Kyle Simpson
@getify
http://getify.me

- LABjs
- grips
- h5ive
- We Puzzle It!

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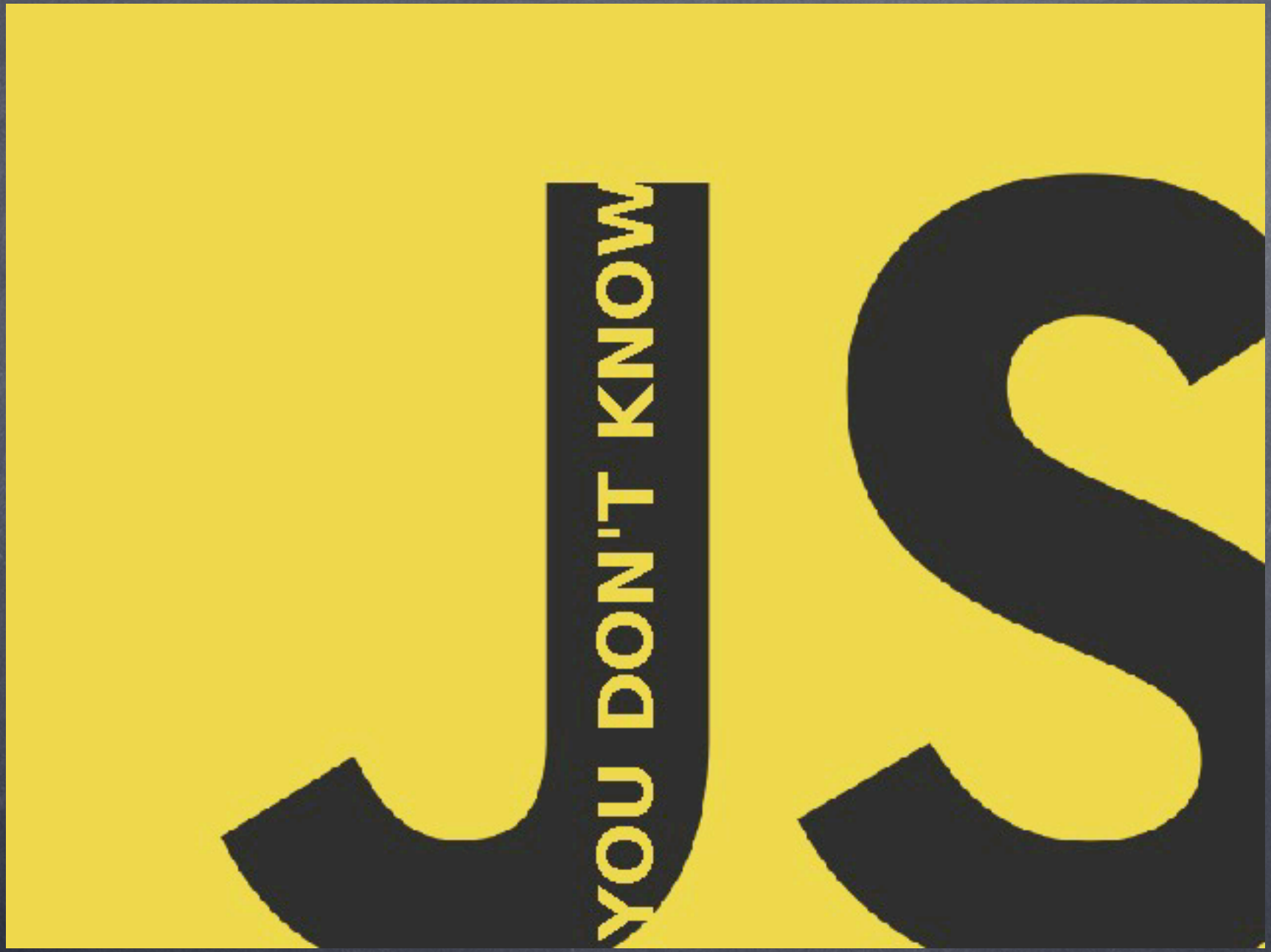
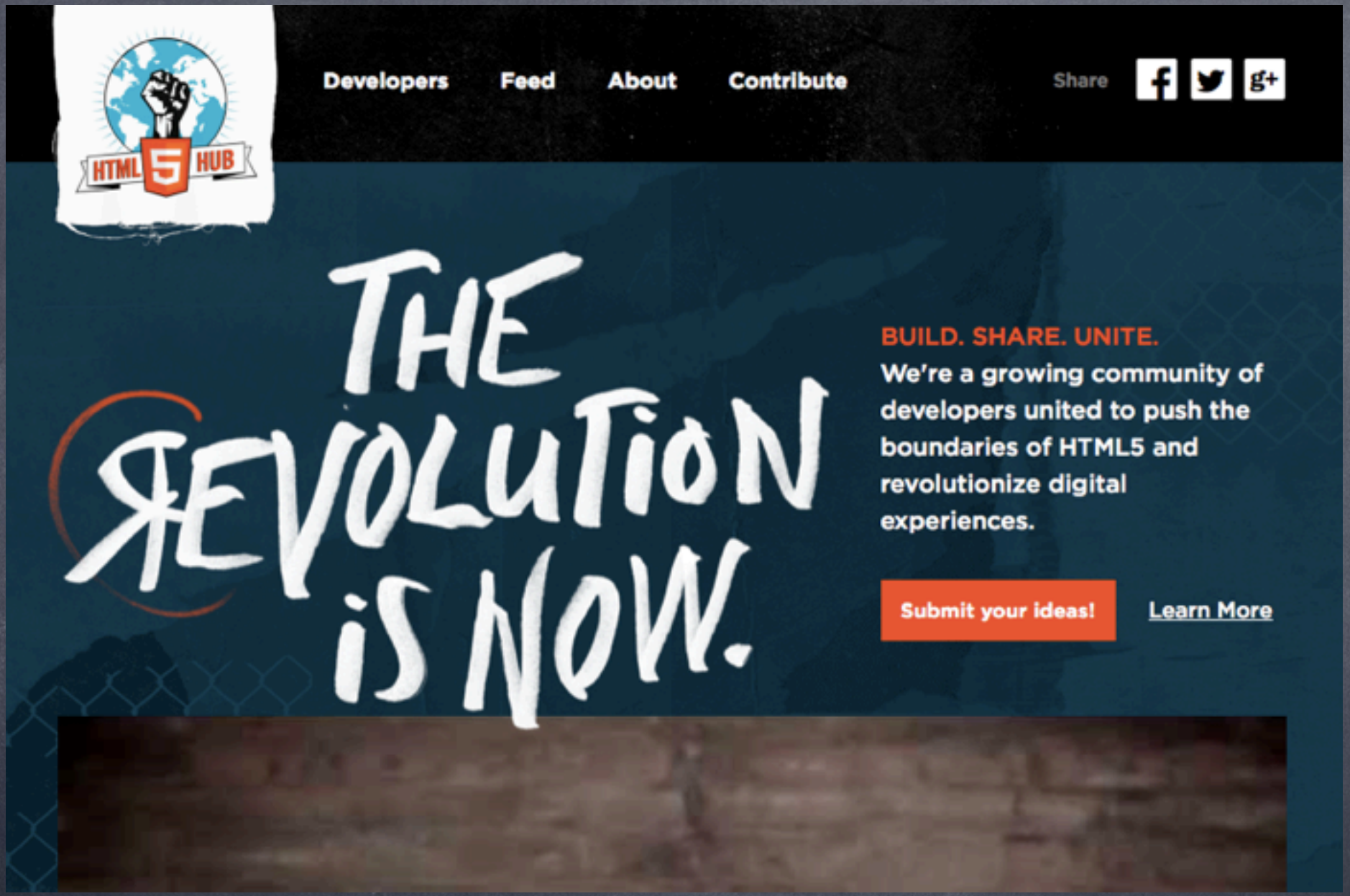
http://speakerdeck.com/getify



http://YouDontKnowJS.com



http://HTML5Hub.com

Real-Time: HTML5 & node.js

setup

http://python.org/download/

you "need" python

http://nodejs.org/download/

you **need** node.js

https://github.com/getify/unnamed.git

Unnamed is a game!

```
Blackbeard:unnamed getify$ git checkout step1
Note: checking out 'step1'.

You are in 'detached HEAD' state. You can look around, make experimental
changes and commit them, and you can discard any commits you make in this
state without impacting any branches by performing another checkout.

If you want to create a new branch to retain commits you create, you may
do so (now or later) by using -b with the checkout command again. Example:

  git checkout -b new_branch_name

HEAD is now at 4ccf634... rename
Blackbeard:unnamed getify$ ls -la
total 8
drwxr-xr-x   6 getify  staff  204 Jul 23 12:38 .
drwx------   7 getify  staff  238 Jul 23 12:36 ..
drwxr-xr-x  16 getify  staff  544 Jul 23 12:38 .git
-rw-r--r--   1 getify  staff   61 Jul 17 11:46 README.md
drwxr-xr-x   5 getify  staff  170 Jul 23 12:38 server
drwxr-xr-x   6 getify  staff  204 Jul 23 12:38 web
Blackbeard:unnamed getify$
```

```
Blackbeard:web getify$ python -m SimpleHTTPServer 8080
Serving HTTP on 0.0.0.0 port 8080 ...
```

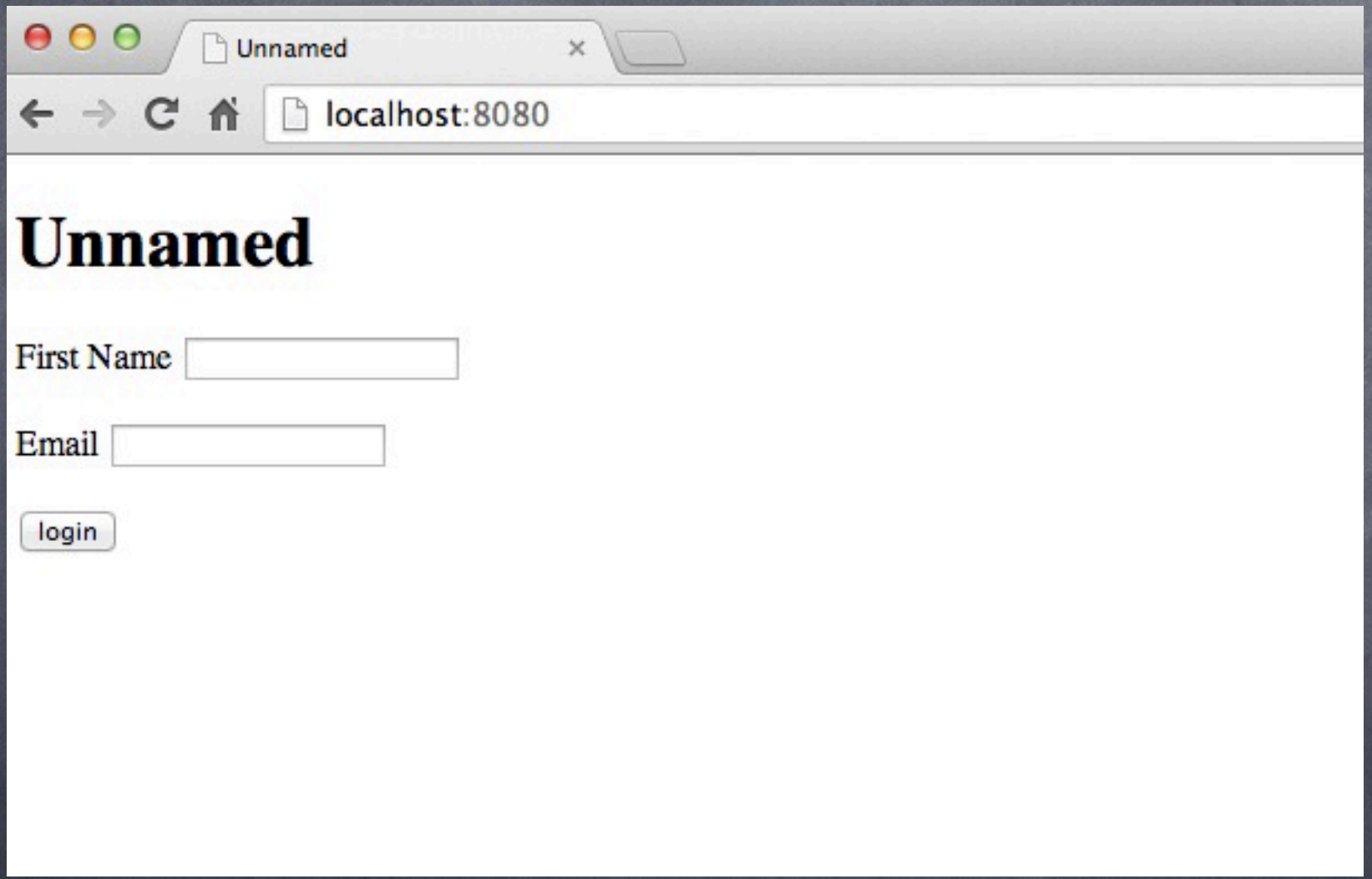
or: python3 -m http.server 8080

```
Blackbeard:server getify$ cat secret.js
exports.PUBLIC_SERVER_ADDR = "..";
exports.PUBLIC_SERVER_PORT = 0;

exports.INTERNAL_SERVER_ADDR = "127.0.0.1";
exports.INTERNAL_SERVER_PORT = 8005;

exports.CORS_GET_HEADERS = {
        "Access-Control-Allow-Origin": "http://localhost:8080",
        "Access-Control-Allow-Credentials": false,
        "Access-Control-Allow-Methods": "GET, OPTIONS",
        "Access-Control-Allow-Headers": "Content-Type, User-Agent, X-Requested-With"
};
exports.CORS_POST_HEADERS = {
        "Access-Control-Allow-Origin": "http://localhost:8080",
        "Access-Control-Allow-Credentials": false,
        "Access-Control-Allow-Methods": "POST, OPTIONS",
        "Access-Control-Allow-Headers": "Content-Type, User-Agent, X-Requested-With"
};
Blackbeard:server getify$
```

```
Blackbeard:server getify$ node server.js
```


Unnamed
localhost:8080
Unnamed
First Name
Email
login

Agenda

- HTML5
- node.js
- Web Sockets (socket.io)
- WebRTC

HTML5

facades

https://github.com/getify/h5ive

storage

<canvas>

getUserMedia, <video>

requestAnimationFrame

WebSockets

node.js

Hello World

async flow

https://github.com/getify/asynquence

socket.io

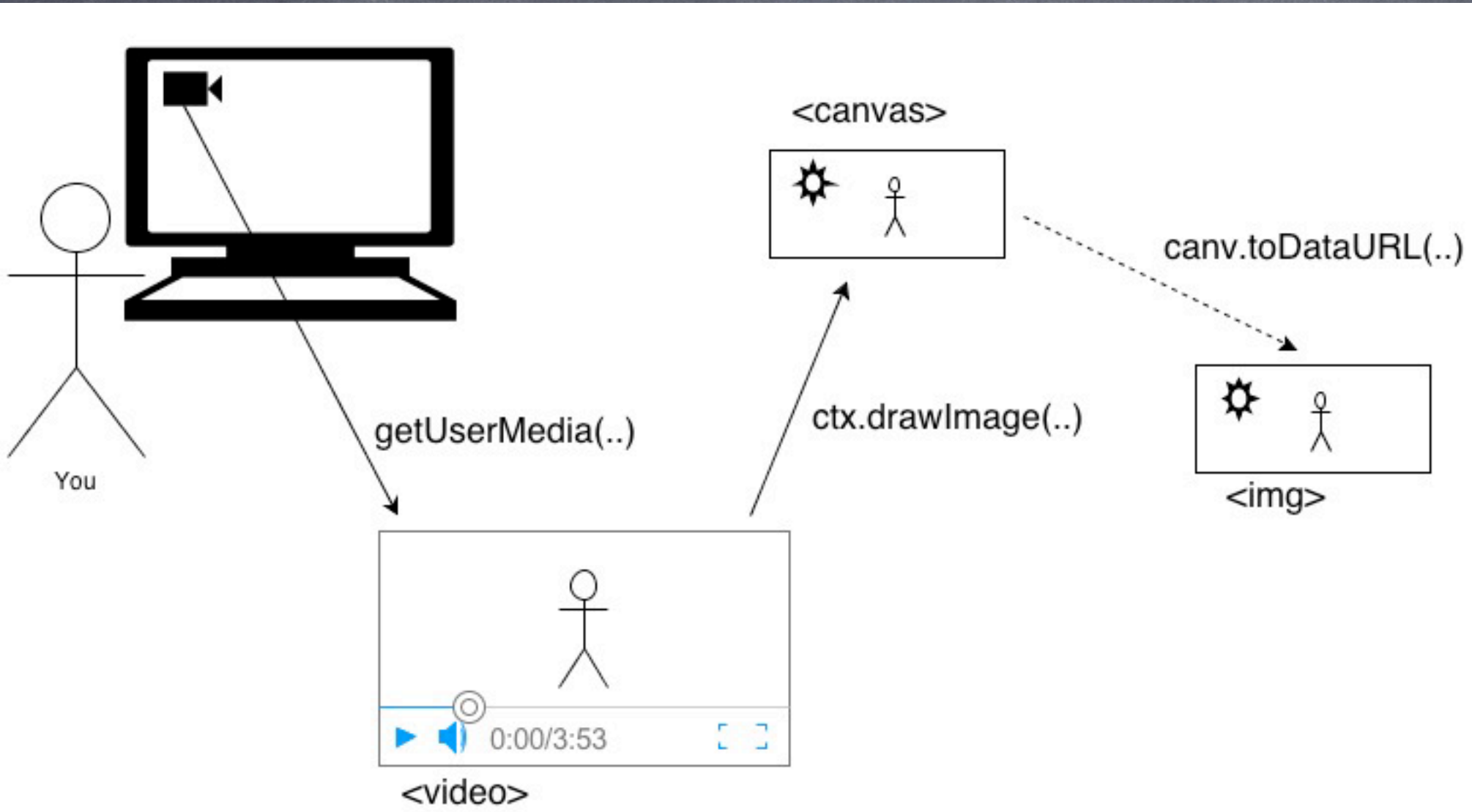
http://socket.io/

Hello World

WebRTC

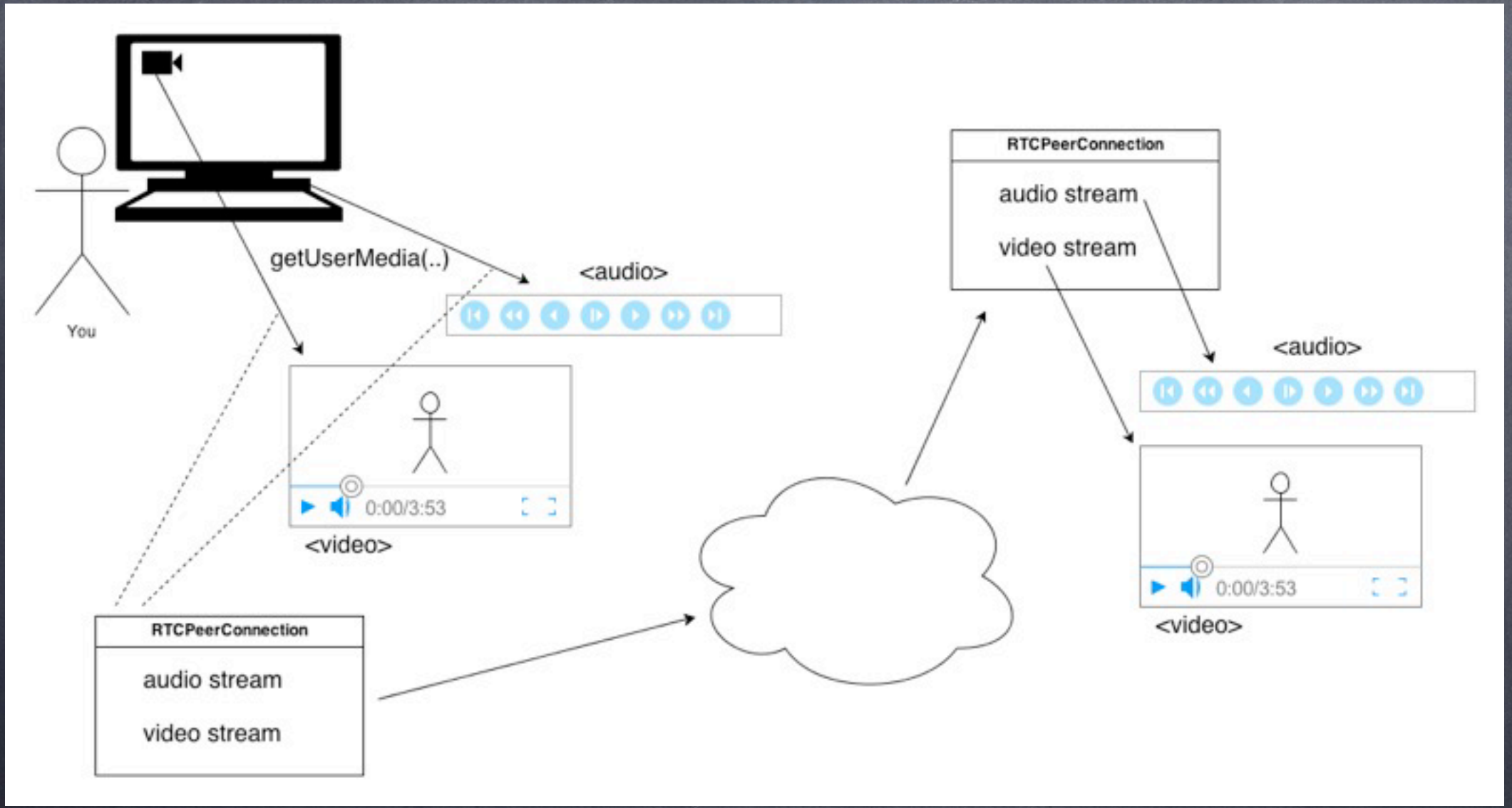
http://www.webrtc.org/

webcam capture

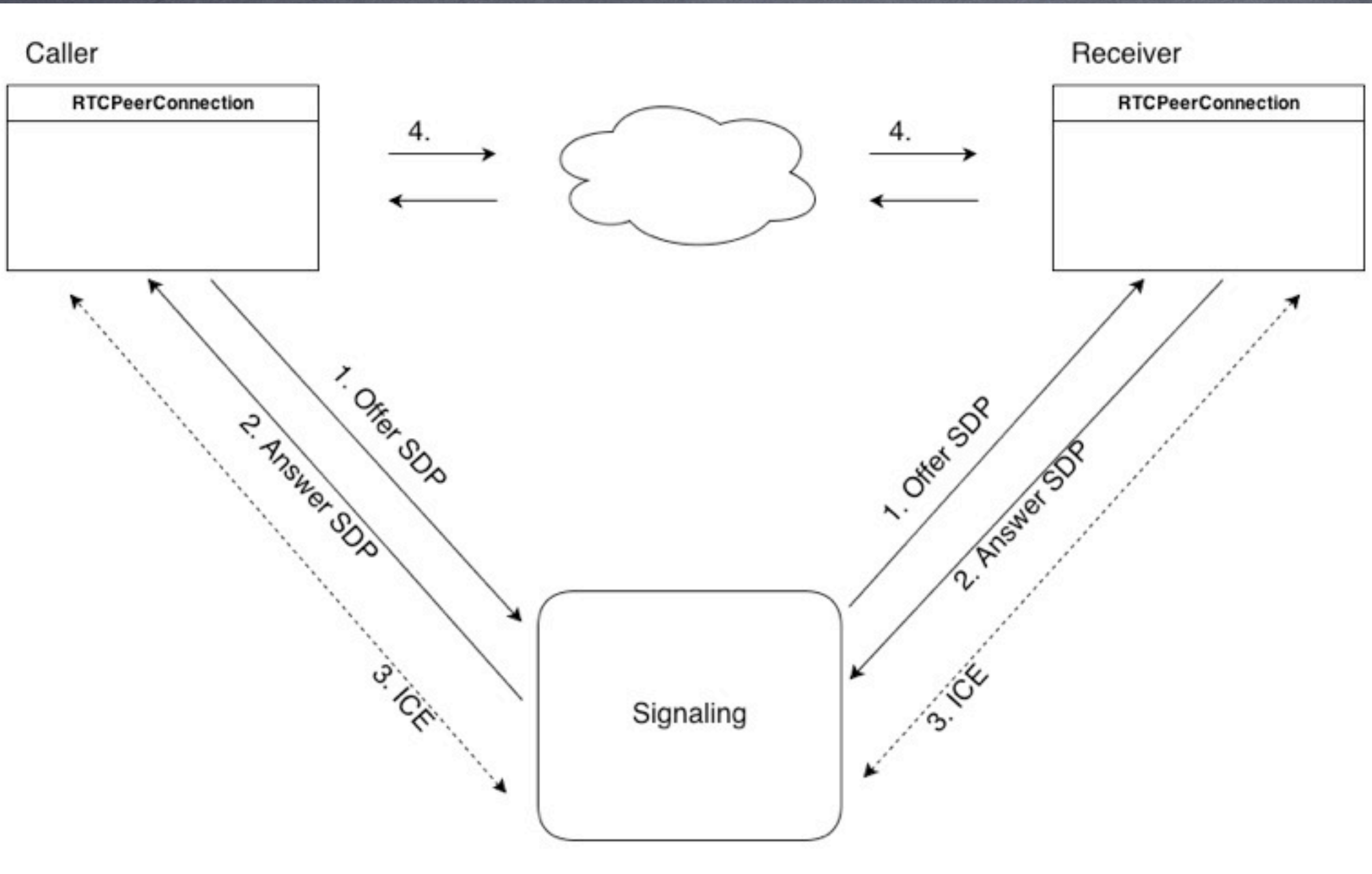

You
getUserMedia(..)
0:00/3:53
<video>
ctx.drawImage(..)
<canvas>
canv.toDataURL(..)
<img>

RTCPeerConnection

Video, Audio


You
getUserMedia(..)
<audio>
0:00/3:53
<video>
RTCPeerConnection
audio stream
video stream
RTCPeerConnection
audio stream
video stream
<audio>
0:00/3:53
<video>

Signaling


Caller
RTCPeerConnection
Receiver
RTCPeerConnection
4.
4.
1. Offer SDP
2. Answer SDP
3. ICE
1. Offer SDP
2. Answer SDP
3. ICE
Signaling

DataChannel

Caller
RTCPeerConnection
audio stream
video stream
DataChannel
Receiver
RTCPeerConnection
audio stream
video stream
DataChannel

Take a deep breath

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Thanks!

Questions?