System Analysis and Design

User Interface Design

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Spring 2021

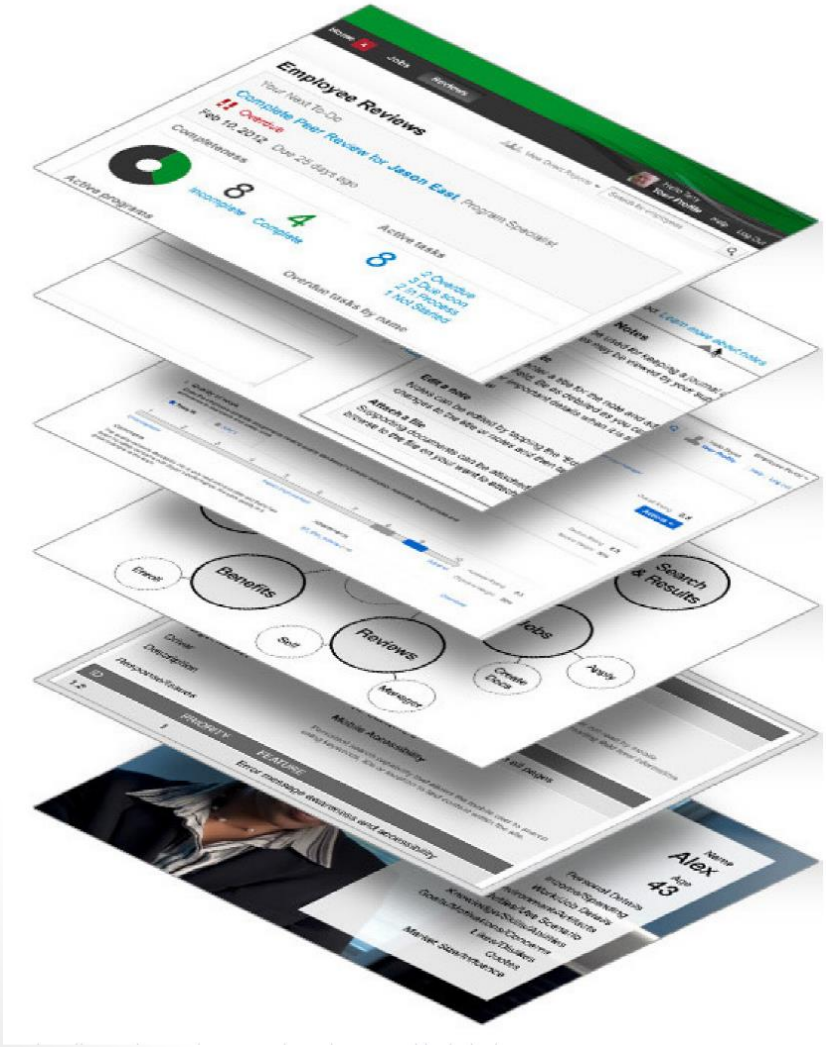
Agenda

- User Interface Design Process
- UI vs. UX
- UI Design Core Principles
- Wireframe
- Principles of Mobile UI Design

User Interface Design Process

User Interface Design Process

UI Design Process



THE SURFACE - Visual Design / UI

THE SKELETON - Wire-frame, Interaction patterns, Global navigation ...

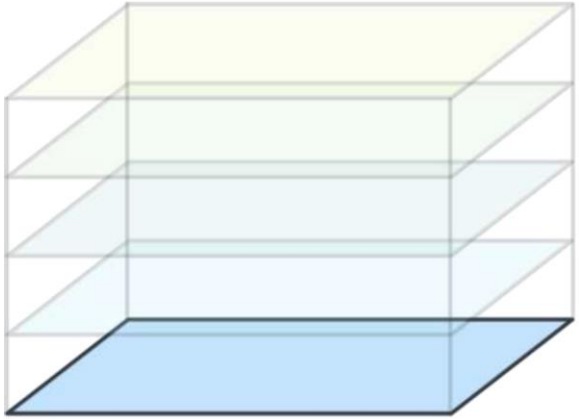
THE STRUCTURE - Information architecture, Defining content ...

THE SCOPE - Functionality, Usefulness, Requirements ...

THE STRATEGY - Business requirements, Defining user Needs, Goals and Aspirations ...

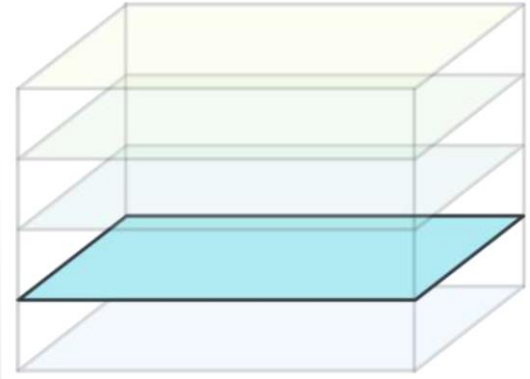
Strategy

- What is the problem you are trying to solve?
- What are your user needs?
- How does your product fit within a business context (product objectives)?



Scope

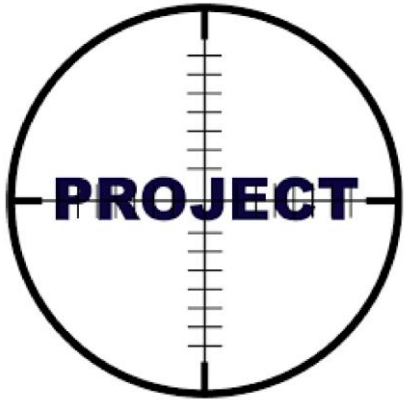
- Defining functional specifications and content requirements of your platform.
- What are the features, and how might you prioritize them?
- The challenge is prioritizing features while minimizing tradeoffs.



Scope

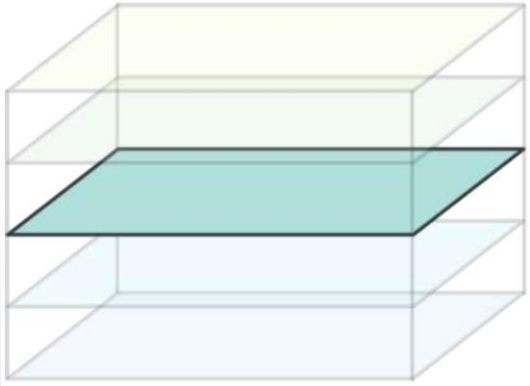
Functional Specifications

Content requirements



Structure

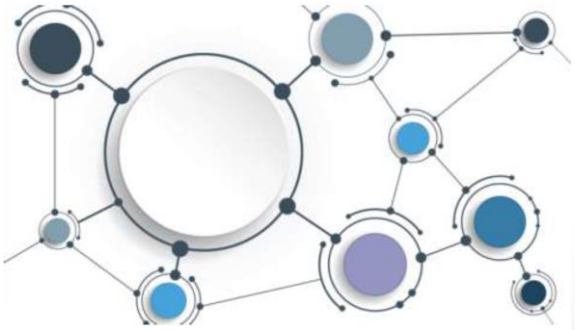
- Information architecture is concerned with how the information within an app is organized.
- User flows map out the specific journeys users embark on through the app to help solve their specific need



Structure

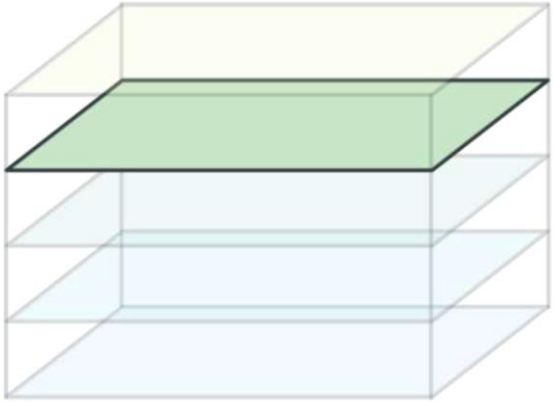
Information Architecture

User Flow



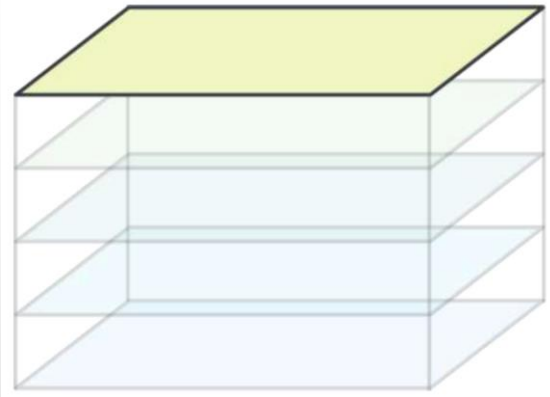
Skeleton

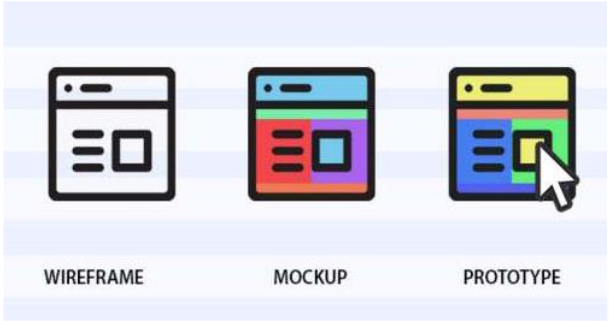
- Achieve the structure of an interface design and information design.
- UX or Product Designers start designing, testing, and iterating on wireframes.



Surface

- Communicate the brand, product, value and functionality in one cohesive image.
- UI Designers and Visual Designers start their work.
- Tools: Adobe XD, Sketch, Photoshop, Figma, …





UI vs. UX

User Interface Design

- The design of user interfaces for machines and software, such as computers, home appliances, mobile devices, and other electronic devices
- Focus on maximizing usability and the user experience.
- The aim is to make the user's interaction as simple and efficient as possible, in terms of accomplishing user goals

User Interface Design

- The design of user interfaces for different software or machines
- Make a better experience for users when navigating through your app, platform or website.

User Experience Design

- User experience design is the process of enhancing user satisfaction with a product by improving the usability, accessibility, and pleasure provided in the interaction with the product.

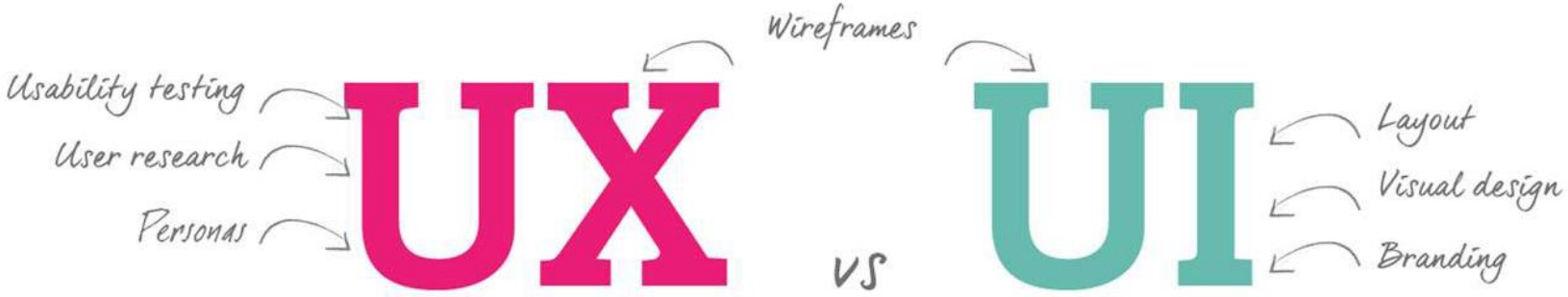
- User experience design encompasses traditional human–computer interaction (HCI) design, and extends it by addressing all aspects of a product or service as perceived by users

User Experience Design

- UX Design is studying user behavior and understanding user motivations with the goal of designing better digital experiences.

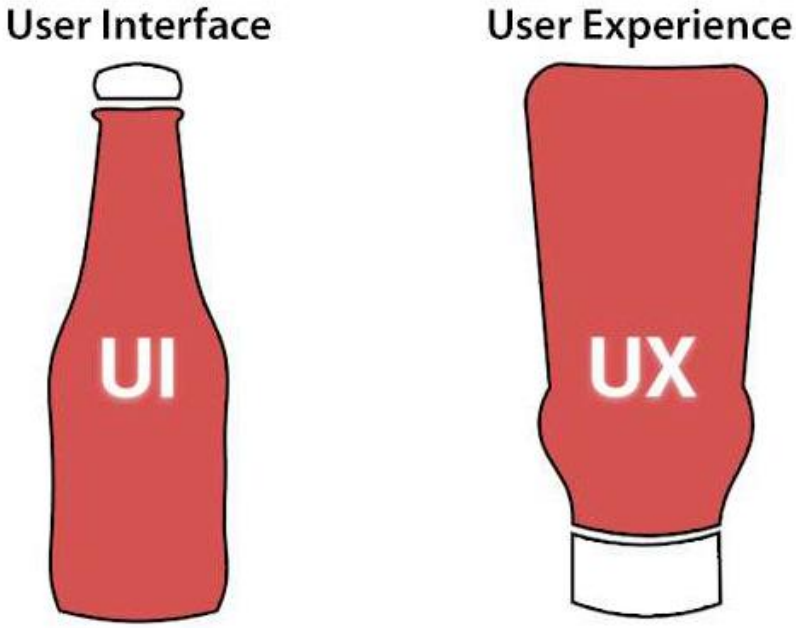
- Make a better experience for users by understanding their behavior and how they interact with a product or a software.

UI vs. UX

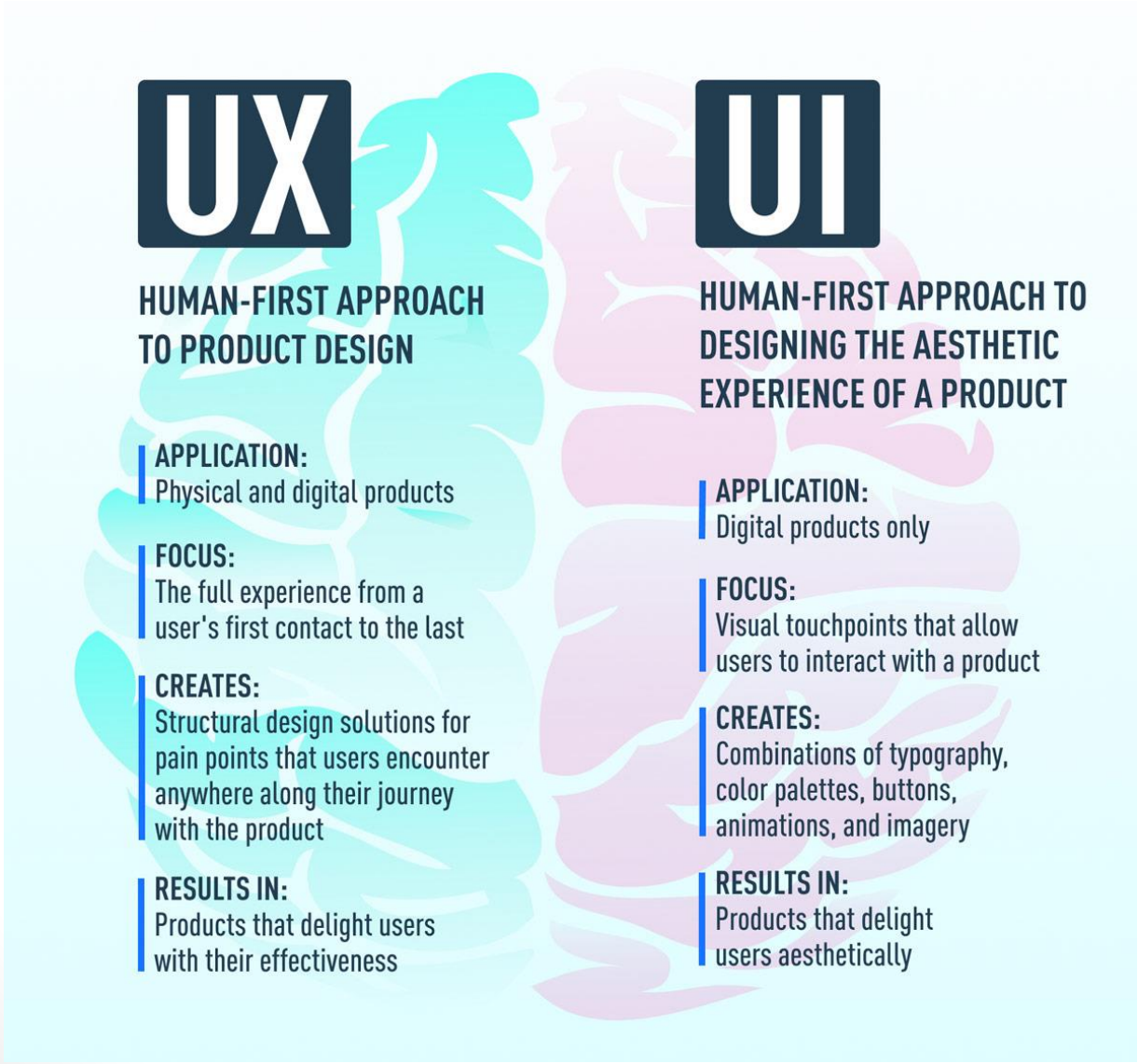

Wireframes
Usability testing
User research
Personas
UX
VS
UI
Layout
Visual design
Branding

UI vs. UX

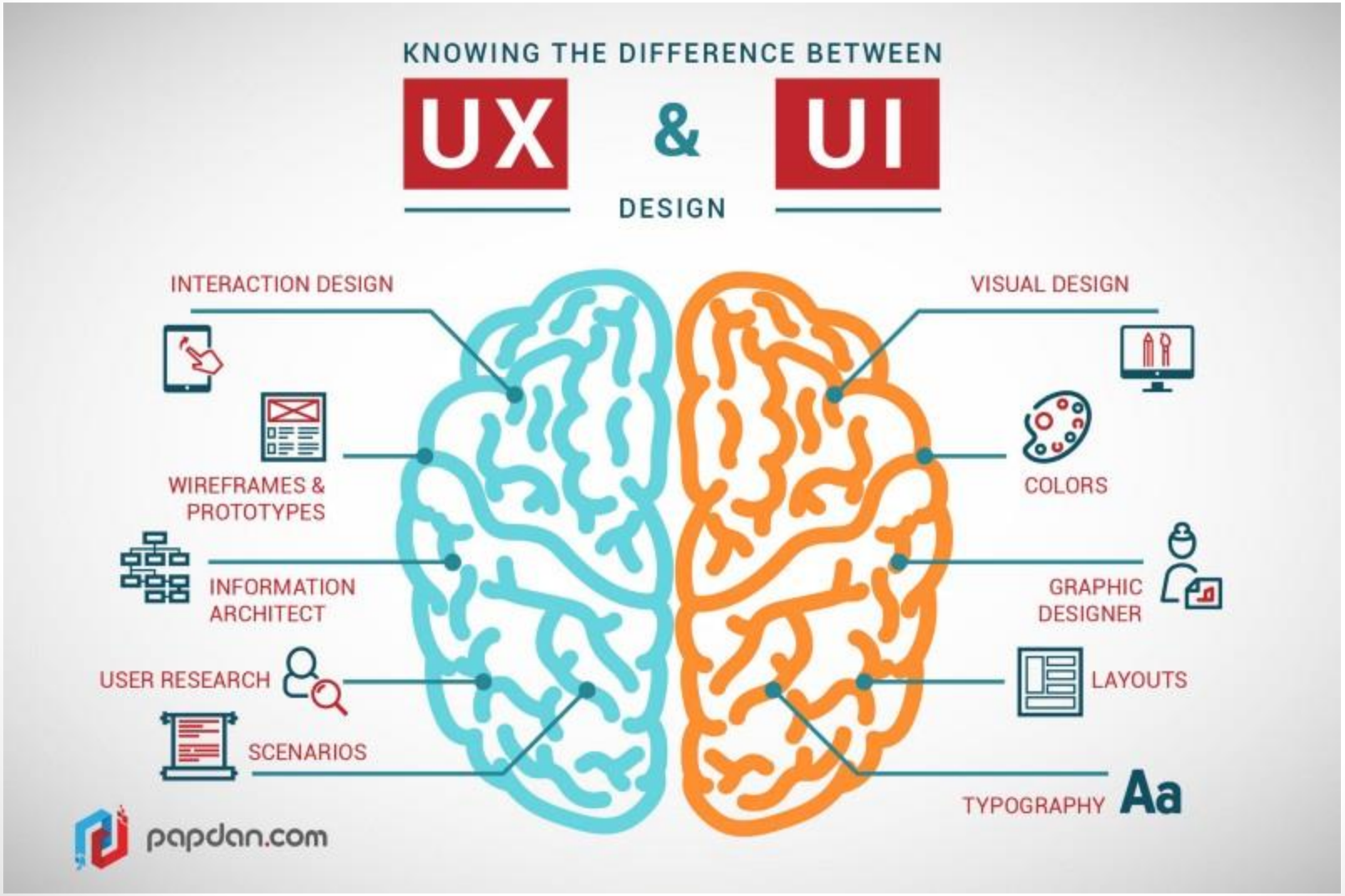
- UX design is what makes an interface **useful**
- UI design is what makes an interface **beautiful**



UI vs. UX

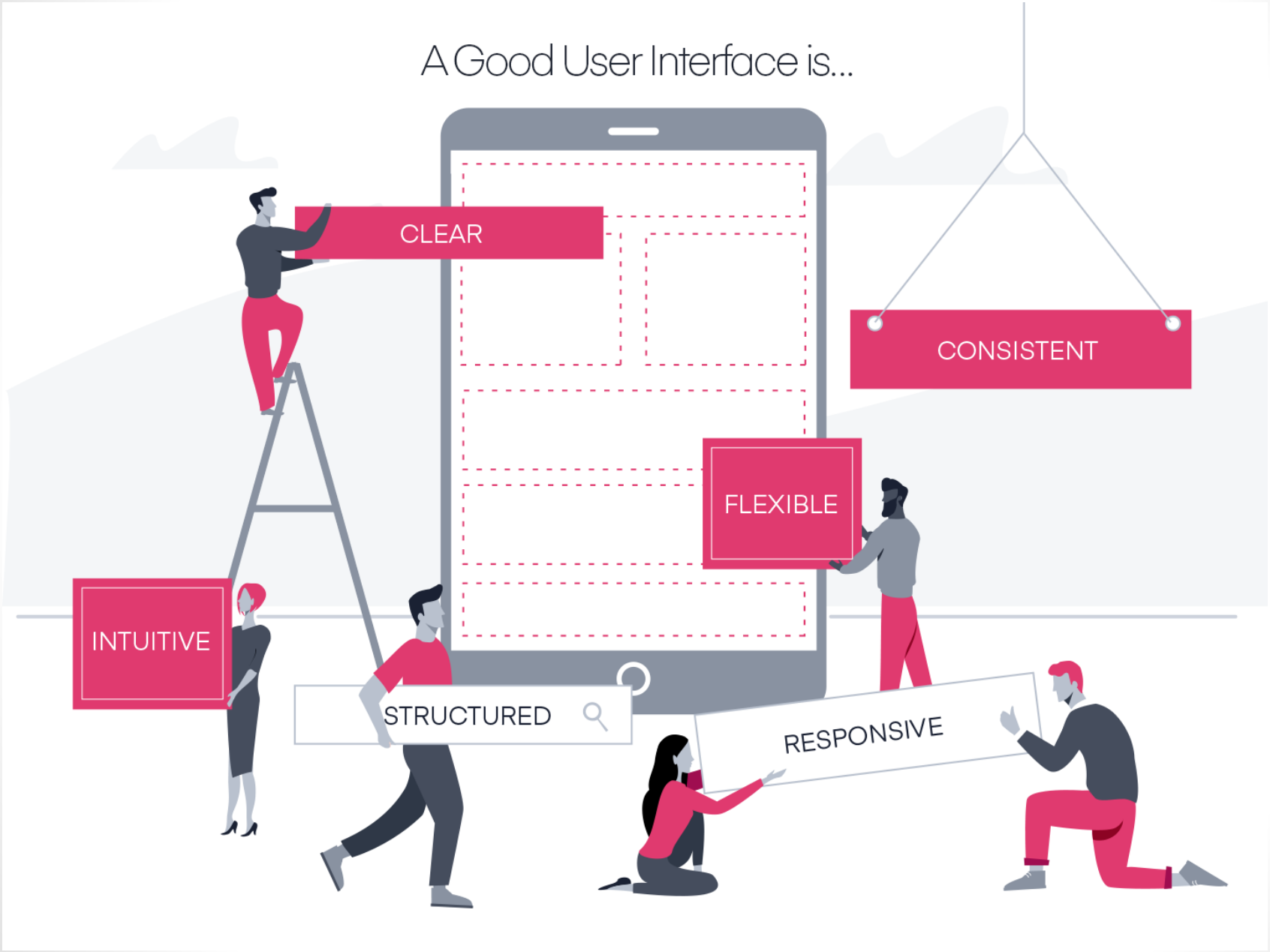

UX
HUMAN-FIRST APPROACH TO PRODUCT DESIGN
APPLICATION:
Physical and digital products
FOCUS:
The full experience from a user's first contact to the last
CREATES:
Structural design solutions for pain points that users encounter anywhere along their journey with the product
RESULTS IN:
Products that delight users with their effectiveness
UI
HUMAN-FIRST APPROACH TO DESIGNING THE AESTHETIC EXPERIENCE OF A PRODUCT
APPLICATION:
Digital products only
FOCUS:
Visual touchpoints that allow users to interact with a product
CREATES:
Combinations of typography, color palettes, buttons, animations, and imagery
RESULTS IN:
Products that delight users aesthetically

UI vs. UX


KNOWING THE DIFFERENCE BETWEEN
UX
&
UI
DESIGN
INTERACTION DESIGN
WIREFRAMES & PROTOTYPES
INFORMATION ARCHITECT
USER RESEARCH
SCENARIOS
VISUAL DESIGN
COLORS
GRAPHIC DESIGNER
LAYOUTS
TYPOGRAPHY
Aa
papdan.com

UI Design Core Principles

What makes good UI?


A Good User Interface is...
CLEAR
CONSISTENT
FLEXIBLE
INTUITIVE
STRUCTURED
RESPONSIVE

A Good User Interface is

- **Clear**: The interface speaks plainly and is never overly embellished or redundant. There's clarity on every screen.
- **Intuitive**: It presents the user with everything they need at the moment they need it.
- **Structured**: It's organized thoughtfully, with related items grouped together in a purposeful structure. Elements are clear, consistent, and recognizable.

A Good User Interface is

- **Responsive**: The user is shown clear state changes on both the success and failure of their actions. This can even be applied to micro-interactions via button animations or feedback on input boxes.
- **Consistent**: It should recycle behaviors and components that allow a user to rely on its patterns.
- **Flexible**: It should reduce the cost of mistakes and proactively prevent errors. It should also be tolerant, and handle multiple types of situations gracefully.

Clarity

- There’s nothing worse than ambiguity in an app.
- Understand which design might help a user best achieve their goals.
- Let the user feel confident while navigating through your app.

Feedback

- Every action needs a reaction.
- This includes Loading states, Error and Success messages etc
- Let the user know what is going on
  - Example: loading state while waiting for the content

Consistency

- Be consistent in you UI elements.
- Once your users start learning how to use a product, they shouldn't have to re-learn it.
- Good consistency and structure will make your users feel at home.

Use Established Design Patterns

- Innovation is awesome and encouraged, but it shouldn't have to be at the expense of the user experience
- Many of these established design principles are grounded in human perception.

Visual Hierarchy

- The arrangement of elements in a way that implies relative importance
- The way we perceive information is affected by several factors that contribute to how we rank the hierarchy of the content within the layout.
- Typography, White space and Colors are part of this visual hierarchy

Visual Hierarchy: Typography

- The two primary factors that makes a good typography are: Legibility and Readability.
- Legibility depends on the typeface. It is how each individual letterform is distinguishable from one another.
- Readability is determined by how you manipulate a particular typeface to make it easier to comprehend.

The Typeface Matters

This is less legible.

This is more legible.

Visual Hierarchy

- NEVER center large Blocks of copy
- The eye knows exactly where the next line begins.

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Fusce dignissim pellentesque quam, sed imperdiet nisl aliquam sodales. Duis dolor nisl, sollicitudin in aliquet quis, ullamcorper eu mauris. Nunc vehicula nisl ac metus elementum bibendum.

Duis elementum vestibulum nibh, suscipit adipiscing neque sodales quis.

Maecenas condimentum interdum quam nec volutpat. Nunc sem felis, porta vel mattis id, dictum vel velit. Aliquam elementum, nulla id porttitor blandit, ante enim tincidunt lectus, sed rhoncus elit ante in ligula.

Center-aligned

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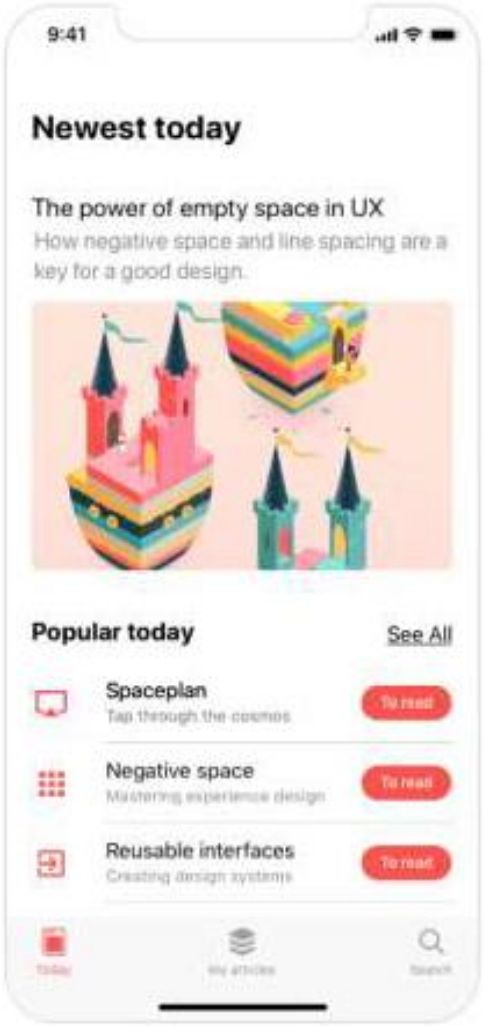
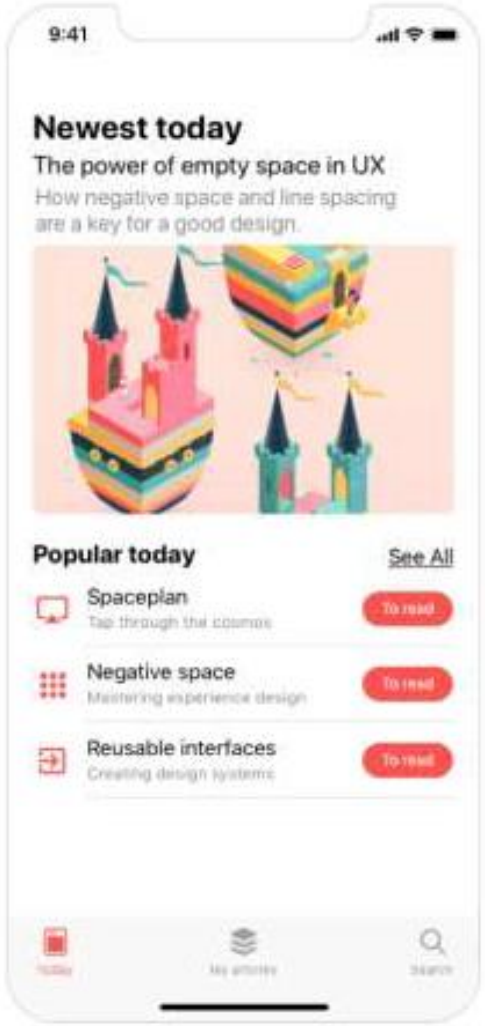
Combination

Visual Hierarchy: White space

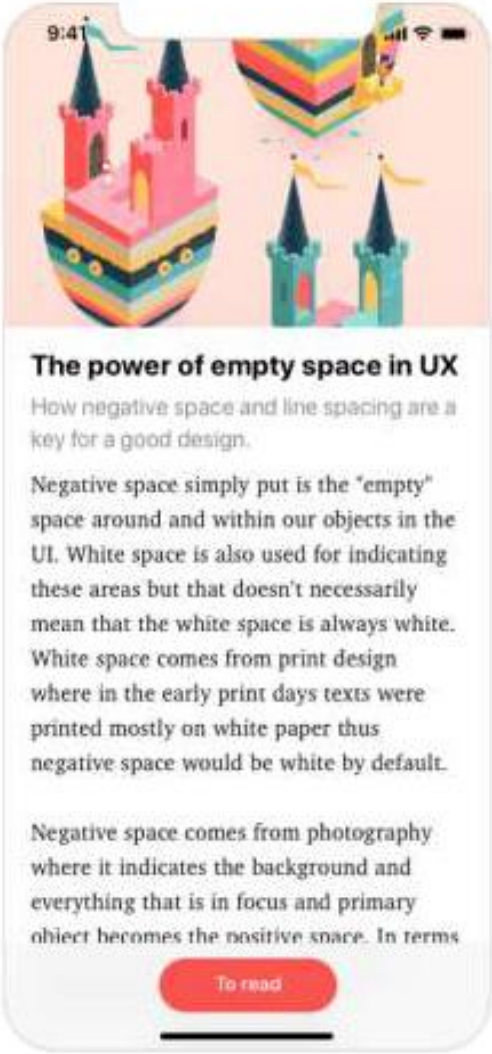
- White space helps with readability and comprehension immensely.
- Readers find it easier to focus on and process generously spaced content.
- White space can be used to create strong hierarchy.

Visual Hierarchy: White space





Visual Hierarchy: White space



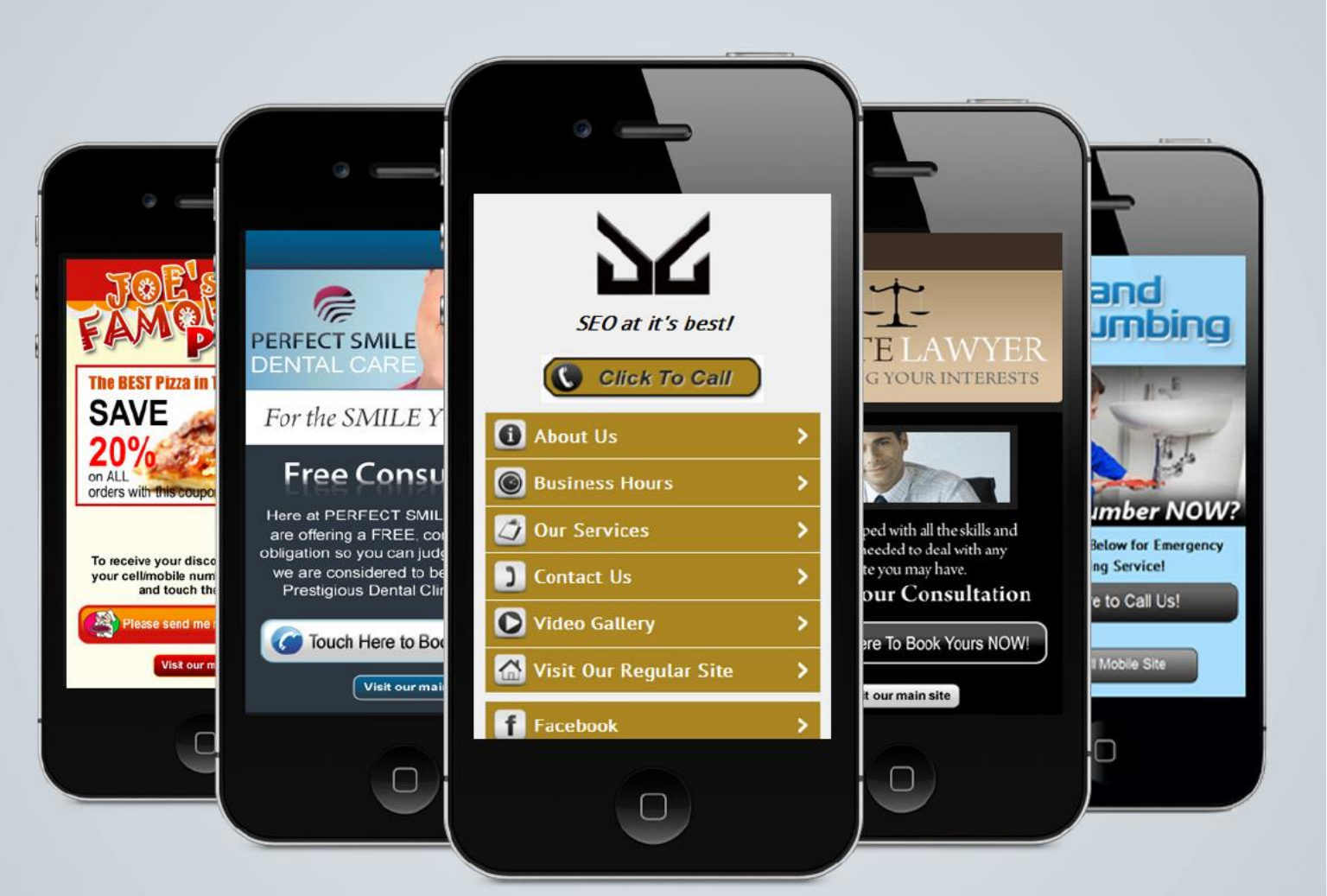
Visual Hierarchy: Colors

- Colors have a key role in expressing the brand and intents.
- The more colors there are, the less impact each individual color will have
- Keeping decent contrast between colors keeps a design accessible

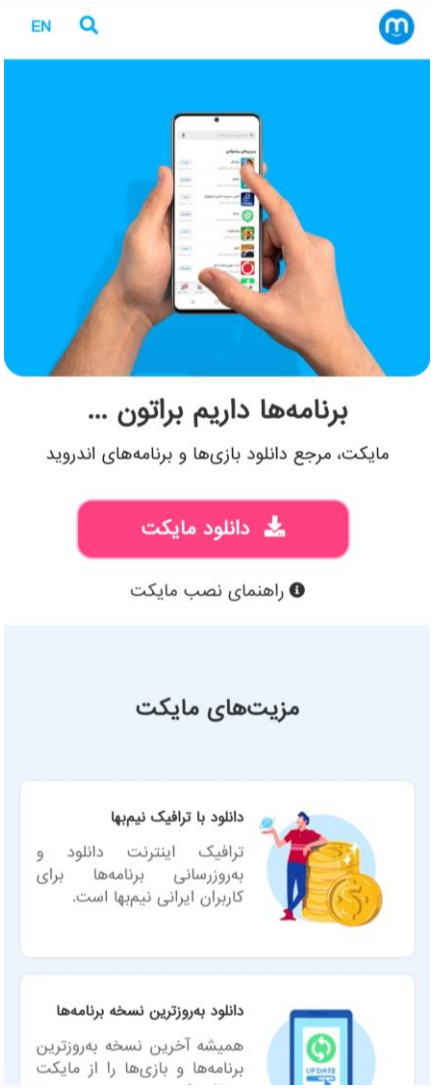
Choosing Right Colors For Actions

Responsive Design: Design For Every Device

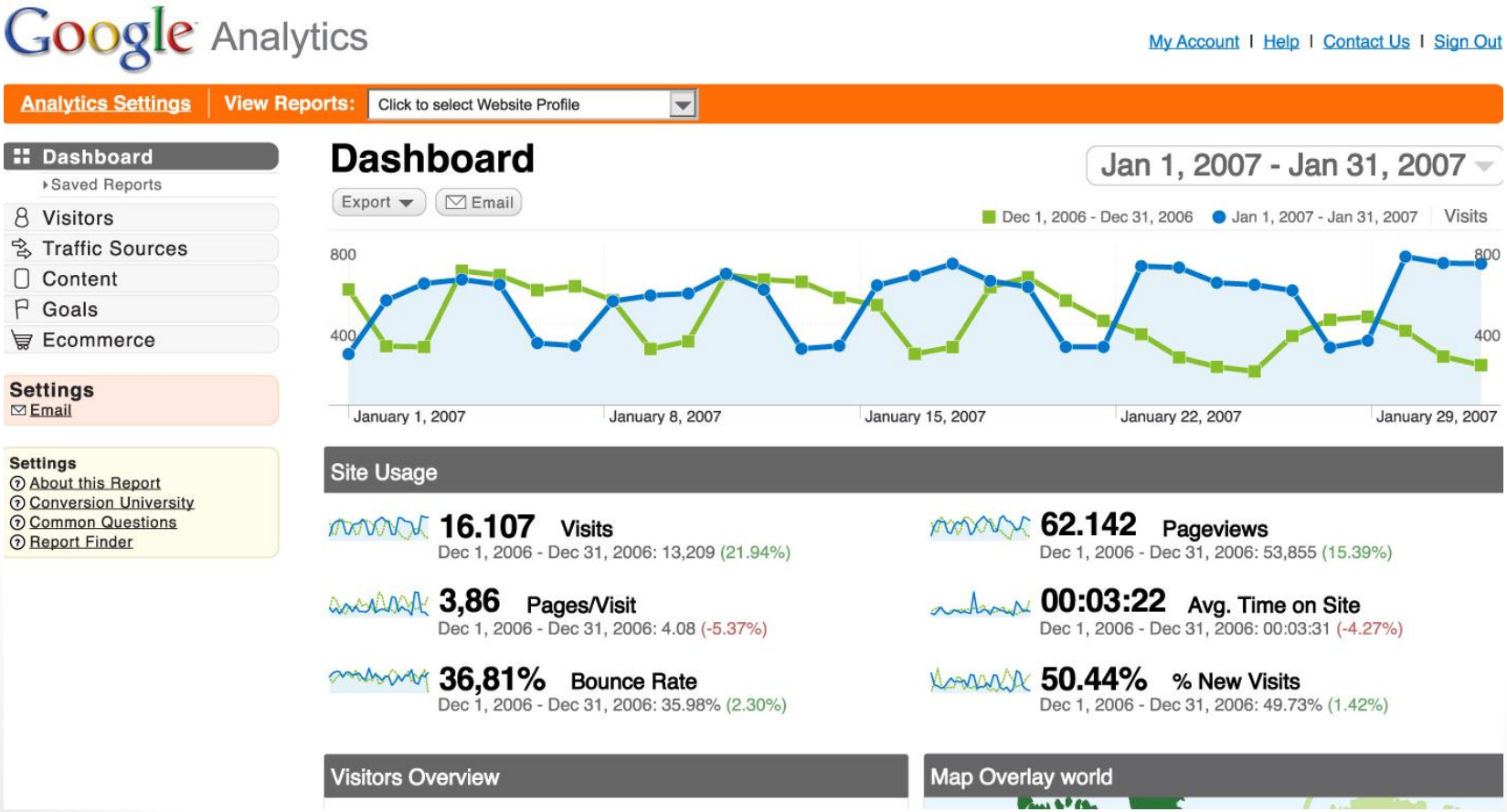
Mobile First Approach: Prioritize Where People Consume Content



User Testing and Fine Tuning



Know the Facts: Check Analytics Reports



Wireframe

Wireframe

- A wireframe, also known as a page schematic or screen blueprint, is a visual guide that represents the skeletal framework of a user interface.

- Wireframes focus on:
  - The range of functions available
  - The relative priorities of the information and functions
  - The rules for displaying certain kinds of information
  - The effect of different scenarios on the display

Elements of Wireframes: Information Design

- presentation—placement and prioritization of information in a way that facilitates understanding. to display information effectively for clear communication.

- information elements should be arranged in a way that reflects the goals and tasks of the user

Elements of Wireframes: Navigation Design

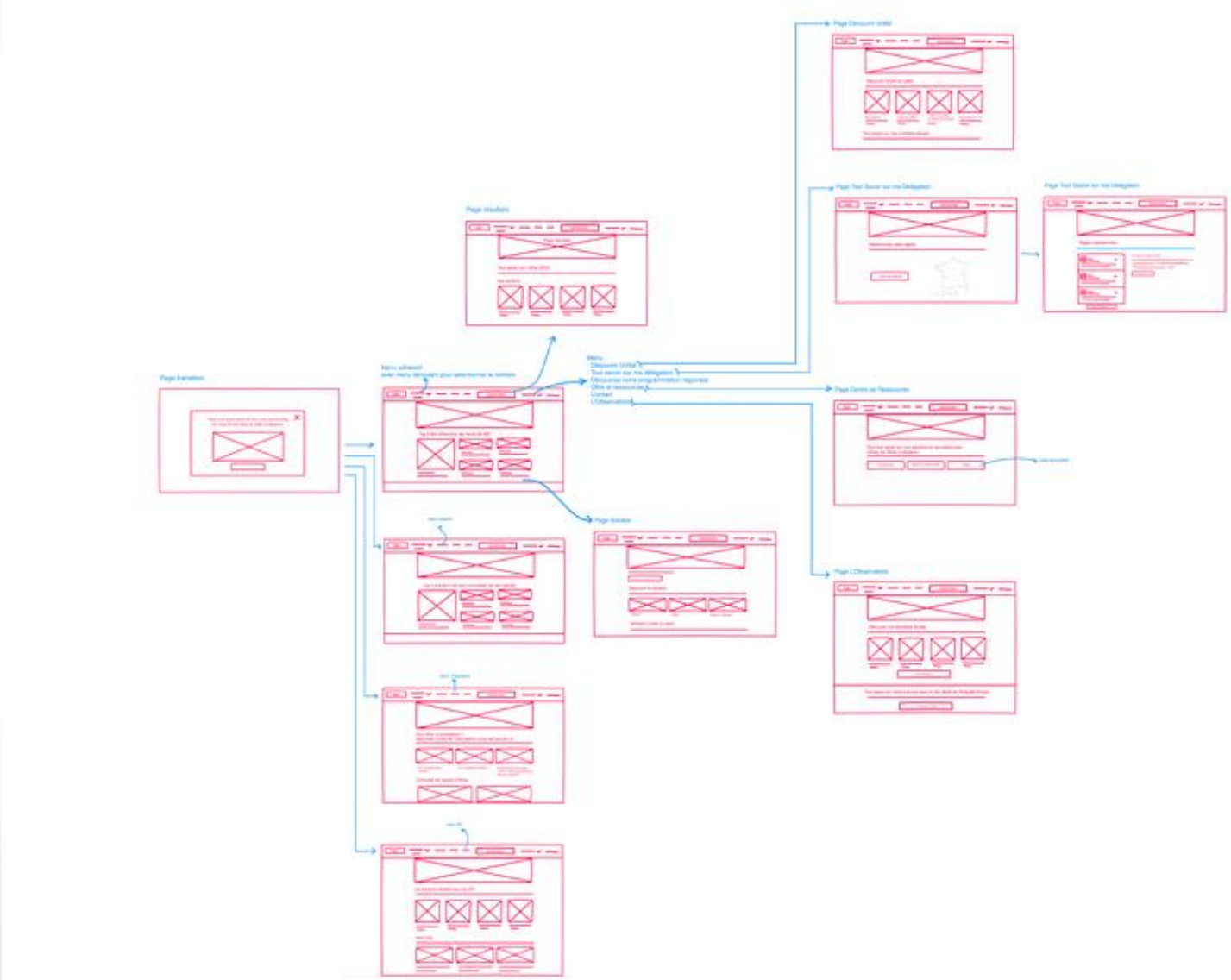
- A set of screen elements that allow the user to move page to page

- communicate the relationship between the links it contains so that users understand the options they have for navigating

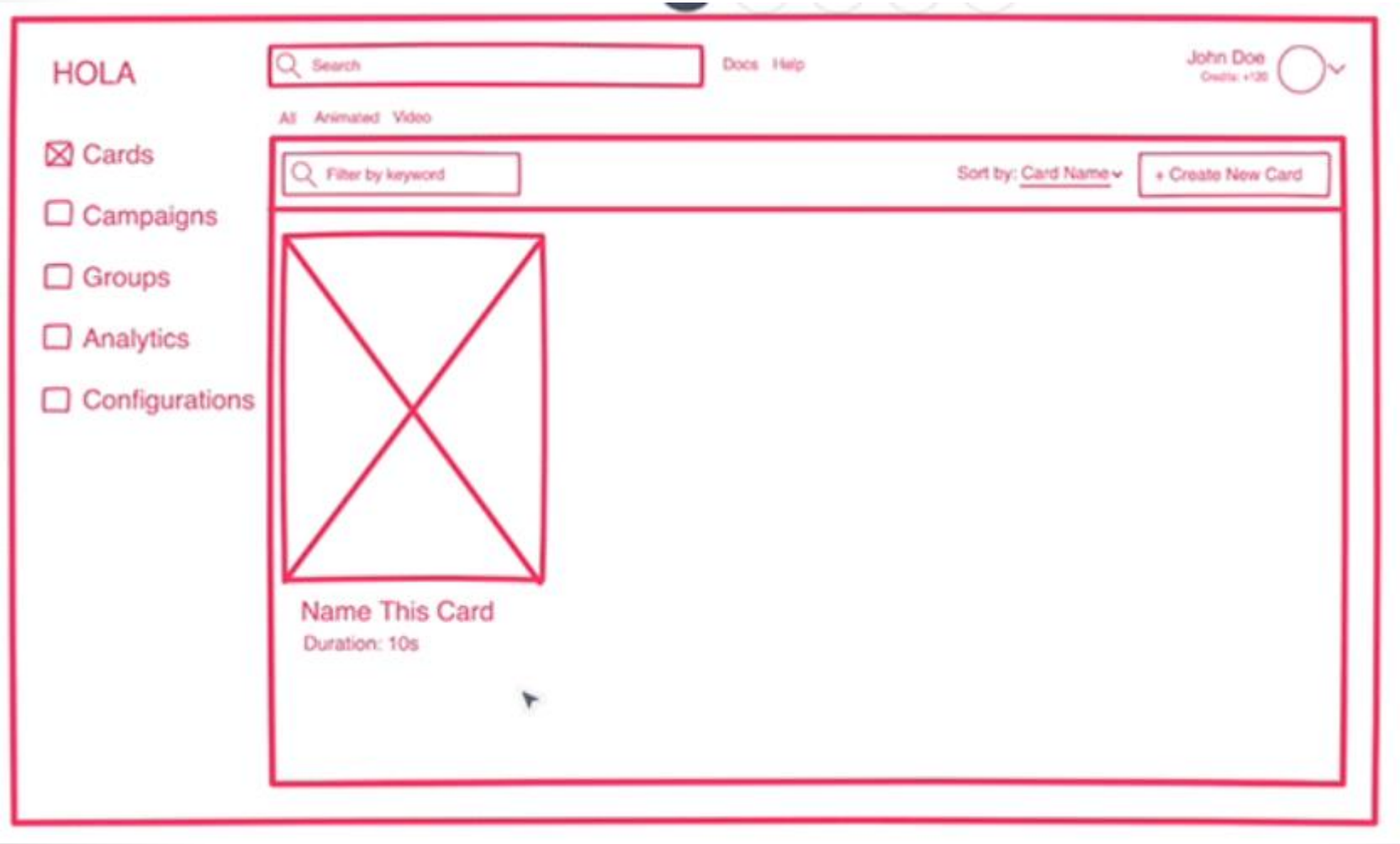
Elements of Wireframes: Interface design

- Selecting and arranging interface elements to enable users to interact with the functionality of the system
- To facilitate usability and efficiency as much as possible
- Common elements in interface design: action buttons, text fields, check boxes, radio buttons and drop-down menus

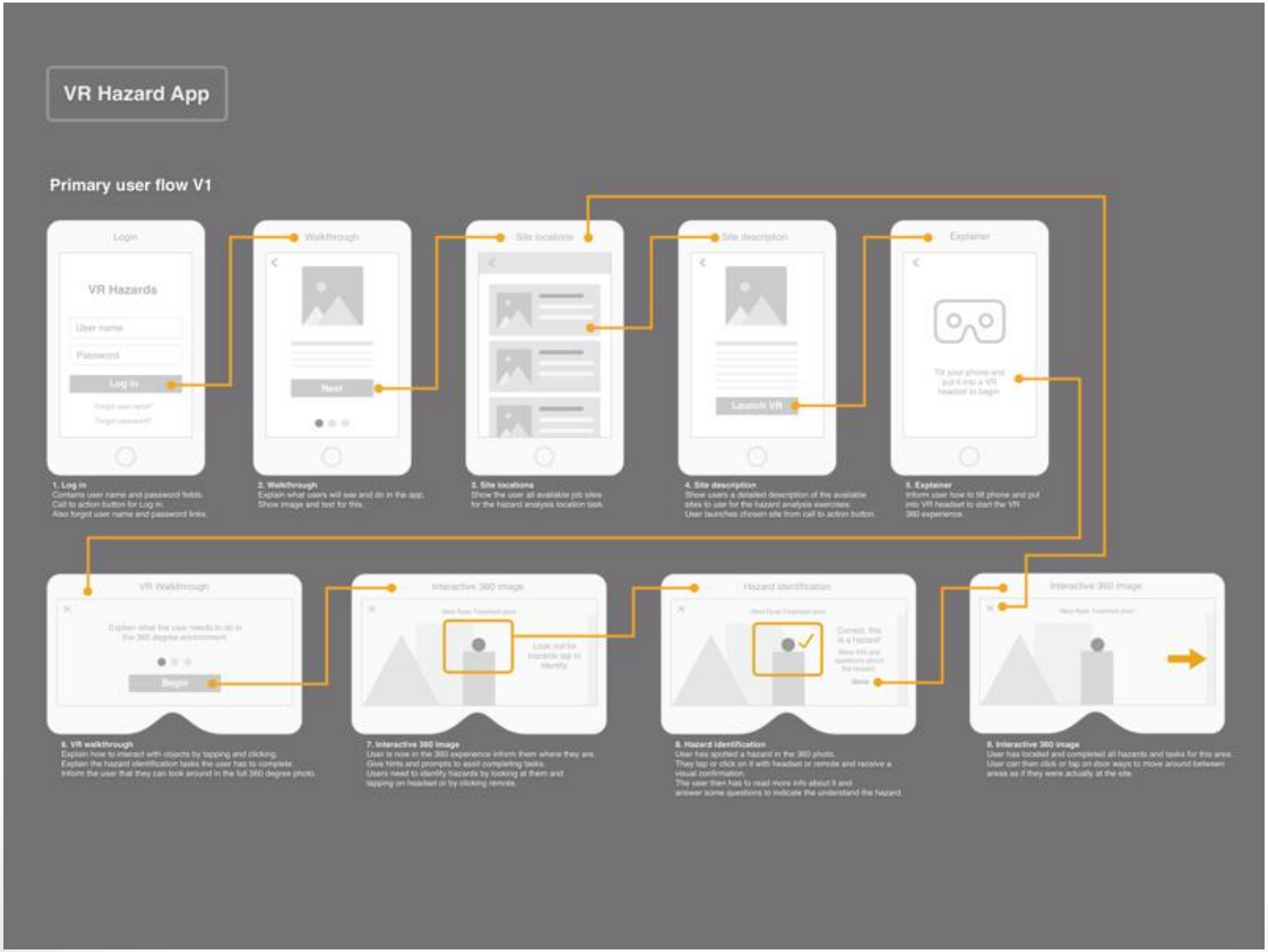
Wireframe Example



Wireframe Example

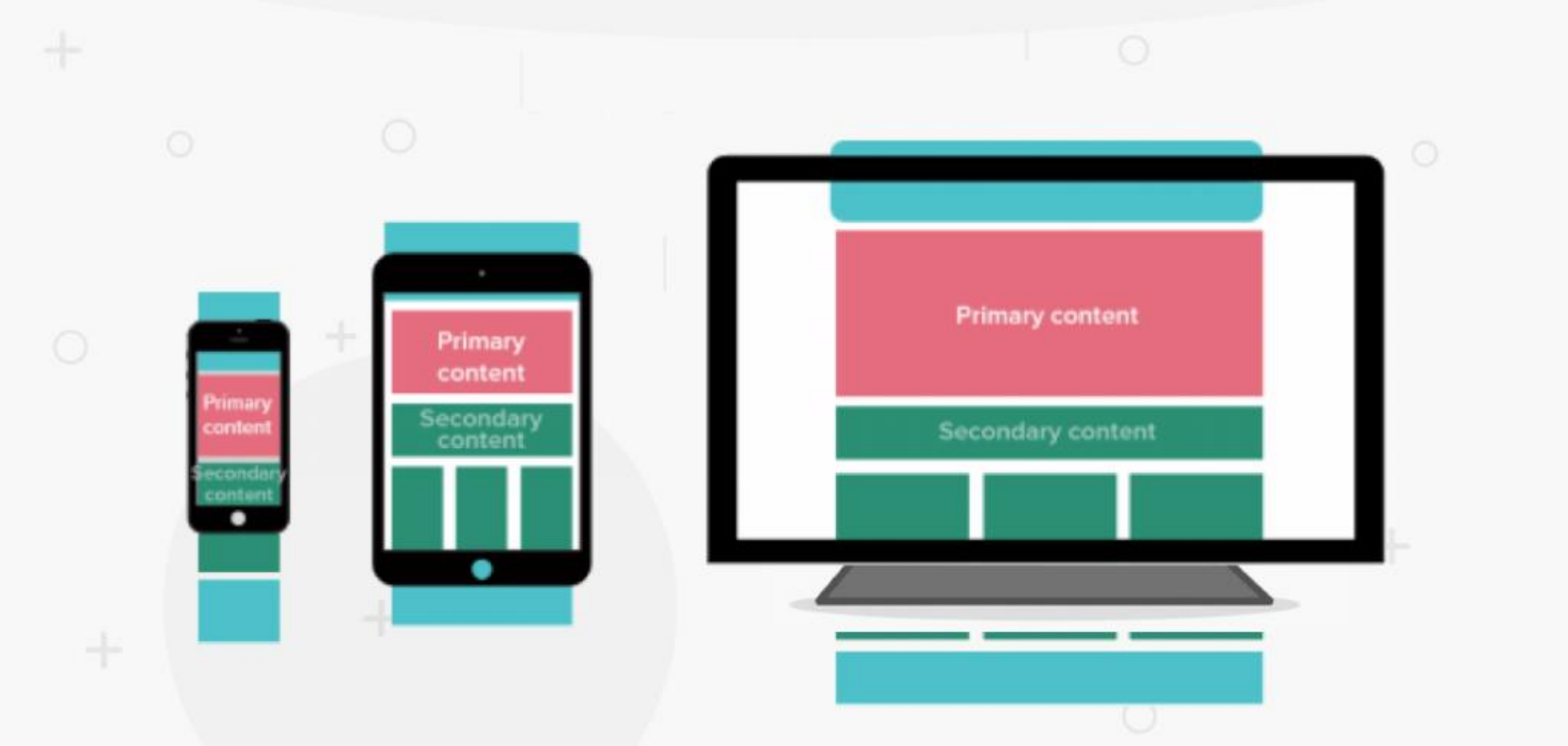


Wireframe Example



Principles of Mobile UI Design

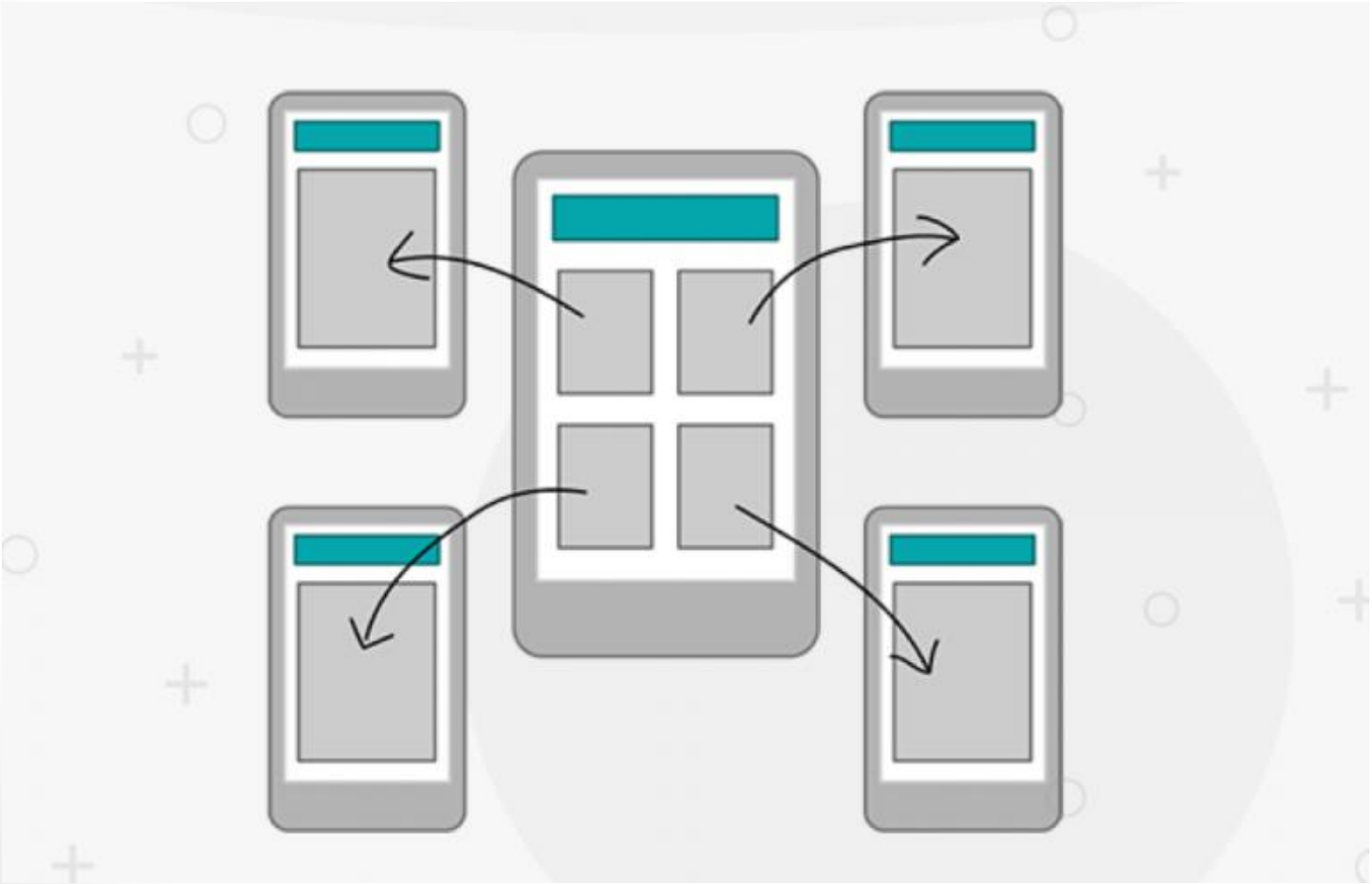
Content Prioritization



Content Prioritization

- Human attention spans are really short: 8 seconds. It is extremely important to grab users' attention within the first few seconds of interaction.
- Less is more. Keep interface elements to a minimum. Simple designs are what keep the user engaged and at ease.
- Display only essential content and functionalities the user needs. Secondary content should be available through a menu. Use icons instead of text wherever possible.

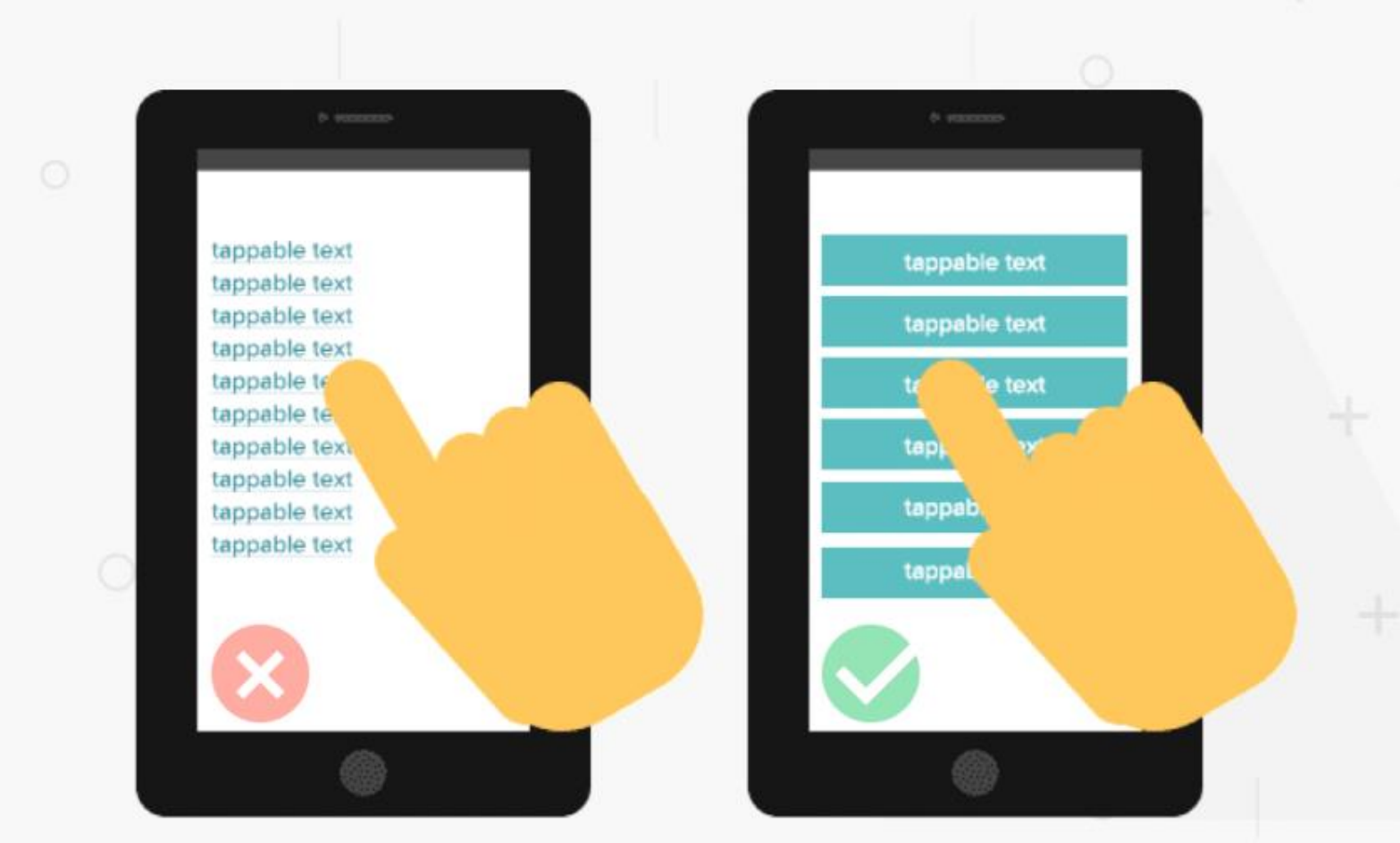
Make Navigation Intuitive



Make Navigation Intuitive

- Users should intuitively be able to navigate via clear pathways and be able to complete all primary tasks without requiring any explanations.
- Users lack the patience to try to work through complex steps to get what they want. If it takes too much time or effort to discover how to navigate through your product, you're going to lose your users.
- User journeys should be logical enough. Simplify the process and have all the information needed readily available.
- When navigating through your app, the user should always know where they are without wondering how they got there, or what they are to do next.

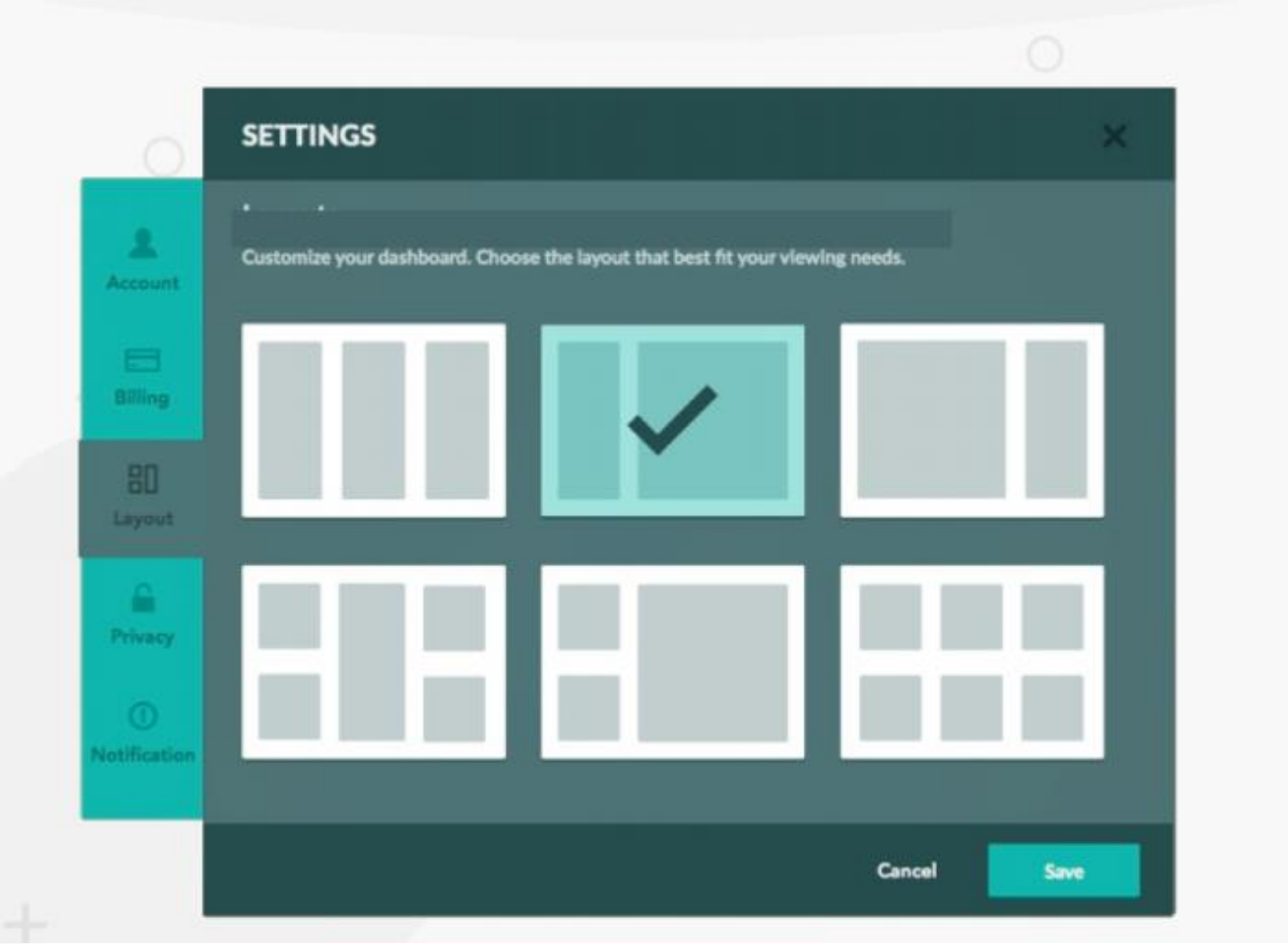
Touchscreen Target Sizes



Touchscreen Target Sizes

- People interact with touch screens using their fingers. Make interface elements big enough to capture these actions.
- People use their thumbs more often than any other finger while using their smartphones. Small touch targets can be frustrating because they require more accuracy and are prone to errors.
- Not only is the size of the target important, but so is the spacing between targets. If action buttons are too close to each other, users may make actions leading to frustration. Space out contradicting action buttons, such as the save and delete buttons to avoid errors.
- Include an undo button in your designs. It will relieve many people (including yourself) when mistakes are made.

Provide User Control



Provide User Control

- People like to feel like they're in control of their actions. You need to give it to them.
- Allow users to make decisions to personalize their journeys. Changing settings, controlling notifications and cancelling actions. Apps can suggest actions or provide warnings, but user is to do decision-making.
- When the user needs to know what's going on, let them know! Integrate status and other types of feedback into your interface without disrupting the user's workflow. If an app requires signup, let them demo it first or continue as a guest to sample it before making the decision to commit.

Legible Text Content

Legible Text Content

- The key to mobile typography is readability. Communicating your designs in a clear, simple layout delivers your message effortlessly.
- Users should be able to read your content.
- Anything smaller than 16 pixels (or 11 points) becomes challenging to read for any screen.
- An unnecessarily large font size results in awkward breaks and hyphenation that take longer to read, tiring the reader.

Legible Text Content

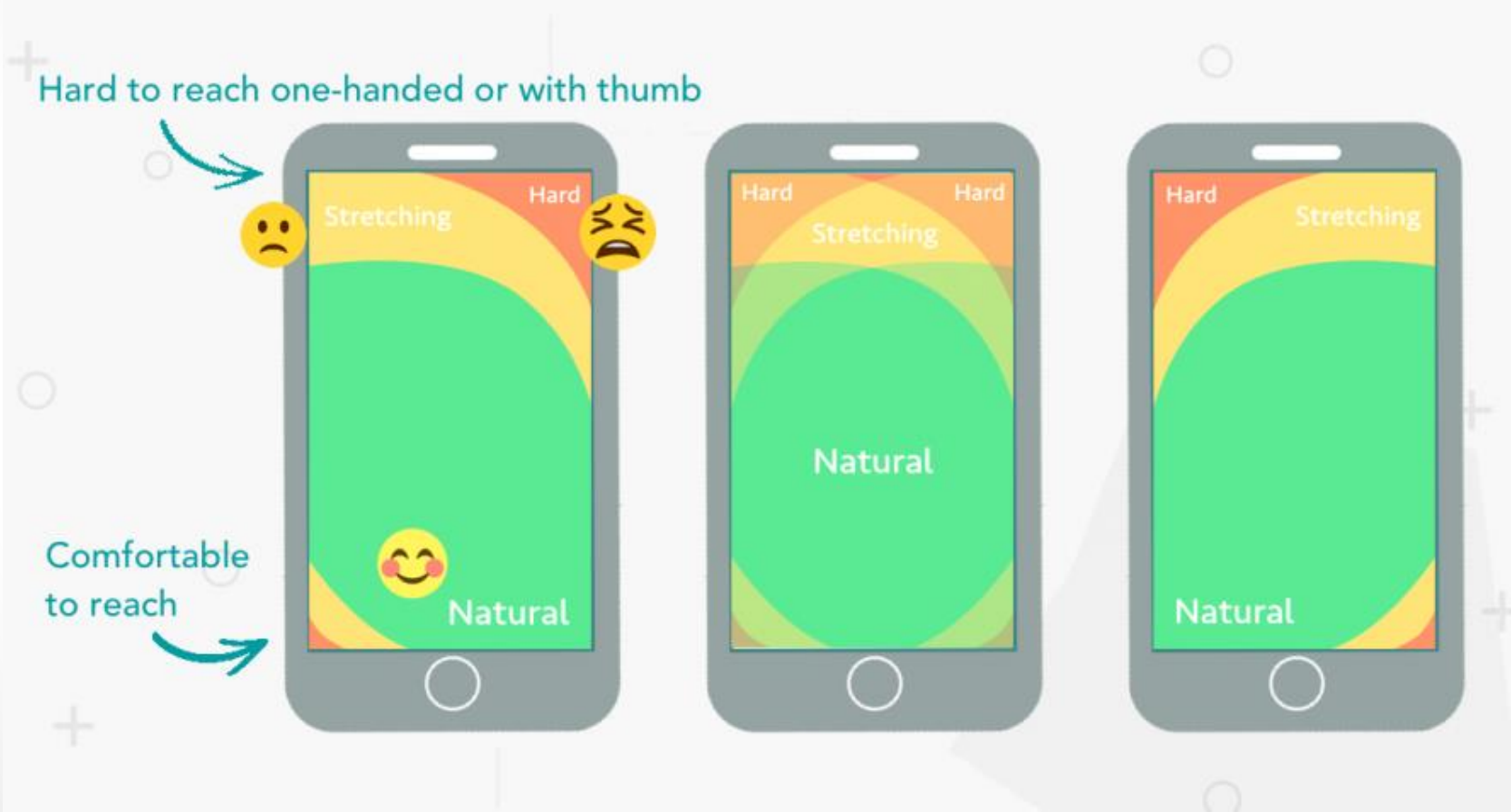
- Accessing the same amount of information from a desktop on smartphones requires a higher interaction cost because of screen size.
- Crowding a small space with too much content makes it difficult and straining for users to read. A good rule of thumb is to use 30–40 characters per line for mobile.
- Spacing and layout are also important to improve legibility. Adding space between text aids the user in reading.

Make Interface Elements Clearly Visible

Make Interface Elements Clearly Visible

- People use their phones everywhere. Indoors, outdoors, in planes, trains, buses, cars, underground, overground (you get it right?)
- It’s important to have sufficient contrast between content and background in your designs so it’s legible, in any setting, even outside in the sunlight.
- Getting the right amount of contrast isn’t always easy. WC3’s Web Content Accessibility Guidelines gives contrast ratio recommendations for images and text. The most important part in choosing your text and background is to test it out with users.

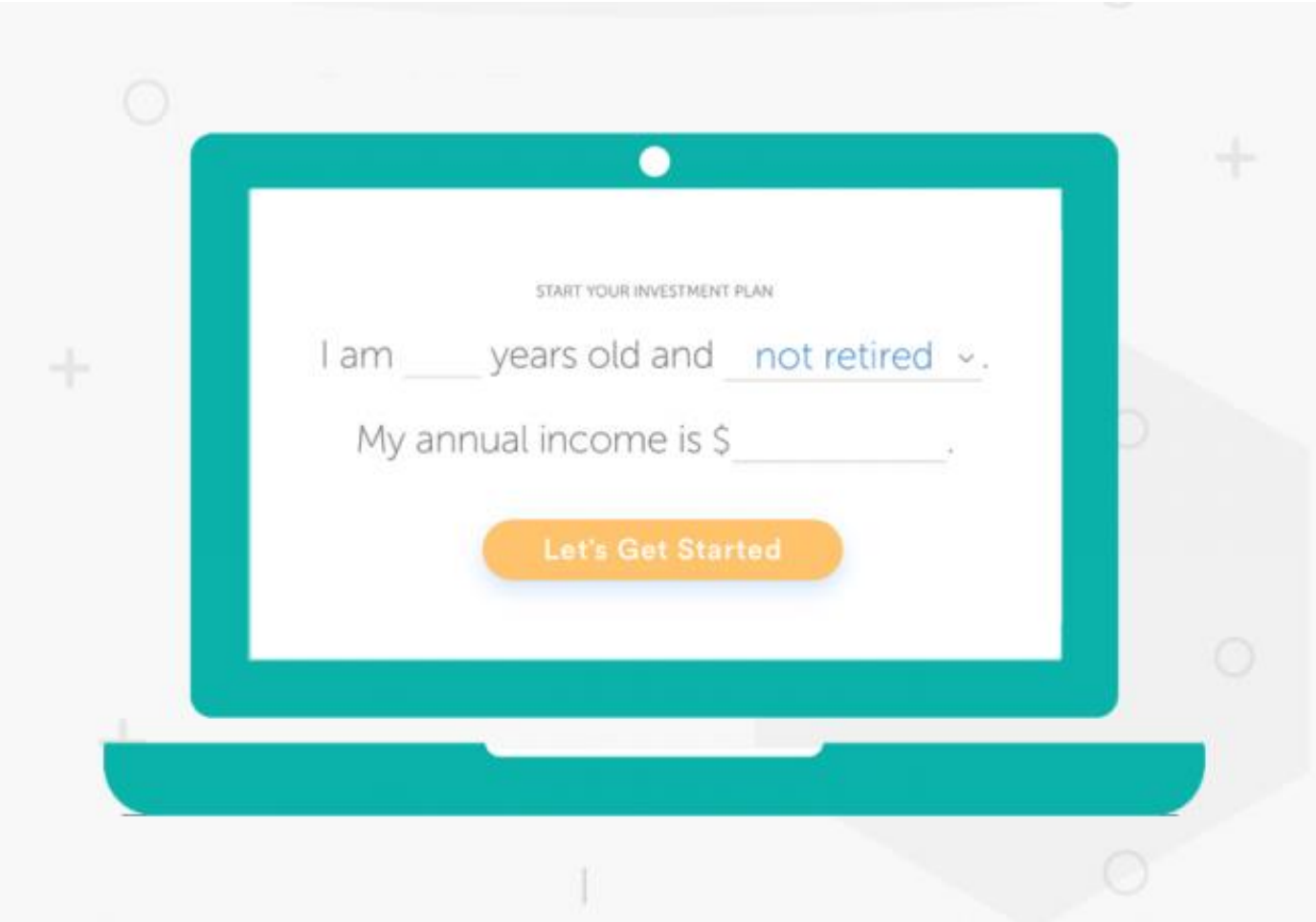
Hand Position Controls



Hand Position Controls

- 49% of people rely on one thumb. Accommodate for the thumb's reach zone.
- Common features should be placed in easily accessible regions, while actions such as delete buttons should be placed in areas harder to reach to avoid errors.
- Accessibility behavioral features should be made available to users to make navigation easier.
- Delivering a great mobile UX takes into consideration all different types of users. Keeping in mind right- and left-handedness is also a design feature to consider.

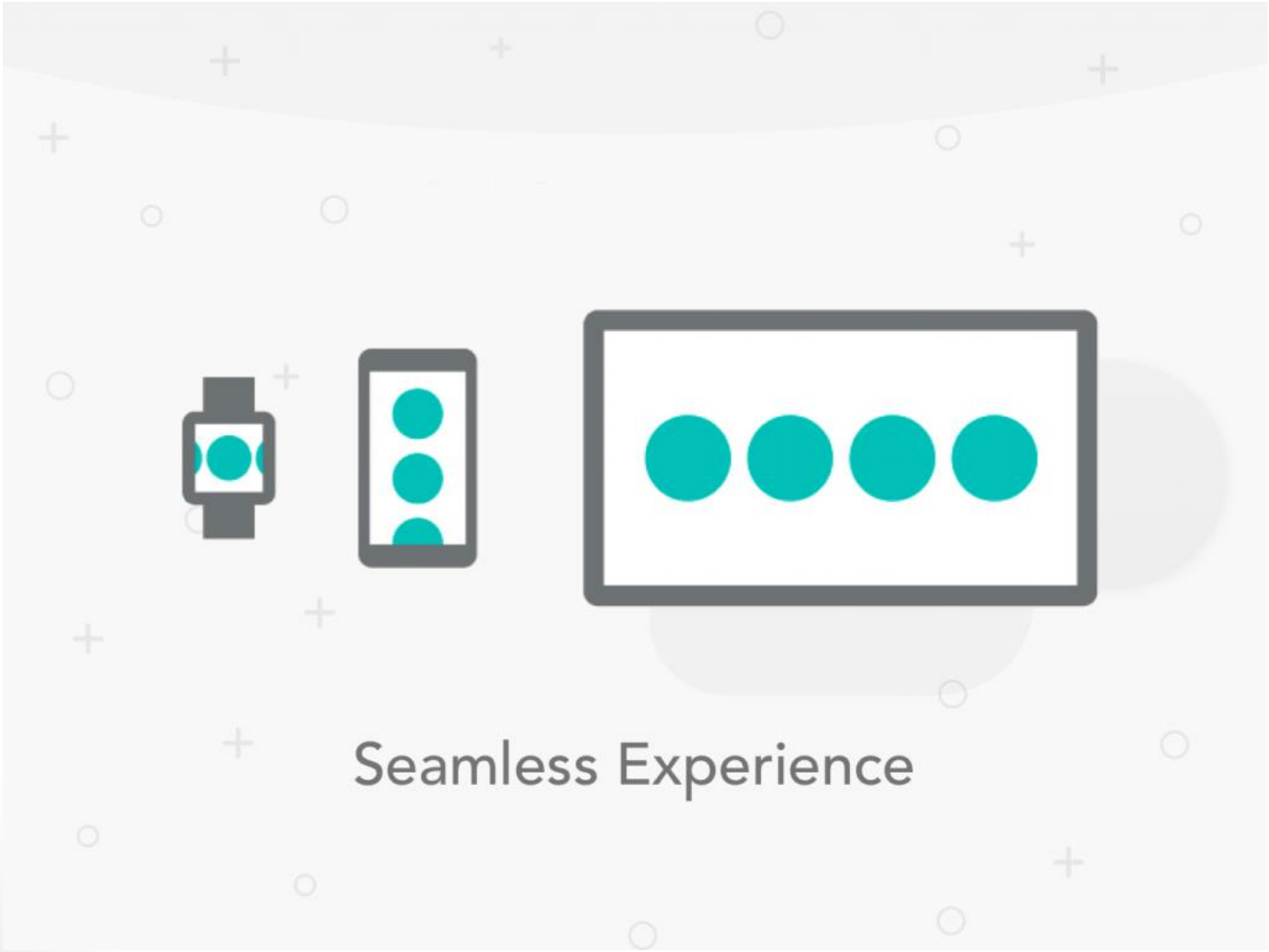
Minimize Data Input



Minimize Data Input

- Ever start typing on your mobile phone and find a few extra letters that have nothing to do with waht hyour’re ar3e tryaing to saay?
- Typing on small devices can be annoying. Minimize the need to enter data in your designs.
- Help users reduce typing required by shortening forms, removing unnecessary fields and using ‘remember me’ options for future use. Provide autocomplete, recent search history and location detection.
- Display keyboard variations depending on the required data, for example for phone numbers provide the numeric keypad for faster input.

Create a Seamless Experience



Create a Seamless Experience

- Focus on key user goals by reducing friction, minimizing steps and page loads to decrease interaction time.
- Provide alternative paths to avoid dead-ends.
- Make use of the mobile phone's features, like the camera to scan barcodes, GPS for identifying locations and touch ID in place of passcodes to simplify journeys.
- Synchronization across devices is a priority for creating seamless experiences.

Test Your Design

Test Your Design

- Test early. Test often.
- Usability testing is essential for the success of your products. Test different features, layouts and variations of your designs to see what works best. Build your products with a user-centered approach by testing with real users.
- The earlier you discover your problems, the easier and cheaper it is to fix them.

Any Questions?

Your time is limited, don't waste it living someone else's life

Steve Jobs, Stanford University speech, 2005