Rapid Prototyping

ITIS 4350/5350

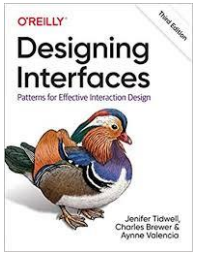
Design Systems

https://uxdesign.cc/everything-you-need-to-know-about-design-systems-54b109851969
https://www.nngroup.com/articles/design-systems-101/

Design Patterns & Design Systems

Design Patterns

- More general presentation of interface design elements
- Based on the way that people perceive and use software
  - Human senses and psychology don't change, so patterns remain relevant
- Foundational building blocks for UI / UX design



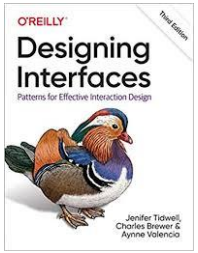
Design Systems

- More specific development of design patterns
- Often within a specific organization or ecosystem
- Provides design reference and guidance specific to that organization / ecosystem

Material Design

https://m3.material.io/

DI Ch. 11 - User Interface Systems & Atomic Design



Atomic Design: A Way of Designing Systems

"Design and design methodologies have been evolving directly alongside UI design systems, as described previously.

UI design now includes the idea that we are designing a system of flexible, reusable components for assembling interfaces for almost any screen or device."

UI Systems

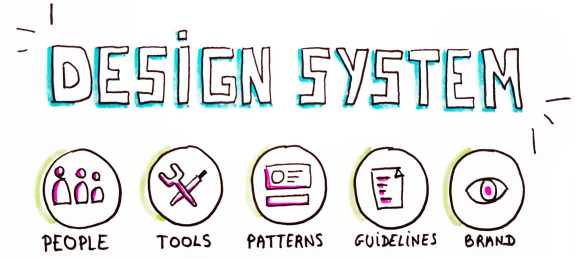
UI systems, or UI design systems, are UI styles and standards systems that help a company's designers, developers, and partners maintain quality and consistency in the look and feel of their software products. They use a components-based approach. They focus on standardizing the functionality and look and feel as much as possible while still staying in line with different operating system (OS) standards. They do not specify implementation technologies, such as what programming language to use.

The main point for you as an interaction designer is that a components-based approach to interfaces and design is the standard approach now (at least for the nuts-and-bolts functionality like filling out forms, picking dates and times, and so on.) Let's look at this briefly.

Technology companies such as Microsoft, Apple, Google, and many others have UI systems that cover multiple operating systems and multiple devices and screens:

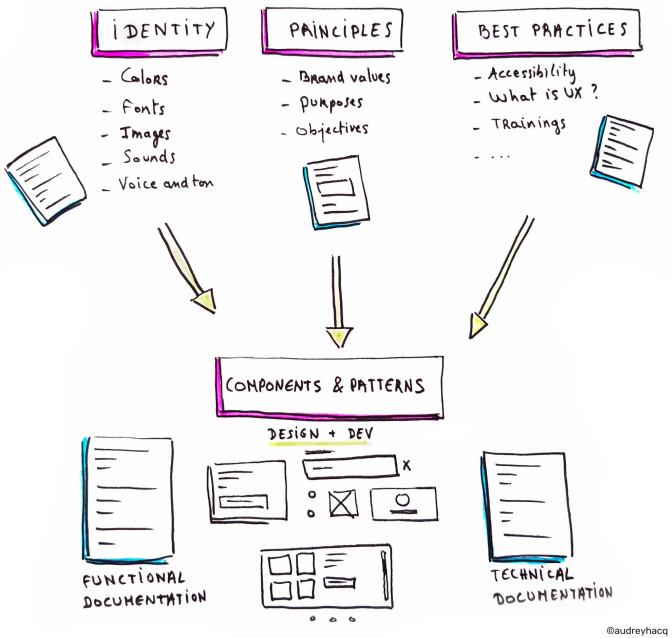
- Microsoft's Fluent Design System offers a standardized library of styles and code modules for Windows OS, web, iOS, and Android.
- Apple's User Interface Guidelines cover macOS and iOS apps, watchOS (for Apple Watch) and tvOS (for Apple TV).
- Google's Material Design System covers web, Android, iOS, and now native desktop OS applications through its Flutter UI framework.

Everything you need to know about Design Systems



“A Design System is the single source of truth which groups all the elements that will allow the teams to design, realize and develop a product.”

“The fundamental purpose of a Design System is to facilitate the work of the teams.”



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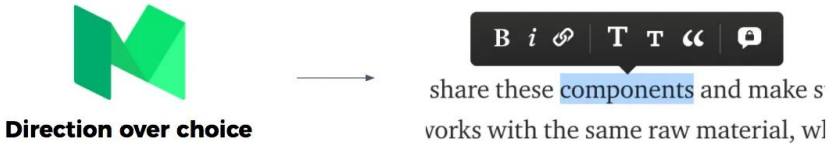
- Audrey Hacq

Design Principles

“Design principles are the guiding sentences that helps the teams to reach the purpose of the product thanks to the design.”

“They will help the teams to make meaningful Design decisions.”



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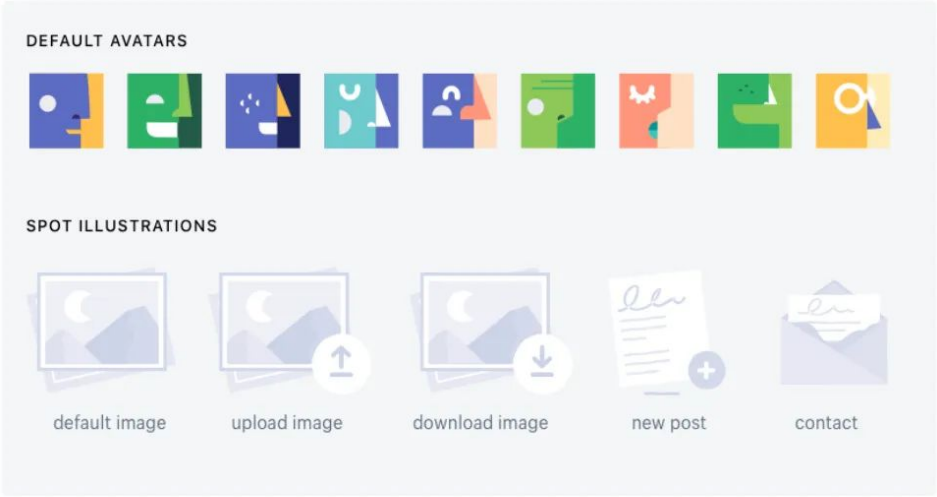
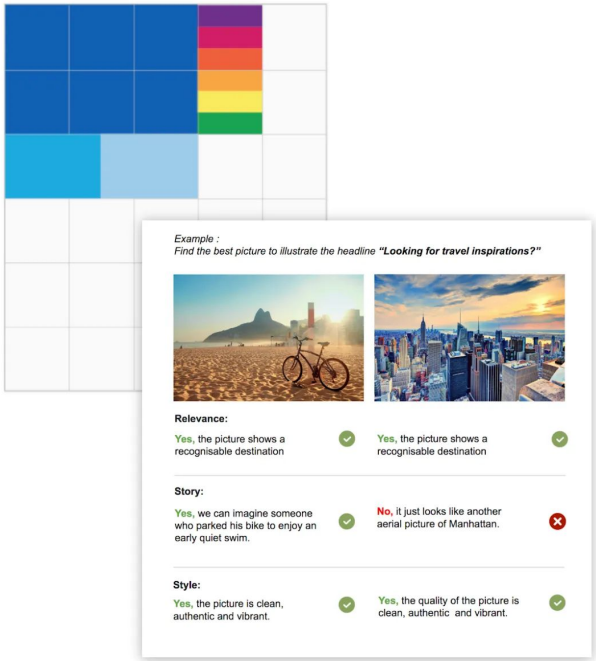
- Audrey Hacq

Brand identity & language





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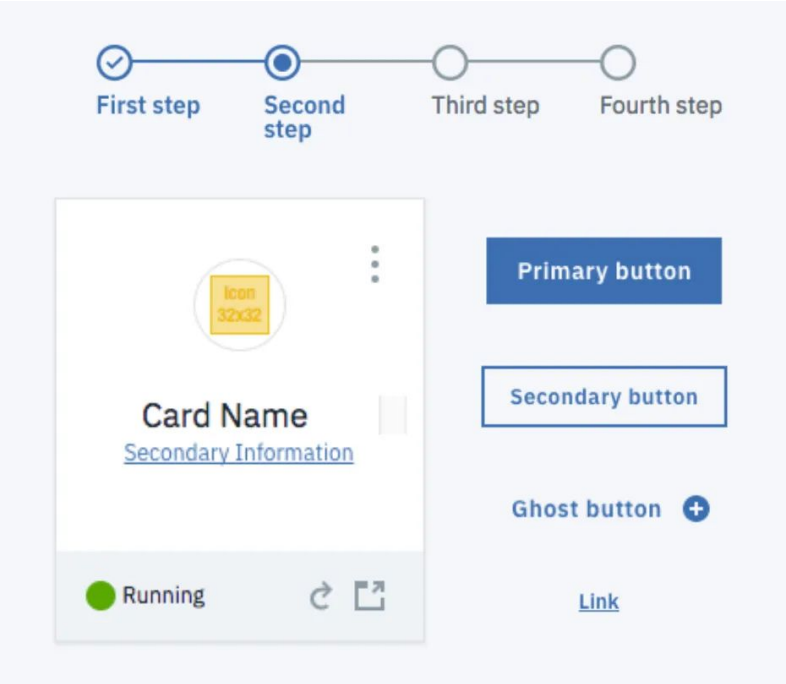
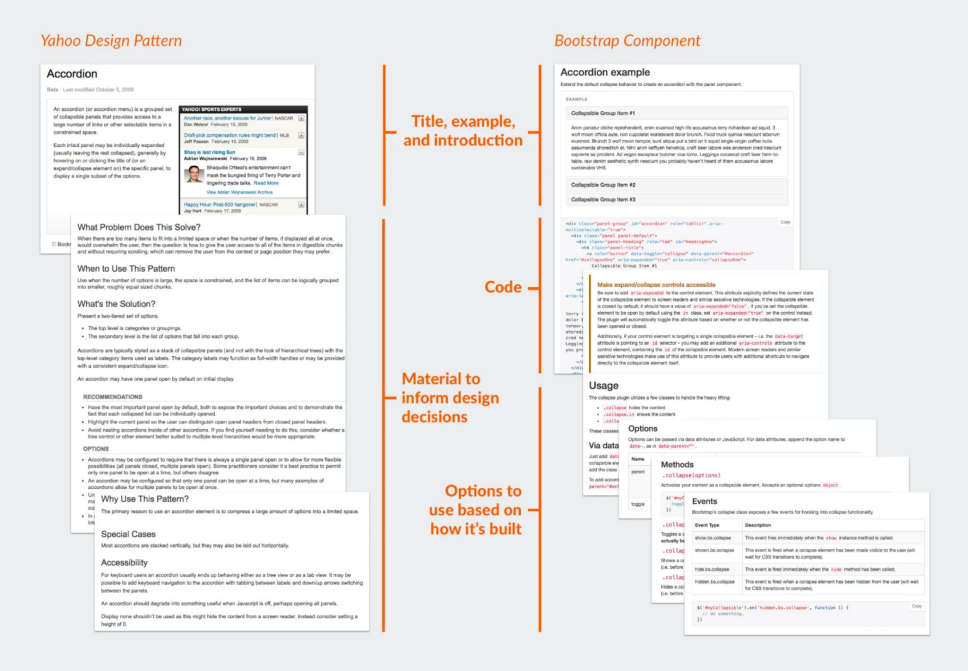
- Audrey Hacq

Components & patterns





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- Audrey Hacq

Design Systems 101 - Design System Tradeoffs

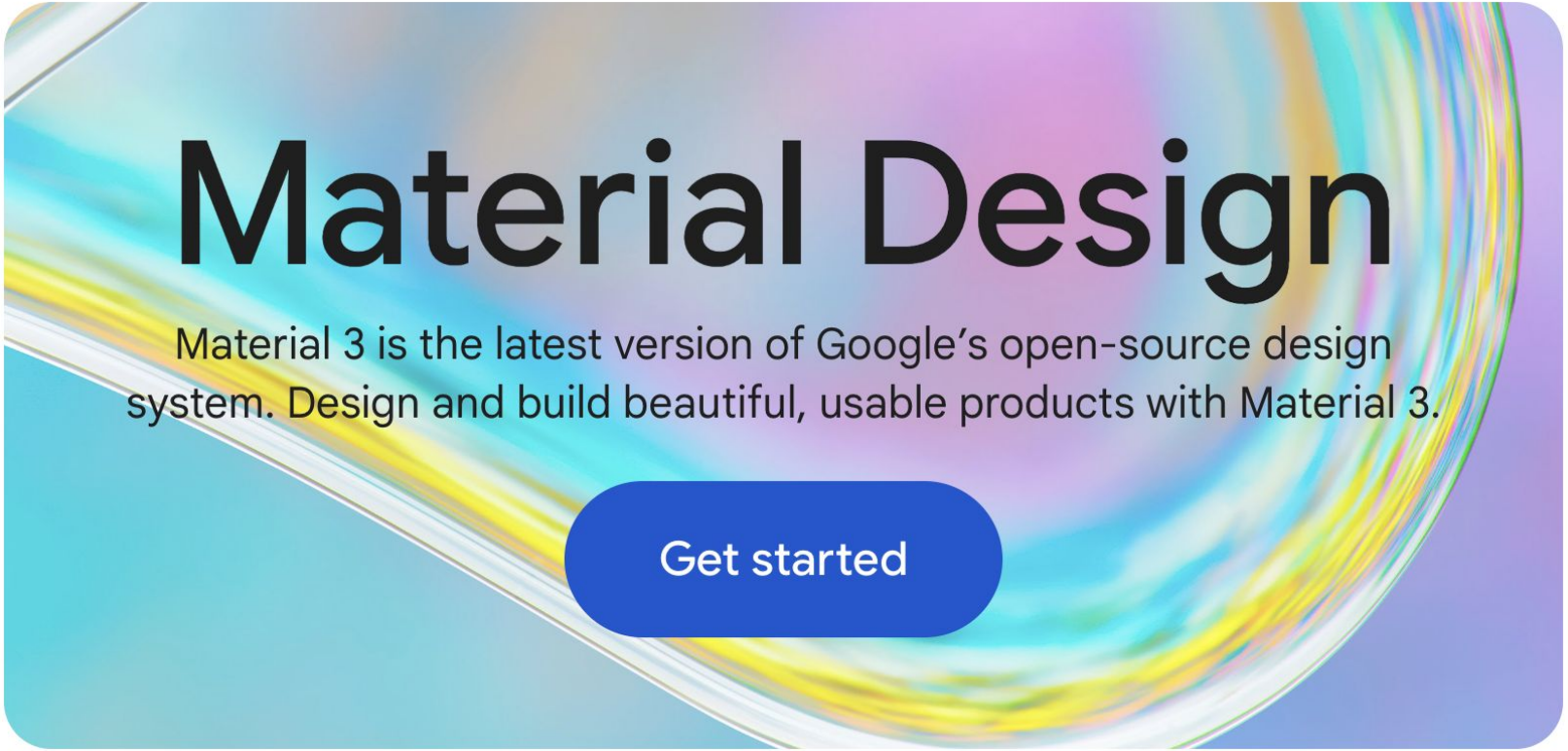
Why Use a Design System?

- Design (& development) work can be created & replicated quickly and at scale.
- Alleviates strain on design resources to focus on larger, more complex problems.
- Creates a unified language within and between cross-functional teams.
- Creates visual consistency across products, channels, and departments.
- Can serve as an educational tool and reference.

Why Not Use a Design System?

- Creating and maintaining a design system is a time-intensive activity which requires a dedicated team.
- It takes time to teach others how to use the design system.
- There may be a perception that projects are static, one-off creations, which generally don't require reusable components.

https://www.nngroup.com/articles/design-systems-101/
- Therese Fessenden



https://m3.material.io/

Final Exam Class Period

Thu Dec 14 ***@ 5:00pm - 7:30pm***

Final Exam Period - Thu Dec 14

- **Attendance required for everyone** - all sections - undergraduate and graduate
- Exam period time different than regular class time - 5:00 - 7:30
- Graduate students will present project work
- Everyone (graduate and undergraduate) will have an in-class activity to submit - takeaways from the presentations

Graduate Level Presentations on Individual Project Work

Presentation Setup

- Presentation in final exam class period (Dec 14)
- Shared Screen Presentation
  - Have link to your video demonstration ready in case of issues
- Focus on 2 Things
  - Showing your application demo in the tool you have adopted
  - Brief discussion of pros/cons of the tool you used vs. Balsamiq / Figma / Axure
- 15 Minutes
  - ~5 Minutes on the Tool - Highlight Prototyping Capabilities
  - ~5 Minute Demonstration
  - ~2.5 Minute Discussion on Tradeoffs
  - ~2.5 Minute Questions