

Silent Protest

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Party like a
Hacker



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Richard Redditt
Jonathan Brossard

A DJ with long, light-colored hair and a floral shirt is seen from behind, operating a DJ mixer and turntables. The scene is set on a hilltop at sunset, with a city skyline visible in the distance. A group of people is gathered around, some with their arms raised. A large, semi-transparent dark blue circle is overlaid on the right side of the image, containing white text. The DJ's equipment includes a laptop displaying DJ software, a mixer, and two turntables. The background features a city skyline with a prominent tower on the left and a body of water on the right.

Freedom to
**create art and
share it with
your friends** is
not a given
worldwide.
Let's help enable
it.



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Demo
Party like a hacker



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We bring the party

Silent Protest

#PartyTime #SilentProtest

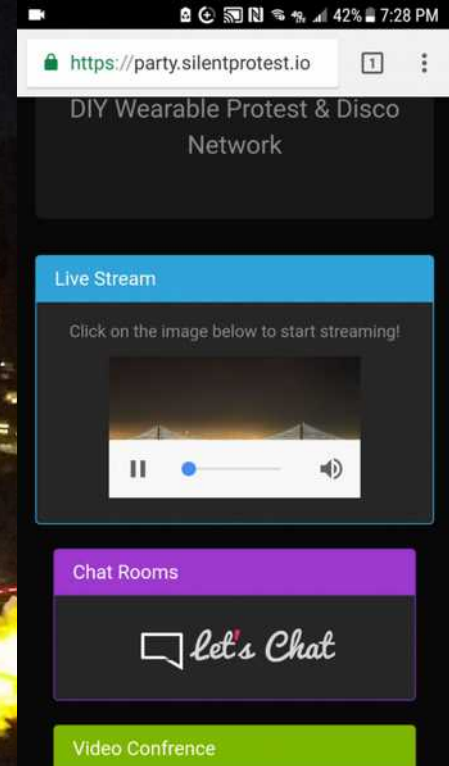
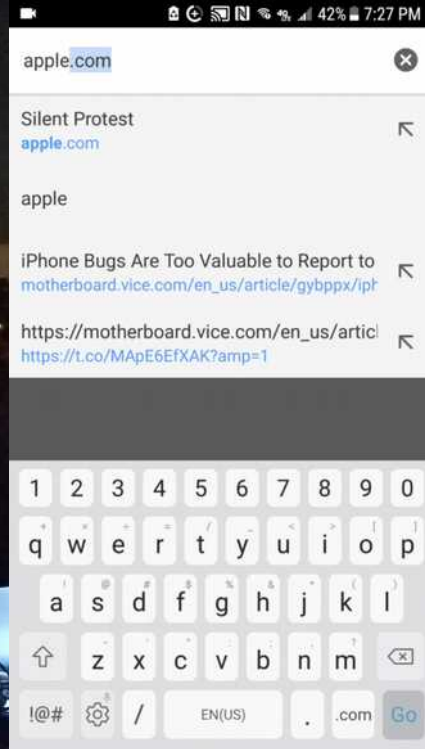
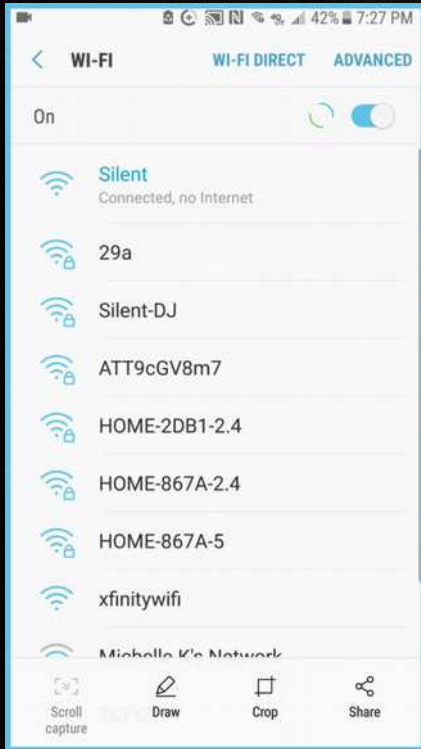
Join the party

**Join the party by joining the open wifi
network (ssid:Silent)
and opening the following url:
<http://party/>
Live streaming, DJ is on stage.**

Party like a Hacker
<https://silentprotest.io>



We bring the Party : Silent Disco



Agenda

Silent Protest



- Team
- Motivation
- Vision
- Implementation
- Future work
- Contribute



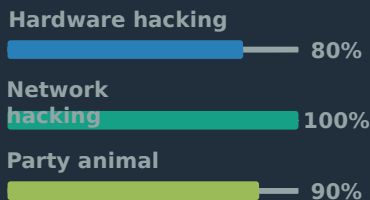
Team

Team

Silent Protest



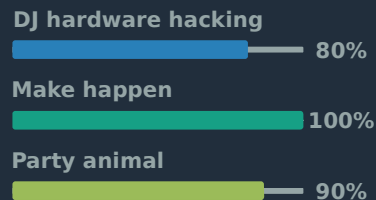
Ian Foster
@lanrat



Jonathan Brossard
@endrazine



Richard Redditt



Sean Murphree

Thanks for solving the energy problem of our first prototype thanks to lead batteries transformed to 24V AC.

Problem solving

100%

Lead battery hacking

75%

DJ skills

100%

Badassness

100%

DJ friends

For allowing us to experiment our ideas. For not minding playing in awful conditions (seating on the floor, in the wind, in the cold, playing with delays, etc).

Thanks to the team that supported this project and to our friends who came test it.

Justin

Thanks for helping solve all the logistics problems . So much energy !

Logistics

99%

Energy

102%

Party in the cold

80%

Support

100%

Party beasts

90%

Friends and colleagues

Thanks for beta testing our setups and being forgiving...

Thanks to the team that supported this project and to our friends who came test it.

AMNESTY

INTERNATIONAL

REPORT 2010

**THE STATE OF THE WORLD'S
HUMAN RIGHTS**

Motivation

Reporters without Borders

2016 World Freedom of Press Index

10

"climate of fear and tension combined with increasing control over newsrooms by governments and private-sector interests."

"2016 was the year when the cynical use of 'us vs them' narratives of blame, hate and fear took on a global prominence to a level not seen since the 1930s. Too many politicians are answering legitimate economic and security fears with a poisonous and divisive manipulation of identity politics in an attempt to win votes".

Amnesty International

State of the World Human Rights 2016 report

<https://www.amnesty.org/en/latest/news/2017/02/amnesty-international-annual-report-201617/>

<https://rsf.org/es/node/31331>

Iran

“The authorities heavily suppressed the rights to freedom of expression, association, peaceful assembly and religious belief, arresting and imprisoning peaceful critics and others after grossly unfair trials before Revolutionary Courts.”

Turkey

“An attempted coup prompted a massive government crackdown on civil servants and civil society. Those accused of links to the Fethullah Gülen movement were the main target. Over 40,000 people were remanded in pre-trial detention during six months of emergency rule. There was evidence of torture of detainees in the wake of the coup attempt. Nearly 90,000 civil servants were dismissed; hundreds of media outlets and NGOs were closed down and journalists, activists and MPs were detained”

Source: Amnesty International

<https://www.amnesty.org/en/documents/pol10/4800/2017/en/>

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Vision

Network

Silent Protest

Portable

Stealth

Redundant

Extensible

M

Outdoor parties

Carry the party with you in public locations where public gatherings are permitted.

N

Silent Discos

No unreasonable disturbing noise annoyance.
Stream multiple DJs at the same time.

C

Protests

Carry a concealed IP network at peaceful protests. Phones in airplane mode joining the network over wifi evade IMSI catchers

F

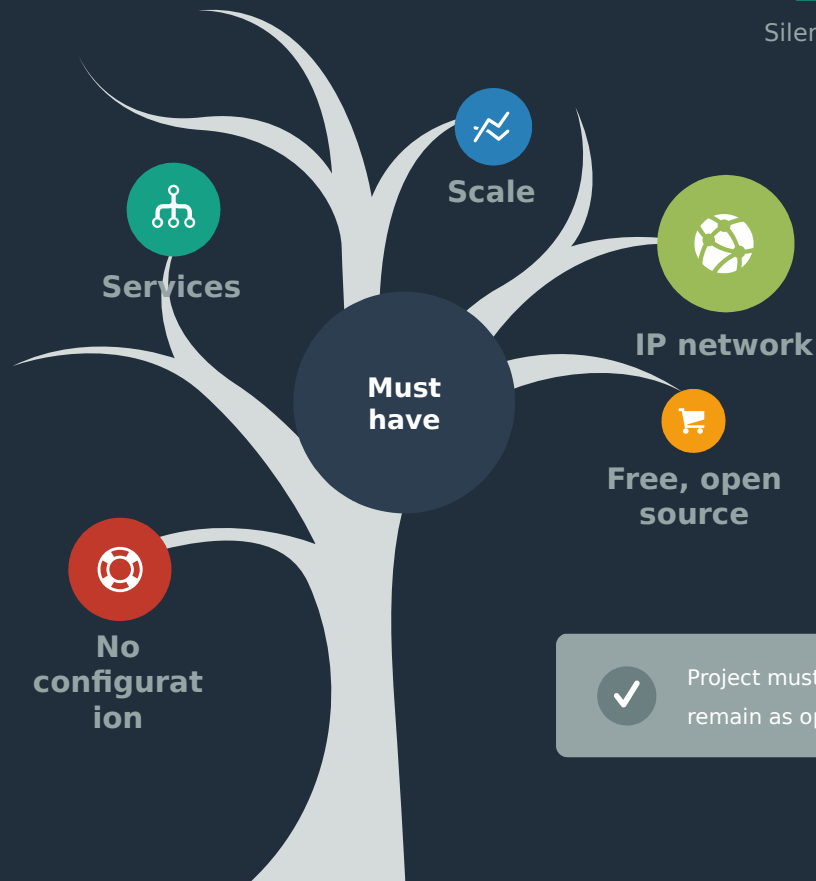
Art

Performances

Support art performances by providing a core set of broadcasting services (audio/video/images/text/ch

Enable art/performances via technology

Silent Protest



Let's build this

A portable IP network for arts sharing and live performances.

Let's use our right to create and share peacefully.



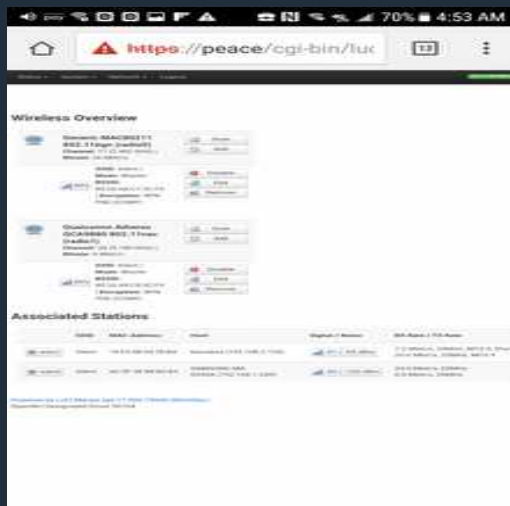
Project must be affordable, favor the use of open source hardware and software alike, and remain as open as possible to contributions.

Vision



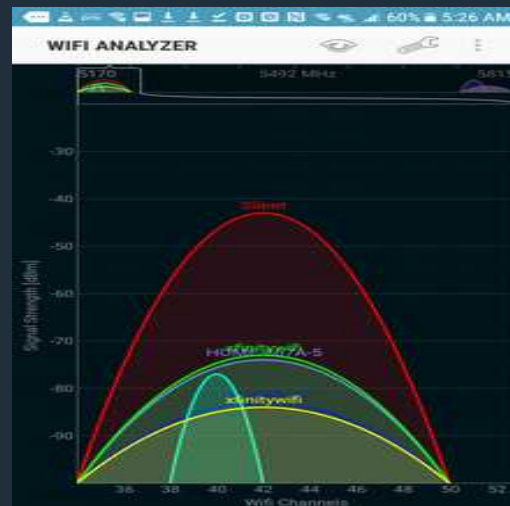
**Live
broadcast**

Over IP



**Chat/
Videocall**

Complex
services

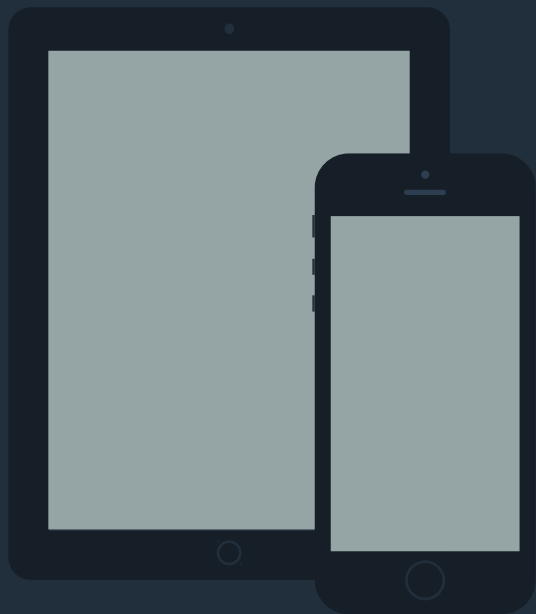


**Bring your
Own**

Other services

Requirements

Silent Protest



Offline wifi network

Portable gigabit dual band
2.4/5GHz
200 clients / AP.



Network encryption

SSL/TLS encrypted traffic



Adaptable power

Setup can be powered via a power outlet, portable Lithium/Ion, or car (lead) batteries..



Music streaming

Live streaming in mp3 at 128kbps via icecast2



Use browser as client

Configurationless, url redirect via DNS of all traffic. Read mp3 from all major browsers.



Video conferencing

Hosted IP services, including video conferencing.

Party like a Hacker

<https://silentprotest.io>

大容量鋰離子可充電電池
Super polymer lithium-ion battery

型號 (MODEL): **DC 1298A**

輸入電壓 (INPUT): 12.6VDC

輸出電壓 (OUTPUT): 12.6-10.8VDC 9800mAh

注意: 電池處置不當可能會導致燙傷或零件起火等危險:

- 請勿嘗試自行打開或拆解電池組件
- 切勿輕置於火、熱度、穿刺、短路電池或投入火中。
- 或置於不潔或高於60°C(140°F)的環境中
- 嚴禁將電池的兩端直接短接電池

Warning: To reduce the risk of fire or burns

- Do not attempt to open, disassemble or service the battery pack.
- Do not crush, puncture, short external contacts or dispose of in fire or water above 60°C (140°F)
- Replace only with the battery pack designated for the product.



Implementation

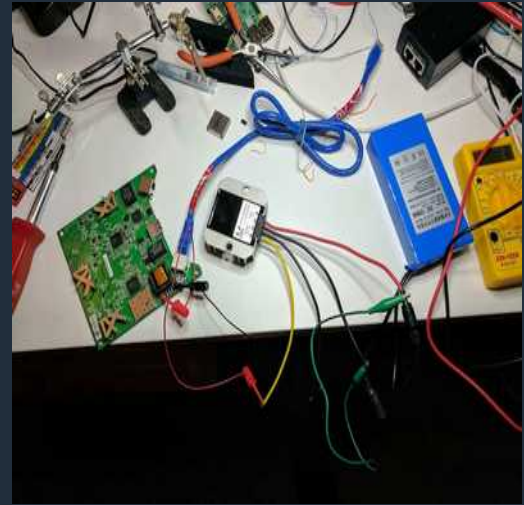
Hardware



Access point Unifi AP AC Pro



Streaming server Raspberry Pi 3



Battery Lithium-Ion

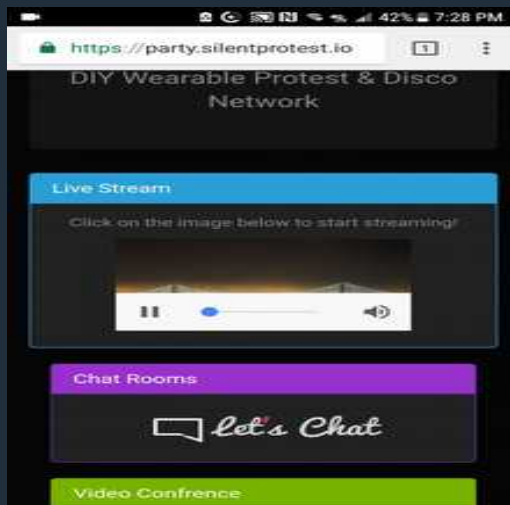
Software

```

server_description
  Silent Streaming
server_name
  Silent Stream
server_type
  audio/mpeg
server_url
  http://silentprotest.io
slow_listeners
  2
source_ip
  127.0.0.1
stream_start
  Sat, 11 Mar 2017 09:44:01 +0000
stream_start_iso8601
  2017-03-11T09:44:01+0000
title
  JILL M
total_bytes_read
  11260200
total_bytes_sent
  6485830
  
```

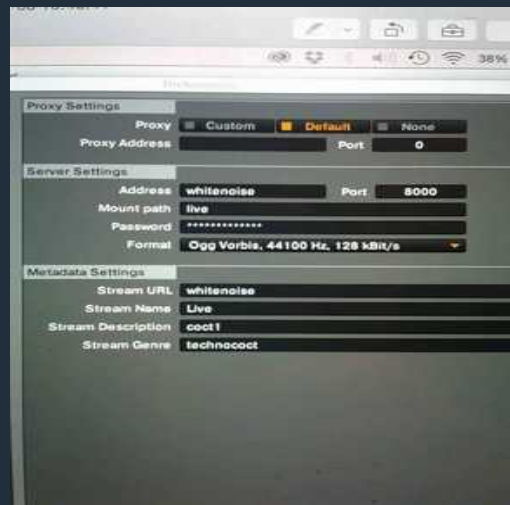
Streaming

Icecast2 (mp3)



Chat

Complex
services



Broadcasting

Mixxx/Traktor compatible

Portable, scalable wifi network

Silent Protest



Gigabit IP network



2,4/5GHz Gigabit Access points (\$120)

Offline network = no internet fees

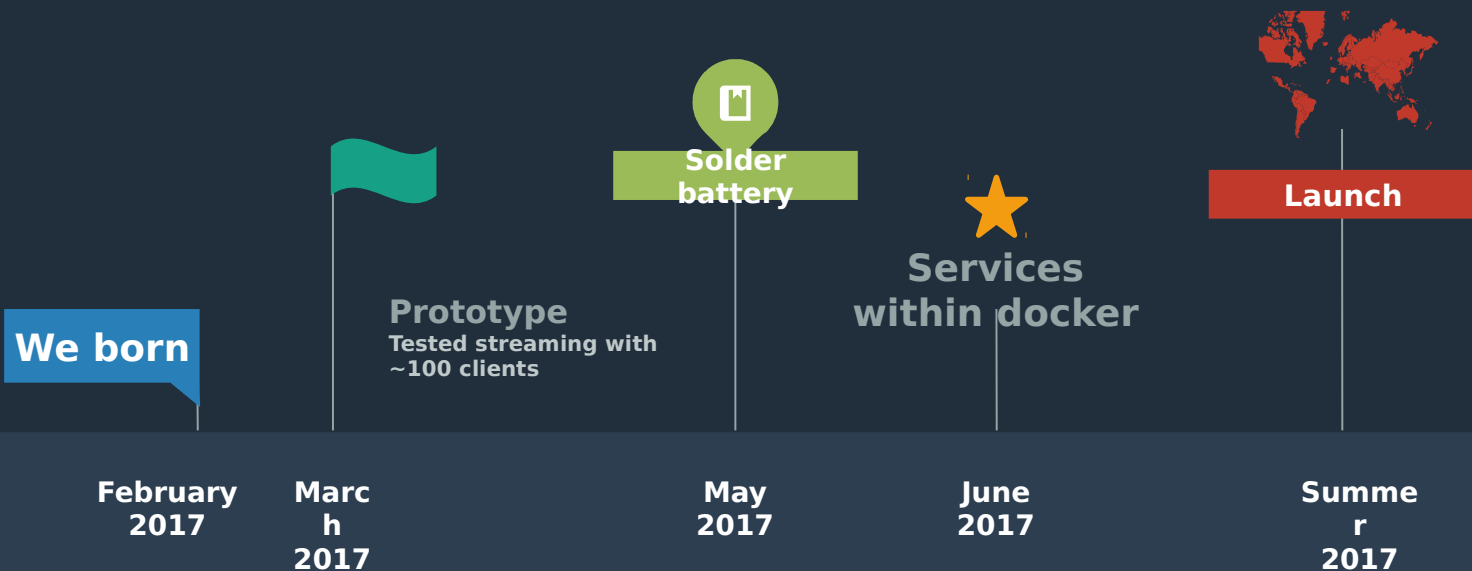


200+ clients per AP, streaming at 128Kbps

Scalable wifi meshing over 802.11r

Scalable gigabit wifi networks have become affordable. We use OpenWRT to reflash all of our access points. OpenWRT now supports 802.11 ac/g/n, 802.11k (required for dual band use in the 5GHz band), and 802.11r for meshing access points over wifi.

Project Timeline



The first prototype was built in a couple of weeks.

Solving the energy problem (moving from lead to Li-Ion batteries) was a major achievement.

We restarted from scratch with a better service oriented architecture based on docker containers.

Silent Protest is being launched during Summer 2017.

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<https://silentprotest.io>

Features

Silent Protest



Wifi

Portable dual band
2,4/5GHz
gigabit offline network.



Streaming

Live DJs and pre-
recorded sets music
streaming



Video conferencing

Live video chat service.



File sharing

Full featured IP
network.



Open Source

Source code available at
<https://github.com/SilentProtest>

build, hack, rave

Party like a Hacker
<https://silentprotest.io>

Previous Prototypes



Lead Battery Heavy as lead



Glitter box San Francisco
camouflage



Cardboard Ghetto



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Demos

Demos

Silent Protest



Live demos and video recordings of large outdoor experiments.



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Future work

Future work

Protests: surviving arrests, partial shutdowns



► Decentralized services

Decentralized services (streaming, video, chat, ...) are capable of surviving shutdown of part of the server pool without loss of information.

► Mesh wifi (802.11r)

Enabling 802.11r wifi on the OpenWRT Access Points facilitate scaling a network to thousand of participants, enhances coverage, and helps survive partial shutdowns.

► Redundancy

Redundancy is key to ensuring availability of all data at all time..

► ipv6

Leveraging ipv6 for network configuration should help get rid of dhcp and other centralized services.

► Wearable network

Increase portability and stealthness through better fashion & design.

Get involved, join the Silent Project community

Visit <http://silentprotest.io> or contribute to the source code from <https://github.com/SilentProtest>

Party like a Hacker
<https://silentprotest.io>



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contribute

Source code available at
<https://github.com/SilentProtest>