# Celebration Sesh
# The Seeing Eye Bot

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09/23/2016

# Demo First

- investigation to bring a few technologies together to enhance accessibility options
- node application (express, jade, web sockets)
- tracking.js (main technology under investigation)
- incoming-webhook to post to slack
- https://github.com/jtbarbetta/trackbot

# Closer Look at Tracking.js

- Available trackers: Color, Object, Custom
  - can use multi-trackers at once
- Can track: <canvas>, <video>, <img>
- Web Components add built-in tracking capabilities to above html element

# Color Tracker

- Default colors tracked
  - cyan, yellow, magenta
- Can register custom colors
- Color saturation is detected by examining neighboring blocks of pixels

Let's look at code.....

# Object Tracker

- Feature detection (eyes, mouth, face)
- Based on the Viola-Jones object detection framework
  - real-time object detection
  - originally designed for face detection
  - can be trained to detect variety of object classes

Let's look at code.....

# Custom Tracker

- extend tracking.js abstract class tracking.tracker
- track function receives Uint8ClampedArray of pixels and can emit specific results based on what you want to track

Let's look at code.....

# Web Components

- Bower installable web components package available
- Extend <canvas>, <img>, <video> with "is" attribute e.g.
  - <video is="video-color-tracking" target="magenta cyan yellow"></video>

# Incoming-Webhooks

- Using simple incoming-webhook configured for slack team/channel
- POST over HTTP from Node app to report to channel what color user is holding up
  - Debounce POST so Slack channel is not flooded with messages

# Questions??