Application Usage	[APP NAME: com.apple.mobletimer] [USAGE IN SECONDS: 3] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18 07:58:20]
365	2019-05-18 07:58:21	Application Activity	[BUNDLE ID: com.apple.mobletimer] [ACTIVITY TYPE: com.apple.clock.timer] [TITLE: None] [EXPIRATION DATE: 2019-06-17 07:38:29]
366	2019-05-18 08:21:35	Application Usage	[APP NAME: com.apple.mobletimer] [USAGE IN SECONDS: 1] [DAY OF WEEK: Saturday] [GMT OFFSET: 2] [START: 2019-05-18 08:21:35]
367	2019-05-18 08:21:36	Application Activity	[BUNDLE ID: com.apple.mobletimer] [ACTIVITY TYPE: com.apple.clock.timer] [TITLE: None] [EXPIRATION DATE: 2019-06-17 09:08:00]

Media

Now Playing, Making Phone Calls, CarPlay Activity

Media – What's Playing?

140	2019-05-18 07:16:36	Application Activity	[BUNDLE ID: com.apple.Music] [NOW PLAYING ALBUM: The Chronic] [NOW PLAYING ARTIST: Dr. Dre] [NOW PLAYING GENRE: Hip-Hop/Rap] [NOW PLAYING TITLE: Nuthin' but a G thang (feat. Snoop Dogg)]
141	2019-05-18 07:20:29	Application Activity	[BUNDLE ID: com.apple.Music] [NOW PLAYING ALBUM: Nena] [NOW PLAYING ARTIST: Nena] [NOW PLAYING GENRE: Pop] [NOW PLAYING TITLE: 99 Luftballons] [NOW PLAYING DURATION: 233.058684807]
142	2019-05-18 07:24:01	Application Activity	[BUNDLE ID: com.apple.Music] [NOW PLAYING ALBUM: Pop Royalty] [NOW PLAYING ARTIST: Lady Gaga] [NOW PLAYING GENRE: Pop] [NOW PLAYING TITLE: The Cure] [NOW PLAYING DURATION: 211.5802]
143	2019-05-18 07:24:40	Application Activity	[BUNDLE ID: com.apple.Music] [NOW PLAYING ALBUM: Radiant Dawn] [NOW PLAYING ARTIST: Operators] [NOW PLAYING GENRE: Alternative] [NOW PLAYING TITLE: (Under Occupation)] [NOW PLAYING DURATION: 211.5802]
144	2019-05-18 07:26:42	Application Activity	[BUNDLE ID: com.apple.Music] [NOW PLAYING ALBUM: Never Let You Go (feat. John Newman) - Single] [NOW PLAYING ARTIST: Kygo] [NOW PLAYING GENRE: Dance] [NOW PLAYING TITLE: Never Let You Go]
145	2019-05-18 07:26:50	Application Activity	[BUNDLE ID: com.apple.Music] [NOW PLAYING ALBUM: Never Let You Go (feat. John Newman) - Single] [NOW PLAYING ARTIST: Kygo] [NOW PLAYING GENRE: Dance] [NOW PLAYING TITLE: Never Let You Go]
146	2019-05-18 07:27:08	Application Activity	[BUNDLE ID: com.apple.Music] [NOW PLAYING ALBUM: Never Let You Go (feat. John Newman) - Single] [NOW PLAYING ARTIST: Kygo] [NOW PLAYING GENRE: Dance] [NOW PLAYING TITLE: Never Let You Go]
147	2019-05-18 09:34:47	Application Activity	[BUNDLE ID: com.apple.Music] [NOW PLAYING ALBUM: Never Let You Go (feat. John Newman) - Single] [NOW PLAYING ARTIST: Kygo] [NOW PLAYING GENRE: Dance] [NOW PLAYING TITLE: Never Let You Go]
148	2019-05-18 09:34:47	Application Activity	[BUNDLE ID: com.apple.WebKit.WebContent] [NOW PLAYING ALBUM: None] [NOW PLAYING ARTIST: None] [NOW PLAYING GENRE: None] [NOW PLAYING TITLE: NBC Local Media Embedded Video Player] [NOW PLAYING DURATION: 0.0]
149	2019-05-18 09:34:47	Application Activity	[BUNDLE ID: com.apple.WebKit.WebContent] [NOW PLAYING ALBUM: None] [NOW PLAYING ARTIST: None] [NOW PLAYING GENRE: None] [NOW PLAYING TITLE: NBC Local Media Embedded Video Player] [NOW PLAYING DURATION: 0.0]
150	2019-05-18 09:34:48	Application Activity	[BUNDLE ID: com.apple.WebKit.WebContent] [NOW PLAYING ALBUM: None] [NOW PLAYING ARTIST: None] [NOW PLAYING GENRE: None] [NOW PLAYING TITLE: NBC Local Media Embedded Video Player] [NOW PLAYING DURATION: 0.0]
151	2019-05-18 09:34:48	Application Activity	[BUNDLE ID: com.apple.WebKit.WebContent] [NOW PLAYING ALBUM: None] [NOW PLAYING ARTIST: None] [NOW PLAYING GENRE: None] [NOW PLAYING TITLE: NBC Local Media Embedded Video Player] [NOW PLAYING DURATION: 0.0]
152	2019-05-18 09:34:51	Application Activity	[BUNDLE ID: com.apple.Music] [NOW PLAYING ALBUM: Never Let You Go (feat. John Newman) - Single] [NOW PLAYING ARTIST: Kygo] [NOW PLAYING GENRE: Dance] [NOW PLAYING TITLE: Never Let You Go]
153	2019-05-18 09:34:51	Application Activity	[BUNDLE ID: com.apple.WebKit.WebContent] [NOW PLAYING ALBUM: None] [NOW PLAYING ARTIST: None] [NOW PLAYING GENRE: None] [NOW PLAYING TITLE: NBC Local Media Embedded Video Player] [NOW PLAYING DURATION: 0.0]
154	2019-05-18 09:35:24	Application Activity	[BUNDLE ID: com.apple.WebKit.WebContent] [NOW PLAYING ALBUM: None] [NOW PLAYING ARTIST: None] [NOW PLAYING GENRE: None] [NOW PLAYING TITLE: NBC Local Media Embedded Video Player] [NOW PLAYING DURATION: 0.0]



Media – What's Playing?

140	2019-05-18 07:16:36	Application Activity	[BUNDLE ID: com.apple.Music] [NOW PLAYING ALBUM: The Chronic] [NOW PLAYING ARTIST: Dr. Dre] [NOW PLAYING GENRE: Hip-Hop/Rap] [NOW PLAYING TITLE: Nuthin' but a G thang (feat. Snoop Dogg)]
141	2019-05-18 07:20:29	Application Activity	[BUNDLE ID: com.apple.Music] [NOW PLAYING ALBUM: Nena] [NOW PLAYING ARTIST: Nena] [NOW PLAYING GENRE: Pop] [NOW PLAYING TITLE: 99 Luftballons] [NOW PLAYING DURATION: 233.058684807]
142	2019-05-18 07:24:01	Application Activity	[BUNDLE ID: com.apple.Music] [NOW PLAYING ALBUM: Pop Royalty] [NOW PLAYING ARTIST: Lady Gaga] [NOW PLAYING GENRE: Pop] [NOW PLAYING TITLE: The Cure] [NOW PLAYING DURATION: 211.5802]
143	2019-05-18 07:24:40	Application Activity	[BUNDLE ID: com.apple.Music] [NOW PLAYING ALBUM: Radiant Dawn] [NOW PLAYING ARTIST: Operators] [NOW PLAYING GENRE: Alternative] [NOW PLAYING TITLE: (Under Occupation)] [NOW PLAYING DU]
144	2019-05-18 07:26:42	Application Activity	[BUNDLE ID: com.apple.Music] [NOW PLAYING ALBUM: Never Let You Go (feat. John Newman) - Single] [NOW PLAYING ARTIST: Kygo] [NOW PLAYING GENRE: Dance] [NOW PLAYING TITLE: Never Let You G]
145	2019-05-18 07:26:50	Application Activity	[BUNDLE ID: com.apple.Music] [NOW PLAYING ALBUM: Never Let You Go (feat. John Newman) - Single] [NOW PLAYING ARTIST: Kygo] [NOW PLAYING GENRE: Dance] [NOW PLAYING TITLE: Never Let You G]
146	2019-05-18 07:27:08	Application Activity	[BUNDLE ID: com.apple.Music] [NOW PLAYING ALBUM: Never Let You Go (feat. John Newman) - Single] [NOW PLAYING ARTIST: Kygo] [NOW PLAYING GENRE: Dance] [NOW PLAYING TITLE: Never Let You G]
147	2019-05-18 09:34:47	Application Activity	[BUNDLE ID: com.apple.Music] [NOW PLAYING ALBUM: Never Let You Go (feat. John Newman) - Single] [NOW PLAYING ARTIST: Kygo] [NOW PLAYING GENRE: Dance] [NOW PLAYING TITLE: Never Let You G]
148	2019-05-18 09:34:47	Application Activity	[BUNDLE ID: com.apple.WebKit.WebContent] [NOW PLAYING ALBUM: None] [NOW PLAYING ARTIST: None] [NOW PLAYING GENRE: None] [NOW PLAYING TITLE: NBC Local Media Embedded Video Player] [N
149	2019-05-18 09:34:47	Application Activity	[BUNDLE ID: com.apple.WebKit.WebContent] [NOW PLAYING ALBUM: None] [NOW PLAYING ARTIST: None] [NOW PLAYING GENRE: None] [NOW PLAYING TITLE: NBC Local Media Embedded Video Player] [N
150	2019-05-18 09:34:48	Application Activity	[BUNDLE ID: com.apple.WebKit.WebContent] [NOW PLAYING ALBUM: None] [NOW PLAYING ARTIST: None] [NOW PLAYING GENRE: None] [NOW PLAYING TITLE: NBC Local Media Embedded Video Player] [N
151	2019-05-18 09:34:48	Application Activity	[BUNDLE ID: com.apple.WebKit.WebContent] [NOW PLAYING ALBUM: None] [NOW PLAYING ARTIST: None] [NOW PLAYING GENRE: None] [NOW PLAYING TITLE: NBC Local Media Embedded Video Player] [N
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153	2019-05-18 09:34:51	Application Activity	[BUNDLE ID: com.apple.WebKit.WebContent] [NOW PLAYING ALBUM: None] [NOW PLAYING ARTIST: None] [NOW PLAYING GENRE: None] [NOW PLAYING TITLE: NBC Local Media Embedded Video Player] [N
154	2019-05-18 09:35:24	Application Activity	[BUNDLE ID: com.apple.WebKit.WebContent] [NOW PLAYING ALBUM: None] [NOW PLAYING ARTIST: None] [NOW PLAYING GENRE: None] [NOW PLAYING TITLE: NBC Local Media Embedded Video Player] [N



Media – What's Playing?

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141	2019-05-18 07:20:29	Application Activity	[BUNDLE ID: com.apple.Music] [NOW PLAYING ALBUM: Nena] [NOW PLAYING ARTIST: Nena] [NOW PLAYING GENRE: Pop] [NOW PLAYING TITLE: 99 Luftballons] [NOW PLAYING DURATION: 233.058684807]
142	2019-05-18 07:24:01	Application Activity	[BUNDLE ID: com.apple.Music] [NOW PLAYING ALBUM: Pop Royalty] [NOW PLAYING ARTIST: Lady Gaga] [NOW PLAYING GENRE: Pop] [NOW PLAYING TITLE: The Cure] [NOW PLAYING DURATION: 211.5802]
143	2019-05-18 07:24:40	Application Activity	[BUNDLE ID: com.apple.Music] [NOW PLAYING ALBUM: Radiant Dawn] [NOW PLAYING ARTIST: Operators] [NOW PLAYING GENRE: Alternative] [NOW PLAYING TITLE: (Under Occupation)] [NOW PLAYING DU]
144	2019-05-18 07:26:42	Application Activity	[BUNDLE ID: com.apple.Music] [NOW PLAYING ALBUM: Never Let You Go (feat. John Newman) - Single] [NOW PLAYING ARTIST: Kygo] [NOW PLAYING GENRE: Dance] [NOW PLAYING TITLE: Never Let You G
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148	2019-05-18 09:34:47	Application Activity	[BUNDLE ID: com.apple.WebKit.WebContent] [NOW PLAYING ALBUM: None] [NOW PLAYING ARTIST: None] [NOW PLAYING GENRE: None] [NOW PLAYING TITLE: NBC Local Media Embedded Video Player] [N
149	2019-05-18 09:34:47	Application Activity	[BUNDLE ID: com.apple.WebKit.WebContent] [NOW PLAYING ALBUM: None] [NOW PLAYING ARTIST: None] [NOW PLAYING GENRE: None] [NOW PLAYING TITLE: NBC Local Media Embedded Video Player] [N
150	2019-05-18 09:34:48	Application Activity	[BUNDLE ID: com.apple.WebKit.WebContent] [NOW PLAYING ALBUM: None] [NOW PLAYING ARTIST: None] [NOW PLAYING GENRE: None] [NOW PLAYING TITLE: NBC Local Media Embedded Video Player] [N
151	2019-05-18 09:34:48	Application Activity	[BUNDLE ID: com.apple.WebKit.WebContent] [NOW PLAYING ALBUM: None] [NOW PLAYING ARTIST: None] [NOW PLAYING GENRE: None] [NOW PLAYING TITLE: NBC Local Media Embedded Video Player] [N
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153	2019-05-18 09:34:51	Application Activity	[BUNDLE ID: com.apple.WebKit.WebContent] [NOW PLAYING ALBUM: None] [NOW PLAYING ARTIST: None] [NOW PLAYING GENRE: None] [NOW PLAYING TITLE: NBC Local Media Embedded Video Player] [N
154	2019-05-18 09:35:24	Application Activity	[BUNDLE ID: com.apple.WebKit.WebContent] [NOW PLAYING ALBUM: None] [NOW PLAYING ARTIST: None] [NOW PLAYING GENRE: None] [NOW PLAYING TITLE: NBC Local Media Embedded Video Player] [N



Key	Activity		Output
	2019-06-06	Filter	
272	2019-06-06 01:41:27	Safari Browsing	[URL: https://www.marriott.com/reservation/v2/selectRate.mi] [VISIT COUNT: 4] [TITLE:] [ICLOUD SYNC: ICLOUD SYNCED DEVICE] [LOAD SUCCESSFUL: 1] [REDIRECT SOURCE: None] [REDIRECT DESTINATION: 37059] [VISIT TIME: 2019-06-06T01:41:27Z]
273	2019-06-06 01:41:27	Safari Browsing	[URL: https://www.marriott.com/reservation/reviewDetails.mi] [VISIT COUNT: 4] [TITLE: Marriott Find & Reserve - Review Reservation Details] [ICLOUD SYNC: ICLOUD SYNCED DEVICE] [LOAD SUCCESSFUL: 1] [REDIRECT SOURCE: None] [REDIRECT DESTINATION: 37059] [VISIT TIME: 2019-06-06T01:41:27Z]
274	2019-06-06 01:41:51	Device Status	[SCREEN IS BACKLIT: NO] [USAGE IN SECONDS: 1396] [DAY OF WEEK: Wednesday] [GMT OFFSET: -4] [START: 2019-06-06 01:18:32] [END: 2019-06-06 01:41:48] [ENTRY CREATION: 2019-06-06 01:41:51] [ZOBJECT TABLE ID: 10000000000000000000000000000000]
275	2019-06-06 01:41:52	Application In Focus	[BUNDLE ID: com.atebits.Tweetie2] [USAGE IN SECONDS: 1] [DAY OF WEEK: Wednesday] [GMT OFFSET: -4] [START: 2019-06-06 01:41:52] [END: 2019-06-06 01:41:53] [ENTRY CREATION: 2019-06-06 01:41:53] [ZOBJECT TABLE ID: 10000000000000000000000000000001]
276	2019-06-06 01:41:52	Application Usage	[APP NAME: com.atebits.Tweetie2] [USAGE IN SECONDS: 1] [DAY OF WEEK: Wednesday] [GMT OFFSET: -4] [START: 2019-06-06 01:41:52] [END: 2019-06-06 01:41:53] [ENTRY CREATION: 2019-06-06 01:41:53] [ZOBJECT TABLE ID: 10000000000000000000000000000002]
277	2019-06-06 01:41:59	Application In Focus	[BUNDLE ID: com.marriott.iphoneprod] [USAGE IN SECONDS: 62] [DAY OF WEEK: Wednesday] [GMT OFFSET: -4] [START: 2019-06-06 01:41:59] [END: 2019-06-06 01:43:01] [ENTRY CREATION: 2019-06-06 01:43:01] [ZOBJECT TABLE ID: 10000000000000000000000000000003]
278	2019-06-06 01:41:59	Application Usage	[APP NAME: com.marriott.iphoneprod] [USAGE IN SECONDS: 62] [DAY OF WEEK: Wednesday] [GMT OFFSET: -4] [START: 2019-06-06 01:41:59] [END: 2019-06-06 01:43:01] [ENTRY CREATION: 2019-06-06 01:43:01] [ZOBJECT TABLE ID: 10000000000000000000000000000004]
279	2019-06-06 01:42:53	Application In Focus	[BUNDLE ID: com.apple.Fitness.activity-widget] [USAGE IN SECONDS: 1] [DAY OF WEEK: Wednesday] [GMT OFFSET: -4] [START: 2019-06-06 01:42:53] [END: 2019-06-06 01:42:54] [ENTRY CREATION: 2019-06-06 01:42:54] [ZOBJECT TABLE ID: 10000000000000000000000000000005]
280	2019-06-06 01:42:53	Application In Focus	[BUNDLE ID: com.waze.iphone.today] [USAGE IN SECONDS: 1] [DAY OF WEEK: Wednesday] [GMT OFFSET: -4] [START: 2019-06-06 01:42:53] [END: 2019-06-06 01:42:54] [ENTRY CREATION: 2019-06-06 01:42:54] [ZOBJECT TABLE ID: 10000000000000000000000000000006]
281	2019-06-06 01:42:53	Application In Focus	[BUNDLE ID: com.wunderground.weatherunderground.weatherwidget] [USAGE IN SECONDS: 2] [DAY OF WEEK: Wednesday] [GMT OFFSET: -4] [START: 2019-06-06 01:42:53] [END: 2019-06-06 01:42:55] [ENTRY CREATION: 2019-06-06 01:42:55] [ZOBJECT TABLE ID: 10000000000000000000000000000007]
282	2019-06-06 01:42:53	Application In Focus	[BUNDLE ID: com.apple.news.widget] [USAGE IN SECONDS: 3] [DAY OF WEEK: Wednesday] [GMT OFFSET: -4] [START: 2019-06-06 01:42:53] [END: 2019-06-06 01:42:56] [ENTRY CREATION: 2019-06-06 01:42:56] [ZOBJECT TABLE ID: 10000000000000000000000000000008]
283	2019-06-06 01:43:03	Application In Focus	[BUNDLE ID: com.apple.mobilephone] [USAGE IN SECONDS: 15] [DAY OF WEEK: Wednesday] [GMT OFFSET: -4] [START: 2019-06-06 01:43:03] [END: 2019-06-06 01:43:18] [ENTRY CREATION: 2019-06-06 01:43:18] [ZOBJECT TABLE ID: 10000000000000000000000000000009]
284	2019-06-06 01:43:03	Application Usage	[APP NAME: com.apple.mobilephone] [USAGE IN SECONDS: 237] [DAY OF WEEK: Wednesday] [GMT OFFSET: -4] [START: 2019-06-06 01:43:03] [END: 2019-06-06 01:47:00] [ENTRY CREATION: 2019-06-06 01:47:00] [ZOBJECT TABLE ID: 10000000000000000000000000000010]
285	2019-06-06 01:43:17	App Usage	[ZBUNDLEID: com.apple.InCallService] [ZDISPLAYNAME: None] [ZIDENTIFIER: None] [ZPERSONID: None] [ZDIRECTION: 1] [ZISRESPONSE: 0] [ZMECHANISM: 0] [ZRECIPIENTCOUNT: 1] [ZINTERACTIONS CREATION DATE: 2019-06-06 01:43:17]
286	2019-06-06 01:43:18	Device Status	[AUDIO IDENTIFIER: Speaker] [AUDIO PORT NAME: Speaker] [AUDIO PORT TYPE: Speaker] [USAGE IN SECONDS: 3992] [DAY OF WEEK: Wednesday] [GMT OFFSET: -4] [START: 2019-06-06 00:36:44] [END: 2019-06-06 01:43:18]
287	2019-06-06 01:43:18	Application In Focus	[BUNDLE ID: com.apple.InCallService] [USAGE IN SECONDS: 221] [DAY OF WEEK: Wednesday] [GMT OFFSET: -4] [START: 2019-06-06 01:43:18] [END: 2019-06-06 01:46:59] [ENTRY CREATION: 2019-06-06 01:46:59] [ZOBJECT TABLE ID: 10000000000000000000000000000011]
288	2019-06-06 01:43:21	Device Status	[AUDIO IDENTIFIER: Built-In Receiver] [AUDIO PORT NAME: Receiver] [AUDIO PORT TYPE: Receiver] [USAGE IN SECONDS: 4] [DAY OF WEEK: Wednesday] [GMT OFFSET: -4] [START: 2019-06-06 01:43:16] [END: 2019-06-06 01:43:21]
289	2019-06-06 01:43:35	Call	[ADDRESS: 1574289555] [WAS ANSWERED: 0] [CALL TYPE: 1] [ORIGINATED: 1] [DURATION (IN SECONDS): 203.576297045] [ISO COUNTY CODE: us] [LOCATION: South Bend, IN] [SERVICE PROVIDER: com.apple.Telephony] [ZINTERACTIONS CREATION DATE: 2019-06-06 01:43:35]
290	2019-06-06 01:43:59	Safari Browsing	[URL: https://www.marriott.com/loyalty/myAccount/default.mi] [VISIT COUNT: 4] [TITLE: Account Overview] [ICLOUD SYNC: ICLOUD SYNCED DEVICE] [LOAD SUCCESSFUL: 1] [REDIRECT SOURCE: None] [REDIRECT DESTINATION: 37059] [VISIT TIME: 2019-06-06T01:43:59Z]
291	2019-06-06 01:44:11	Device Status	[BATTERY LEVEL: 91.0] [USAGE IN SECONDS: 952] [DAY OF WEEK: Wednesday] [GMT OFFSET: -4] [START: 2019-06-06 01:28:16] [END: 2019-06-06 01:44:08] [ENTRY CREATION: 2019-06-06 01:44:11] [ZOBJECT TABLE ID: 10000000000000000000000000000012]
292	2019-06-06 01:44:30	Safari Browsing	[URL: https://www.marriott.com/loyalty/myAccount/activity.mi] [VISIT COUNT: 4] [TITLE: Activity] [ICLOUD SYNC: ICLOUD SYNCED DEVICE] [LOAD SUCCESSFUL: 1] [REDIRECT SOURCE: None] [REDIRECT DESTINATION: None] [ZINTERACTIONS CREATION DATE: 2019-06-06 01:44:30]
293	2019-06-06 01:44:41	Safari Browsing	[URL: https://www.marriott.com/loyalty/myAccount/default.mi#] [VISIT COUNT: 1] [TITLE: Account Overview] [ICLOUD SYNC: ICLOUD SYNCED DEVICE] [LOAD SUCCESSFUL: 1] [REDIRECT SOURCE: None] [REDIRECT DESTINATION: None] [ZINTERACTIONS CREATION DATE: 2019-06-06 01:44:41]
294	2019-06-06 01:44:42	Safari Browsing	[URL: https://www.marriott.com/loyalty/myAccount/default.mi] [VISIT COUNT: 4] [TITLE: Account Overview] [ICLOUD SYNC: ICLOUD SYNCED DEVICE] [LOAD SUCCESSFUL: 1] [REDIRECT SOURCE: None] [REDIRECT DESTINATION: None] [ZINTERACTIONS CREATION DATE: 2019-06-06 01:44:42]
295	2019-06-06 01:44:47	Safari Browsing	[URL: https://www.marriott.com/default.mi] [VISIT COUNT: 6] [TITLE: Hotels & Resorts Book your Hotel directly with Marriott Bonvoy] [ICLOUD SYNC: ICLOUD SYNCED DEVICE] [LOAD SUCCESSFUL: 1] [REDIRECT SOURCE: None] [REDIRECT DESTINATION: None] [ZINTERACTIONS CREATION DATE: 2019-06-06 01:44:47]
296	2019-06-06 01:44:59	Safari Browsing	[URL: https://www.marriott.com/search/submitSearch.mi?roomTypeCode=&recordsPerPage=20&autoSuggestItemType=&destinationAddress.types=locality%2Cpolitical&destinationAddress.latitude=41.67635449999999&propertyId=37059] [VISIT COUNT: 1] [TITLE: Marriott Find & Reserve - Search Results] [ICLOUD SYNC: ICLOUD SYNCED DEVICE] [LOAD SUCCESSFUL: 1] [REDIRECT SOURCE: None] [REDIRECT DESTINATION: 37059] [VISIT TIME: 2019-06-06T01:44:59Z]
297	2019-06-06 01:44:59	Safari Browsing	[URL: https://www.marriott.com/search/findHotels.mi] [VISIT COUNT: 5] [TITLE: The official site for hotel reservations for Marriott hotels and beach resorts at Marriott.com] [ICLOUD SYNC: ICLOUD SYNCED DEVICE] [LOAD SUCCESSFUL: 1] [REDIRECT SOURCE: None] [REDIRECT DESTINATION: 37059] [VISIT TIME: 2019-06-06T01:44:59Z]
298	2019-06-06 01:46:59	Application In Focus	[BUNDLE ID: com.apple.mobilephone] [USAGE IN SECONDS: 1] [DAY OF WEEK: Wednesday] [GMT OFFSET: -4] [START: 2019-06-06 01:46:59] [END: 2019-06-06 01:47:00] [ENTRY CREATION: 2019-06-06 01:47:00] [ZOBJECT TABLE ID: 10000000000000000000000000000013]
299	2019-06-06 01:46:59	Application Activity	[BUNDLE ID: com.apple.InCallService] [APP NAME: Calls] [INTENT CLASS: IStartAudioCallIntent] [INTENT VERB: StartAudioCall] [USAGE IN SECONDS: 221] [SERIALIZED INTERACTION (HEX): 62706C6973743030D40102030405] [ZINTERACTIONS CREATION DATE: 2019-06-06 01:46:59]
300	2019-06-06 01:47:00	Device Status	[SCREEN IS BACKLIT: YES] [USAGE IN SECONDS: 312] [DAY OF WEEK: Wednesday] [GMT OFFSET: -4] [START: 2019-06-06 01:41:48] [END: 2019-06-06 01:47:00] [ENTRY CREATION: 2019-06-06 01:47:00] [ZOBJECT TABLE ID: 10000000000000000000000000000014]

Making a Phone Call

Key	Activity	Output
2019-06-04	Filter	Filter
620	2019-06-04 11:08:31	Health Steps [DISTANCE IN METERS: 23.9945351521] [START DATE: 2019-06-04 11:08:31] [END DATE: 2019-06-04 11:08:54] [SAMPLES TABLE ID: 4858748]
621	2019-06-04 11:08:31	Health Steps [STEPS: 38.0] [START DATE: 2019-06-04 11:08:31] [END DATE: 2019-06-04 11:08:54] [SAMPLES TABLE ID: 4858747]
622	2019-06-04 11:08:59	Health Steps [DISTANCE IN METERS: 12.2751617488] [START DATE: 2019-06-04 11:08:59] [END DATE: 2019-06-04 11:09:30] [SAMPLES TABLE ID: 4858702]
623	2019-06-04 11:09:10	Device Status [SCREEN IS BACKLIT: NO] [USAGE IN SECONDS: 188] [DAY OF WEEK: Tuesday] [GMT OFFSET: -4] [START: 2019-06-04 11:06:00] [END: 2019-06-04 11:09:08] [ENTRY CREATION: 2019-06-04 11:09:10] [ZOBJ]
624	2019-06-04 11:09:11	SMS Chat [MESSAGE DATE: 2019-06-04 11:09:11] [DATE DELIVERED: 2019-06-04 18:09:11] [DATE READ: N/A] [MESSAGE: Yay!] [CONTACT ID: +17:] [SERVICE: iMessage] [ACCOUNT: e:oompa@csh.rit.edu]
625	2019-06-04 11:09:12	Application Activity [BUNDLE ID: com.apple.reminders] [ACTIVITY TYPE: com.apple.reminders.continuity.list_selection] [TITLE: None] [EXPIRATION DATE: 2019-07-04 11:02:39] [CONTENT URL: None] [DAY OF WEEK: Tuesday] [GM]
626	2019-06-04 11:09:12	Device Status [IS PLUGGED IN: PLUGGED IN] [USAGE IN SECONDS: 2236] [DAY OF WEEK: Tuesday] [GMT OFFSET: -4] [START: 2019-06-04 11:09:12] [END: 2019-06-04 11:46:28] [ENTRY CREATION: 2019-06-04 11:46:30]
627	2019-06-04 11:09:14	Device Status [SCREEN IS BACKLIT: YES] [USAGE IN SECONDS: 4] [DAY OF WEEK: Tuesday] [GMT OFFSET: -4] [START: 2019-06-04 11:09:08] [END: 2019-06-04 11:09:12] [ENTRY CREATION: 2019-06-04 11:09:14] [ZOBJ]
628	2019-06-04 11:09:16	Device Status [SCREEN IS BACKLIT: NO] [USAGE IN SECONDS: 4] [DAY OF WEEK: Tuesday] [GMT OFFSET: -4] [START: 2019-06-04 11:09:12] [END: 2019-06-04 11:09:16] [ENTRY CREATION: 2019-06-04 11:09:16] [ZOBJ]
629	2019-06-04 11:09:26	Device Status [SCREEN IS BACKLIT: YES] [USAGE IN SECONDS: 8] [DAY OF WEEK: Tuesday] [GMT OFFSET: -4] [START: 2019-06-04 11:09:16] [END: 2019-06-04 11:09:24] [ENTRY CREATION: 2019-06-04 11:09:26] [ZOBJ]
630	2019-06-04 11:09:28	Health Steps [STEPS: 3.0] [START DATE: 2019-06-04 11:09:28] [END DATE: 2019-06-04 11:09:30] [SAMPLES TABLE ID: 4858712]
631	2019-06-04 11:09:52	Device Status [SCREEN IS BACKLIT: NO] [USAGE IN SECONDS: 28] [DAY OF WEEK: Tuesday] [GMT OFFSET: -4] [START: 2019-06-04 11:09:24] [END: 2019-06-04 11:09:52] [ENTRY CREATION: 2019-06-04 11:09:52] [ZOBJ]
632	2019-06-04 11:09:54	Application In Focus [BUNDLE ID: com.apple.reminders] [USAGE IN SECONDS: 2] [DAY OF WEEK: Tuesday] [GMT OFFSET: -4] [START: 2019-06-04 11:09:54] [END: 2019-06-04 11:09:56] [ENTRY CREATION: 2019-06-04 11:09:56]
633	2019-06-04 11:09:54	Application Usage [APP NAME: com.apple.reminders] [USAGE IN SECONDS: 2] [DAY OF WEEK: Tuesday] [GMT OFFSET: -4] [START: 2019-06-04 11:09:54] [END: 2019-06-04 11:09:56] [ENTRY CREATION: 2019-06-04 11:09:56]
634	2019-06-04 11:09:56	Application Activity [BUNDLE ID: com.apple.reminders] [ACTIVITY TYPE: com.apple.reminders.continuity.list_selection] [TITLE: None] [EXPIRATION DATE: 2019-07-04 11:09:12] [CONTENT URL: None] [DAY OF WEEK: Tuesday] [GM]
635	2019-06-04 11:09:56	Device Status [CARPLAY CONNECTED: CONNECTED] [USAGE IN SECONDS: 0] [DAY OF WEEK: Tuesday] [GMT OFFSET: -4] [START: 2019-06-04 11:09:56] [END: 2019-06-04 11:09:56] [ENTRY CREATION: 2019-06-04 11:09:56]
636	2019-06-04 11:09:56	Device Status [SCREEN IS BACKLIT: YES] [USAGE IN SECONDS: 4] [DAY OF WEEK: Tuesday] [GMT OFFSET: -4] [START: 2019-06-04 11:09:52] [END: 2019-06-04 11:09:56] [ENTRY CREATION: 2019-06-04 11:09:56] [ZOBJ]
637	2019-06-04 11:09:57	Application Activity [BUNDLE ID: com.apple.reminders] [ACTIVITY TYPE: com.apple.reminders.continuity.list_selection] [TITLE: None] [EXPIRATION DATE: 2019-07-04 11:09:56] [CONTENT URL: None] [DAY OF WEEK: Tuesday] [GM]
638	2019-06-04 11:11:08	Device Status [AUDIO IDENTIFIER: Speaker] [AUDIO PORT NAME: Speaker] [AUDIO PORT TYPE: Speaker] [USAGE IN SECONDS: 72] [DAY OF WEEK: Tuesday] [GMT OFFSET: -4] [START: 2019-06-04 11:09:56] [END: 2019-06-04 11:11:08]
639	2019-06-04 11:11:10	Application Activity [BUNDLE ID: com.apple.Music] [NOW PLAYING ALBUM: Lady Wood] [NOW PLAYING ARTIST: Tove Lo] [NOW PLAYING GENRE: Alternative] [NOW PLAYING TITLE: Vibes (feat. Joe Janiak)] [NOW PLAYING DURATION]
640	2019-06-04 11:11:47	Location [START: 2019-06-04 11:11:47] [STOP: 2019-06-04 11:44:42] [COORDINATES: 38.8611, -77.0344] [CREATION DATE: 2019-06-05 00:16:36] [EXPIRATION: 2019-07-30 14:57:34] [LOCATION]
641	2019-06-04 11:11:47	Location [ENTRY: 2019-06-03 20:28:42] [EXIT: 2019-06-04 11:11:47] [COORDINATES: 38.8611, -77.0344] [LOI LATITUDE: 38.8611] [LOI LONGITUDE: -77.0344] [ZCONFIDENCE]
642	2019-06-04 11:12:35	Health Heart Rate [HEART RATE: 94.0] [UNITS: count/min] [QUANTITY: 1.566666666667] [DATE: 2019-06-04 11:12:35] [SAMPLES TABLE ID: 4858707]
643	2019-06-04 11:15:02	Application Activity [BUNDLE ID: com.apple.Music] [NOW PLAYING ALBUM: Tinderbox (Remastered & Expanded)] [NOW PLAYING ARTIST: Siouxsie & The Banshees] [NOW PLAYING GENRE: Rock] [NOW PLAYING TITLE: Cities In Dust]
644	2019-06-04 11:16:23	Health Heart Rate [HEART RATE: 90.0] [UNITS: count/min] [QUANTITY: 1.5] [DATE: 2019-06-04 11:16:23] [SAMPLES TABLE ID: 4858722]
645	2019-06-04 11:18:14	Application Activity [BUNDLE ID: com.apple.Music] [NOW PLAYING ALBUM: Beautiful Garbage (Remastered)] [NOW PLAYING ARTIST: Garbage] [NOW PLAYING GENRE: Rock] [NOW PLAYING TITLE: Cherry Lips (Go Baby Go)] [NOW PL
646	2019-06-04 11:20:41	Health Heart Rate [HEART RATE: 98.0] [UNITS: count/min] [QUANTITY: 1.633333333333] [DATE: 2019-06-04 11:20:41] [SAMPLES TABLE ID: 4858731]
647	2019-06-04 11:20:51	Application Activity [BUNDLE ID: com.apple.Music] [NOW PLAYING ALBUM: Bad Reputation (Music from the Original Motion Picture)] [NOW PLAYING ARTIST: Bikini Kill] [NOW PLAYING GENRE: Rock] [NOW PLAYING TITLE: Rebel Girl]
648	2019-06-04 11:24:26	Application Activity [BUNDLE ID: com.apple.Music] [NOW PLAYING ALBUM: Jazz (Deluxe Edition)] [NOW PLAYING ARTIST: Queen] [NOW PLAYING GENRE: Rock] [NOW PLAYING TITLE: Don't Stop Me Now (With Long Lost Guitars)] [NOW PL

CarPlay

My Home

Location

Routines, Wallet & Apple Pay Transactions,
Airlines/Hotel Tickets, Visits to POI, Workout
Locations

Location via Wallet Transactions

[TRANSACTION DATE: 2019-05-28 08:37:26] [ORGANIZATION NAME: Chase] [IDENTIFIER: paymentpass.com.apple] [AMOUNT: 9.2] [CURRENCY CODE: EUR] [MERCHANT INDUSTRY CATEGORY: DINING] [MERCHANT NAME: RUHL PLAGUE] [INGESTED DATE: 2017-11-04 22:09...]
[TRANSACTION DATE: 2019-05-28 09:56:51] [ORGANIZATION NAME: Chase] [IDENTIFIER: paymentpass.com.apple] [AMOUNT: 6.0] [CURRENCY CODE: EUR] [MERCHANT INDUSTRY CATEGORY: DINING] [MERCHANT NAME: RUHL PLAGUE] [INGESTED DATE: 2017-11-04 22:09...]
[TRANSACTION DATE: 2019-05-28 11:18:50] [ORGANIZATION NAME: Chase] [IDENTIFIER: paymentpass.com.apple] [AMOUNT: 33.0] [CURRENCY CODE: EUR] [MERCHANT INDUSTRY CATEGORY: DINING] [MERCHANT NAME: RUHL PLAGUE] [INGESTED DATE: 2017-11-04 22:0...]
[TRANSACTION DATE: 2019-05-28 21:01:23] [ORGANIZATION NAME: Chase] [IDENTIFIER: paymentpass.com.apple] [AMOUNT: 459.0] [CURRENCY CODE: EUR] [MERCHANT INDUSTRY CATEGORY: LODGING] [MERCHANT NAME: GD HOTEL CAP FERRAT] [INGESTED DATE: 20...]
[TRANSACTION DATE: 2019-05-29 09:17:58] [ORGANIZATION NAME: Chase] [IDENTIFIER: paymentpass.com.apple] [AMOUNT: 7.6] [CURRENCY CODE: EUR] [MERCHANT INDUSTRY CATEGORY: DINING] [MERCHANT NAME: MAP] [INGESTED DATE: 2017-11-04 22:09:56] [M...]
[TRANSACTION DATE: 2019-05-30 15:57:42] [ORGANIZATION NAME: Chase] [IDENTIFIER: paymentpass.com.apple] [AMOUNT: 13.6] [CURRENCY CODE: EUR] [MERCHANT INDUSTRY CATEGORY: PERSONAL SERVICES] [MERCHANT NAME: HEALTHSTORE] [INGESTED DATE: 2...]
[TRANSACTION DATE: 2019-05-30 17:53:53] [ORGANIZATION NAME: Apple] [IDENTIFIER: paymentpass.com.apple] [AMOUNT: 20.0] [CURRENCY CODE: USD] [MERCHANT INDUSTRY CATEGORY: None] [MERCHANT NAME: None] [INGESTED DATE: 2018-09-18 04:57:12] [M...]
[TRANSACTION DATE: 2019-06-01 18:06:25] [ORGANIZATION NAME: Apple] [IDENTIFIER: paymentpass.com.apple] [AMOUNT: 42.0] [CURRENCY CODE: USD] [MERCHANT INDUSTRY CATEGORY: None] [MERCHANT NAME: None] [INGESTED DATE: 2018-09-18 04:57:12] [M...]
[INGESTED DATE: 2019-06-03 04:32:05] [MODIFIED DATE: 2019-06-03 04:32:05] [RELEVANT TIME: 2019-06-03 10:20:00] [ORGANIZATION NAME: United Airlines] [IDENTIFIER: pass.united.UnitedMobileBoardingPass] [RELEVANT TEXT: None] [LATITUDE: None] [LONGIT...]
[TRANSACTION DATE: 2019-06-03 20:29:39] [ORGANIZATION NAME: Chase] [IDENTIFIER: paymentpass.com.apple] [AMOUNT: 9.22337203685e+16] [CURRENCY CODE: None] [MERCHANT INDUSTRY CATEGORY: None] [MERCHANT NAME: None] [INGESTED DATE: 2017-1...]
[TRANSACTION DATE: 2019-06-03 20:32:22] [ORGANIZATION NAME: Chase] [IDENTIFIER: paymentpass.com.apple] [AMOUNT: 9.22337203685e+16] [CURRENCY CODE: None] [MERCHANT INDUSTRY CATEGORY: None] [MERCHANT NAME: None] [INGESTED DATE: 2017-1...]
[TRANSACTION DATE: 2019-06-04 15:12:13] [ORGANIZATION NAME: Chase] [IDENTIFIER: paymentpass.com.apple] [AMOUNT: 23.16] [CURRENCY CODE: USD] [MERCHANT INDUSTRY CATEGORY: SUPERMARKETS] [MERCHANT NAME: WEGMANS ALEXANDRIA #49] [INGESTE...]
[TRANSACTION DATE: 2019-06-04 15:12:19] [ORGANIZATION NAME: Chase] [IDENTIFIER: paymentpass.com.apple] [AMOUNT: 9.22337203685e+16] [CURRENCY CODE: None] [MERCHANT INDUSTRY CATEGORY: None] [MERCHANT NAME: None] [INGESTED DATE: 2017-1...]
[INGESTED DATE: 2019-06-06 11:03:21] [MODIFIED DATE: 2019-06-06 11:03:21] [RELEVANT TIME: None] [ORGANIZATION NAME: Residence Inn] [IDENTIFIER: pass.com.marriott.ios.reservationspass] [RELEVANT TEXT: None] [LATITUDE: None] [LONGITUDE: None] [PUS...]
[TRANSACTION DATE: 2019-06-07 12:42:13] [ORGANIZATION NAME: Chase] [IDENTIFIER: paymentpass.com.apple] [AMOUNT: 212.0] [CURRENCY CODE: USD] [MERCHANT INDUSTRY CATEGORY: PET STORES/VETERINARY SERVICES] [MERCHANT NAME: FRIENDSHIP HOSPIT...

Location via Wallet Transactions

[ORGANIZATION NAME: Chase] [IDENTIFIER: paymentpass.com.apple] [AMOUNT: 9.2] [CURRENCY CODE: EUR] [MERCHANT INDUSTRY CATEGORY: DINING] [MERCHANT NAME: RUHL PLAGUE] [INGESTED DATE: 2017-11-04 22:09...]

[ORGANIZATION NAME: Chase] [IDENTIFIER: paymentpass.com.apple] [AMOUNT: 6.0] [CURRENCY CODE: EUR] [MERCHANT INDUSTRY CATEGORY: DINING] [MERCHANT NAME: RUHL PLAGUE] [INGESTED DATE: 2017-11-04 22:09...]

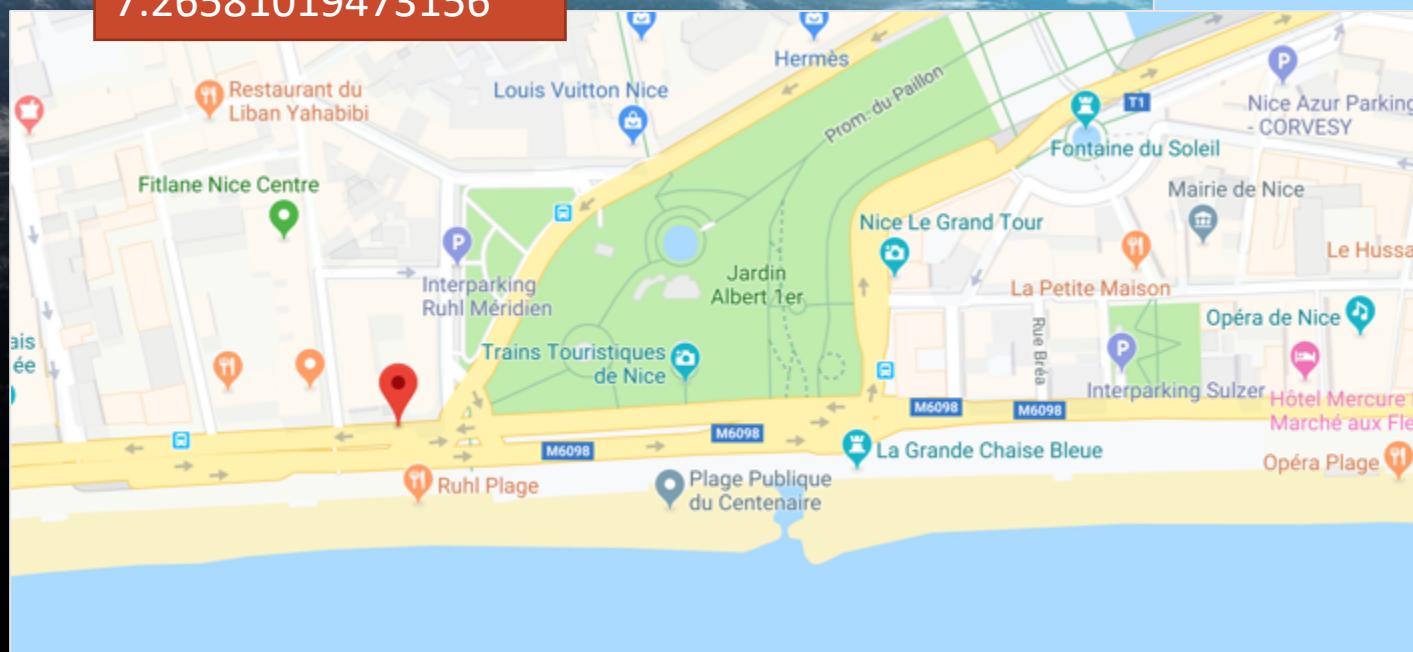
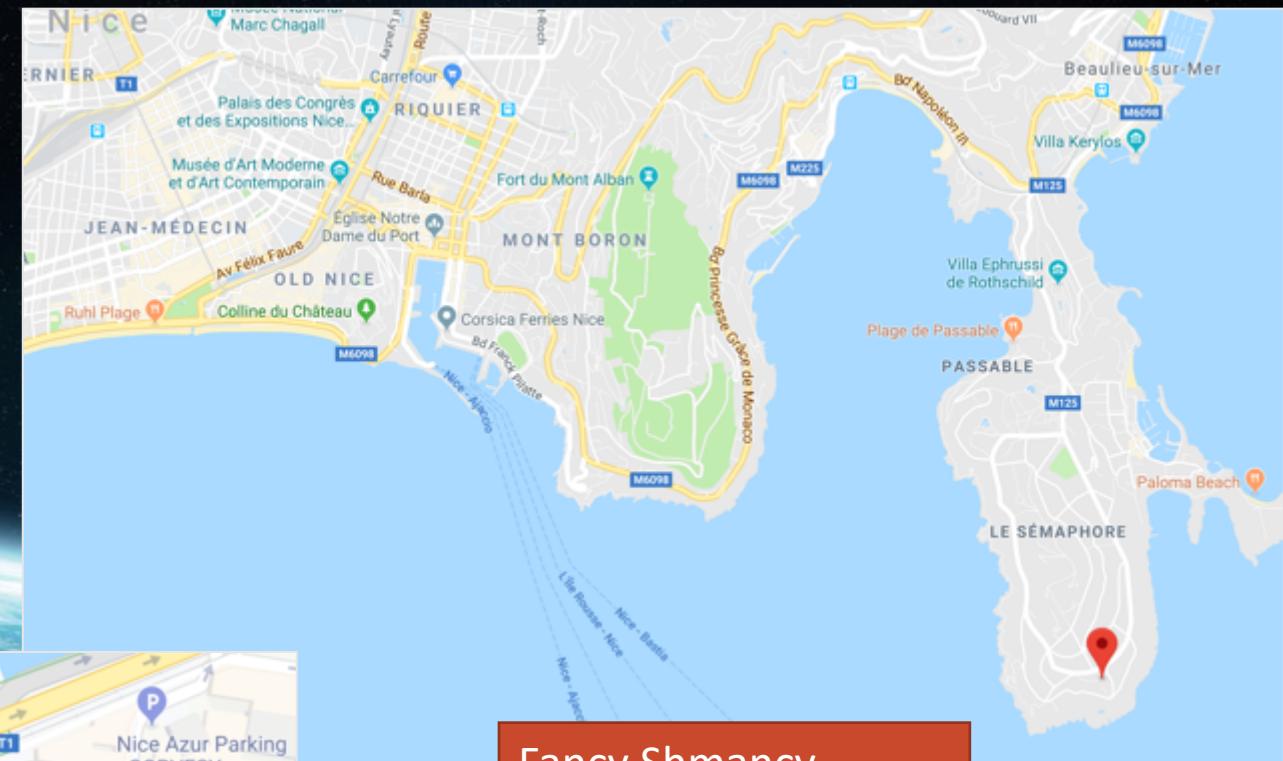
[ORGANIZATION NAME: Chase] [IDENTIFIER: paymentpass.com.apple] [AMOUNT: 33.0] [CURRENCY CODE: EUR] [MERCHANT INDUSTRY CATEGORY: DINING] [MERCHANT NAME: RUHL PLAGUE] [INGESTED DATE: 2017-11-04 22:0...]

[ORGANIZATION NAME: Chase] [IDENTIFIER: paymentpass.com.apple] [AMOUNT: 459.0] [CURRENCY CODE: EUR] [MERCHANT INDUSTRY CATEGORY: LODGING] [MERCHANT NAME: GD HOTEL CAP FERRAT] [INGESTED DATE: 20...]

Key	Activity	Output
2019-05-28	Location	Filter
1	2019-05-28 16:22:34	Location [START: 2019-05-28 16:22:34] [STOP: 2019-05-28 16:53:10] [COORDINATES: 43.695023470117, 7.26581019473156] [CREATION DATE: 2019-05-29 11:06:24] [EXPIRATION: 2019-06-18 21:12:54] [LOI LATITUDE: 43.695023470117] [LOI LONGITUDE: 7.26581019473156] [PLACE ID: 497] [DATA POINT COUNT: 608] [ZCOUNTRY: France] [ZCOUNTRYCODE: FR] [ZLOCATIONID: 43.695023470117,7.26581019473156]
2	2019-05-28 16:22:34	Location [INBOUND START DATE: 2019-05-28 16:22:34] [INBOUND STOP DATE: 2019-05-28 16:53:10] [COORDINATES: 43.6769879206693, 7.33155233765145] [PLACE ID: 497] [DATA POINT COUNT: 608] [ZCOUNTRY: France] [ZCOUNTRYCODE: FR] [ZLOCATIONID: 43.6769879206693,7.33155233765145]
3	2019-05-28 16:22:34	Location [OUTBOUND START DATE: 2019-05-28 16:22:34] [OUTBOUND STOP DATE: 2019-05-28 16:53:10] [COORDINATES: 43.6769879206693, 7.33155233765145] [PLACE ID: 497] [DATA POINT COUNT: 608] [ZCOUNTRY: France] [ZCOUNTRYCODE: FR] [ZLOCATIONID: 43.6769879206693,7.33155233765145]
4	2019-05-28 16:22:34	Location [ENTRY: 2019-05-27 19:18:41] [EXIT: 2019-05-28 16:22:34] [COORDINATES: 43.695023470117, 7.26581019473156] [LOI LATITUDE: 43.6950234701] [LOI LONGITUDE: 7.26581019473] [ZCONFIDENCE: 1.0] [ZLOCATIONID: 43.6950234701,7.26581019473]
5	2019-05-28 16:53:10	Location [VISIT ENTRY: 2019-05-28 16:53:10] [VISIT EXIT: 2019-05-28 21:12:54] [COORDINATES: 43.6769879206693, 7.33155233765145] [PLACE ID: 497] [DATA POINT COUNT: 608] [ZCOUNTRY: France] [ZCOUNTRYCODE: FR] [ZLOCATIONID: 43.6769879206693,7.33155233765145]
6	2019-05-28 16:53:10	Location [START: 2019-05-28 16:22:34] [STOP: 2019-05-28 16:53:10] [COORDINATES: 43.695023470117, 7.26581019473156] [CREATION DATE: 2019-05-29 11:06:24] [EXPIRATION: 2019-06-18 21:12:54] [LOI LATITUDE: 43.695023470117] [LOI LONGITUDE: 7.26581019473156] [PLACE ID: 497] [DATA POINT COUNT: 608] [ZCOUNTRY: France] [ZCOUNTRYCODE: FR] [ZLOCATIONID: 43.695023470117,7.26581019473156]
7	2019-05-28 16:53:10	Location [INBOUND START DATE: 2019-05-28 16:22:34] [INBOUND STOP DATE: 2019-05-28 16:53:10] [COORDINATES: 43.6769879206693, 7.33155233765145] [PLACE ID: 497] [DATA POINT COUNT: 608] [ZCOUNTRY: France] [ZCOUNTRYCODE: FR] [ZLOCATIONID: 43.6769879206693,7.33155233765145]
8	2019-05-28 16:53:10	Location [ENTRY: 2019-05-28 16:53:10] [EXIT: 2019-05-28 21:12:54] [COORDINATES: 43.6769879206693, 7.33155233765145] [LOI LATITUDE: 43.6769879207] [LOI LONGITUDE: 7.33155233765] [ZCONFIDENCE: 1.0] [ZLOCATIONID: 43.6769879207,7.33155233765]
9	2019-05-28 16:53:10	Location [OUTBOUND START DATE: 2019-05-28 16:22:34] [OUTBOUND STOP DATE: 2019-05-28 16:53:10] [COORDINATES: 43.6769879206693, 7.33155233765145] [PLACE ID: 497] [DATA POINT COUNT: 608] [ZCOUNTRY: France] [ZCOUNTRYCODE: FR] [ZLOCATIONID: 43.6769879206693,7.33155233765145]
10	2019-05-28 21:12:54	Location [START: 2019-05-28 21:12:54] [STOP: 2019-05-28 21:33:18] [COORDINATES: 43.6769879206693, 7.33155233765145] [CREATION DATE: 2019-05-29 11:06:24] [EXPIRATION: 2019-07-24 07:50:46] [LOI LATITUDE: 43.6769879206693] [LOI LONGITUDE: 7.33155233765145] [PLACE ID: 497] [DATA POINT COUNT: 608] [ZCOUNTRY: France] [ZCOUNTRYCODE: FR] [ZLOCATIONID: 43.6769879206693,7.33155233765145]
11	2019-05-28 21:12:54	Location [VISIT ENTRY: 2019-05-28 16:53:10] [VISIT EXIT: 2019-05-28 21:12:54] [COORDINATES: 43.6769879206693, 7.33155233765145] [PLACE ID: 497] [DATA POINT COUNT: 608] [ZCOUNTRY: France] [ZCOUNTRYCODE: FR] [ZLOCATIONID: 43.6769879206693,7.33155233765145]
12	2019-05-28 21:12:54	Location [ENTRY: 2019-05-28 16:53:10] [EXIT: 2019-05-28 21:12:54] [COORDINATES: 43.6769879206693, 7.33155233765145] [LOI LATITUDE: 43.6769879207] [LOI LONGITUDE: 7.33155233765] [ZCONFIDENCE: 1.0] [ZLOCATIONID: 43.6769879207,7.33155233765]
13	2019-05-28 21:33:18	Location [START: 2019-05-28 21:12:54] [STOP: 2019-05-28 21:33:18] [COORDINATES: 43.6769879206693, 7.33155233765145] [CREATION DATE: 2019-05-29 11:06:24] [EXPIRATION: 2019-07-24 07:50:46] [LOI LATITUDE: 43.6769879206693] [LOI LONGITUDE: 7.33155233765145] [PLACE ID: 497] [DATA POINT COUNT: 608] [ZCOUNTRY: France] [ZCOUNTRYCODE: FR] [ZLOCATIONID: 43.6769879206693,7.33155233765145]
14	2019-05-28 21:33:18	Location [ENTRY: 2019-05-28 21:33:18] [EXIT: 2019-05-29 07:50:46] [COORDINATES: 43.695023470117, 7.26581019473156] [LOI LATITUDE: 43.6950234701] [LOI LONGITUDE: 7.26581019473] [ZCONFIDENCE: 1.0] [ZLOCATIONID: 43.6950234701,7.26581019473]

Location via Wallet Transactions

Hangin' on the Beach
Ruhl Plage
43.695023470117,
7.26581019473156



Fancy Shmancy
Dinner @ Le Cap
43.6769879206693,
7.33155233765145

Location via Wallet Transactions

[TRANSACTION DATE: 2019-05-28 08:37:26] [ORGANIZATION NAME: Chase] [IDENTIFIER: paymentpass.com.apple] [AMOUNT: 9.2] [CURRENCY CODE: EUR] [MERCHANT INDUSTRY CATEGORY: DINING] [MERCHANT NAME: RUHL PLAGUE] [INGESTED DATE: 2017-11-04 22:09...]
[TRANSACTION DATE: 2019-05-28 09:56:51] [ORGANIZATION NAME: Chase] [IDENTIFIER: paymentpass.com.apple] [AMOUNT: 6.0] [CURRENCY CODE: EUR] [MERCHANT INDUSTRY CATEGORY: DINING] [MERCHANT NAME: RUHL PLAGUE] [INGESTED DATE: 2017-11-04 22:09...]
[TRANSACTION DATE: 2019-05-28 11:18:50] [ORGANIZATION NAME: Chase] [IDENTIFIER: paymentpass.com.apple] [AMOUNT: 33.0] [CURRENCY CODE: EUR] [MERCHANT INDUSTRY CATEGORY: DINING] [MERCHANT NAME: RUHL PLAGUE] [INGESTED DATE: 2017-11-04 22:0...]
[TRANSACTION DATE: 2019-05-28 21:01:23] [ORGANIZATION NAME: Chase] [IDENTIFIER: paymentpass.com.apple] [AMOUNT: 459.0] [CURRENCY CODE: EUR] [MERCHANT INDUSTRY CATEGORY: LODGING] [MERCHANT NAME: GD HOTEL CAP FERRAT] [INGESTED DATE: 20...]
[TRANSACTION DATE: 2019-05-29 09:17:58] [ORGANIZATION NAME: Chase] [IDENTIFIER: paymentpass.com.apple] [AMOUNT: 7.6] [CURRENCY CODE: EUR] [MERCHANT INDUSTRY CATEGORY: DINING] [MERCHANT NAME: MAP] [INGESTED DATE: 2017-11-04 22:09:56] [M...]
[TRANSACTION DATE: 2019-05-30 15:57:42] [ORGANIZATION NAME: Chase] [IDENTIFIER: paymentpass.com.apple] [AMOUNT: 13.6] [CURRENCY CODE: EUR] [MERCHANT INDUSTRY CATEGORY: PERSONAL SERVICES] [MERCHANT NAME: HEALTHSTORE] [INGESTED DATE: 2...]
[TRANSACTION DATE: 2019-05-30 17:53:53] [ORGANIZATION NAME: Apple] [IDENTIFIER: paymentpass.com.apple] [AMOUNT: 20.0] [CURRENCY CODE: USD] [MERCHANT INDUSTRY CATEGORY: None] [MERCHANT NAME: None] [INGESTED DATE: 2018-09-18 04:57:12] [M...]
[TRANSACTION DATE: 2019-06-01 18:06:25] [ORGANIZATION NAME: Apple] [IDENTIFIER: paymentpass.com.apple] [AMOUNT: 42.0] [CURRENCY CODE: USD] [MERCHANT INDUSTRY CATEGORY: None] [MERCHANT NAME: None] [INGESTED DATE: 2018-09-18 04:57:12] [M...]
[INGESTED DATE: 2019-06-03 04:32:05] [MODIFIED DATE: 2019-06-03 04:32:05] [RELEVANT TIME: 2019-06-03 10:20:00] [ORGANIZATION NAME: United Airlines] [IDENTIFIER: pass.united.UnitedMobileBoardingPass] [RELEVANT TEXT: None] [LATITUDE: None] [LONGIT...]
[TRANSACTION DATE: 2019-06-03 20:29:39] [ORGANIZATION NAME: Chase] [IDENTIFIER: paymentpass.com.apple] [AMOUNT: 9.22337203685e+16] [CURRENCY CODE: None] [MERCHANT INDUSTRY CATEGORY: None] [MERCHANT NAME: None] [INGESTED DATE: 2017-1...]
[TRANSACTION DATE: 2019-06-03 20:32:22] [ORGANIZATION NAME: Chase] [IDENTIFIER: paymentpass.com.apple] [AMOUNT: 9.22337203685e+16] [CURRENCY CODE: None] [MERCHANT INDUSTRY CATEGORY: None] [MERCHANT NAME: None] [INGESTED DATE: 2017-1...]
[TRANSACTION DATE: 2019-06-04 15:12:13] [ORGANIZATION NAME: Chase] [IDENTIFIER: paymentpass.com.apple] [AMOUNT: 23.16] [CURRENCY CODE: USD] [MERCHANT INDUSTRY CATEGORY: SUPERMARKETS] [MERCHANT NAME: WEGMANS ALEXANDRIA #49] [INGESTE...]
[TRANSACTION DATE: 2019-06-04 15:12:19] [ORGANIZATION NAME: Chase] [IDENTIFIER: paymentpass.com.apple] [AMOUNT: 9.22337203685e+16] [CURRENCY CODE: None] [MERCHANT INDUSTRY CATEGORY: None] [MERCHANT NAME: None] [INGESTED DATE: 2017-1...]
[INGESTED DATE: 2019-06-06 11:03:21] [MODIFIED DATE: 2019-06-06 11:03:21] [RELEVANT TIME: None] [ORGANIZATION NAME: Residence Inn] [IDENTIFIER: pass.com.marriott.ios.reservationspass] [RELEVANT TEXT: None] [LATITUDE: None] [LONGITUDE: None] [PUS...]
[TRANSACTION DATE: 2019-06-07 12:42:13] [ORGANIZATION NAME: Chase] [IDENTIFIER: paymentpass.com.apple] [AMOUNT: 212.0] [CURRENCY CODE: USD] [MERCHANT INDUSTRY CATEGORY: PET STORES/VETERINARY SERVICES] [MERCHANT NAME: FRIENDSHIP HOSPIT...

Location via Wallet Transactions

[ORGANIZATION NAME: Chase] [IDENTIFIER: paymentpass.com.apple] [AMOUNT: 7.6] [CURRENCY CODE: EUR] [MERCHANT INDUSTRY CATEGORY: DINING] [MERCHANT NAME: MAP] [INGESTED DATE: 2017-11-04 22:09:56] [M...

19	2019-05-29 08:43:06	Location	[START: 2019-05-29 08:31:40] [STOP: 2019-05-29 08:43:06] [COORDINATES: 43.6922364564916, 7.28567636723906] [L...
20	2019-05-29 08:43:06	Location	[ENTRY: 2019-05-29 08:43:06] [EXIT: 2019-05-29 10:00:38] [COORDINATES: 43.695023470117, 7.26581019473156] [L...
21	2019-05-29 10:00:38		7.26581019473156] [C...
22	2019-05-29 10:00:38		7.26581019473156] [L...
23	2019-05-29 10:38:30		7.26581019473156] [C...





Is it actually being used? Yes!

- Distracted Driving Accidents
- Finding literal smoking guns via location data.
- Dumped Bodies – Used location data, application usage, and device state and to locate suspect between dead girlfriends house and dumpster to provided timeline of events.
- Drug Overdoses – Device/App activity lead to time and location of deaths.
- Flashlight Module – Used to provide timeline of events with suspects using iPhone flashlight app.
- Previous Apps – Proof of application used from data usage of a previously installed 3rd party app, that was used for harassment.
- Evidence Destruction/Anti-forensics – Determined if a passcode was added to a device to “stop” law enforcement from getting data off the device. Suspected added passcode after deleting evidence from device.
- Forensic courses using this as a free alternative to expensive commercial forensic suites.
- Commercial & Open Source GUIs are coming!

Sarah Edwards' groundbreaking APOLLO is exemplary not only for the research itself, but also in its masterful delivery. It is an essential case-in-point showcasing the importance of sharing your findings in our industry. APOLLO's influence in the development cycles of several major software products serves as an excellent reminder that the perpetual state of evolution in digital forensic science cannot be wholly managed using a classic proprietary approach. I regularly make use of APOLLO to demonstrate device usage with an unprecedented level of granularity.

Mike Williamson, Forensic Examiner
Calgary Police Service

A photograph of a fluffy, light-colored cat wearing a white and silver spacesuit. The cat is floating in the void of space, with the Earth visible as a blue and white horizon in the background. The spacesuit has a clear helmet window through which the cat's face is visible, showing large, wide-eyed green eyes. The suit has various ports and equipment attached to the sides.

Thanks!

github.com/mac4n6/APOLLO
[@iamevl twin](https://twitter.com/iamevl twin)
mac4n6.com
for518.com