

apptalk.ninja

APP & DEVICE COMMUNICATION DIAGNOSTICS

“Hogyan lestünk be
az iOS hálózati forgalmába?”

Helló!

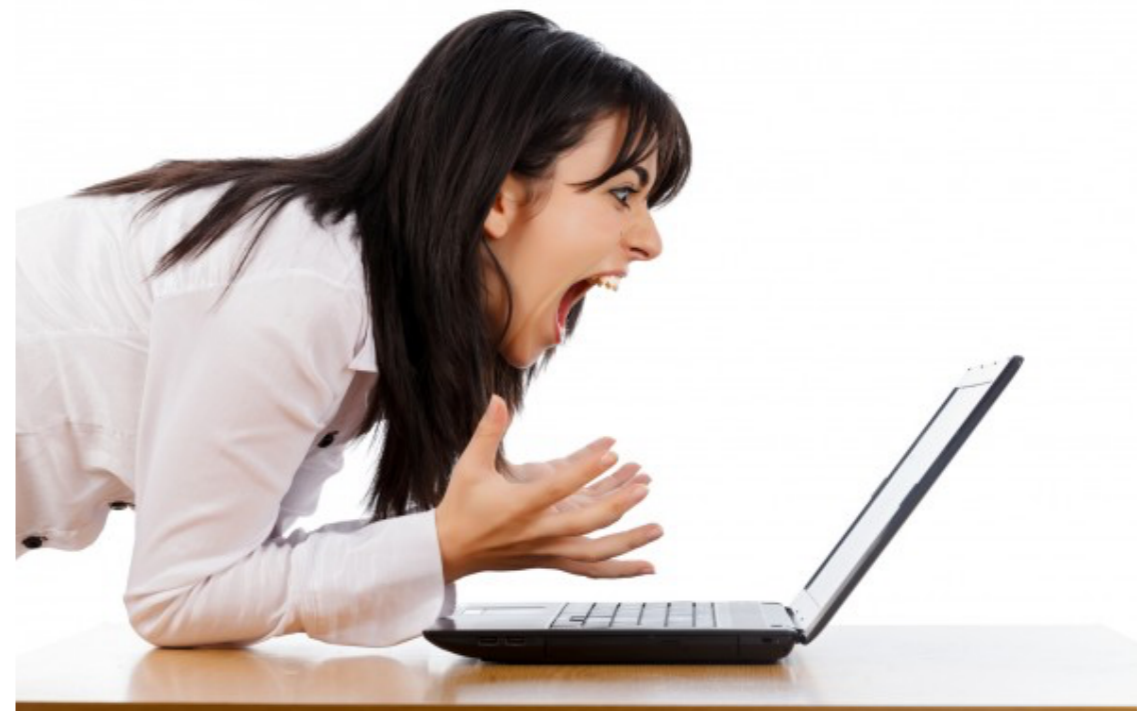
Bányai Zsolt

- CTO
apptalk.ninja
- Head of Product Development
Virgo
- kezdő Bud Spencer imitátor



Hálózati forgalom vizsgálata

- Backend developer vs. mobile developer
- 3rd party SDK vizsgálata
- Helyes működés vizsgálata
- Szerver oldali problémák vizsgálata
- Remote debug



Hálózati forgalom vizsgálata

- Bluetooth eszközökkel való kommunikáció
- iBeacon alapú fejlesztés, tesztelés
- Remote debug

42, de mi a kérdés?

- "Biztos jól küldted?"
- "Biztos jól fogadtad?"
- "Be van kapcsolva a Bluetooth?"
- "Van mobilnet?"
- "Mekkora volt a jelerősség, mikor lecsatlakozott?"
- "Mi volt a hibakód?"
- "Jó eszközre csatlakoztál?"
- "Jó a DNS beállítás?"
- "Működik az Analytics mérőkód?"
- "Küldd ez bármit hazafele?"
- "Jó volt a karakterkódolás?"
- "JSON helyett nem XML jött?"
- "Mennyi adatot forgalmaz átlagban az app?"
- "Cacheből jött a cucc?"
- "Crashelt az app, de mi volt a baj?"
- "Melyik szerverről jön a hibás adat?"

Megoldások

Hálózati forgalom



Pony
Debugger



apiary

 Runscope


WIRESHARK

Bluetooth (BLE)



apptalk.ninja

- 1 sorral működésre bírható
- kezdeményező oldalt monitorozza
- távolról ki-/bekapcsolható
- CrashLog gyűjtés
- Egyedi remote log

Using the SDK

Start the Quest

Initialize the SDK in your AppDelegate, at the beginning of application:didFinishLaunchingWithOptions:

```
[ApptalkNinja startQuest:@"84f30d2178b213802f823c78ce2247c4_10713_s01"];
```

In debug mode, that's all. You can check your received data in sessions page.



Battery

Monitoring level

CD: Debug HTTP: Debug

Dashboard

Devices

Sessions

Crashes

Tracking rules

Notifications

Settings

Bucket members

Billing

SDK

Plan: medium

Usage statistics for current period (From 27 Mar 2015)

Sessions: 1886 of 1000

Dashboard

CRASHES - MONTH / TODAY

36 / 1



HTTP ERRORS - MONTH / TODAY

0 / 0



BLE ERRORS - MONTH / TODAY

0 / 0



HTTP REQUESTS - MONTH / TODAY

173 / 0



BLE EVENTS - MONTH / TODAY

693 / 5



Crashes

36

20% OF 180 SESSIONS

Data (HTTP)

IN

99.18%

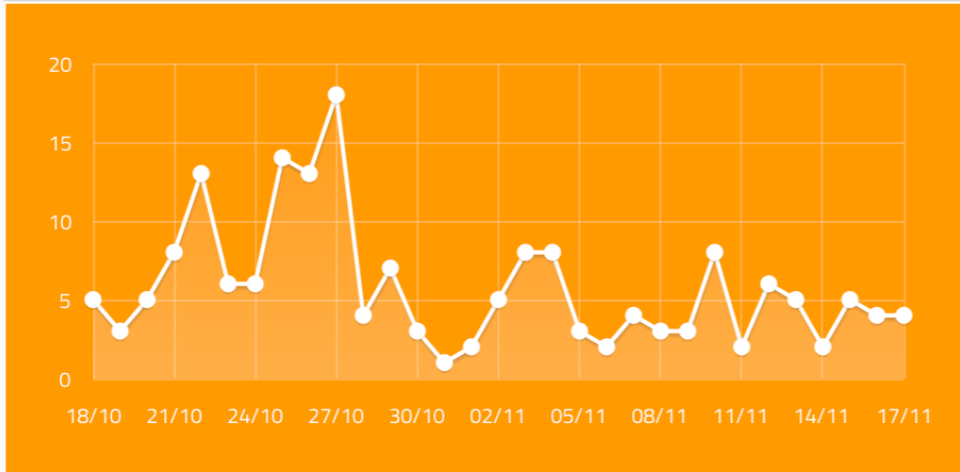
8.04MB

OUT

0.82%

68.04KB

Sessions



180

5.8

Sessions around the World



Sessions

Show entries

[Previous](#)
[1](#)
[...](#)
[75](#)
[76](#)
[77](#)
[78](#)
[79](#)
[Next](#)

| Device | App | Location | Session started ▲ | Usage | HTTP | Up | Down | ConnDev | CRASH |
|---------------|---|--------------------|-------------------|-------|------|---------|----------|---------|-------|
| iPhone 6 | Blattery STORE 1.0.4 (12) | DE, Sulzbach | 240 days ago | 1m | 0 | 0kb | 0kb | 10 | |
| iPhone 5 | Blattery STORE 1.0.4 (12) | US, Baton Rouge | 241 days ago | <1m | 0 | 0kb | 0kb | 15 | |
| iPhone 5 | Blattery STORE 1.0.4 (12) | US, Baton Rouge | 241 days ago | 1m | 41 | 14.99kb | 1.72mb | 13 | |
| iPhone 5s | Blattery STORE 1.0.4 (12) | GB, Cheetham Hill | 241 days ago | <1m | 12 | 3.95kb | 599.64kb | 6 | |
| iPhone 5s | Blattery STORE 1.0.4 (12) | CA, Mississauga | 241 days ago | <1m | 0 | 0kb | 0kb | 0 | |
| iPhone 6 Plus | Blattery STORE 1.0.4 (12) | US, Virginia Beach | 241 days ago | <1m | 0 | 0kb | 0kb | 1 | |
| iPhone 6 Plus | Blattery STORE 1.0.4 (12) | BR, Brasilia | 241 days ago | <1m | 0 | 0kb | 0kb | 1 | |
| iPhone 5s | Blattery STORE 1.0.4 (12) | US, Chicago | 241 days ago | <1m | 0 | 0kb | 0kb | 8 | |
| iPhone 5 | Blattery STORE 1.0.4 (12) | US, Baton Rouge | 241 days ago | <1m | 0 | 0kb | 0kb | 33 | |

Session details

Blattery hu.virgo.Blattery

Location: 🇺🇸 US, Baton Rouge

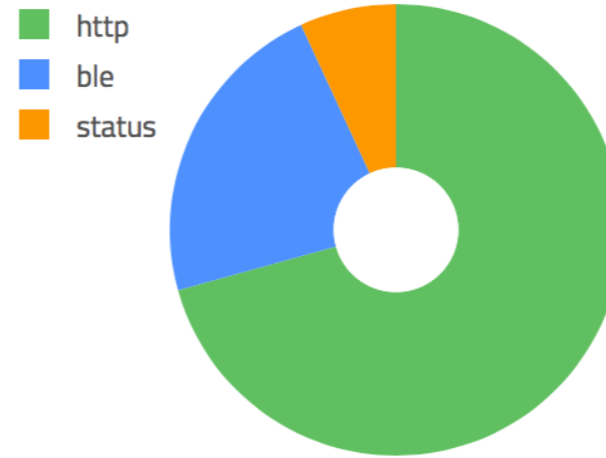
Started: Sat, 21 Mar 2015 16:38:13 +0000

Active: 1m

Events: 58

📶 14.99kb 📶 1.72mb BLE Conn 13

Session events by type



Device summary

E9FF272F-6692-4F38-90A5-2C6F4409CBF0

🇺🇸 en_US

iPhone 5 13B143

Monitoring level

BLE: Bucket

HTTP: Bucket



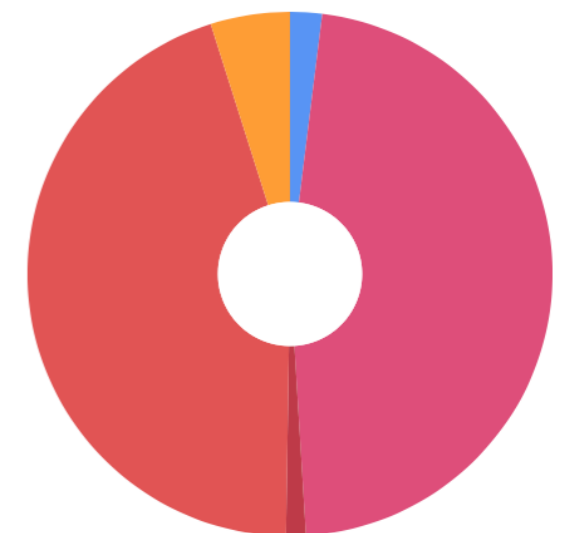
| | | | | |
|-------------------------|---|------------|------------------------------|-------------------------------|
| 2015-03-21 16:38:14 UTC | ▶ | APP STATUS | ACTIVE | |
| 2015-03-21 16:38:14 UTC | 📶 | BLE | CentralManagerDidUpdateState | OFF ▼ ● |
| 2015-03-21 16:38:20 UTC | ▶ | APP STATUS | ACTIVE | |
| 2015-03-21 16:38:23 UTC | ▶ | APP STATUS | ACTIVE | |
| 2015-03-21 16:38:23 UTC | 📶 | BLE | CentralManagerDidUpdateState | ON ▼ ● |
| 2015-03-21 16:38:23 UTC | 📶 | BLE | PeripheralDiscovered | ▼ Device: Apple TV ● |
| 2015-03-21 16:38:23 UTC | 📶 | BLE | PeripheralConnected | ▼ Device: Apple TV ● |
| 2015-03-21 16:38:24 UTC | 📶 | BLE | PeripheralDiscoverServices | ▼ Device: Apple TV ● |
| 2015-03-21 16:38:24 UTC | 📶 | BLE | PeripheralDisconnected | ▼ Device: Apple TV ● |
| 2015-03-21 16:38:32 UTC | 📶 | BLE | PeripheralDiscovered | ▼ Device: Wahoo BlueSC v1.4 ● |
| 2015-03-21 16:38:32 UTC | 📶 | BLE | PeripheralConnected | ▼ Device: Wahoo BlueSC v1.4 ● |
| 2015-03-21 16:38:33 UTC | 📶 | BLE | PeripheralDisconnected | ▼ Device: Wahoo BlueSC v1.4 ● |
| 2015-03-21 16:38:46 UTC | 📶 | BLE | PeripheralDiscovered | ▼ Device: One ● |

HTTP responses

By status code

2xx OK 38

By content-type



image/gif



Instary Instary.Instary


Location:  HU, Budapest

Started: Mon, 06 Apr 2015 10:47:44 +0000

Active: n/a

Events: 17

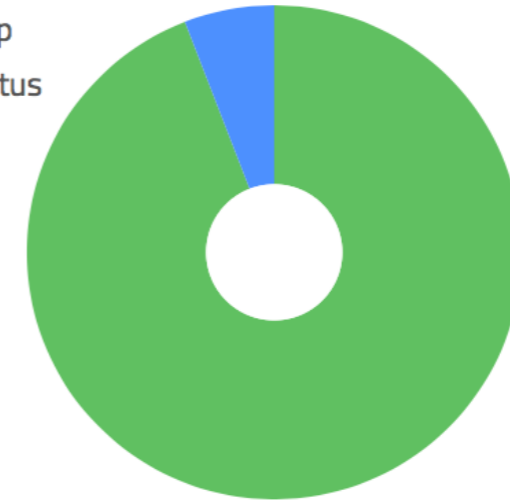
 1.95kb



100.05kb

BLE Conn



Session events by type

 http
 status



2015-04-06 10:47:45 UTC  **HTTP (#1)** ▼ [GET graph.facebook.com/v2.3/me](https://graph.facebook.com/v2.3/me) **1.5kb** 3.77s **HTTP 200** 

2015-04-06 10:47:45 UTC  **APP STATUS ACTIVE**

2015-04-06 10:47:50 UTC  **HTTP (#2)** ▼ [POST du6t015p625zb.cloudfront.net/instary/fbco...](https://du6t015p625zb.cloudfront.net/instary/fbco...) **HTTP 200** 
1.68kb 0.94s

General

Headers

Post

Response

JSON

Response body: (119b, application/json)

```
{-
  "error" : {-
    "code" : 0
  },
  "unix_ts" : 1428317272,
  "res" : {-
    "user_id" : "136",
    "email" : "vortex_32@freemail.hu",
    "nick" : "Pappa Georgo"
  }
}
```

Hogy működik?

- Hack #1: Method Swizzling
- Hack #2: Custom NSURLProtocol

Method Swizzling

- Meglévő selector implementációjának kicserélése

```
SEL originalSelector = @selector(viewWillAppear:);  
SEL swizzledSelector = @selector(xxx_viewWillAppear:);  
  
Method originalMethod = class_getInstanceMethod(class, originalSelector);  
Method swizzledMethod = class_getInstanceMethod(class, swizzledSelector);  
  
method_exchangeImplementations(originalMethod, swizzledMethod);
```

- Meghívjuk az eredeti kódot is

```
- (void)xxx_viewWillAppear:(BOOL)animated {  
    [self xxx_viewWillAppear:animated];  
    NSLog(@"viewWillAppear: %@", self);  
}
```

- az [apptalk.ninja](https://www.apptalk.ninja) kicsit bonyolultabb verziót használ

Mikor használjuk?

- Method Injection
 - minden UIViewController:viewWillAppear süssön el egy mérőkódot
- Category használatával könnyen bevezethető
- 3rd party és iOS osztályokra is alkalmazható
- Private API-t ne bolygassuk!

Saját URLProtocol

- Egyedi válaszok kezelésére
- Lokális adatok felolvasására
- User-Agent változtatásra
- Hálózati forgalom átirányítására
- Saját hálózati protokoll implementálására

`[NSURLProtocol registerClass:[MyURLProtocol class]];`

URLProtocol működése

- URLProtocol lánc (utoljára regisztrált az első)
- Ki tudjuk szolgálni a requestet?

+ (BOOL)canInitWithRequest:([NSURLRequest](#) *)request

- Ha nem passzoljuk, ha igen, miénk az irányítás
- http://, https://, ftp://, cache://, bazso://, ...
- Természetesen csak alkalmazáson belül

És ez legális?

- Privát API-t ne bánts!
- URLProtocol szabadon használható
- Voltak kétségeink :)
- Kétkelkedtünk, 1 hét alatt összedobtunk egy technológiai tesztet
- Blattery néven azóta is az AppStore-ból letölthető

| | |
|---------------|---|
| WunderbarMIC |  |
| RSSI: -62 | 60% |
| iPhone |  |
| RSSI: -40 | n/a |
| WunderbarIR |  |
| RSSI: -61 | 100% |
| WunderbarGYRO |  |
| RSSI: -69 | 100% |



Köszönöm a figyelmet!

<https://beta.apptalk.ninja>