

Interaction design beyond the pixel.

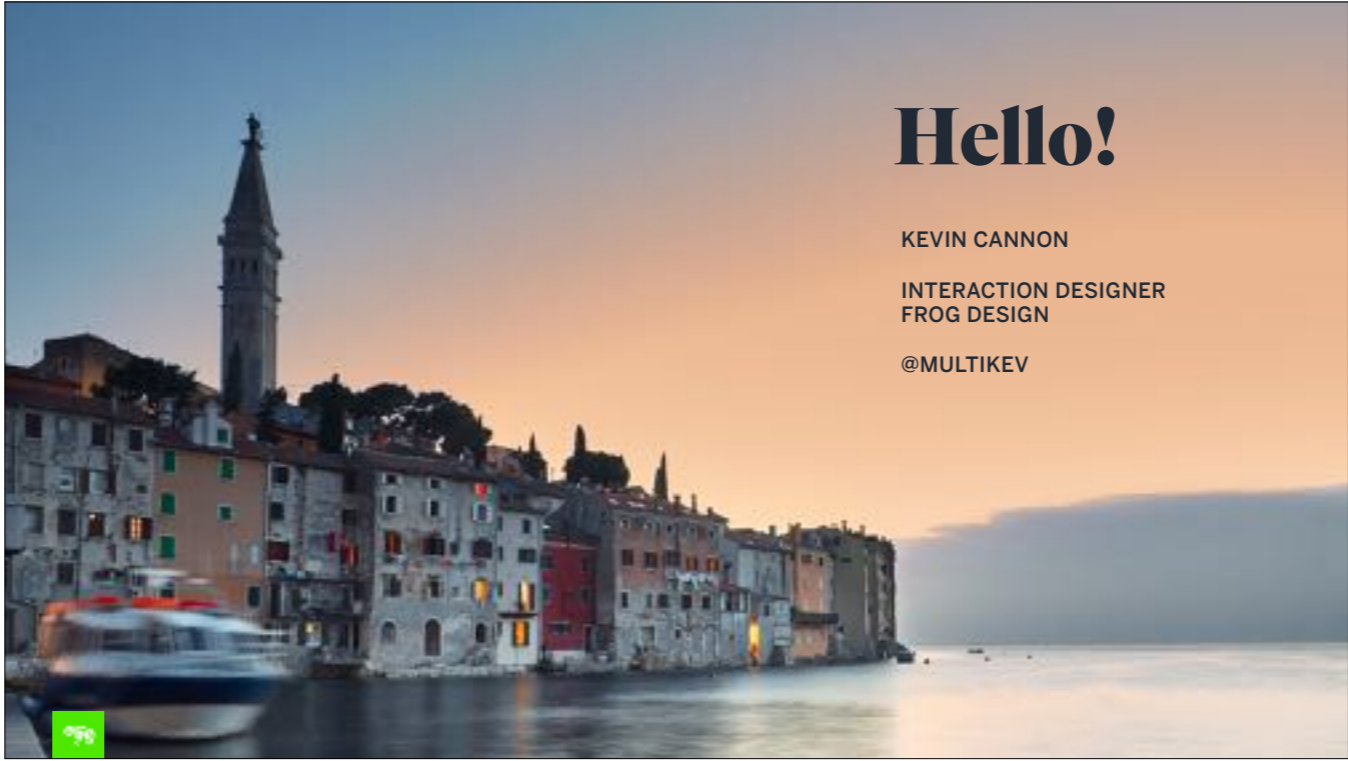
1 SEPT 2017



frog

WEB
SUMMER
CAMP

Photo by Daniel von Appen on Unsplash



Hello!

KEVIN CANNON

INTERACTION DESIGNER
FROG DESIGN

@MULTIKEY



frog





ABOUT US

Locations

LARGEST: NYC - 120 PEOPLE

SMALLEST: SINGAPORE - 3 PEOPLE



10 studios

500 people




BEYOND THE PIXEL

Today



AGENDA

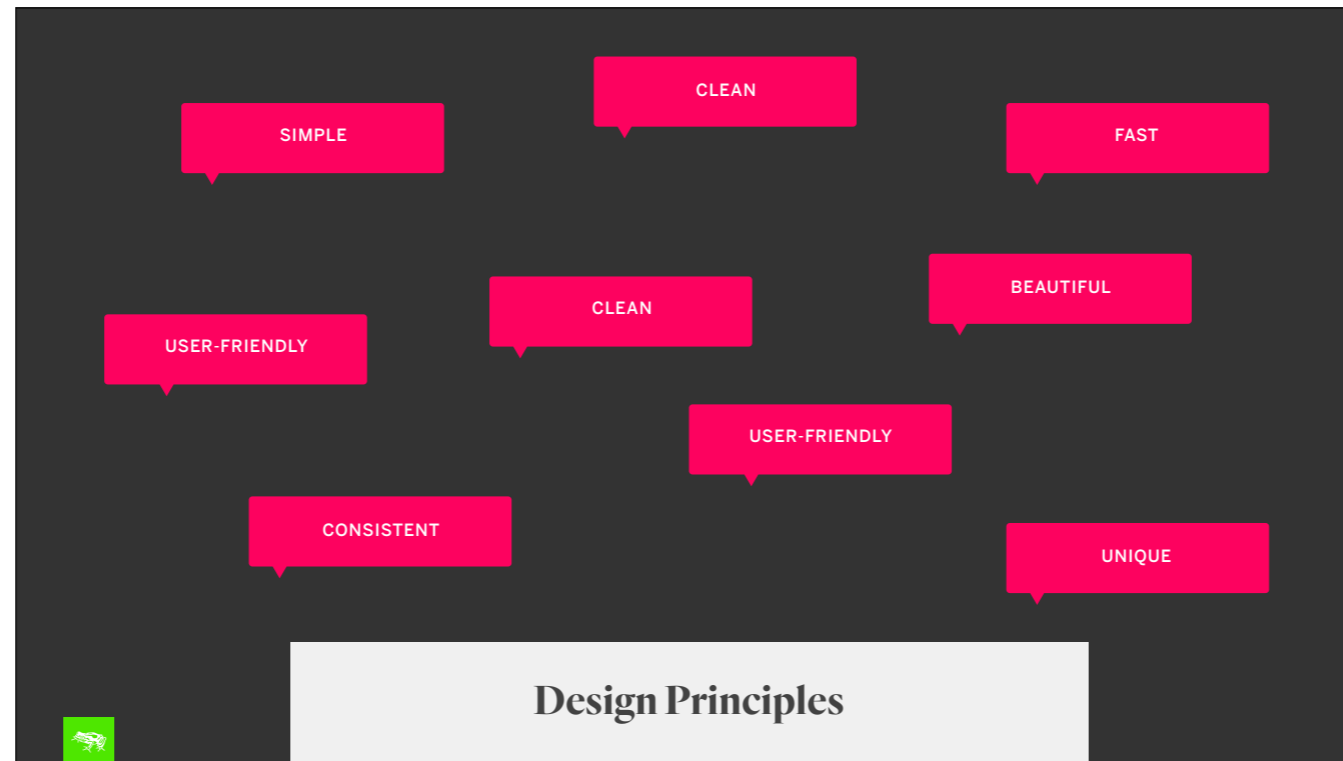
- | | |
|--------------------|--|
| 13:45 | Intro
Digital Ergonomics
Exercises: Rapid sketching exercises
Design Principles |
| 15:15-15:30 | 
Exercise: Prototyping
Share-out & Feedback |
| 16:50 | Wrap Up |



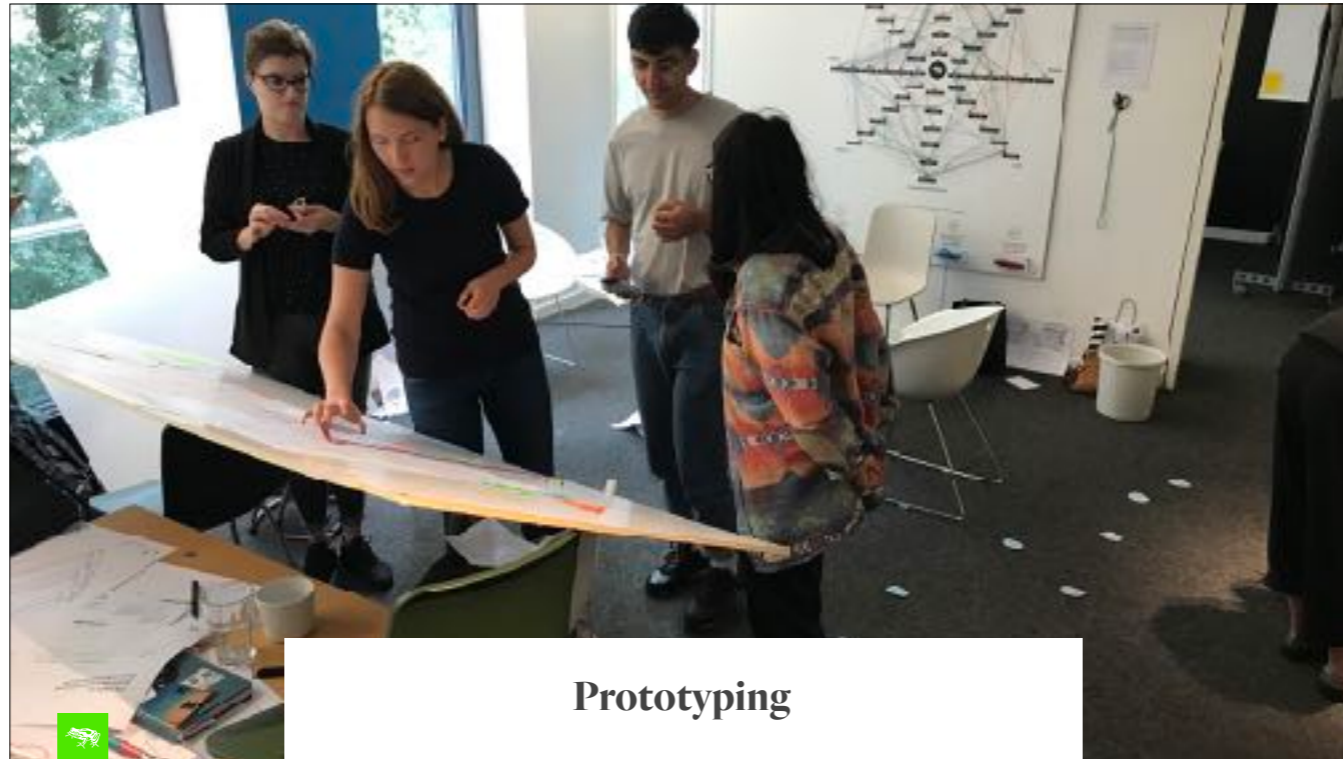


Iterative Sketching

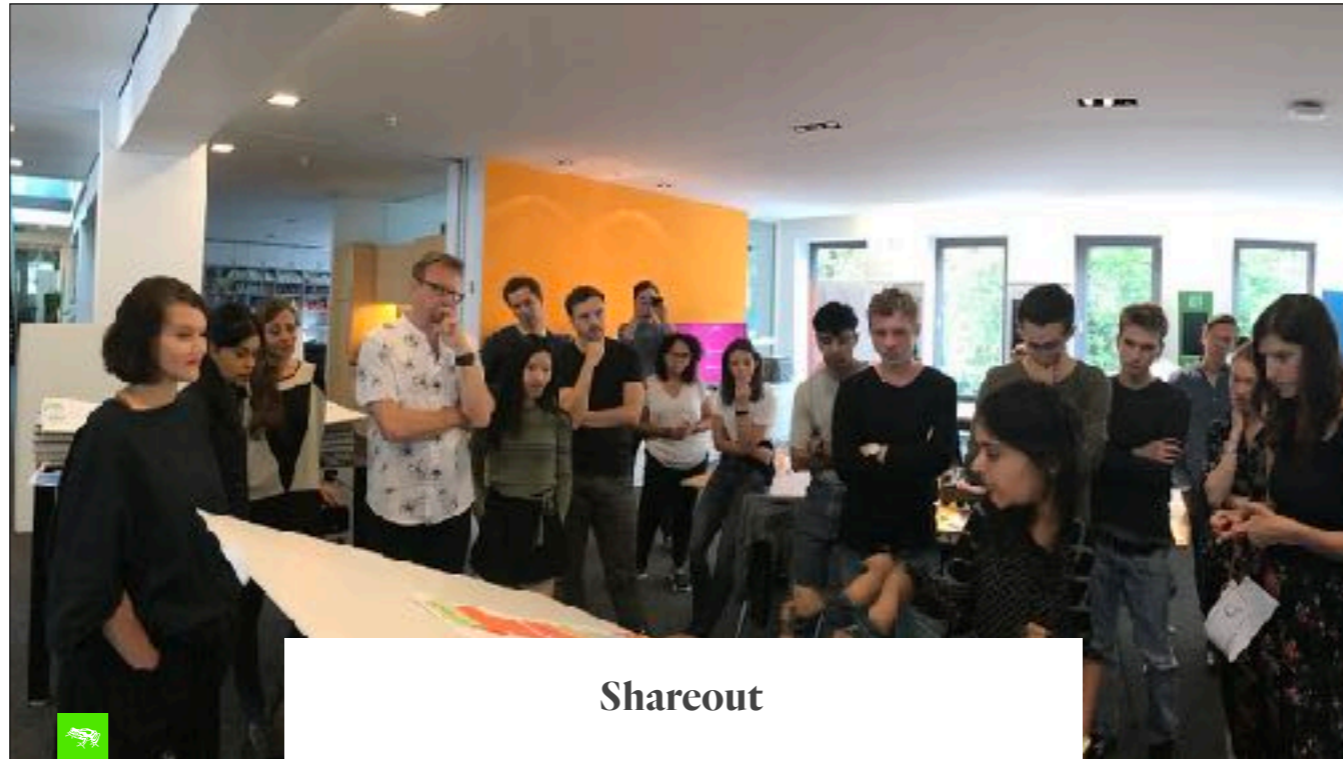




How do we write more meaningful principles than "simple"?



Since we're talking about physical things, we'll mock things up at scale.



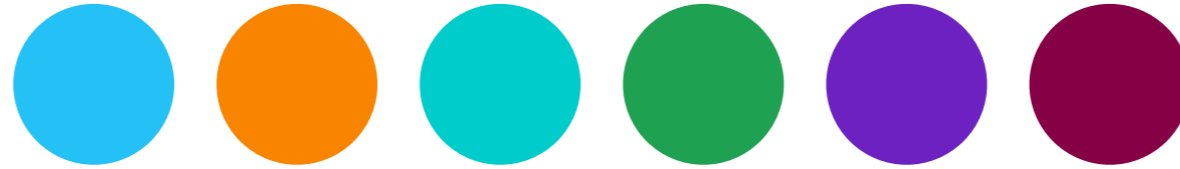
Shareout

We'll learn from each-other.

Timekeeping

We need to wrap up at 16:50

Let's form 6 groups

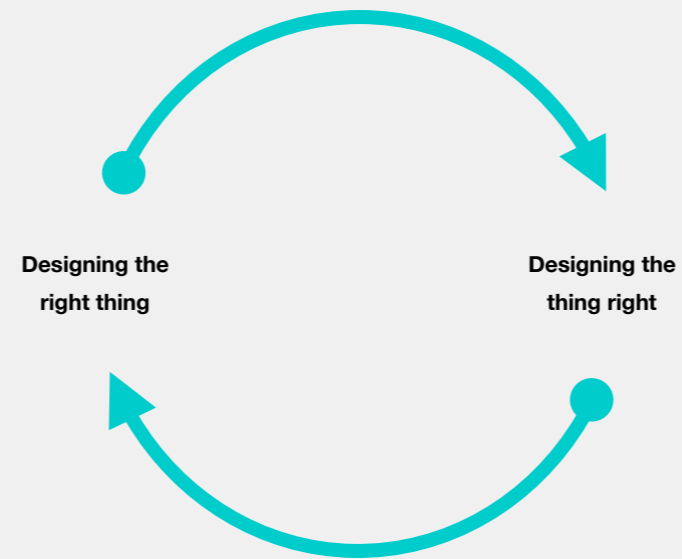


BEYOND THE PIXEL

Interaction design beyond the pixel



BEYOND THE PIXEL

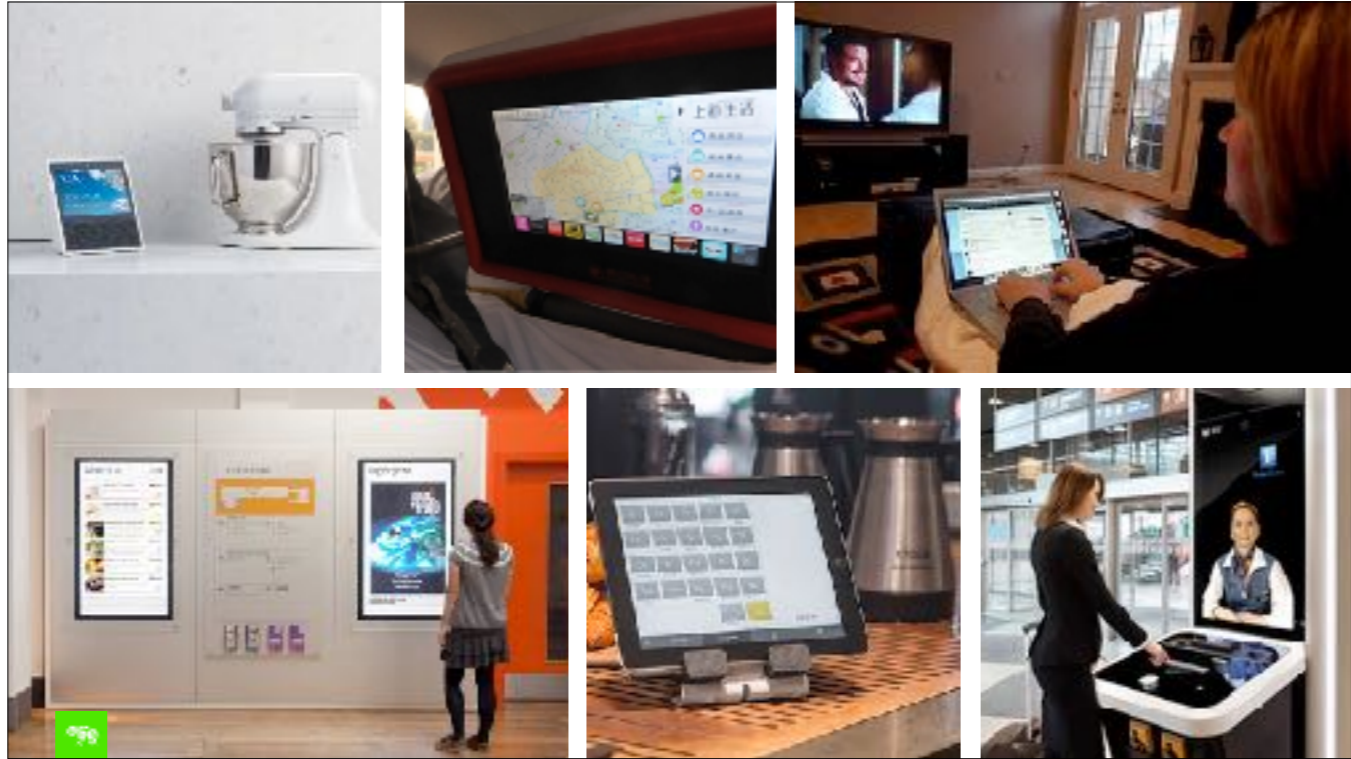


Left:

- User research
- Product strategy
- Service design

Right:

- Usability
- Information architecture
- Ergonomics

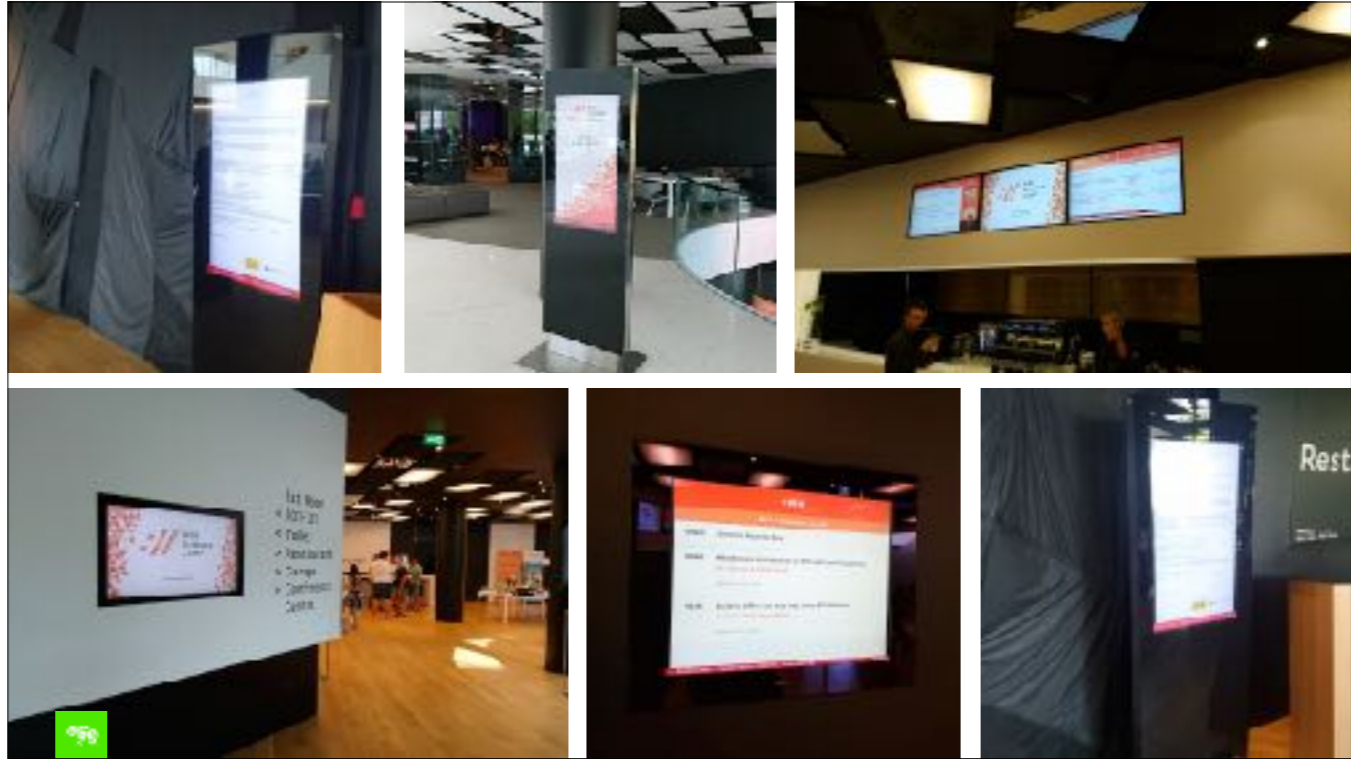


Context

Screens are getting put everywhere.

Museums

Hybrid devices like Amazon Echo Show.



Context

Screens are getting put everywhere.

Museums

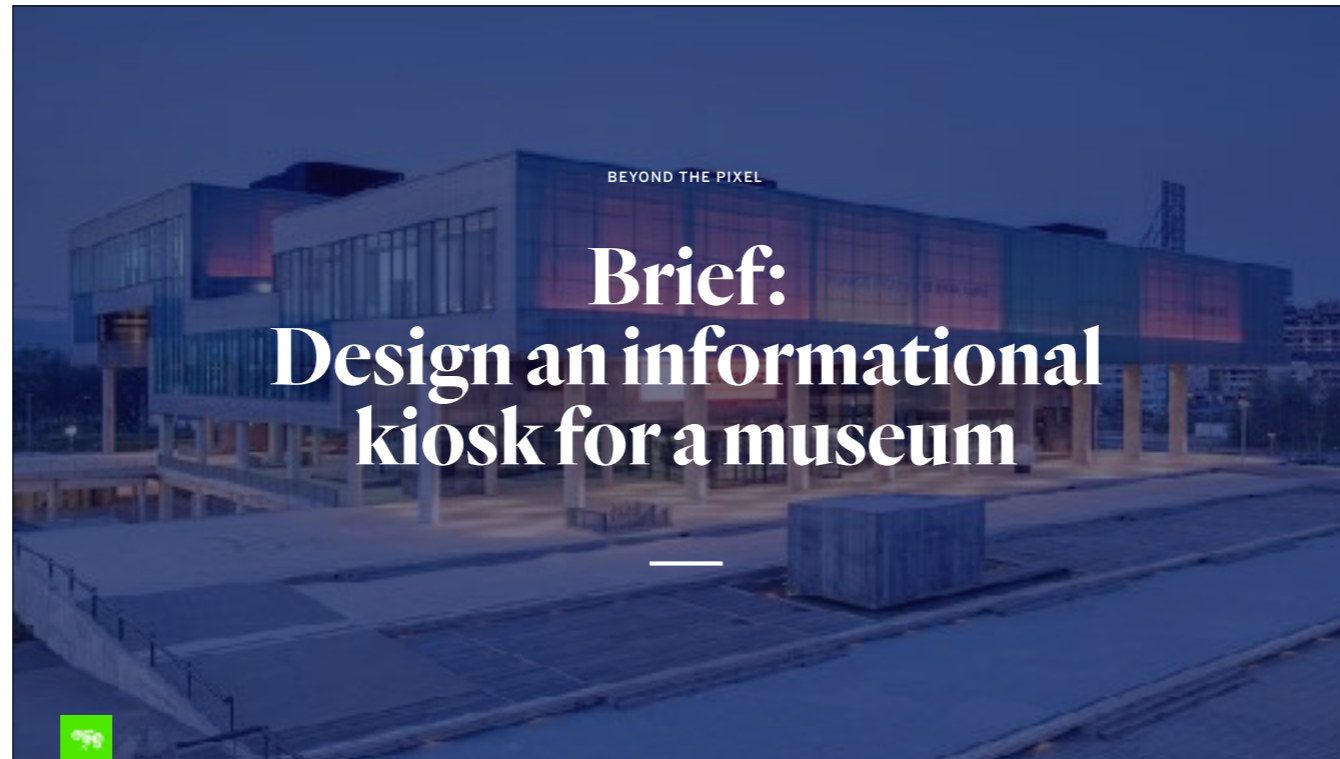
Hybrid devices like Amazon Echo Show.

BEYOND THE PIXEL

Your brief



098



A potential client has come to you and asked you to design the UI for a kiosk for a museum. They have already placed an order for the kiosks and are looking for a designer to design the interface for the kiosks. They have purchased multiple ones and will place them around the museum a key places. If the initial rollout is successful, and engagement is high, they would like to expand use of kiosks further.

As the client is partially funded by the government, they are particularly concerned with making sure the kiosk is usable by all visitors, and that is a key factor in which vendor they choose for this project.

Each team will have a different form factor



1. Terminal

Large widescreen display
at an angle.



2. Table

Large flat table for use by
multiple people.



3. Large Display

Large vertical touchscreen display with dual use
for advertising and way finding.



BEYOND THE PIXEL

Exercise 1.1

Crazy 8s: Rapid quiet sketching

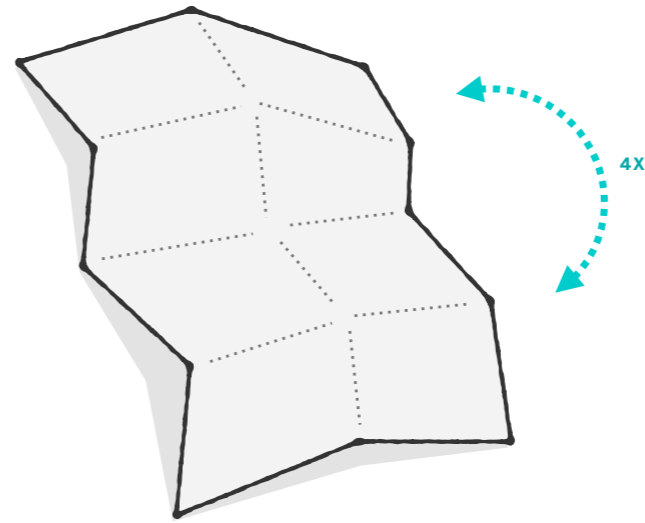


BEYOND PIXELS

Crazy 8s

**Take A4 sheets.
Fold into 8.
Use big markers.
Do individually.
Rapid sketching.**

 **5 mins.**



BEYOND PIXELS

Use Case 1:

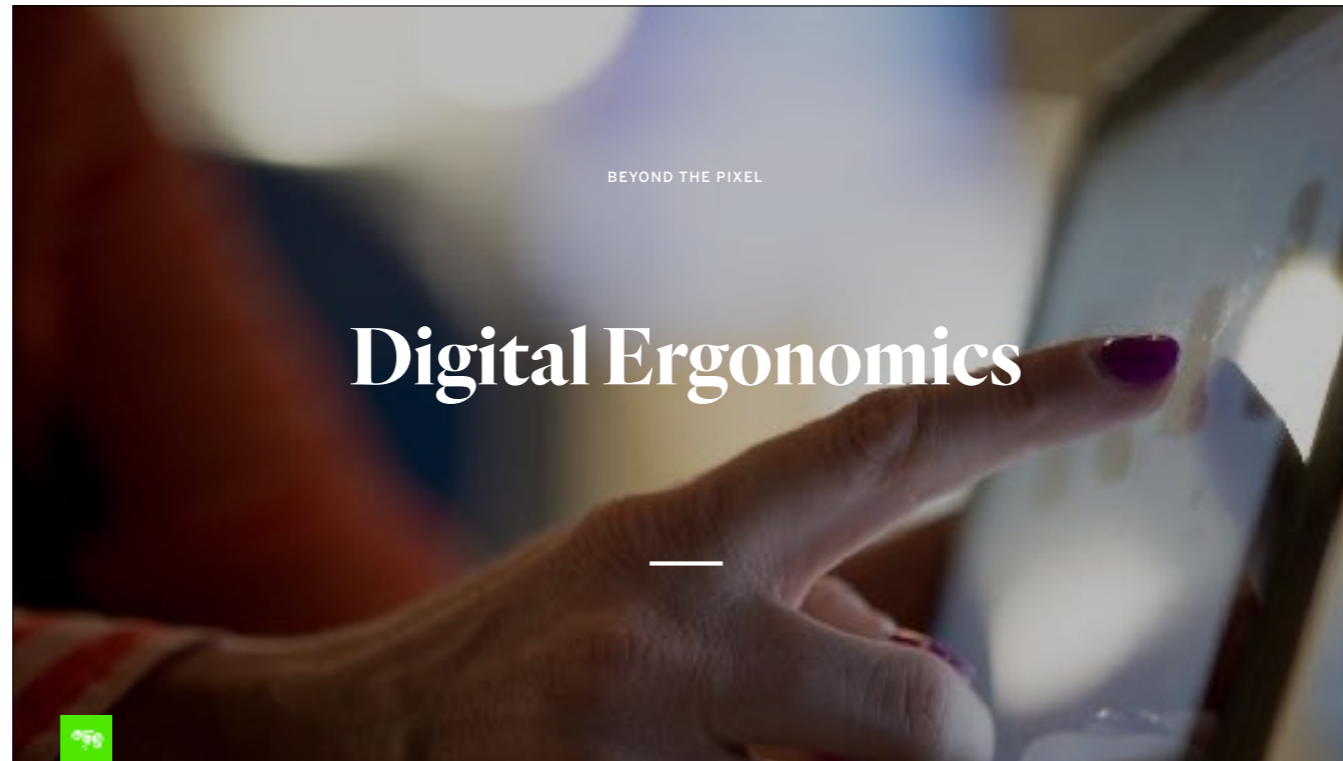
Help users find **key facilities**, such as toilets, the locker room, and main exhibitions.

Standard view > Home screen > find toilet > show location



Any questions before we get started?

<https://webdesign.tutsplus.com/articles/web-designers-roll-up-your-sleeves-and-sketch--cms-25737>



Keep all of this in mind, for your exercise.

<http://bridgedesign.com/touch-screen-ergonomics/>

DIGITAL ERGONOMICS



DIGITAL ERGONOMICS

Single-handed



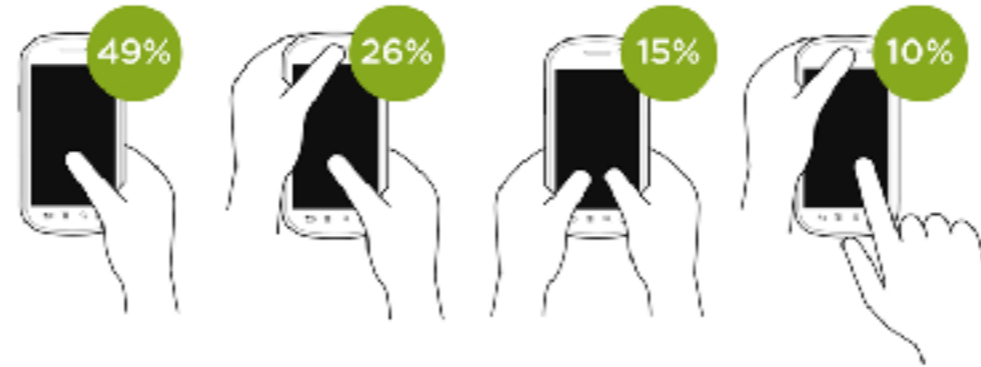
Cradling



Two-handed



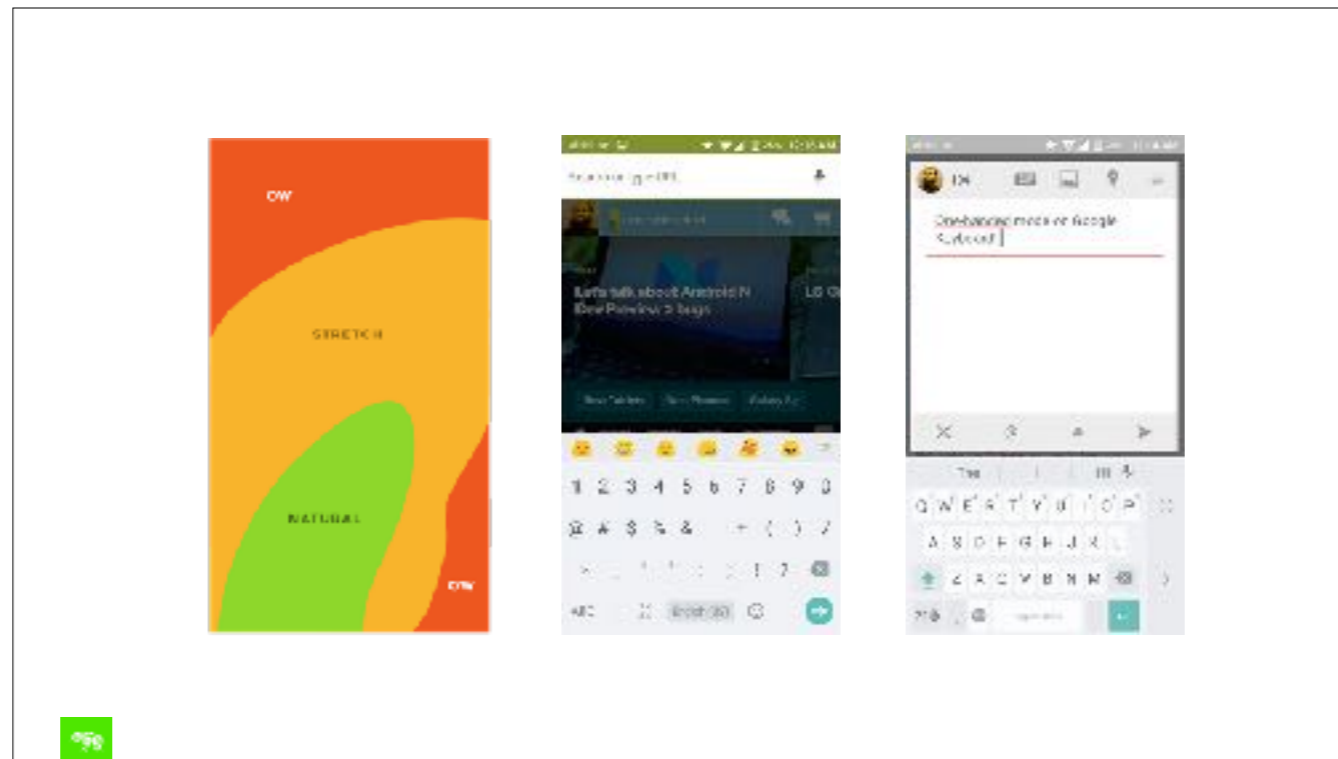
Smartphone Posture



DIGITAL ERGONOMICS



Want you to develop this map for your device.



<https://www.theverge.com/2016/5/2/11568836/google-keyboard-android-app-one-handed-mode-new-features>

DIGITAL ERGONOMICS

Interaction



Reading



Using vs reading

DIGITAL ERGONOMICS

Top/Bottom Navigation



Bottom/Split Navigation



Navigation Models

<https://www.lukew.com/ff/entry.asp?1649>

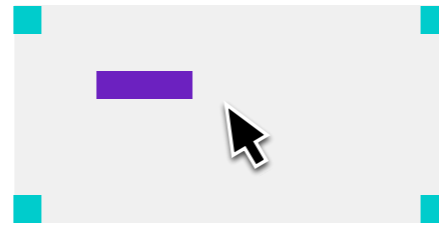
Fitts' Law

A

B



<http://particletree.com/features/visualizing-fittss-law/>
<http://www.lukew.com/ff/entry.asp?1927=>



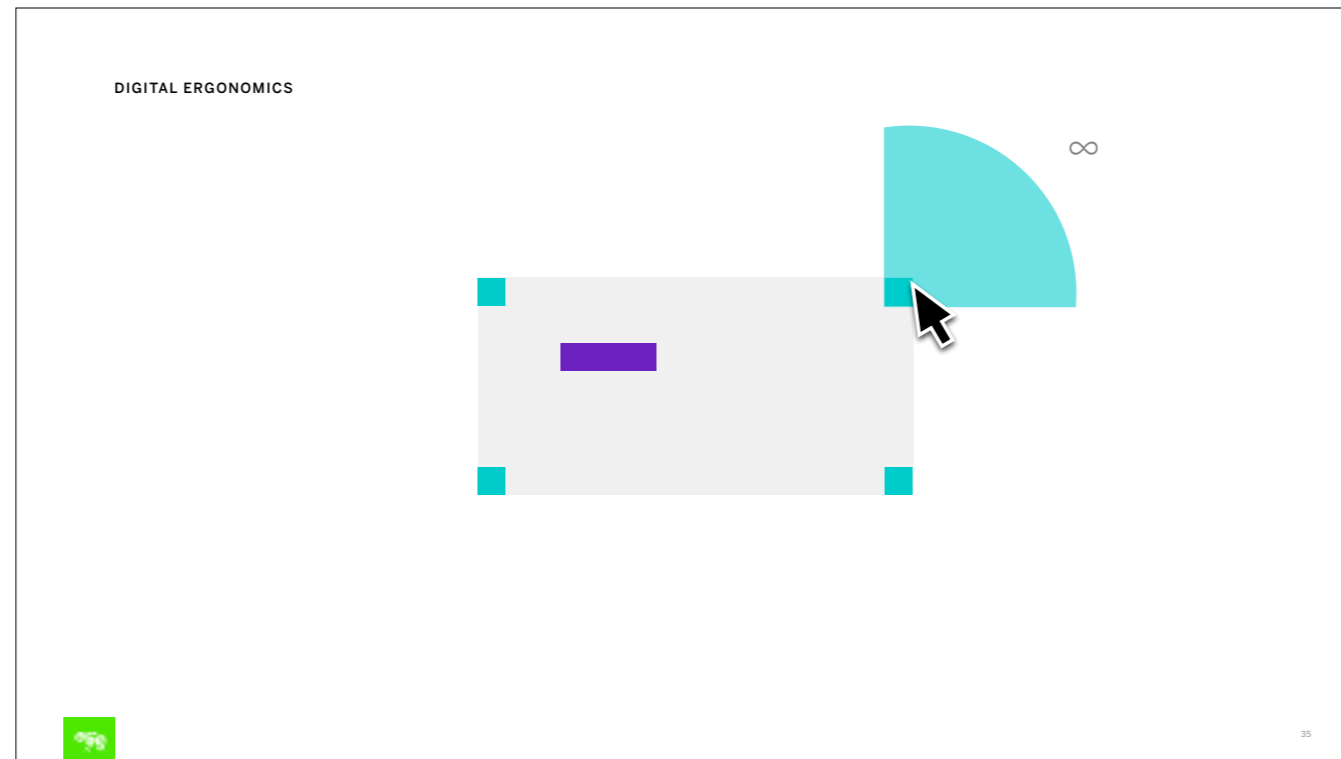
Prime Pixels



With a mouse, the 4 corners are infinite space. "Prime pixels"

<http://particletree.com/features/visualizing-fittss-law/>

<https://www.uxpin.com/studio/blog/a-ux-designers-guide-to-improving-speed-of-use/>

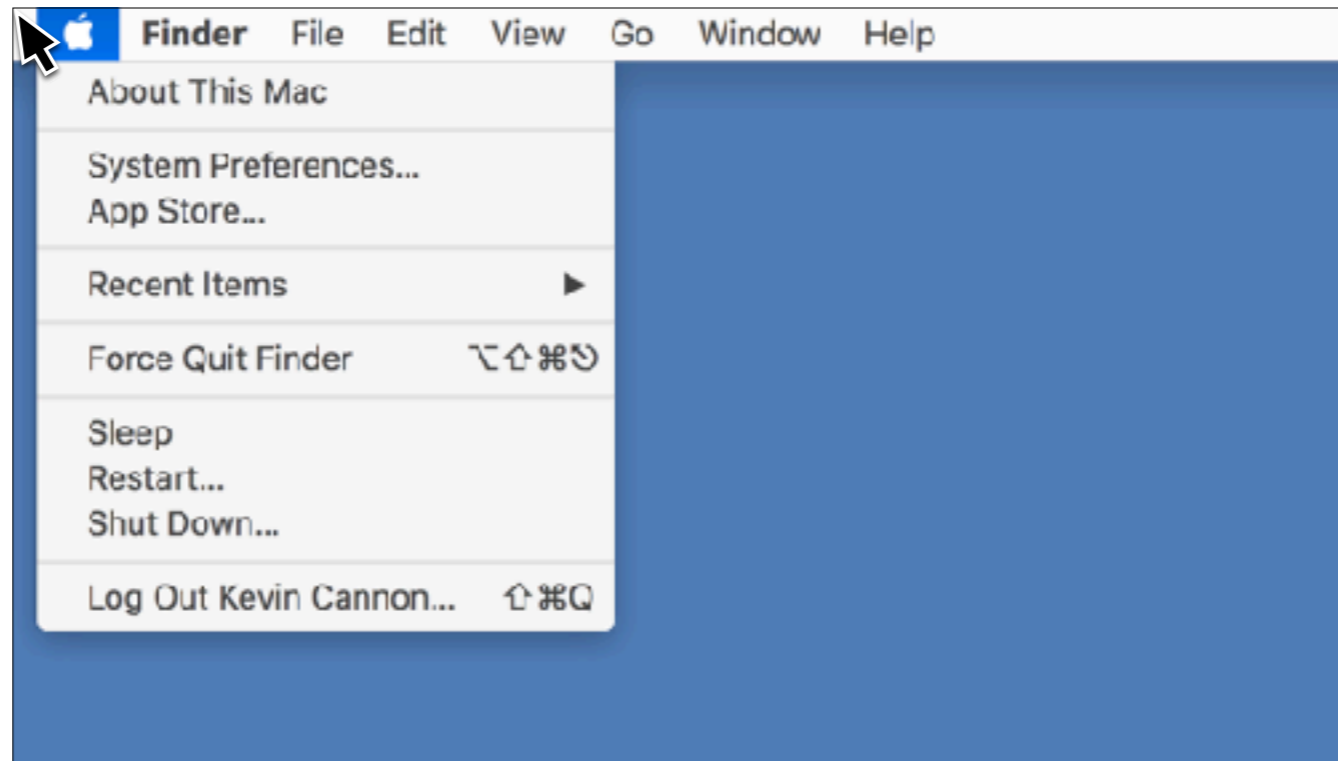


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<https://www.uxpin.com/studio/blog/a-ux-designers-guide-to-improving-speed-of-use/>

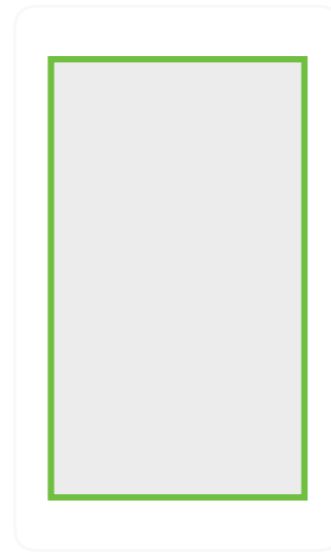
<https://www.bram.us/2007/06/26/their-missing-mile-high-menus-and-magic-corners-fitts-law-vs-apple-on-windows/>



With a mouse, the 4 corners are infinite space. "Prime pixels"

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<https://www.uxpin.com/studio/blog/a-ux-designers-guide-to-improving-speed-of-use/>



Prime Edges



DIGITAL ERGONOMICS



DIGITAL ERGONOMICS



LEAN FORWARD

SMALLER FONTS
HIGHER INFORMATION DENSITY
FASTER

LEAN BACKWARD

LARGER FONTS
SLOWER
BIGGER ITEMS

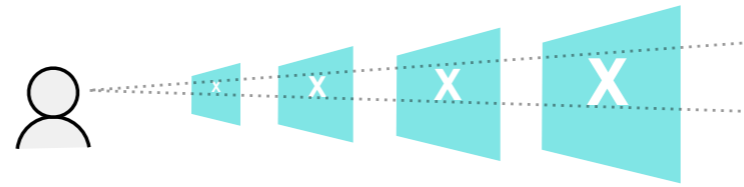


Even our personal devices have different uses.

Devices we engage very directly with, on the left, and literally “lean forward” to use, vs devices we “lean backward” to use like a TV interface.

These have very different properties that are not often talked about.

DIGITAL ERGONOMICS



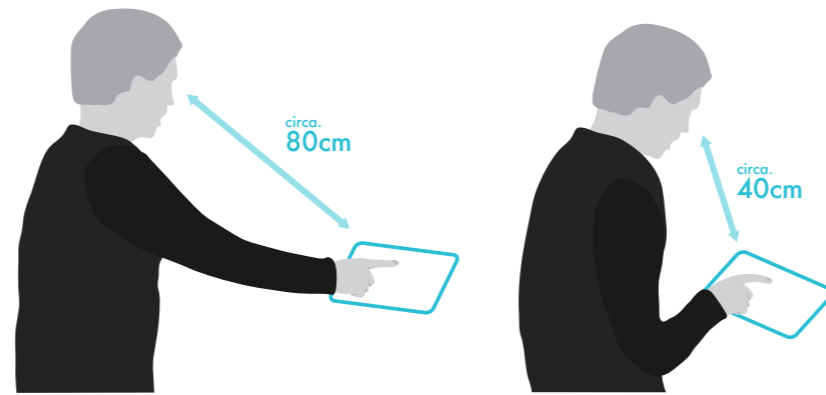
APPEARANCE OF 24PX FONT



Consider scale of items for your device.

<https://www.imarc.com/blog/best-font-size-for-any-device>

DIGITAL ERGONOMICS



Posture

Tablet on desk vs in hands.

Have to recheck assumptions.
Don't just copy app stuff.

BEYOND THE PIXEL

Exercise 1.2 Iterating together



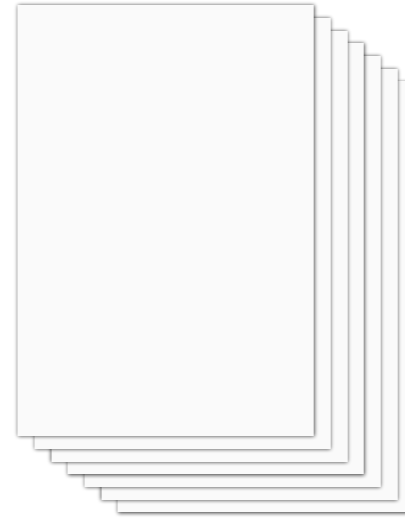
BEYOND PIXELS

Take your design and explore it further, looking at the full brief.

A3 sheets

**In a group.
Combine and remix ideas.
Create 3 different approaches.**

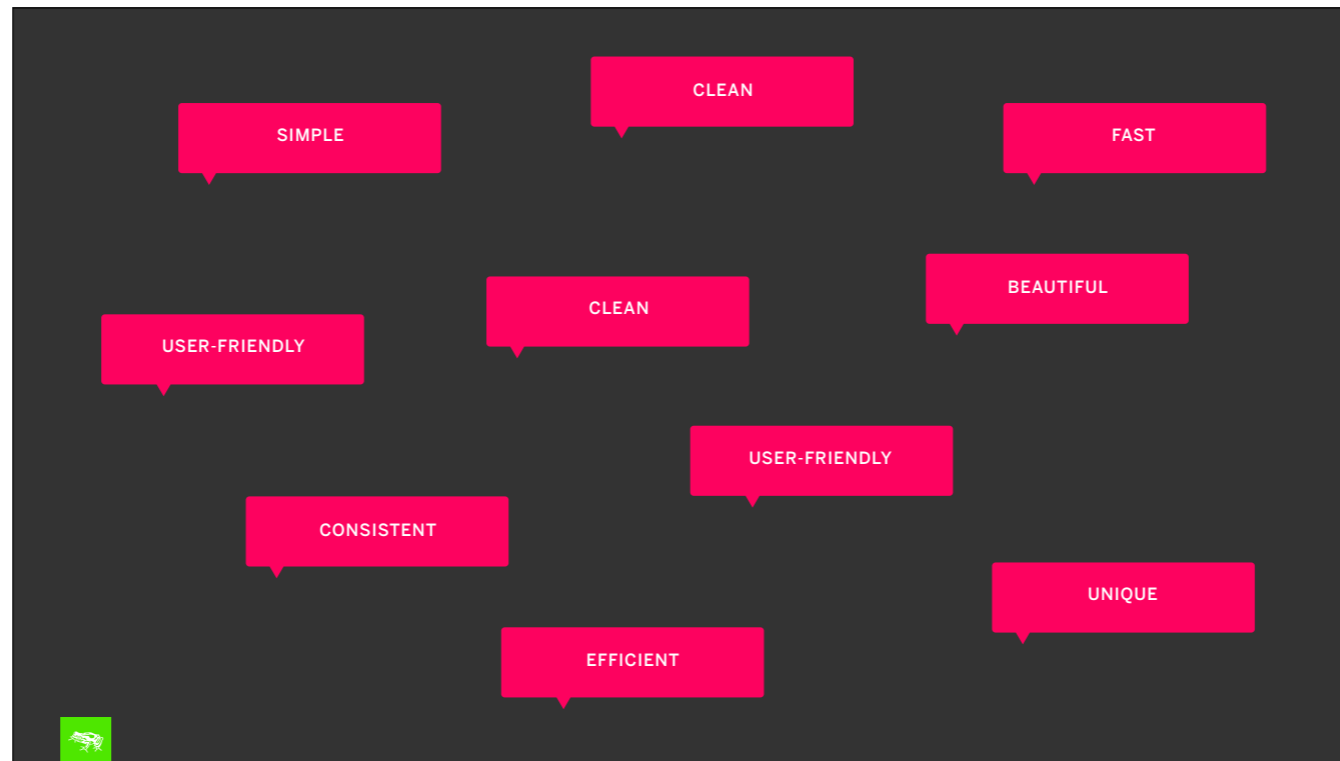
 **25 mins.**



BEYOND THE PIXEL

Part 3 Design Principles





<https://medium.com/apigroup-texts/design-principles-a-guide-to-less-shitty-feedback-64e9541816c1>

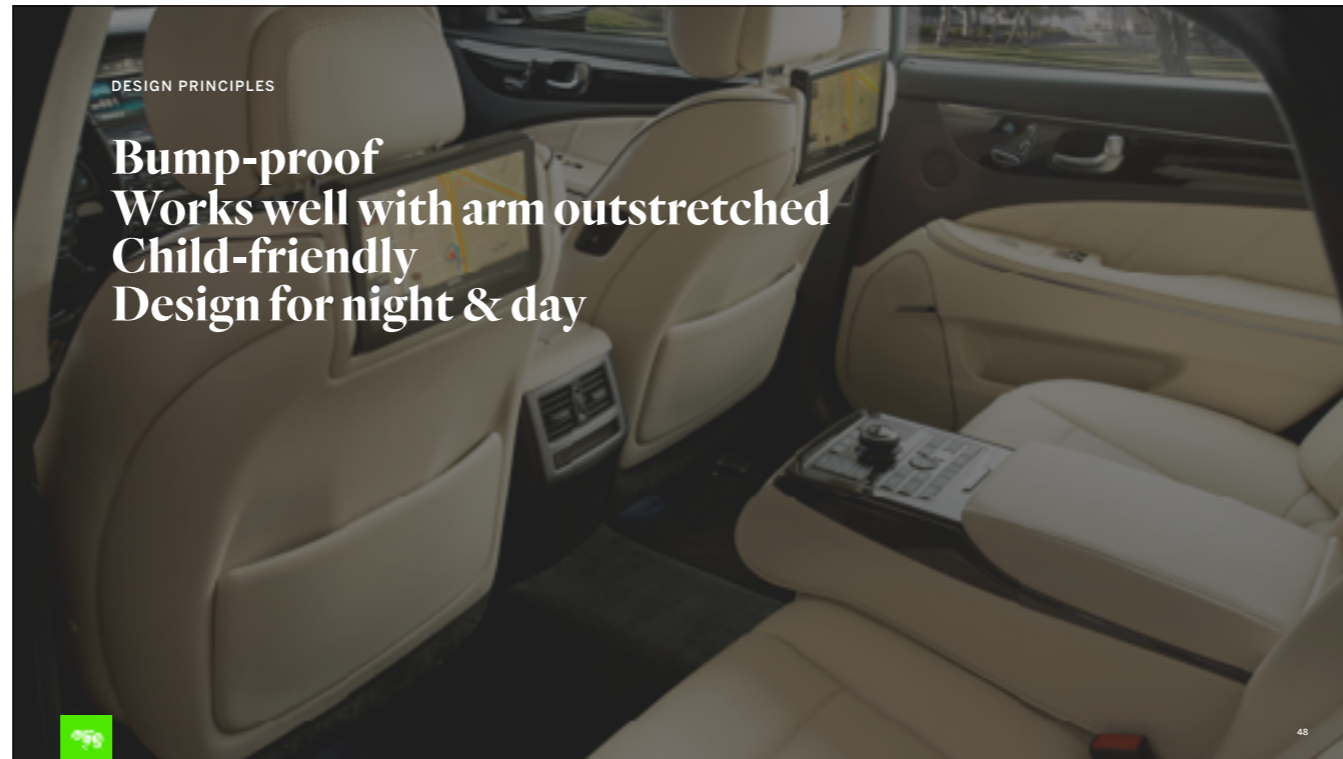
**What is unique about
this experience or
form factor?**

46

Not just make it simple

DESIGN PRINCIPLES





Kid's can't read.

Safety.



DESIGN PRINCIPLES

Fast & efficient
Highly learnable
Forgiving
Empowering



Kid's can't read.

DESIGN PRINCIPLES



DESIGN PRINCIPLES

**A shared experience.
Readable from a distance.
A comforting experience.
Two screens, for different users.**



BEYOND PIXELS



Approachable
Learnable

Context vs Form

BEYOND THE PIXEL

Part 4 Prototyping



<https://www.youtube.com/watch?v=vWz9VN40nCA>









**How do you test a rear
seat UI quickly?**



We learned that up-down swiping was bad.
We learned that keeping stretching your arm out is tough.
Therefore – not much gaming.

Obvious in retrospect, but easier to do quickly than just think about or research.
And honestly, also more fun.

Act it out



Photo by Jakob Owens on Unsplash



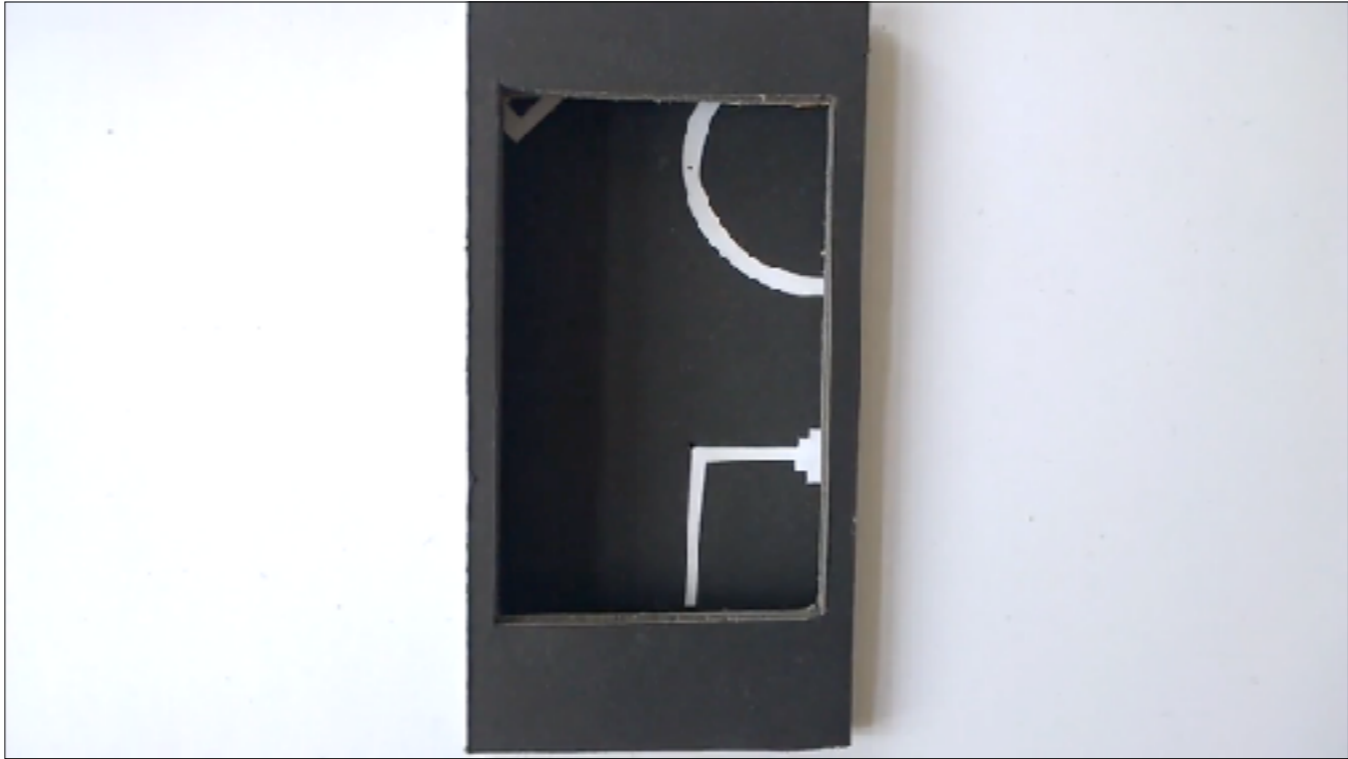
<https://www.youtube.com/watch?v=-SOeMA3DUEs>



What about 3D?

BEYOND THE PIXEL





<https://vimeo.com/120519843>

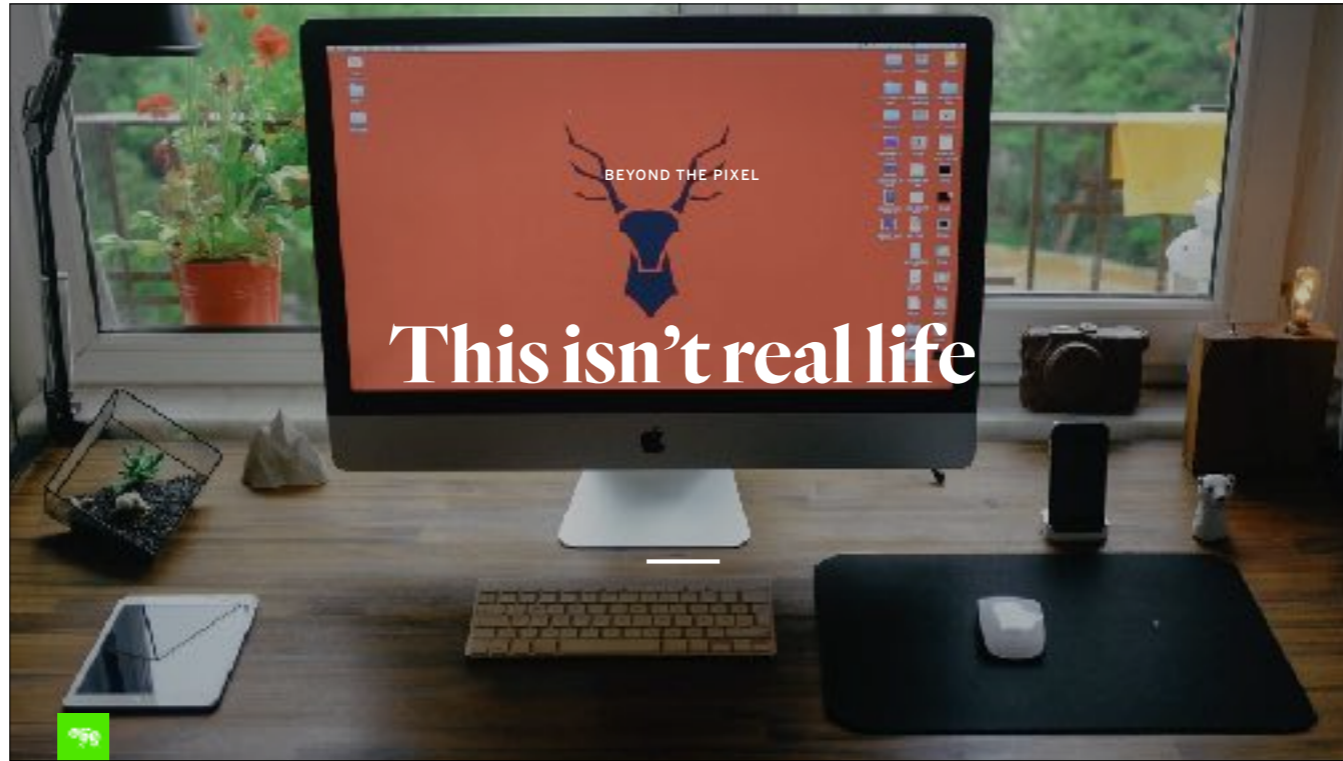
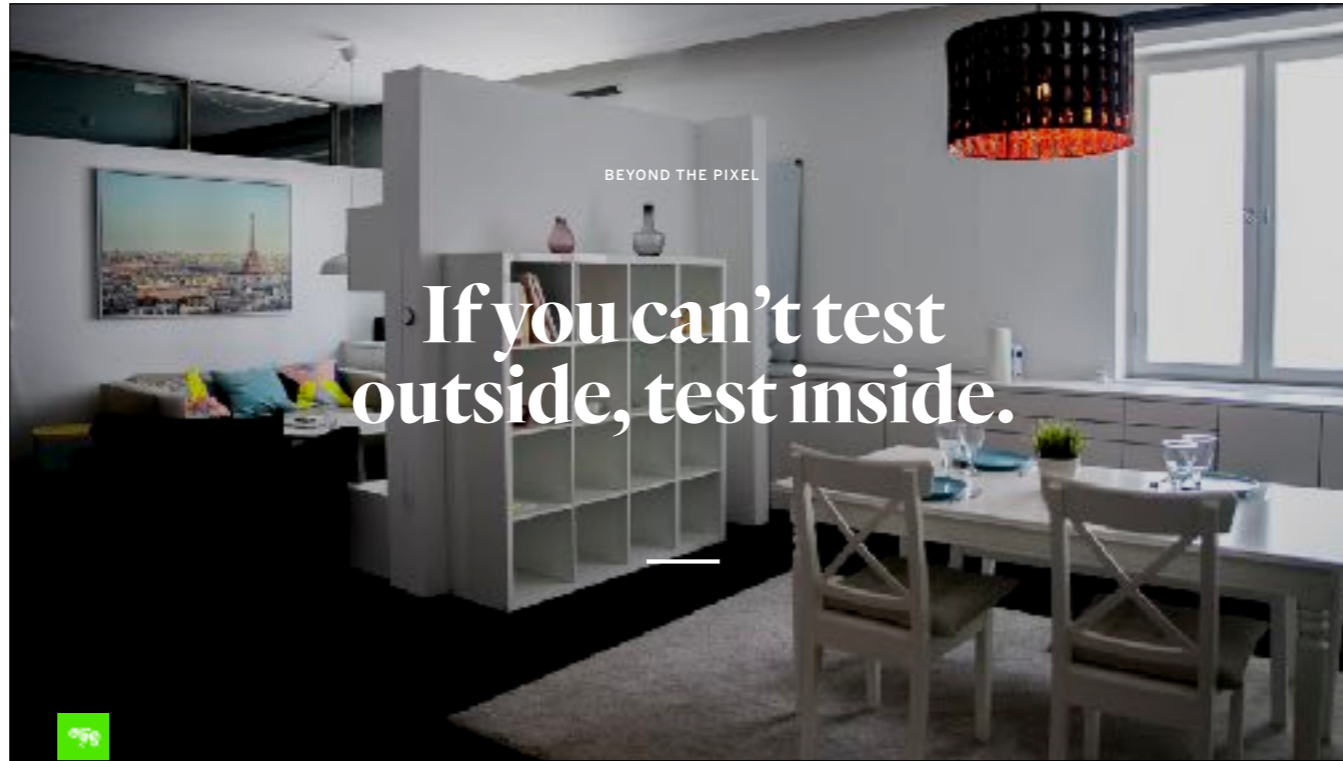


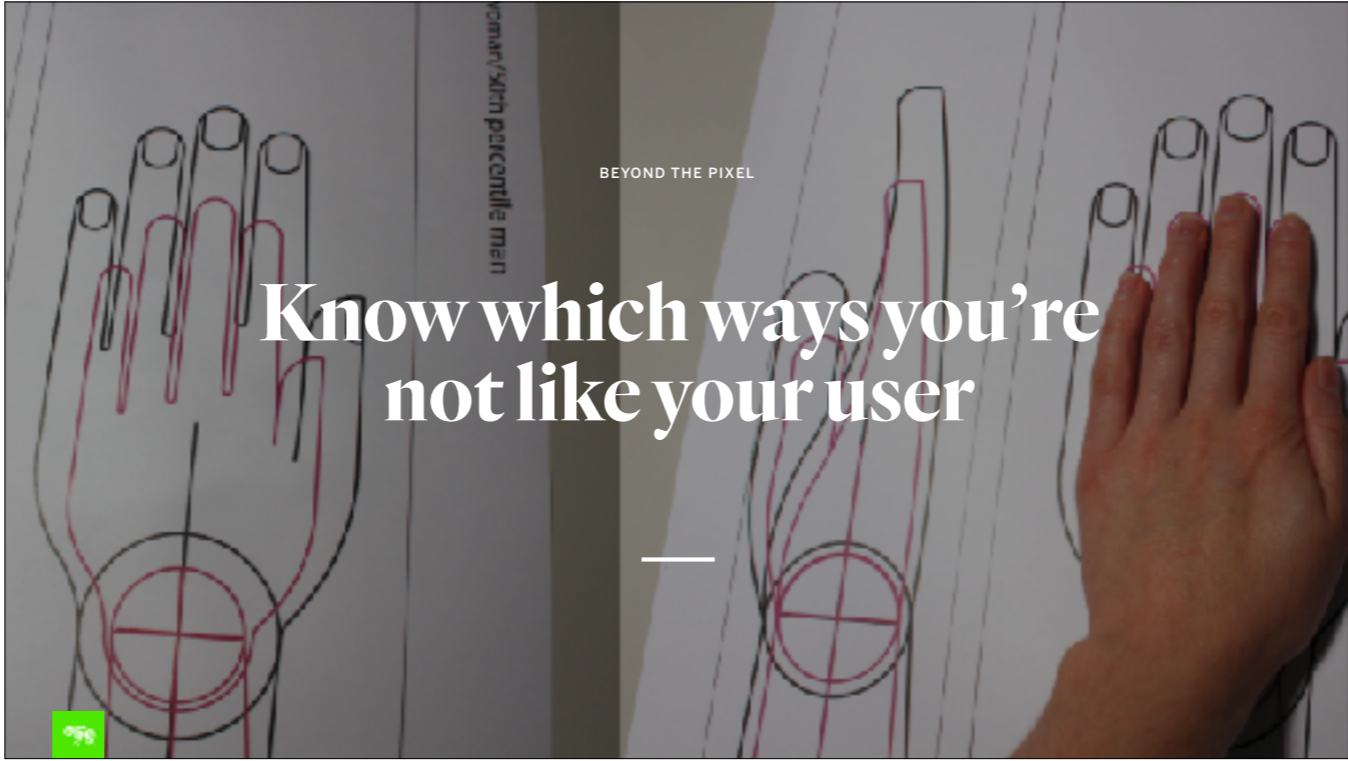


Photo by Jesus Hilario H. on Unsplash







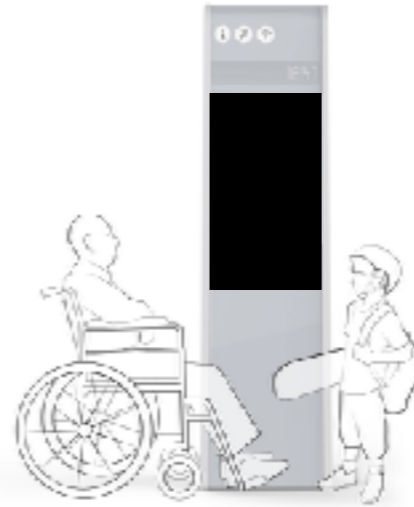


Know which ways you're not like your user

Consider wheelchair users and children.

Accessibility

Many public installations have accessibility requirements. A shopping mall may not, but consider how that might change your system.



Consider accessibility

BEYOND THE PIXEL

Exercise: Prototype to understand



EXERCISE

1. Build a **full-scale** model
2. Act it out
3. Learn
4. Iterate

We'll present observations at the end.

 **45 mins**



BEYOND THE PIXEL

Share out



**What changes did you make
during this process?**

**What did you learn when you
acted it out?**

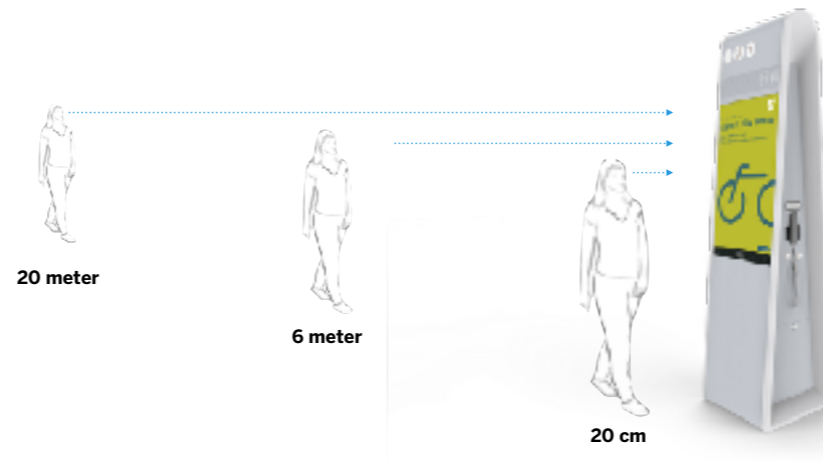


BEYOND THE PIXEL

Recap

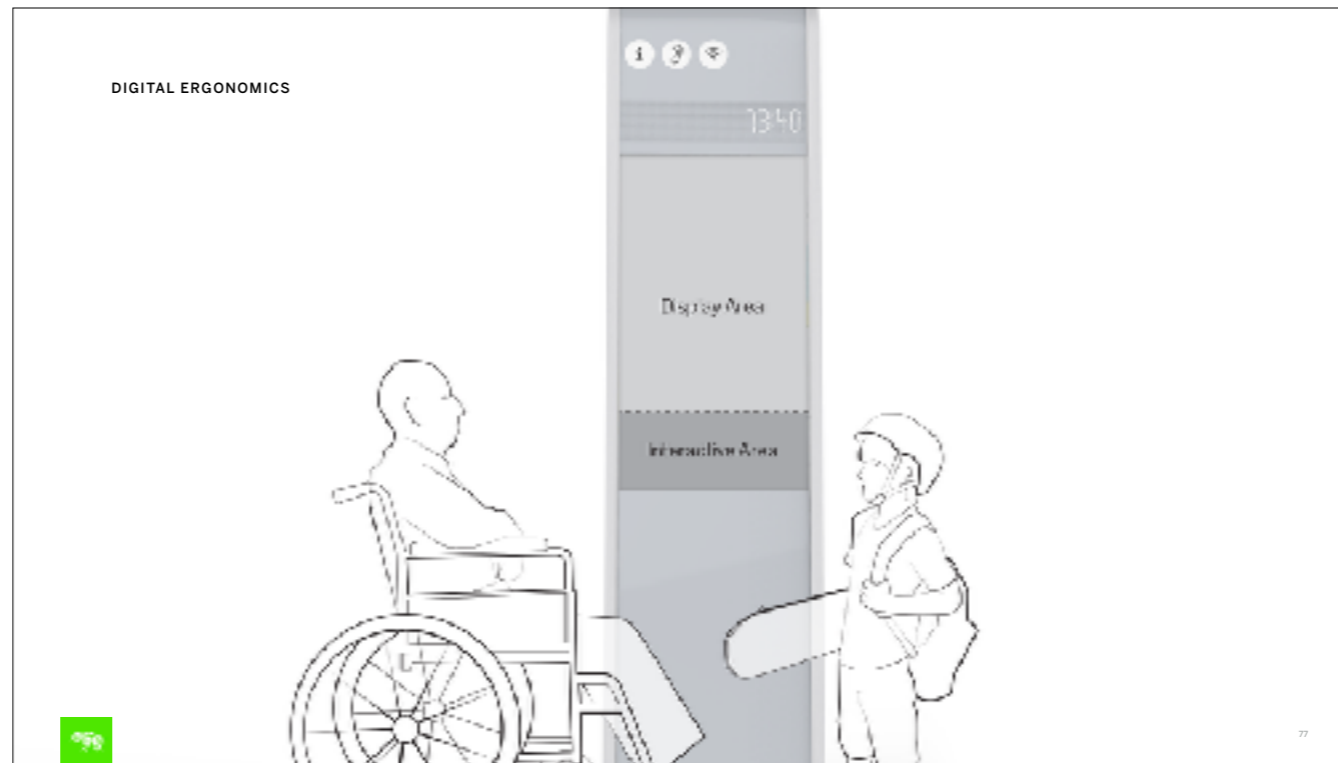


DIGITAL ERGONOMICS



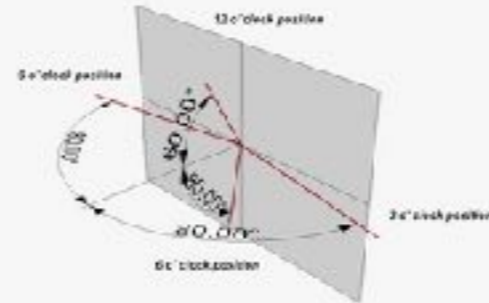
Posture

Tablet on desk vs in hands.

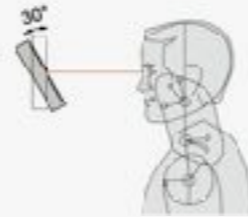
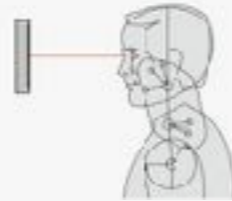
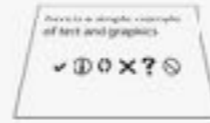


Consider accessibility

Hardware restrictions: Viewing angle

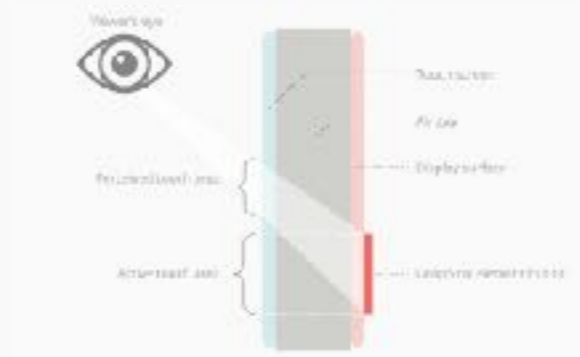


Viewing angle



Line-height

Parallax



Where do you put labels?

<http://bridgedesign.com/touch-screen-ergonomics/>

Parallax

⊕ Button

vs

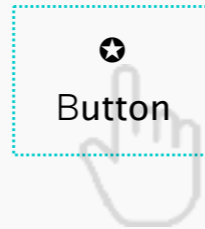
⊕ Button



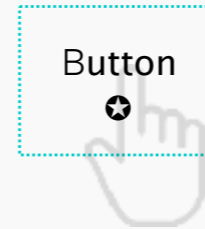
Where do you put labels?

<http://bridgedesign.com/touch-screen-ergonomics/>

Parallax



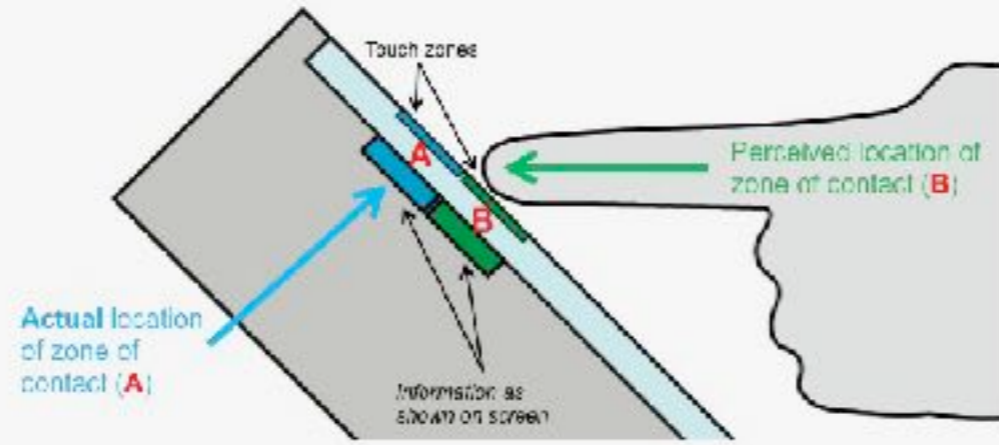
vs



Where do you put labels?

<http://bridgedesign.com/touch-screen-ergonomics/>

Touch zones

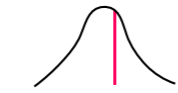




Double screen



Accessibility strategy



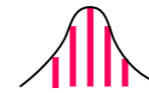
DESIGN FOR YOURSELF



DESIGN FOR THE SMALL



DESIGN FOR THE AVERAGE



DESIGN FOR MULTIPLE TYPES



DESIGN FOR ALL



http://io.home.tudelft.nl/fileadmin/Faculteit/IO/Over_de_Faculteit/Afdelingen/Industrial_Design/Sectie_Applied_Ergonomics_and_Design/Applied_Ergonomics_and_Design/Dynamic_Anthropometry/people/molenbroek/publications/doc/enhancing_anthropometry.pdf



Today we have focused on one scenario, but this can be applied to different input methods, different form factors, different contexts.

Prototyping helps get closer to the problem.

Design principles guide us through the process.

RECAP

Prototype early.

Act it out.

Get your hands dirty!

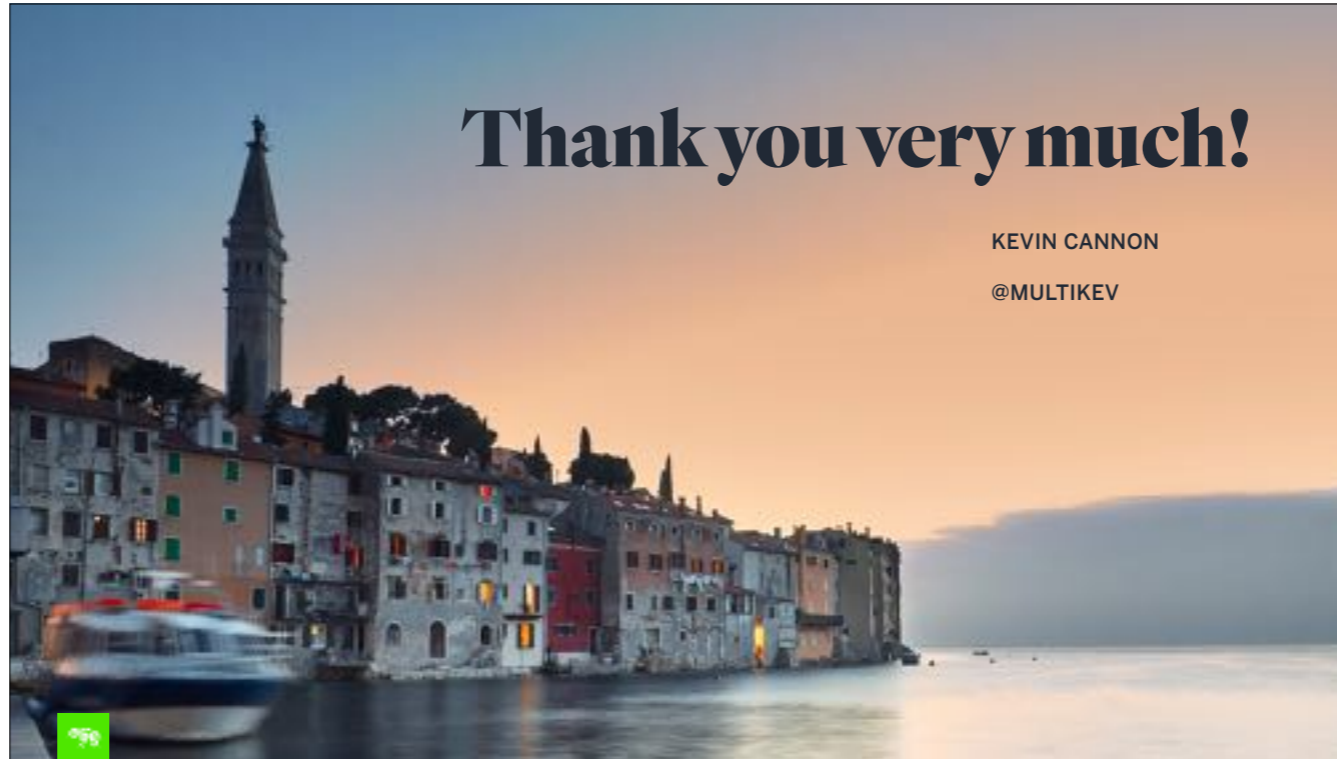


In today's workshop we have focused primarily on one context, and screen-based interactions, but this can be applied to anything.

Thank you very much!

KEVIN CANNON

@MULTIKEY



BEYOND THE PIXEL

Thanks very much!

