

Hi-Fidelity Prototypes

Shan-Hung Wu & DataLab
CS, NTHU

Improved Low-fi Prototype



Our **DogWalker** app will show tips to select a dog walker which will affect non-tech-savvy users by helping users hire the right dog walkers. We will measure effectiveness by tracking the booking rate in the app.

The image displays a sequence of six low-fidelity wireframe prototypes for a mobile application, illustrating the user flow from the homepage to a booking confirmation screen.

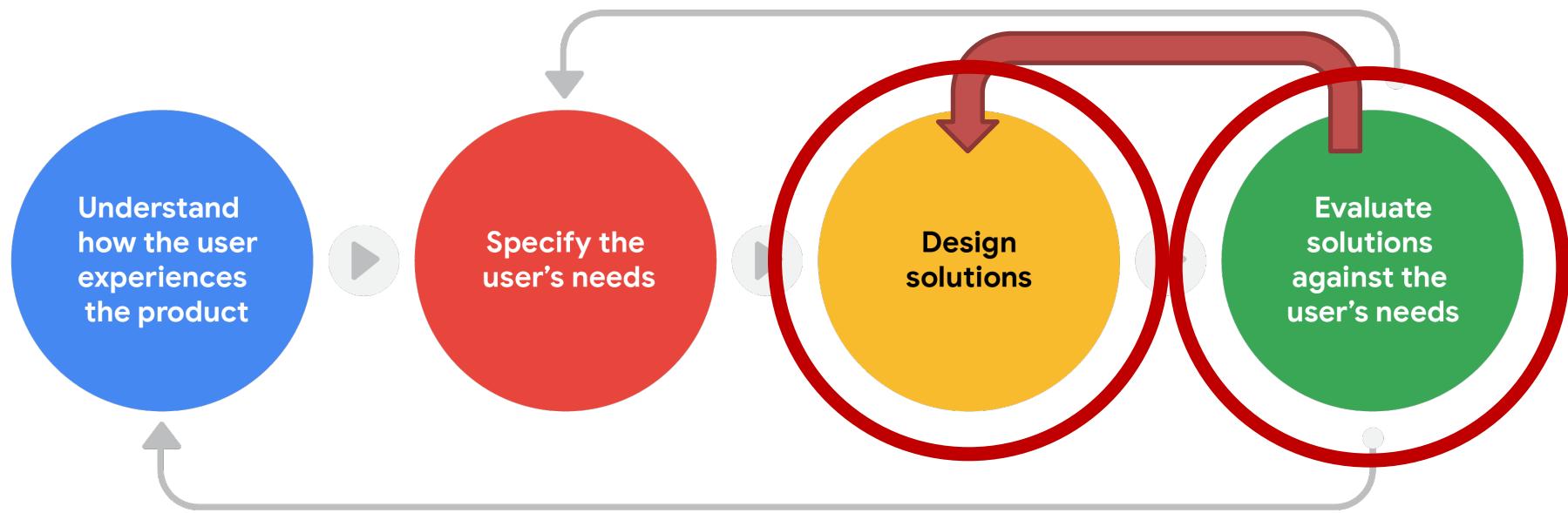
- 1. Homepage:** Shows a navigation bar with three dots, a search icon, and the text "xyz app". Below the bar, there's a section titled "Latest tips to train your dog" with a "Schedule" button. A list titled "Dog walkers near you" shows five entries, each with a circular profile picture and a horizontal bar.
- 2. Schedule page: picker**: Titled "Schedule a time". It shows a date selector set to "May 2" and a time selector showing "3:30 pm" and "30 mins". A table below lists available times:

Month	Date	Time	Duration
Mar	31	3:00 pm	15 mins
Apr	1	3:15 pm	15 mins
May	2	3:30 pm	30 mins
Jun	3	3:45 pm	45 mins
Jul	4	4:00 pm	60 mins

A green box highlights the "May 2" row. At the bottom is a checkbox labeled "Recurring booking".
- 3. List of available dog...**: Titled "Dog walkers". It shows a header "Date & time selected" and "Available dog walkers near you". Below is a list of dog walker profiles, each with a circular profile picture and a horizontal bar. A "Learn more" button is at the bottom right.
- 4. Dog walker profile p...**: Titled "Jane Doe". It shows a circular profile picture, a "Book" button, and a list of services with horizontal bars. A "Learn more" button is at the bottom right.
- 4a. Confirm booking**: Titled "Confirm booking". It shows a circular profile picture, a "Total cost" section with a dollar sign and a redacted amount, a "Details" section with a redacted list, and a "Confirm booking" button.
- 5. Booking confirmation...**: Titled "CONGRATS!". It shows a circular profile picture, a "Total cost" section with a dollar sign and a redacted amount, a "Details" section with a redacted list, and a "Confirm booking" button.

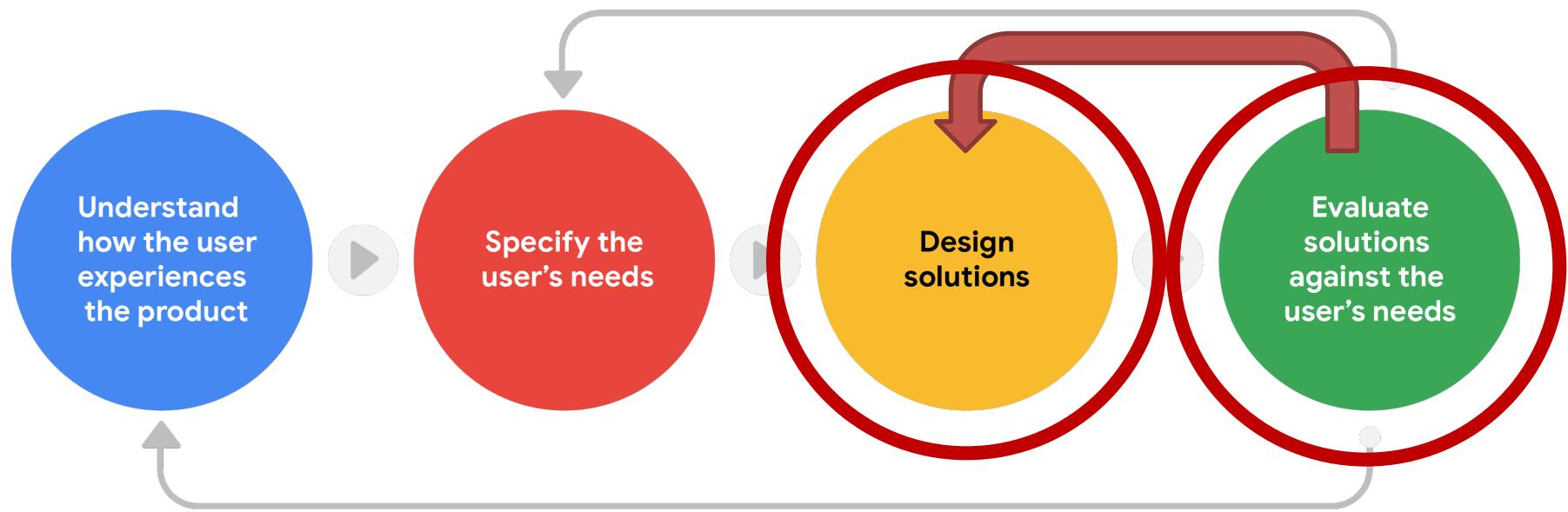
Outline: Hi-fi Prototyping

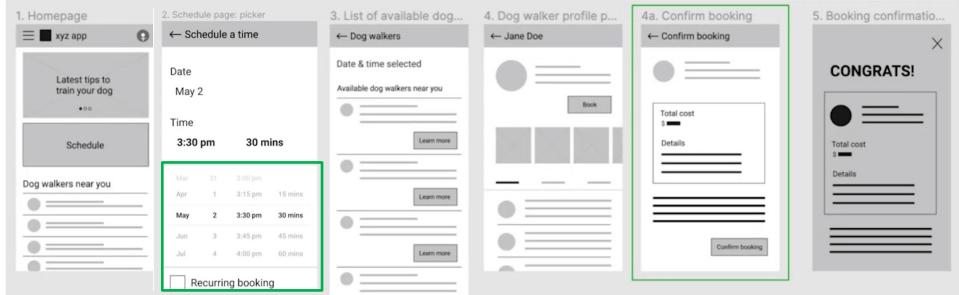
- Creating mockups
 - Design systems
 - Visual design principles
- Getting feedback from design critic sessions
- Hi-fi prototyping & usability tests



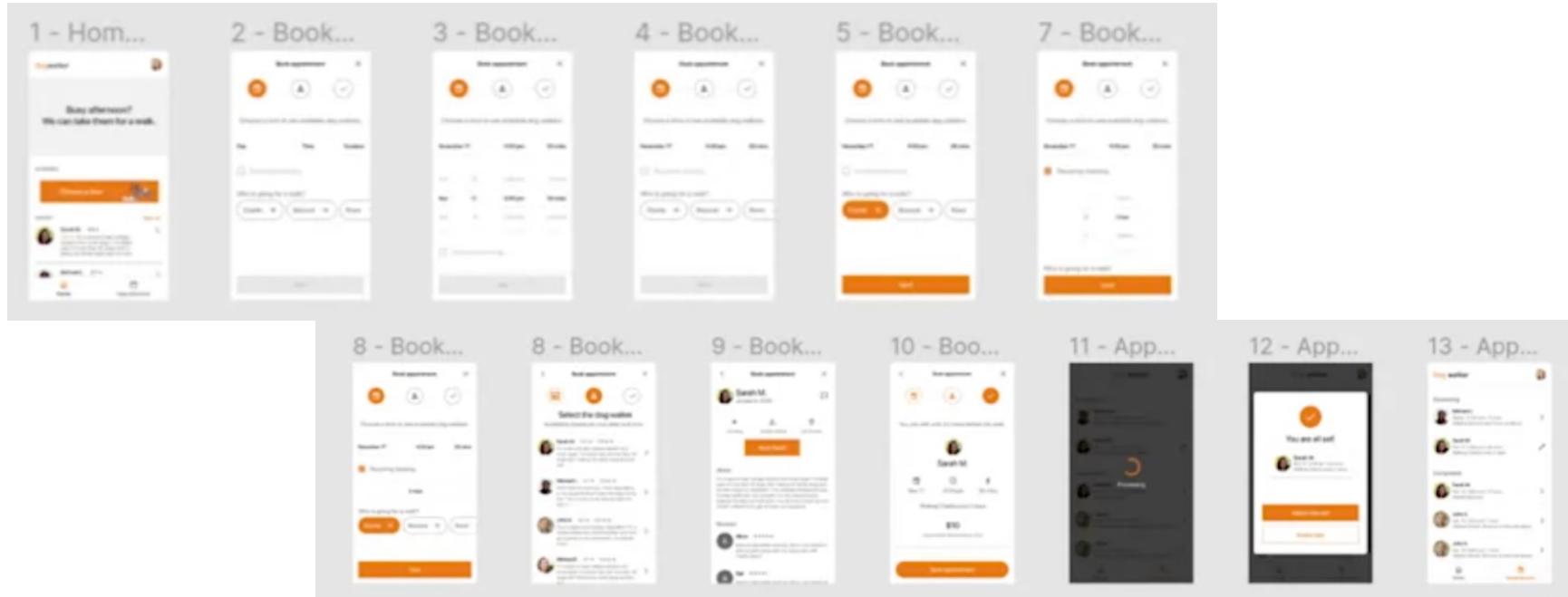
Outline: Hi-fi Prototyping

- Creating mockups
 - Design systems
 - Visual design principles
- Getting feedback from design critic sessions
- Hi-fi prototyping & usability tests



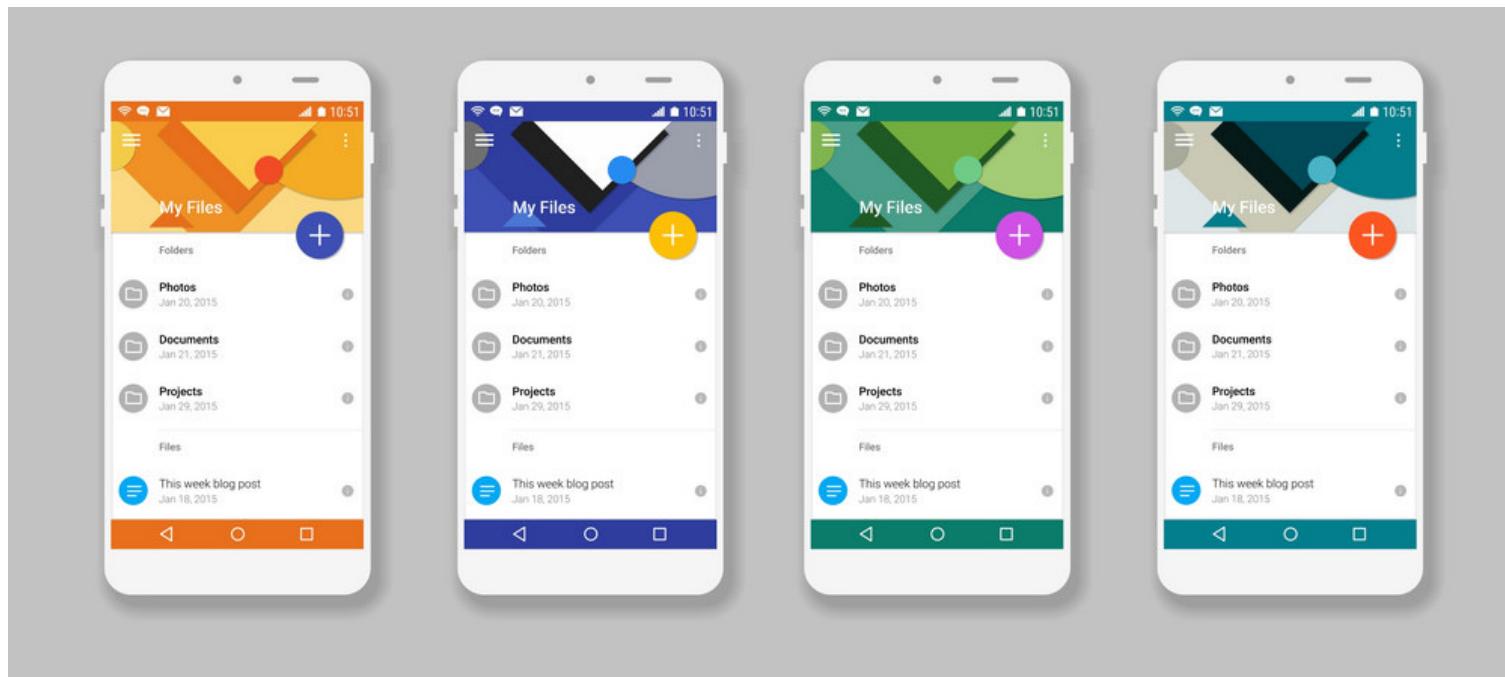


From Wireframes to Mockups



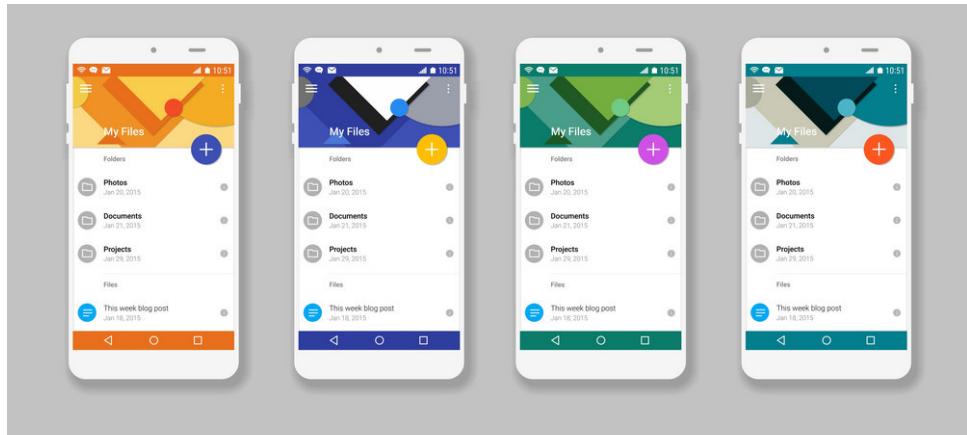
Mockup

- A ***static***, high-fidelity design that indicates what the product will look like visually



Key Elements in Mockups

- Typography
- Colors
- Iconography
- Layouts
- Content
 - Text, images...
- Usually specified in a *design system*

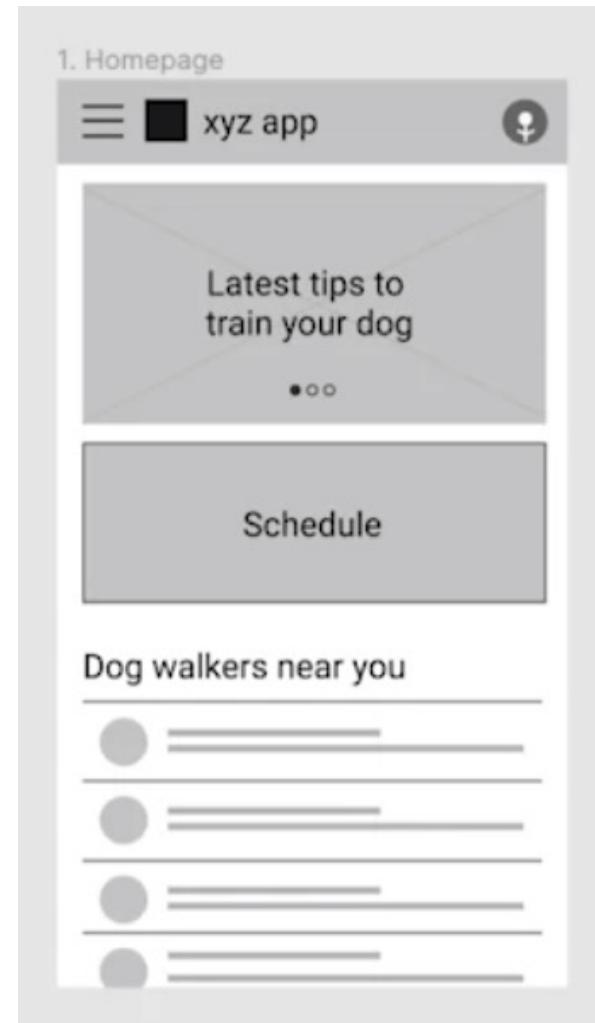


Design System

- A series of reusable elements and guidelines that allow teams to design and develop a product following predetermined standards
- Examples:
 - [Google's Material Design](#)
 - [Shopify's Design System Polaris](#)
 - [Apple Human Interface Guidelines](#)
 - [Microsoft Fluent Design System](#)
 - [AirBnb's Design System](#)

Using a Design System in Figma

- How to quickly make a mockup for this wireframe?



Diving into a Design System

- Typography
- Colors
- Iconography
- Layouts
- Content
 - Text, images...

Typography

- The use of text and font

Display — **Best in Travel**

overline — First City to Visit

heading — **Copenhagen, Denmark**

body — Denmark's capital of cool is unstoppable. New-Nordic Noma has gourmands swooning with its new digs, urban farm and groundbreaking Scandinavian menus.

Secound City to Visit

Shēnzhèn, China

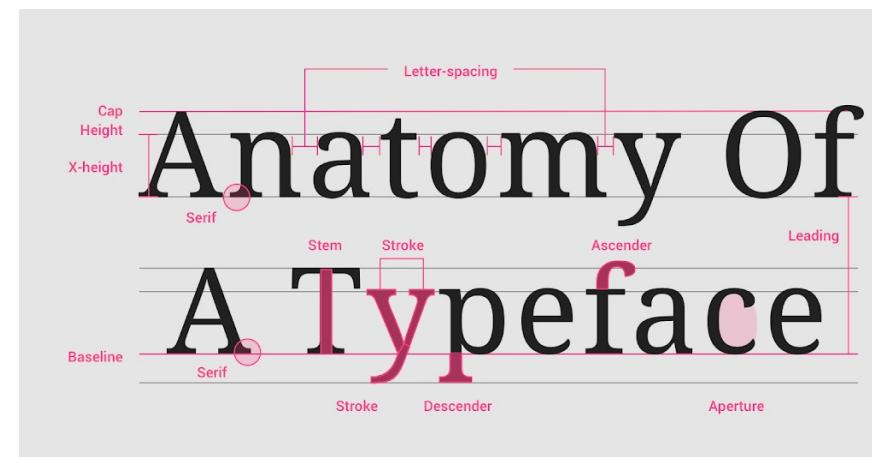
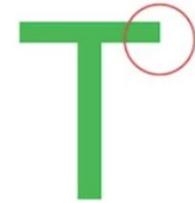
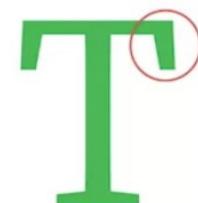
Welcome to China's most innovative city – Shēnzhèn – the 'Silicon Valley' of China. Drawn to its slew of new design

Type vs. Typeface vs. Font

- Type classification
 - General system to describe styles of type
- Typeface
 - Overall style of a letter
- Font
 - Size, thickness, and emphasis of letters

Serif

Sans Serif



Examples

- Serif
 - Times New Roman
 - Regular
 - **Bold**
 - Georgia
 - Regular
 - **Bold**
 - Cambria
 - Regular
 - **Bold**
- Sans Serif
 - Arial
 - Regular
 - **Bold**
 - Helvetica
 - Regular
 - **Bold**
 - Verdana
 - Regular
 - **Bold**

System Fonts

Android

Roboto

iOS

San Francisco

Windows

Segoe UI

- Use system fonts when possible

Importance of Typography

1. Creates hierarchy

Display

Best in Travel

overline

First City to Visit

heading

Copenhagen, Denmark

Denmark's capital of cool is unstoppable. New-Nordic Noma

body

has gourmands swooning with its new digs, urban farm and groundbreaking Scandinavian menus.

Secound City to Visit

Shēnzhèn, China

Welcome to China's most innovative city – Shēnzhèn – the 'Silicon Valley' of China. Drawn to its slew of new design

Importance of Typography

2. Increases legibility, readability, and comprehensibility



Importance of Typography

3. Communicates brand identity



Diving into a Design System

- Typography
- Colors
- Iconography
- Layouts
- Content
 - Text, images...

Colors

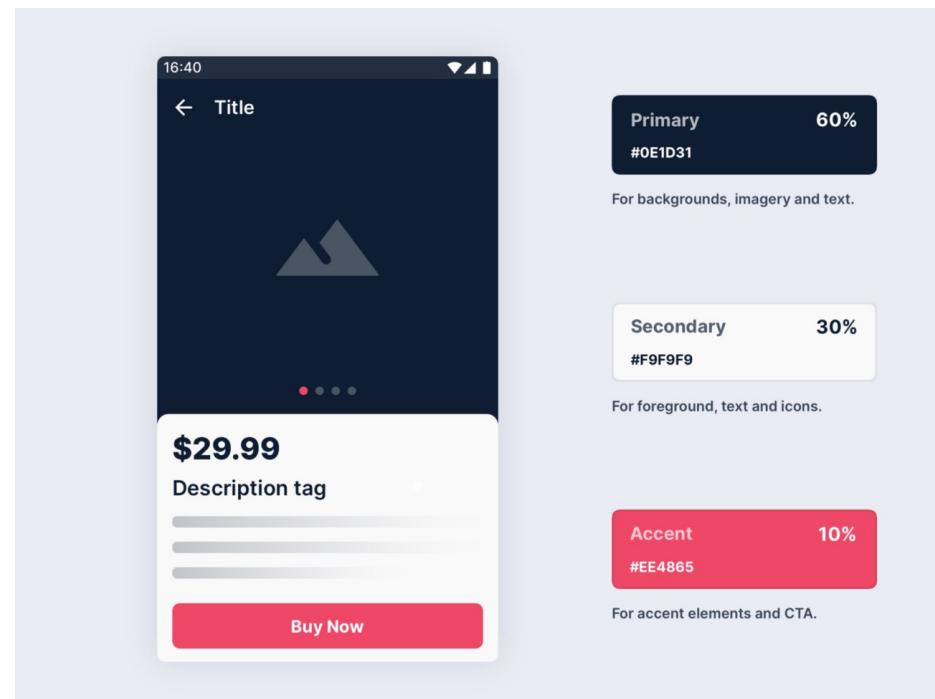


Importance of Colors

1. Add emphasis
2. Communicate brand identities
3. Increase accessibility of your design

60-30-10 Rule

- Neutral color: 60%
- Secondary color 30%
- ***Accent color***: 10%



Emotion/Symbolic Meanings

Red Excitement Strength Love Energy	Orange Confidence Success Bravery Sociability	Yellow Creativity Happiness Warmth Cheer	Green Nature Healing Freshness Quality	Blue Trust Peace Loyalty Competence
Pink Compassion Sincerity Sophstication Sweet	Purple Royalty Luxury Spirituality Ambition	Brown Dependable Rugged Trustworthy Simple	Black Formality Dramatic Sophistication Security	White Clean Simplicity Innocence Honest

Example:



COLORS *by Culture*

ORANGE BROWN YELLOW GREEN BLUE PURPLE RED BLACK



WESTERN Culture

Harvest Warmth Affordable	Practicality Comfort Stability	Happiness Joy Caution	Luck Jealousy Greed	Depression Trust Calm	Royalty Spirituality Wealth	Love Danger Action	Intimidation Death Mourning



FAR EASTERN Culture

Happiness Spirituality Adaptability	Earth Industrious Mourning	Masculinity Sacred Royalty	Fertility Hope Life	Feminine Healing Relaxation	Wealth Privilege Spirituality	Prosperity Good Fortune Vitality	Health Prosperity Stability

Cross-Cultural Meanings



INDIAN Culture

Sacred Courage Love	Mourning	Sacred Auspicious	Hope Harvest Virtue	Sports Strength	Sorrow Comfort Nobility	Beauty Wealth Power	Evil Darkness Negativity



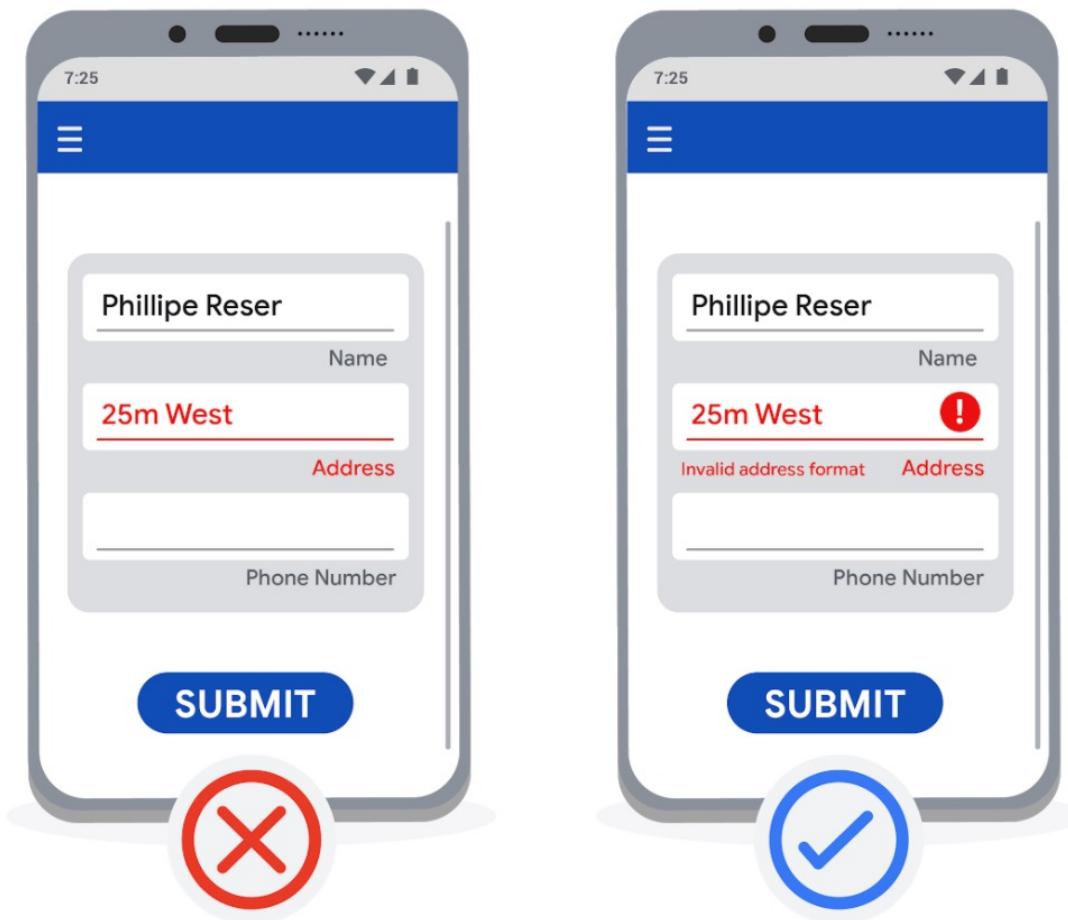
MIDDLE EASTERN Culture

Mourning Loss	Harmony Earth Comfort	Happiness Prosperity Mourning	Strength Fertility Hope	Mourning Heaven Spirituality	Wealth Virtue Royalty	Danger Caution Evil	Mystery Mourning Rebirth

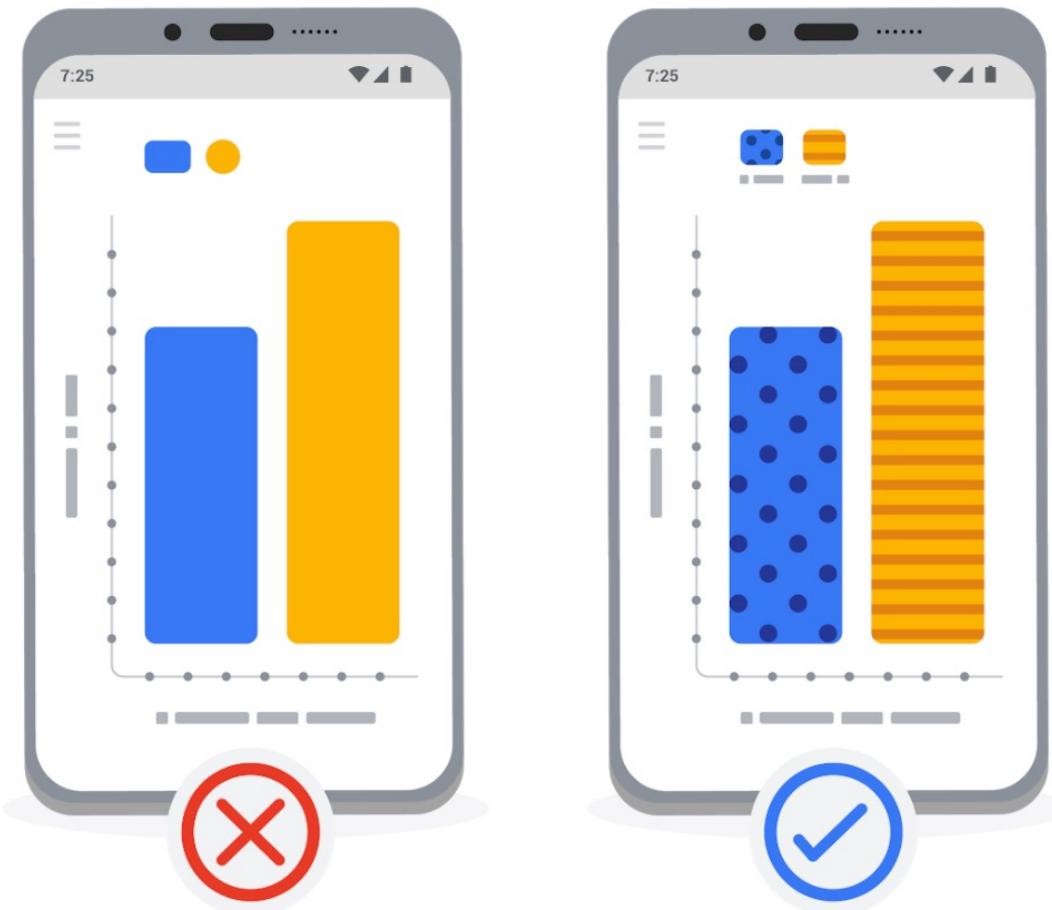
Accessibility

- Follow the [Web Content Accessibility Guidelines \(WCAG\)](#)
- Common visual issues
 - Color blindness
 - Low contrast sensitivity
 - High light sensitivity

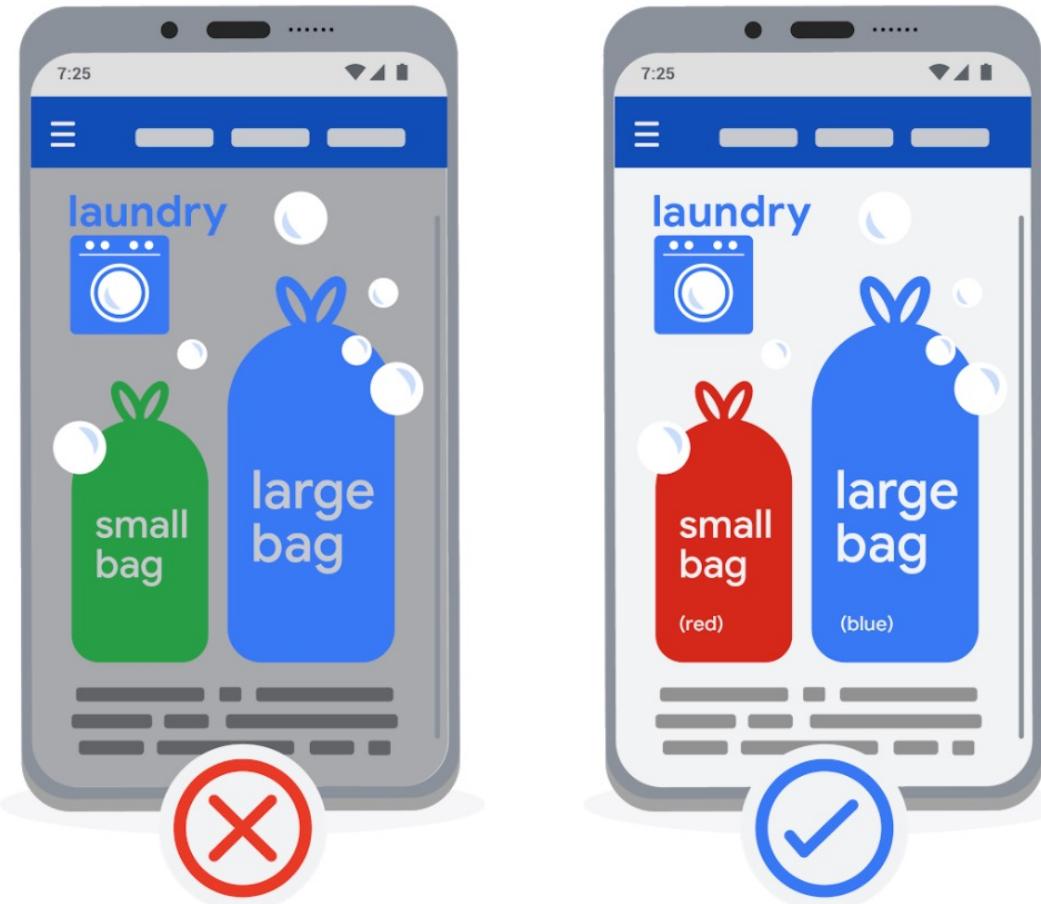
Best Practice 1: Use Icons



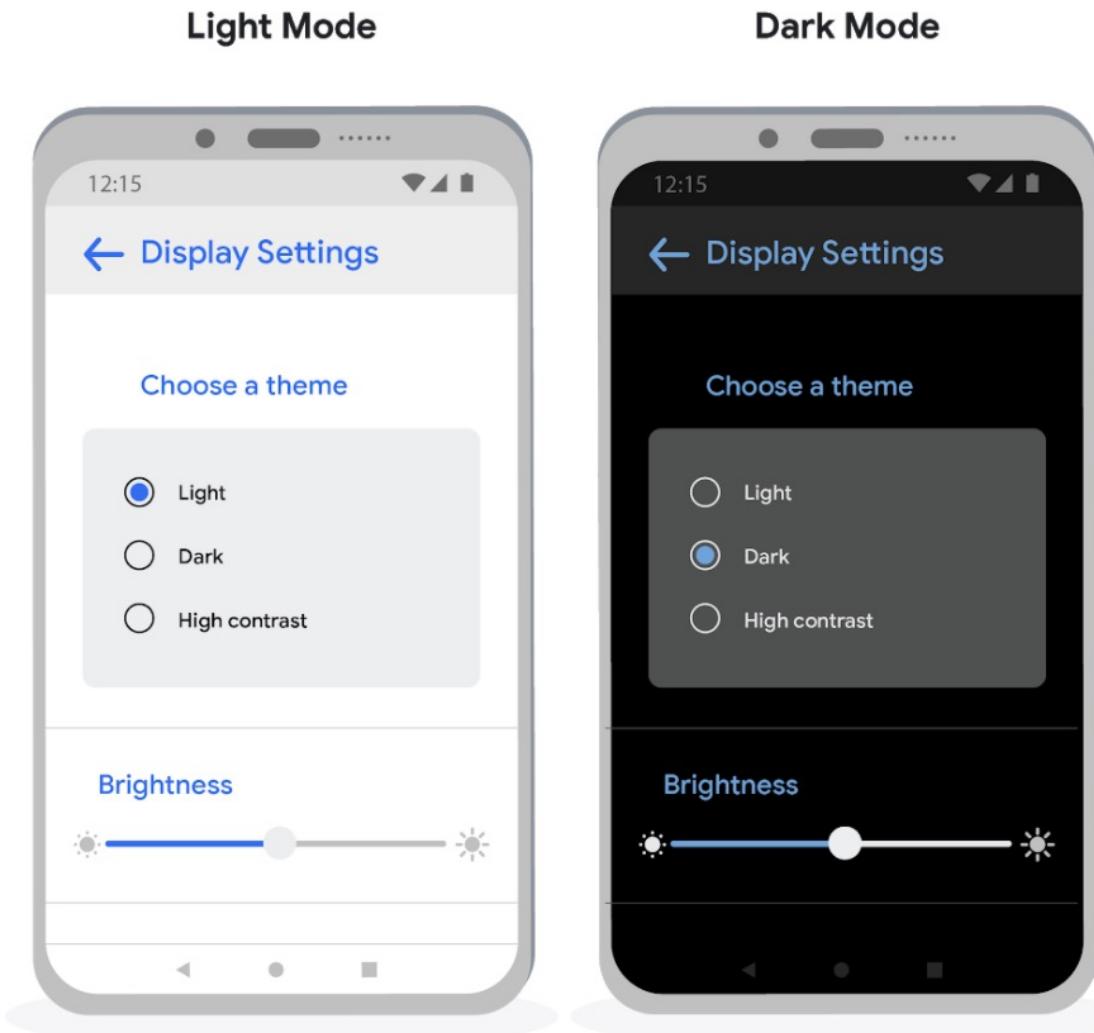
Best Practice 2: Add Textures



Best Practice 3: Keep High Contrast



Best Practice 4: Support Dark Mode

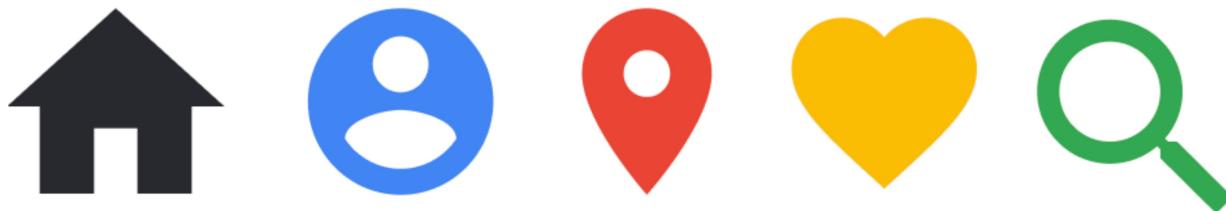


Diving into a Design System

- Typography
- Colors
- Iconography
- Layouts
- Content
 - Text, images...

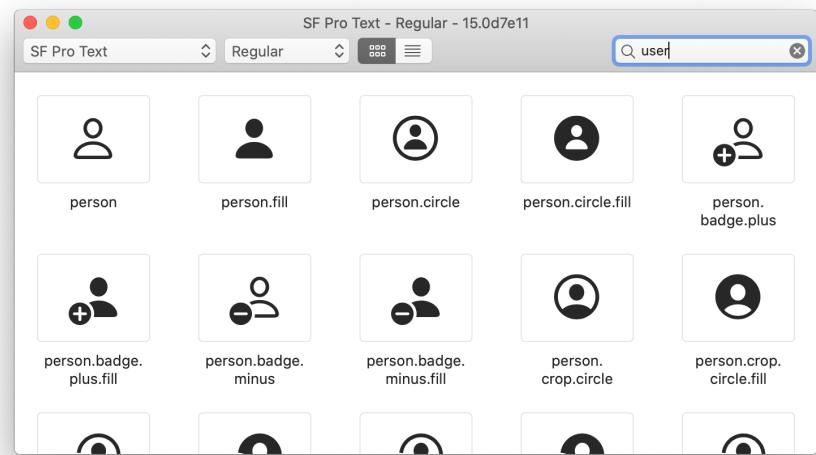
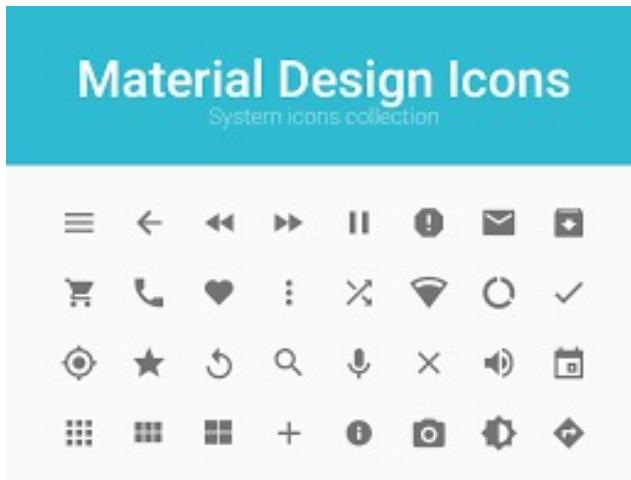
Iconography

- A system of graphic images or symbols that are associated with a subject or an idea



Examples

- Material Design Icons (Acdrid) or SF symbols (iOS)

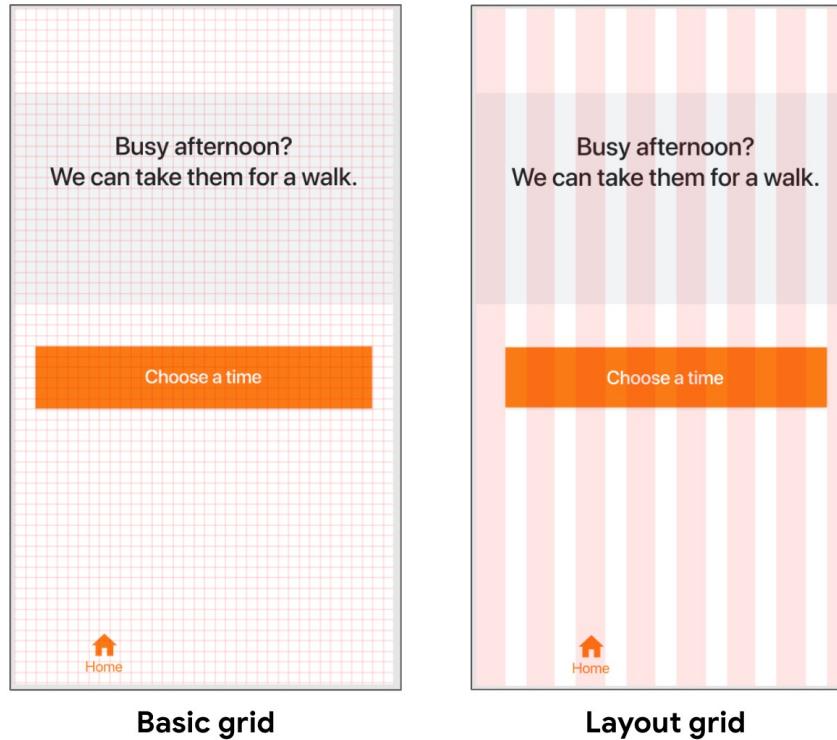


- Try the “Iconify” plugin in Figma

Diving into a Design System

- Typography
- Colors
- Iconography
- Layouts
- Content
 - Text, images...

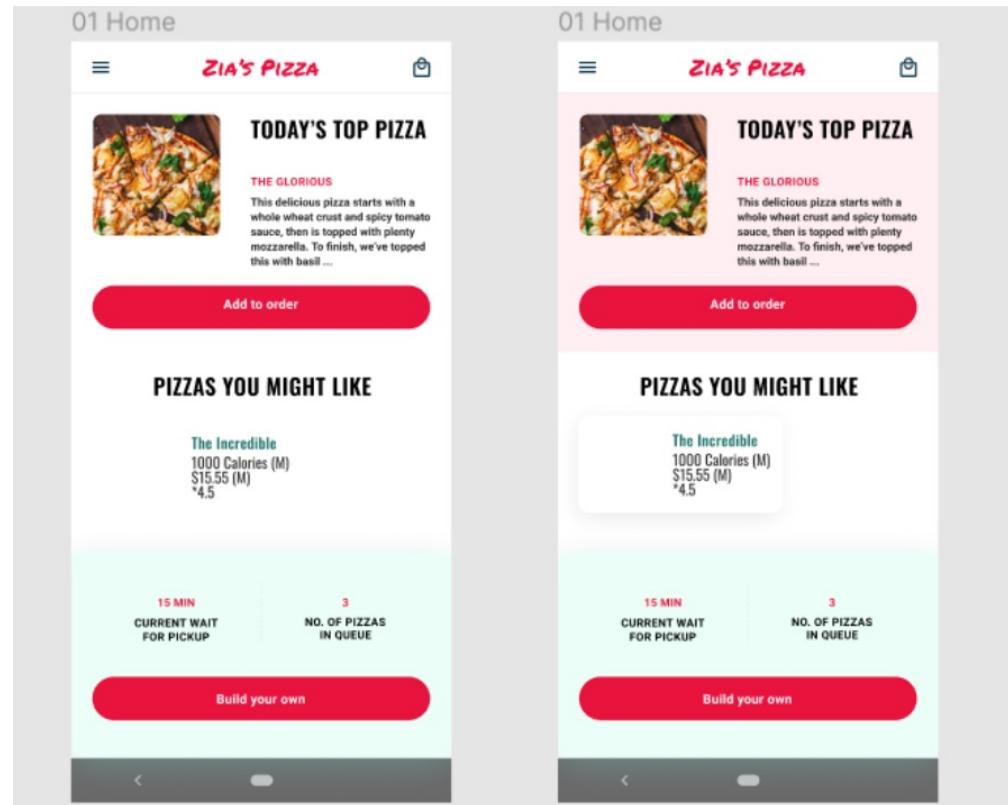
Grids & Layouts



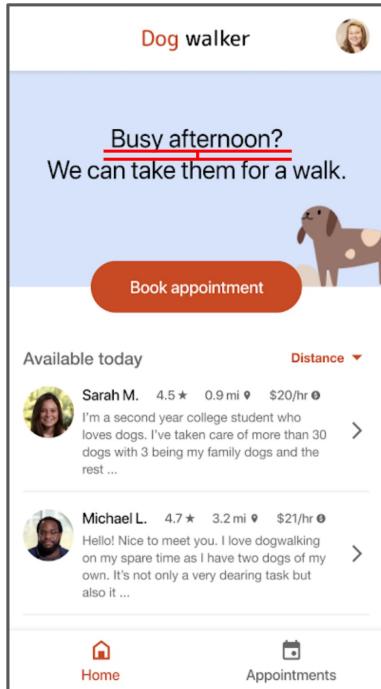
- Be familiar with the *auto-layout* & *component swapping* in Figma

Containment

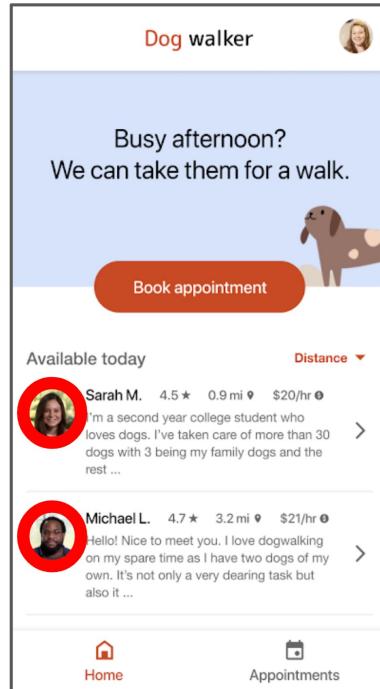
- Uses of visual barriers to keep designs neat and organized
- 4 methods:
 - Dividers
 - Borders
 - Fill
 - Shadow



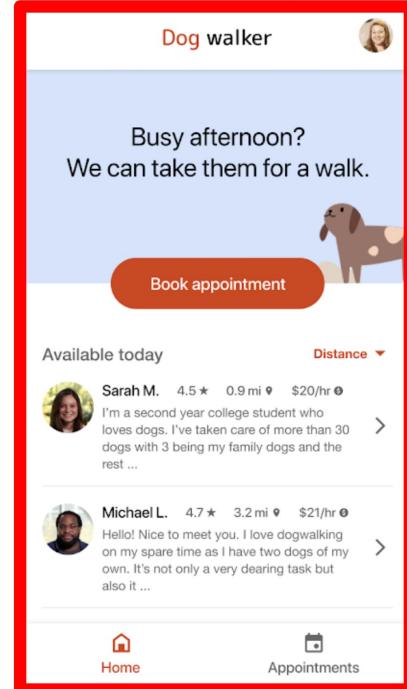
White (Negative) Spacing



Line spacing



Padding



Margin

- Rule of thumb: multiples of 4px

Importance of White Spacing

- Indicates related elements (proximity)
- Draws attention
- Gives users a visual break
- Increases readability

Diving into a Design System

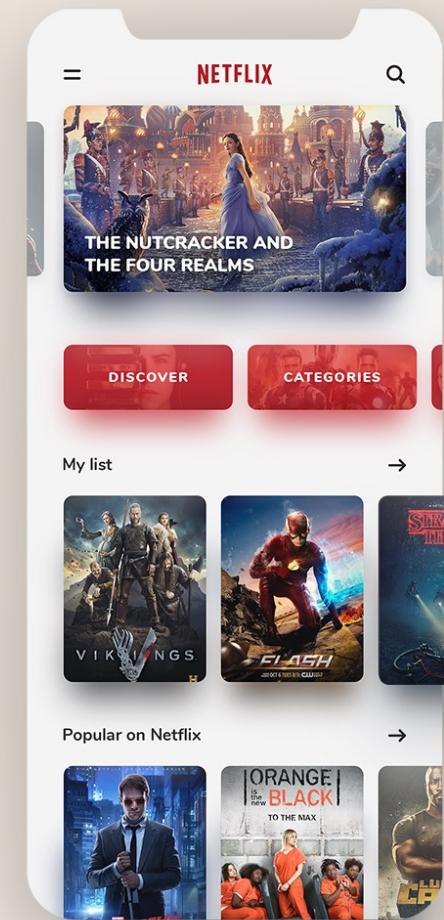
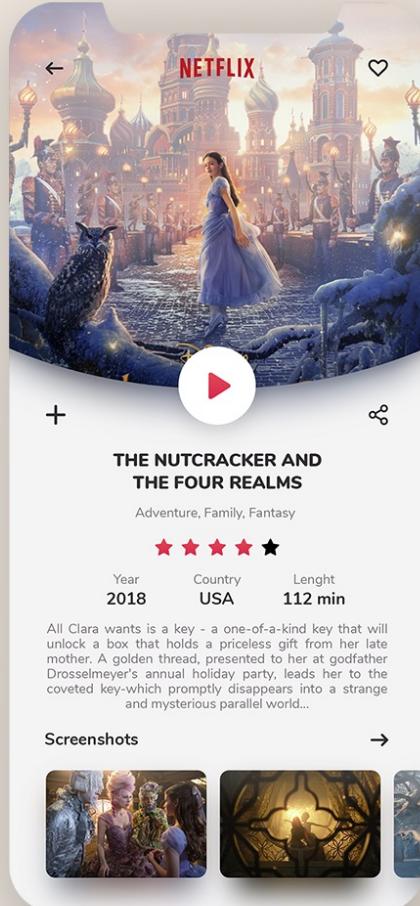
- Typography
- Colors
- Iconography
- Layouts
- Content
 - Text, images...

Placeholder Text

- ***Lore ipsum***
 - “Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ...”
- Nonsense text whose word-length distribution loosely approximates that of English
- Help designers focus on UI text instead of content text
- Plugin available in Figma

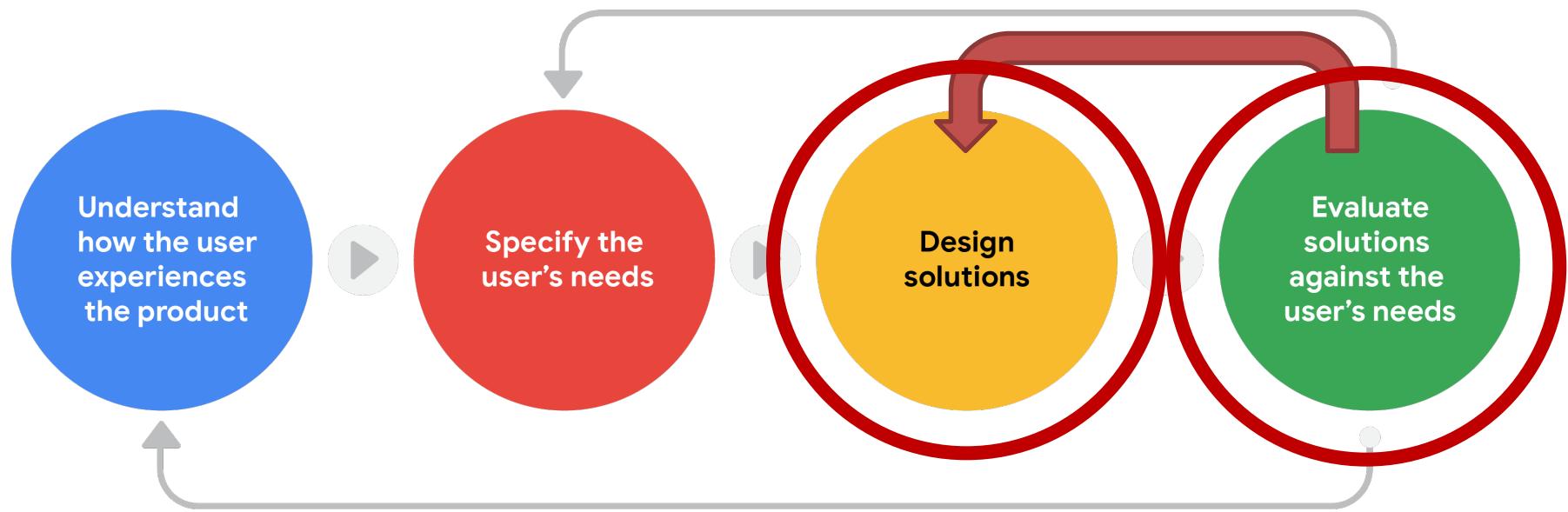
Placeholder Images

- 1X, 2X, or 3X, depending on screen density
- Respect Copyright
- “Unsplash” plugin in Figma



Outline: Hi-fi Prototyping

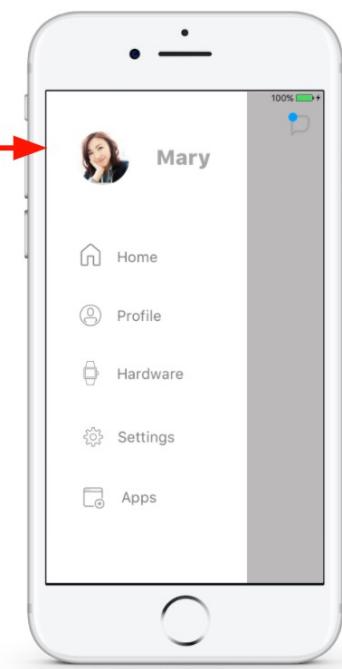
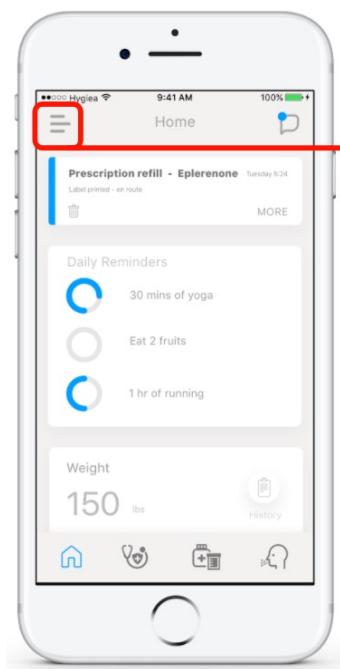
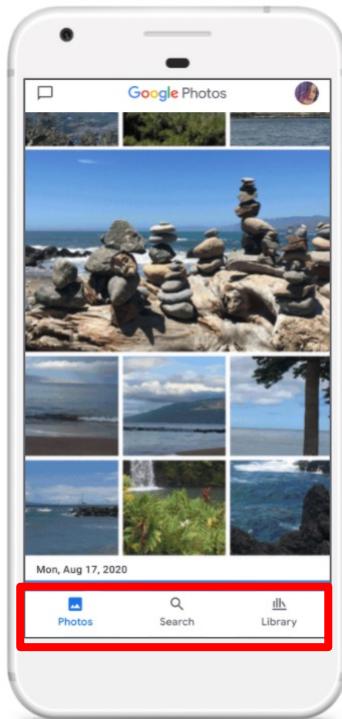
- Creating mockups
 - Design systems
 - Visual design principles
- Getting feedback from design critic sessions
- Hi-fi prototyping & usability tests



Apply Gestalt Principles

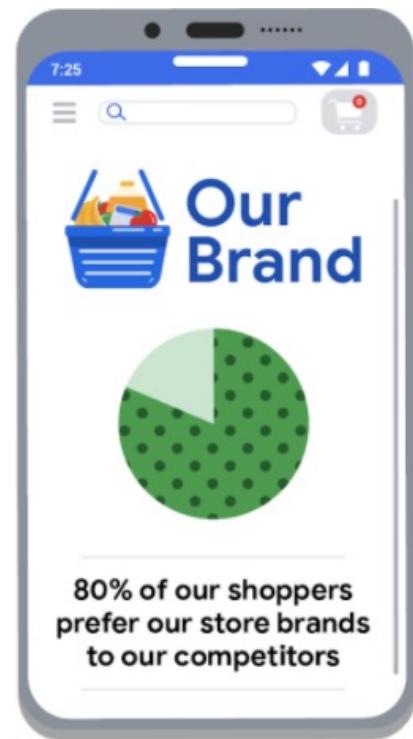
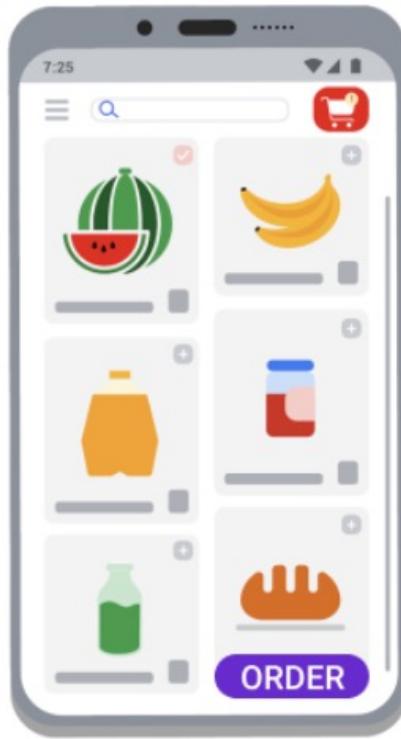
- Similarity
 - Elements that look similar are perceived to have the same function
- Proximity
 - Elements that are close together appear to be more related
- Common region
 - Elements located within the same area are perceived to be grouped together

Include Navigation



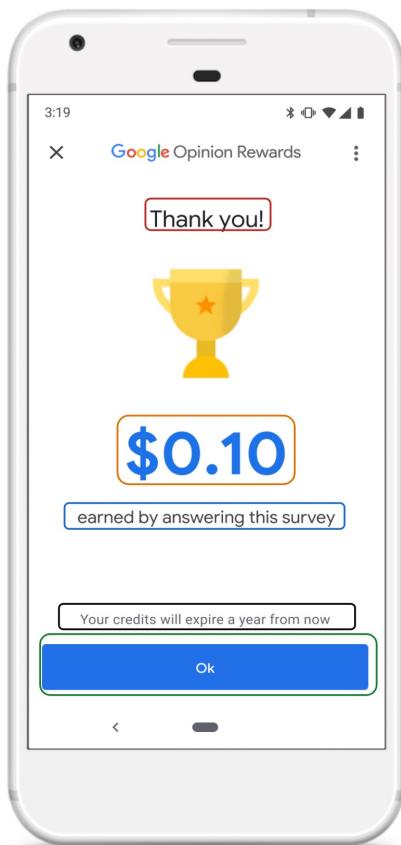
Use Emphasis

- By size, contrast, or texture

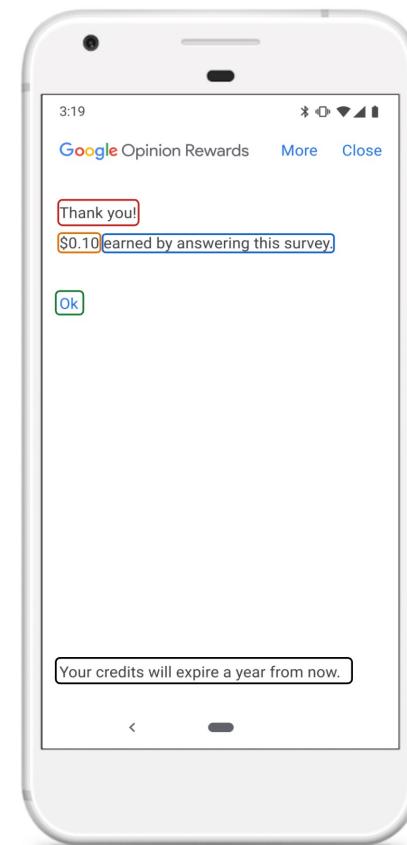


Use Hierarchy

DO

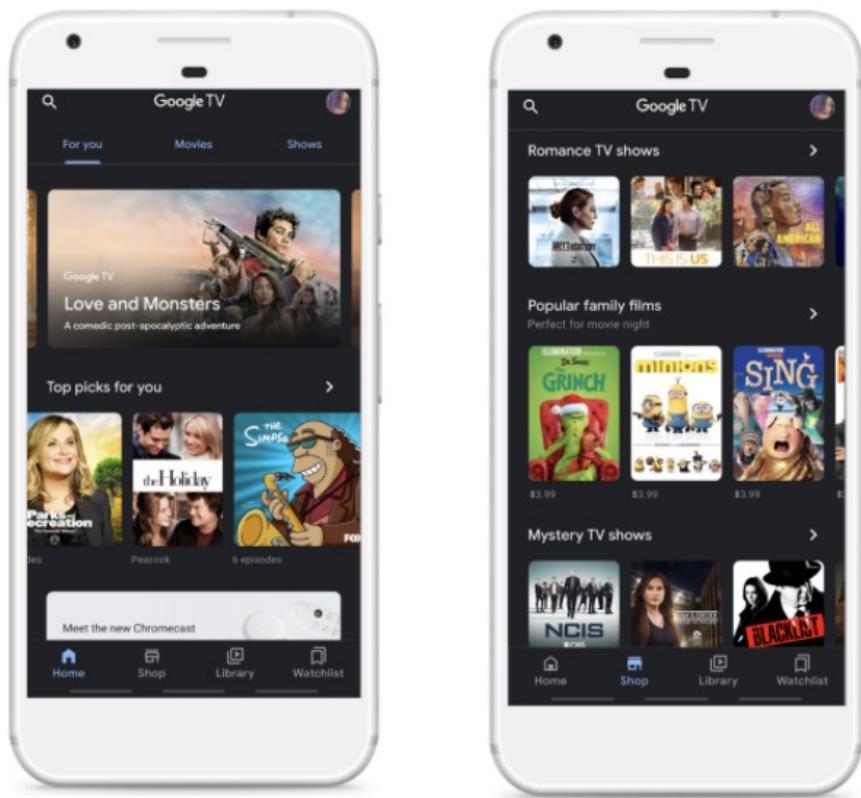


DON'T



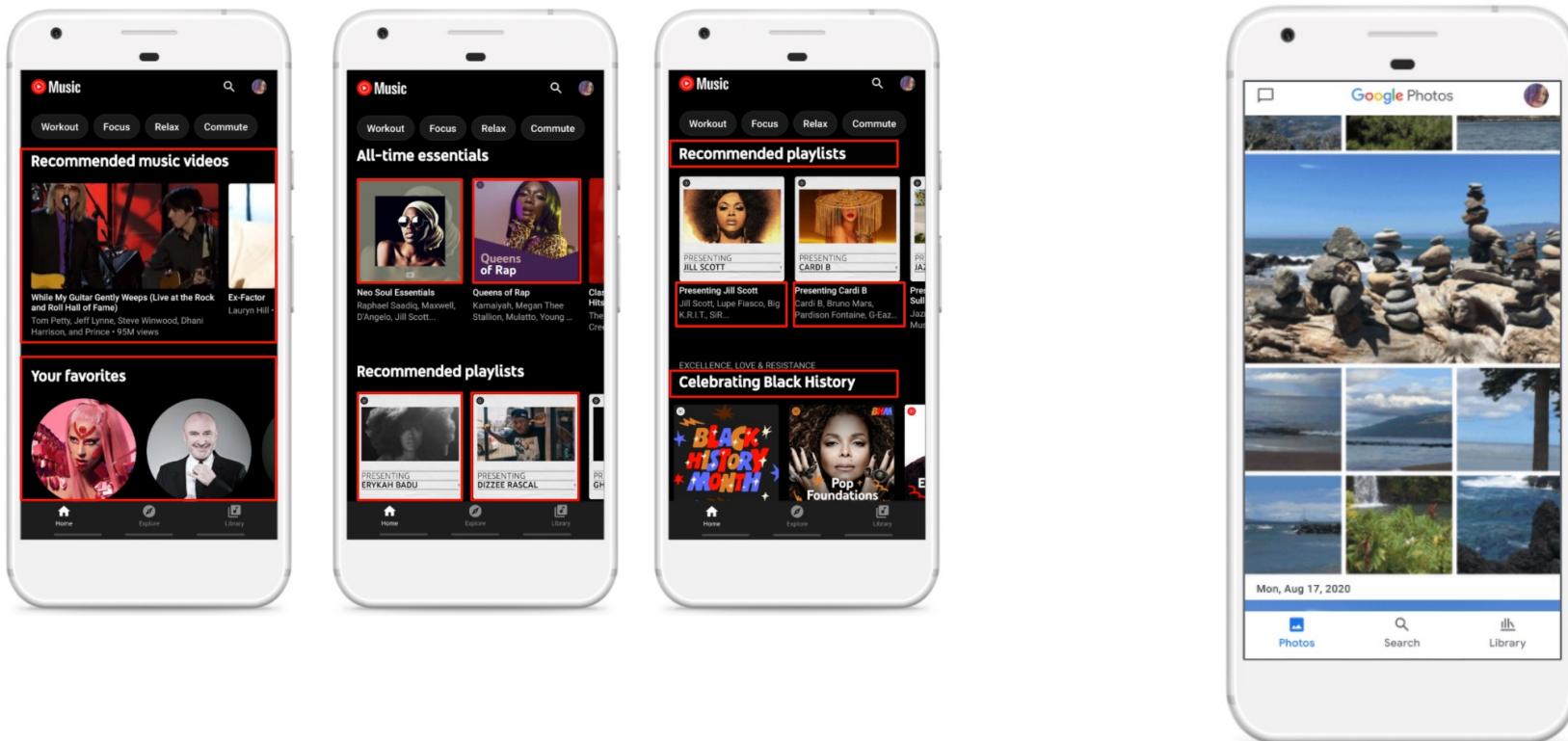
Scale Elements in Proportion

- Proportion: balance or harmony between elements that are scaled



Achieve Both Unity and Variety

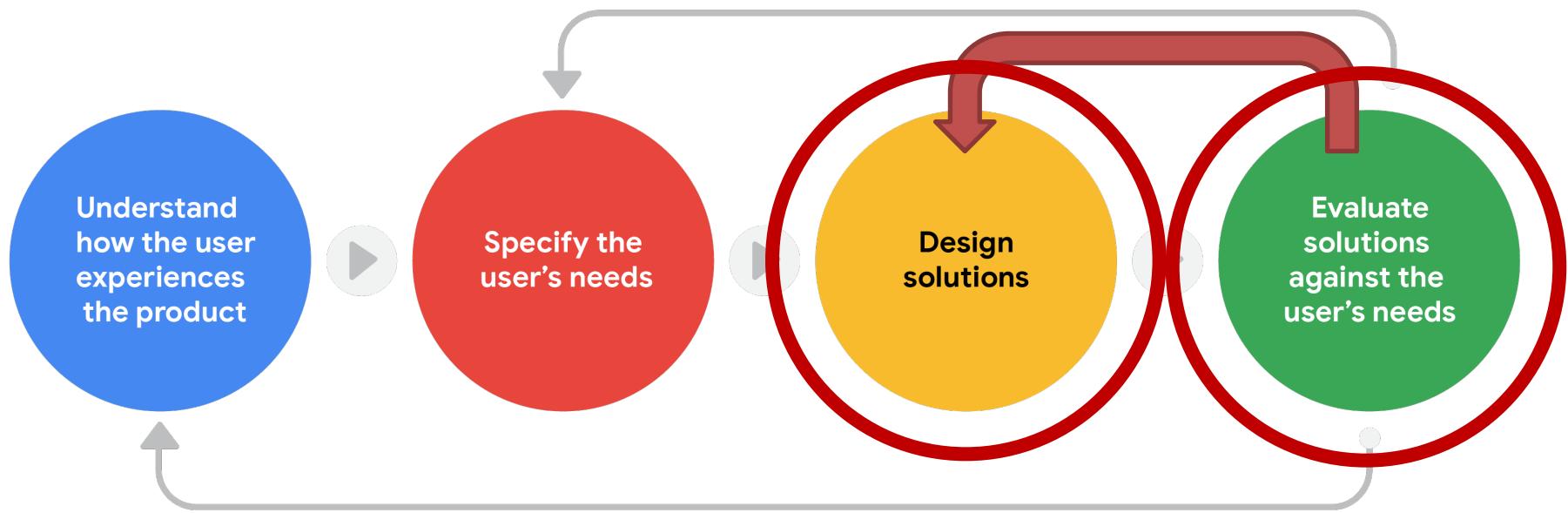
- Unity: how well design elements work together to create a consolidated design
- Variety: diversifying the elements to break up monotony

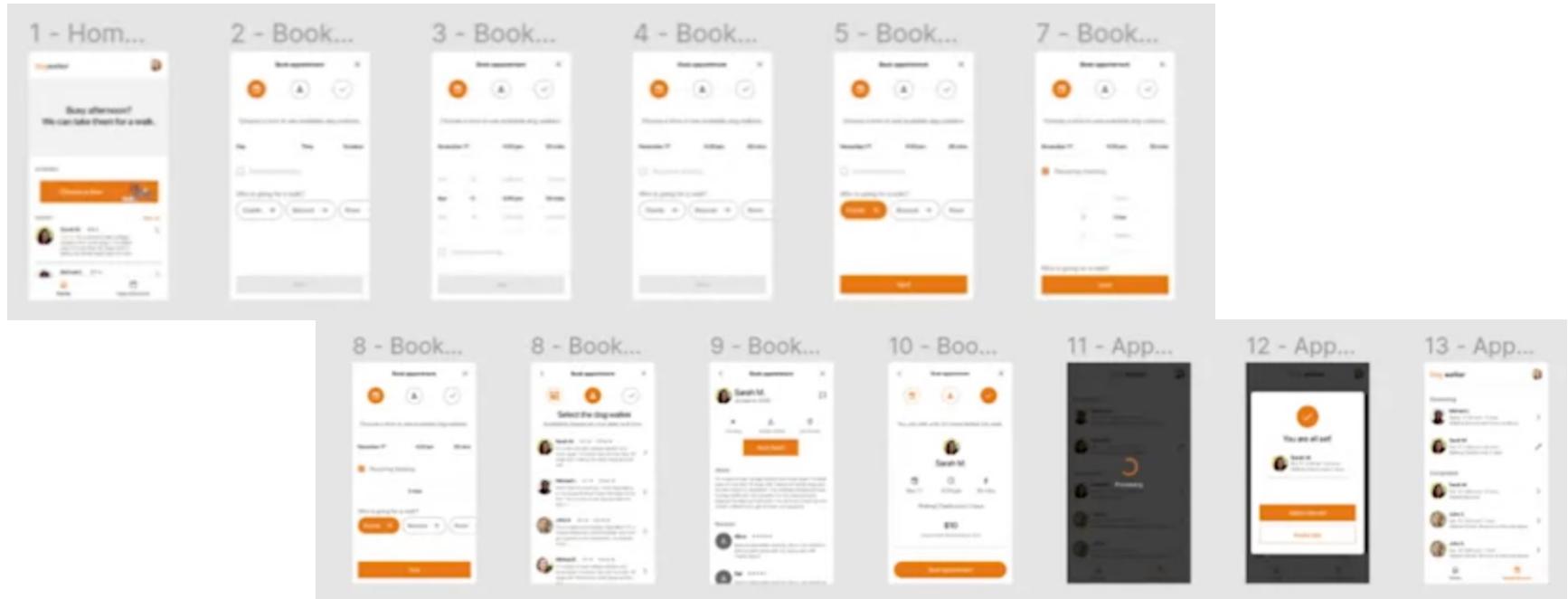


Learn more principles

Outline: Hi-fi Prototyping

- Creating mockups
 - Design systems
 - Visual design principles
- Getting feedback from design critic sessions
- Hi-fi prototyping & usability tests

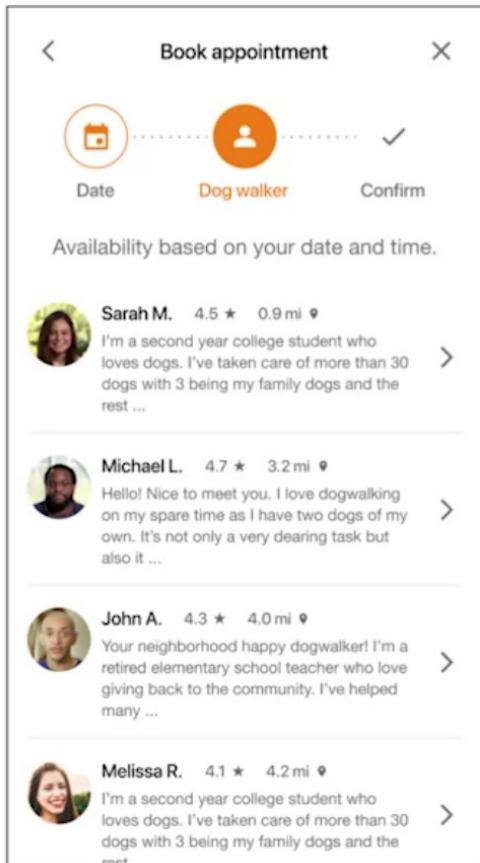




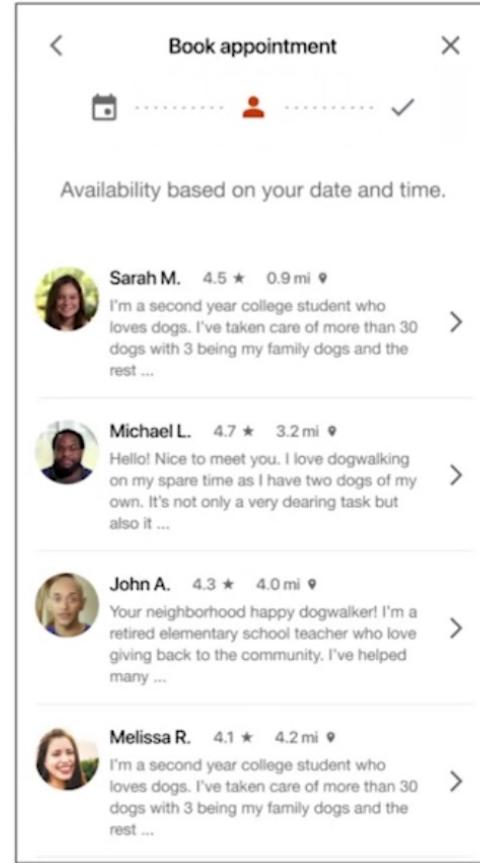
Let's observe a design critic session

Improvements 1

BEFORE



AFTER



Improvement 2

BEFORE

Book appointment X

CALENDAR ··· ··· PERSON ··· ··· CHECKMARK

Select the date

Choose a time to see available dog walkers.

November 17	4:00 pm	30 mins
-------------	---------	---------

Recurring booking

Who is going for a walk?

Charlie + Broccoli + Chico de

Next

AFTER

Book appointment X

CALENDAR ··· ··· PERSON ··· ··· CHECKMARK

Select the date

Choose a time to see available dog walkers.

November 17	4:00 pm	30 mins
-------------	---------	---------

Recurring booking

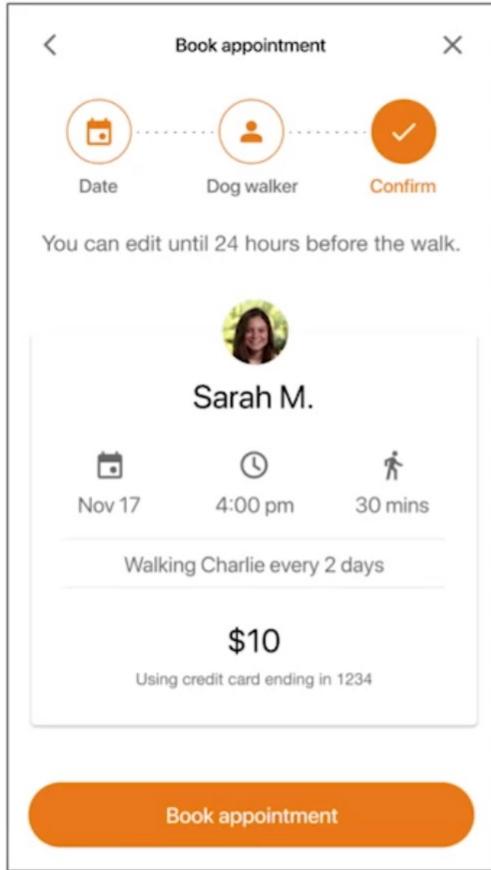
Who is going for a walk?

Charlie X

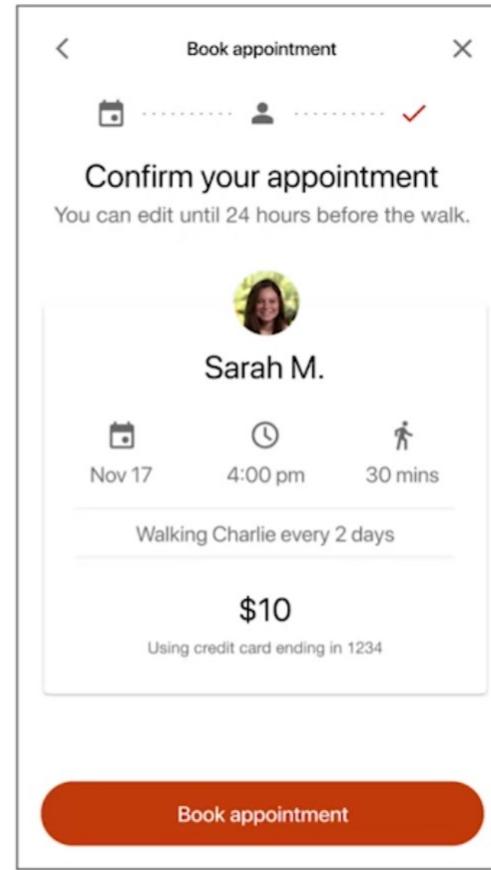
Next

Improvement 3

BEFORE



AFTER



New Design System

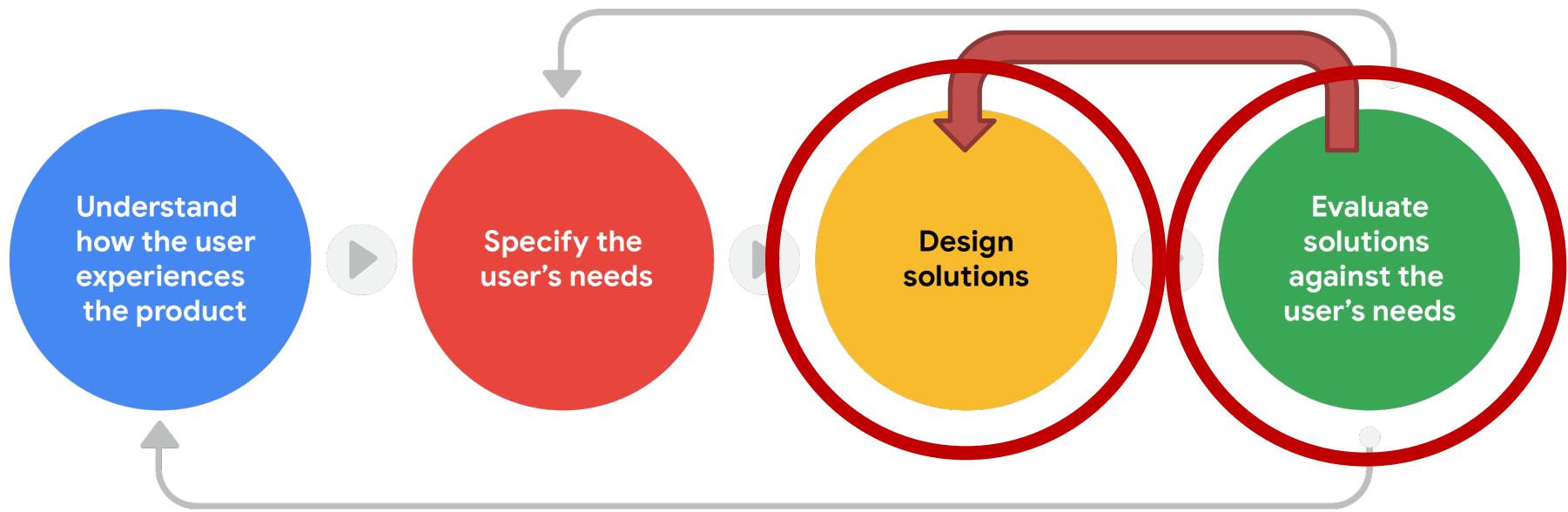
The image displays a grid of 16 screenshots illustrating various UI components and their states:

- Buttons**: Three types of buttons are shown: a primary orange button labeled "Label", a secondary white button with a red outline labeled "Label", and a tertiary light gray button labeled "Label".
- Buttons 16px font**: Shows the same three button types with "16px font" applied.
- Walker items**: Two cards for "Sarah M." showing reviews (4.4 stars), distance (0.9 mi), and price (\$15/hr). The second card includes a truncated description: "... I'm a second year college student who loves dogs. I've taken care of more than 30 dogs with 3 being my family dogs and the rest ...".
- Walker items 16px font**: Shows the same two cards with "16px font" applied.
- Dropdown**: A standard dropdown menu labeled "Label" with a downward arrow.
- Chips 14px font**: Two chips: "Selected" (dark background) and "Unselected" (light background).
- Dropdown (8dp corners)**: A dropdown menu with rounded corners labeled "Label" with a downward arrow.
- Chips 16px font**: Two chips: "Selected" (dark background) and "Unselected" (light background).
- Reviews**: Two star icons: a white star in a gray box and a red star in a red box.
- Actionable icons**: Icons for "X", "Home", and "Appointments".
- Icons**: Icons for location, dollar sign, and a small circular icon.
- Main navigation**: A navigation bar with "Home" and "Appointments" tabs, where "Appointments" is currently selected.
- Appointment card**: A card for "Sarah M." showing a profile picture, name, date (Nov 17), time (3:30pm), duration (30 mins), and description (Walking Charlie every 2 days).
- Appointment (no card)**: A simplified version of the appointment card.
- Stepper states**: Six states of a stepper: Date (red circle), Dog walker (orange circle), Confirm (green circle), Date (light blue circle), Dog walker (light orange circle), Confirm (light green circle), Date (light blue circle), Dog walker (light orange circle), and Confirm (light green circle).
- Stepper**: A visual representation of the stepper with icons for Date, Dog walker, and Confirm.
- Stepper RD2**: A visual representation of the stepper with icons for Date, Dogwalker, and Confirm.

- Change “selection colors” at once in Figma

Outline: Hi-fi Prototyping

- Creating mockups
 - Design systems
 - Visual design principles
- Getting feedback from design critic sessions
- Hi-fi prototyping & usability tests



Animations

- In Figma, the “start animate” in an interaction automatically transit two layers ***with the same name*** in the source and destination frames
- [Follow this tutorial](#) to use it effectively

Usability Study

- Review the slides in the previous course
- Unmoderated testers for Gmail labels:
 - Tester A, B, C, D, E

