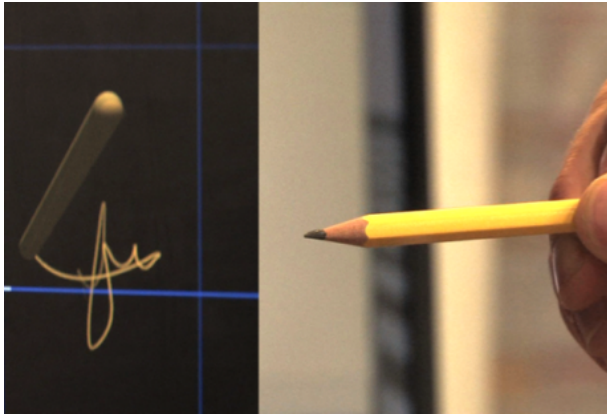# Introducing the Leap Motion Controller
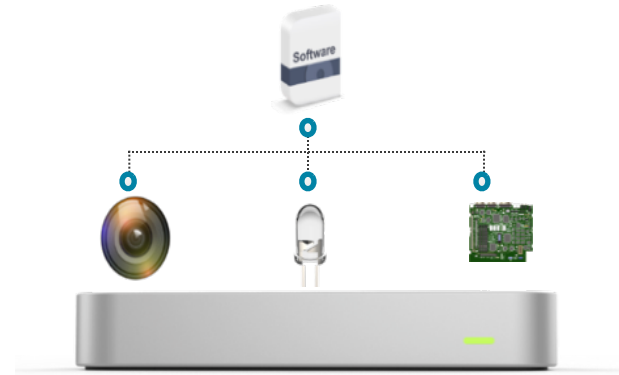
3D Motion Control Technology platform

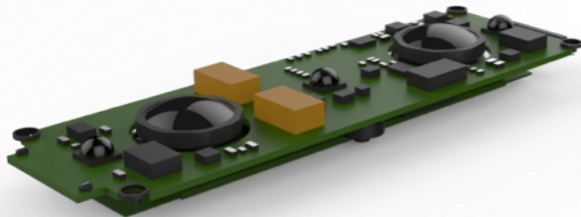# Leap Motion – 3D Motion Control Technology

Accurate
100x more accurate than anything on the market
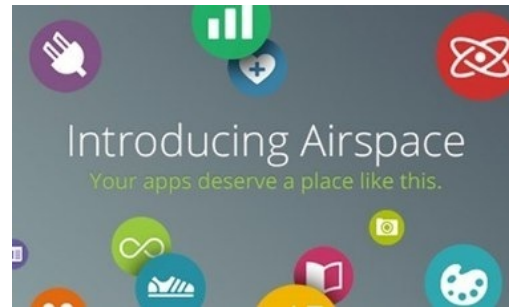1/100th mm – tip of a pin accuracy

Inexpensive
Off-The-Shelf Components
150-degree view 290 fps (consumer module)

Embeddable
small form factor, low z-height,
low CPU and power consumption

Content–rich
Airspace App Store with over 60k app
developers across wide range of
categories

Powerful
no visible latency – real time interaction experience
precise hand and finger movements

Ushering in the era of touch-less computing

Our platform is made up of three components

Peripheral
- Leap Motion Controller
- USB Connection to Computing Device

SDK/Drivers
- Leap Motion Software
- Ground-breaking algorithms

- Third-party applications, developer relations
- Consumer & Business focused applications

Airspace (App Store)

Industry Example Use Cases

LEAP
MOTION

- **Education**
  - Interactive Displays in classroom
  - Integration with curriculum
  - Applications for special needs
  - UI Research for industries

- **Data Visualization**
  - Complex data navigation
  - Trend & Correlation identification
  - Decision efficiencies
  - Data sharing & collaboration

- **Healthcare**
  - Access to data & images with sterility
  - Information access in public areas
  - Progress/Regression measurement
  - Patient room control

- **Manufacturing**
  - Visualization during design process
  - App interaction in dirty environments
  - Engaging workforce to drive productivity
  - End to end process visualizations

Industry Example Use Cases

LEAP
M O T I O N

- **Retail**
  - In-store interactive experiences
  - Non-intrusive customer engagement
  - Enhanced purchase processes
  - Create product "experiences" anywhere

- **Other B2B**
  - Non-intrusive biometric authentication
  - Interactions in challenging environments
  - Command & control applications
  - Selling physical products
  - CAD applications

- **Desktop Productivity**
  - Bring consumer tech to the enterprise
  - Improve inefficient business app UI's
  - Lessen learning curves for biz apps
  - Improve workforce satisfaction

Michael Sutherland

kiwi@leapmotion.com

@kiwi

DEVELOPER PROGRAMS
PLATFORM GROWTH & PARTNERSHIPS

Evolution of the Leap Motion Controller

Aug. 2011
9 x 2 x 2"

Sept. 2011
6.5 x 1.5 x 1.5"

Nov. 2011
4 x 1.5 x 0.75"

Dec. 2011
4 x 1.5 x 0.75"

First Developer Unit
Apr. 2012
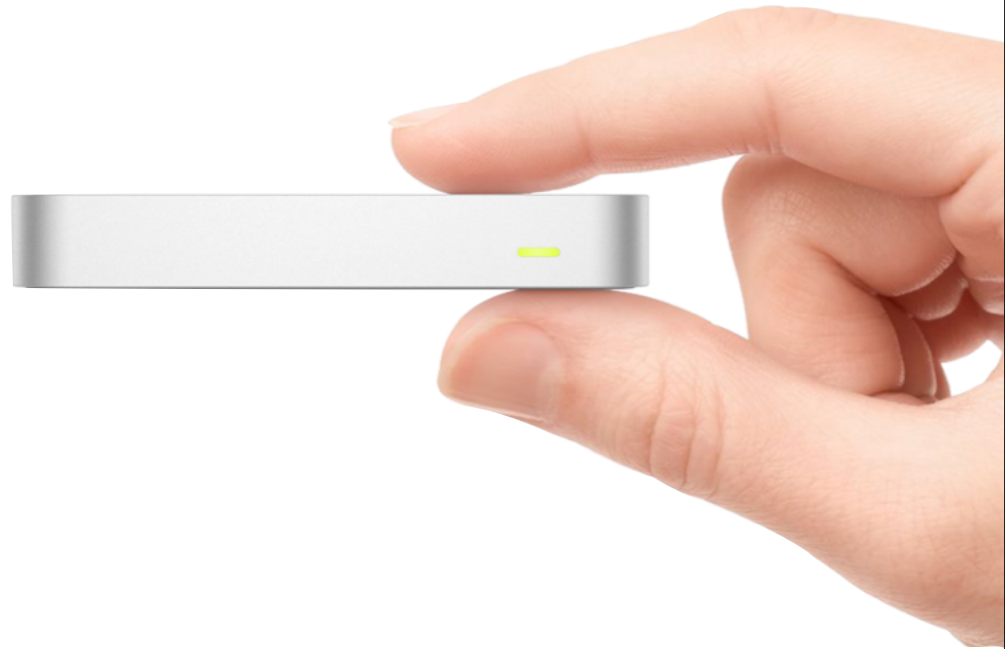3.5 x 1 x 0.75"

SpaceX + Leap Motion

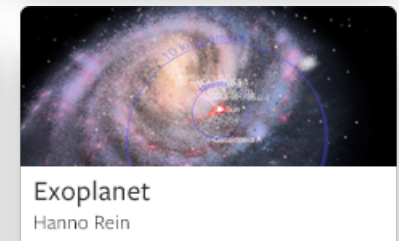**http://www.youtube.com/watch?v=xNqs_S-zEBY**
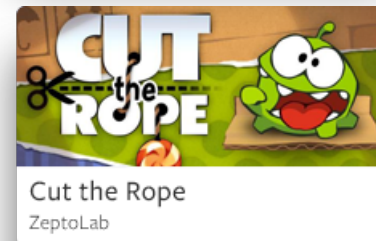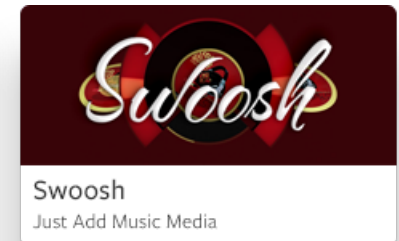
Overview

- Building on the Leap Motion Platform

- Details about the SDK

- Development Resources

- Demos

- Developing with the LMC

- How to engage with Leap for help

- Q&A

Building for the Leap Motion Platform

- Airspace: Discovery Platform for Mac & PC Apps

- 100+ Apps

- 1 Million App downloads

- Categories: Productivity, Games, Education, Creative Tools, Science

- Native Apps, Plugins, Webapps

- $25 Million Fund

- San Francisco based Accelerator

Painter® Freestyle™
Corel Corporation

Swoosh
Just Add Music Media

Cut the Rope
ZeptoLab

Exoplanet
Hanno Rein

Details about the SDK

LEAP
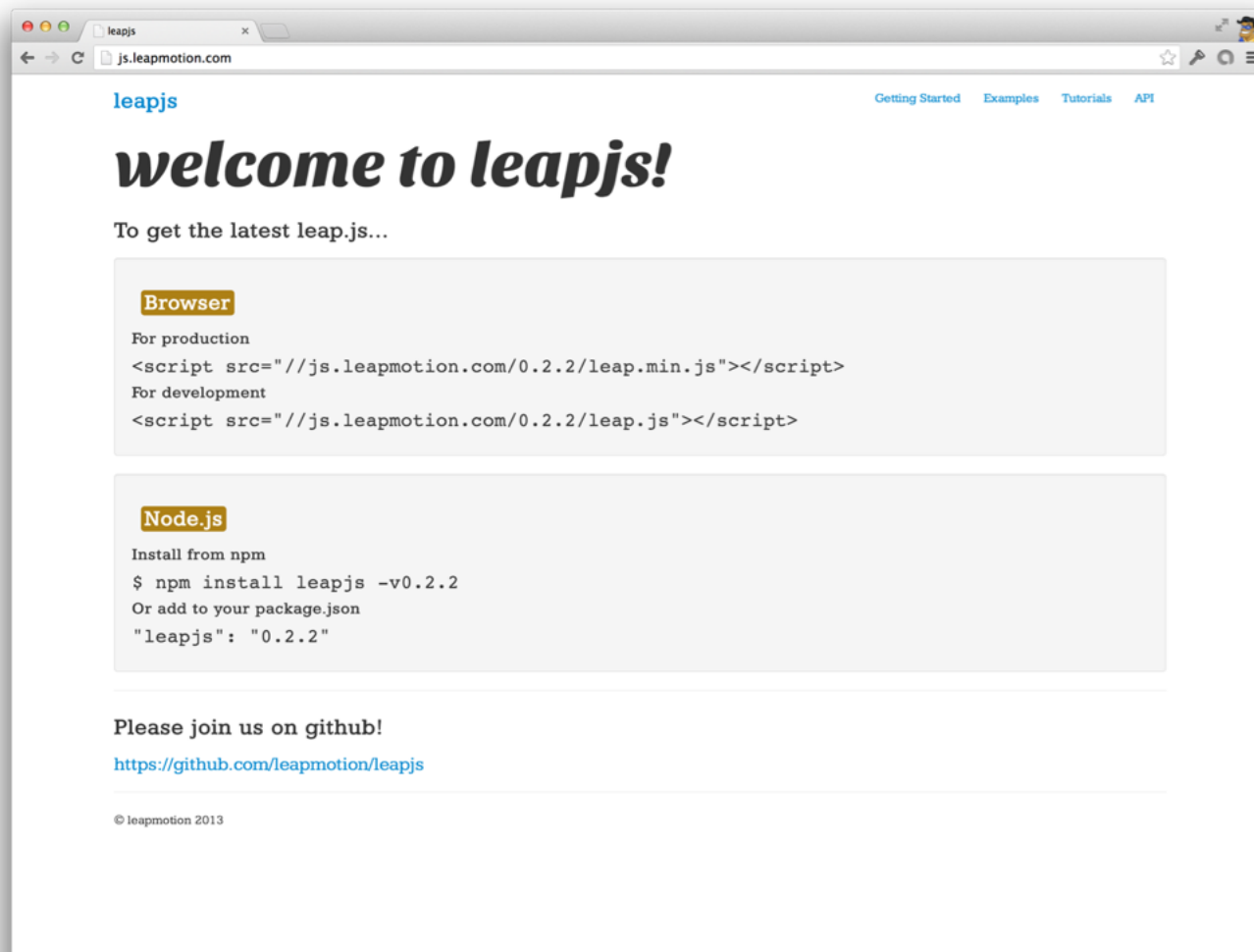MOTION

Native Development

- Mac, PC & Linux

- C++, C#, Objective-C, Python, Java

- SDK available from developer.leapmotion.com

Web Development

- Support for most modern browsers

- *leap.js* available from js.leapmotion.com
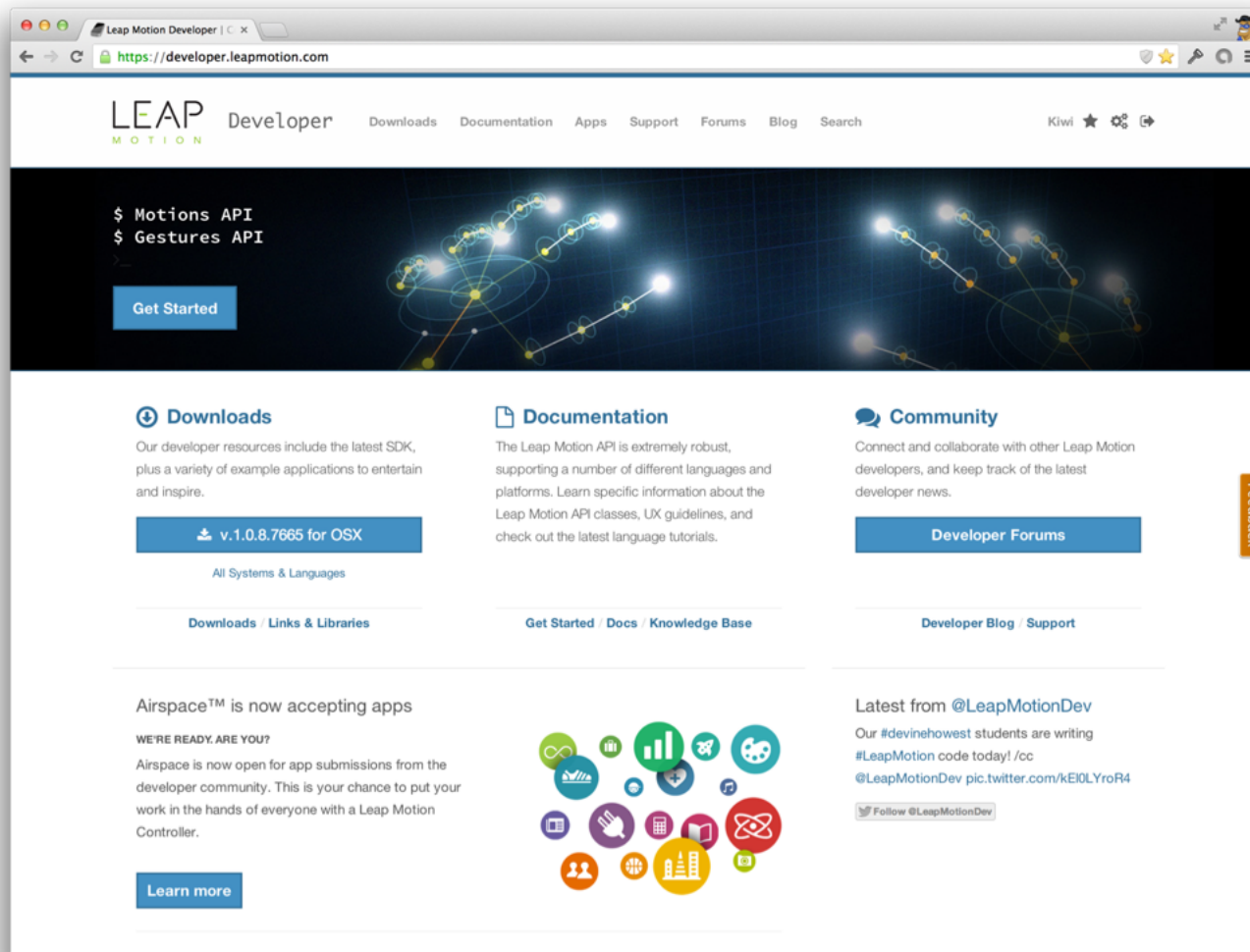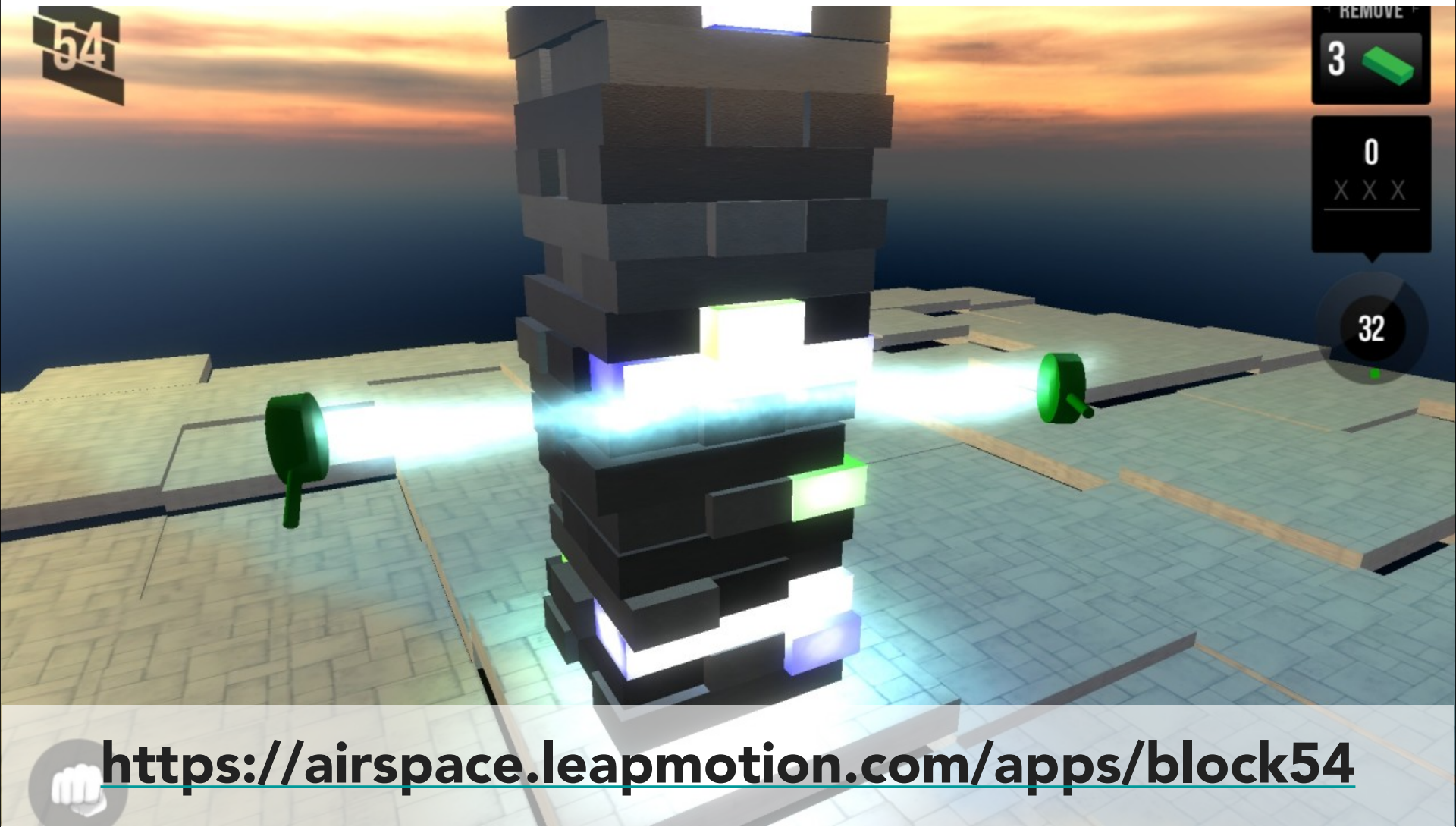
developer.leapmotion.com

js.leapmotion.com

What is the Leap Motion Controller?

https://airspace.leapmotion.com/apps/block54

Bring the real world into the Digital

https://airspace.leapmotion.com/apps/flocking

Natural Discovery

https://airspace.leapmotion.com/apps/kyoto

Improved Efficiency

https://airspace.leapmotion.com/links/google-earth

Immersive Learning

https://airspace.leapmotion.com/apps/cyber-science-motion

Web 3.D

https://www.biodigitalhuman.com/leap/app.html

HANDS & POINTABLES

Frames

Hands

Fingers

Tools

http://www.behance.net/gallery/Some-Skills/1944211

MOTIONS

Translate

Rotate

Scale

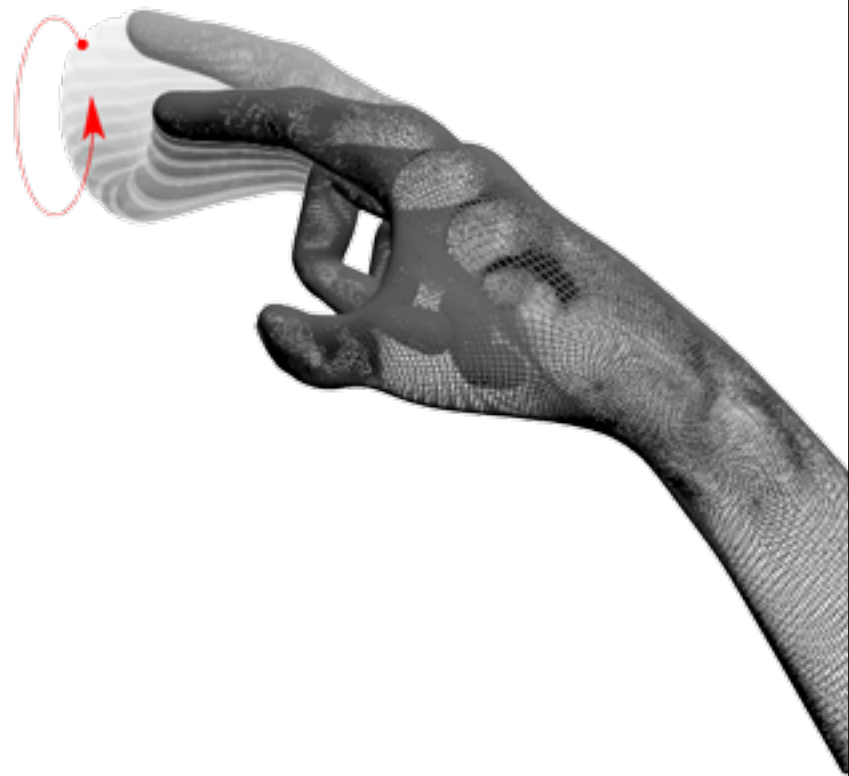http://motionislotion.wordpress.com/
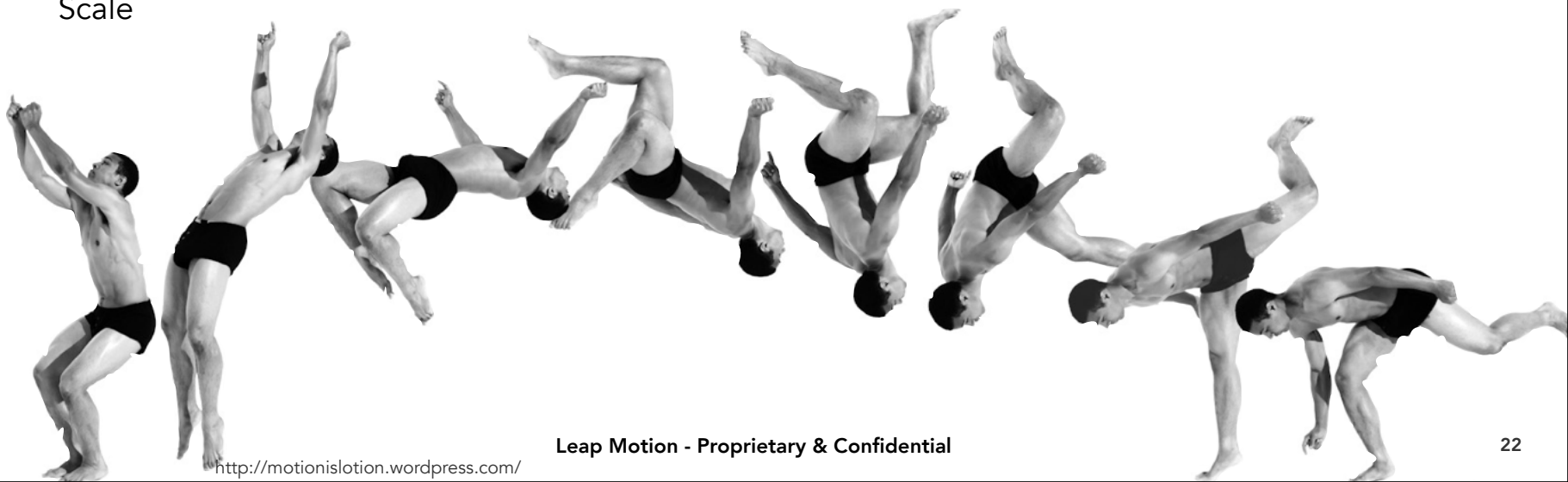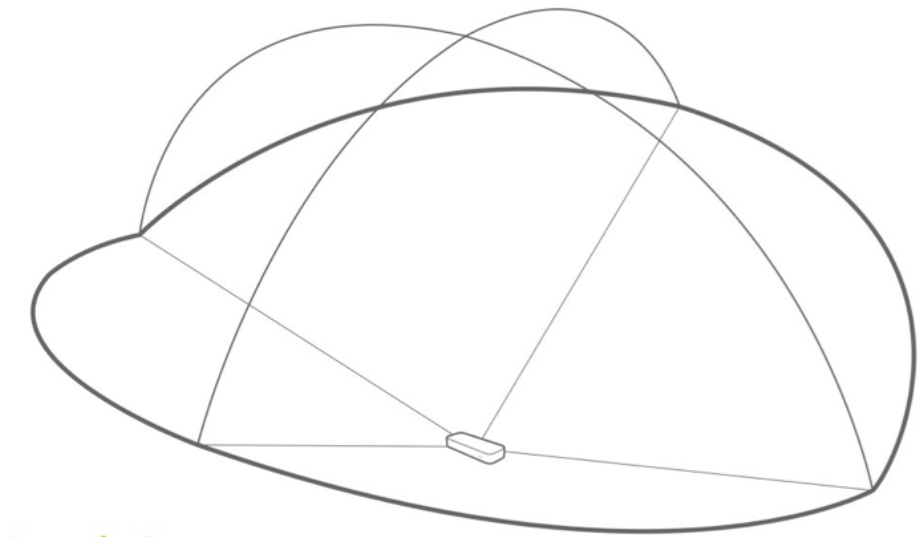
GESTURES

Circle

Swipe

Tap
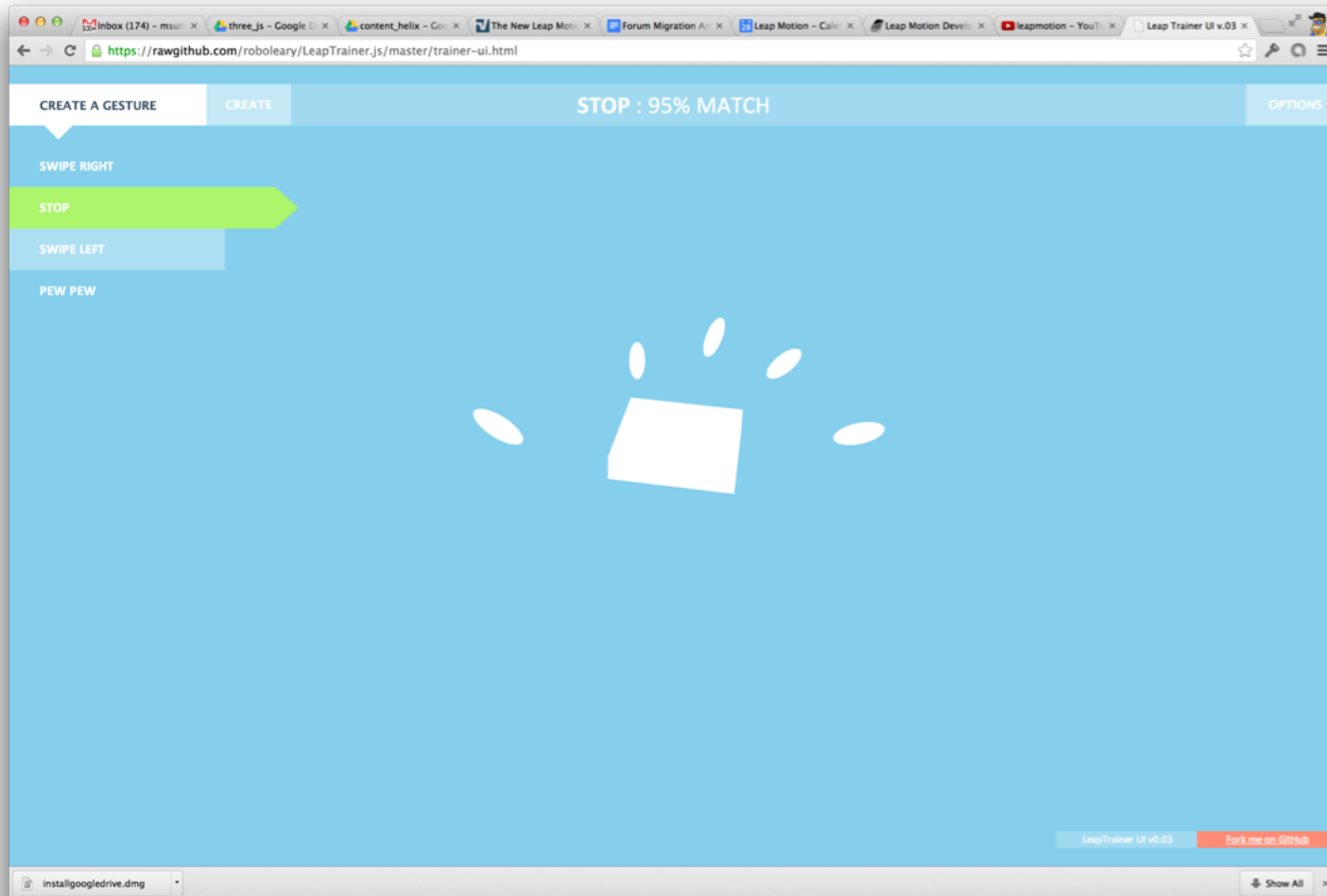
OTHER APIs

Interaction Box

TouchZone API

Platforms Partners

Tips for Developing

- Lighting Conditions

- Orient the User with the Hardware / Tutorials

- Data is your friend

- Menus

- Visual Feedback

- Rapid Prototyping

Gesture Engines

https://rawgithub.com/roboleary/LeapTrainer.js/master/trainer-ui.html

http://www.youtube.com/watch?v=90kHhOUzeQc

http://www.youtube.com/watch?v=zGdkLOXKS04

Growth

http://vimeo.com/74480202

http://www.youtube.com/watch?v=dLEIsH1Q2EY

3 Main Takeaways

Design for the user, not for Iron Man

Forget what you know about UI/UX.
We're writing the rules as we go

Prototype & Build

Next Steps & How to get help

- Tutorials
- Examples
- Forums
- Labs

- js.leapmotion.com/tutorials
- js.leapmotion.com/examples
- Forums
- labs.leapmotion.com

Where you'll find us

developer.leapmotion.com/forums
developers@leapmotion.com
@leapmotiondev
@leapmotion

THANK YOU
QUESTIONS?

developer.leapmotion.com

js.leapmotion.com

@leapmotiondev

Michael Sutherland

kiwi@leapmotion.com

@kiwi