

# Experience in Mobile Survey Technology

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# Agenda



Quick technical overview

Passive Data Collection  
Experience



**SURVEY ANALYTICS**  
Enterprise Research Platform



# Survey Swipe App

Standalone app

iOS 6+

Android 3.0+

30+ question types – all the usual suspects

Survey set up via online web tool

Data available real time on web

Passive Data collection: Information about the OS, Apps and device state. This can differ according to platforms.

Three flavors:

Standalone, White label and SDK



**SURVEY ANALYTICS**  
Enterprise Research Platform

# Passive Data Collection

Accelerometer

Compass

GPS

Decibel Level

Installed Apps

Disk Space

Running Apps  
Battery

Gyroscope

Memory

IP Address

3G

Operating  
System

Wifi

Retina Display

SSID

Some differences between platforms:

No installed Apps in iOS !

Accelerometer calibration different –  
need to normalize data.

Battery Load – sample at intervals.





# Examples

## App Audit

2014-02-05	5368550	7 Words,AAT,ADID,Accessibility,Alarm/Clock,AliExpress,Amazon,Amazon MP3,Android System,AppOptix,AppRedeem,AppTrailers,Application Manage
2013-12-12	5360881	Android Live Wallpapers,Android System,AppBrats,AppDog,AppNana,AppRedeem,AppTrailers,Bluetooth Share,Browser,Calculator,Calendar,Calendar
2013-12-19	5362681	Active Applications,Adobe AIR,Adobe Flash Player 11.1,AllShare Service,Amazon,Amazon Kindle,Android Live Wallpapers,Android System,AntiVirus,A

## Accelerometer

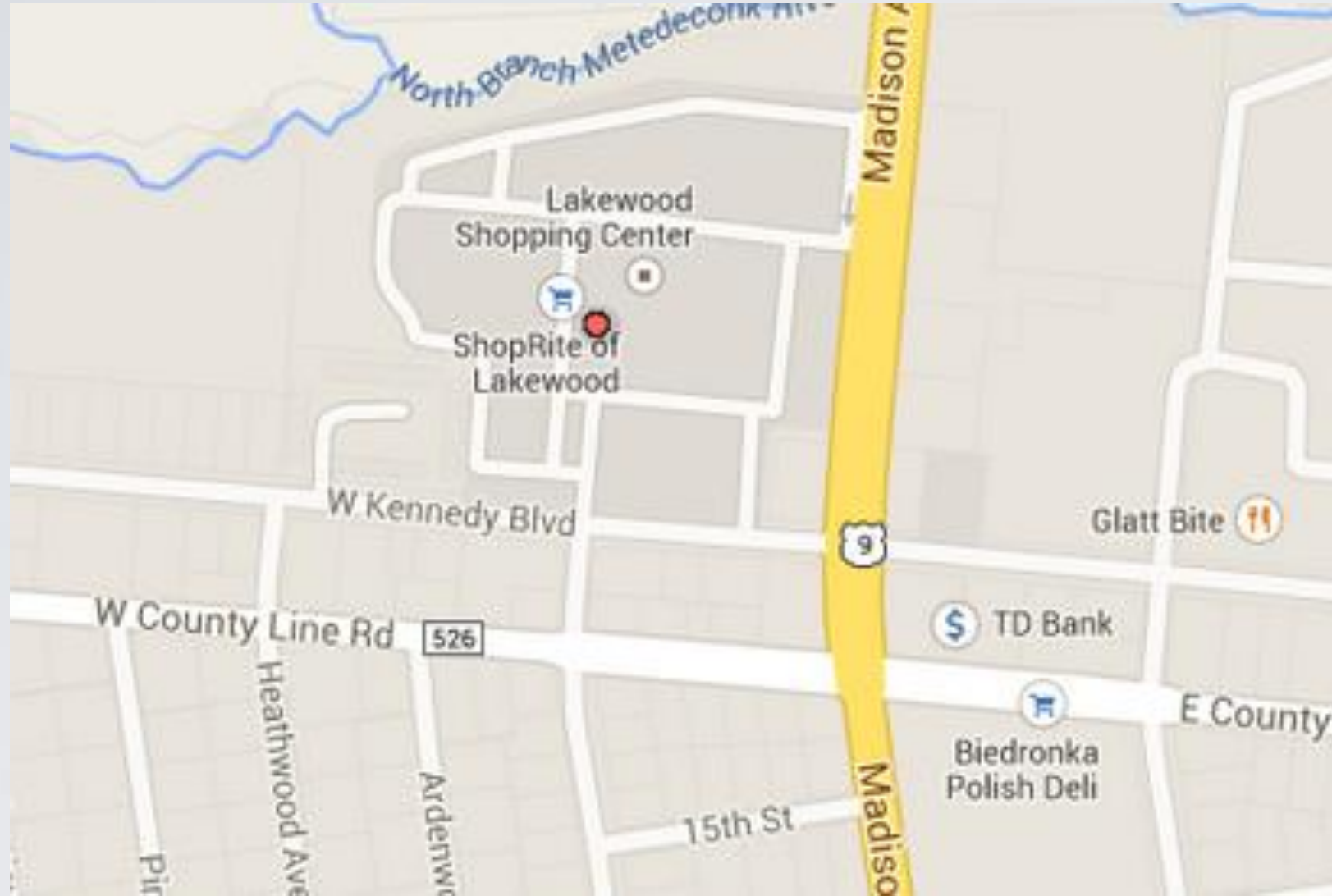
Timestamp	Response ID	X Coordinate	Y Coordinate	Z Coordinate	Composite Value
2013-11-30	5345627	0.243664503	0.185006619	1.808710575	1.834402841
2013-11-30	5345628	-0.050387144	-0.114377499	1.808057547	1.812372249
2013-11-30	5345629	-0.053216577	-0.110677362	1.809798956	1.813960789
2013-11-30	5345630	-0.004788518	-0.145502091	1.94441843	1.949860718
2013-11-30	5345631	-0.060943246	-0.120907188	1.799786568	1.804872382
2013-11-30	5345632	-0.056372523	-0.123954415	1.80555439	1.810681975
2013-11-30	5345633	-0.057787299	-0.145066857	1.807621956	1.814354128
2013-11-30	5345634	-0.073131919	-0.140387297	1.812301636	1.819201498
2013-11-30	5345635	-0.113289237	-0.097618103	1.757779121	1.764129016

## GPS Location

Timestamp	Response	Longitude	Latitude
2013-12-21 01:13:56.0	5363244	-106.504	35.11502
2013-12-21 01:14:01.0	5363245	-106.504	35.11502
2013-12-21 01:14:06.0	5363246	-106.504	35.11502
2013-12-21 01:14:11.0	5363247	-106.504	35.11502
2013-12-21 01:14:16.0	5363248	-106.504	35.11502
2013-12-21 01:14:21.0	5363249	-106.504	35.11502



# GPS Location



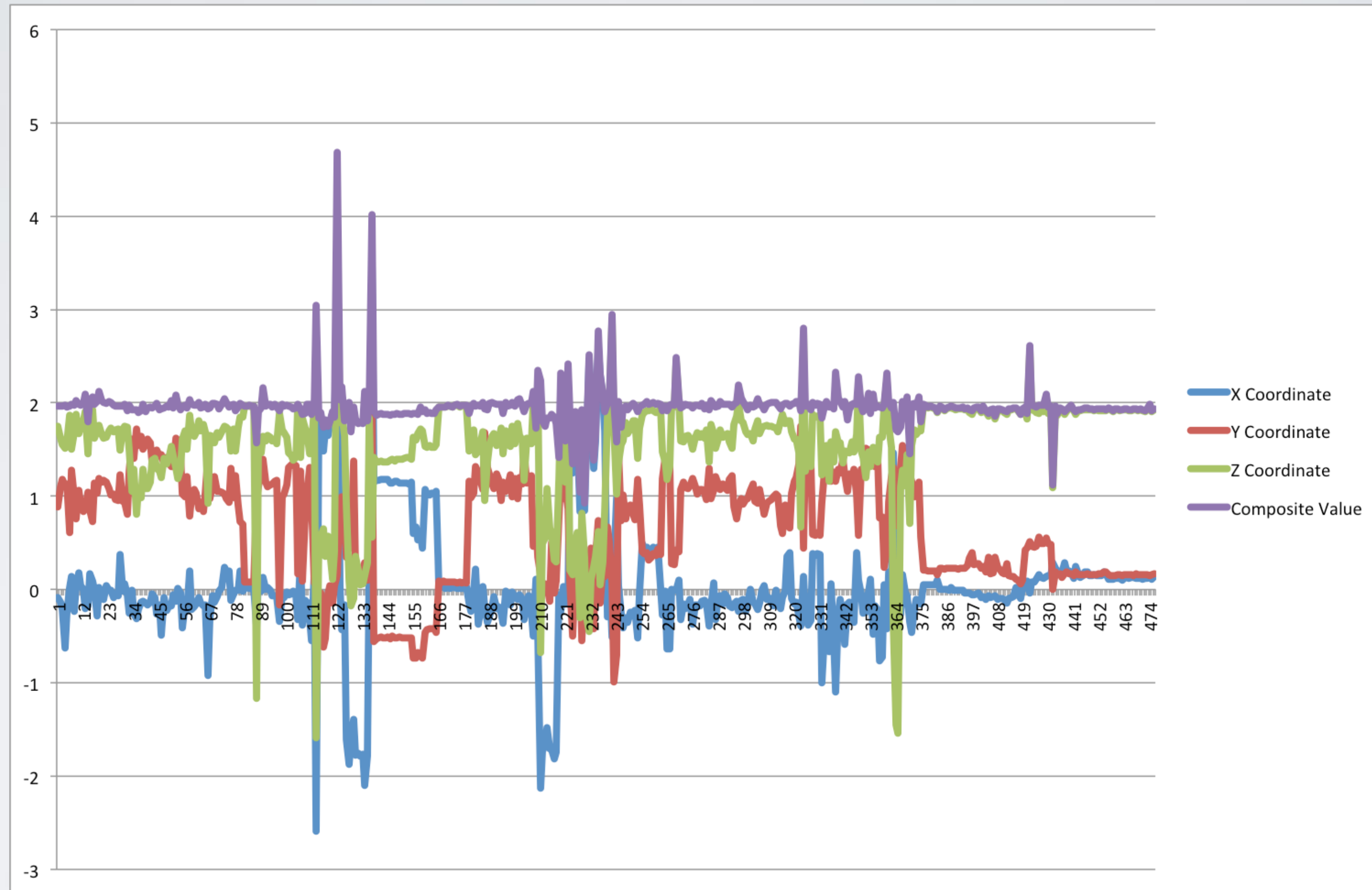
# Running Apps

Shopping behavior: show rooming – looking for apps such as Amazon, Shop Savvy etc

APP/OS	Incidence
“Show Rooming”	<5.0%
Facebook	58%
Twitter	5%
Apple	29%

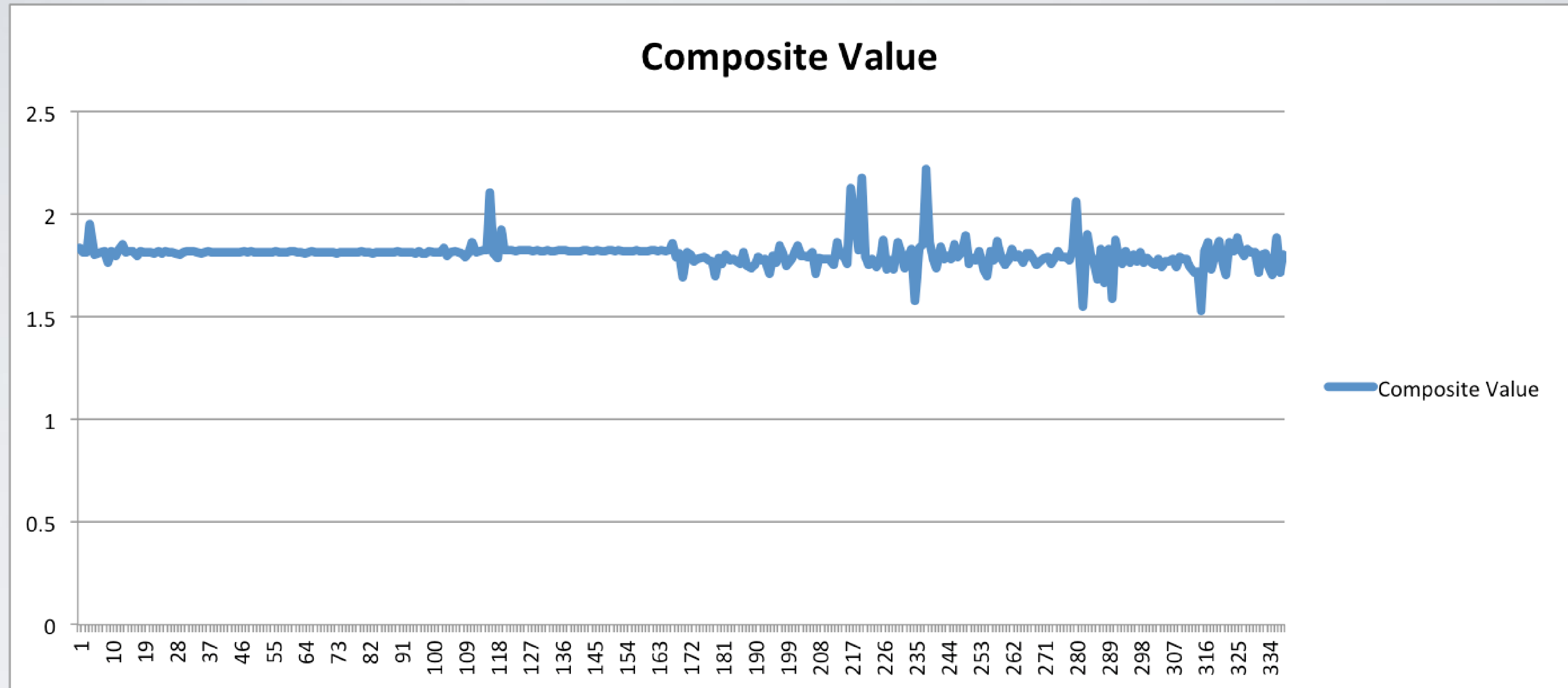
N=355

# Accelerometer





# Accelerometer



Square root of sum of values squared.

Change detection: Time Series Analysis ?

# Issues

Volume of Data - unlike traditional survey data

Relationship more complex between data points

Analytics and reporting different for passive data

Fusion with Survey data





# Future

Locations triggers: iBeacons  
Low Power Bluetooth protocol

Refine GPS usage: can be unreliable

Biometrics

External Sensor Data: Temperature et al

Standalone App tailored to needs.



# Questions?



## Contact Information

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