

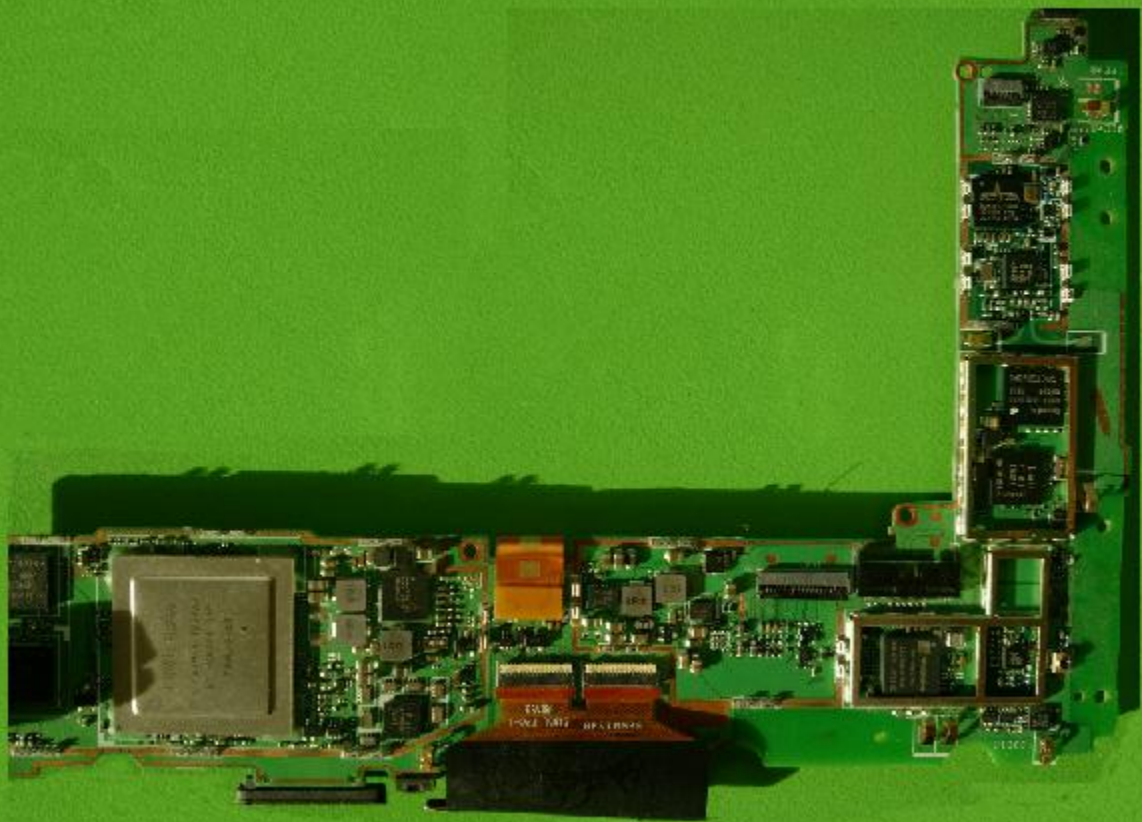


TELLING THE STORY OF PEOPLE'S BEHAVIOR WITH SMARTPHONE DATA

Joerg Blumtritt
@jbenno

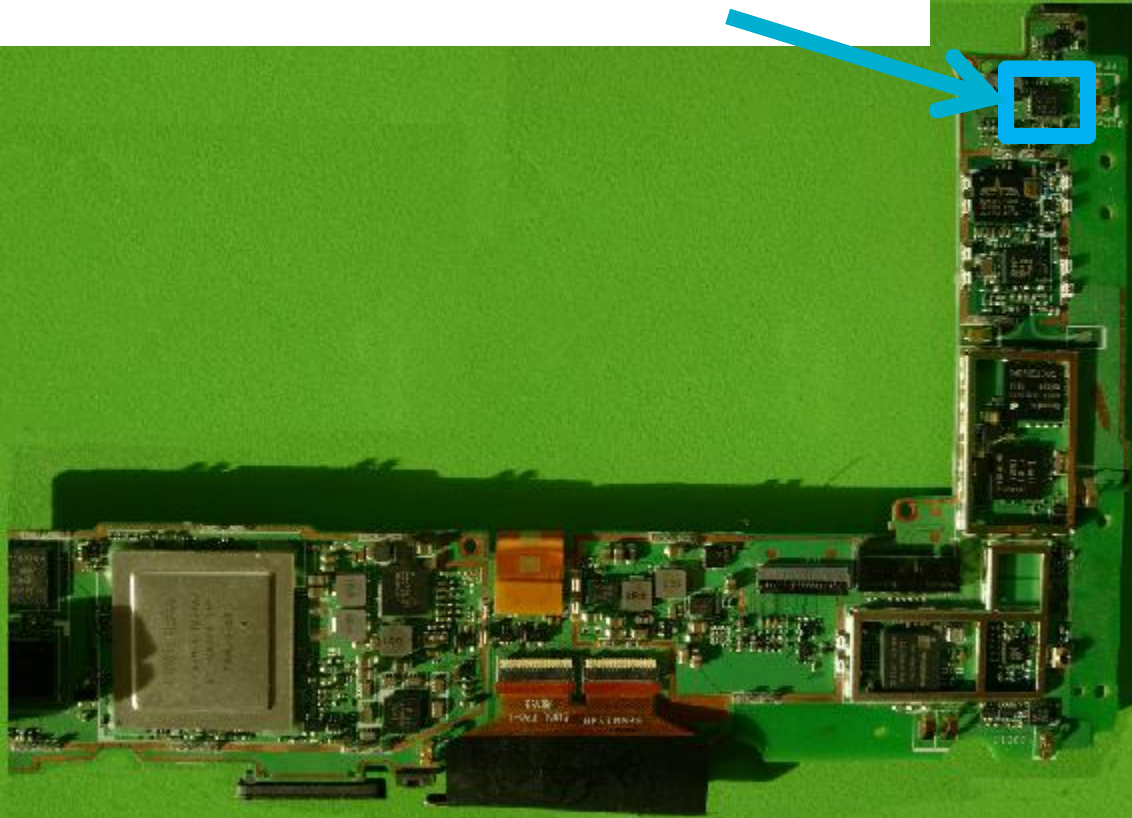






MEMS

Gyroscope,
Accelerometer

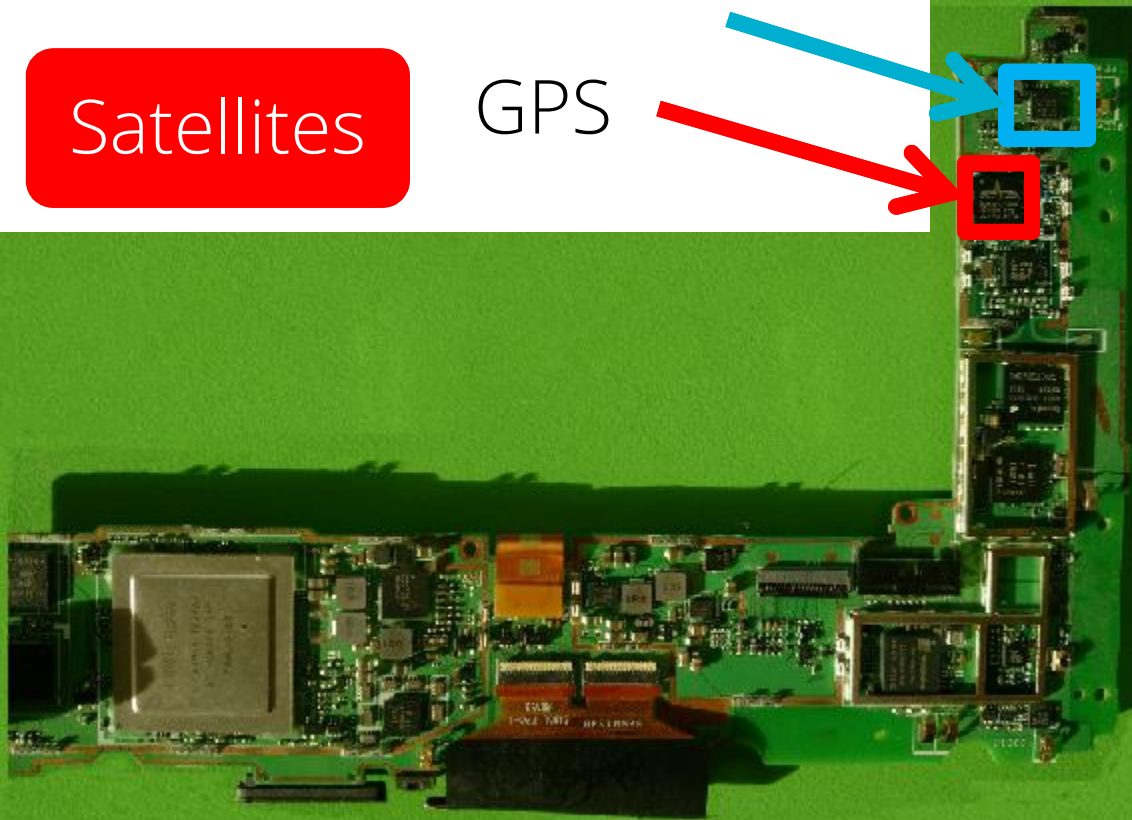


MEMS

Gyroscope,
Accelerometer

Satellites

GPS



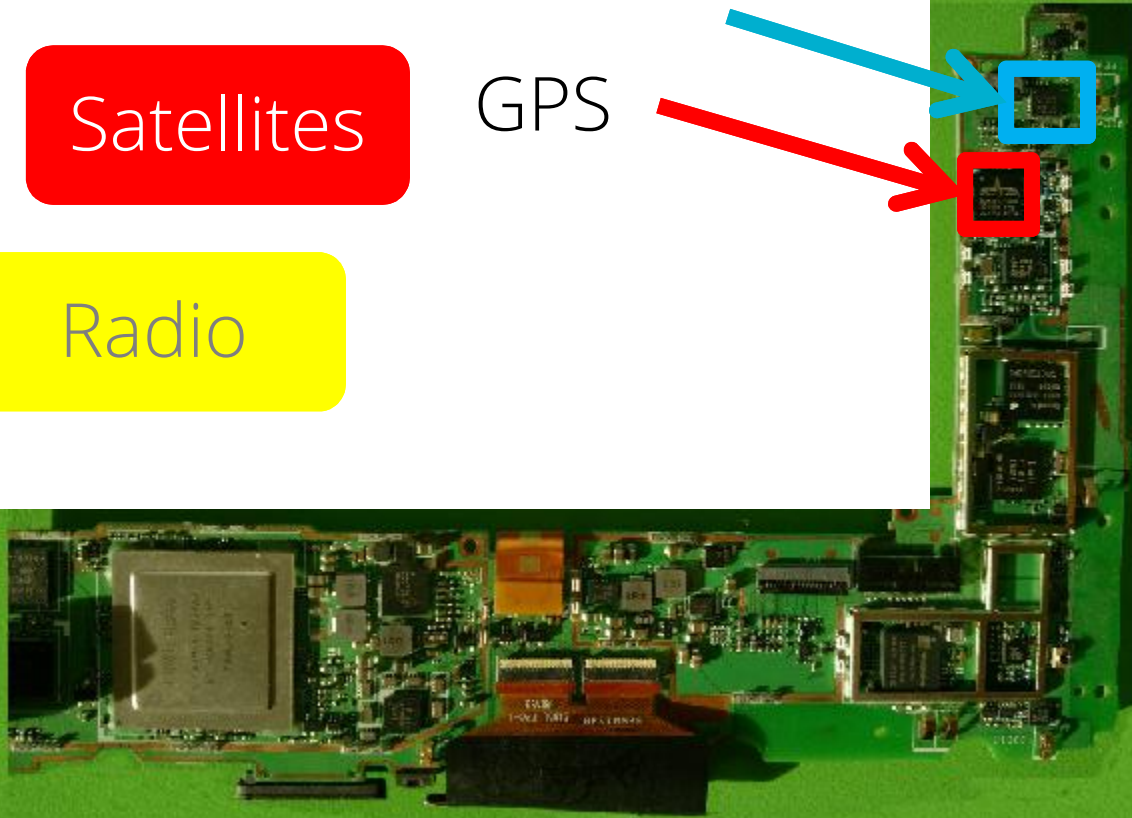
MEMS

Gyroscope,
Accelerometer

Satellites

GPS

Radio



MEMS

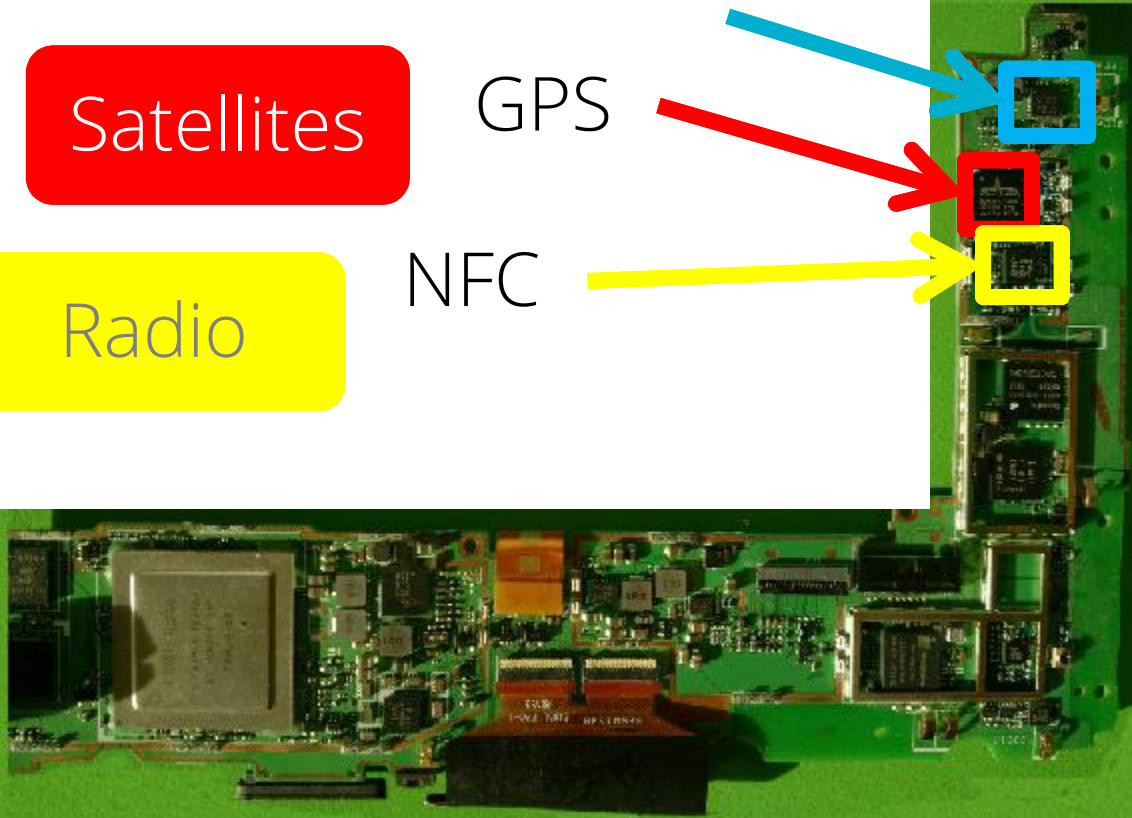
Gyroscope,
Accelerometer

Satellites

GPS

Radio

NFC



MEMS

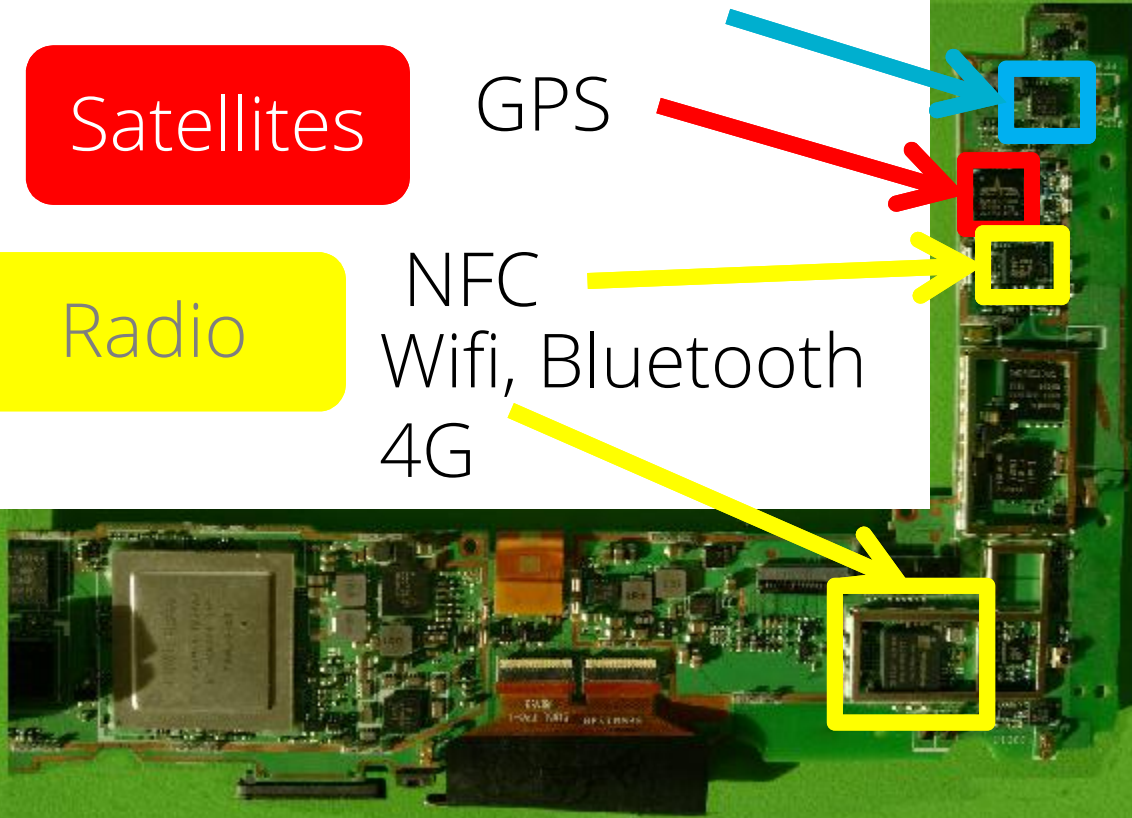
Gyroscope,
Accelerometer

Satellites

GPS

Radio

NFC
Wifi, Bluetooth
4G



Microphone
Camera

MEMS

Gyroscope,
Accelerometer

Temperature,
Air Pressure,
Compass, ...

Satellites

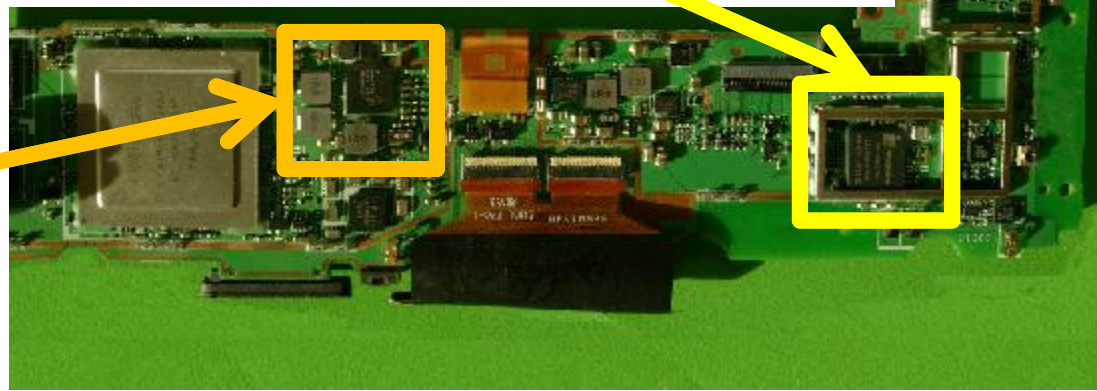
GPS

Radio

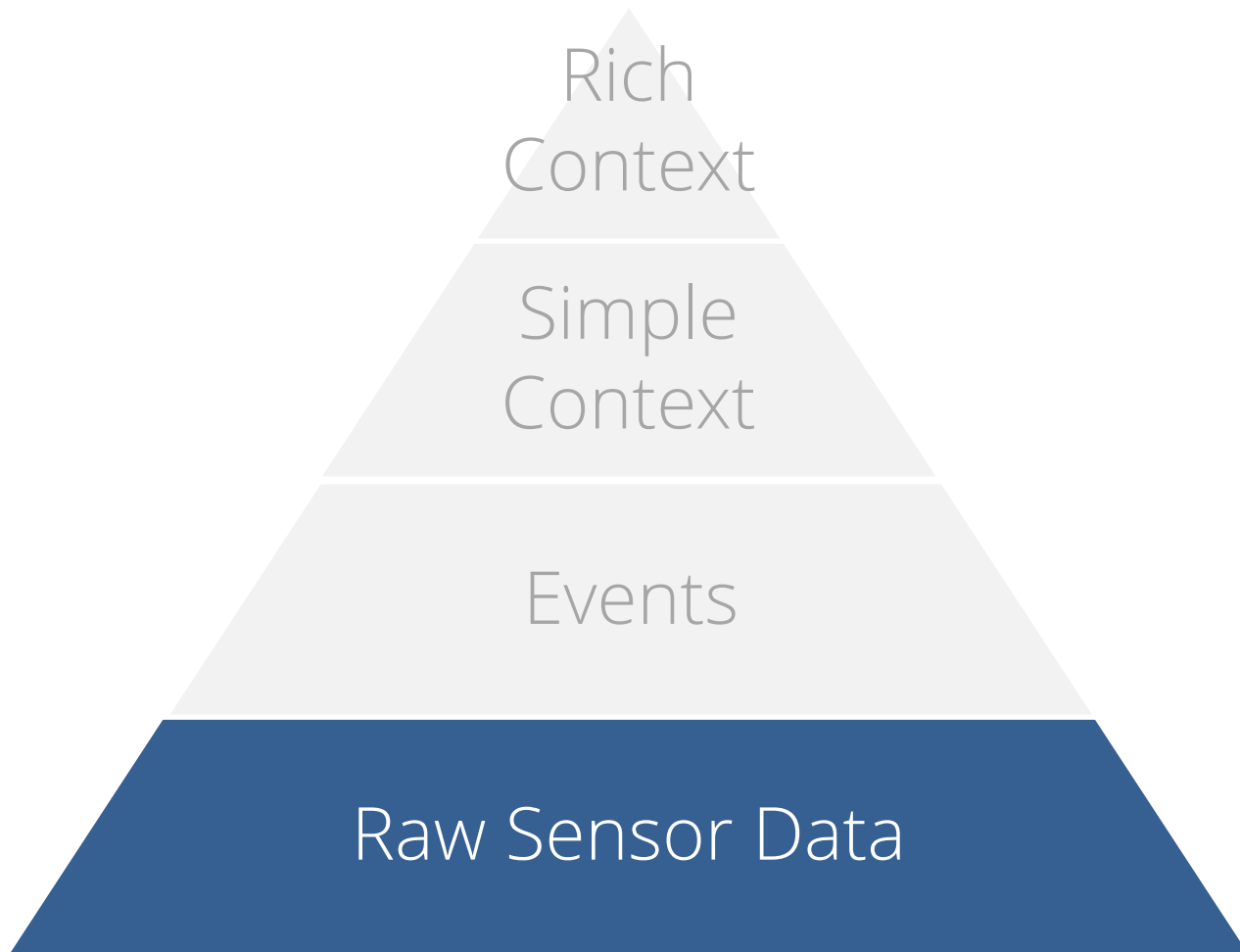
NFC
Wifi, Bluetooth
4G

Supplies

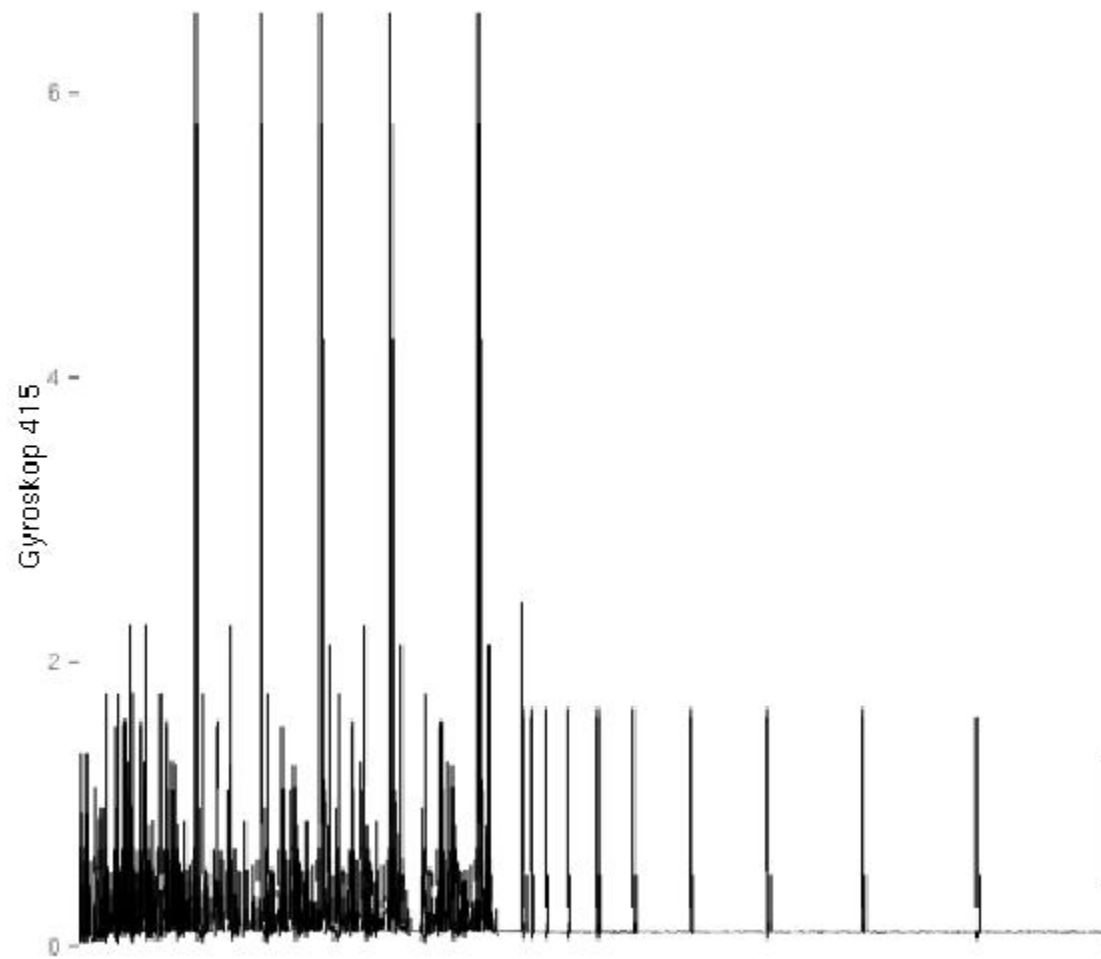
Battery

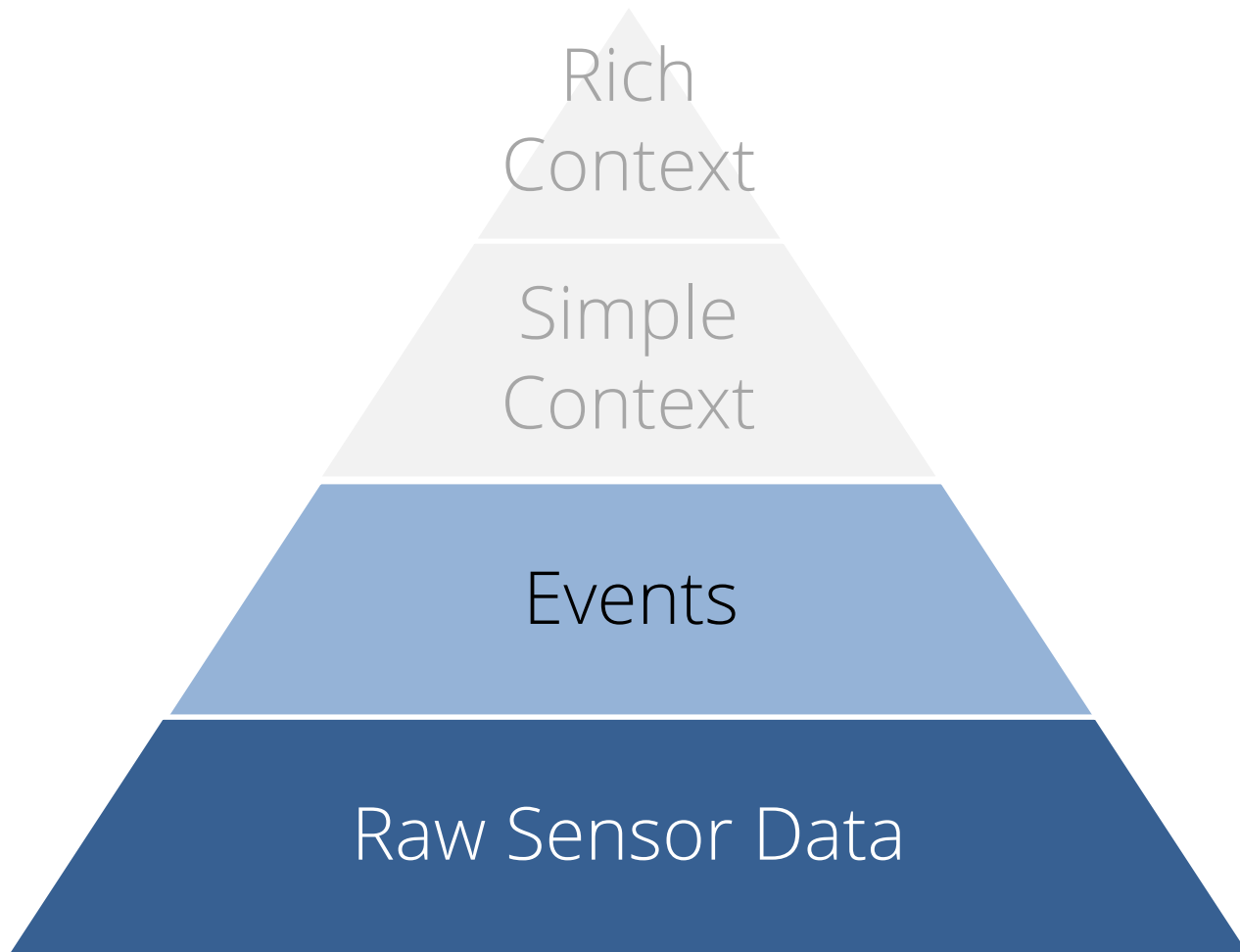


id	latitude	longitude	altitude	accuracy	bearing	speed	provider	user_id	recorded	created_a
300	48.125.637	11.551.185	0.0	39.826	0.0	0.0	network	7	2014-02-15T17:53:03+01:00	
301	48.125.664	11.551.182	0.0	37.745	0.0	0.0	network	7	2014-02-15T18:12:01+01:00	
302	48.125.652	11.551.146	0.0	39.509	0.0	0.0	network	7	2014-02-15T18:12:02+01:00	
303	48.125.652	1.155.116	0.0	39.21	0.0	0.0	network	7	2014-02-15T18:12:03+01:00	
304	48.125.645	11.551.162	0.0	39.654	0.0	0.0	network	7	2014-02-15T18:31:02+01:00	
305	48.125.652	11.551.164	0.0	38.991	0.0	0.0	network	7	2014-02-15T18:31:02+01:00	
306	48.125.645	11.551.177	0.0	24.935	0.0	0.0	network	7	2014-02-15T18:31:03+01:00	
307	48.125.652	1.155.117	0.0	38.834	0.0	0.0	network	7	2014-02-15T18:50:02+01:00	
308	4.812.565	11.551.186	0.0	38.818	0.0	0.0	network	7	2014-02-15T18:50:02+01:00	
309	48.125.652	11.551.168	0.0	38.95	0.0	0.0	network	7	2014-02-15T18:50:02+01:00	
310	4.812.565	11.551.159	0.0	39.538	0.0	0.0	network	7	2014-02-15T19:09:01+01:00	
311	48.125.664	11.551.157	0.0	38.043	0.0	0.0	network	7	2014-02-15T19:09:02+01:00	
312	48.125.664	11.551.175	0.0	37.869	0.0	0.0	network	7	2014-02-15T19:09:03+01:00	
313	48.125.652	11.551.172	0.0	38.873	0.0	0.0	network	7	2014-02-15T19:28:02+01:00	
314	48.125.664	1.155.116	0.0	38.043	0.0	0.0	network	7	2014-02-15T19:28:02+01:00	
315	4.812.565	1.155.117	0.0	39.186	0.0	0.0	network	7	2014-02-15T19:28:03+01:00	
316	48.125.656	11.551.165	0.0	38.686	0.0	0.0	network	7	2014-02-15T19:47:02+01:00	
317	48.125.664	11.551.159	0.0	38.194	0.0	0.0	network	7	2014-02-15T19:47:02+01:00	
318	4.812.562	11.551.171	0.0	22.996	0.0	0.0	network	7	2014-02-15T19:47:03+01:00	
319	48.125.637	11.551.172	0.0	24.383	0.0	0.0	network	7	2014-02-15T20:06:02+01:00	
320	4.812.564	11.551.148	0.0	25.239	0.0	0.0	network	7	2014-02-15T20:06:02+01:00	
321	4.812.563	11.551.156	0.0	23.97	0.0	0.0	network	7	2014-02-15T20:06:03+01:00	
322	48.125.637	11.551.164	0.0	40.407	0.0	0.0	network	7	2014-02-15T20:25:02+01:00	



bssid	ssid	capabilities	frequency
1c:c6:3c:31:e0:f9	Laperla	[WPA2-PSK-CCMP][WPS][ESS]	2461
5c:35:3b:7b:f8:29	KDG-BF824	[WPA-PSK-TKIP+CCMP][WPA2-PSK-TKIP+CCMP][WPS][ESS]	2411
44:32:c8:35:3d:ff	Tech_D0053811	[WPA-PSK-TKIP+CCMP][WPA2-PSK-TKIP+CCMP][ESS]	2431
24:65:11:e7:5a:0f	FRITZ!Box 7312	[WPA-PSK-TKIP][WPA2-PSK-CCMP][WPS][ESS]	2411
88:25:2c:64:e0:1e	WLAN-64E03/	[WPA-PSK-TKIP+CCMP][WPA2-PSK-TKIP+CCMP][WPS][ESS]	2431
84:1b:5e:01:73:22	Jagertee Ischl	[WPA-PSK-TKIP+CCMP][WPA2-PSK-TKIP+CCMP][WPS][ESS]	2431
00:1a:2a:c5:2a:20	WLAN-Kuebsch	[WPA-PSK-TKIP+CCMP][WPA2-PSK-TKIP+CCMP][WPS][ESS]	2421
50:7e:5d:16:6a:85	roct	[WPA-PSK-TKIP+CCMP][WPA2-PSK-TKIP+CCMP-preauth][WPS][ESS]	2461
44:94:fc:58:bd:50	NETGEAR57	[WPA2-PSK-CCMP][WPS][ESS]	2431
34:6b:d3:43:1f:67	WLAN-1F6765	[WPA2-PSK-CCMP][WPS][ESS]	2441
24:65:11:9c:fa:46	FRITZ!Box WLAN 3270	[WPA-PSK-TKIP][WPA2-PSK-CCMP][WPS][ESS]	2411
1c:c6:3c:48:e3:cc	ALICE-WLAN21	[WPA2-PSK-CCMP][WPS][ESS]	2461
34:31:c4:17:c6:90	WcbbNet	[WPA2-PSK-CCMP][WPS][ESS]	2411
bc:05:43:d3:2d:37	philotas	[WPA-PSK-TKIP][WPA2-PSK-CCMP][WPS][ESS]	2441
00:1e:09:e8:88:f0	Thom_D011882	[WPA-PSK-TKIP+CCMP][WPA2-PSK-TKIP+CCMP][ESS]	2461
04:35:3b:7b:f8:2b	KD WLAN Hotspot	[ESS]	2411
00:1d:19:c3:29:88	Arcor E32912	[WPA-PSK-TKIP+CCMP][WPA2-PSK-TKIP+CCMP-preauth][ESS]	2451
41:32:c8:9c:28:21	Tech_D0018747	[WPA-PSK-TKIP+CCMP][WPA2-PSK-TKIP+CCMP][ESS]	2411





explore

Location

Wifi

Interval

Location

latitude (degrees):

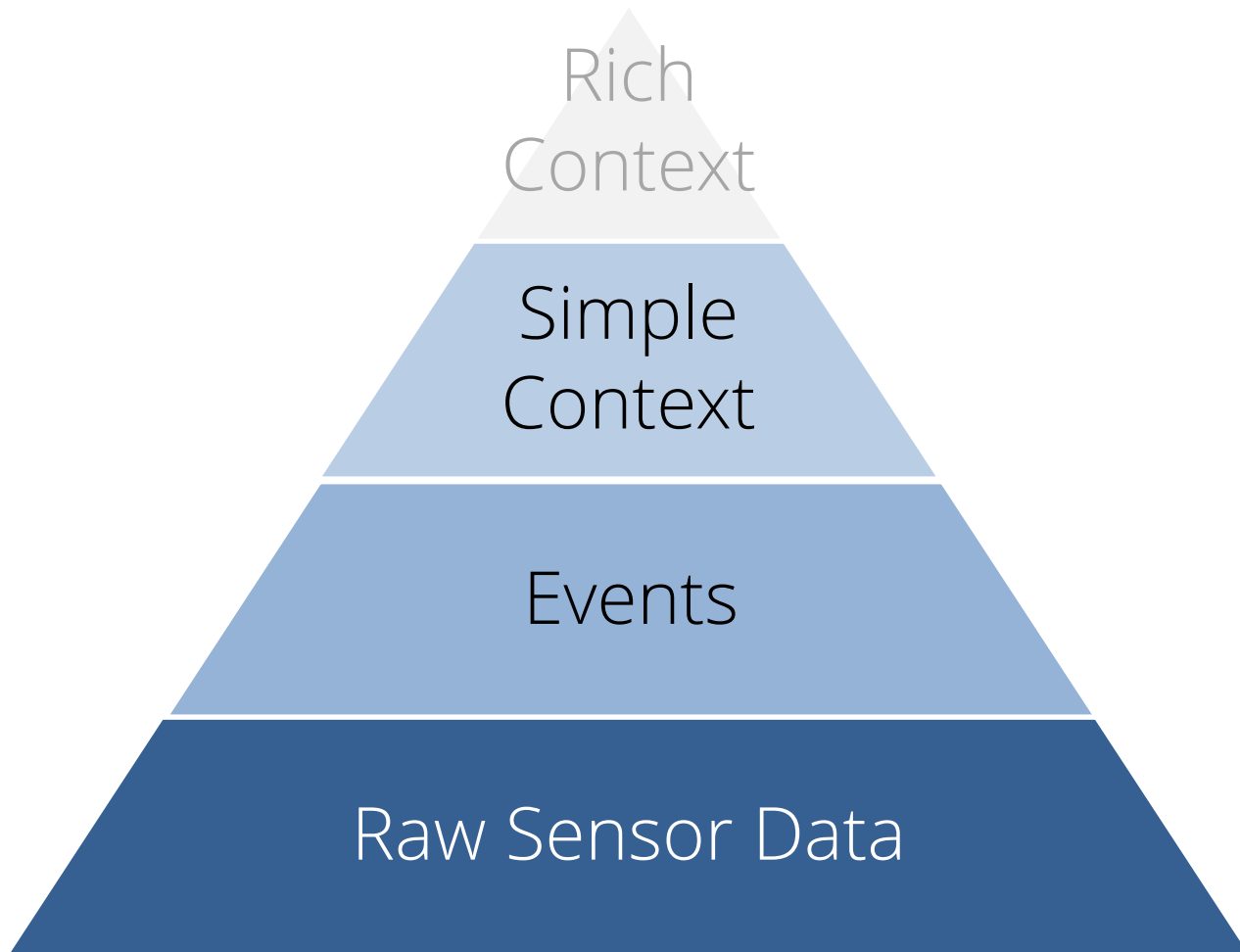
$\leq$ 48.146187

and $\geq$ 48.145645

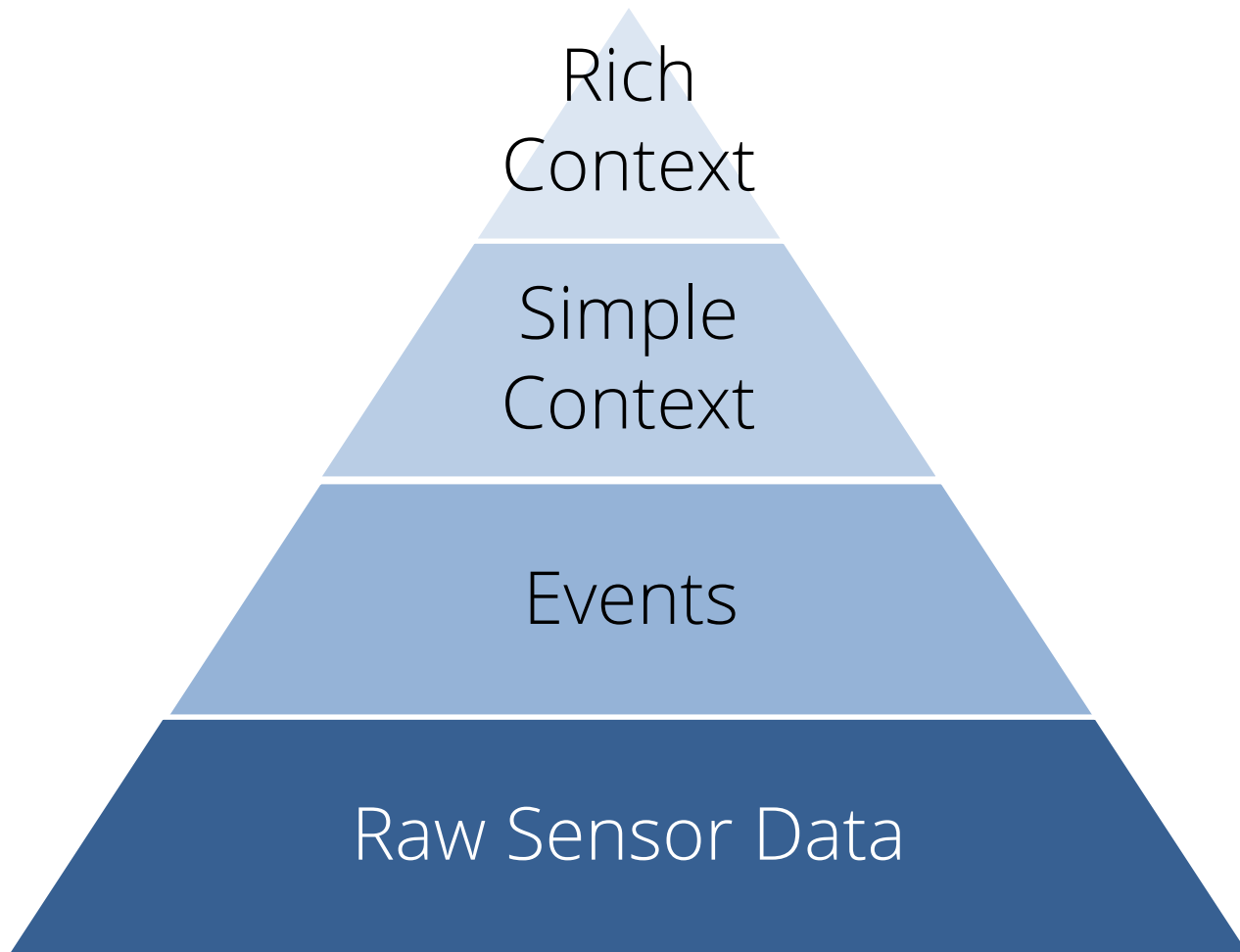


Event Name:

And Followed By

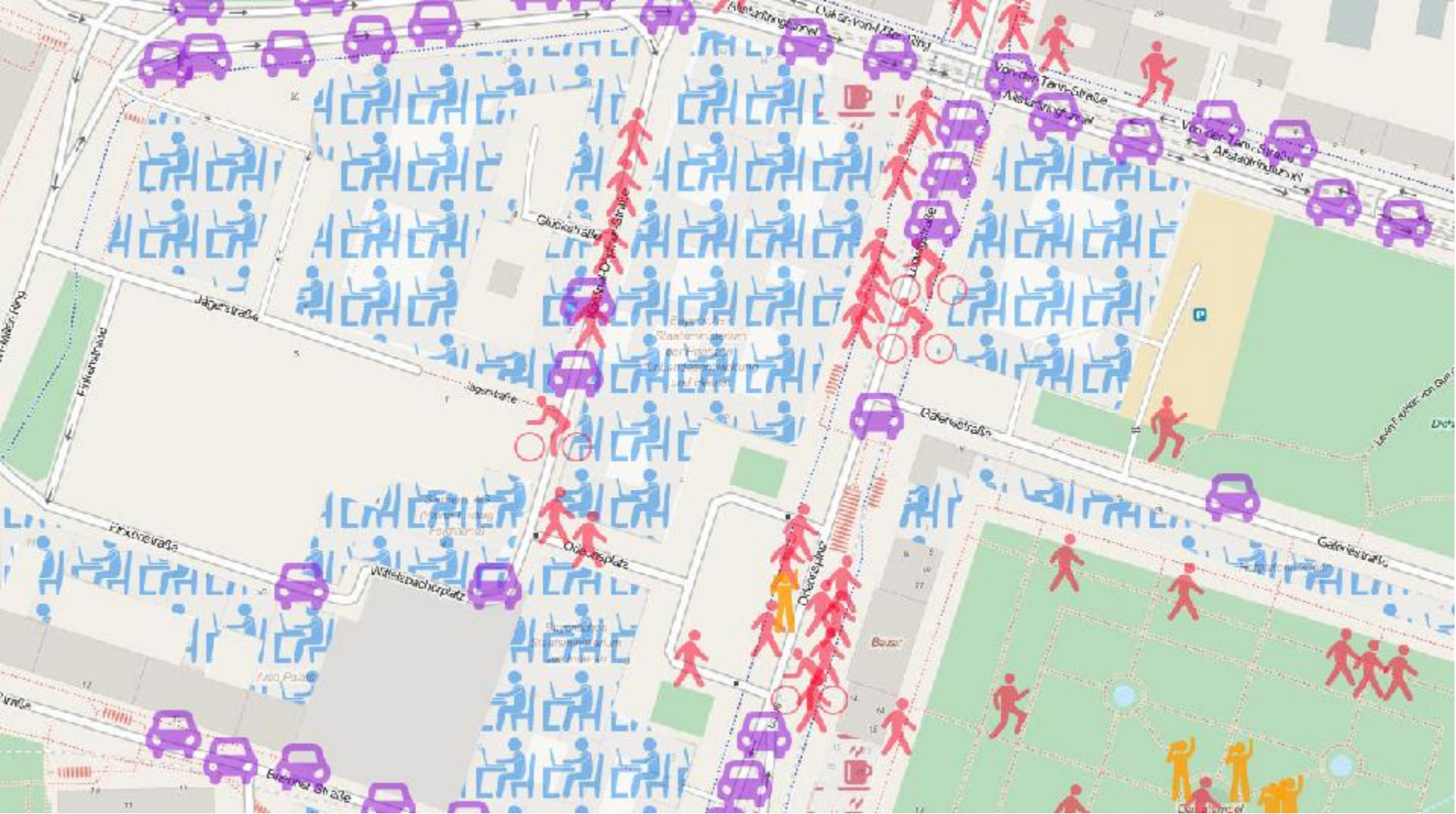


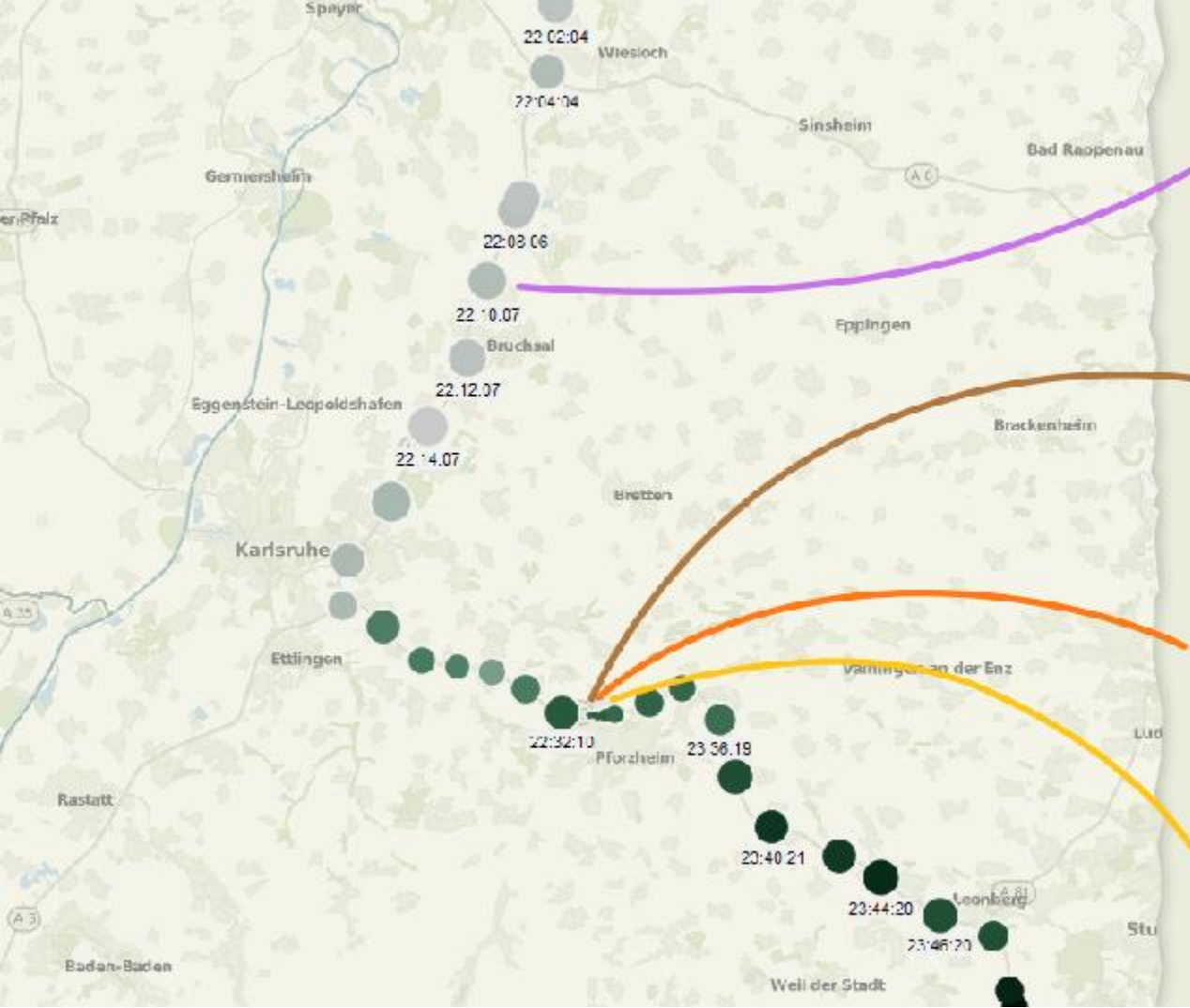












3.5m

yuxl001

 **48,5m/s - Rockin' the Autobahn!**

Druchsal

2 ❤️ 0

3m

yuxl001

 **0,1m/s - Stuck in a traffic jam :(**

Pforzheim

0 ❤️ 0

3m

yuxl001

 **Burger King: Congrats, you just got a voucher!**

Pforzheim

0 ❤️ 0

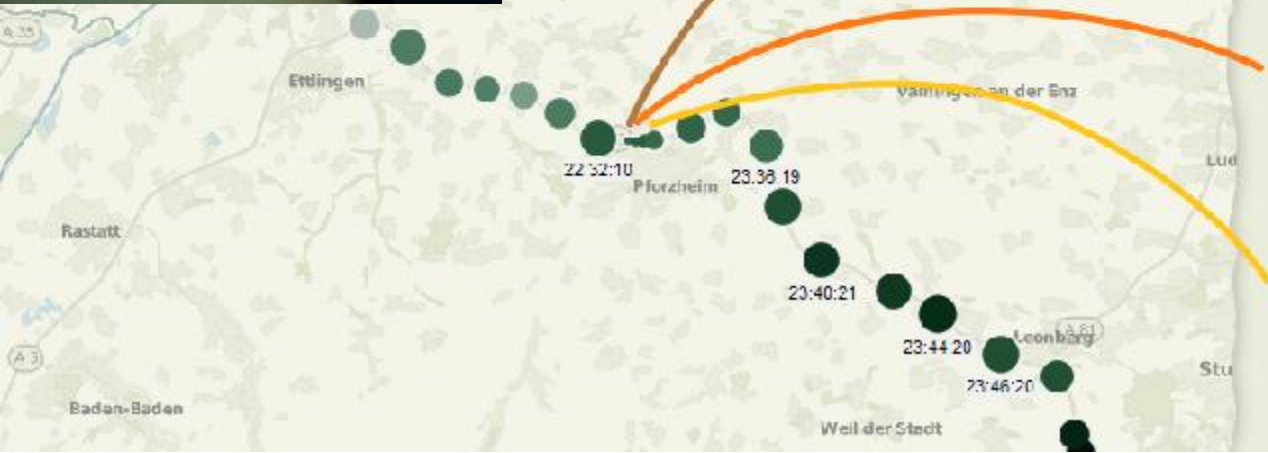
1m

KMR

 **Stehen im Stau... wird richtig spät heute.**

Pforzheim

0 ❤️ 0



35m

yux1001

 **48,5m/s - Rockin' the Autobahn!**

Dr. chsal

2  

3m

yux1001

 **0,1m/s - Stuck in a traffic jam :(**

Pforzheim

0  

3m

yux1001

 **Burger King: Congrats, you just got a voucher!**

Pforzheim

0  

1m

KMR

 **Stehen im Stau... wird richtig spät heute.**

Pforzheim

0  

Sensordata



explore may access
the following sensors:

GPS Location



Network Location



Battery status



Geomagnetic fields



Accelerometer

Probes

Authentication

Authentication is done via OAuth2. Use the e-mail and password you are using with the Explore App to authenticate.

```
curl -F grant_type=password \
-F username=yourApp@gmail.de \
-F password=yourPassword \
-F scope=user \
-X POST https://explore.datarelia.com/api/oauth/token -json
```

Output

```
{"access_token":"5df51ac0dcfb0eaf50bfff1e4dd4d0cad05e70f072f7b9e4d0ebc40e70722cb00","token_type":"bearer","expires_in":3600,"scope":"user"}
```

This access token is used in all following requests. You need to pass this token in the HTTP-Header as Authorization: Bearer token as described in self-issued.info/docs/draft-ietf-oauth-token2-bearer.html#auth-header. Wrong login credentials will produce the HTTP status code 401 - Unauthorized.

For example

```
curl -i -H "Accept: application/json" -H "Authorization: Bearer <access_token>" -X GET https://explore.datarelia.com/api/data/v1/...
```

GET /api/data/v1/probes

>>>

Get a list of probes

GET /api/data/v1/probes/:probe_type

>>>

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D A T A R E L L A

@jbenno