

# Programmers are way cooler than musicians

Geert Bevin - XRebel Product Manager



Musicians narrate with sound

Programmers create new realities



Second Life







# Idle Rogue

you are the music while the music lasts

## Guerilla Burlesque

Nominated for 2012 Avichoice Awards - Event Of The Year  
Nominated for 2012 Dance Queens Awards - Show Of The Year

Nominated for 2015 Dance Queens Awards - Show Of The Year  
Nominated for 2015 Avichoice Awards - Event Of The Year





Burning Man Festival





Burning Man Festival



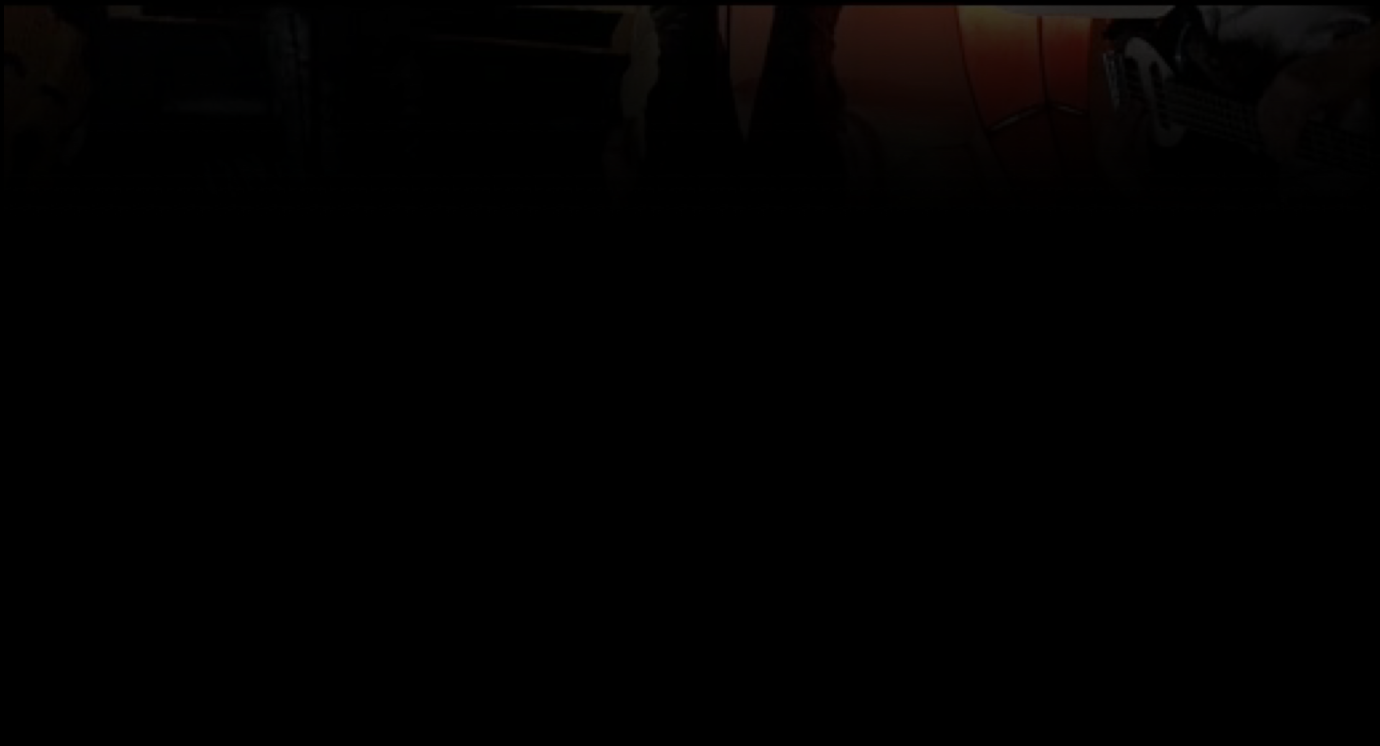


<http://www.flytecase.be>


<http://www.flytecase.be>

<http://facebook.com/flytecase>

<http://facebook.com/flytecase>







**SATURDAY, April 7, 2012**  
**at IDLE ROGUE in SECOND LIFE**

2am - Pol Arida  
2.30am - Guerilla Burlesque  
3am - Russell Eponym  
4am - Mel Cheeky  
5am - Marvin  
BREAK  
3pm - Brendan Shoreland  
4pm - Lisa Brune  
5pm - Rara Destiny  
BREAK  
7pm - Dragonfly  
8pm - Loreen Aldrin  
9pm - PT Beardmore  
10pm - Lyrica Acoustic  
11pm - LizAday Solo

a benefit for  
**JORDAN REYNE**

Jordan's friends are having a concert to try and help her out  
- and you're invited

Your donated tips for their performances will be forwarded to Jordan's paypal account to help her find a home and recover her equipment, so she can go back to earning a living as a working musician.

Please visit the website to purchase albums or donate directly:

<http://idlerogue.org/jordan>

<http://idlerogue.org/jordan>

Please visit the website to purchase albums or donate directly:

living as a working musician

to help her find a home and recover her equipment, so she can go back to earning a

Your donated tips for their performances will be forwarded to Jordan's paypal account

# Eigenharp



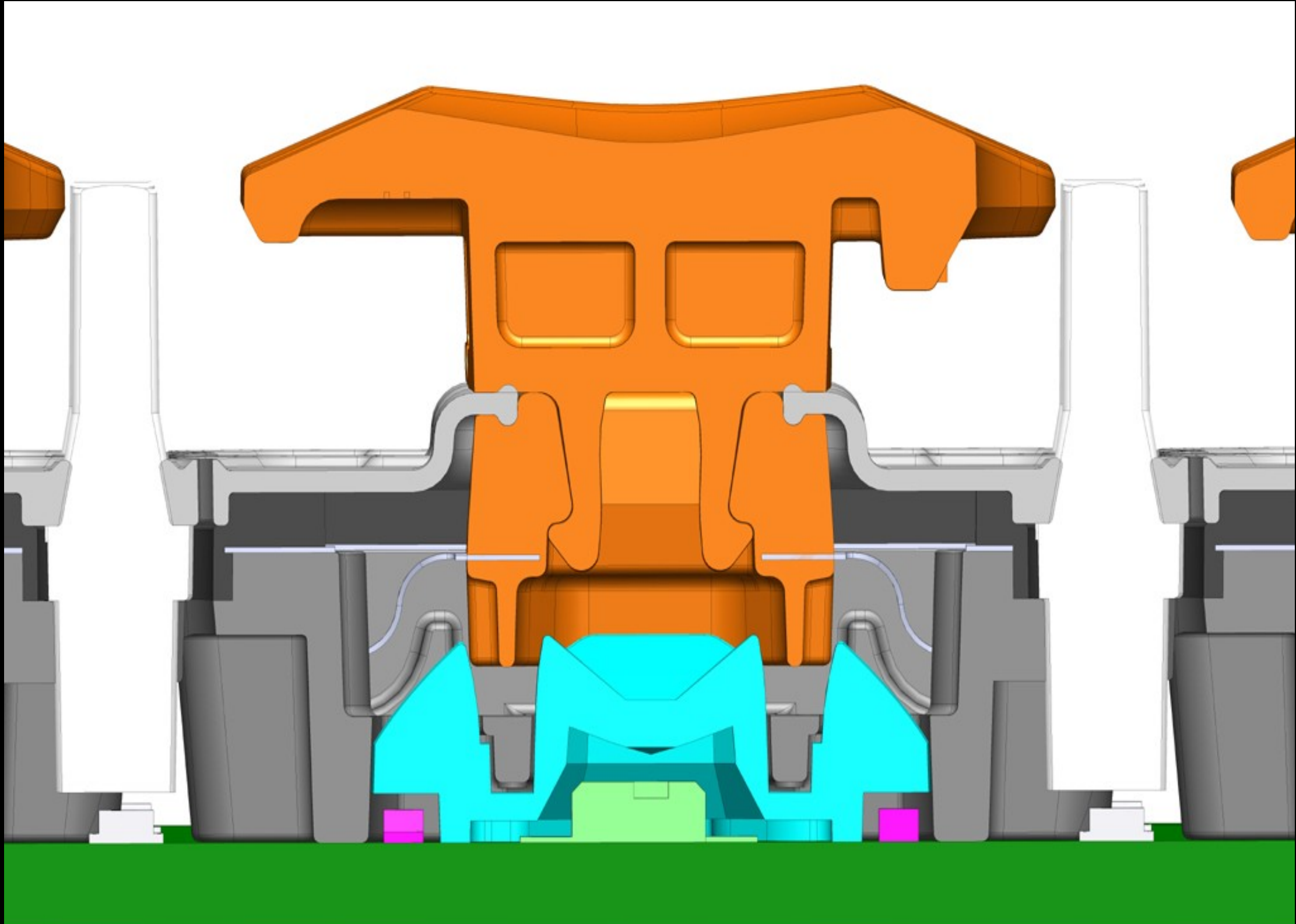
The most expressive electronic  
instrument ever made

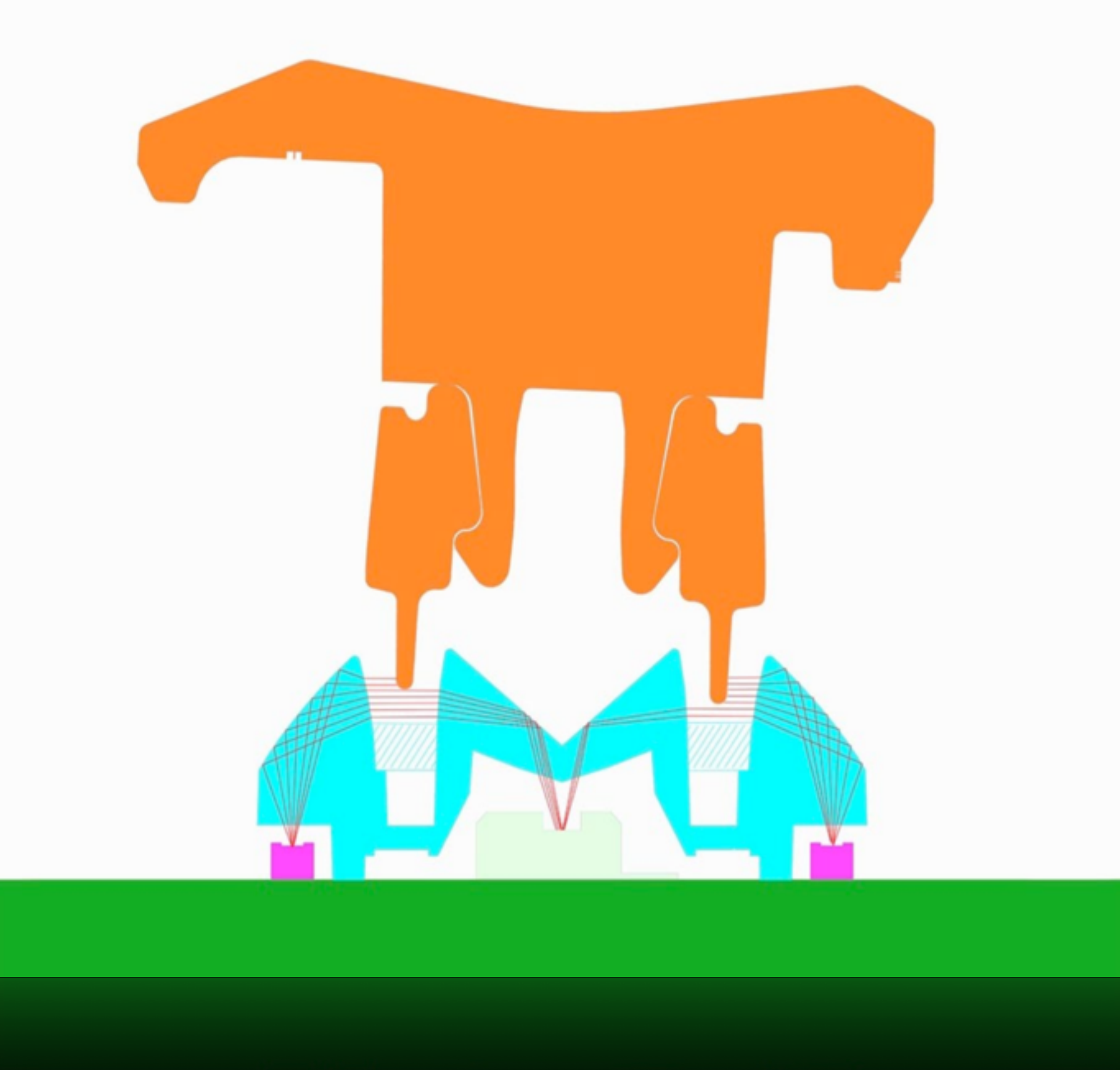


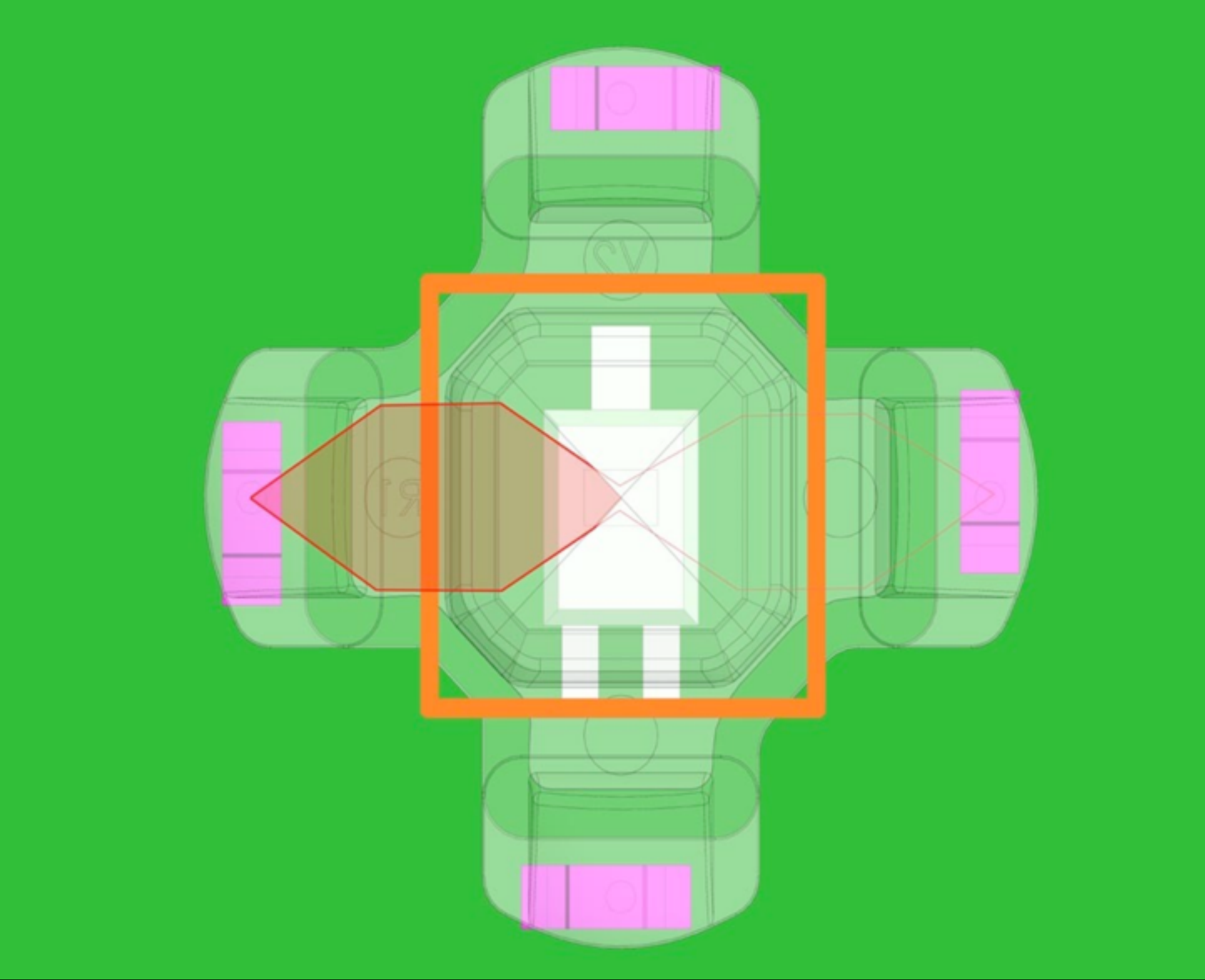
# Expressiveness vs. Technology

# Chaos vs. Correctness

# The EigenKey







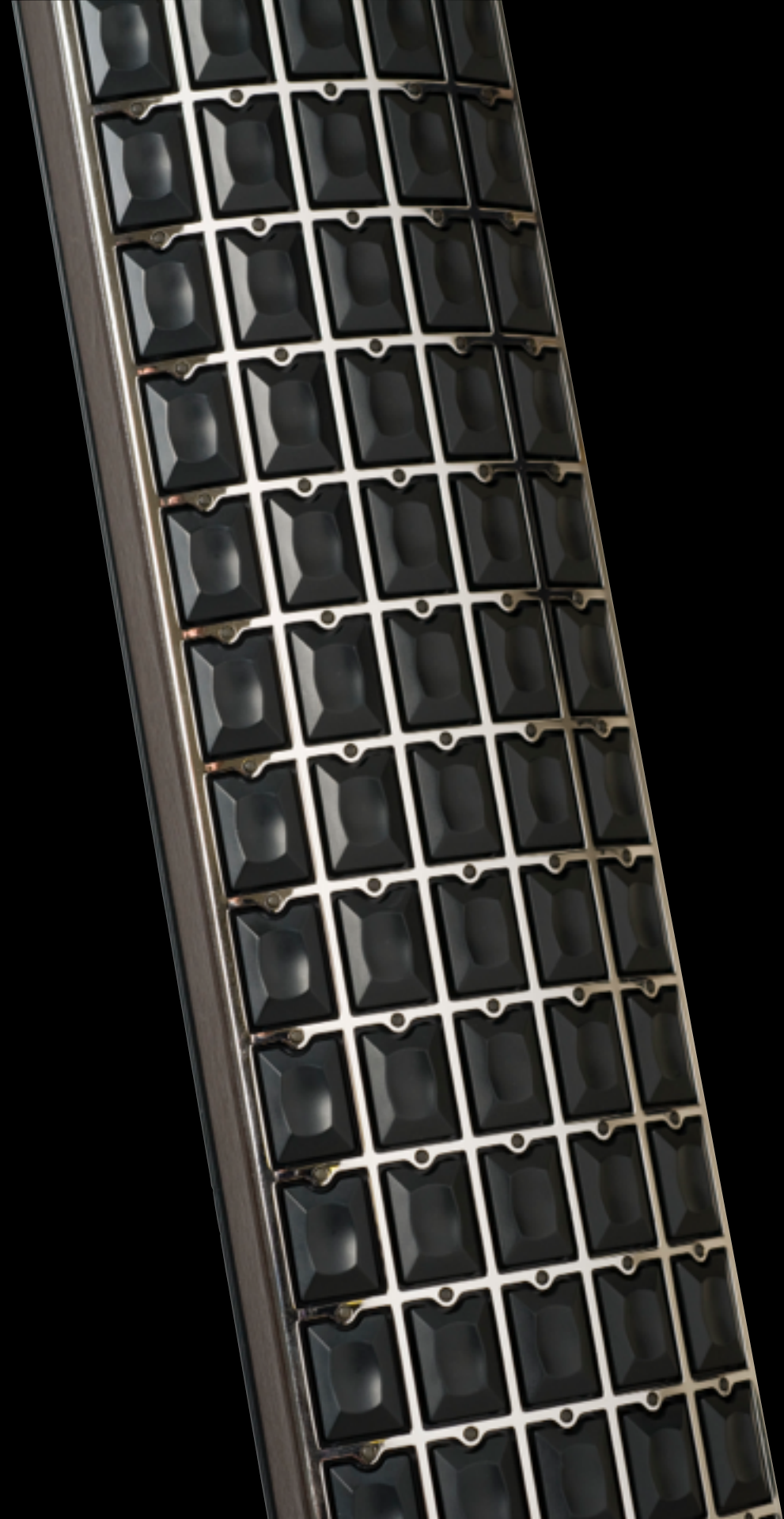
- 10 bits resolution over 0.9 mm of travel
- 400 nm of real resolution (width of a bacteria)
- Read at 500  $\mu$ S, a 6kHz rate per key (3 axis)
- Data rate is preserved from end to end

Data rate is preserved from end to end



That's like a retina screen  
for 3D touch sensors

The blank canvas







Ceiling Light

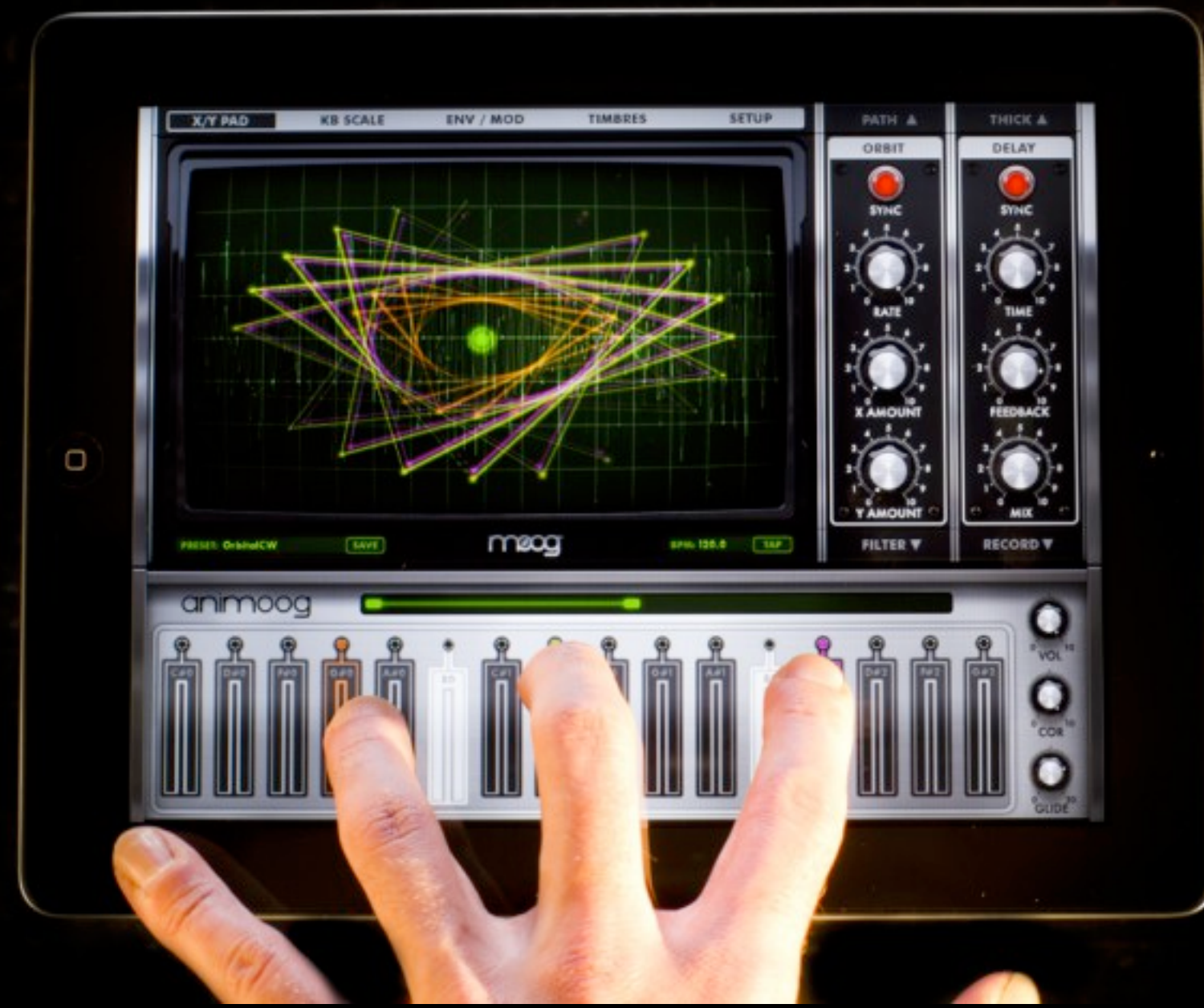


Create possibilities  
Provide new rules  
Don't restrict

# Multi-touch instruments

(or how different rules challenge protocols)





Per-note expression and synthesis

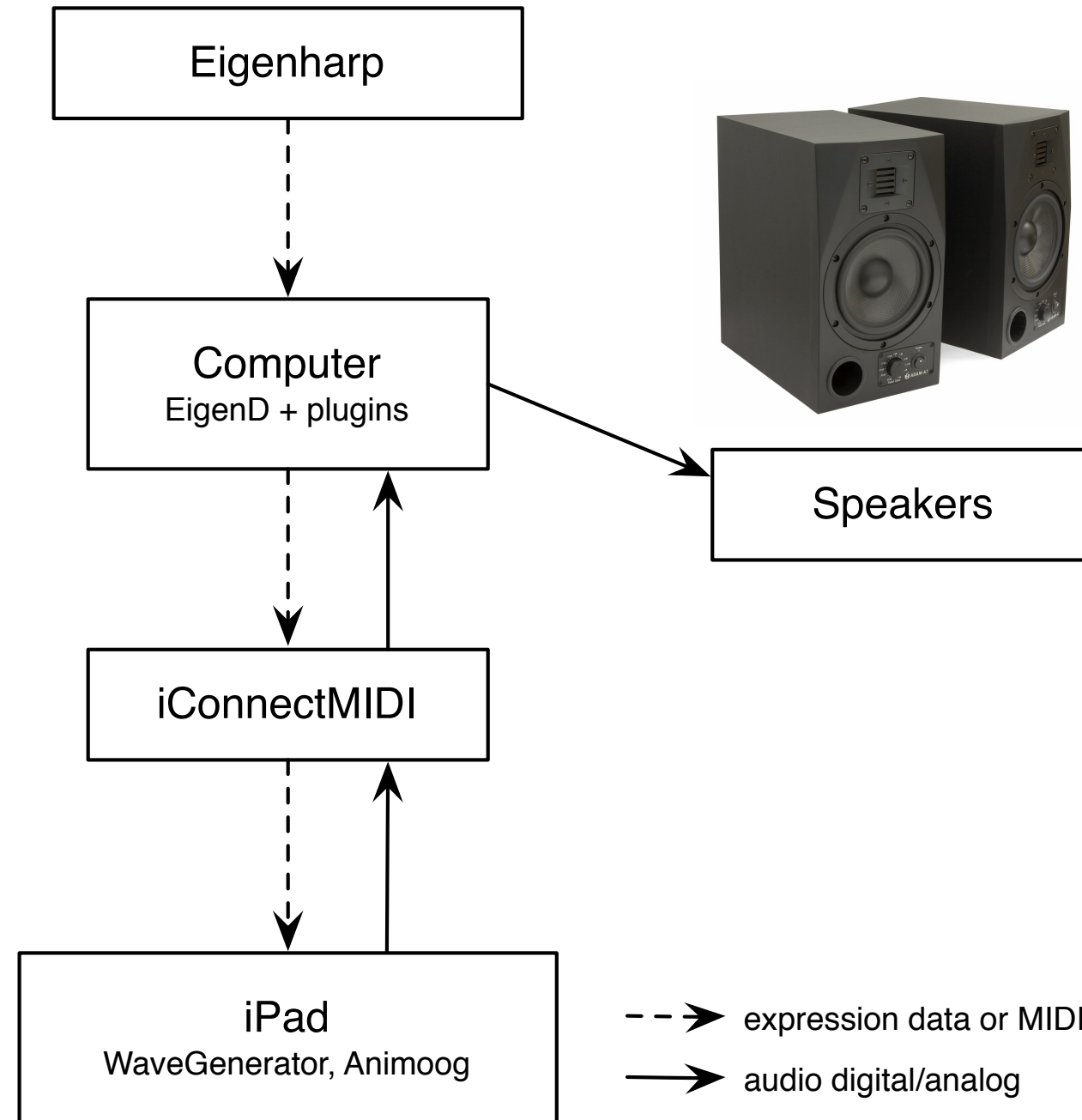
Traditional MIDI designed for  
31.25 kBaud ~ 1 kHz of messages

Audio is independent from MIDI



High-speed USB MIDI ~ 400x faster  
USB Audio Passthrough

One cable ...  
and the iPad integrates perfectly



Instruments for all humans



# OHMI *The One-Handed Musical Instrument Trust*

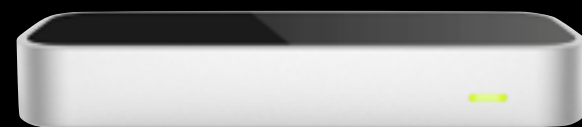
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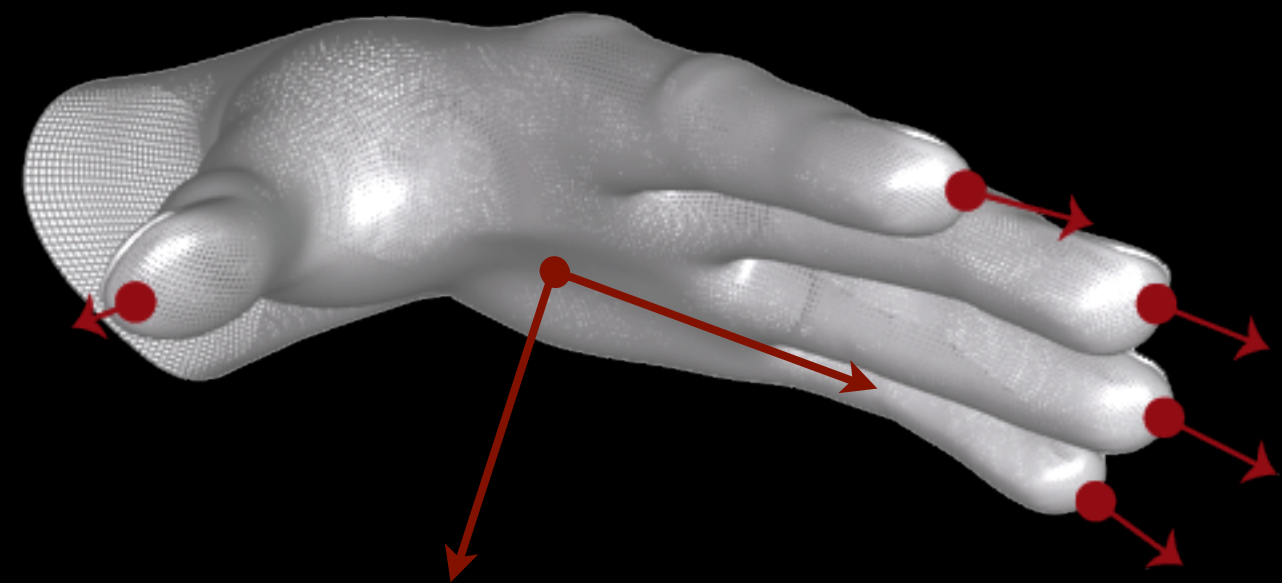


Human body interaction

Human body interface

# Leap Motion Controller





- 10 $\mu$ m of real resolution
- 200x more accurate than Kinect
- Adaptive sample rates: 60-300 hz, defaults to 120 hz
- Data rate is preserved from end to end

Latency just below gesture threshold,  
barely noticeable

New interaction rules

New user interface

New protocols

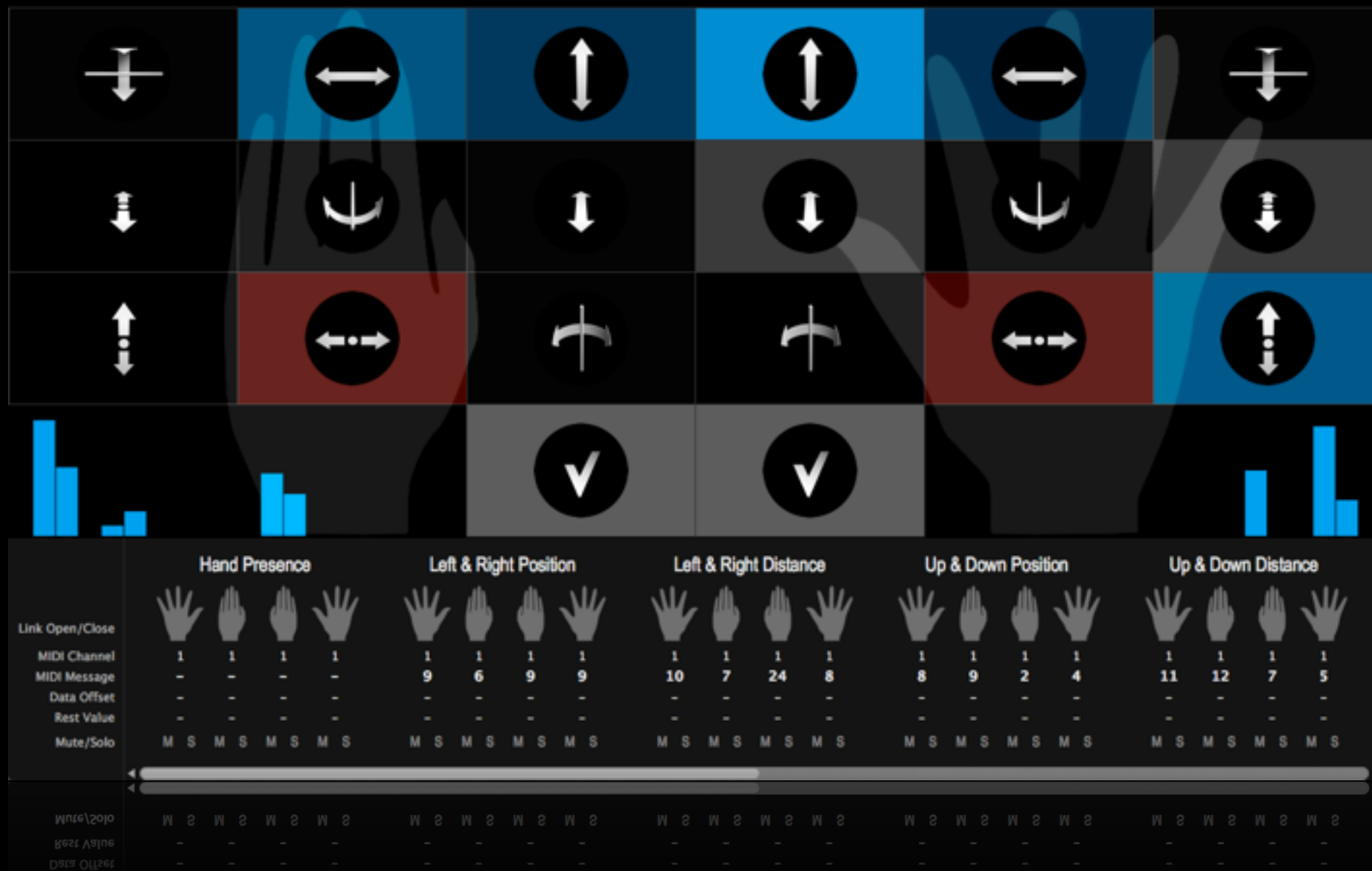


10 thousand free developer units

Figure out the possibilities together



*Multi-dimensional expression through hand gestures*









*Video game and operating system control through gestures*

### Skyrim

Trigger Mode

1 Finger

Swipe Up

Favorites

Swipe Down

...

Swipe Left

...

Swipe Right

...

Circle Left

...

Circle Right

...

2 Fingers

Swipe Up

Quick skill tree

Swipe Down

Quick map

Swipe Left

Quick magic

Swipe Right

Quick inventory

Circle Left

...

Circle Right

...

+ Fingers

Swipe Up

Open Journal

Swipe Down

Power/Dragon shout

Swipe Left

...

Swipe Right

...

Circle Left

Left Click

Circle Right

Right Click

Incline closed

Upward

...

Downward

...

Speed/Rest

50%

60%

Inward

...

Outward

...

Speed/Rest

50%

60%

Rapid

Multi Taps

Switch Mode

Steering Mode

Move

Like

Mouse

Gamepad

Upward

Walk forward

Downward

Walk backward

Speed/Rest

50%

15%

Leftward

Strafe left

Rightward

Strafe right

Speed/Rest

50%

15%

Forward

Ready/Sheath weapon

Backward

...

Speed/Rest

50%

15%

Finger

Tap

Activate/use

Thumb

Lift

...

Hand

Opened

...

Closed

Left weapon/Block

Incline

Flat

...

Upward

Walk/run

Downward

...

Speed/Rest

50%

60%

Inward

...

Outward

Reposition

Speed/Rest

50%

60%

Rapid

Multi Taps

Switch Mode

Steering Mode

Move

Like

Mouse

Gamepad

Upward

Look up

Downward

Look down

Speed/Rest

50%

15%

Leftward

Look left

Rightward

Look right

Speed/Rest

50%

15%

Forward

Sneak mode

Backward

...

Speed/Rest

50%

15%

Finger

Tap

Jump

Thumb

Lift

...

Hand

Opened

...

Closed

Right weapon

Incline

Flat

...

Upward

...

Downward

...

Speed/Rest

50%

60%

Inward

...

Outward

Reposition

Speed/Rest

50%

60%

Rapid

Multi Taps

Switch Mode

Trigger Mode

1 Finger

Swipe Up

Menu up

Swipe Down

Menu down

Swipe Left

Menu left

Swipe Right

Menu right

Circle Left

Menu back

Circle Right

Menu confirm

2 Fingers

Swipe Up

...

Swipe Down

...

Swipe Left

...

Swipe Right

...

Circle Left

...

Circle Right

...

+ Fingers

Swipe Up

Change view

Swipe Down

...

Swipe Left

...

Swipe Right

...

Circle Left

...

Circle Right

...

Incline closed

Upward

...

Downward

...

Speed/Rest

50%

60%

Inward

...

Outward

...

Speed/Rest

50%

60%

Rapid

Multi Taps

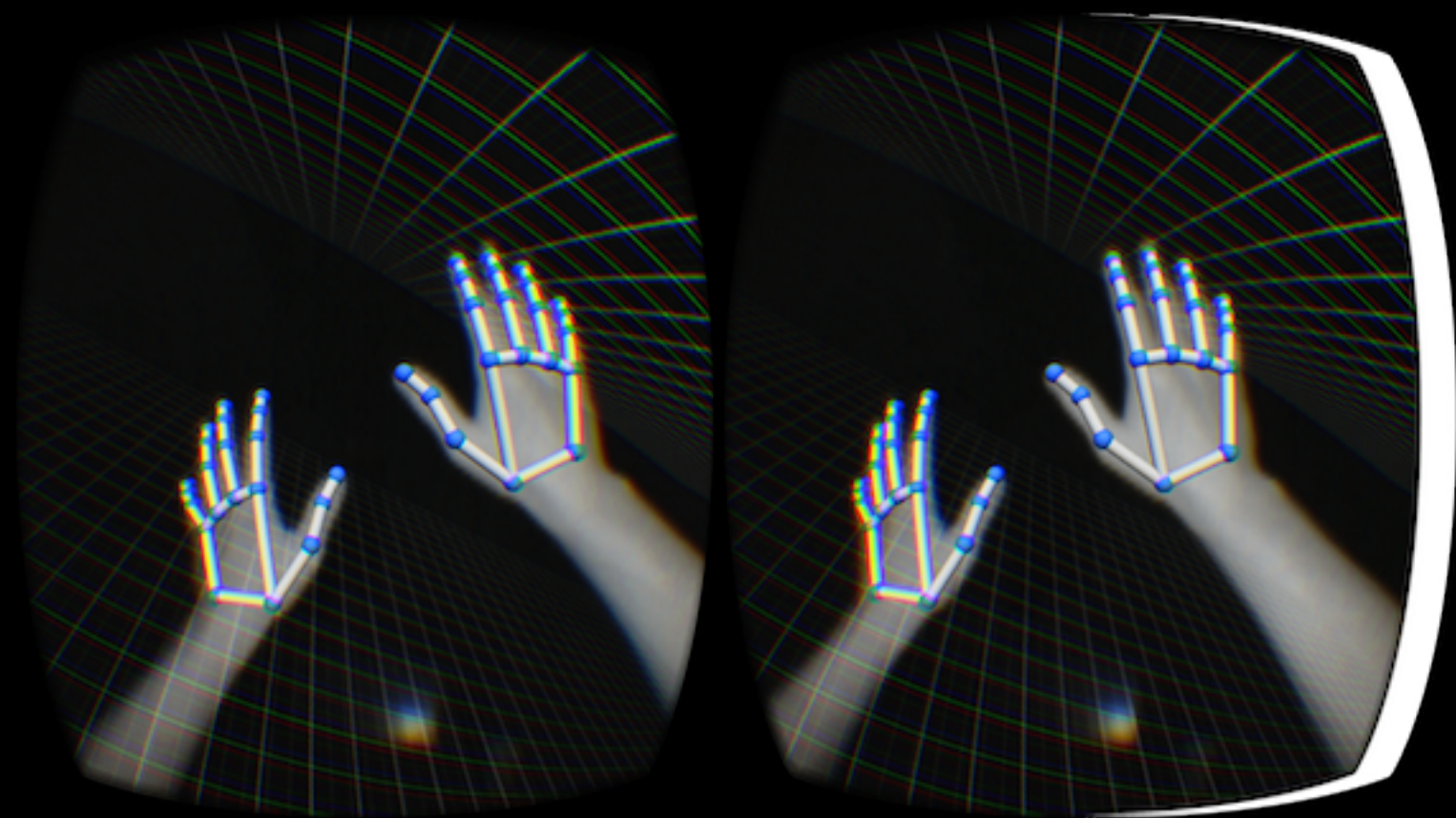
Switch Mode



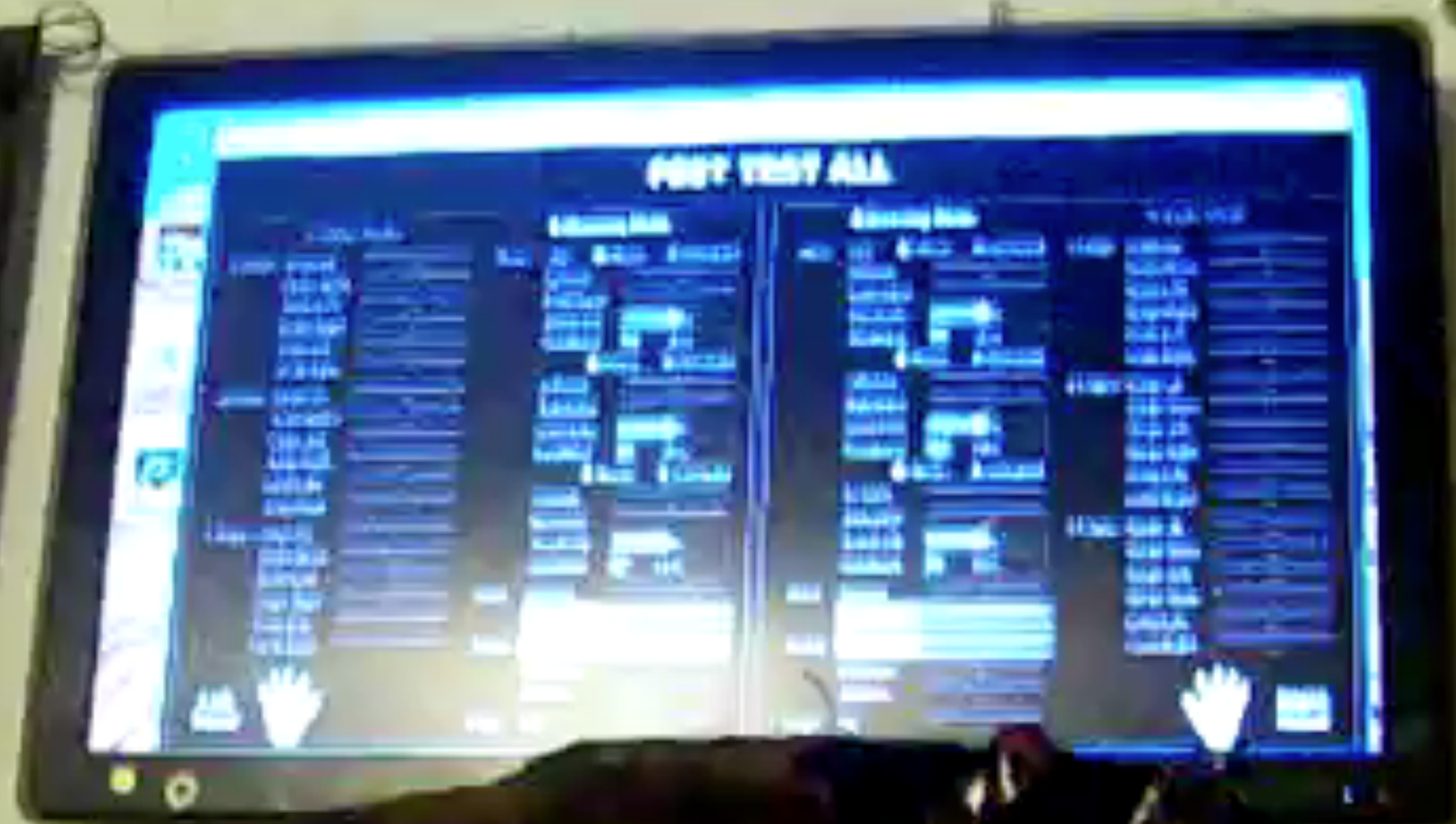
Perfect for Virtual Reality








Think of medical applications





A close-up photograph of a surgical procedure. A surgeon, wearing blue scrubs and blue gloves, is performing a 'Leap Motion' on a patient's hand. The patient's hand is resting on a blue surgical drape. The surgeon's hands are positioned over the patient's hand, with the fingers of the surgeon's hands resting on the patient's hand. The patient's hand is held steady by the surgeon's hands. The background is dark, and the lighting is focused on the surgical site.

**Leap Motion close to the Op site**



A collage of various smart and wearable technologies. At the top left are two black smart earbuds. Below them is a black VR headset with a blue 'Oculus' logo. To the right of the earbuds is a small black robot with a blue '360' logo. Further right is a red and white smart glasses frame. Below the robot is a black wristband with a blue '360' logo. To the right of the wristband is a black smartwatch with a blue '360' logo. Below the wristband is a black smartwatch with a blue '360' logo. To the right of the smartwatch is a black smartwatch with a blue '360' logo. Below the smartwatch is a black smartwatch with a blue '360' logo. In the center, the text 'So much is going on!' is written in white. At the bottom left is a green circuit board. To the right of the circuit board is a black 3D printer. At the bottom right is a black 3D printer with an orange object being printed.



Don't be afraid  
Experiment  
Collaborate



Programmers  
Put the soul in a machine

Programmers  
Change the world

