

HCI 1/21

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Physical Design

- Looking at a design for a cake, what do we see?
 - Measurements (distances, diameters, etc)
 - Directions for ordering of parts
 - Labels
 - Things that are being labeled
- *Physical* design usually follows *conceptual* design, but starting with physical design is more fun apparently
- In practice, physical vs conceptual isn't super distinguishable
- Questions to answer:
 - What will it look like?
 - * It can mean the UI, etc
 - What components will it use?
 - How will components be laid inside it?
 - * Trying to get an overall idea of how the thing will work/look, not super in depth
- Things to do:
 - You want to avoid preconceived notions
 - * You're designing something to solve a problem that hasn't been solved before; it doesn't exist yet.
 - * Preconceived notions *might* apply, but they're probably not correct
 - Make things explicit
 - * You want someone to eventually actually build the thing, being explicit will help people understand what you wanted
 - Get feedback
 - * You're designing whatever it is for other people and you can't really know what they need until you get feedback from them
 - Do all of this a shit ton of times
 - * Design doesn't usually follow a straight path, you often come across things that aren't received as well as you thought they would be

Prototypes

- Low-Fidelity Prototypes
 - It seems like the point he's getting at is that you want a low cost prototype that imitates what the real life experience would be
 - * i.e. having a cardboard phone you can pull paper through to imitate scrolling
 - Pencil and paper sketches, sticky notes, twigs and dirt, etc
 - You want the prototype to be complete *enough* to:
 - * Get constructive feedback (in other words, the design should be easy to dissect)
 - * answer some design questions
 - * figure out what needs the most work
 - Advantages are that low-fidelity prototypes are easy, cheap, accessible, visual, changable, and disposable
 - Disadvantages are that they are shallowly interactive, can't be timed, minimal styling
- Functional Prototypes

- Functional prototypes come in many forms
 - * plain → detailed
 - * small → large
 - * horizontal or vertical
- Horizontal prototypes
 - * These capture the breadth of the overall functionality
 - * They are, in a sense, *skin deep* because they only show top-level functionality without diving into the details
- Vertical Prototypes
 - * These capture the depth of a particular function
 - * *bone to bone*, drill down to low level functional details
- Horizontal tends to happen first, especially with low budget or short time projects
- Functional prototypes are especially useful as partial implementations for design purposes
- Interaction **is incomplete** horizontally and/or vertically
- Still can be sufficiently complete for evaluations like discount usability engineering
- It's almost **always a bad idea** to turn your functional prototypes into final products

Wireframes

- Wireframes are inbetween low-fidelity and functional prototypes
- They visually capture some detail about UI components and their layout
- They vary in interactivity, but at least can be zoomed to study/adjust detail
- They are sufficient to assess many cultural, cognitive, and perceptual considerations:
 - **Attention** drawn by components (size, shape, intensity, color)
 - **Orientation** of written language and other factors of **readability**
 - **Functionality** and **appeal** of icons, graphics, and decoration
 - **expectations** of how things in a layout are grouped functionally
- They range from entirely static to navigable
 - Adobe Illustrator is static drawings
 - XCode UI Builder has buttons, sliders, and things react to input but they aren't connected
 - **Balsamiq Mockups** (what we use) has layouts that are navigable
 - * You can use widgets to move around in and between windows but the widgets can't trigger actual functions

Balsamiq Mockups

- balsamiq.com/wireframes/desktop/
- lots of licensing information that I'm not typing, he'll post the slides
- We'll need to follow Build Archives > obsolete > mockups-desktop > 3.5.17
 - Or just go to the other folder on canvas and download from there