HOW TO:

PROGRAM YOUR BED

JOHN HARDY 2014

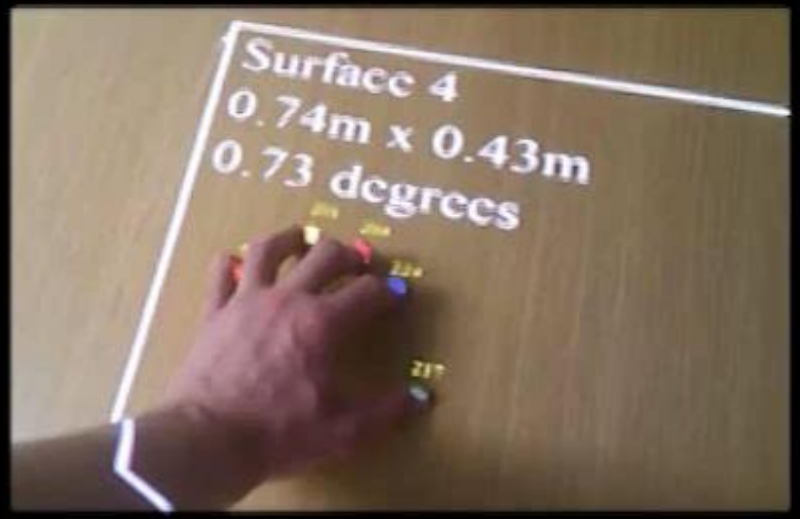
@_JOHNHARDY | #OGN34

WHAT?

1. COLLABORATION
2. COMPLEXITY
3. CONTEXT
4. COMFORT

Ubi Displays Toolkit

create interactive projected displays anywhere



John Hardy
john.highwire-dtc.com

Highwire DTC
Lancaster University, UK

PROJECTED DISPLAYS

PROJECTED DISPLAYS

PROBLEM

1. TOO HARD TO BUILD

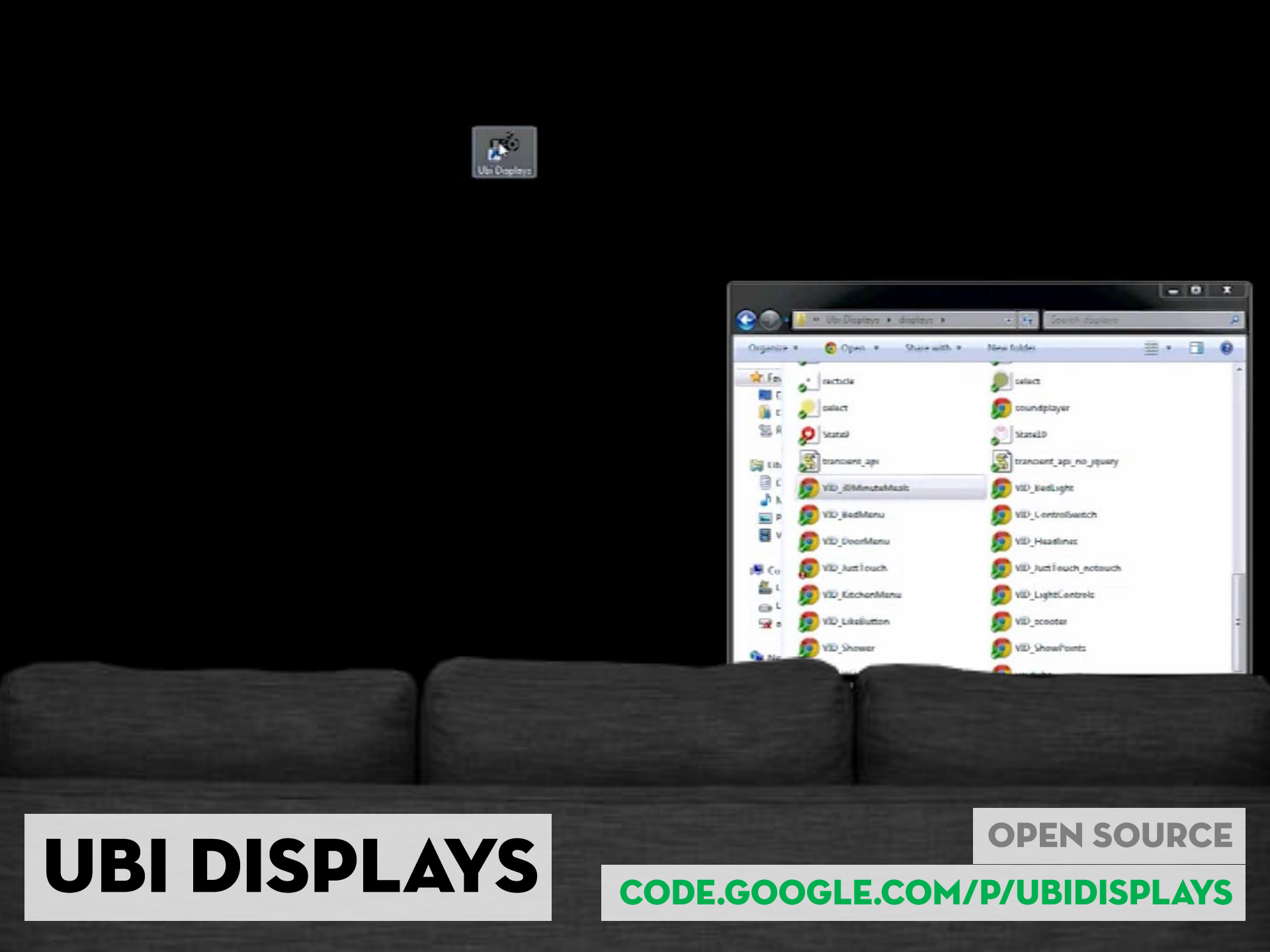
2. VERY SPECIFIC SKILLS

3. HETEROGENEOUS DESIGN

SOLUTION

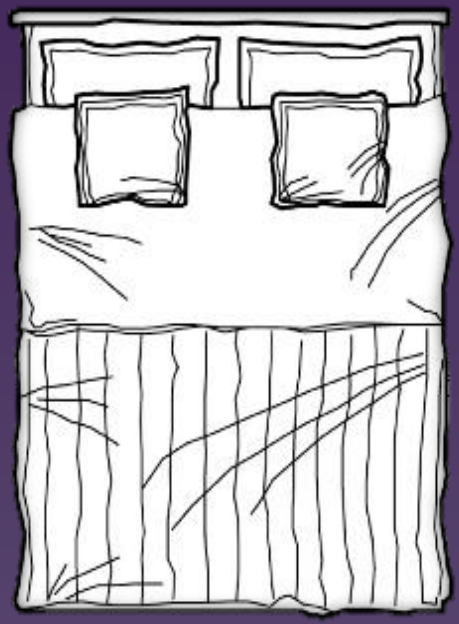
USE THE TOOLKIT

MS KINECT + PROJECTOR + WEB CONTENT

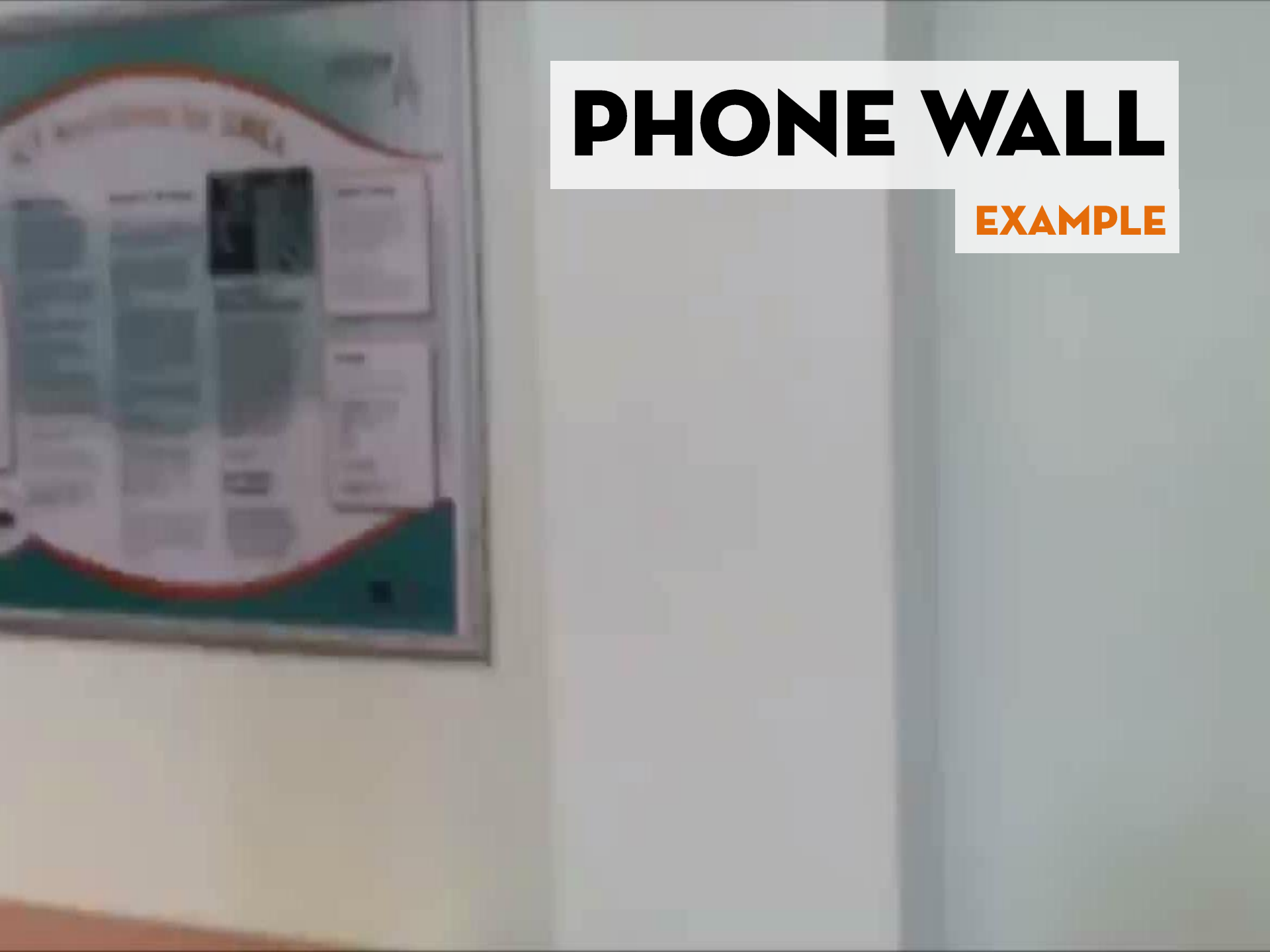

Ubi Displays
UBI DISPLAYS
OPEN SOURCE
CODE.GOOGLE.COM/P/UBIDISPLAYS

LIGHT-UP BED POST

CODE EXAMPLE

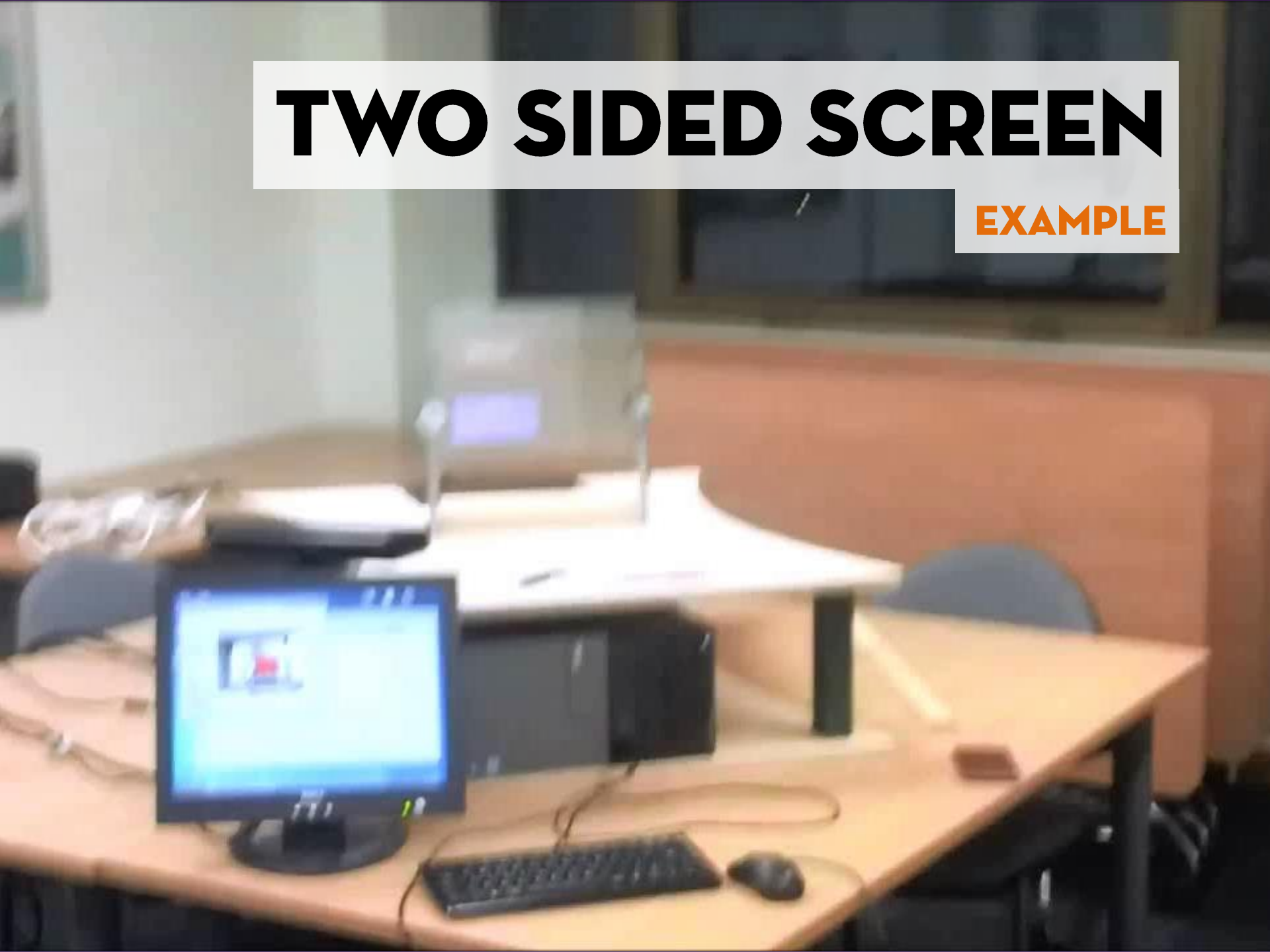


```
$('BODY')
    .ON( 'TOUCHSTART', FUNCTION() {
        // TOGGLE THE BED GLOW
        $('BODY').FADETOGGLE()
        // TOGGLE THE BEDROOM LIGHT
        TOGGLE_LIGHT(TABLE)
    })
```



PHONE WALL

EXAMPLE


TWO SIDED SCREEN
EXAMPLE

FEATURES

A. PROGRAMMABLE CONTENT + API

B. MULTIPLE DISPLAYS PER PROJECTOR

C. PROJECTION MAPPING

D. PHYSICAL RESPONSIVE DESIGN + INTERACTION

DESIGN

A. SUBTLE > GRAPHICAL

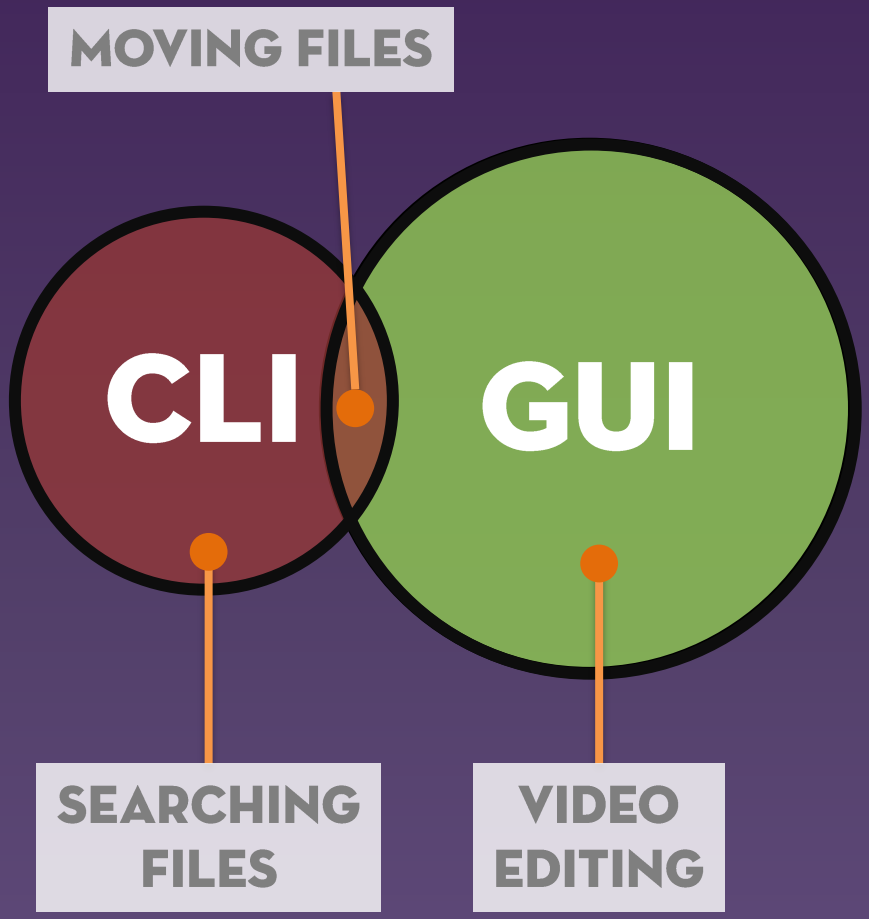
B. PRESENCE DETECTION IS POWERFUL

C. DIGITAL DECORATION (DIGITAL RESPECTS PHYSICAL)

D. PROTOTYPE, PROTOTYPE, PROTOTYPE

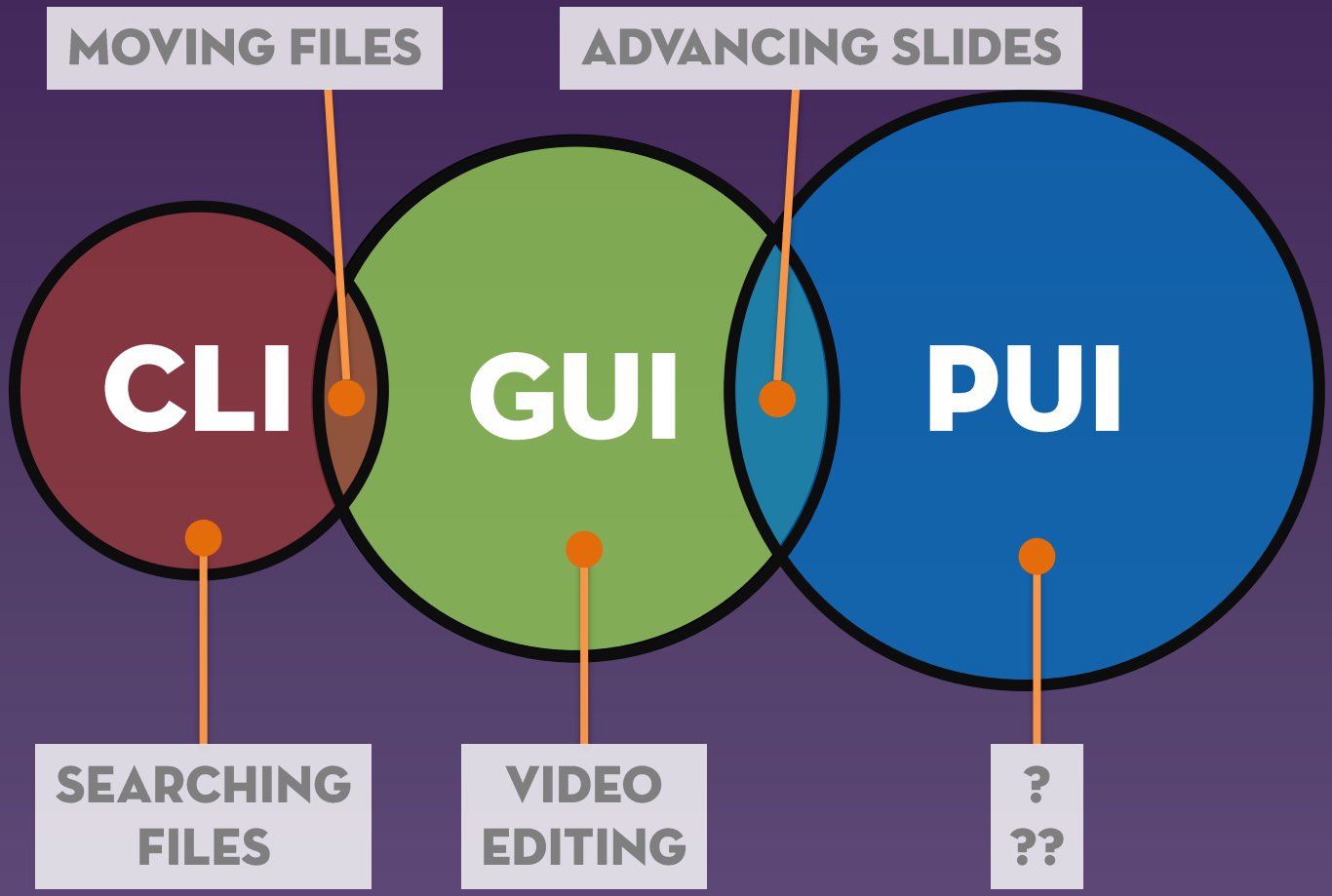
EXPANDING THE SET OF COMPUTABLE THINGS

ALEX KAUFFMAN



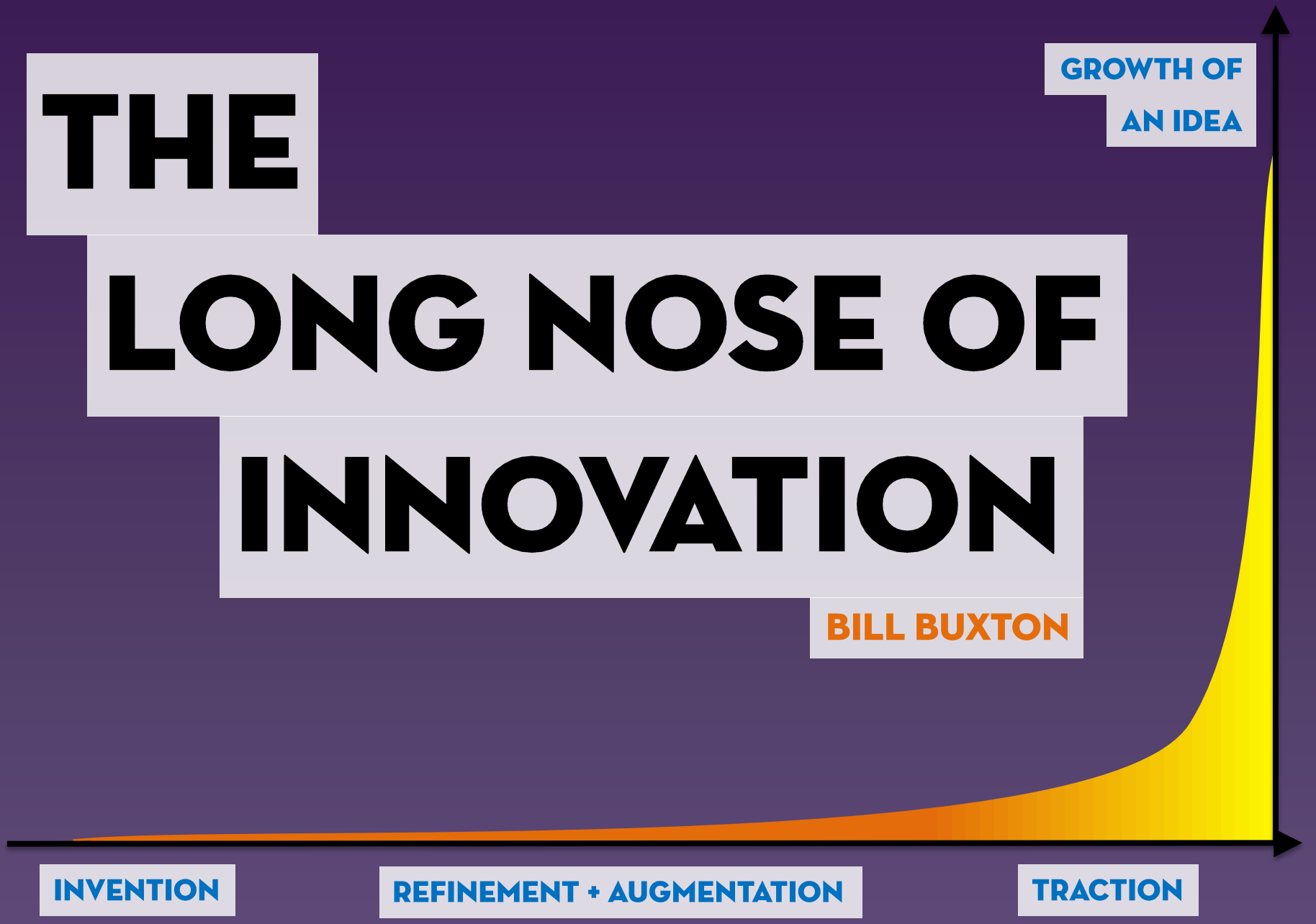
EXPANDING THE SET OF COMPUTABLE THINGS

ALEX KAUFFMAN



THE LONG NOSE OF INNOVATION

BILL BUXTON



SUMMARY

1. DOWNLOAD AND TRY UBI DISPLAYS

2. WEB DESIGN FOR SPACES AND PLACES

3. BUILD AWESOME STUFF!

JOHN HARDY 2014

@_JOHNHARDY | #OGN34

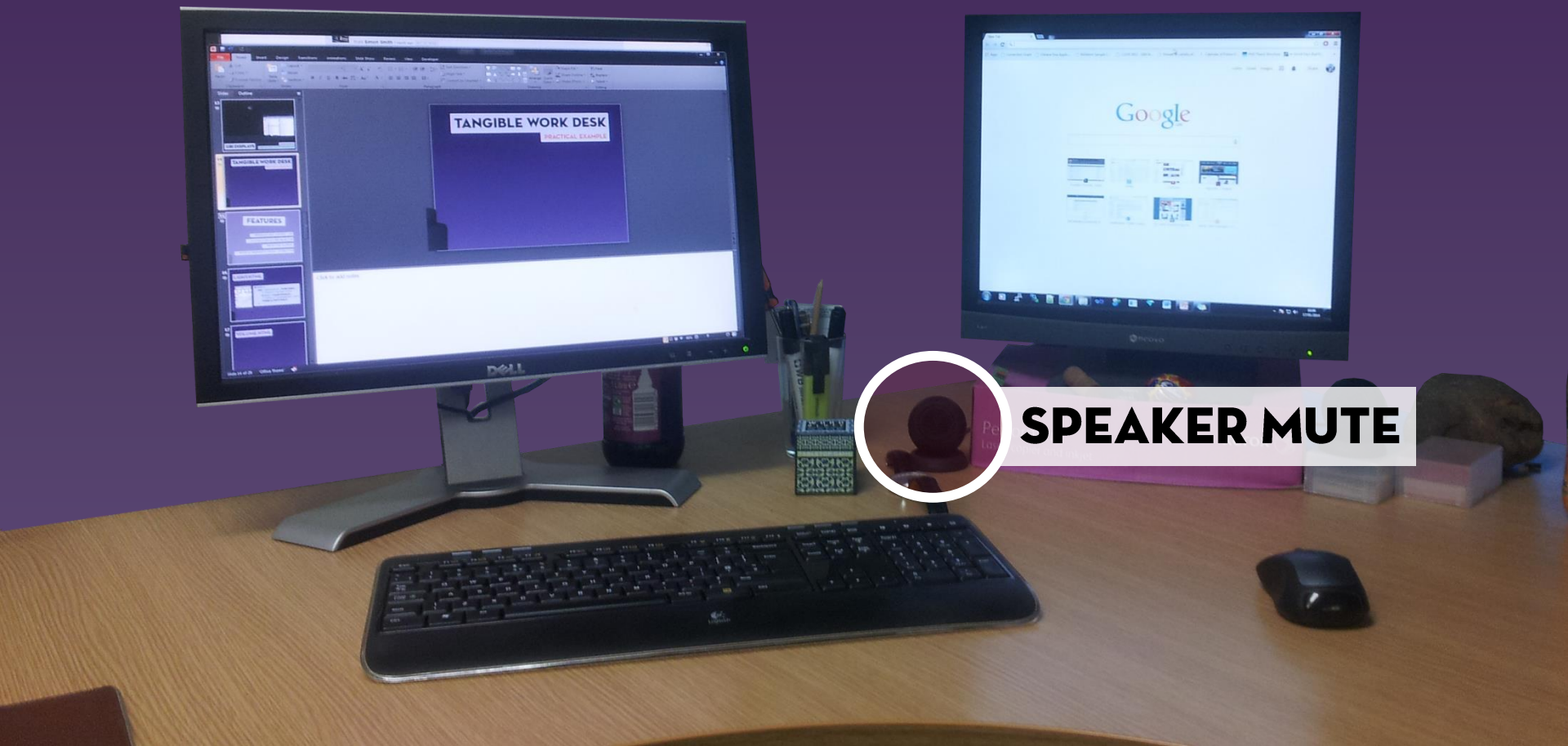
THANK YOU!

DOWNLOAD THE TOOLKIT HERE

https://code.google.com/p/ubidisplays

TANGIBLE WORK DESK

SIMPLE EXAMPLE



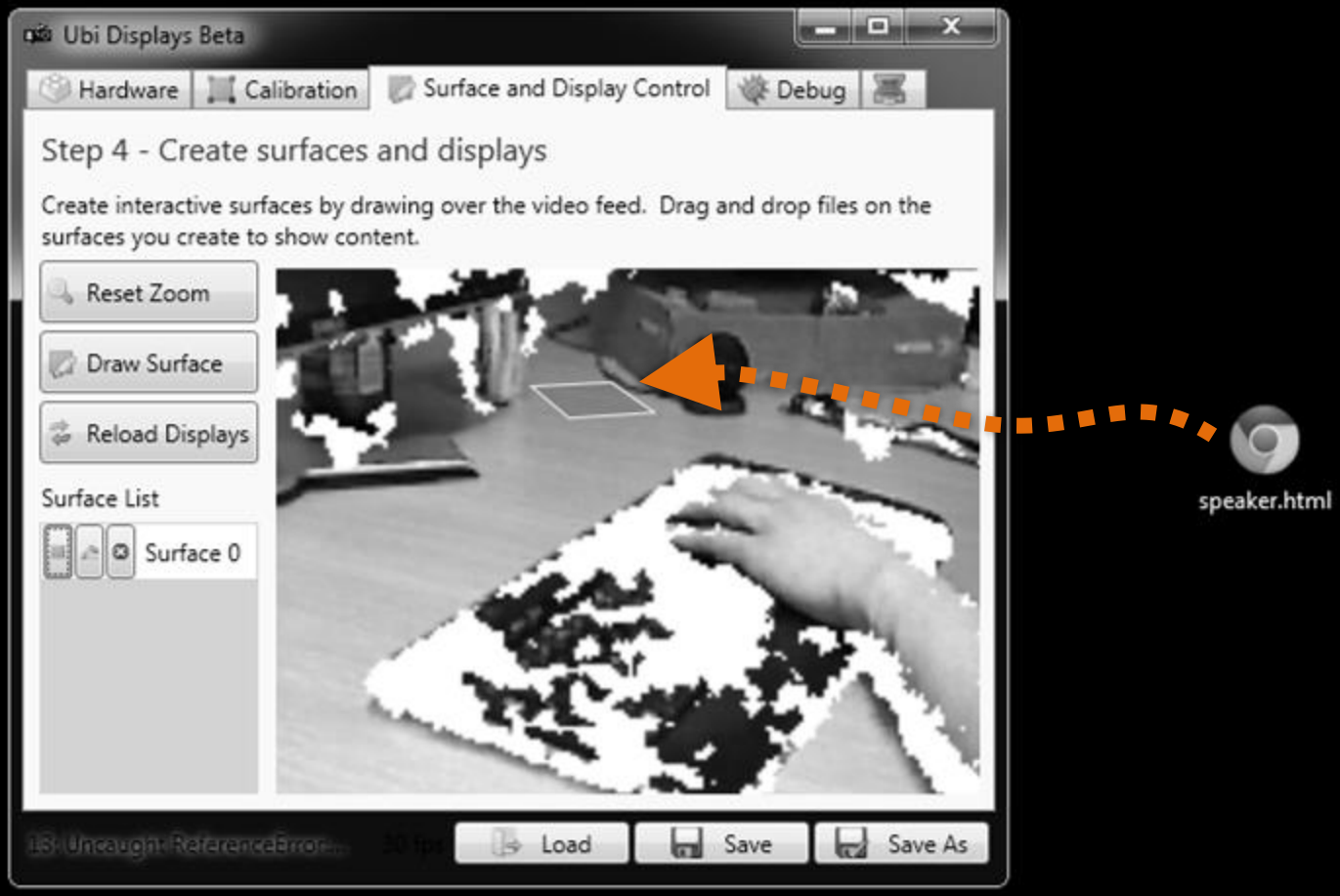
TANGIBLE WORK DESK

SPEAKER.HTML

```
<html>
    <head>
        <title>Volume Switch</title>
        <style type="text/css">
            html, body { overflow: hidden; margin: 0; padding: 0;  background-color:black; border-radius: 50%; }
        </style>
        <script src="../js/jquery-1.8.2.js" type="text/javascript"></script>
        <script src="../js/ubidisplays-multitouch-0.8.js" type="text/javascript"></script>
    </head>

    <body>
        <script>
            $(document).ready(function() {
                // Create a new presence detector.
                var pd = new PresenceDetector("area", 0.05, 0.02);

                // Called when the speaker enters the area.
                pd.onFound = function(bState) {
                    Authority.request("startprocess", {process:"Volume.exe", arguments: "+-"});
                    $("body").css("background-color", "green")
                    $("body").fadeIn().delay(100).fadeOut();
                }

                // Called when the speaker leaves the area.
                pd.onLost = function(bState) {
                    Authority.request("startprocess", {process:"Volume.exe", arguments: "mute"});
                    $("body").css("background-color", "red")
                    $("body").fadeIn().delay(100).fadeOut();
                }
            });
        </script>
    </body>
</html>
```

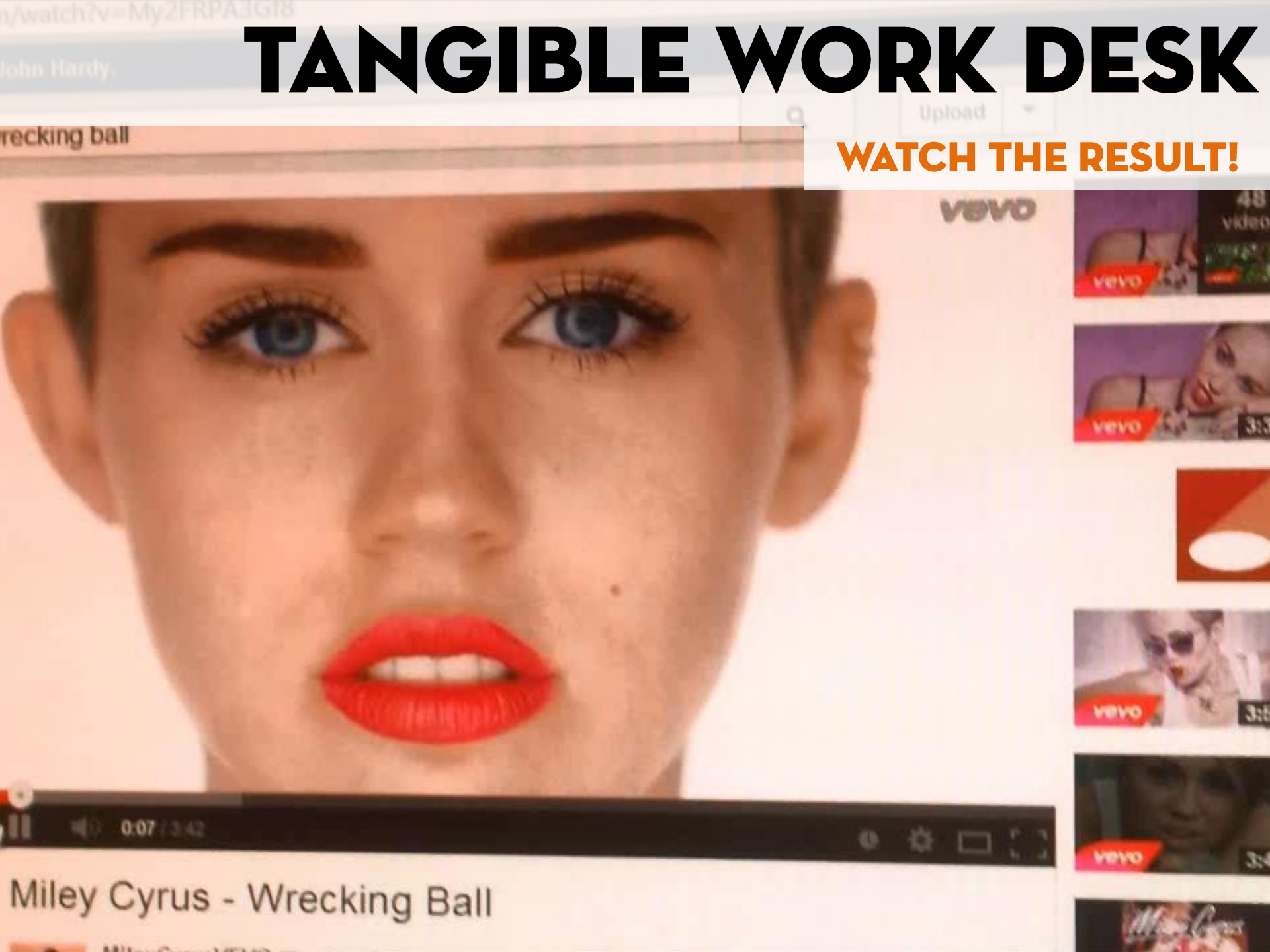
TANGIBLE WORK DESK

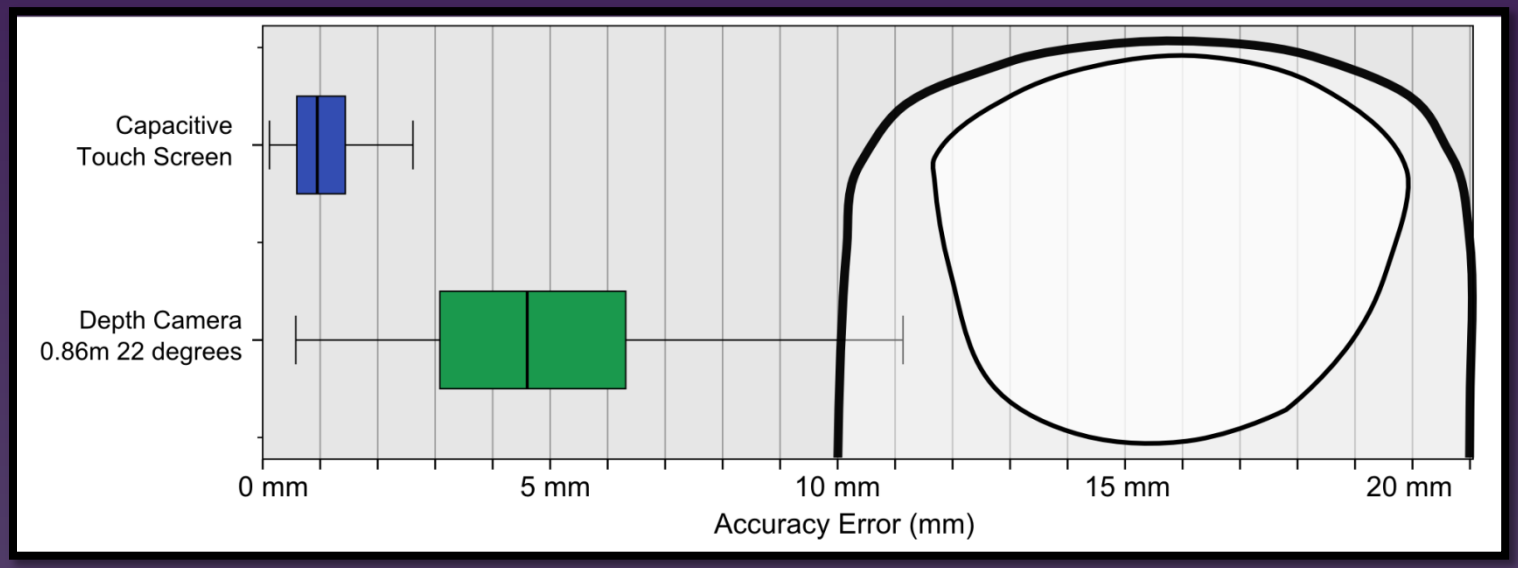
DRAG AND DROP ONTO SURFACE



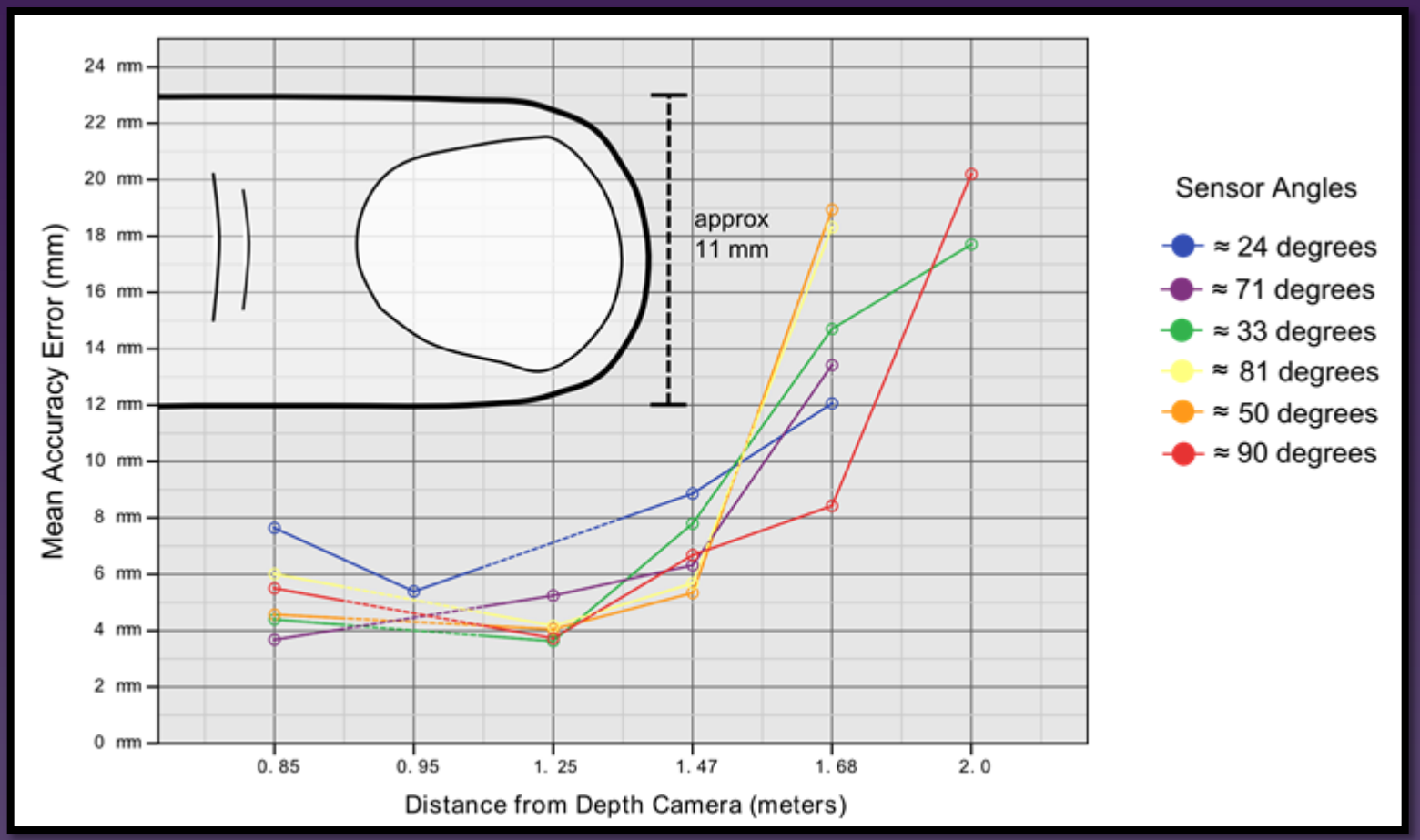
TANGIBLE WORK DESK

WATCH THE RESULT!

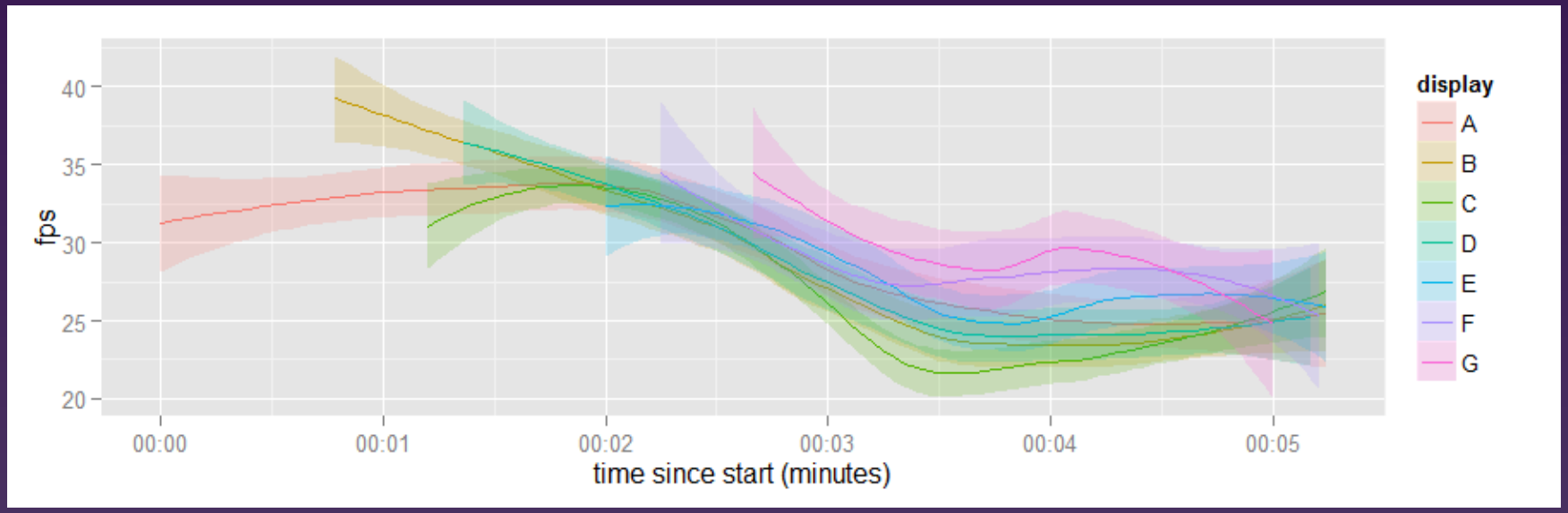


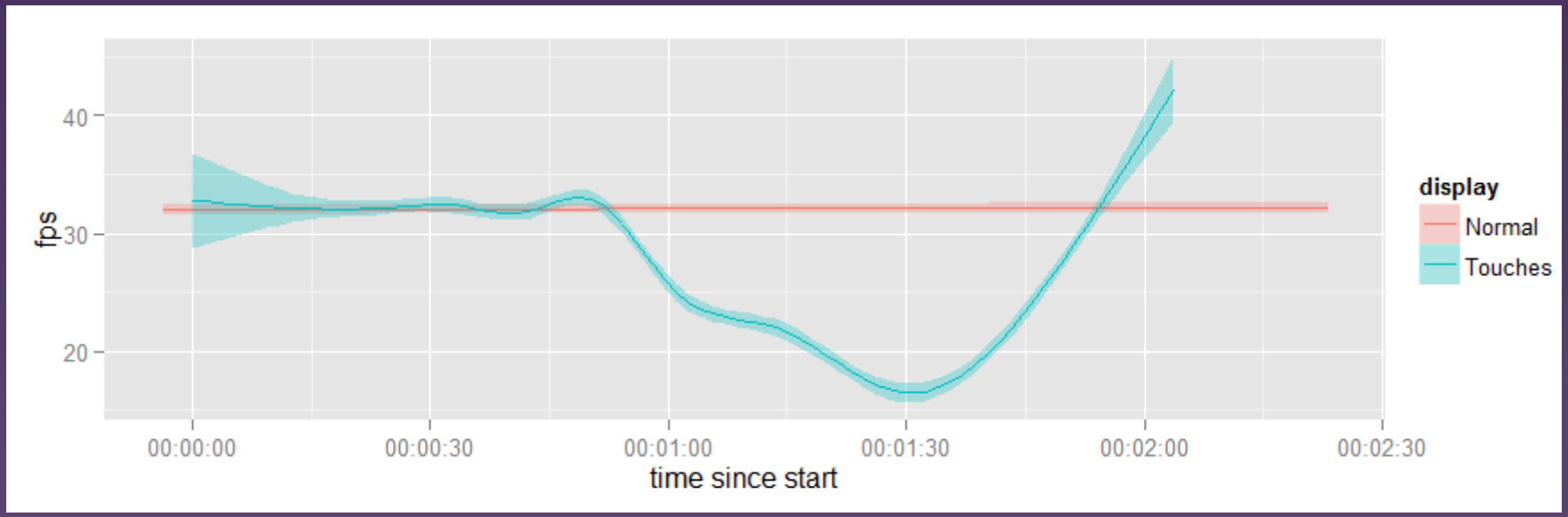


ACCEPTABLE TOUCH ACCURACY AND ERROR BOUNDS



PROJECTOR AND KINECT POSITION INVARIANT





CONTENT PERFORMANCE DEGRADES GRACEFULLY