OONI

Network-Level Internet Censorship

Simone Basso
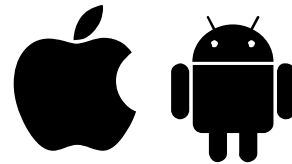**International Journalism Festival**
Perugia, 13th April 2018

OONI

**The Open Observatory of
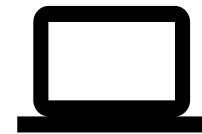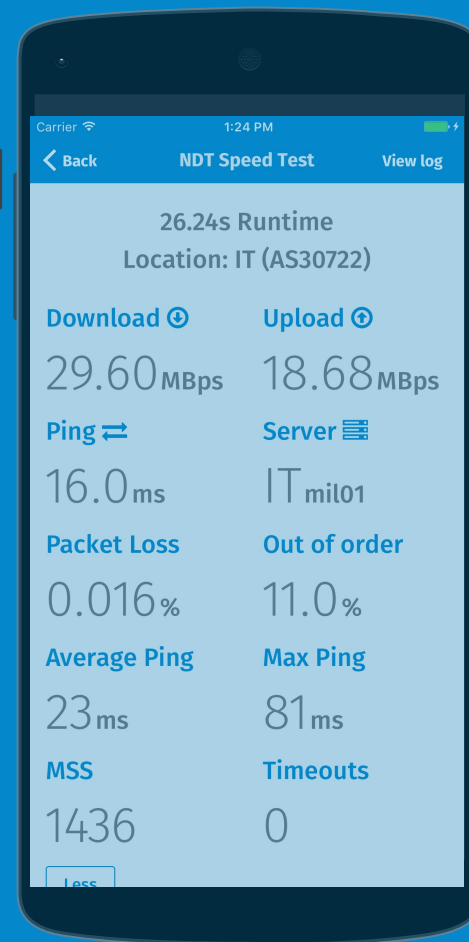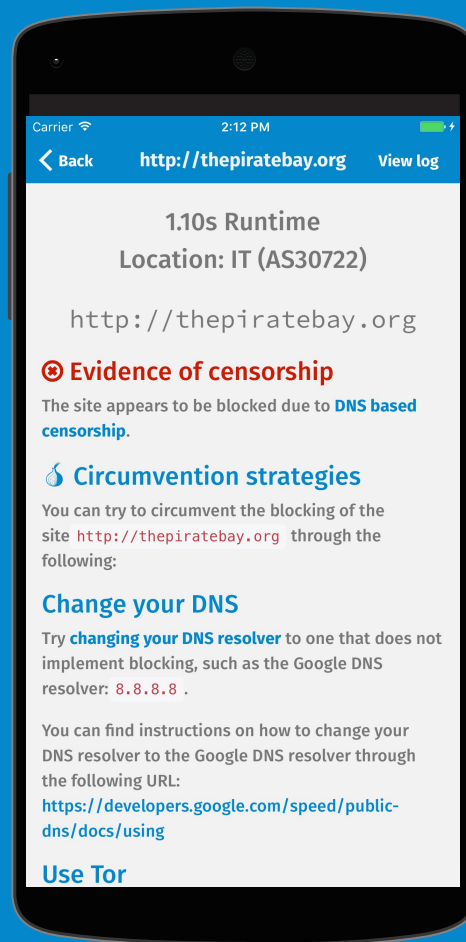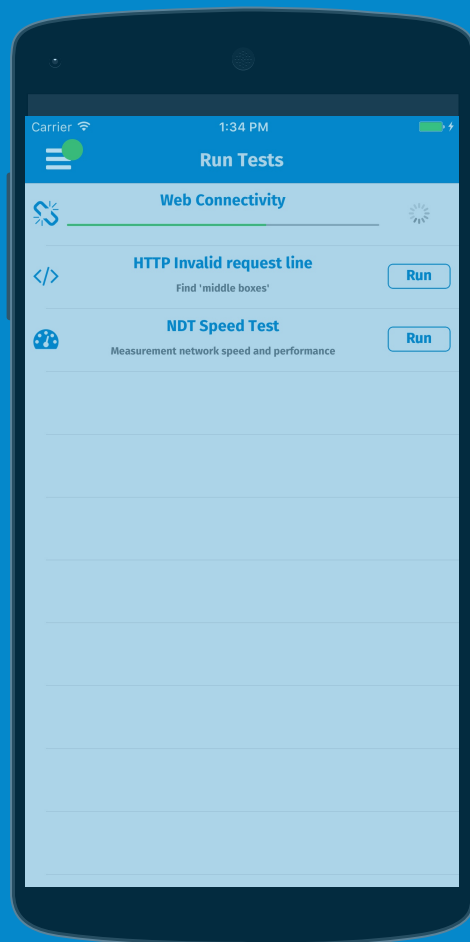Network Interference**

OONI / Probe

MEASUREMENT APP FOR

Android
iOS

macOS
Linux

Phone 1 — Run Tests

Carrier 📶 1:34 PM
Run Tests

Web Connectivity

HTTP Invalid request line
Find 'middle boxes'   Run

NDT Speed Test
Measurement network speed and performance   Run

Phone 2 — http://thepiratebay.org

Carrier 📶 2:12 PM
‹ Back   http://thepiratebay.org   View log

1.10s Runtime
Location: IT (AS30722)

http://thepiratebay.org

⊗ **Evidence of censorship**

The site appears to be blocked due to **DNS based censorship**.

💧 **Circumvention strategies**

You can try to circumvent the blocking of the site http://thepiratebay.org through the following:

Change your DNS

Try **changing your DNS resolver** to one that does not implement blocking, such as the Google DNS resolver: 8.8.8.8 .

You can find instructions on how to change your DNS resolver to the Google DNS resolver through the following URL:
https://developers.google.com/speed/public-dns/docs/using

Use Tor

Phone 3 — NDT Speed Test

Carrier 📶 1:24 PM
‹ Back   NDT Speed Test   View log

26.24s Runtime
Location: IT (AS30722)

Download ⊕   **Upload** ⊕
29.60 MBps   18.68 MBps

Ping ⇄   **Server** ▤
16.0 ms   IT mil01

Packet Loss   **Out of order**
0.016 %   11.0 %

Average Ping   **Max Ping**
23 ms   81 ms

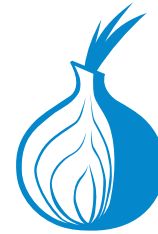**MSS**   **Timeouts**
1436   0

Less

OONI Software tests

Web Censorship

Instant Messaging Apps

Censorship
Circumvention

Middleboxes

Speed & Performance

HTTP Invalid Request Line

Control

Uncensored network

Website

DNS lookup

HTTP Request

TCP Connection

Probe network

Probe

Possible censorship

If **Control != Experiment**

OK

Web Connectivity

Measurements
- More than 100,000
- More than 10,000
- Less than 10,000

Discoveries
- Vendors identified
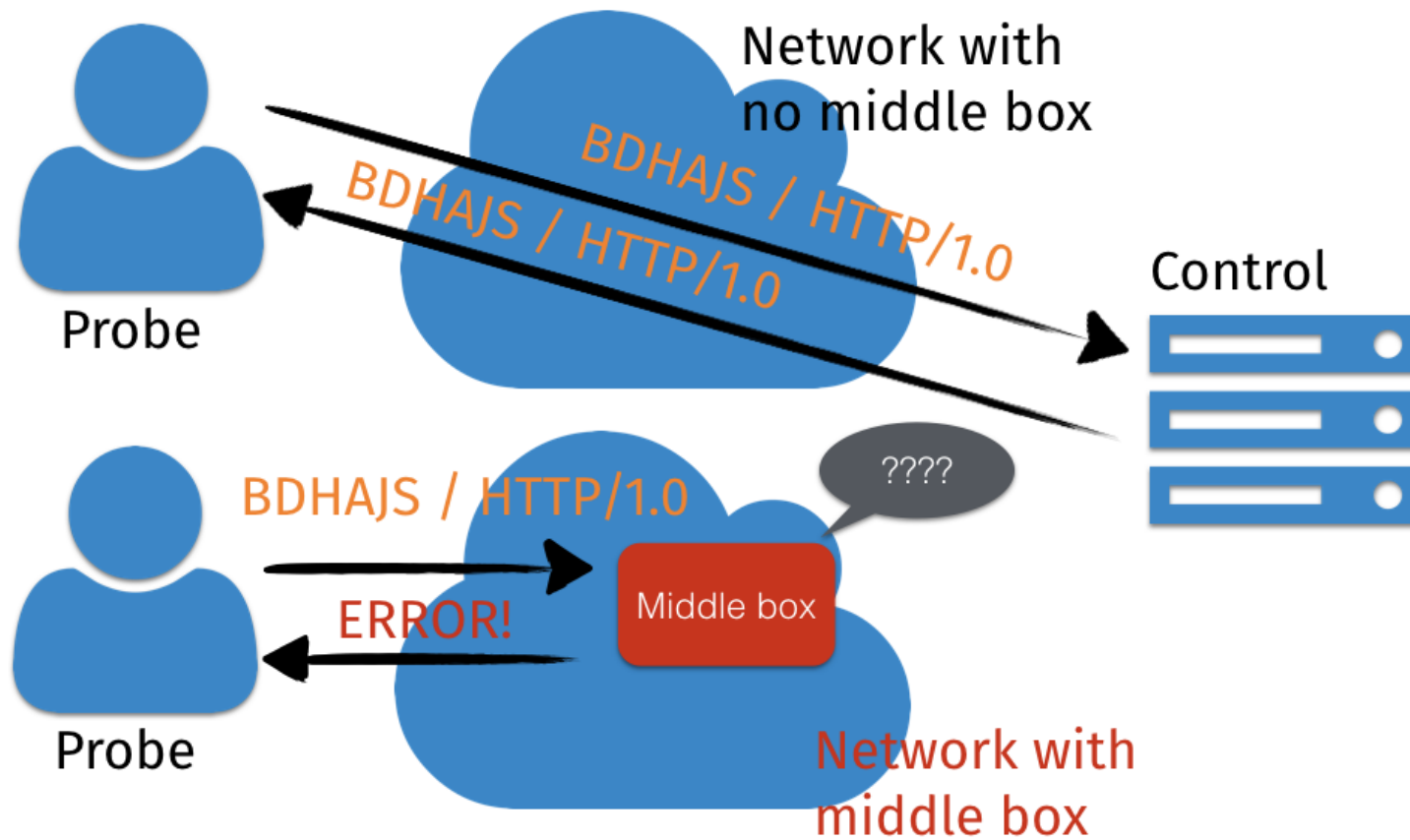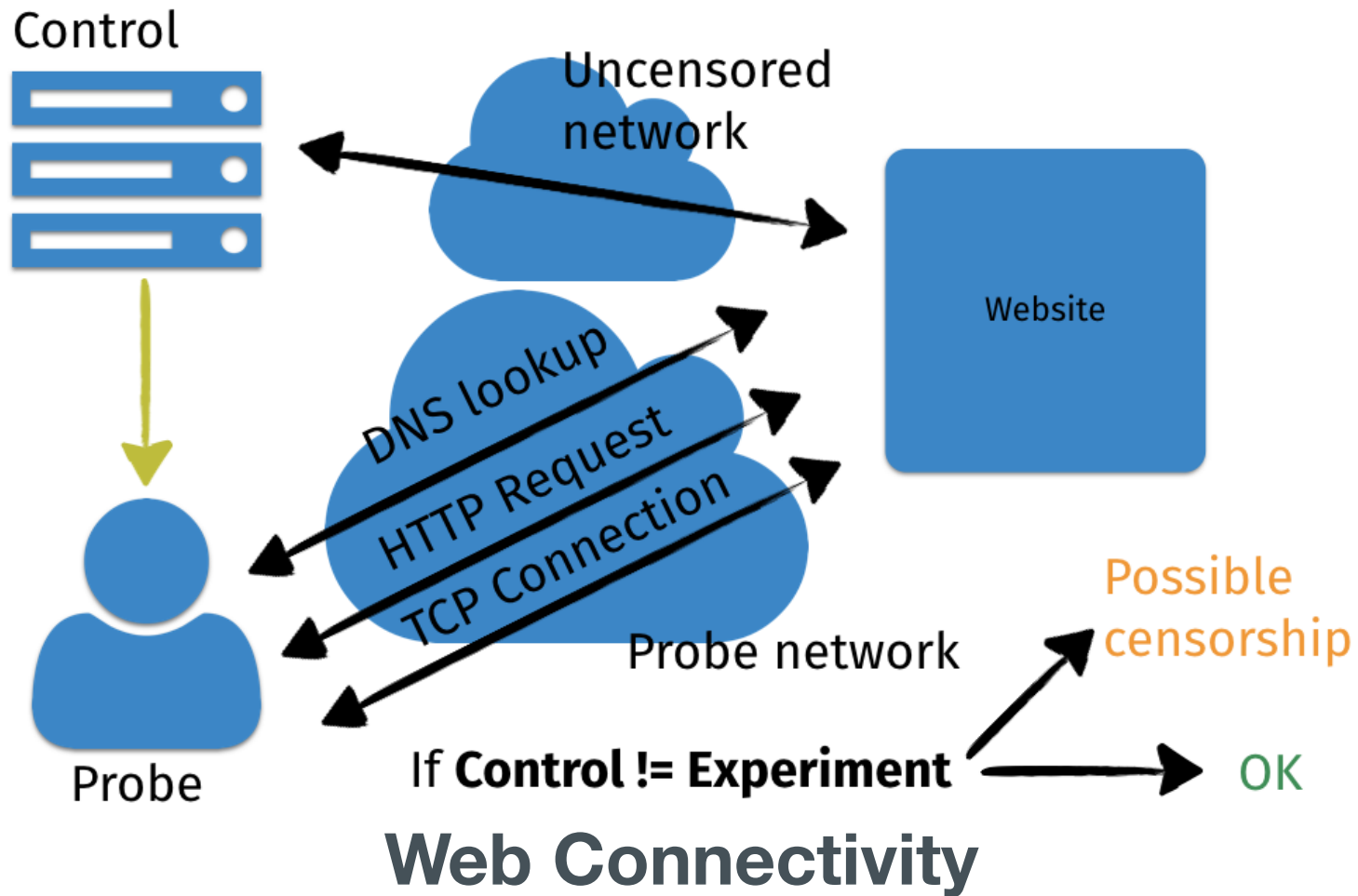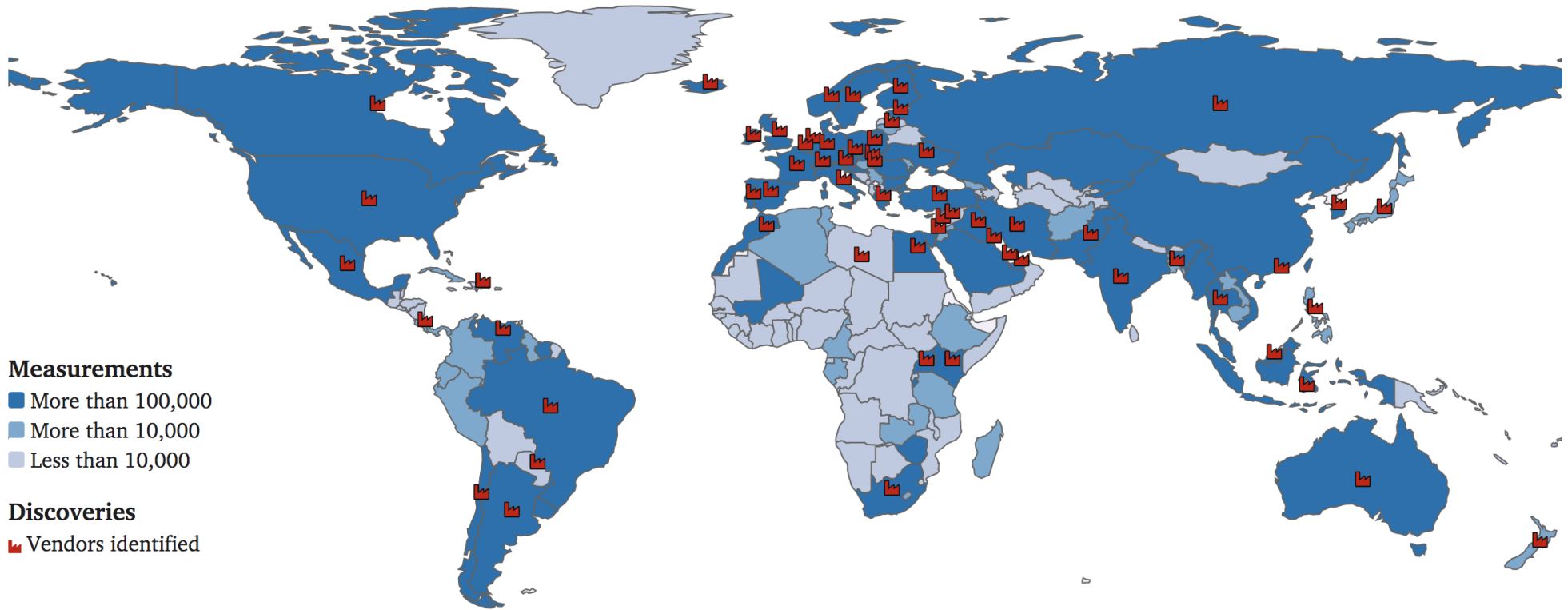
Country List

Browse countries to find the one you want to investigate measurements for

Filter Country N...

https://explorer.ooni.io

Afghanistan	**Albania**	**Algeria**
24,756 measurements	8,450 measurements	36,756 measurements

Andorra	**Angola**	**Antigua And Barbuda**
142	1,848	47

OONI | API

Welcome to the OONI API

Dynamically updated every day, the OONI API enables researchers and data scientists to analyze all data collected from OONI Probes around the world.

Download and search OONI Probe network measurements.

Join the OONI data analyst community and help uncover internet censorship worldwide!

READ THE API DOCS

Latest Measurements

ASN	Country code	Test Start Time	Test Name	
AS9121	TR	2018-01-04 21:32:10	ndt	Download
AS15895			ndt	Download
AS15895	UA	2017-12-30 01:46:11	ndt	Download
AS5438	TN	2017-12-29 11:14:18	ndt	Download
AS197207	IR	2017-12-28 16:35:15	ndt	Download
AS4818	MY	2017-12-28 01:59:24	ndt	Download

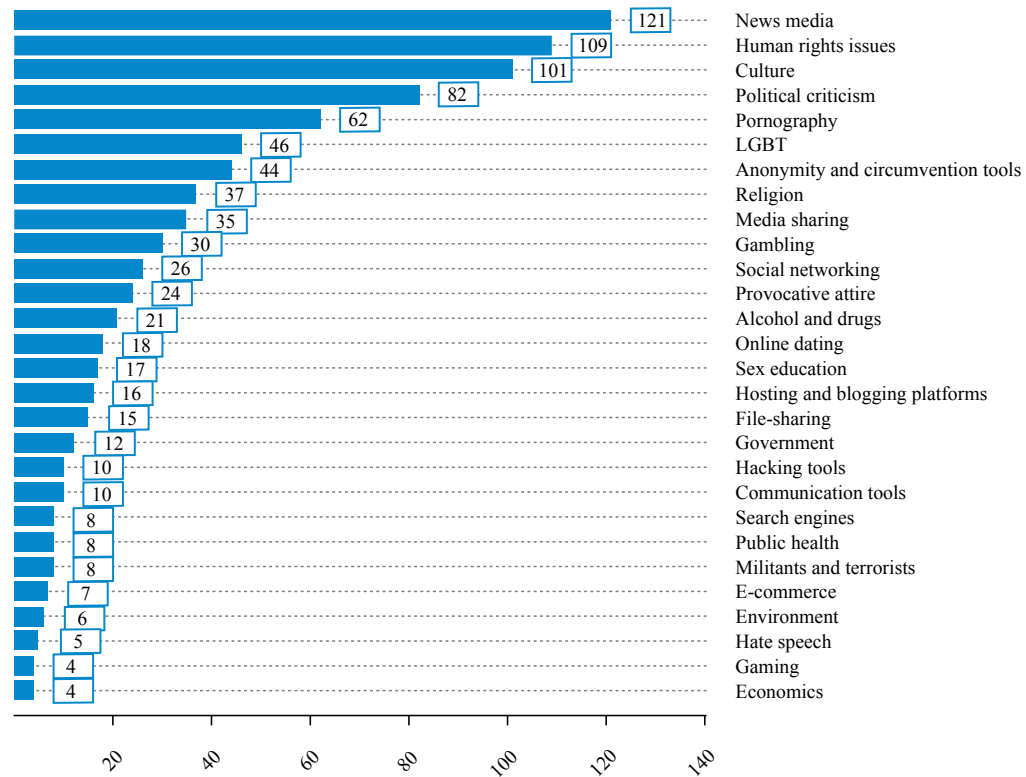https://ooni.torproject.org/post/mining-ooni-data/

At least 25 websites related to the Catalonia Independence Referendum were blocked.

The .cat registry was raided and forced to take down many websites.
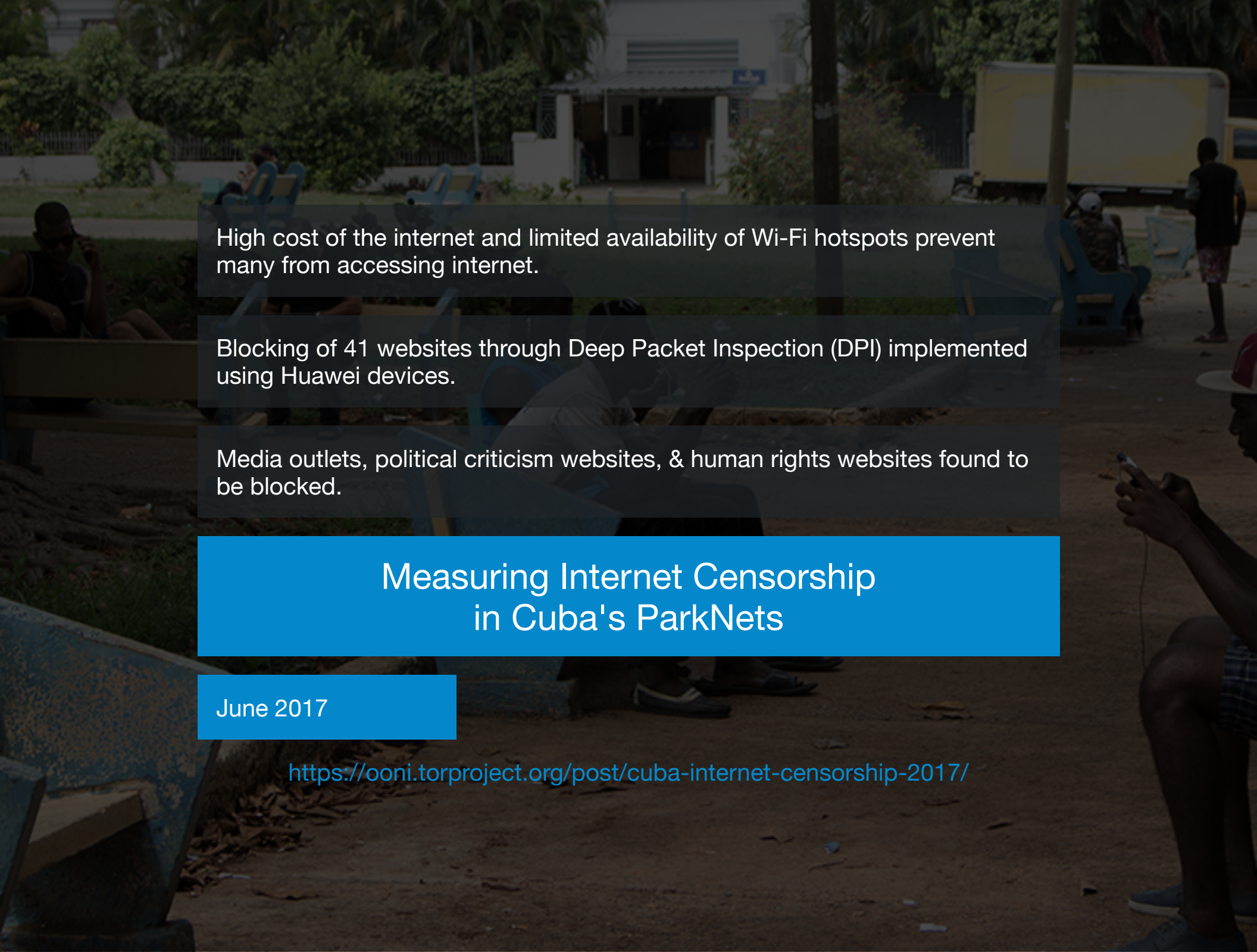
Spain

October 2017

https://ooni.torproject.org/post/internet-censorship-catalonia-independence-referendum/

Blocked domains in Iran
From 2014 to 2017

September 2017

https://ooni.torproject.org/post/iran-internet-censorship/

High cost of the internet and limited availability of Wi-Fi hotspots prevent many from accessing internet.

Blocking of 41 websites through Deep Packet Inspection (DPI) implemented using Huawei devices.

Media outlets, political criticism websites, & human rights websites found to be blocked.

Measuring Internet Censorship in Cuba's ParkNets

June 2017

https://ooni.torproject.org/post/cuba-internet-censorship-2017/

THANK YOU!

- https://ooni.torproject.org/
- https://explorer.ooni.io/

Contacts

- https://slack.openobservatory.org/
- contact@openobservatory.org