Invest in the future: build for the web!

Soledad Penadés
@supersole

Apps Engineer, Mozilla

Some time before...

Android

“You can earn a living with Android apps”

Photography apps

Faster than stock app

- Less clunky
- Hardware buttons
- Silent

Image filters

- Image processing
- Push limits of hardware
- Do it realtime

Good feedback, but...

- Lots of untestable hardware issues
- Can’t buy all those phones!
- Where’s the iOS version?
- And Blackberry?
- Windows?
- MacOS? (I was running *Linux*!)

Interactive picture books start-up

- Mac OS authoring environment
- XML format that contained text, assets, transition/interaction data
- Engine: iOS, Android

Layout was DIFFICULT

- No preview...
- ... or differs from actual results (1+ minute deploy times)
- Complex layouts ... actually used a `WebView`!
- Native animations limited
- Jank
- Spending inordinate amounts of time in the profiler
- Jank!
- Cargo cult optimisations
- JANK!
- Testing—LOL

Bad habits, deeply ingrained

- Treating different sizes as an exception not a norm
- Assets sized for iPad 1
- Fun fun fun when retina iPads were introduced

One day I woke up and wondered...

why is this not HTML+JS+CSS?

“... because the web is not ready yet...”

“... you can’t have smooth animations and audio in the browser...”

OK

Contracting for local newspaper

We basically built a glorified RSS reader.

- Layout kept getting more complex.
- Again lots of `WebViews`.
- Scripted actions in articles using JavaScript.
- Nested views limit, but NOT ALL devices had that error.
- Hey, so... **what about a total rewrite of this less than two years app?**

One day I woke up and wondered again...

why is this not HTML+JS+CSS?

"... because the web is not ready yet..."

"... you can't store offline data..."

"... you can't have push notifications..."

A-ha.

One day I was updating the company website and opened DevTools to live edit it

I had an epiphany

We’re recreating browsers again and again because...

“the web is not ready”

Enough is enough.

I’m out of this madness, and back to the web.

Back with a vengeance

Two sides of the fence

- Upsides vs downsides
- Teach about upsides
- Work in fixing the downsides!
- So...

I joined Mozilla

We want YOU to build for the web

Why build for the web?

- It's the only non proprietary platform. *No one* owns it.
- The closest to *Write Once Run Everywhere* you'll ever get.
- Using standards === higher chance it'll work in the future
- Fragmentation is not an issue, it's business as usual.
- Widens your base of customers.
- Lowest development costs.
- It's *everywhere* ... even in e-books, TV set top boxes, GPS trackers, mobile native via `WebKit` views, native via PhoneGap, Ludei, AppCelerator..., desktop environments (GNOME 3), Mac OS scripting...

We helped unlock desktop browsers from monopoly

We’re doing the same in mobile with Firefox OS

New APIs

- Network Information
- Bluetooth
- Mobile Connection
- Network Stats
- TCP Socket
- Telephony
- WebSMS
- WiFi Information
- Ambient Light Sensor
- Battery Status
- Proximity
- Device Orientation
- Screen Orientation
- Vibration
- Alarm
- WebFM
- Camera
- Power Management
- FileHandle
- Contacts
- Device Storage
- Settings
- Alarm
- Simple Push
- Web Notifications
- Web Activities
- WebPayment
- Browser
- Idle
- Permissions
- Time/Clock

Prefixed API implementations

It’s the testing ground

Submitted to standards track

To help shaping standards, not to build a proprietary OS in JS

Existing APIs→ efficient mobile implementations

Existing APIs

- WebGL
- Web Audio
- WebRTC
- Geolocation
- Pointer Lock
- IndexedDB

Over two billion people still don’t have access to the Internet

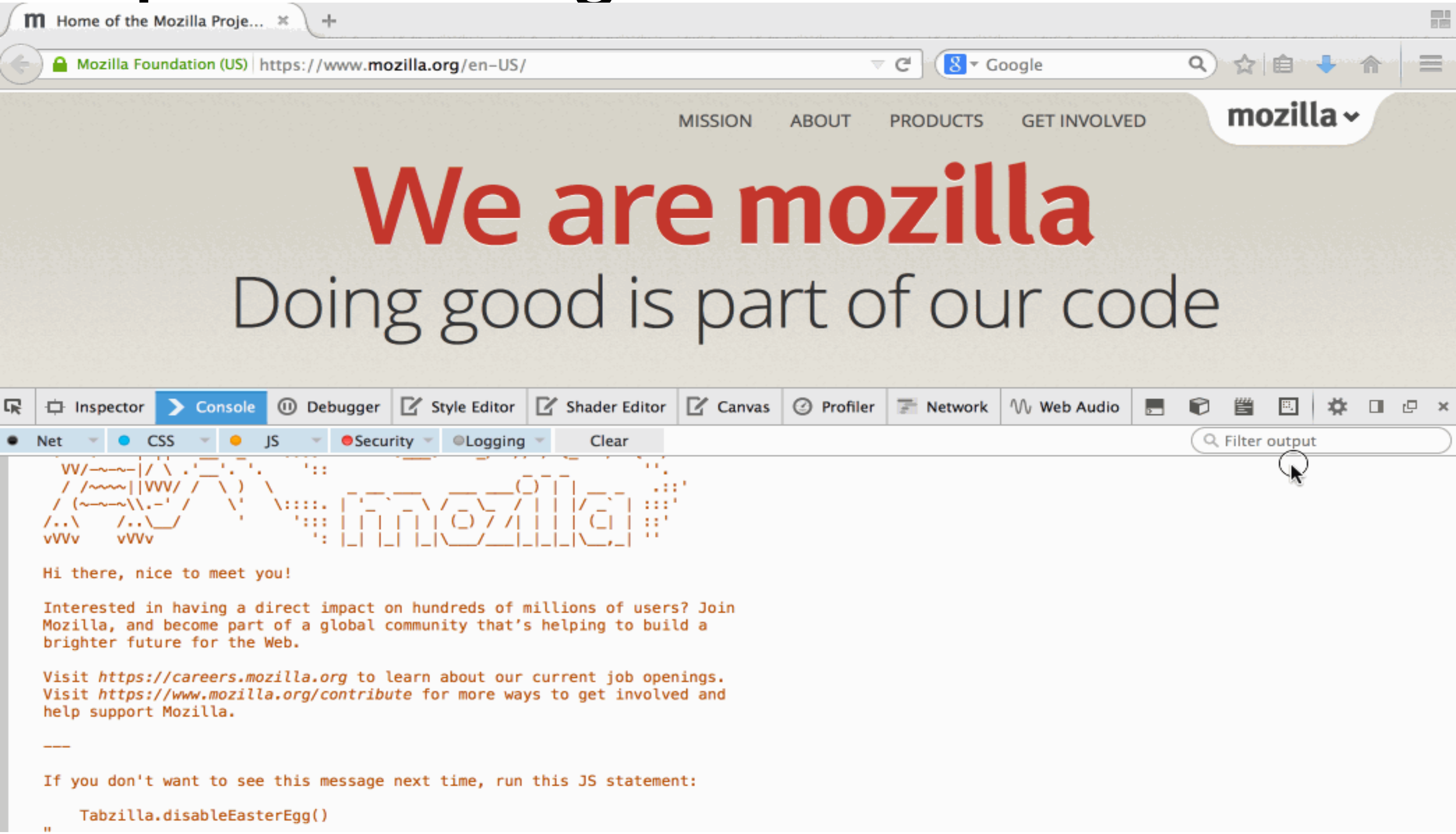
2,000,000,000+

$25 phone

Better tooling

The Web is more than documents today

Responsive design mode



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 Hi there, nice to meet you!

 Interested in having a direct impact on hundreds of millions of users? Join
 Mozilla, and become part of a global community that’s helping to build a
 brighter future for the Web.

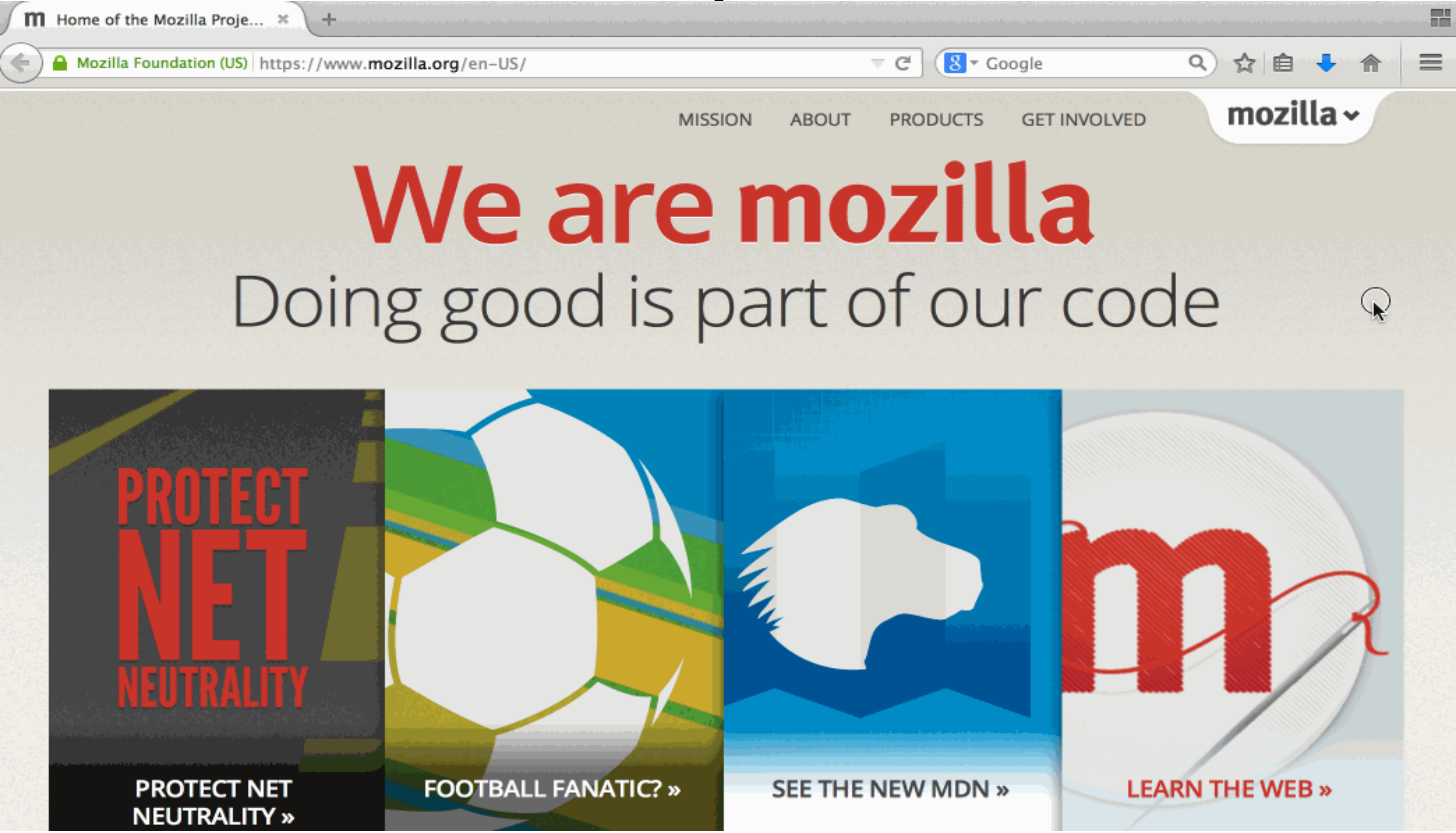
 Visit https://careers.mozilla.org to learn about our current job openings.
 Visit https://www.mozilla.org/contribute for more ways to get involved and
 help support Mozilla.

 ---

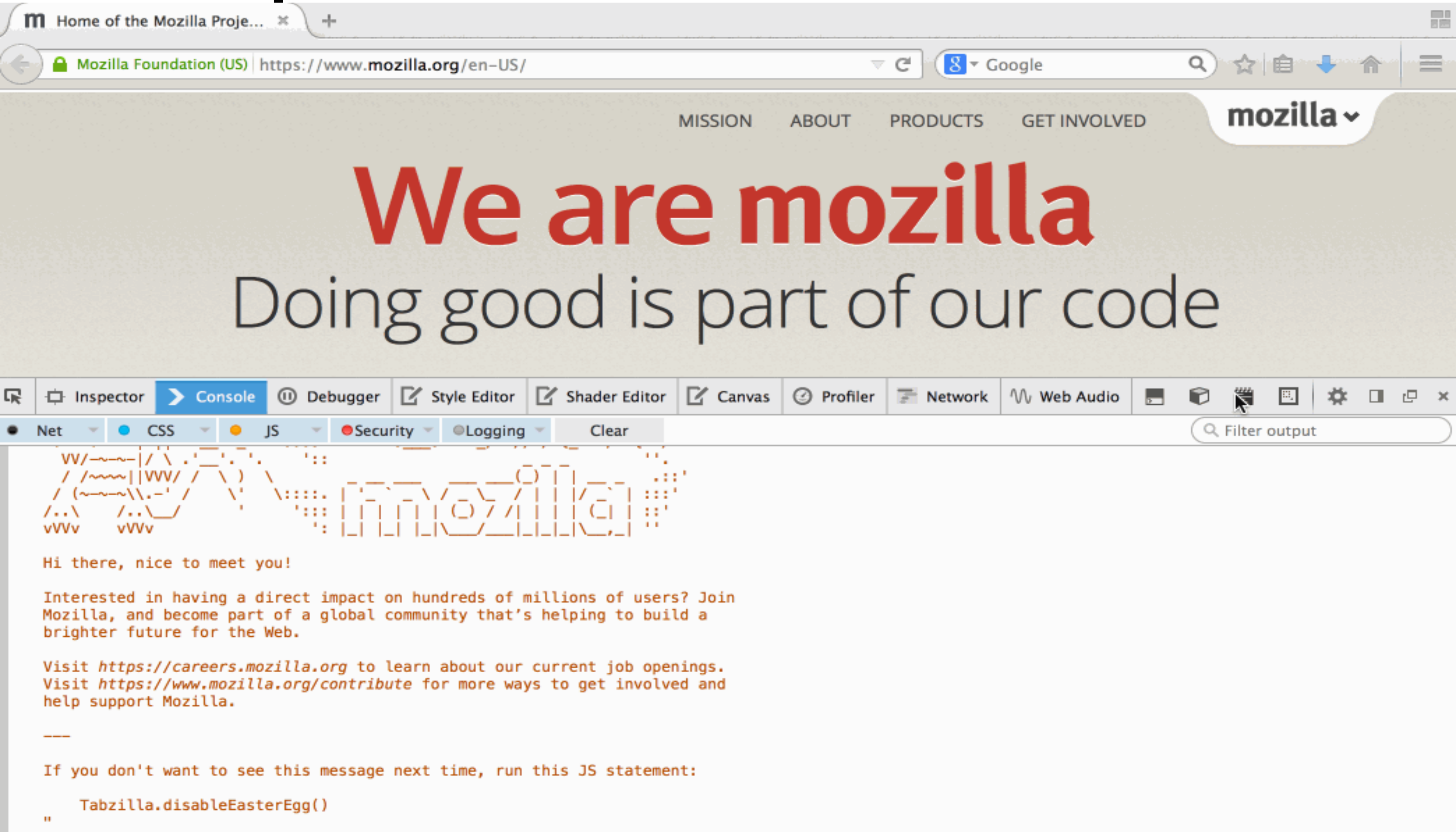
 If you don't want to see this message next time, run this JS statement:

     Tabzilla.disableEasterEgg()
 "
```

Network + cache inspector



Scratchpad



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 ---

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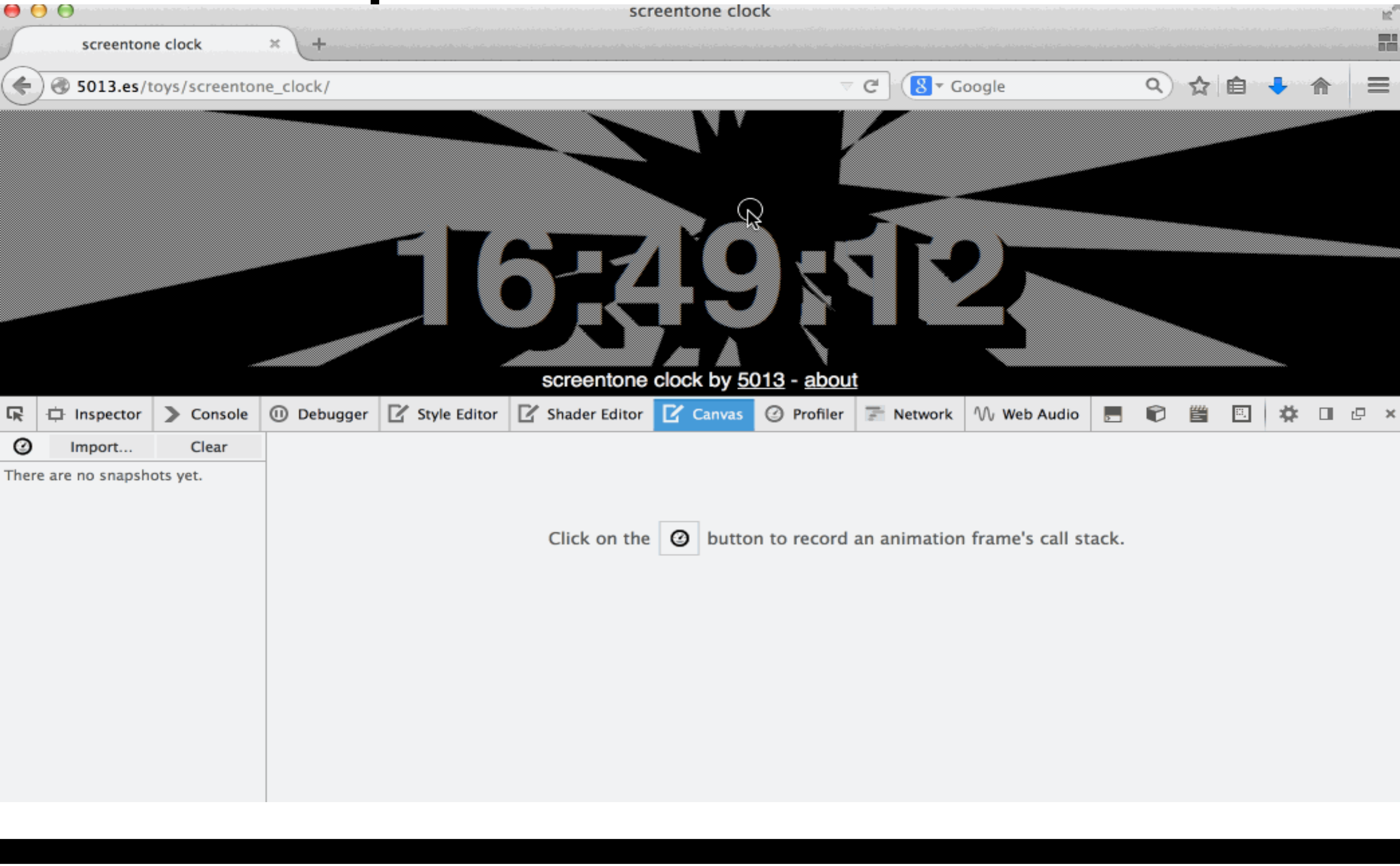
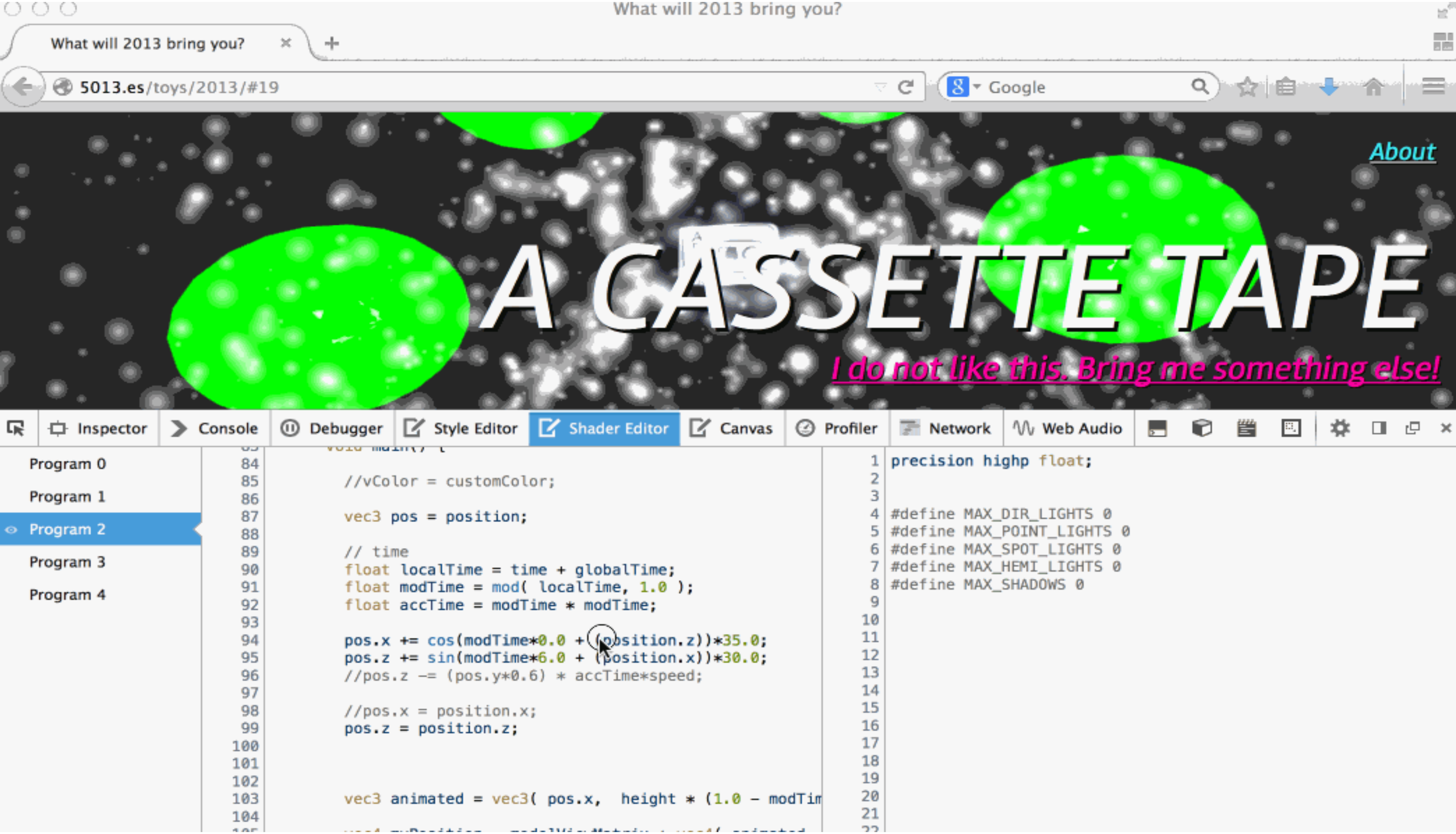
Canvas inspector



There are no snapshots yet.

Click on the ⏲ button to record an animation frame's call stack.

Shader editor



```
    //vColor = customColor;

    vec3 pos = position;

    // time
    float localTime = time + globalTime;
    float modTime = mod( localTime, 1.0 );
    float accTime = modTime * modTime;

    pos.x += cos(modTime*0.0 + (position.z))*35.0;
    pos.z += sin(modTime*6.0 + (position.x))*30.0;
    //pos.z -= (pos.y*0.6) * accTime*speed;

    //pos.x = position.x;
    pos.z = position.z;

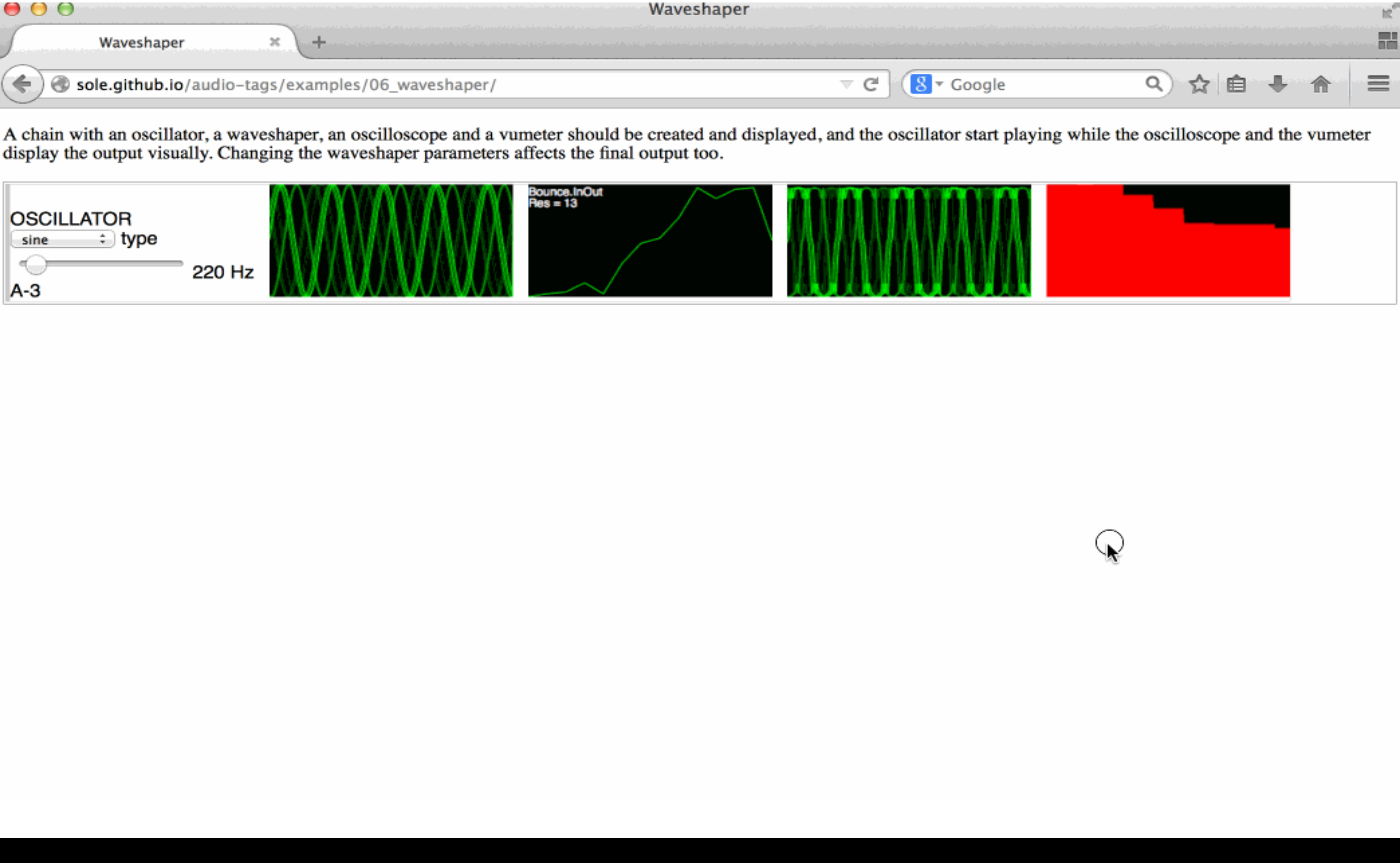


    vec3 animated = vec3( pos.x,  height * (1.0 - modTim
```

```
precision highp float;


#define MAX_DIR_LIGHTS 0
#define MAX_POINT_LIGHTS 0
#define MAX_SPOT_LIGHTS 0
#define MAX_HEMI_LIGHTS 0
#define MAX_SHADOWS 0
```

Web Audio Editor

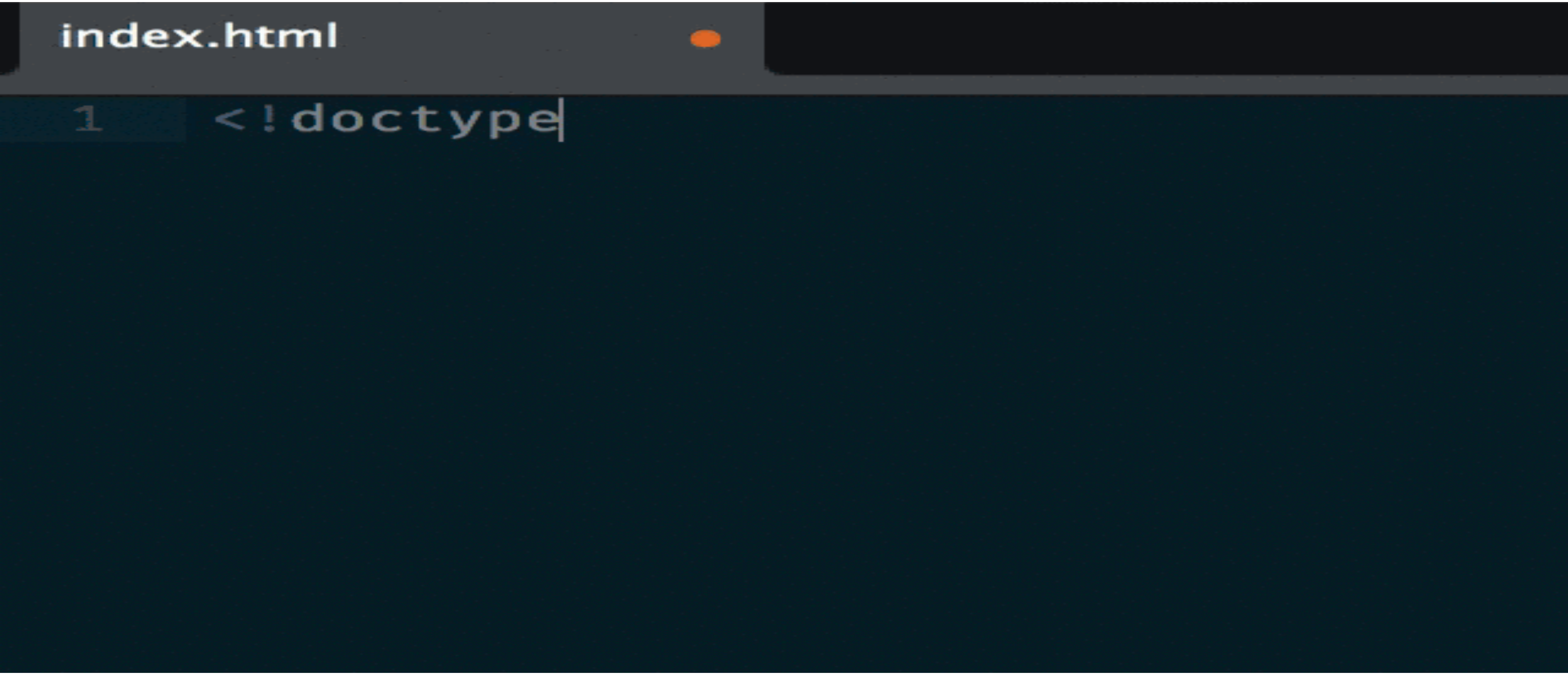


A chain with an oscillator, a waveshaper, an oscilloscope and a vumeter should be created and displayed, and the oscillator start playing while the oscilloscope and the vumeter display the output visually. Changing the waveshaper parameters affects the final output too.

Polyfills and libraries

Filling the gaps

Brick



```
<!doctype
```

Phonegap + Firefox OS

localForage

```
// In localStorage, we would do:
localStorage.setItem('key', JSON.stringify('value'));
doSomethingElse();

// With localForage, we use callbacks:
localforage.setItem('key', 'value', doSomethingElse);

// Or we can use Promises:
localforage.setItem('key', 'value').then(doSomethingElse);
```

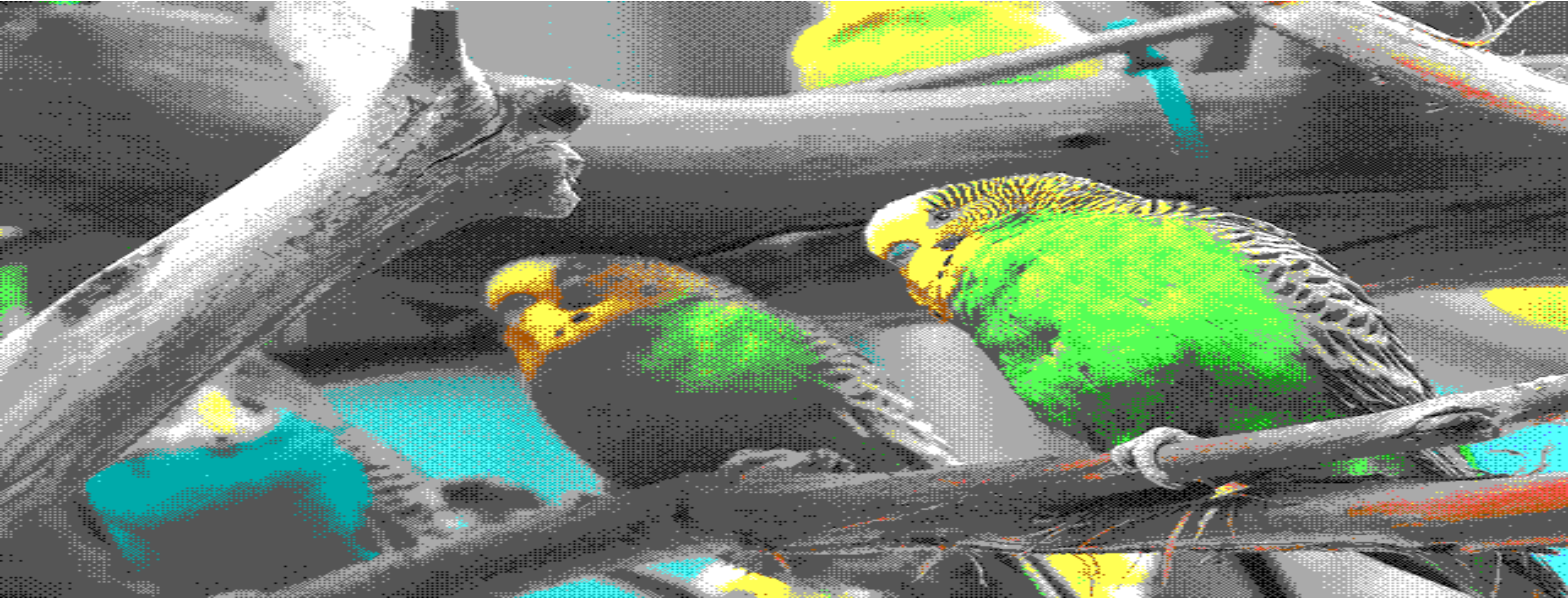
Animated_GIF

```
var imgs = document.querySelectorAll('img');
var ag = new Animated_GIF();
var animatedImage = document.createElement('img');
ag.setSize(320, 240);

for(var i = 0; i < imgs.length; i++) {
    ag.addFrame(imgs[i]);
}

ag.getBase64GIF(function(image) {
    animatedImage.src = image;
    document.body.appendChild(animatedImage);
});
```

Animated_GIF



Yeah, but...

Missing a feature?

Don’t just complain,

get involved!

This is not the 90s anymore.

The Web is YOURS,
so shape it!

Getting involved means you make informed decisions.

What works?
What doesn't?
Why?
Is there a work around?

Getting involved means your needs are taken into account.

We need this feature for our use case...
This feature can't work for this reason...

A W3C editor sitting on their chair on a lonely room will *never* know about your needs unless you tell them.

Ways to get involved

- Always assume good intent, and be respectful.
- Find your channel: mailing lists, GitHub repos, IRC, meet ups, the Extensible web summit...
- Ask questions.
- Try your code in different browsers.
- Try nightlies for preview features.
- Maybe even learn to compile your favourite browser!
- File bugs.
- Build things.
- Break things!
- File more bugs!

For the Web to be *ours*, it needs *everyone's* input.

Let’s build this together.

Thanks!

@supersole

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goto; conference

Please evaluate this talk via the mobile app!