

Typography and Fonts

Session 803

Antonio Cavedoni Type Designer

Agenda

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San Francisco

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Terminology

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Concepts

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Concepts

Tools

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Terminology

Concepts

Tools

Details

San Francisco

San Francisco

A B C D E F G H I J K L M N

O P Q R S T U V W X Y Z

a b c d e f g h i j k l m n

o p q r s t u v w x y z

1 2 3 4 5 6 7 8 9 & 0

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San Francisco

02:07 - 30:18

Overview Resources Transcript

Introducing the New System Fonts

Fonts lay at the intersection of design and engineering. Get introduced to typographic principles and how they apply to the San Francisco fonts. Hear what makes this family of fonts unique and how to effectively take advantage of their advanced features. Learn best practices when designing and implementing interfaces with text.

WWDC 2015 - Session 804 - iOS, OS X



Remotes and Devices

REMOTE

Touch Surface Tracking Medium

OTHER DEVICES

Bluetooth >

Remote App >

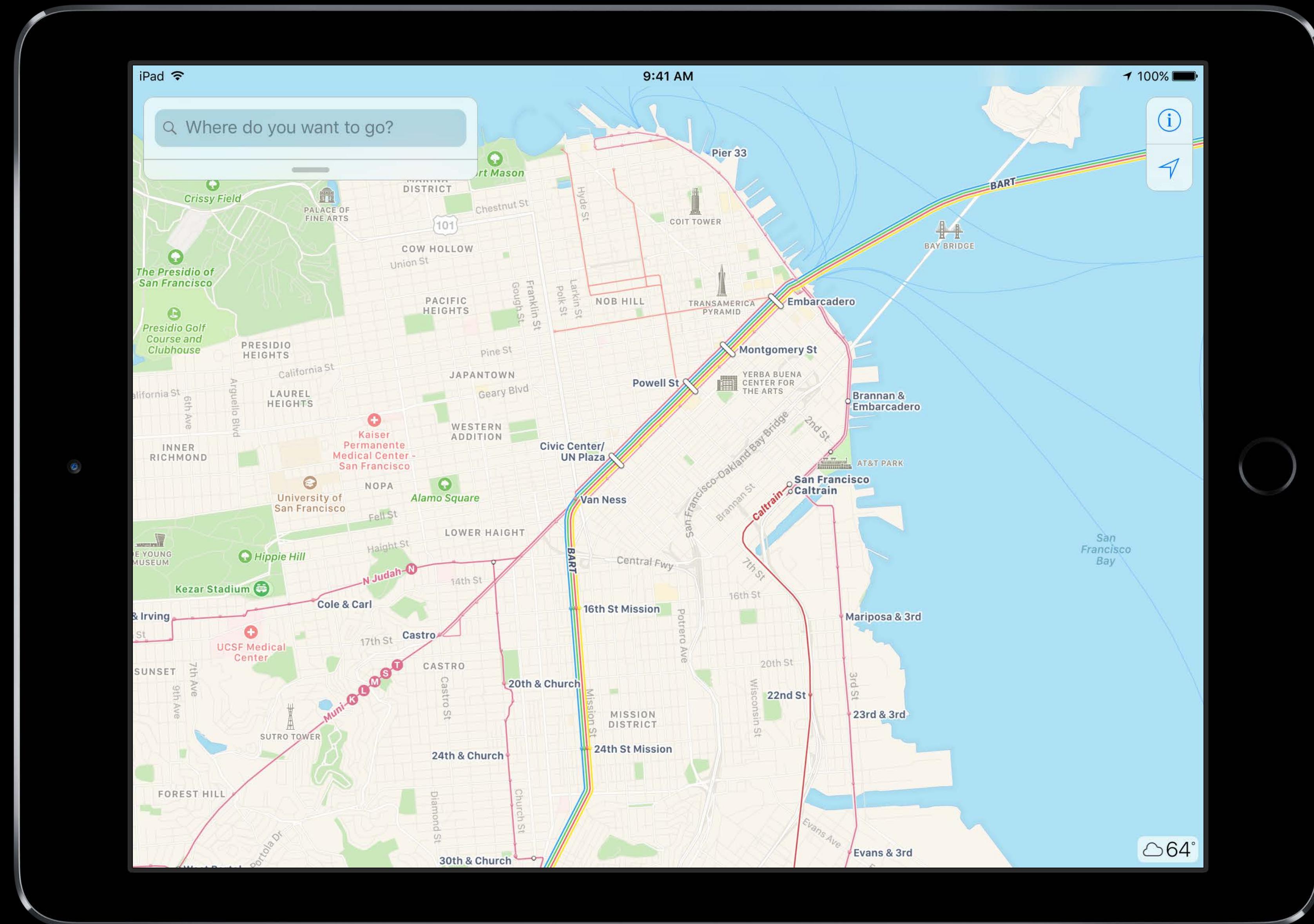
Learn Remote >

HOME THEATER CONTROL

Turn On Your TV with Your Remote On

Volume Control Auto via IR (TV)





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9:41 AM

100%

MONDAY, JUNE 13

For You



Discovery Mix

Updated Monday

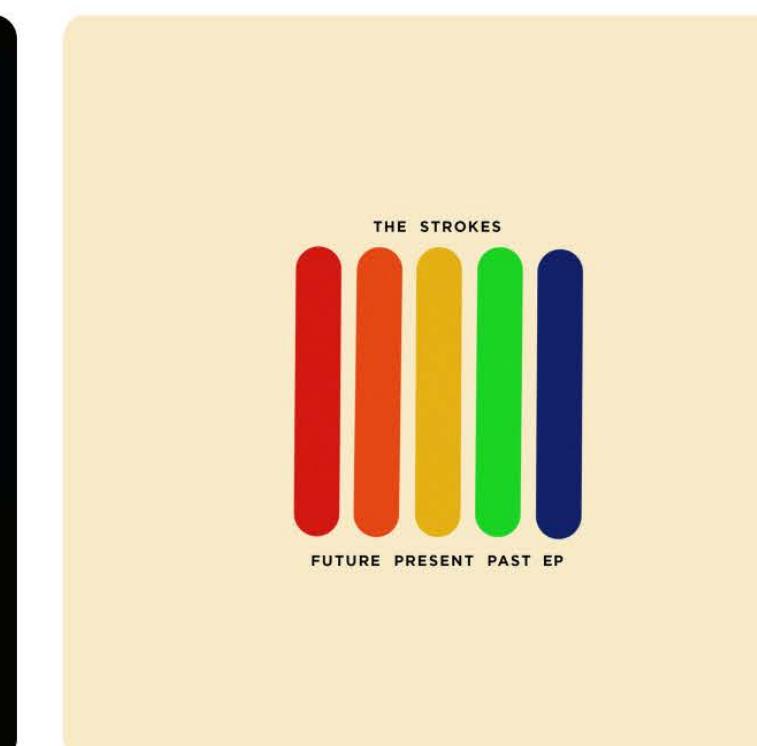
Recently Played

See All



In Our Bones

Against The Current



Future Present Past EP

The Strokes



Library



For You



Browse



Radio



Search

heart but weren't accepted to medical school to ask. Hello rain, rain, don't go away, you're so soothing to listen to. Hello MV to QuickTime quickly. Hello my friends, hello my fans. Hello rockelele god. Hello what are harp strings actually made of? Poppins. Hello end of terrace in the good bit of Peckham with a garden big enough to have a dog finally. Hello math lab. Hello goats, double rainbows, dramatic chipmunks, ninja cats, and bitten fingers. Hello we never had this text conversation. Hello me. Hello German matchmaker. Hello blemish-free skin and perfect hairline. Hello final boss battle: Rush Hour. Hello two-faced shortly. Hello making yourself at home in someone else's. Hello improving my handles. Hello dojo at home. Hello perfect 501. half an hour to figure it out. Hello house, please be exactly 71 degrees when I get home. Hello Rune collection. Hello spring, and legendary cars. Hello mind the gap, ride the gap, barrel roll the gap. Hello dot dot d'oh! Hello guided walking tour of "voyage" to all the ships at sea. Hello all the ways from A to B. Hello clothes-washing icons deciphered. Hello memorizing anything. Hello implementation that won't blow up the lab. Hello RU OK? Hello protection against overdraft protection. Hello mindfulness. Hello mate. Hello distraction-free writing. Hello Sir David Attenborough, may I join you at the Natural History Museum? Hello triple vicinity I haven't met yet. Hello Pokota. Hello fellow lovers of searingly hot curry, we should meet. Hello seat 58B, I know ! Hello Playman. Hello American muscle cars. Hello pig farmers. Hello backyard BBQ mastery. Hello beans and greens. Hello or a small fee. Hello honey, if you're home, I see the dog's on the sofa again. Hello hook, line, and toaster. Hello horse th knock. Hello ladies and gentlemen, we are live. Hello let me repeat your order. Hello learning from each other. Hello minutes, I hope you will be mine. Hello simple, pleasant to-do list. Hello midnight milkshake delivery in under an hour. Hello once. Hello no filter. Hello playing tennis without any limbs. Hello one-man band. Hello one-legged pigeon pose. Hello organize everything you read on the Internet, do you? Hello handheld recording studio. Hello RIP sites. Hello fake phone call shopping. Hello customer service so you don't have to. Hello millions of songs, all in one place. Hello species, let's get you 2, 1... Hello thousand-year-long song. Hello ancient principle of "time out." Hello Admiral Snuggles, I'll be home soon! Hello workout, goodbye spare tire. Hello to my own perfect radio station. Hello dónde está el baño in a one-mile radius. Hello tphone DJs. Hello red tennis ball. Hello free space in my brain that no longer has to remember passwords. Hello Jumpman, Jump r hands. Hello night sky. Hello wine filing. Hello winning at the game of life. Hello floating bakeries. Hello 50,000 trails. Hello town planning with occasional farmyard animals. Hello Craftsman, we meet again. Hello chores FTW. Hello surfing hoverboardurdles, pole vault, and javelin throw. Hello to the future of trading. Hello style tribes. Hello me, only cleaned up and better coffee. Hello copycat. Hello pal, and thanks, I just received the money. Hello 720. Hello here's my share. Hello Tuesday this summer. Hello nanny and then hello date night. Hello remembering everything. Hello entertainment on a weekly basis. Hello do you really need 30 duplicates of the same image? Hello 10 more ways to hit the snooze button. Hello file.jpg, good list, let's do this. Hello name that tune. Hello jam session. Hello thanks for the gold. Hello balanced checkbook. Hello one flowchart heaven. Hello remotely troubleshooting Mom's computer. Hello 45,474 page views in the last hour. Hello wait, someon. Hello recruiters who keep inviting me to connect. Hello however cold it is back East. Hello tickets I forgot to print oommates. Hello light reading for the plane. Hello this will only take six seconds. Hello cutting film for the cutting-roomason. Hello nest egg. Hello directorial debut. Hello embracing your inner dark side. Hello verified potential soul mate. Hello

SF Mono

NEW

A B C D E F G H I J K L M

N O P Q R S T U V W X Y Z

a b c d e f g h i j k l m

n o p q r s t u v w x y z

1 2 3 4 5 6 7 8 9 & 0

SF Mono Light

Designed by Apple
in California

SF Mono Regular

Designed by Apple
in California

SF Mono Medium

Designed by Apple
in California

SF Mono Semibold

Designed by Apple
in California

SF Mono Bold

Designed by Apple
in California

SF Mono Heavy

Designed by Apple
in California

SF Mono Heavy Italic

*Designed by Apple
in California*

Latin

ABCDEFGHIJKLMNOPQRSTUVWXYZ abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMNOPQRSTUVWXYZ abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMNOPQRSTUVWXYZ abcdefghijklmnopqrstuvwxyz
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Cyrillic

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Greek

ΑΒΓΔΕΖΗΘΙΚΛΜΝΞΟΠΡΣΤΥΦΧΨΩ αβγδεζηθικλμνξοπρστυφχψω
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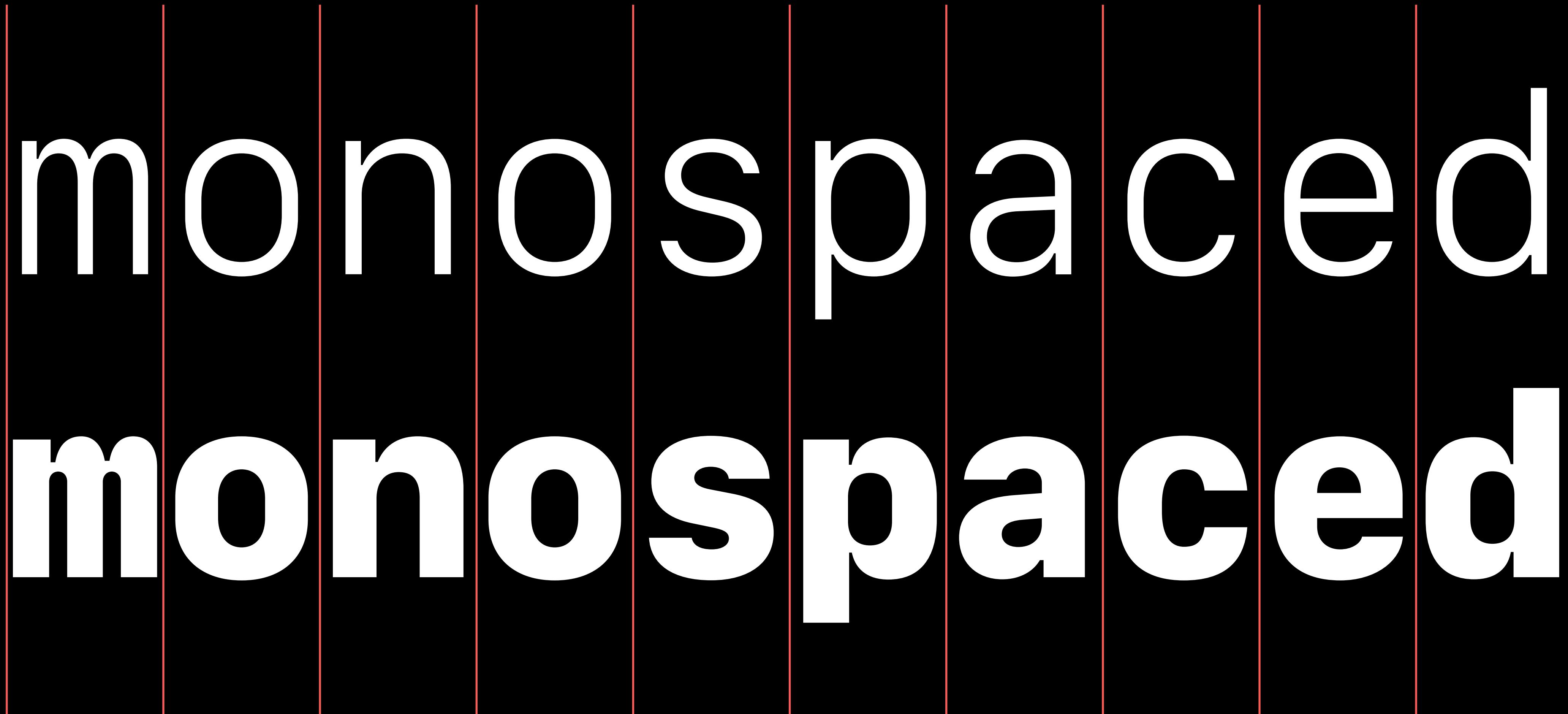
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Monospaced

monospaced

monospaced

Same Widths Across Weights



monospaced

monospaced

The image displays two identical rows of the word "monospaced" in white monospaced font against a solid black background. Red vertical lines create a grid across the text, one for each letter and one for each space between them, demonstrating that all characters have the same width regardless of their shape or stroke thickness.

Same Widths Across Weights

The image displays two identical sets of text, each consisting of the characters 'w', 'm', 'W', 'M', 'Æ', 'Œ', '™', '©', 'o', 'o', 'o', 'o', and '0'. The top set is rendered in a white sans-serif font, while the bottom set is rendered in a black serif font. Both sets are positioned against a solid black background. Red vertical lines are placed between the characters in both rows, creating a grid that highlights the uniform width of each character across the different weights. The characters are also separated by thin white spaces.

w m W M Æ œ ™ © o o o o 0

w m W M Æ œ ™ © o o o o 0

Coding and Small Sizes

SF . : . { * 0

Coding and Small Sizes

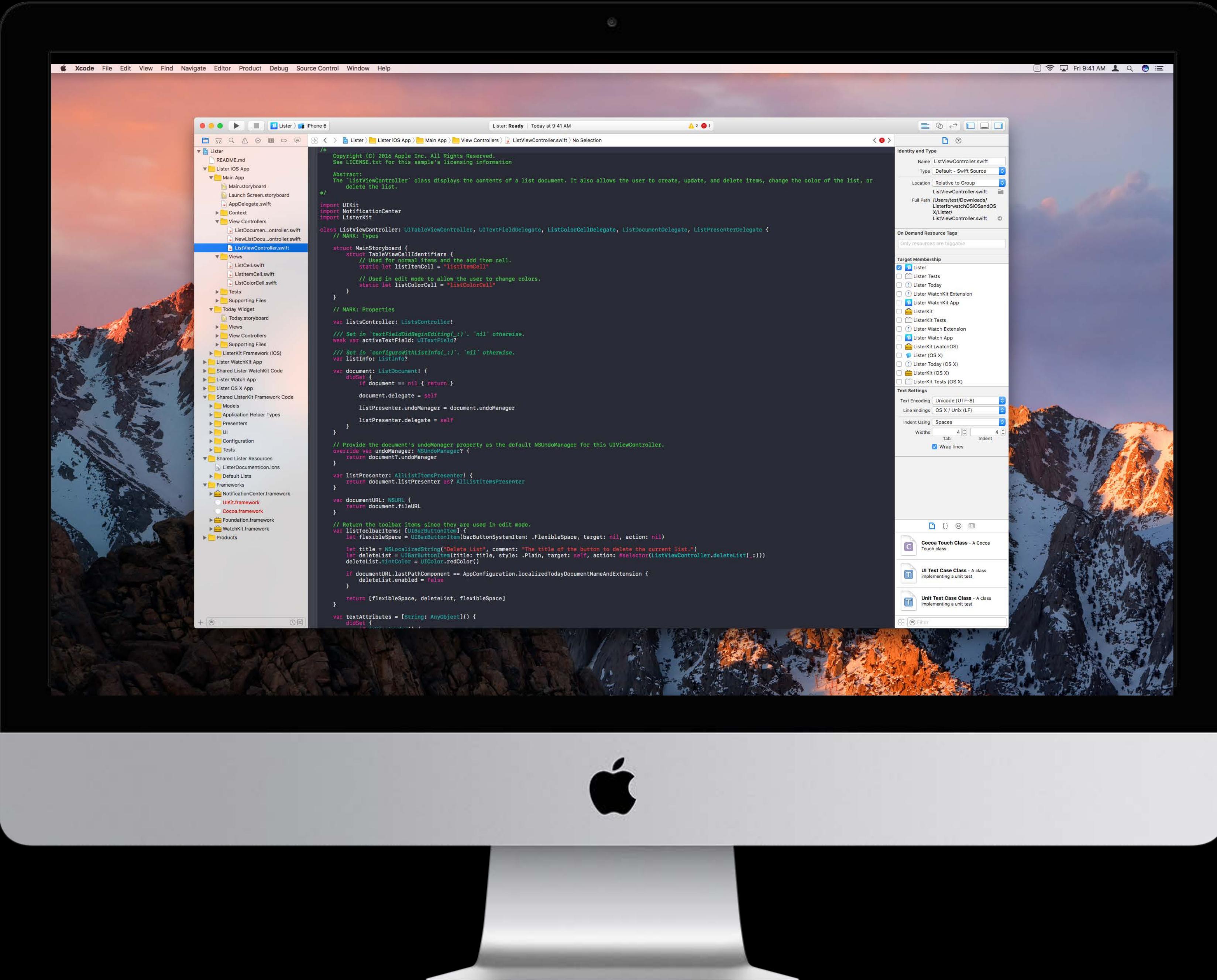
SF

• : • { * 0

SF Mono

• : • { * 0





Lister Ready | Today at 9:41 AM

2 1

Identity and Type

Name: ListViewController.swift
Type: Default - Swift Source
Location: Relative to Group
ListViewController.swift
Full Path: /Users/test/Downloads/ListerforwatchOSiOSandOSX/Lister/ListViewController.swift

On Demand Resource Tags

Only resources are taggable

Target Membership

Lister

Views

ListCell.swift
ListItemCell.swift
ListColorCell.swift

Tests

Supporting Files

Today Widget

Today.storyboard

Views

View Controllers

Supporting Files

ListerKit Framework (iOS)

Lister WatchKit App

Shared Lister WatchKit Code

Lister Watch App

Lister OS X App

Shared ListerKit Framework Code

Models

Application Helper Types

Presenters

UI

Configuration

Tests

Shared Lister Resources

ListerDocumentIcon.icns

Default Lists

Frameworks

NotificationCenter.framework

UIKit.framework

Cocoa.framework

Foundation.framework

WatchKit.framework

Products

ListViewController.swift

```
/*
Copyright (C) 2016 Apple Inc. All Rights Reserved.
See LICENSE.txt for this sample's licensing information.

Abstract:
The 'ListViewController' class displays the contents of a list document. It also allows the user to create, update, and delete items, change the color of the list, or
delete the list.

*/
import UIKit
import NotificationCenter
import ListerKit

class ListViewController: UITableViewController, UITextFieldDelegate, ListColorCellDelegate, ListDocumentDelegate, ListPresenterDelegate {

    // MARK: Types

    struct MainStoryboard {
        struct TableCellIdentifiers {
            // Used for normal items and the add item cell.
            static let listItemCell = "listItemCell"

            // Used in edit mode to allow the user to change colors.
            static let listColorCell = "listColorCell"
        }
    }

    // MARK: Properties

    var listsController: ListsController!
    /// Set in `textFieldDidBeginEditing(_:)`. `nil` otherwise.
    weak var activeTextField: UITextField?
    /// Set in `configureWithListInfo(_:)`. `nil` otherwise.
    var listInfo: ListInfo?
    var document: ListDocument!
    didSet {
        if document == nil { return }

        document.delegate = self
        listPresenter.undoManager = document.undoManager
        listPresenter.delegate = self
    }

    // Provide the document's undoManager property as the default NSUndoManager for this UIViewController.
    override var undoManager: NSUndoManager? {
        return document?.undoManager
    }

    var listPresenter: AllListItemsPresenter! {
        return document.listPresenter as? AllListItemsPresenter
    }

    var documentURL: NSURL {
        return document.fileURL
    }

    // Return the toolbar items since they are used in edit mode.
    var listToolbarItems: [UIBarButtonItem] {
        let flexibleSpace = UIBarButtonItem(barButtonSystemItem: .FlexibleSpace, target: nil, action: nil)
        let title = NSLocalizedString("Delete List", comment: "The title of the button to delete the current list.")
        let deleteList = UIBarButtonItem(title: title, style: .Plain, target: self, action: #selector(ListViewController.deleteList(_)))
        deleteList.tintColor = UIColor.redColor()

        if documentURL.lastPathComponent == AppConfig.configuration.localizedTodayDocumentNameAndExtension {
            deleteList.enabled = false
        }

        return [flexibleSpace, deleteList, flexibleSpace]
    }

    var textAttributes = [String: AnyObject]()
    didSet {
        textAttributes
    }
}
```

San Francisco

Applied to all our platforms

New SF Mono family

Terminology

Premise

Writing systems

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Inclusive App Design

Pacific Heights

Tuesday 10:00AM

Internationalization Best Practices

Mission

Tuesday 9:00AM

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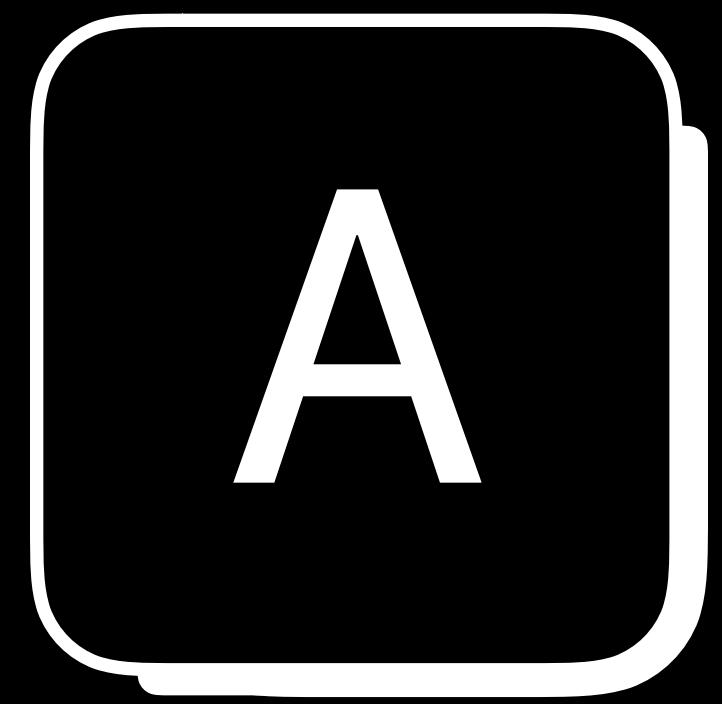
Text

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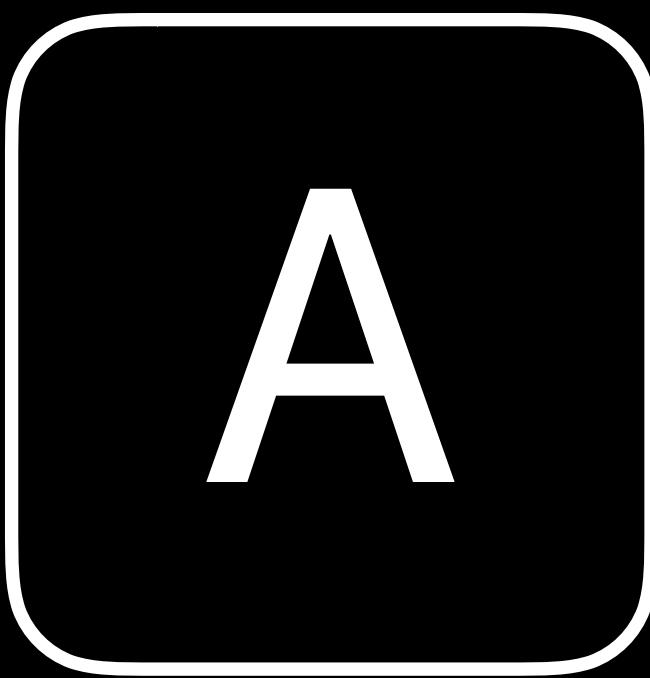
Text

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Character

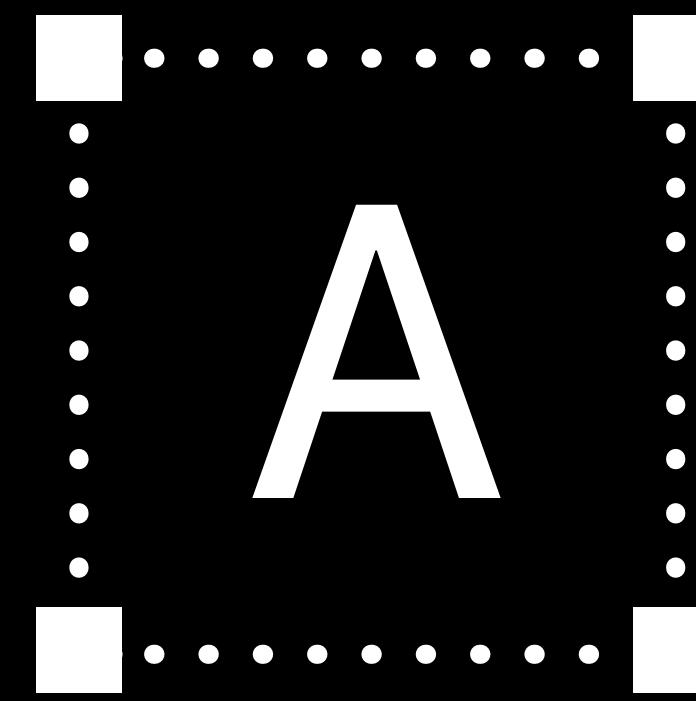


Character

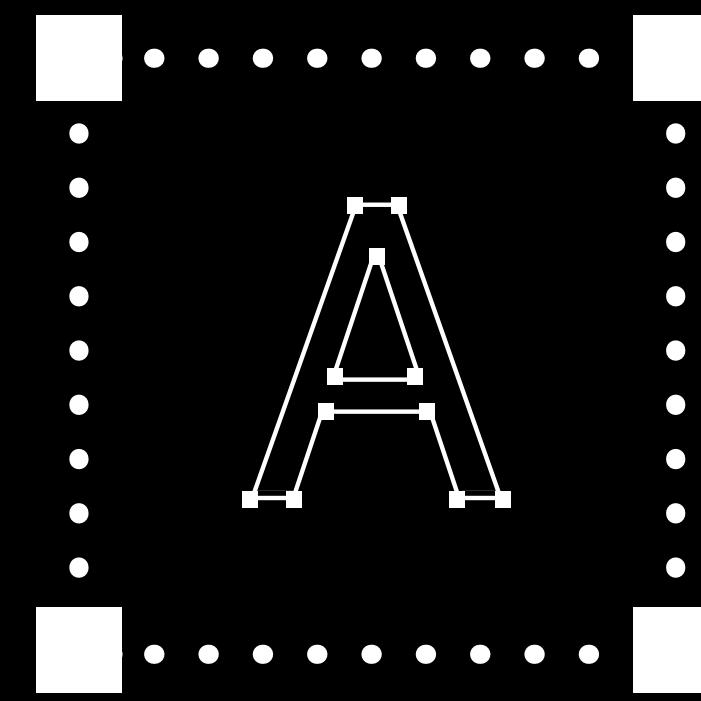


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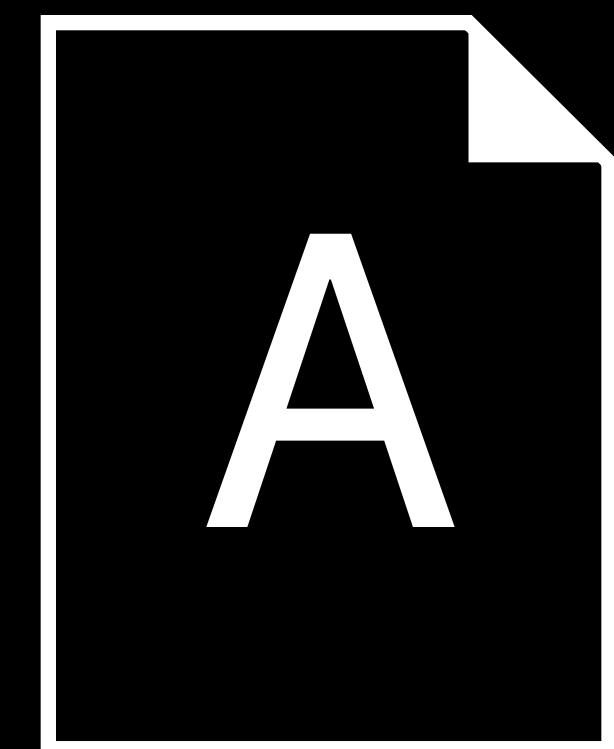
Glyph



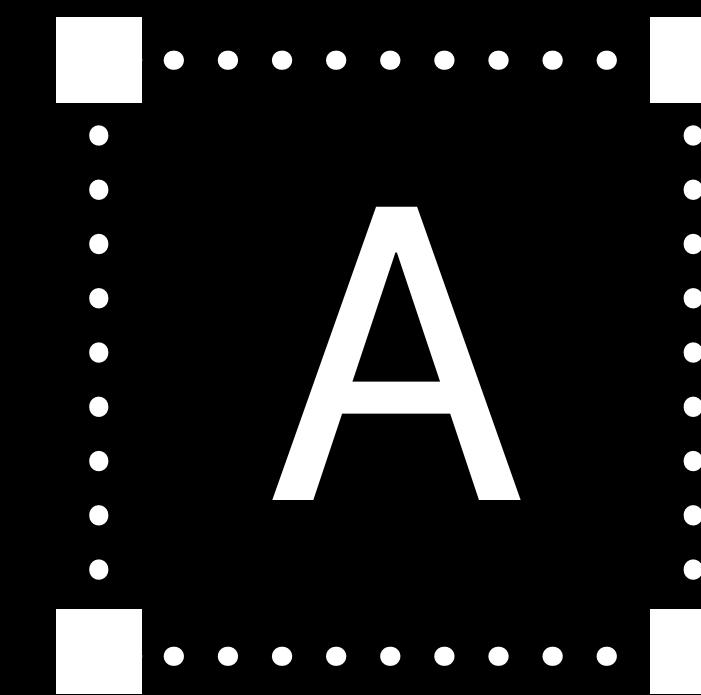
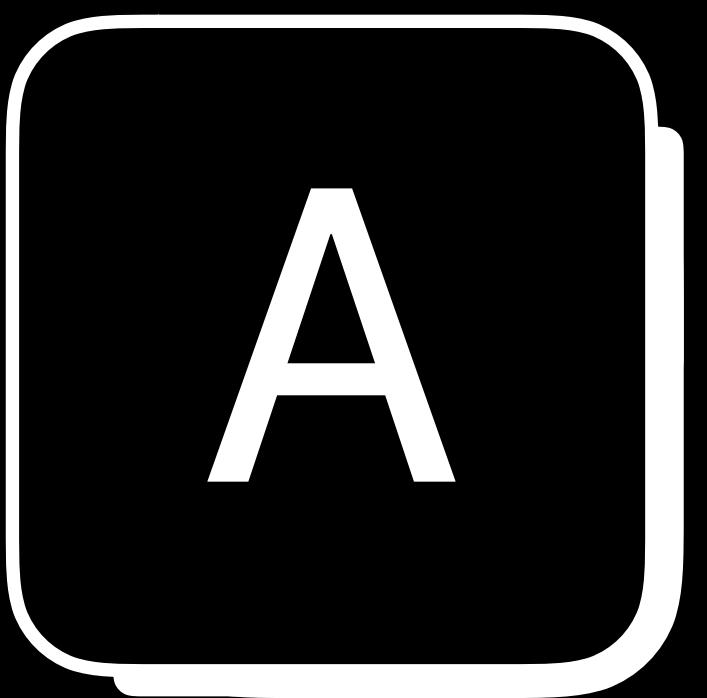
Glyph



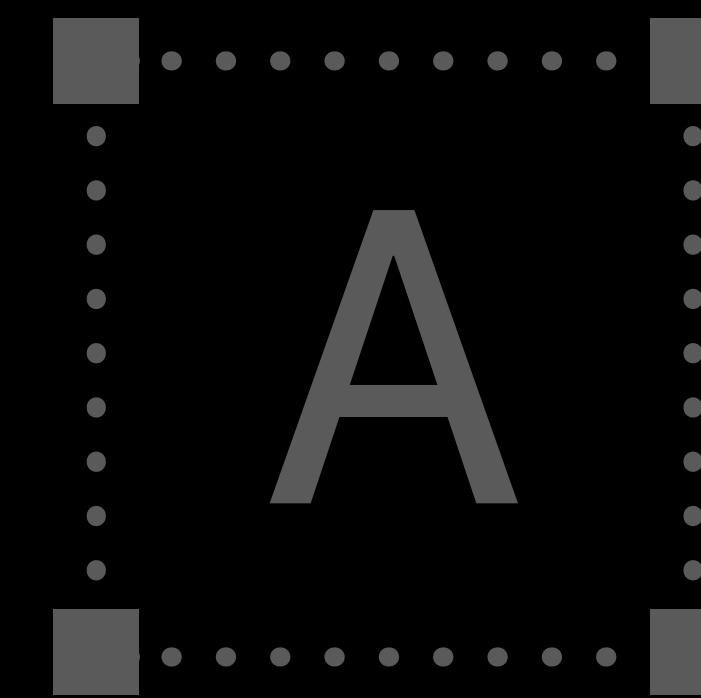
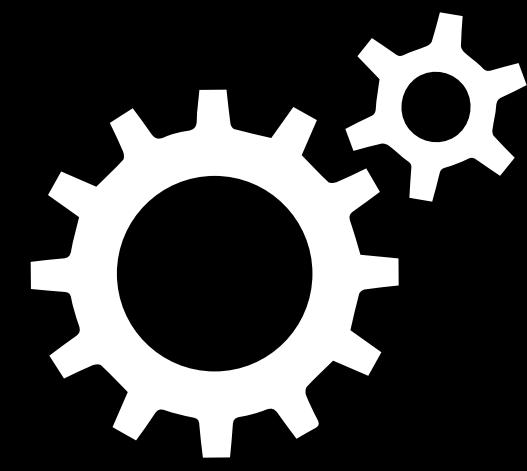
Font



Feature

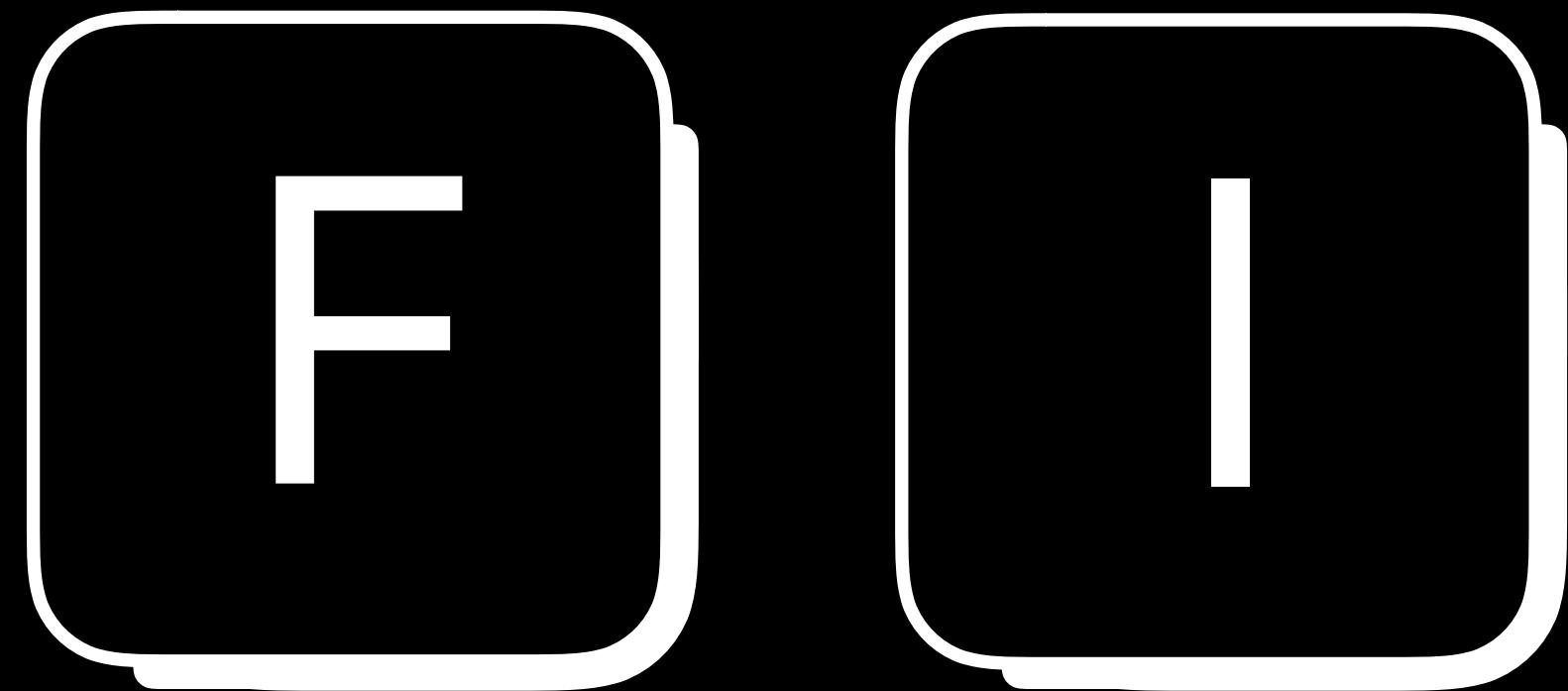


Feature



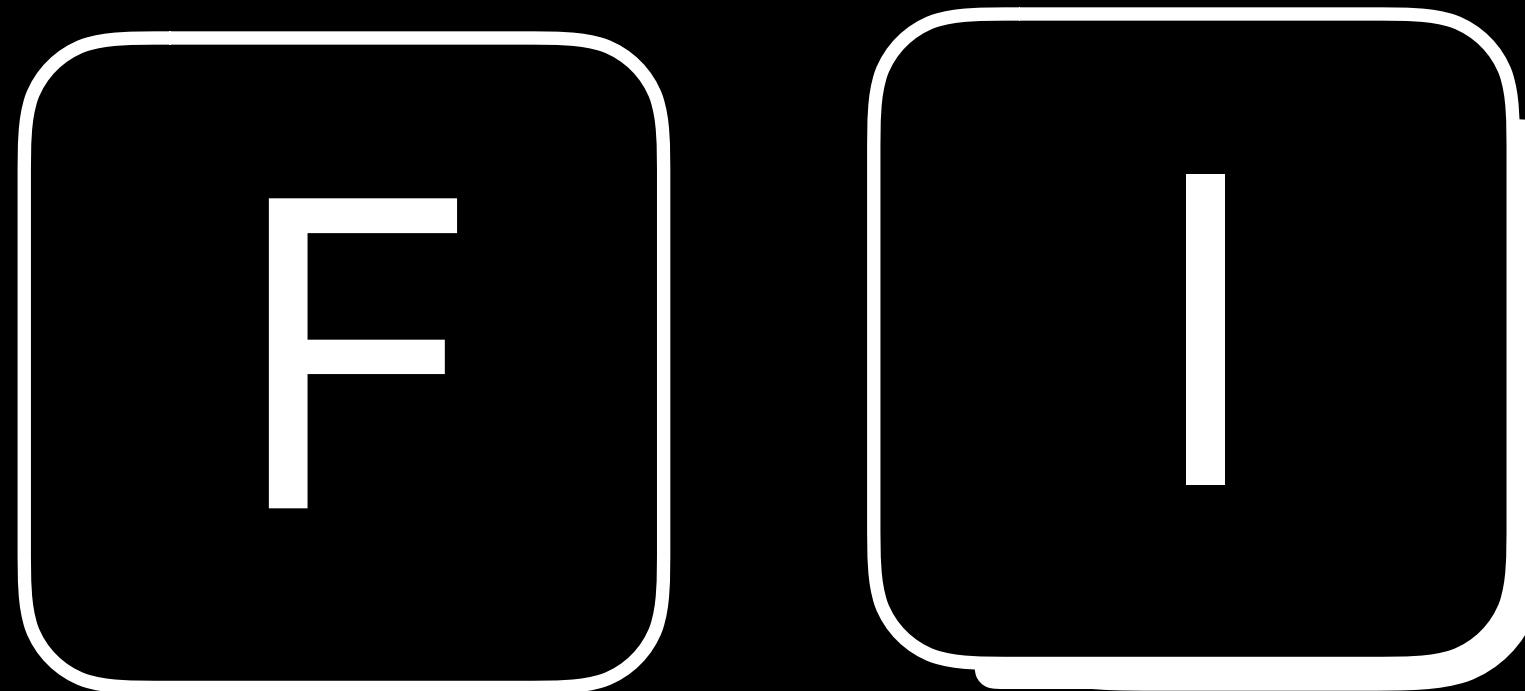
Feature

Automatic

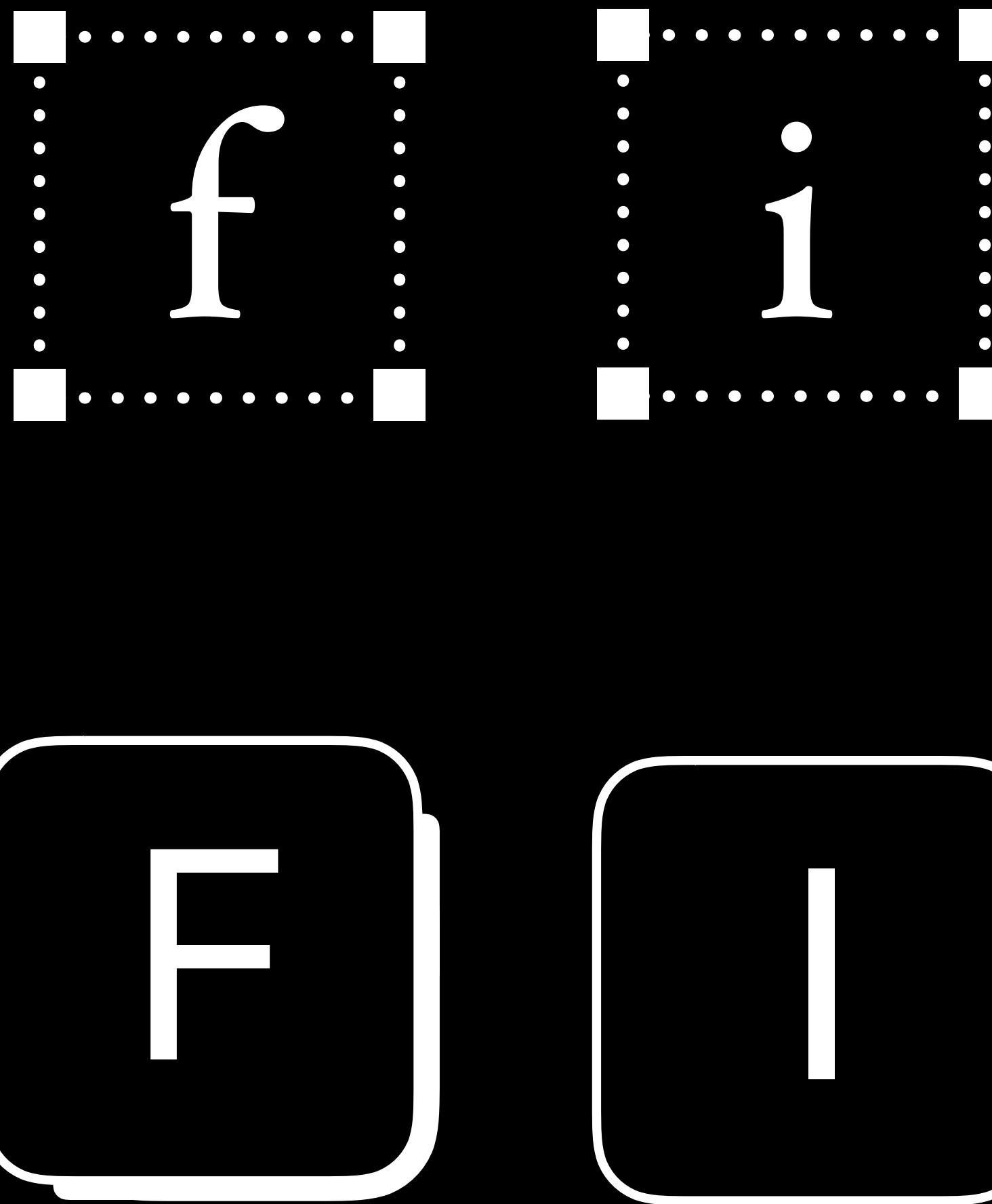


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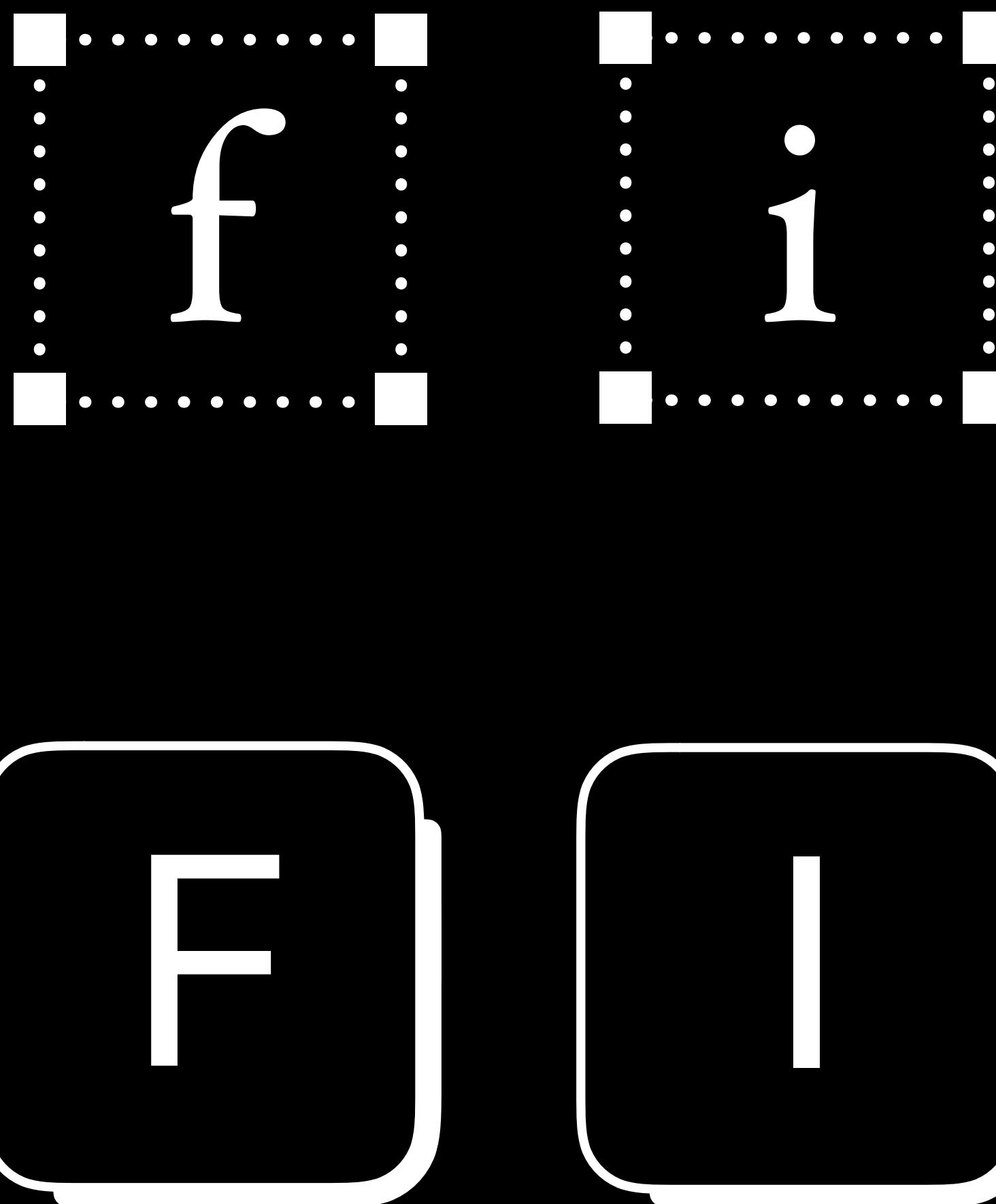
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Feature Automatic

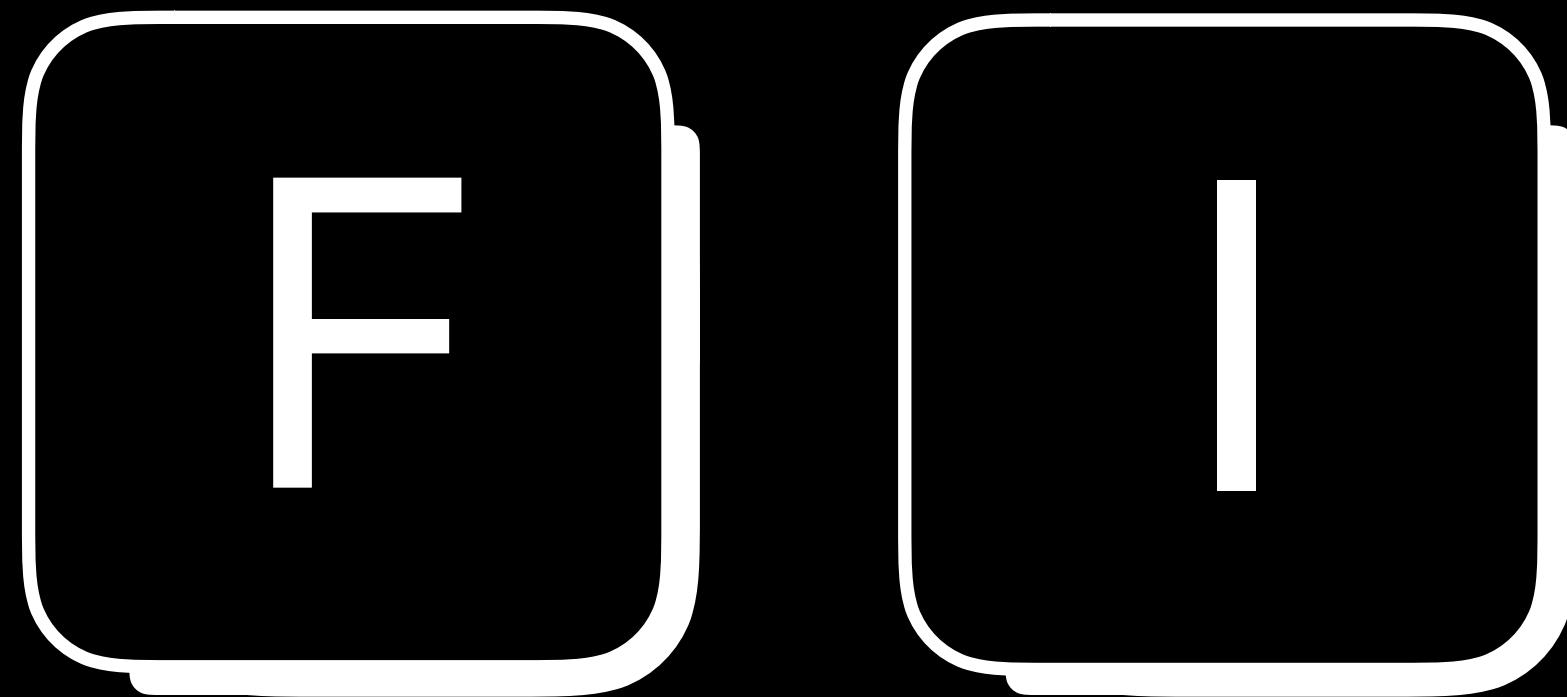
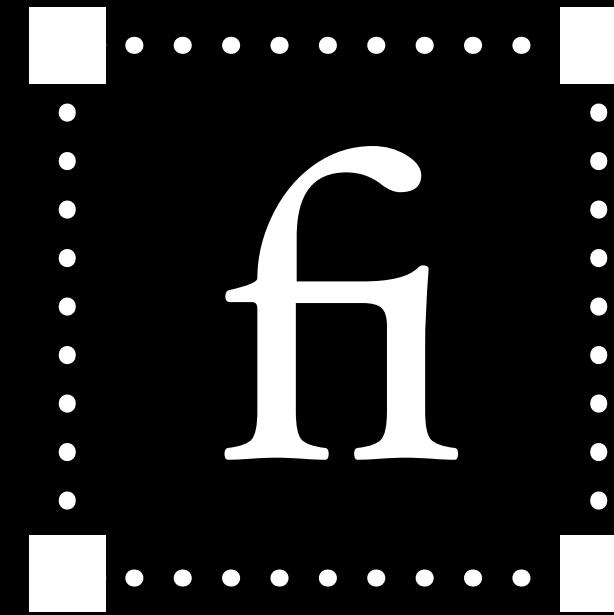


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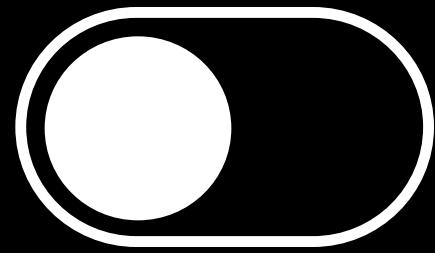


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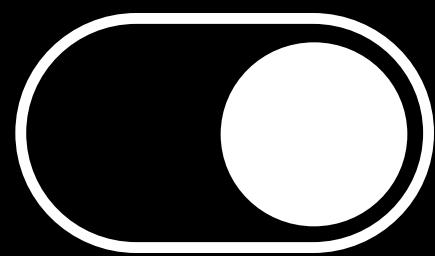
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Feature
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Feature
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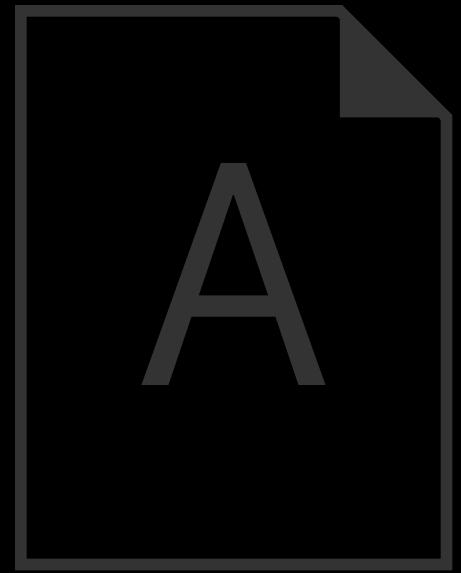
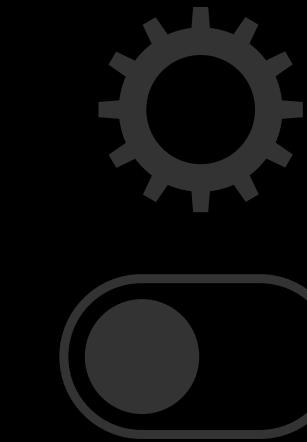
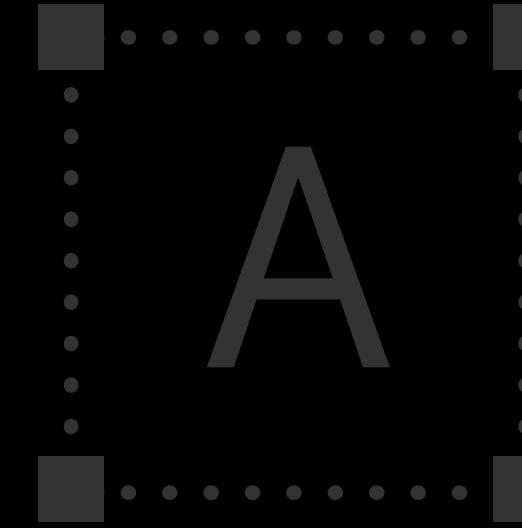
Typeface

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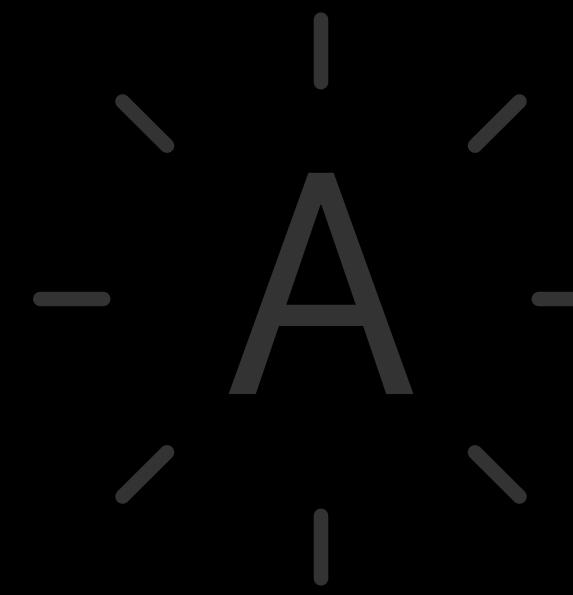
Typography

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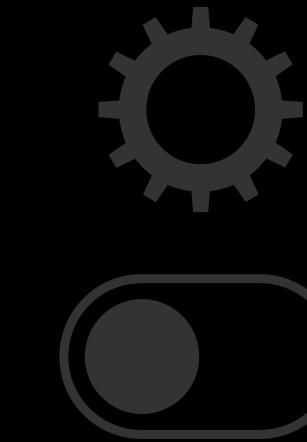
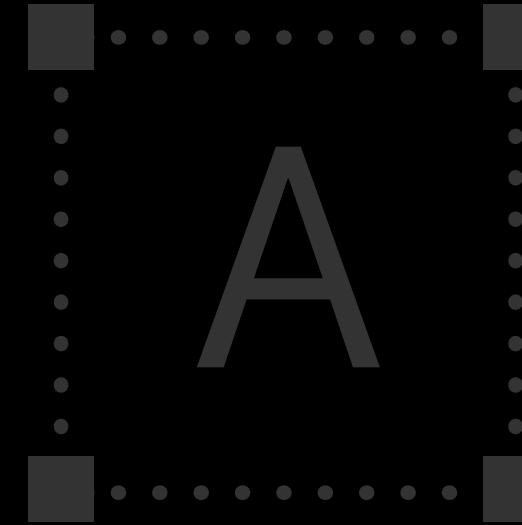
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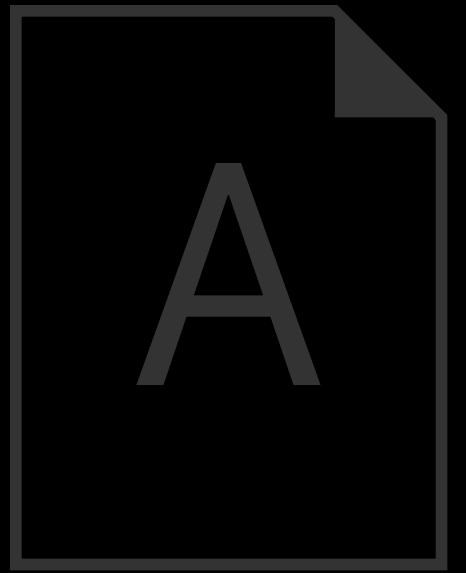
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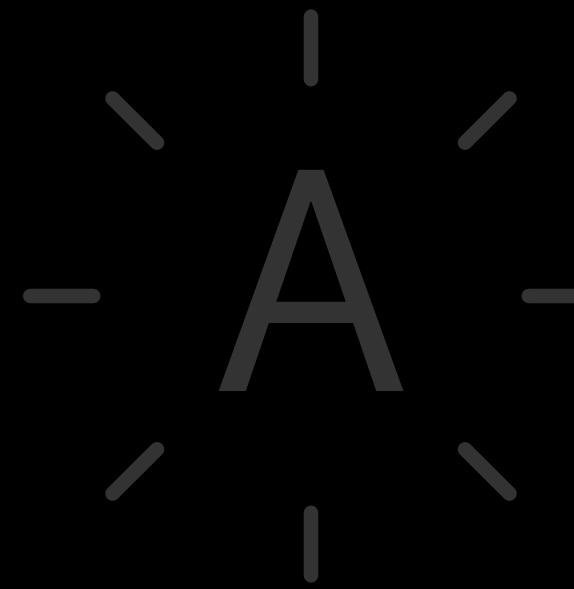
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Text

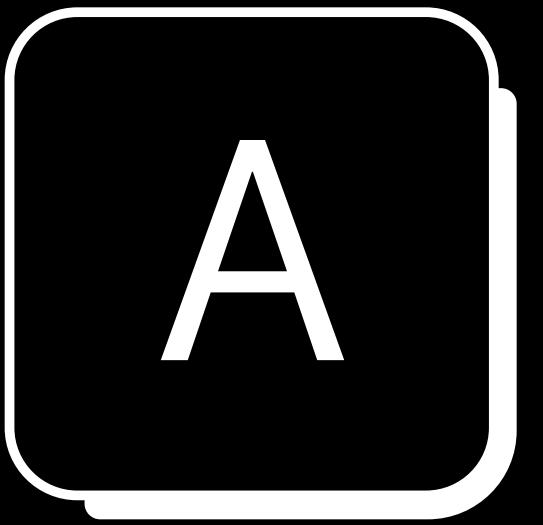


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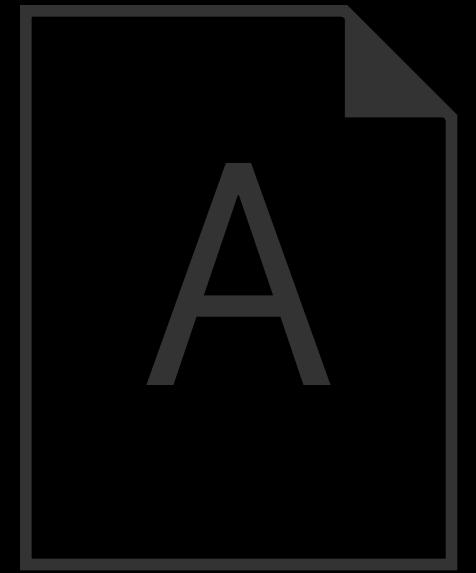
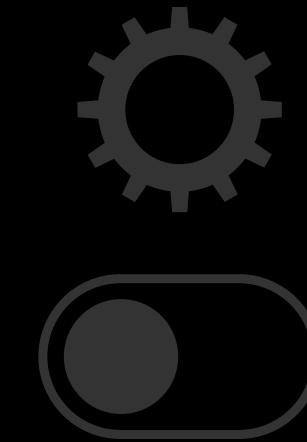
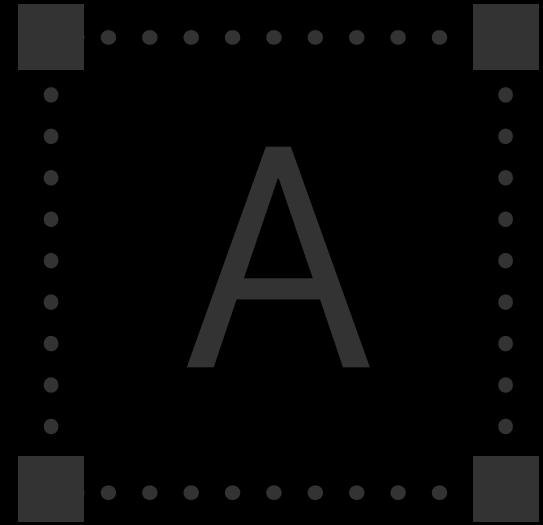


A |

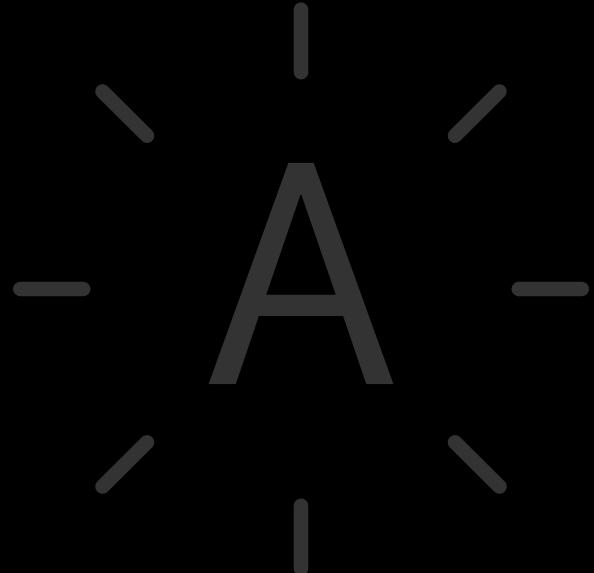
Text



Character

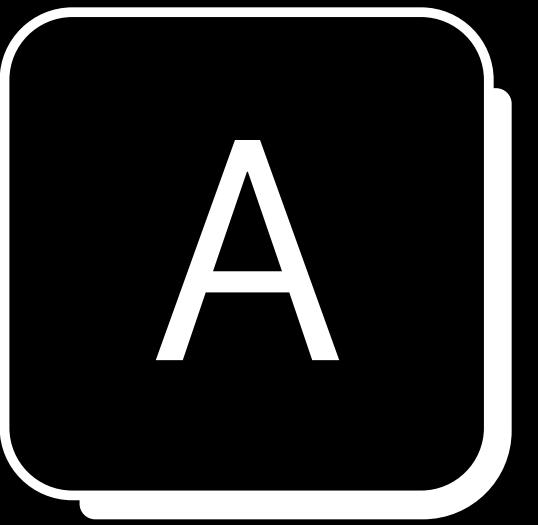


AA
AA

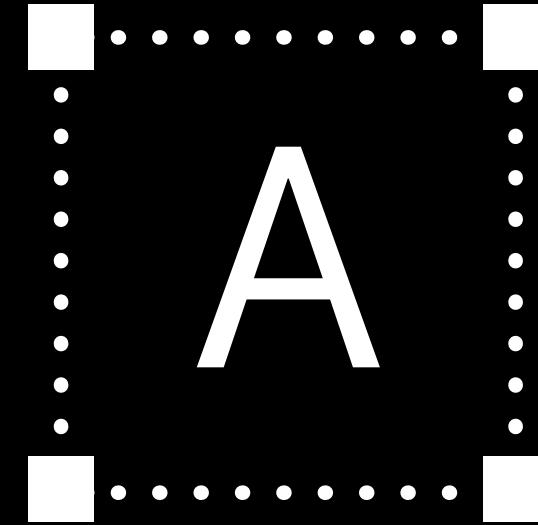


A |

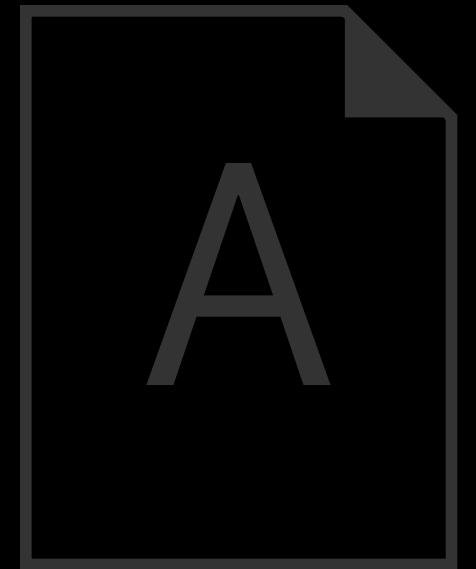
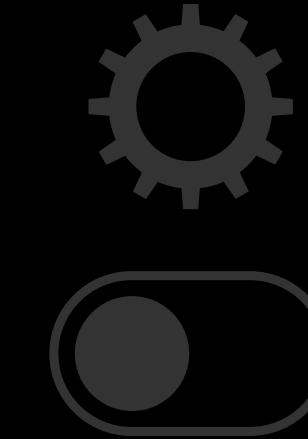
Text



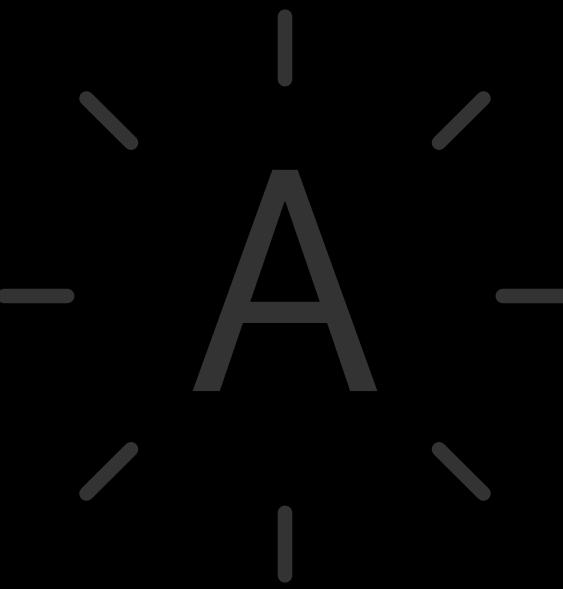
Character



Glyph

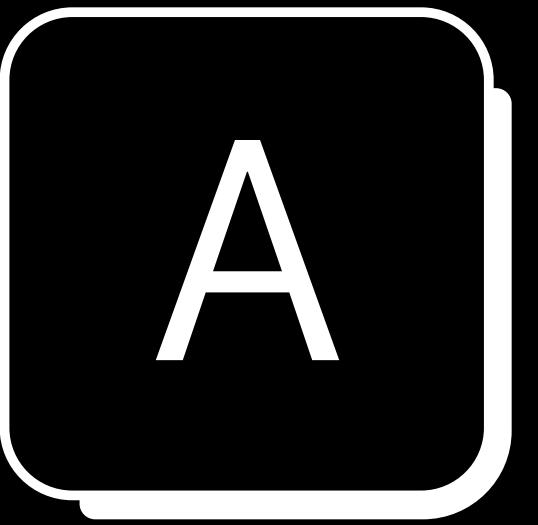


A A
A A

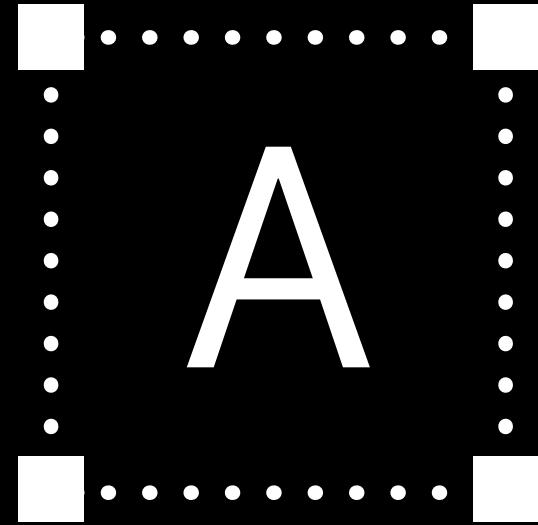


A |

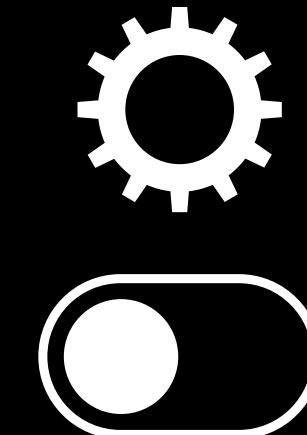
Text



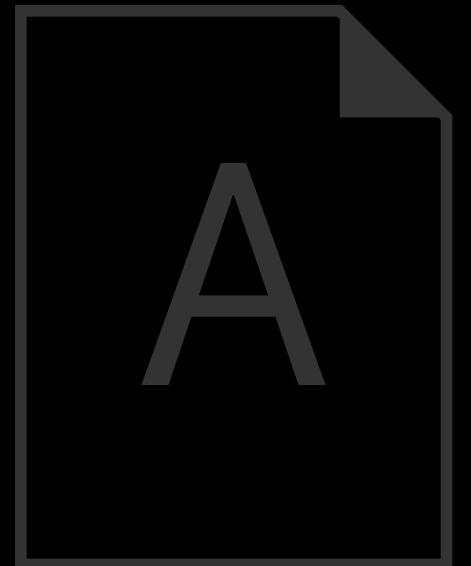
Character



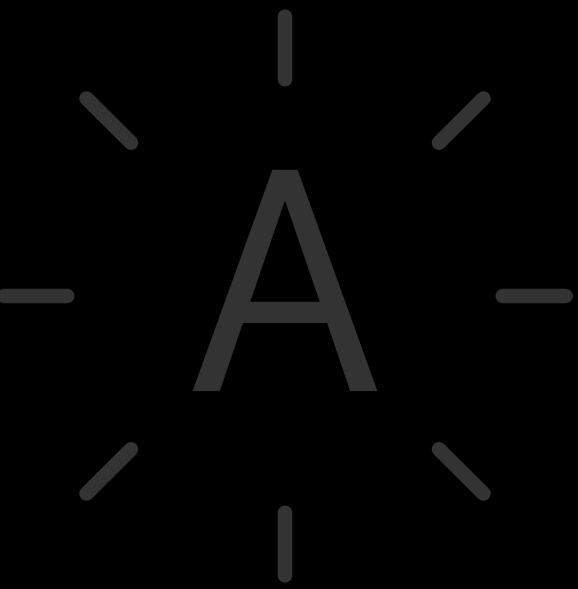
Glyph



Feature



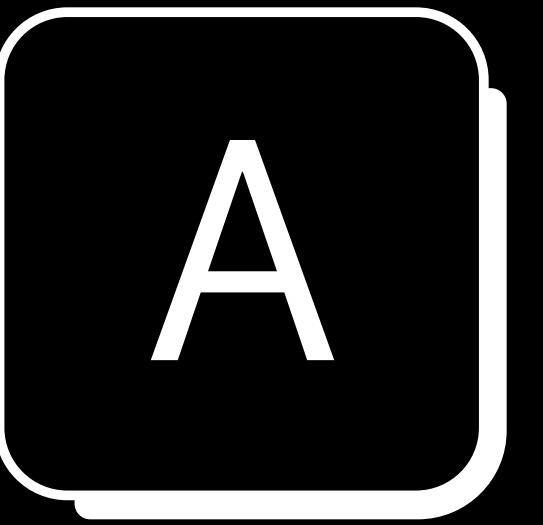
A A
A A



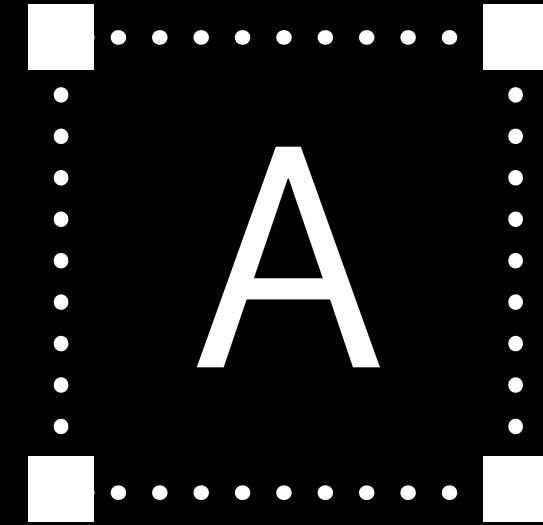
A =
A =
A =

A |

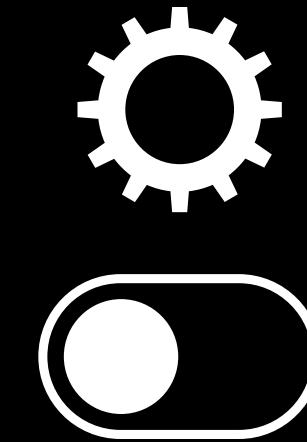
Text



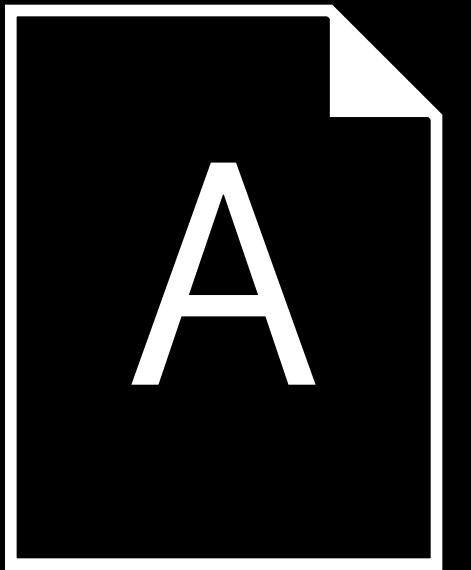
Character



Glyph

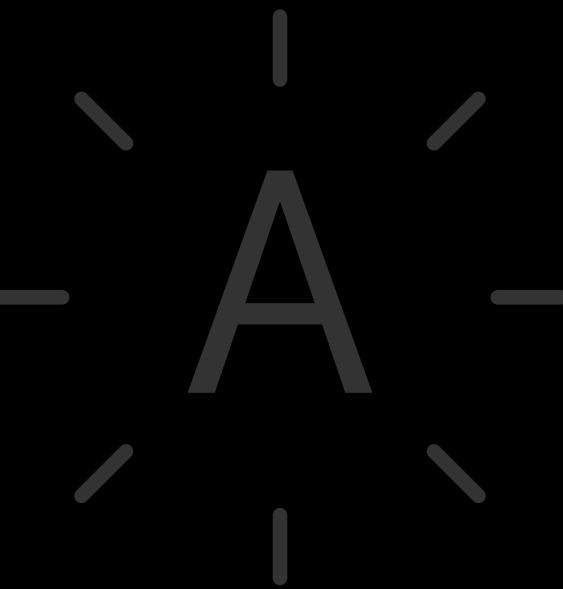


Feature



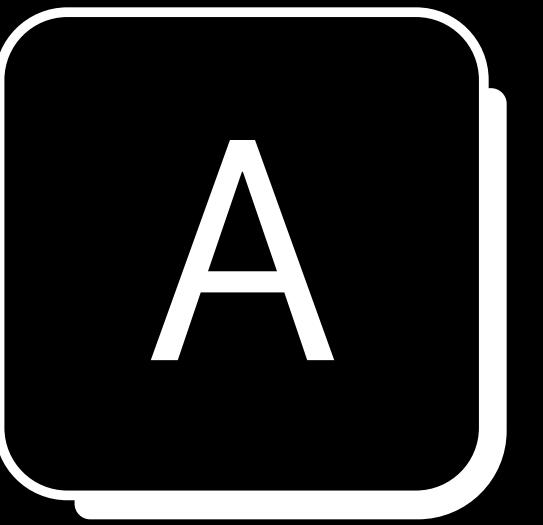
Font

A A
A A

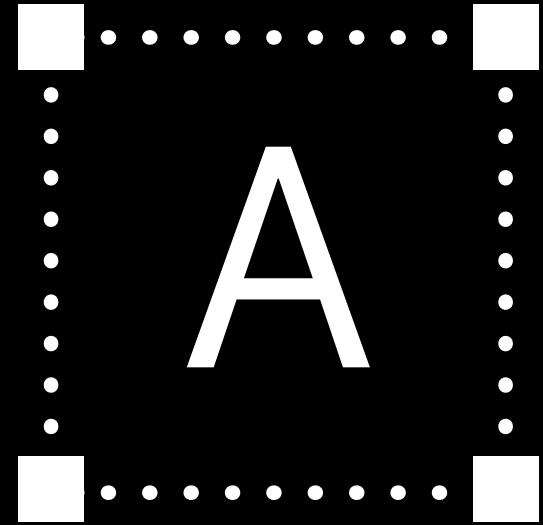


A |

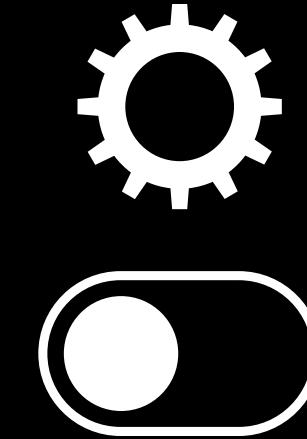
Text



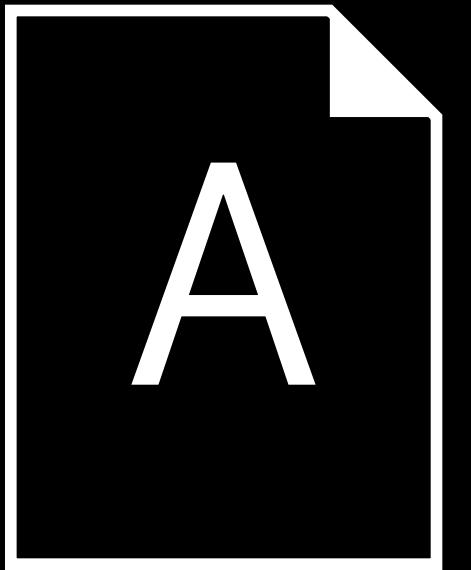
Character



Glyph



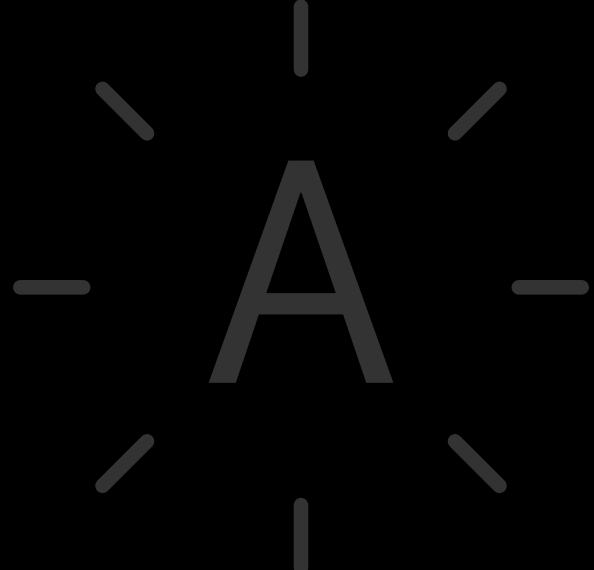
Feature

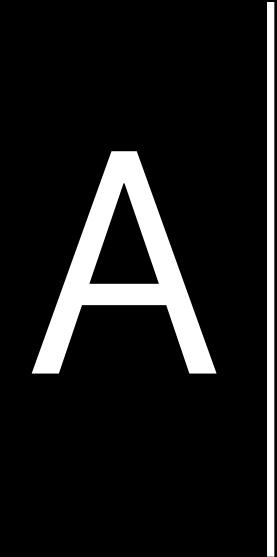


Font



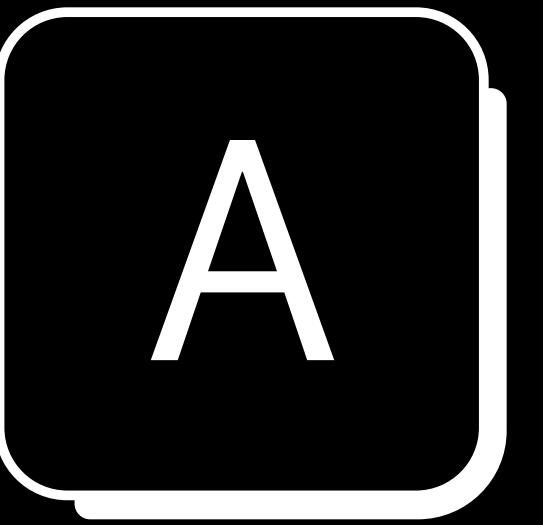
Style



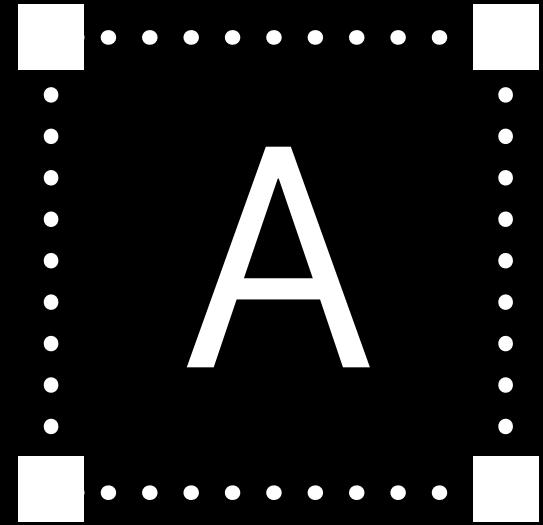


A |

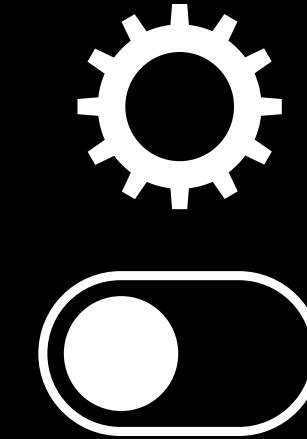
Text



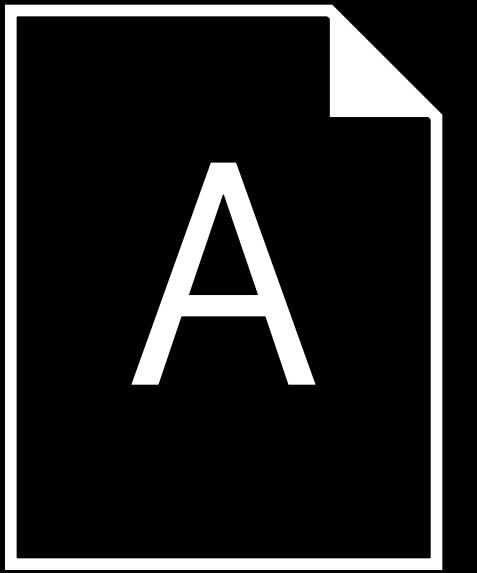
Character



Glyph



Feature

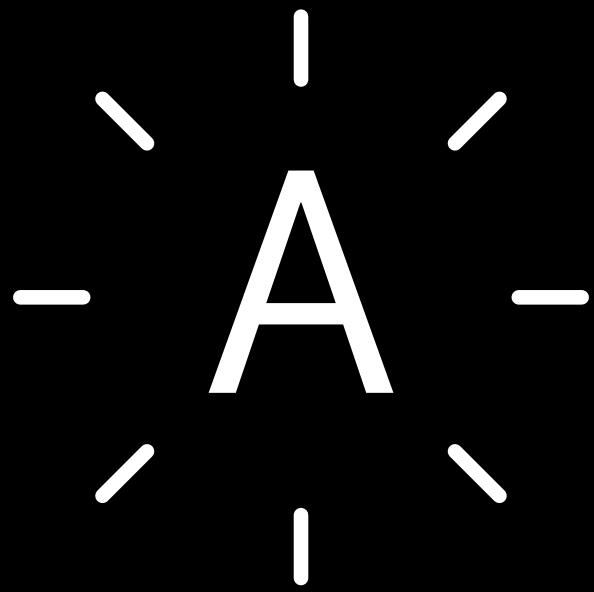


Font



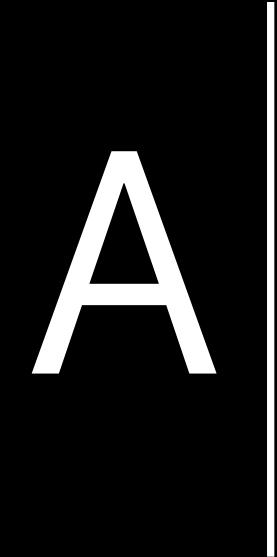
AA
AA

Style



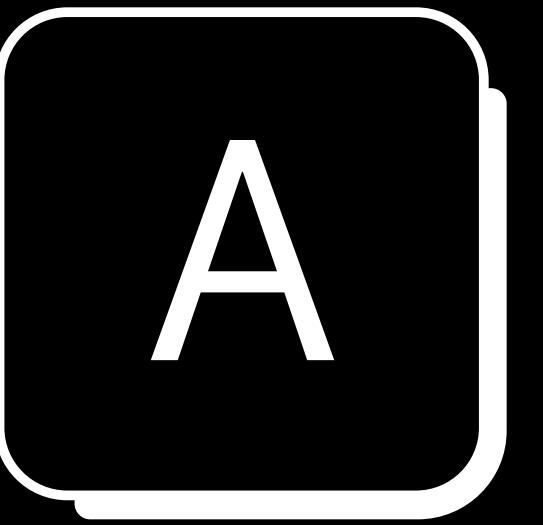
Typeface



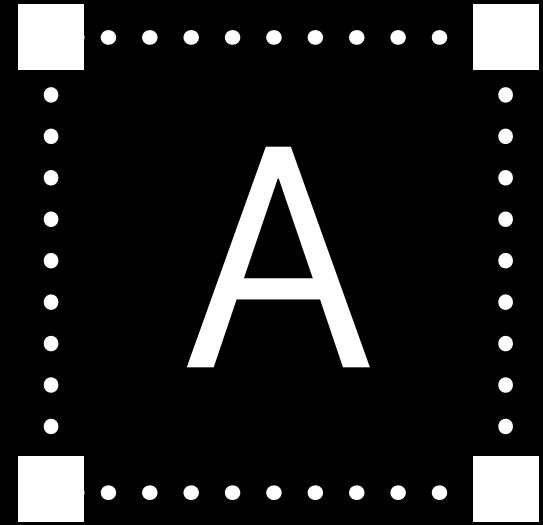


A |

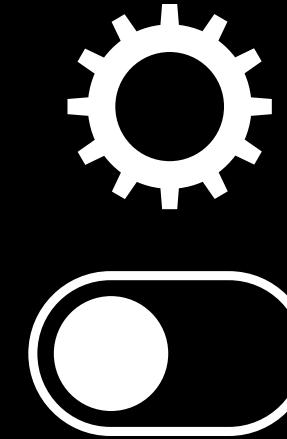
Text



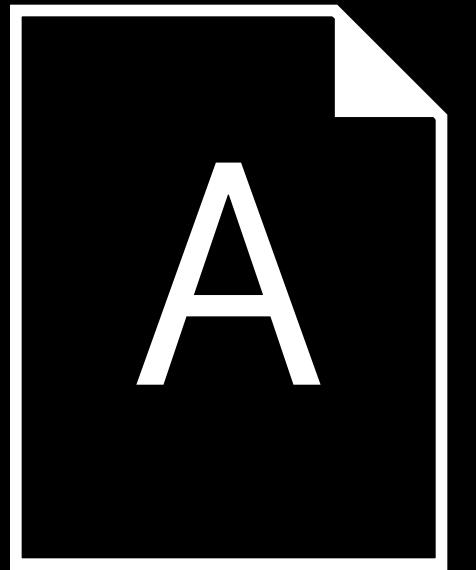
Character



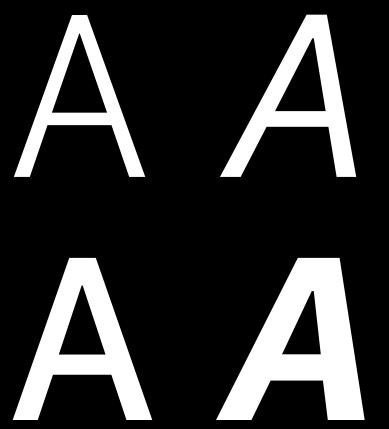
Glyph



Feature

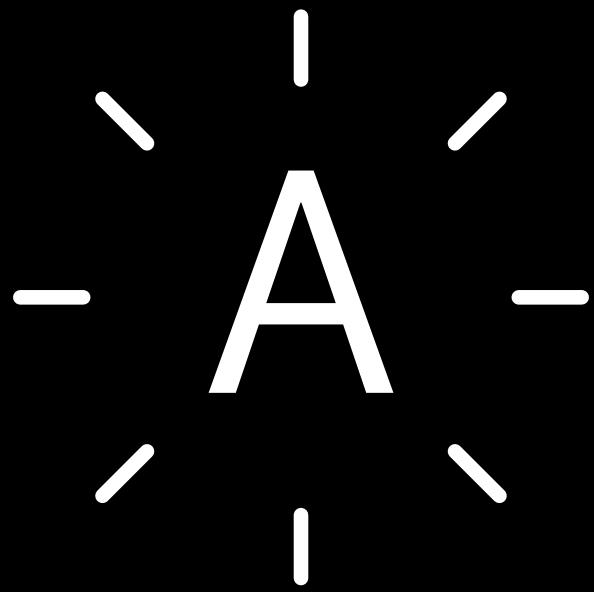


Font



AA
AA

Style



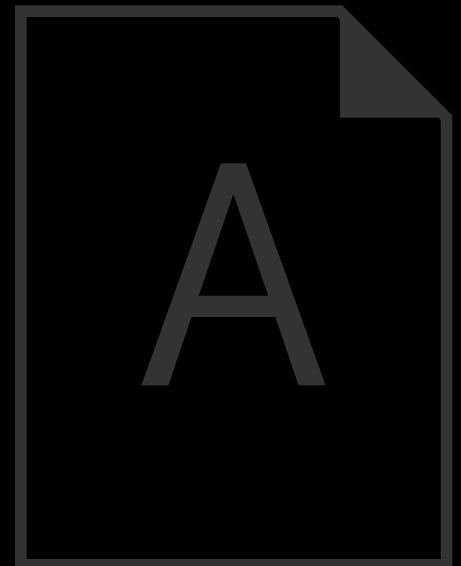
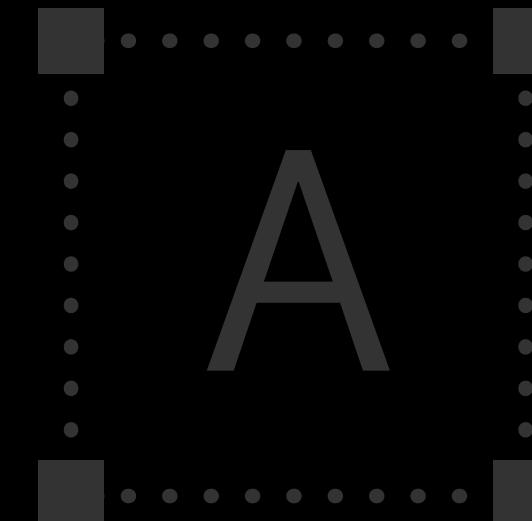
Typeface



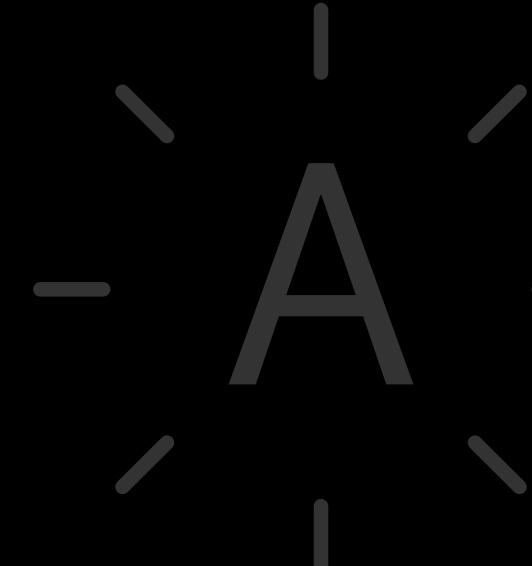
Typography

Writers, Editors

A |

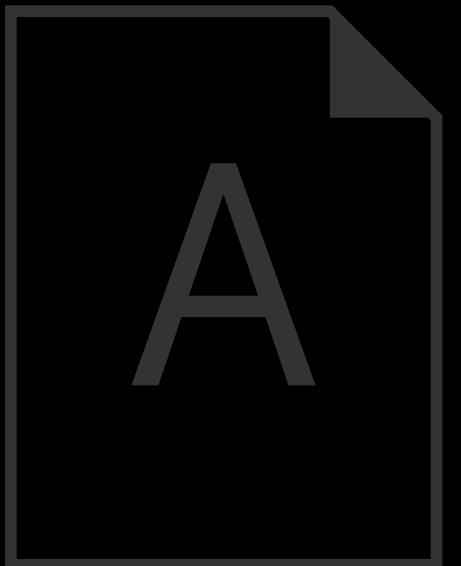
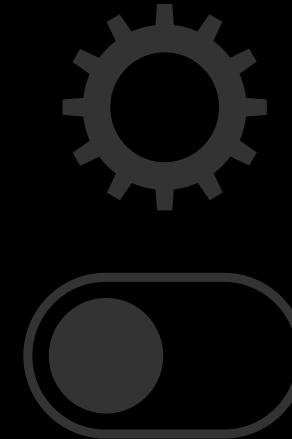
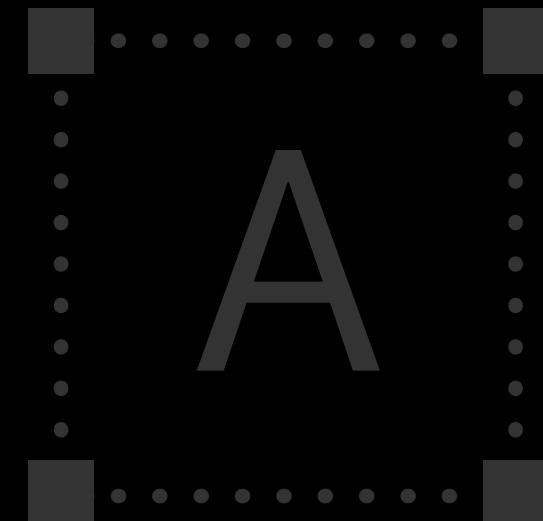
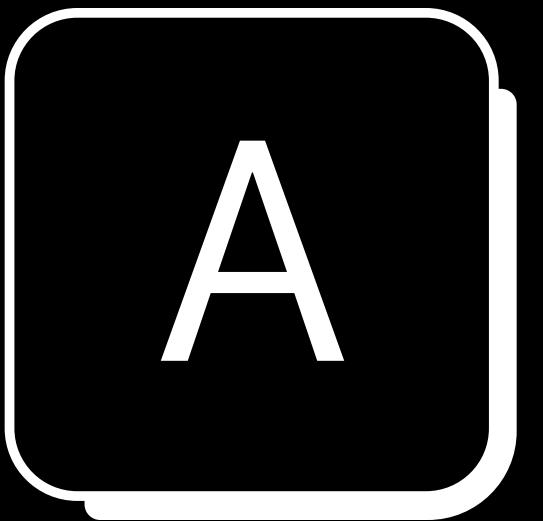


A A
A A

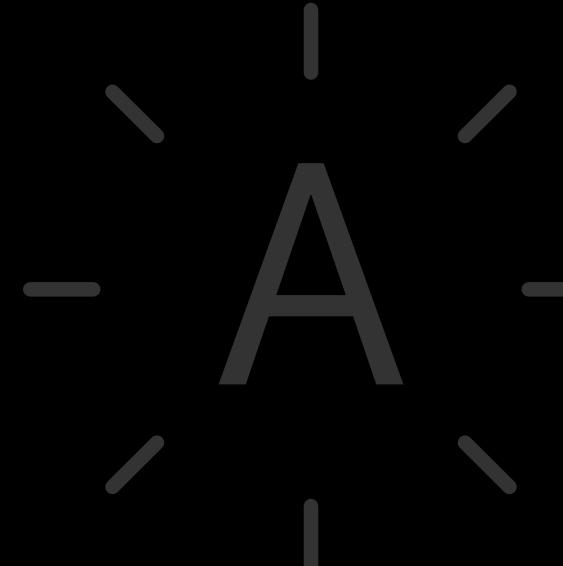


Unicode

A

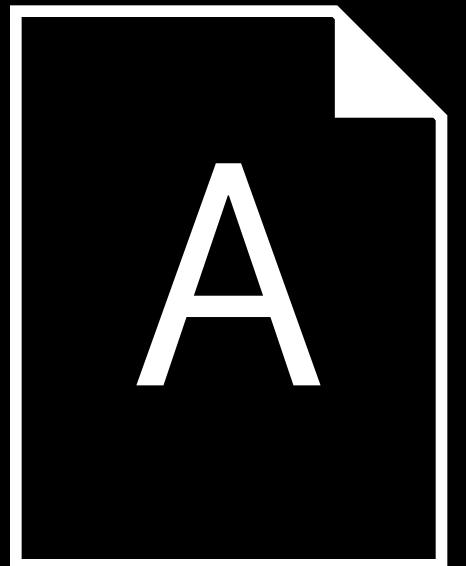
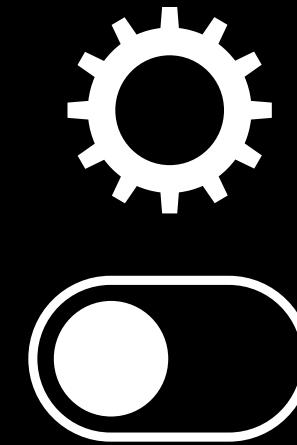
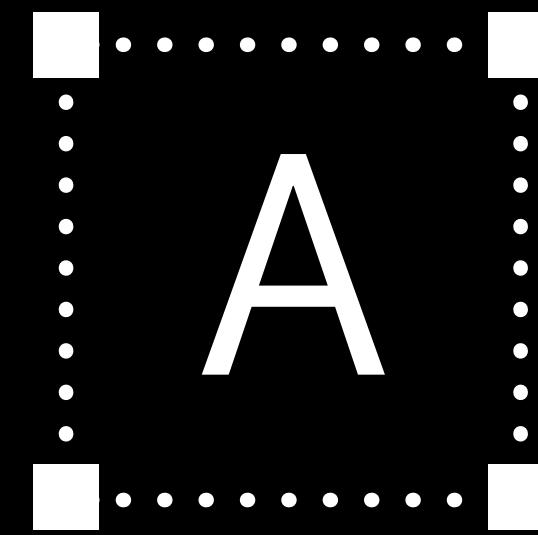


A A
A A



Type Designers, Font Manufacturers

A



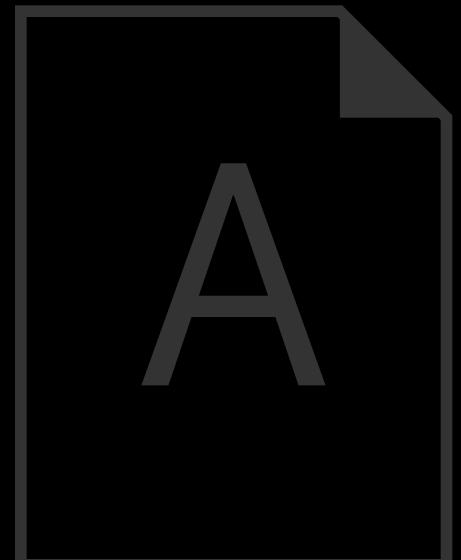
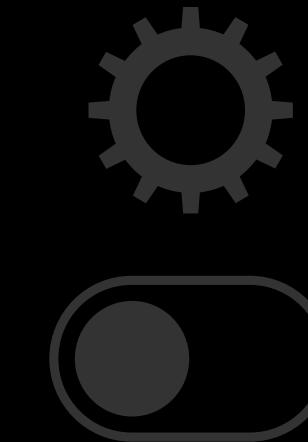
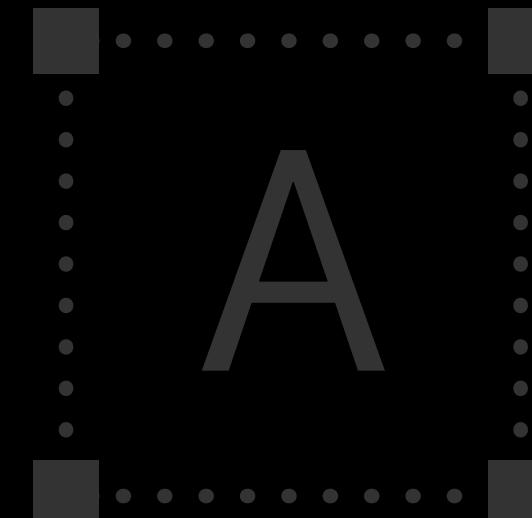
AA
AA

- A -

A =
=

Typographers

A



A A
A A

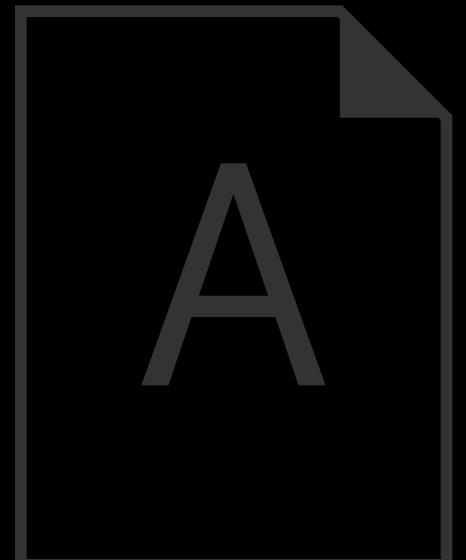
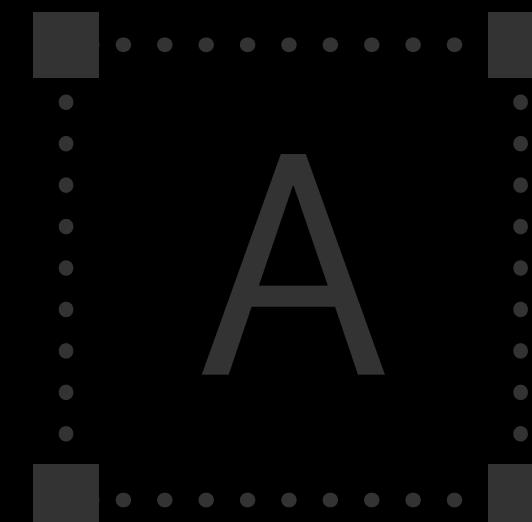
- A -

A =
= =

Typographers = You

Typographers

A



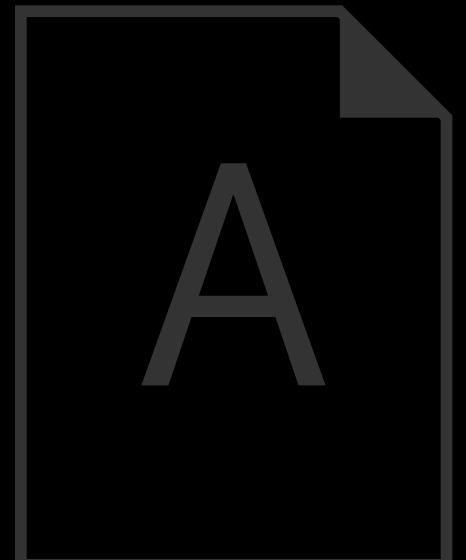
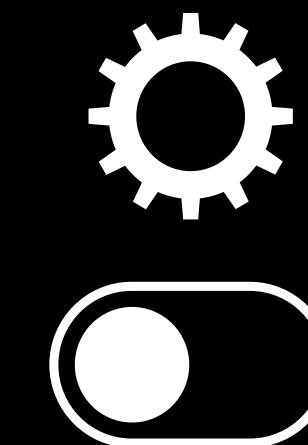
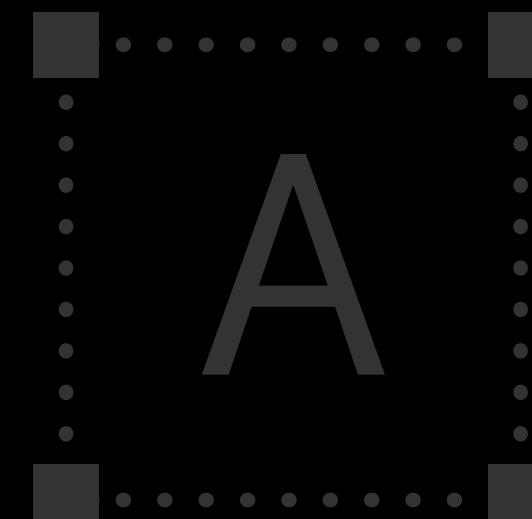
A A
A A

- A -

A =
= =

Typographers

A |



A A
AA

- A -

A =
====

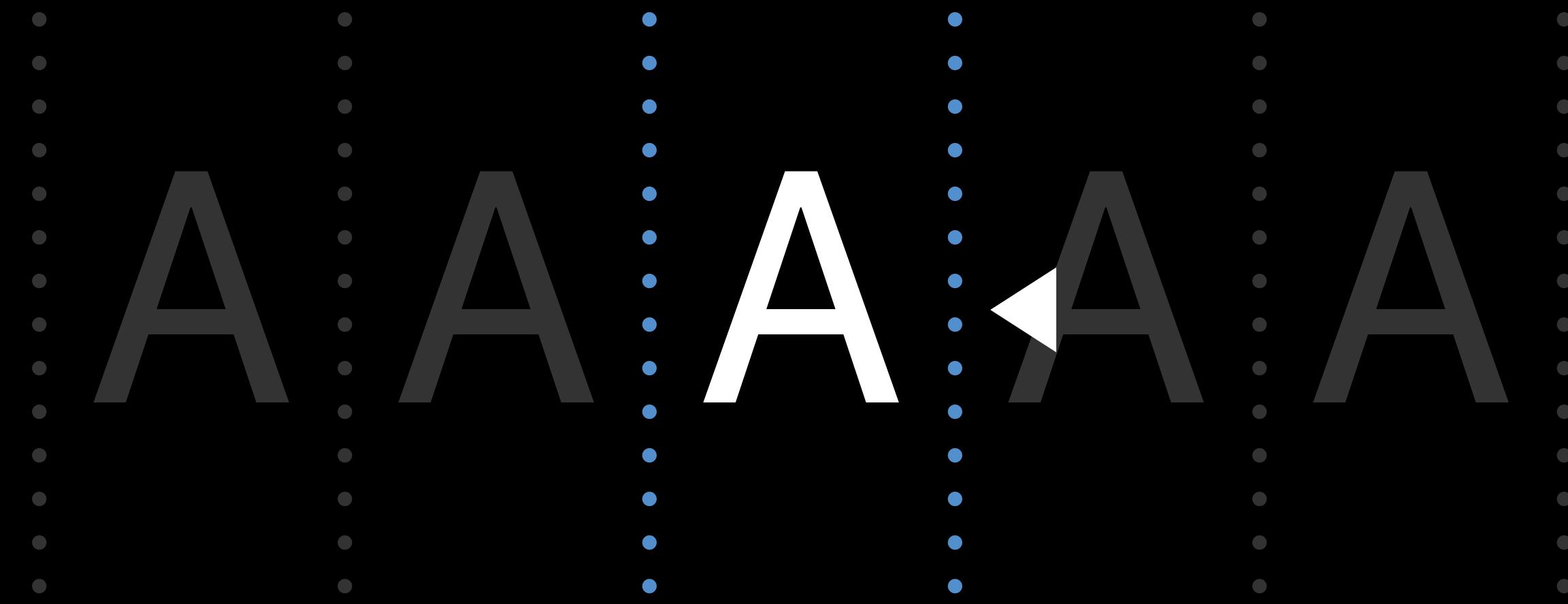
Spacing

A

Spacing

A A A A A

Spacing



Tracking

A B C



Tracking

∅



Tracking

-5



Tracking

∅



Tracking

+20



Kerning

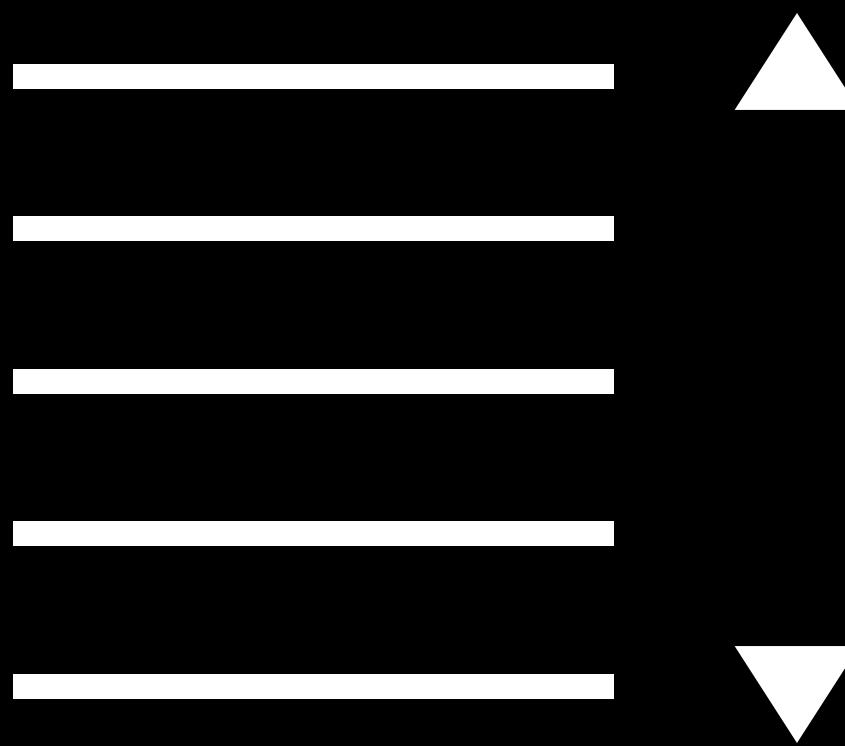
ALTAVILLA

Kerning

ALTAVILLA

A V -55

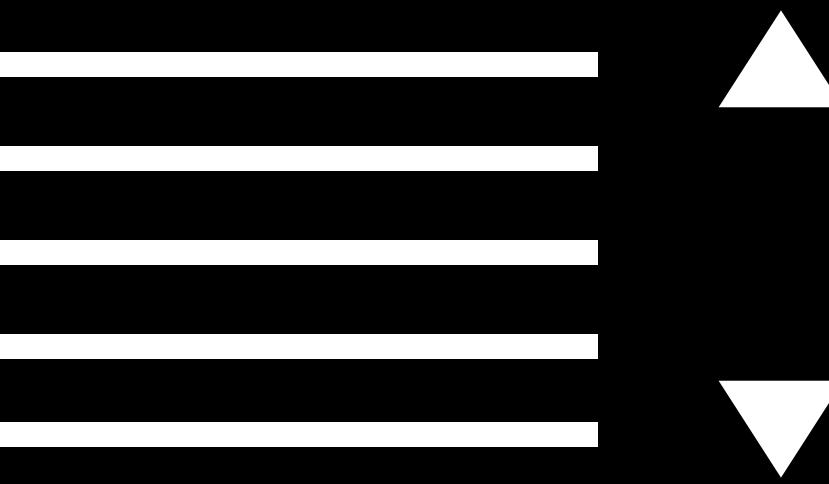
Leading



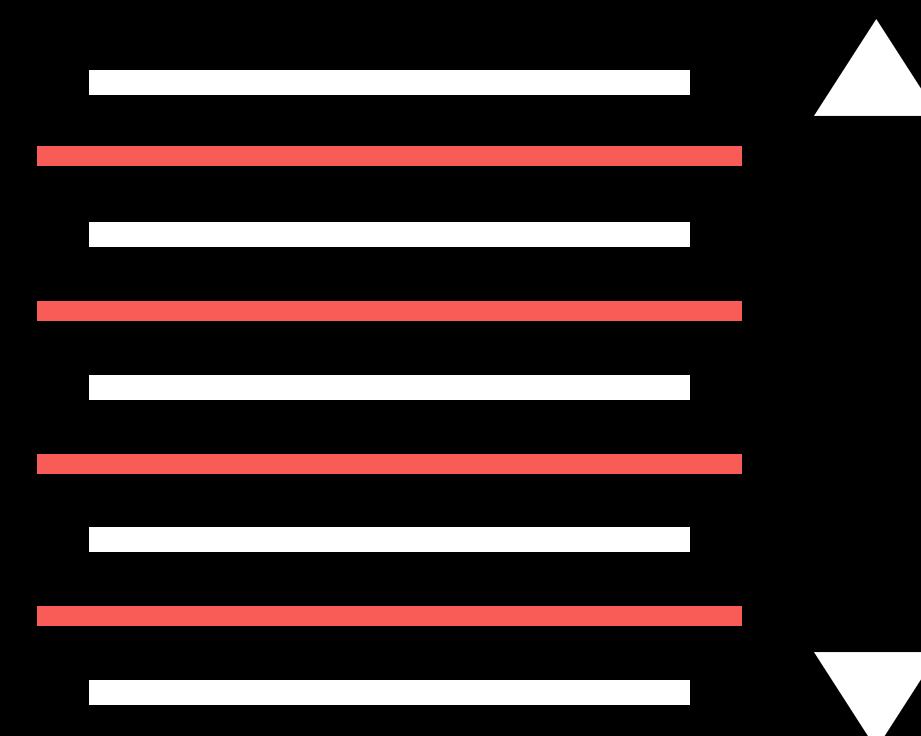
Leading

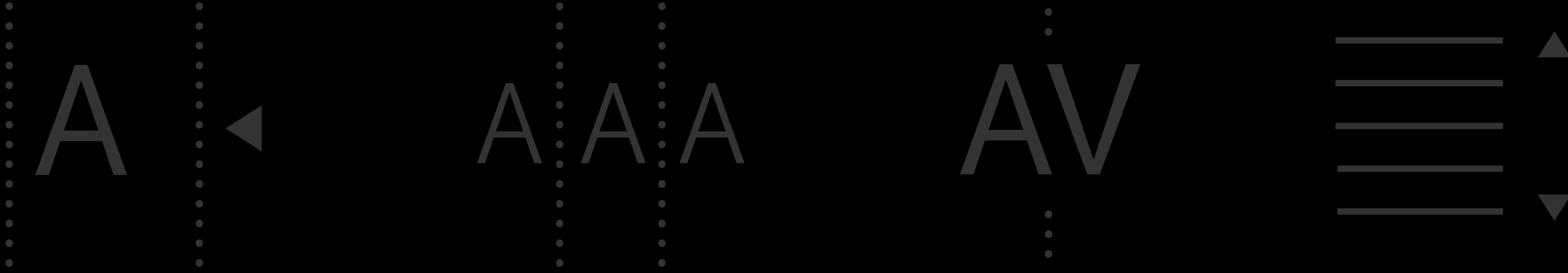


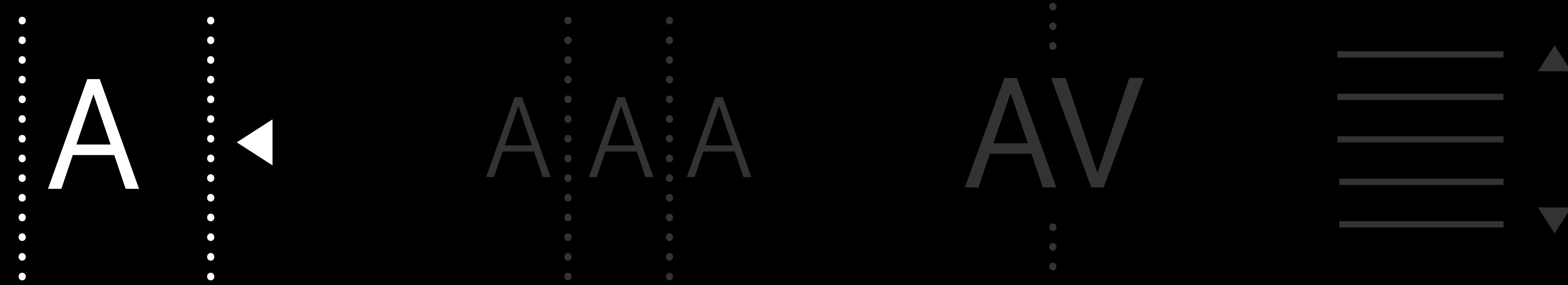
Leading



Leading







Spacing

A

The diagram shows a single character 'A' positioned between two vertical dotted lines. A small white arrow points from the right side of the 'A' towards the left, indicating the direction of adjustment for letter spacing.

Spacing

A A A

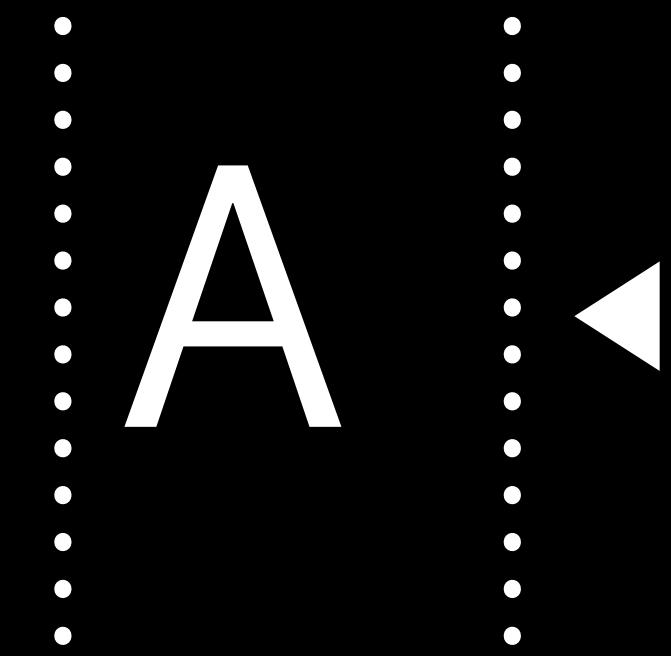
The diagram shows three characters ('A', 'A', 'A') positioned between two vertical dotted lines. A small white arrow points from the right side of the first 'A' towards the right side of the second 'A', indicating the direction of adjustment for letter tracking.

Tracking

AV

The diagram shows a large character 'A' followed by a smaller character 'V'. A small black arrow points upwards from the bottom of the 'V' towards the top of the 'A', indicating the direction of adjustment for character size.

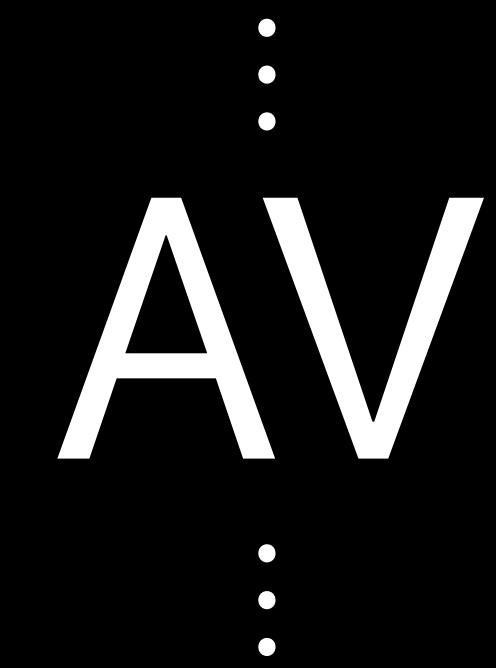
The diagram shows a series of five horizontal gray bars of increasing thickness from left to right, representing different font weights. A small black arrow points upwards from the bottom of the third bar towards the top of the fifth bar, indicating the direction of adjustment for font weight.



Spacing

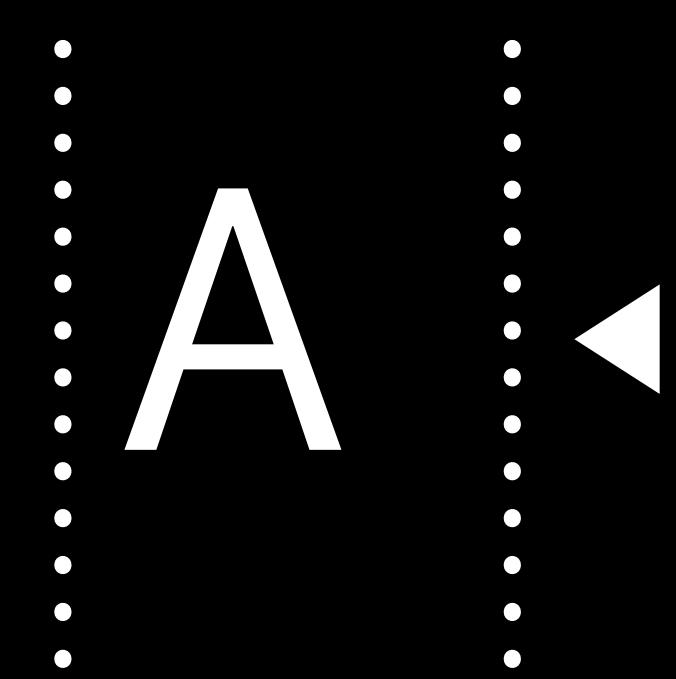


Tracking

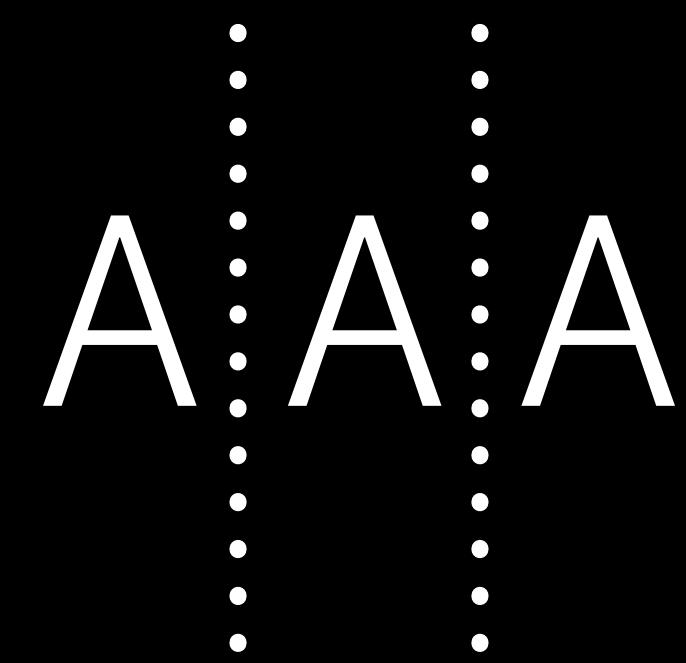


Kerning

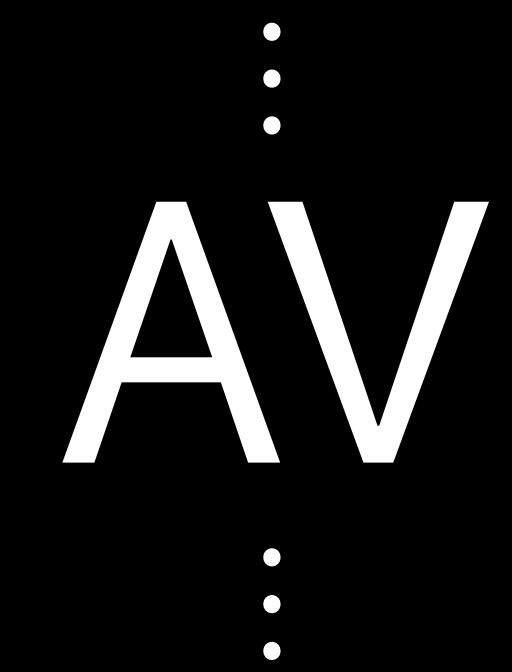




Spacing



Tracking

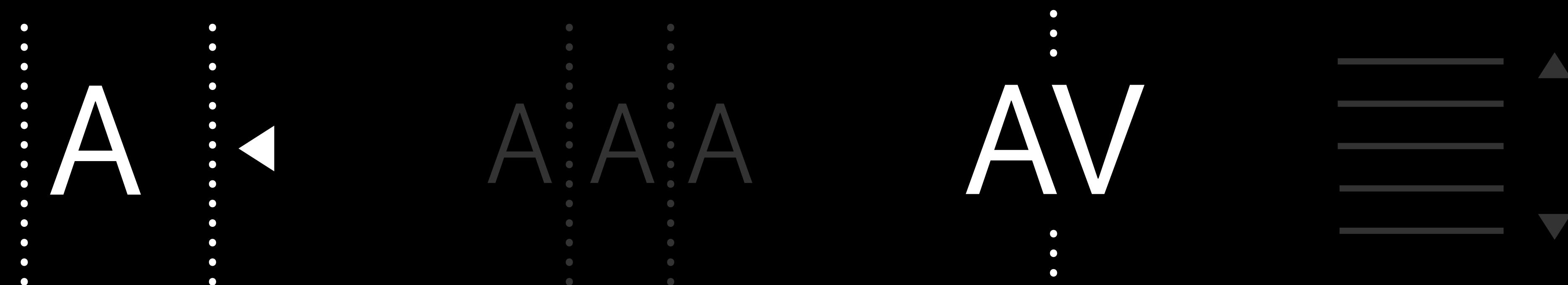


Kerning

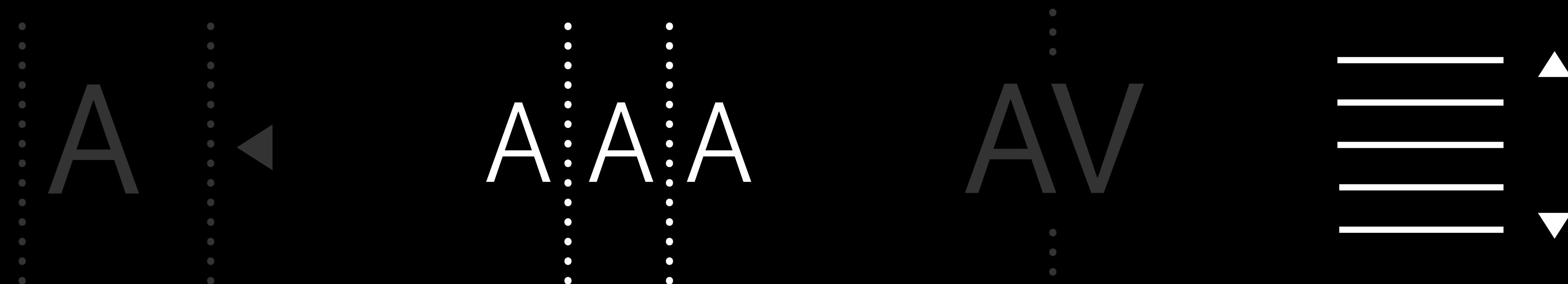


Leading

Embedded in the Font



Adjustable



Concepts

Legibility

Legibility

Designed by Apple in California

Legibility

Designed by Apple in California

Scale in Legibility

Designed by Apple in California

Scale

Designed by Apple in California

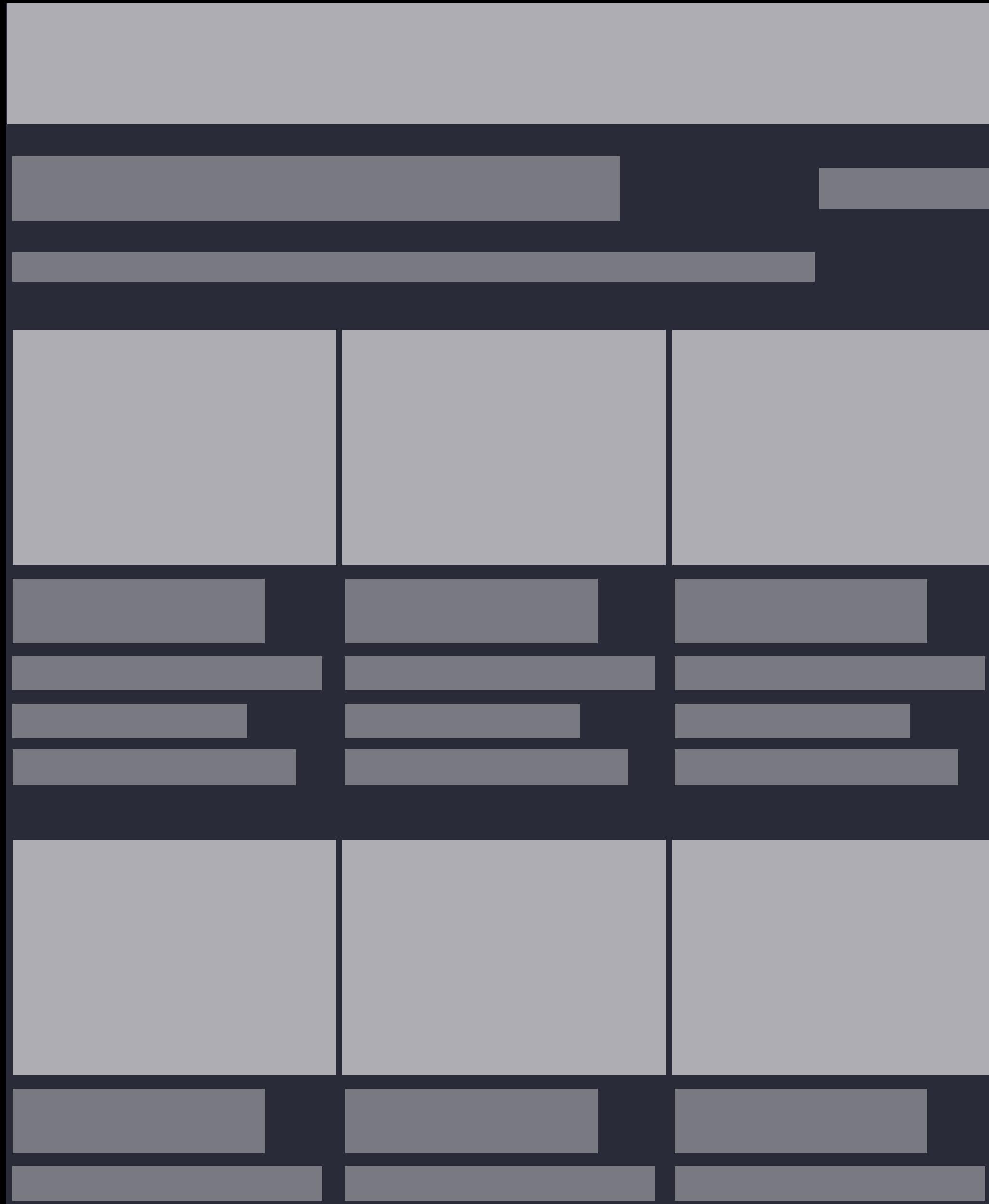
Scale

Designed by Apple in California

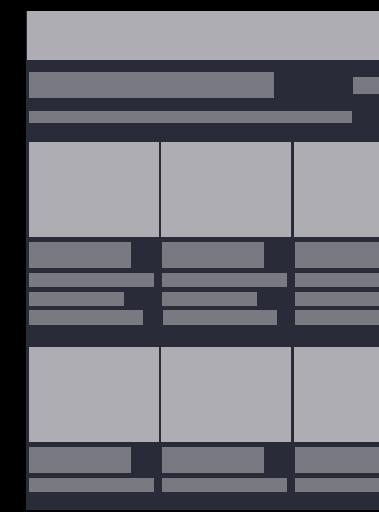
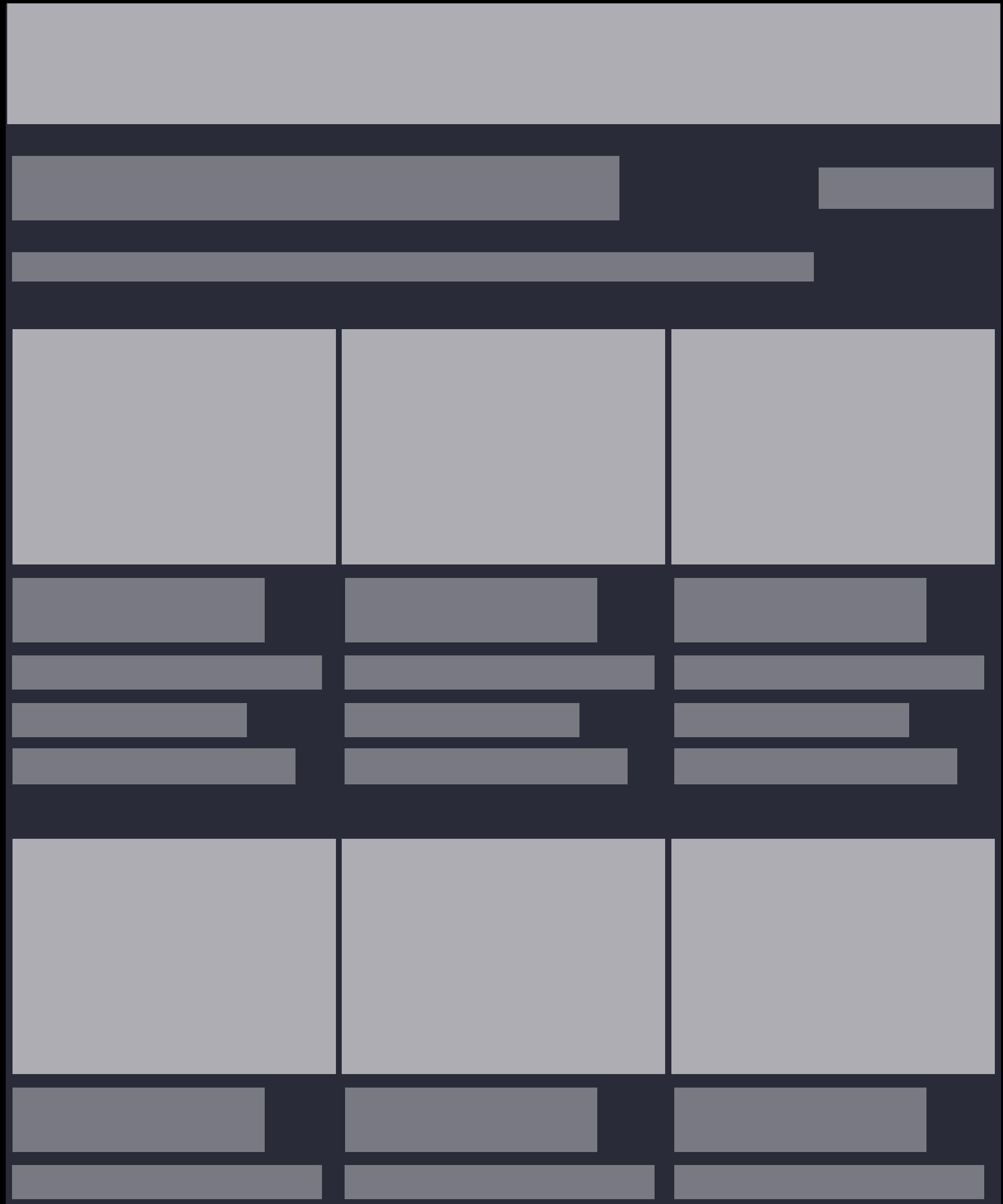
Scale

Designed by Apple in California

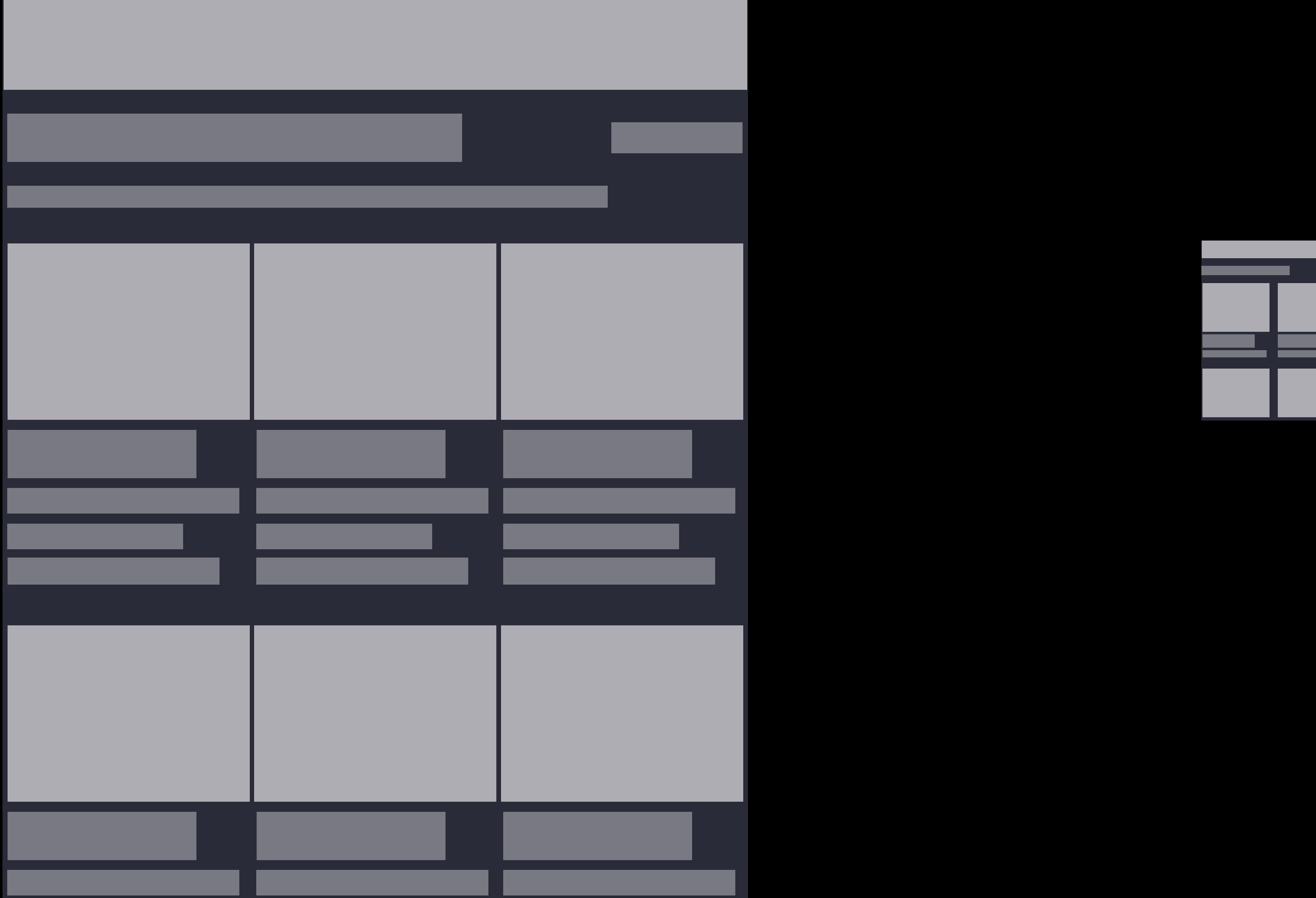
Legibility in Layout



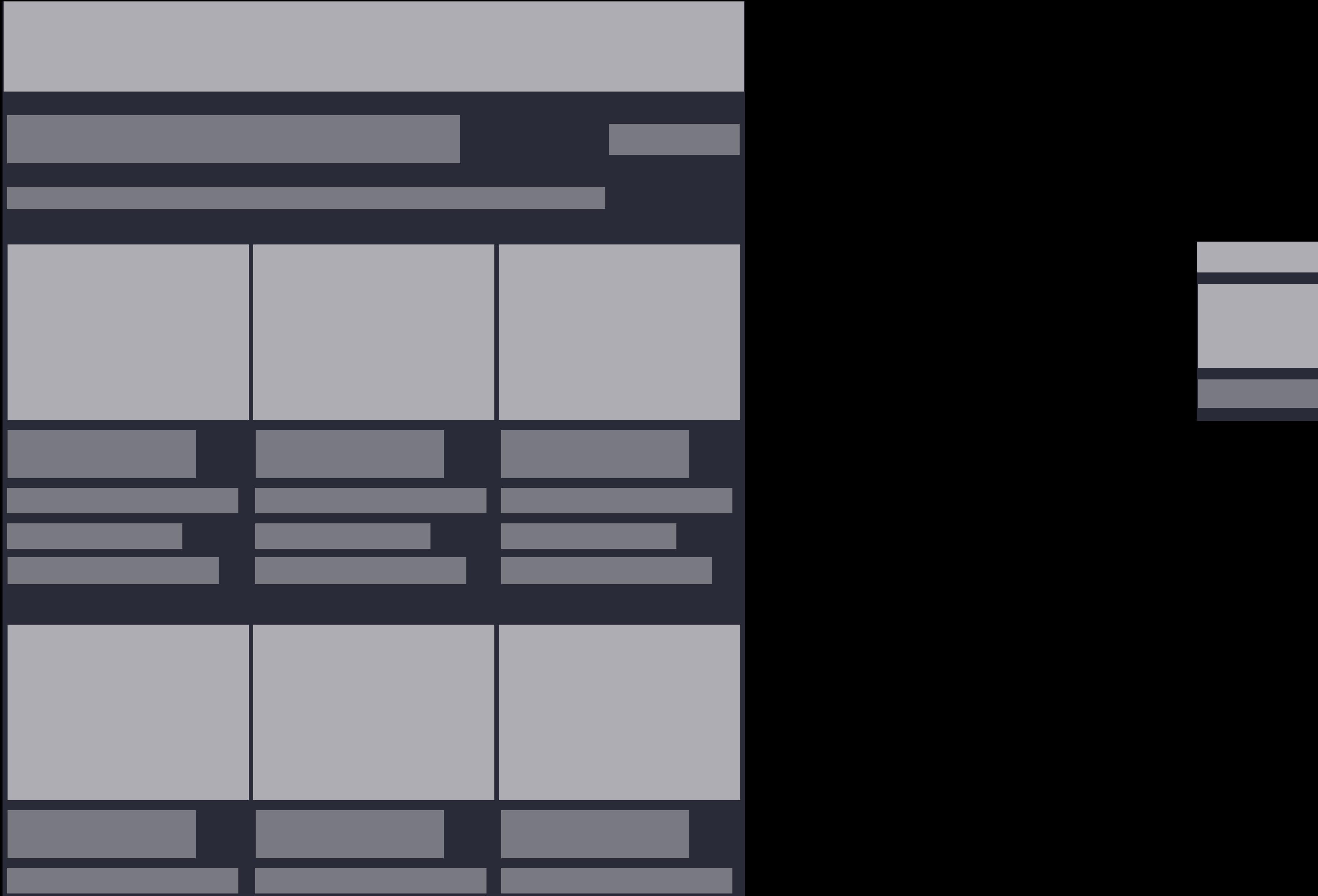
Legibility in Layout



Density



Density



Layout

Iterative UI Design

Presidio

Friday 10:00AM

Scale and Density in Glyph Design

@

abccd

ab@acid

@ @

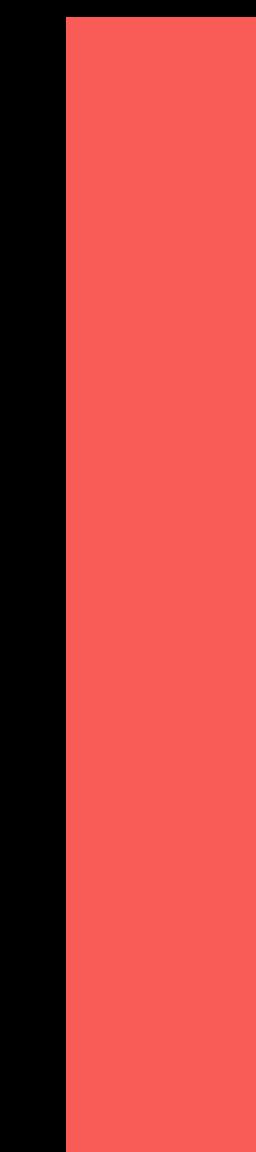
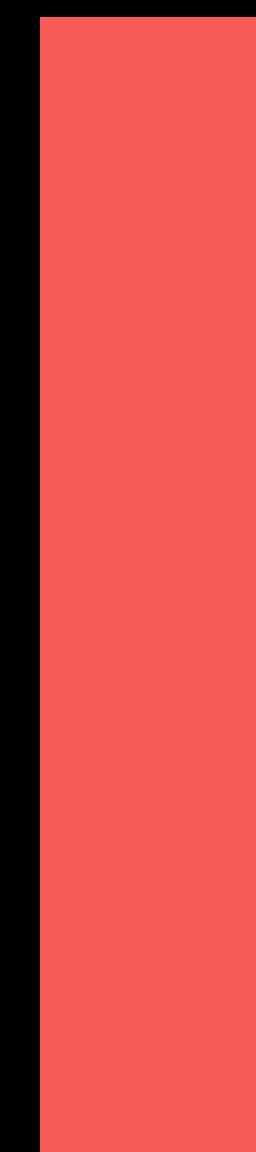
@ @

a 0

HMN

HMIN

HIMINI



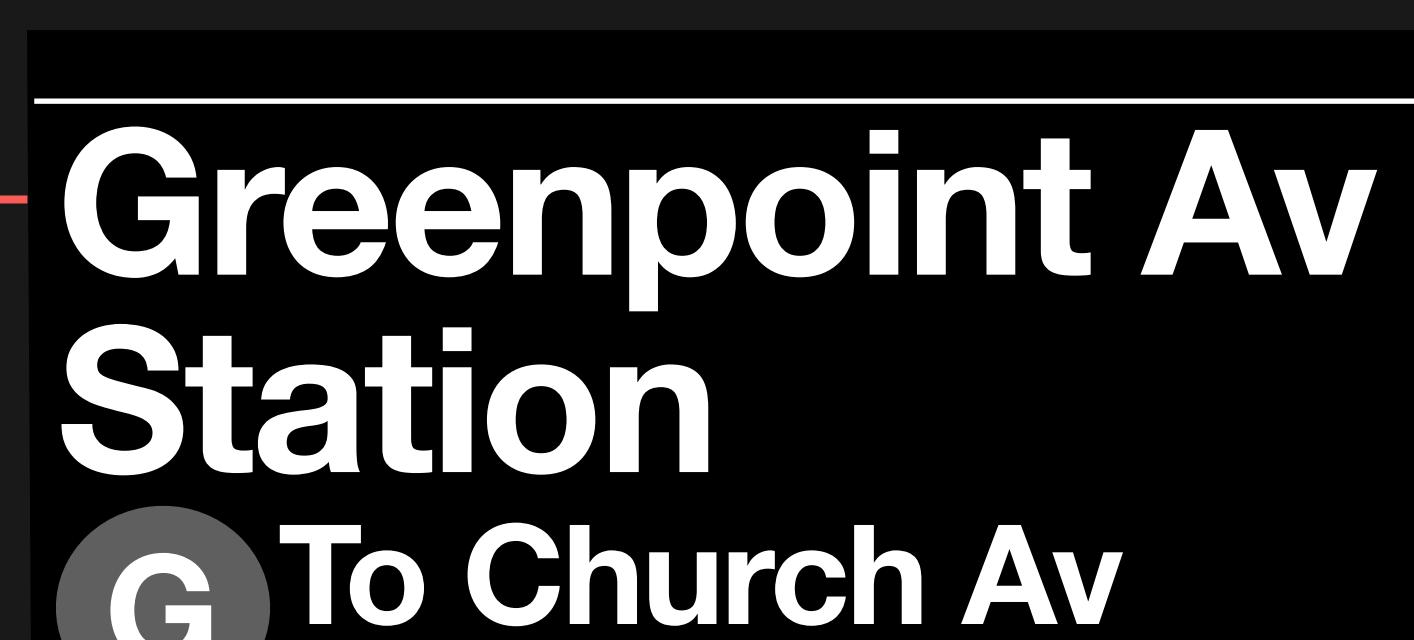




**Greenpoint Av
Station
G To Church Av**

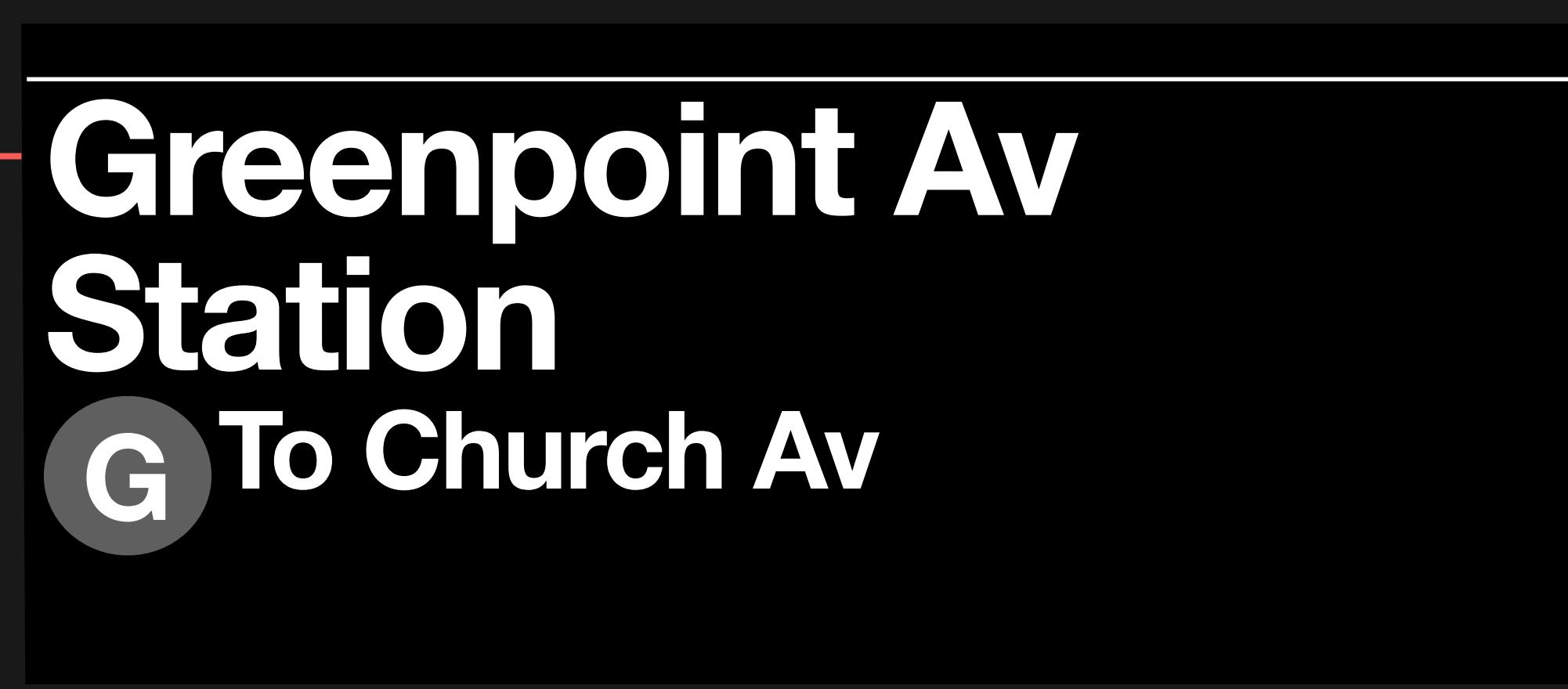
Voice

Helvetica



Voice

Helvetica Neue
Bold



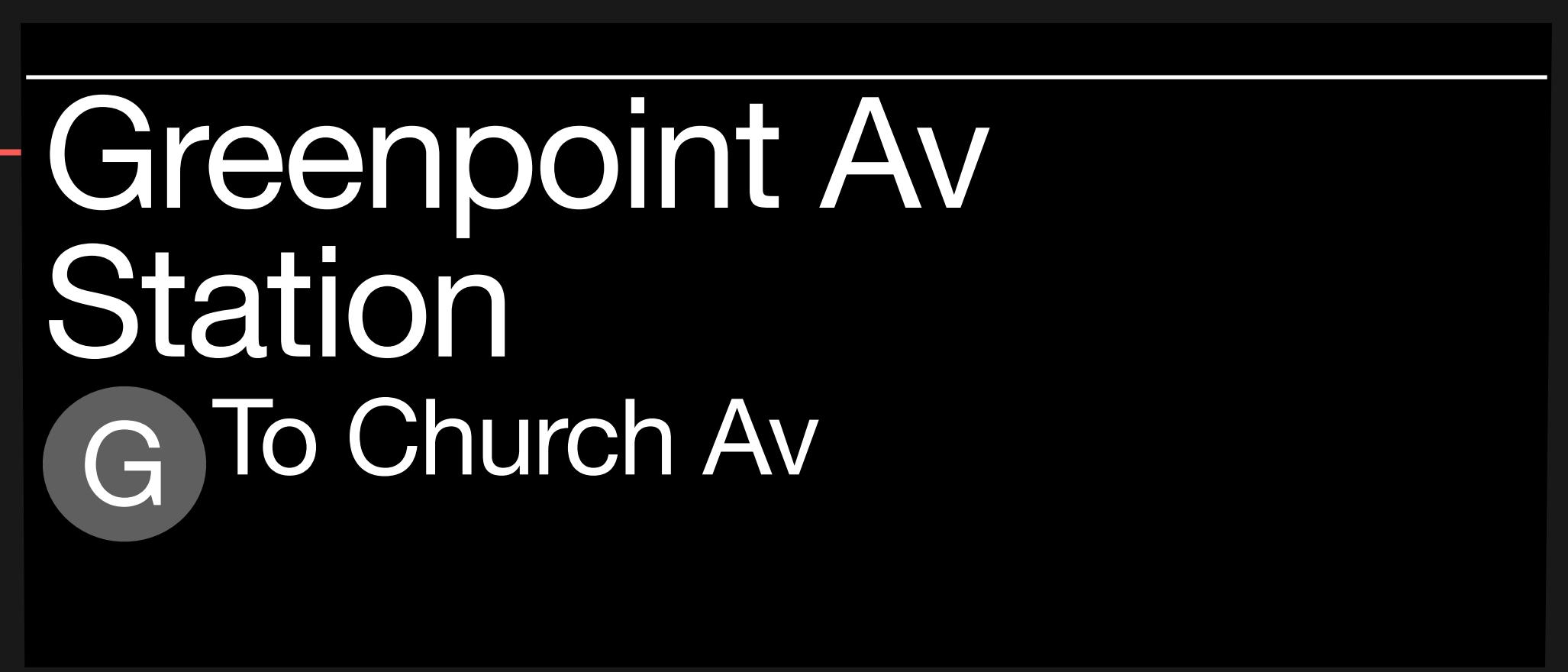
Voice

Helvetica Neue
Thin

Greenpoint Av
Station
G To Church Av

Voice

Helvetica Neue
Regular



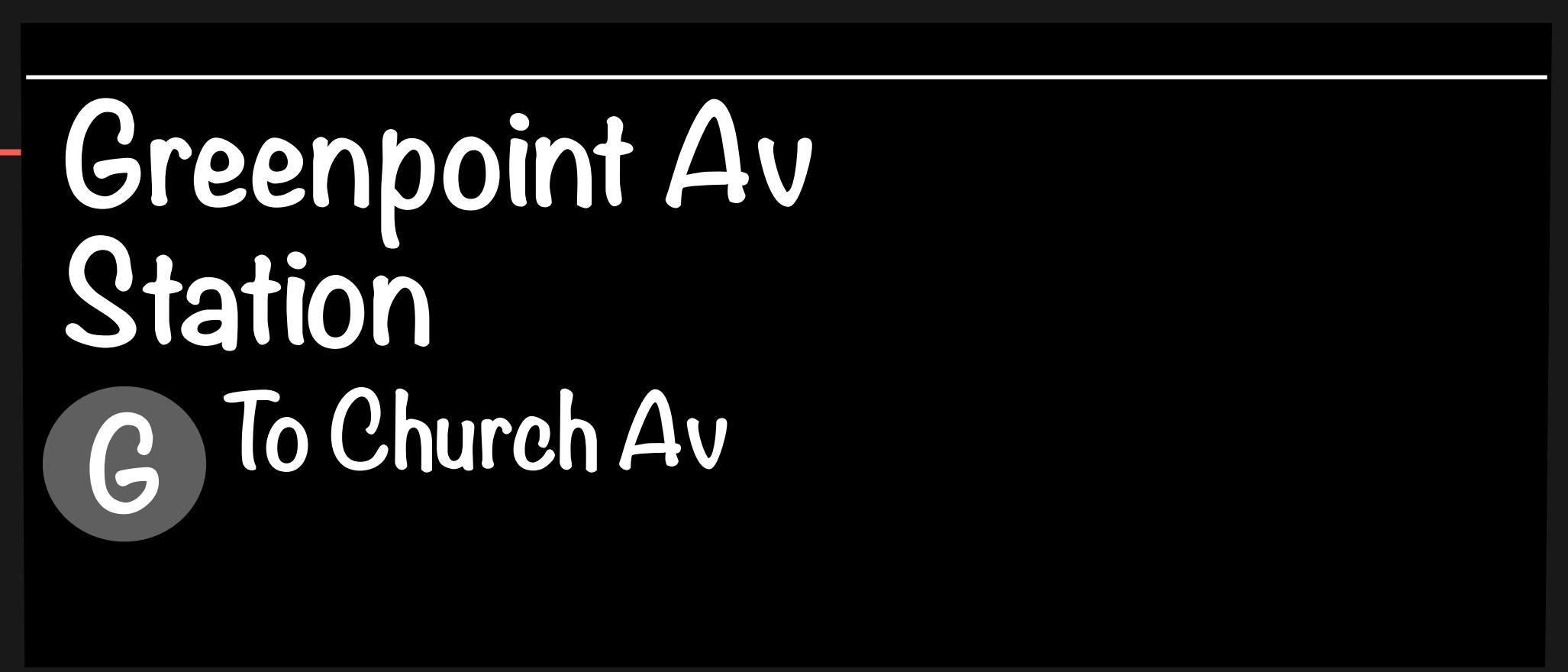
Voice

Helvetica Neue
Condensed
Extrabold



Voice

Noteworthy



Voice

Bodoni



Concepts

Legibility

Scale

Density

Voice

Tools

Available Tools

System Font

Dynamic Type

Custom Fonts

System Font

Native to the platform

System Font APIs

```
NSFont.systemFont(ofSize: 14)
```

```
UIFont.systemFont(ofSize: 14)
```

```
NSFont.systemFont(ofSize: 19, weight: NSFontWeightSemibold)
```

```
UIFont.systemFont(ofSize: 34, weight: UIFontWeightBlack)
```

Weights

ABCDEFGHIJKLM NOPQRSTUVWXYZ abcdefghijklmnopqrstuvwxyz 0123456789

Size-Specific Tracking

40pt

10T

abcdefghijklmnopqrstuvwxyz

30pt

11T

abcdefghijklmnopqrstuvwxyz

20pt

19T

abcdefghijklmnopqrstuvwxyz

19pt

-25T

abcdefghijklmnopqrstuvwxyz

18pt

-24T

abcdefghijklmnopqrstuvwxyz

17pt

-24T

abcdefghijklmnopqrstuvwxyz

16pt

-20T

abcdefghijklmnopqrstuvwxyz

Size-Specific Outlines



Bold Text Switch

••••• ⌘ 9:41 AM 100% 🔋

< Settings Display & Brightness

BRIGHTNESS



Auto-Brightness



Night Shift

Off >

Text Size



Bold Text



DISPLAY ZOOM

View

Standard >

Choose a view for iPhone. Zoomed shows larger controls. Standard shows more content.

••••• ⌘ 9:41 AM 100% 🔋

< Settings Display & Brightness

BRIGHTNESS



Auto-Brightness



Night Shift

Off >

Text Size



Bold Text

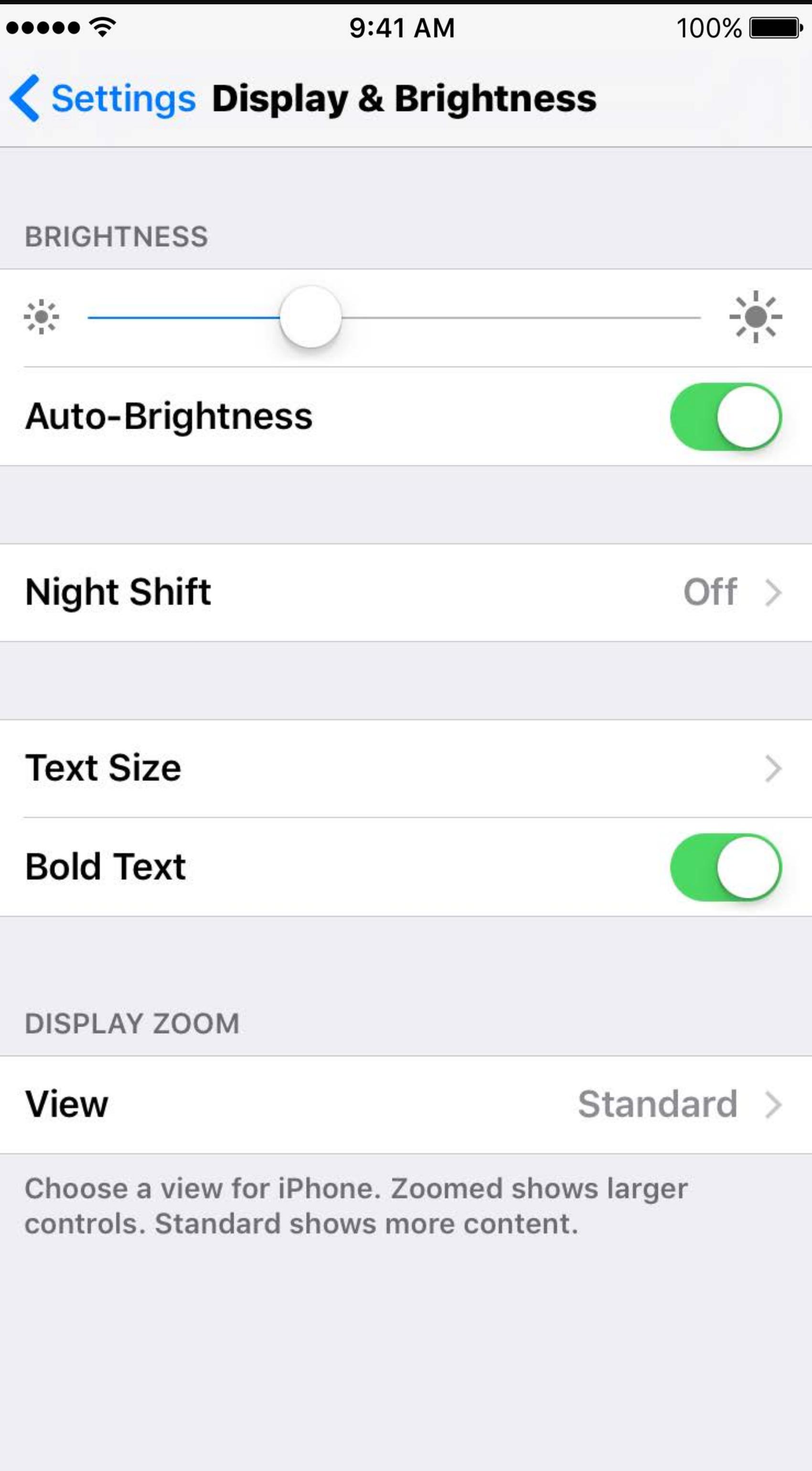


DISPLAY ZOOM

View

Standard >

Choose a view for iPhone. Zoomed shows larger controls. Standard shows more content.



Dynamic Type

iOS

watchOS

Dynamic Type

Text Styles: UIFont.preferredFont(forTextStyle:)

Content Size Categories



9:41 AM

100%

Display & Brightness Text Size

Apps that support Dynamic Type will
adjust to your preferred reading size
below.

Drag the slider below





9:41 AM

100%

[Display & Brightness](#) Text Size

Apps that support Dynamic Type will adjust
to your preferred reading size below.

Drag the slider below





9:41 AM

100%

< Display & Brightness Text Size

Apps that support Dynamic Type will adjust to your preferred reading size below.

Drag the slider below





9:41 AM

100%

[Display & Brightness](#) Text Size

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Drag the slider below





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Display & Brightness Text Size

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adjust to your preferred reading size
below.

Drag the slider below





9:41 AM

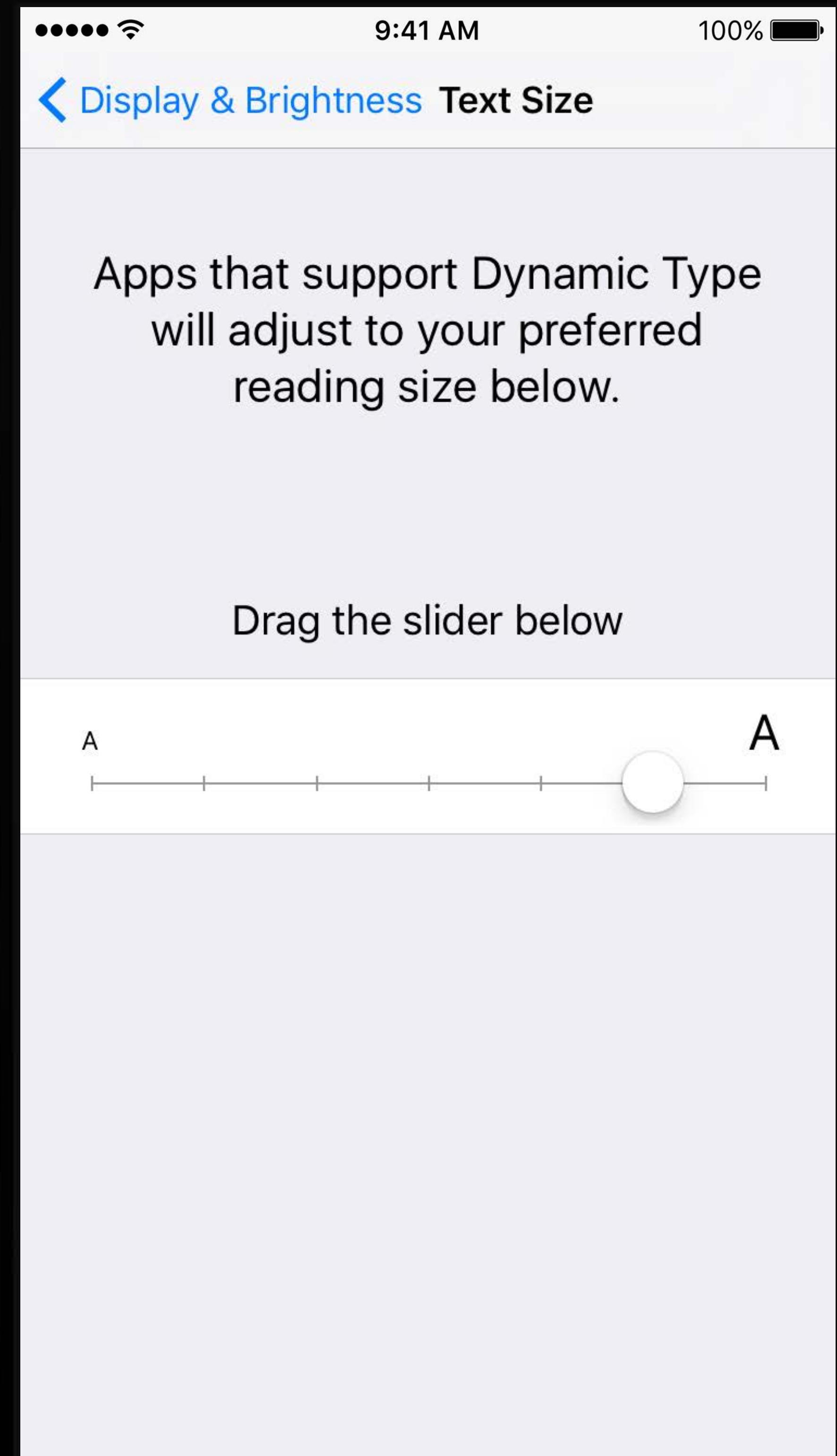
100%

[Display & Brightness](#) Text Size

Apps that support Dynamic Type will
adjust to your preferred reading size
below.

Drag the slider below





Dynamic Type

With Text Styles APIs, Dynamic Type support is automatic

Custom Fonts

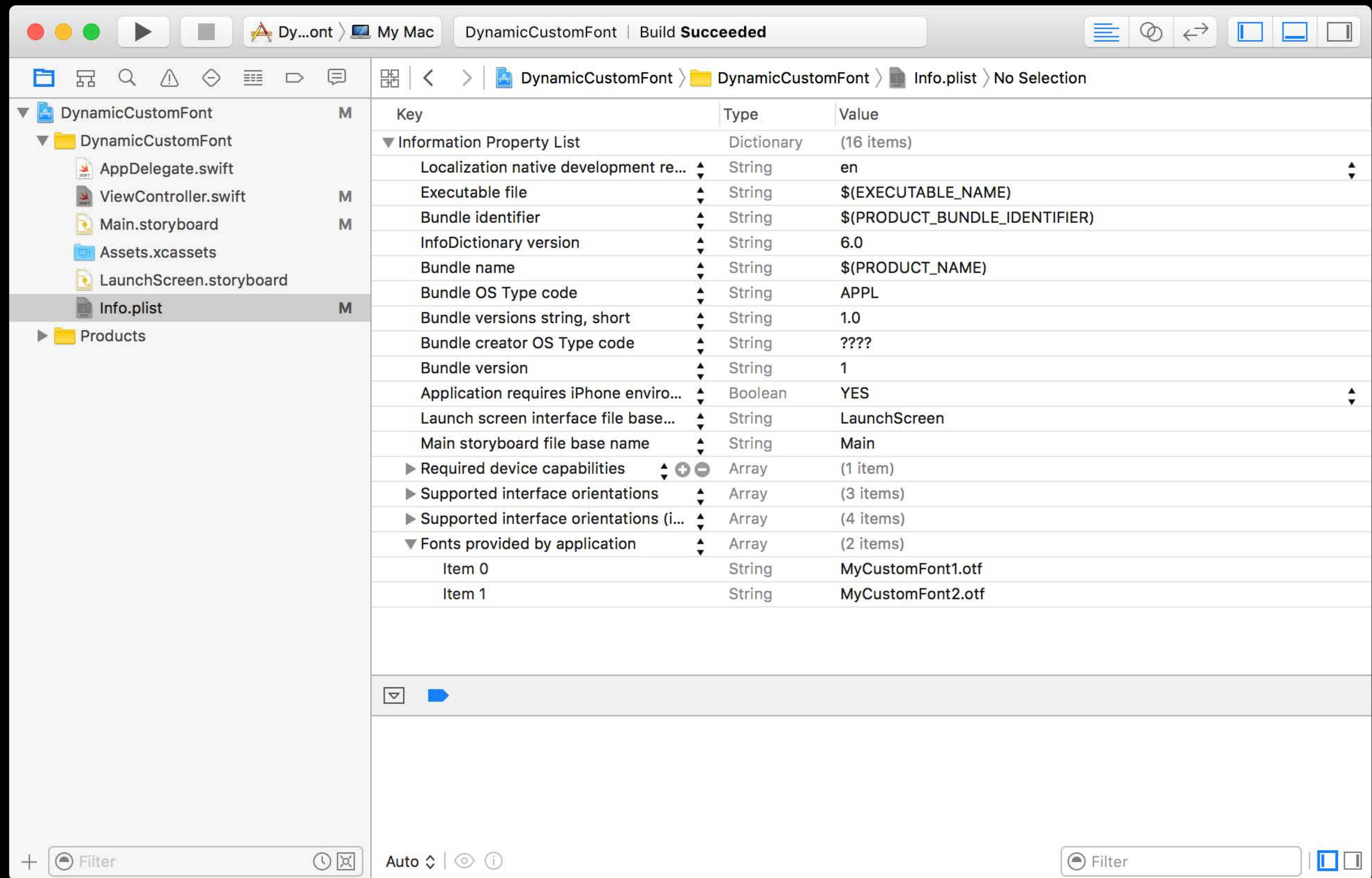
How to make them work with Dynamic Type

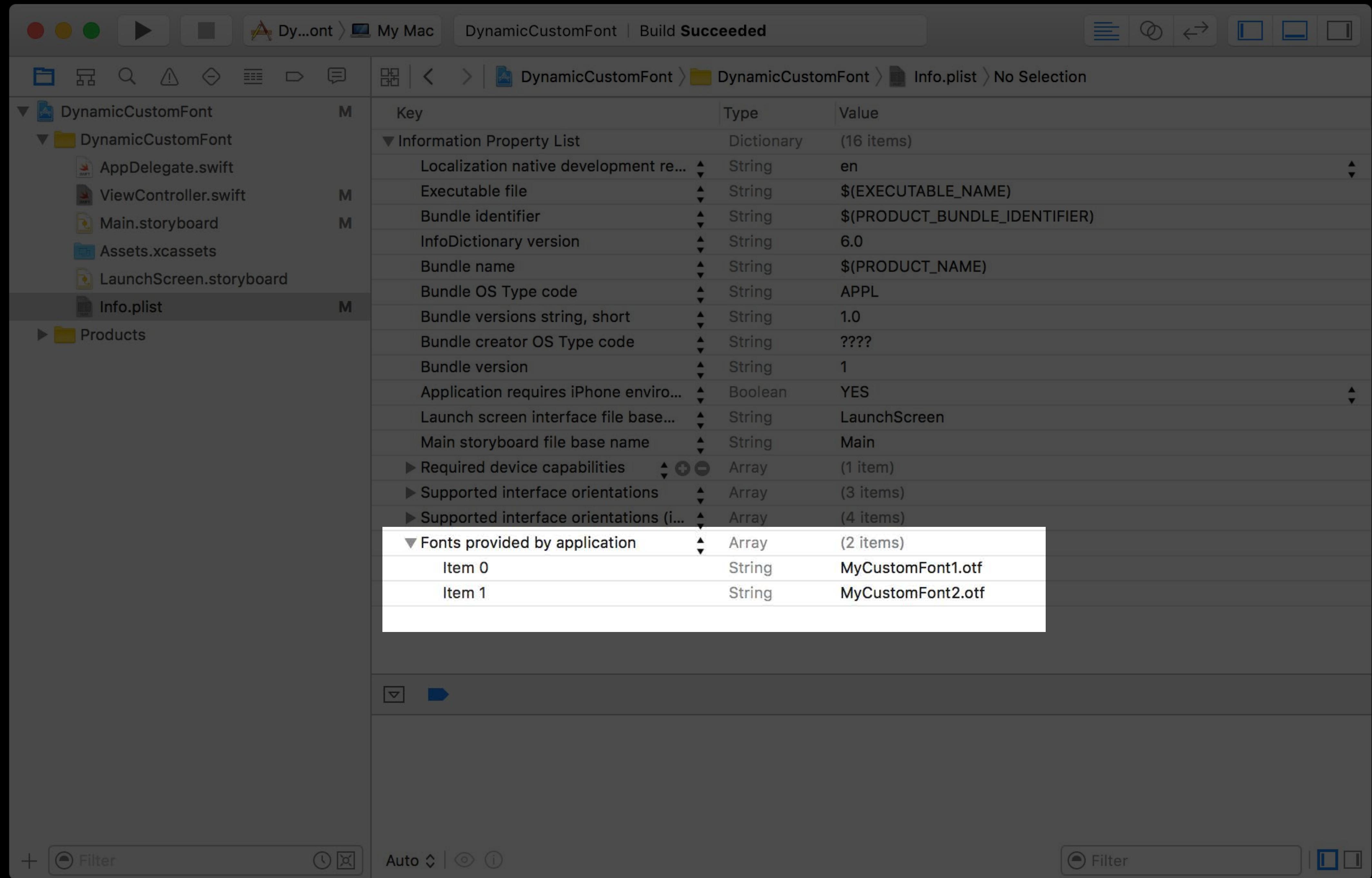
1. Pick or bundle a font
2. Lookup table for the Content Size Categories
3. Override `traitCollectionDidChange`
4. Update your fonts and paragraph style
5. Relayout

Custom Fonts

How to make them work with Dynamic Type

1. Pick or bundle a font
2. Lookup table for the Content Size Categories
3. Override `traitCollectionDidChange`
4. Update your fonts and paragraph style
5. Relayout





Custom Fonts

How to make them work with Dynamic Type

1. Pick or bundle a font
2. Lookup table for the Content Size Categories
3. Override `traitCollectionDidChange`
4. Update your fonts and paragraph style
5. Relayout

```
let customDynamicType: [String: (pointSize: CGFloat, styleName: String,  
                                 leading: CGFloat, tracking: CGFloat)] = [  
    UIContentSizeCategoryExtraSmall: (10.0, "Heavy", 3.0, 0.6),  
    UIContentSizeCategorySmall: (12.0, "Heavy", 2.0, 0.4),  
    UIContentSizeCategoryMedium: (14.0, "Roman", 1.0, 0.2),  
    UIContentSizeCategoryLarge: (16.0, "Roman", 0.0, 0.0),  
    UIContentSizeCategoryUnspecified: (16.0, "Roman", 0.0, 0.0),  
    UIContentSizeCategoryExtraLarge: (17.0, "Roman", 0.0, 0.0),  
    UIContentSizeCategoryExtraExtraLarge: (18.0, "Light", -1.0, 0.0),  
    UIContentSizeCategoryExtraExtraExtraLarge: (19.0, "Light", -2.0, -0.1),  
    UIContentSizeCategoryAccessibilityMedium: (20.0, "Light", -3.0, -0.2),  
    UIContentSizeCategoryAccessibilityLarge: (21.0, "Light", -4.0, -0.2),  
    UIContentSizeCategoryAccessibilityExtraLarge: (22.0, "Light", -4.0, -0.2),  
    UIContentSizeCategoryAccessibilityExtraExtraLarge: (23.0, "Light", -4.0, -0.2),  
    UIContentSizeCategoryAccessibilityExtraExtraExtraLarge: (24.0, "Light", -4.0, -0.2),  
]
```

Custom Fonts

How to make them work with Dynamic Type

1. Pick or bundle a font
2. Lookup table for the Content Size Categories
3. Override `traitCollectionDidChange`
4. Update your fonts and paragraph style
5. Relayout

```
override func traitCollectionDidChange(_ previousTraitCollection: UITraitCollection?) {  
    self.adjustFont(usedBy: self.label)  
}
```

Custom Fonts

How to make them work with Dynamic Type

1. Pick or bundle a font
2. Lookup table for the Content Size Categories
3. Override `traitCollectionDidChange`
4. Update your fonts and paragraph style
5. Relayout

```
func adjustFont(usedBy: UILabel) {  
    let sizeCategory = self.traitCollection.preferredContentSizeCategory  
    if let customFontForSizeCategory = self.customDynamicType[sizeCategory] {  
        // ... actually adjust the fonts here ...  
    }  
}
```

```
func adjustFont(usedBy: UILabel) {  
    let sizeCategory = self.traitCollection.preferredContentSizeCategory  
    if let customFontForSizeCategory = self.customDynamicType[sizeCategory] {  
        // ... actually adjust the fonts here ...  
    }  
}
```

Custom Fonts

How to make them work with Dynamic Type

1. Pick or bundle a font
2. Lookup table for the Content Size Categories
3. Override `traitCollectionDidChange`
4. Update your fonts and paragraph style
5. Relayout

Auditing Your Apps for Accessibility

Nob Hill

Wednesday 10:00AM

Making Apps Adaptive, Part 2

Presidio

Friday 9:00AM

Font Selection

Easier sticking with one typeface at a time

Understanding design intention helps in usage

Consider defaults and knobs you can turn

Tools

System Font

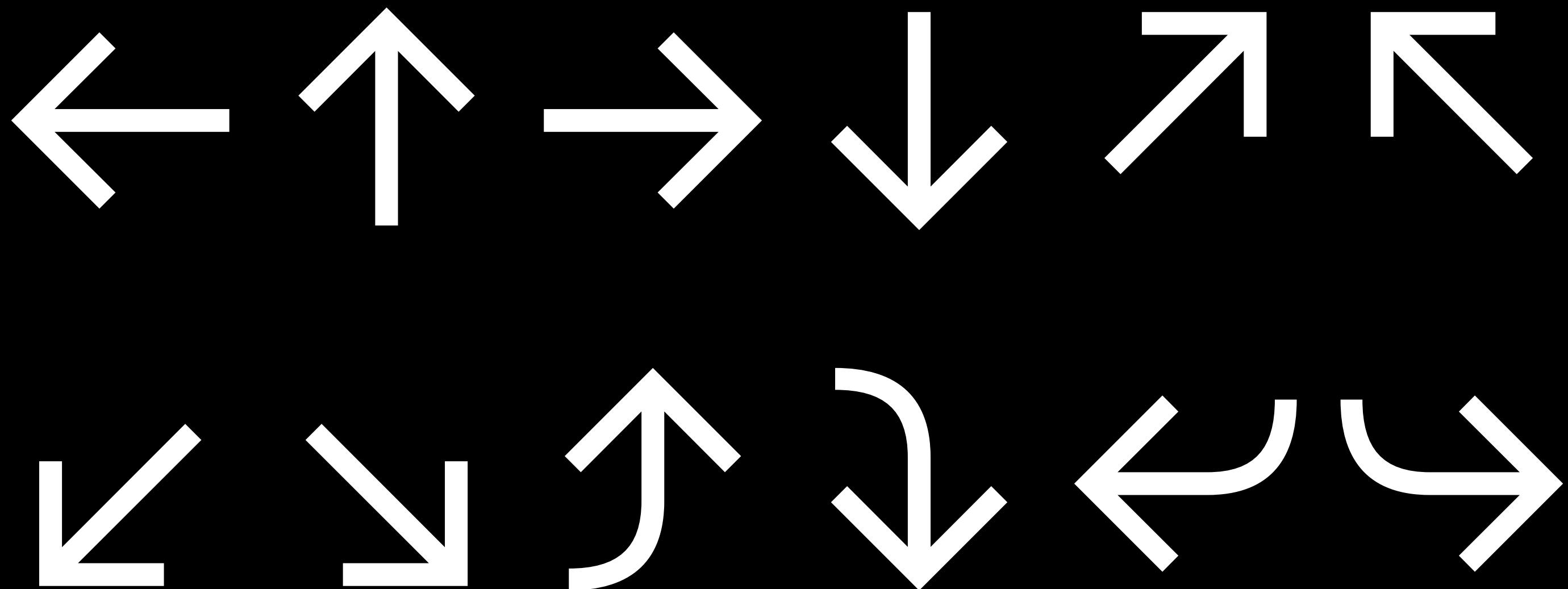
Dynamic Type

Custom Fonts

Details

Arrows

NEW







←

U+2190

↖

U+2199

↑

U+2191

↘

U+2198

→

U+2192

↗

U+2934

↓

U+2193

↙

U+2935

↗

U+2197

↖

U+2936

↘

U+2198

↗

U+2937

The image consists of a 10x10 grid of white arrows on a black background. Each arrow is a thin line pointing in one of four directions: up, down, left, or right. The arrows are arranged in a repeating pattern that creates a visual effect of rotation. Starting from the top-left corner, the first row contains arrows pointing up, right, down, and left. Each subsequent row is rotated 90 degrees clockwise relative to the previous one. For example, the second row starts with an up arrow and ends with a right arrow. By the tenth row, the pattern has completed a full cycle, returning to the original sequence of up, right, down, and left.

High-Legibility Alternates

NEW

High-Legibility Alternates

m1llionaire68

High-Legibility Alternates

m1llionare68

m1ll

High-Legibility Alternates

m1llionare68

m1llioñ

High-Legibility Alternates

m1llionare68

m1Ii0nal

High-Legibility Alternates

m1llionare68

m1llionare6

High-Legibility Alternates

m1llionare68

m1Ii0nalre68

```
let pointSize: CGFloat = 60.0

let systemFontDesc = UIFont.systemFont(
    ofSize: pointSize, weight: UIFontWeightLight).fontDescriptor()

let highLegibilityFontDesc = systemFontDesc.addingAttributes(
    [
        UIFontDescriptorFeatureSettingsAttribute:
        [
            [
                UIFontFeatureTypeIdentifierKey: kStylisticAlternativesType,
                UIFontFeatureSelectorIdentifierKey: kStylisticAltSixOnSelector,
            ],
        ]
    ]
)

label.font = UIFont(descriptor: highLegibilityFontDesc, size: pointSize)
```

```
let pointSize: CGFloat = 60.0

let systemFontDesc = UIFont.systemFont(
    ofSize: pointSize, weight: UIFontWeightLight).fontDescriptor()

let highLegibilityFontDesc = systemFontDesc.addingAttributes(
    [
        UIFontDescriptorFeatureSettingsAttribute:
        [
            UIFontFeatureTypeIdentifierKey: kStylisticAlternativesType,
            UIFontFeatureSelectorIdentifierKey: kStylisticAltSixOnSelector,
        ],
    ]
)

label.font = UIFont(descriptor: highLegibilityFontDesc, size: pointSize)
```

Small Caps

Small Caps

ABC

Small Caps

ABC

abc

Small Caps

ABC

ABC

abc

Small Caps

ABC

ABC

abc

Small Caps

This HTML page

Small Caps

This HTML page



This HTML page

Small Caps

This HTML page



This HTML page

12AM

Small Caps

This HTML page



This HTML page

12AM



12AM

Shaun the Sheep Movie

 99%  5+ 1 hr 26 min Comedy 2015 **PG**  

DIRECTOR
Mark Burton
Richard Starzak

STARRING
Justin Fletcher
John Sparkes
Omid Djalili
Richard Webber
Kate Harbour
Tim Hands



\$14.99



11/24

Preview

Buy

With iTunes Extras

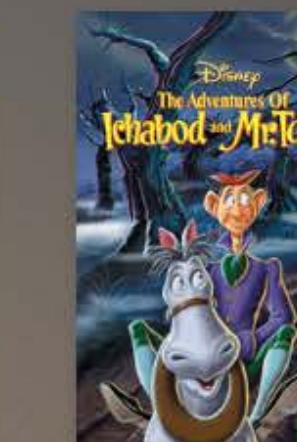
Wish List

Available To
Rent

When Shaun decides to take a day off and have some fun, he gets a little more than he bargained for! Shaun's mischief inadvertently leads to The Farmer being taken away from the farm, to the Big City... Join Shaun, Bitzer, and The Flock on their hilarious, action-packed, big-screen adventure... [MORE](#)



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Shaun the Sheep Movie

DIRECTOR

Mark Burton
Richard Starzak

STARRING

Justin Fletcher
John Sparkes
Omid Djalili
Richard Webber
Kate Harbour
Tim Hands

99% 5+ 1 hr 26 min Comedy 2015 PG CC HD

When Shaun decides to take a day off and have some fun, he gets a little more than he bargained for! Shaun's mischief inadvertently leads to The Farmer being taken away from the farm, to the Big City... Join Shaun, Bitzer, and The Flock on their hilarious, action-packed, big-screen adventure... [MORE](#)



Preview



\$14.99
With iTunes Extras



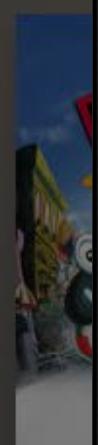
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11/24
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John Sparkes
Omid Djalili
Richard Webber

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Small Caps from Uppercase

SAN FRANCISCO

San Francisco

san francisco

Small Caps from Uppercase

SAN FRANCISCO

SAN FRANCISCO

San Francisco

san francisco

Small Caps from Uppercase

SAN FRANCISCO

SAN FRANCISCO

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Small Caps from Uppercase

SAN FRANCISCO

SAN FRANCISCO

San Francisco

san Francisco

san francisco

san francisco



```
let pointSize: CGFloat = 60.0

let systemFontDesc = UIFont.systemFont(
    ofSize: pointSize, weight: UIFontWeightLight).fontDescriptor()

let smallCapsFontDesc = systemFontDesc.addingAttributes(
    [
        UIFontDescriptorFeatureSettingsAttribute:
        [
            UIFontFeatureTypeIdentifierKey: kUpperCaseType,
            UIFontFeatureSelectorIdentifierKey: kUpperCaseSmallCapsSelector,
        ],
    ]
)

label.font = UIFont(descriptor: smallCapsFontDesc, size: pointSize)
```

Small Caps from Lowercase

SAN FRANCISCO

San Francisco

san francisco

Small Caps from Lowercase

SAN FRANCISCO

SAN FRANCISCO

San Francisco

san francisco

Small Caps from Lowercase

SAN FRANCISCO

SAN FRANCISCO

San Francisco

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Small Caps from Lowercase

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Small Caps from Lowercase

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Small Caps from Lowercase

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SAN FRANCISCO



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let pointSize: CGFloat = 60.0

let systemFontDesc = UIFont.systemFont(
    ofSize: pointSize, weight: UIFontWeightLight).fontDescriptor()

let smallCapsFontDesc = systemFontDesc.addingAttributes(
    [
        UIFontDescriptorFeatureSettingsAttribute:
        [
            UIFontFeatureTypeIdentifierKey: kLowerCaseType,
            UIFontFeatureSelectorIdentifierKey: kLowerCaseSmallCapsSelector,
        ],
    ]
)

label.font = UIFont(descriptor: smallCapsFontDesc, size: pointSize)
```

```
let pointSize: CGFloat = 60.0

let systemFontDesc = UIFont.systemFont(
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        [
            [
                UIFontFeatureTypeIdentifierKey: kLowerCaseType,
                UIFontFeatureSelectorIdentifierKey: kLowerCaseSmallCapsSelector,
            ],
            [
                UIFontFeatureTypeIdentifierKey: kUpperCaseType,
                UIFontFeatureSelectorIdentifierKey: kUpperCaseSmallCapsSelector,
            ],
        ],
    ]
)

label.font = UIFont(descriptor: smallCapsFontDesc, size: pointSize)
```

Small Caps Numbers and Punctuation

01234567890

Small Caps Numbers and Punctuation

01234567890



01234567890

Small Caps Numbers and Punctuation

01234567890



01234567890

HAPPY 2016!

Small Caps Numbers and Punctuation

01234567890



01234567890

HAPPY 2016!



HAPPY 2016!

Details

Arrows

High-legibility alternates

Small caps

Summary

Summary

San Francisco

Terminology

Concepts

Tools

Details

More Information

<https://developer.apple.com/wwdc16/803>

Related Sessions

Auditing Your Apps for Accessibility

Nob Hill

Wednesday 10:00AM

Making Apps Adaptive, Part 1

Presidio

Thursday 11:00AM

Making Apps Adaptive, Part 2

Presidio

Friday 9:00AM

Iterative UI Design

Presidio

Friday 10:00AM

What's New in Auto Layout

Presidio

Friday 3:00PM

Related Sessions

Internationalization Best Practices

Mission

Tuesday 9:00AM

Inclusive App Design

Pacific Heights

Tuesday 10:00AM

Labs

Text and Fonts Lab

Frameworks
Lab B

Thursday 2:00PM

Interface Builder and Auto Layout Lab

Developer Tools
Lab B

Thursday 3:00PM

Interface Builder and Auto Layout Lab

Developer Tools
Lab C

Friday 9:00AM

Internationalization Lab

Frameworks
Lab C

Friday 2:00PM



W W D C 16