

# MOBILE DEVELOPMENT LESSON 01 - MOBILE INTERFACES

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## **MOBILE INTERFACES**

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# **LEARNING OBJECTIVES**

- Review and share your apps. Address any questions
- Review concepts from last class.
- Learn to draw and read system diagrams.
- Learn the logistics of our course's homework submission process with Github.
- Explain the principles of mobile design.

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**REVIEW: YOUR APPS**

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**REVIEW YOUR APPS**

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**MOBILE INTERFACES**

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# REVIEW: DEV WORKFLOW

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## **REVIEW: DEV WORKFLOW**

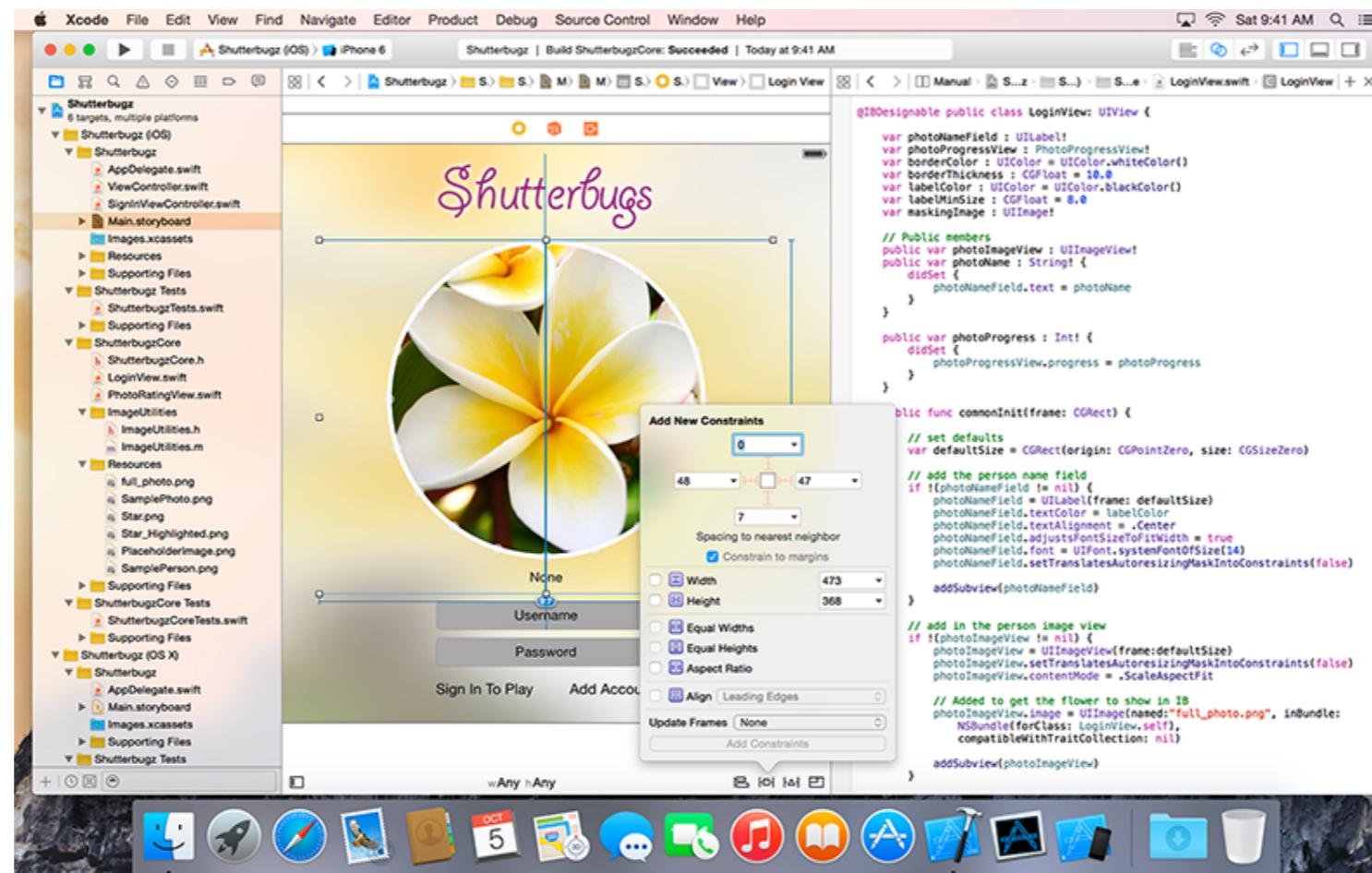
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# **DEV WORKFLOW OVERVIEW**

- Run Xcode
- Create new project
- Briefly discuss the different project templates
- Add user interface elements to project
- Change user interface element properties
- Build / run the app
- Iterate
- Post to Github when done

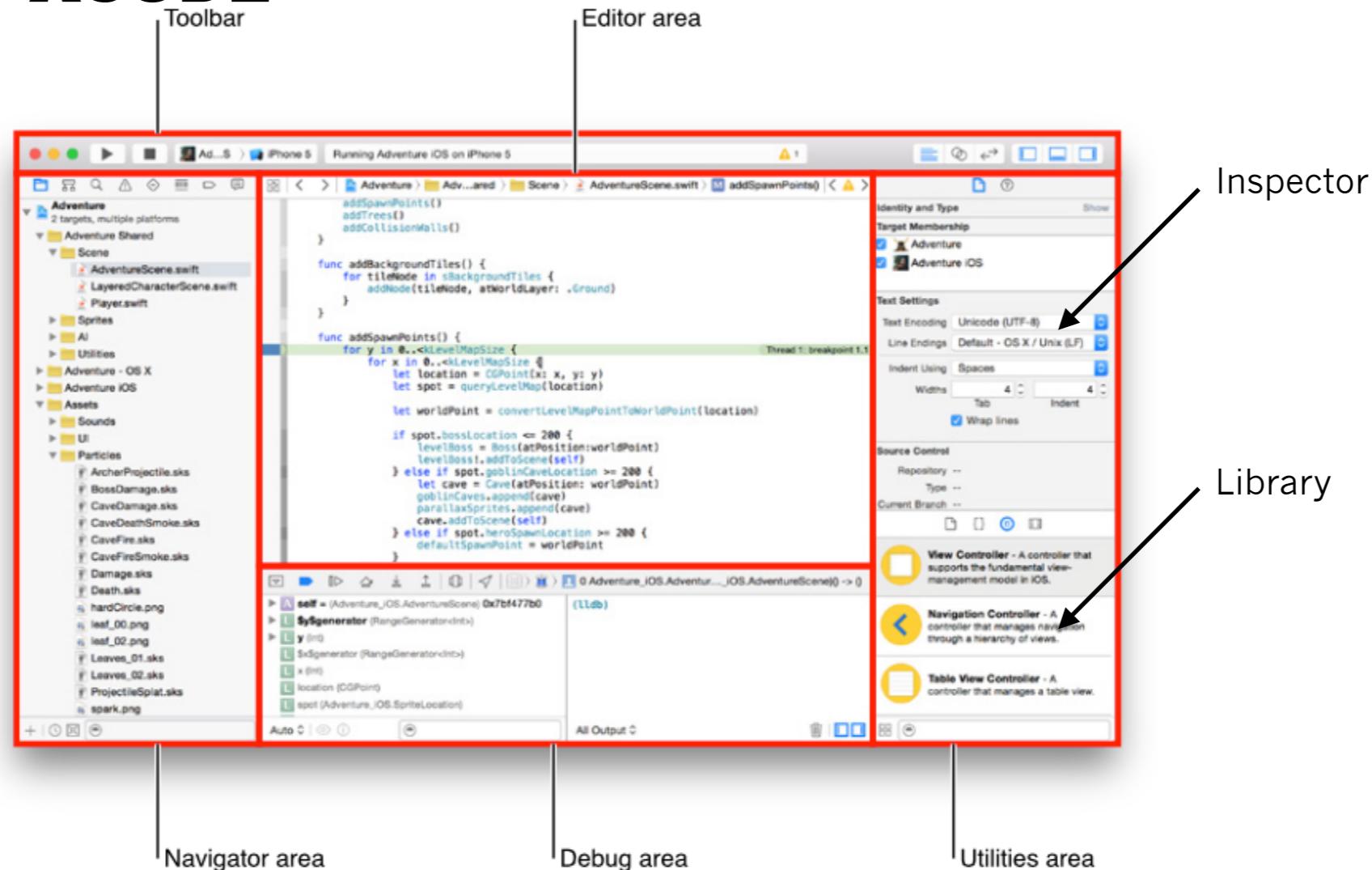
# REVIEW: DEV WORKFLOW

## WHAT IS XCODE?



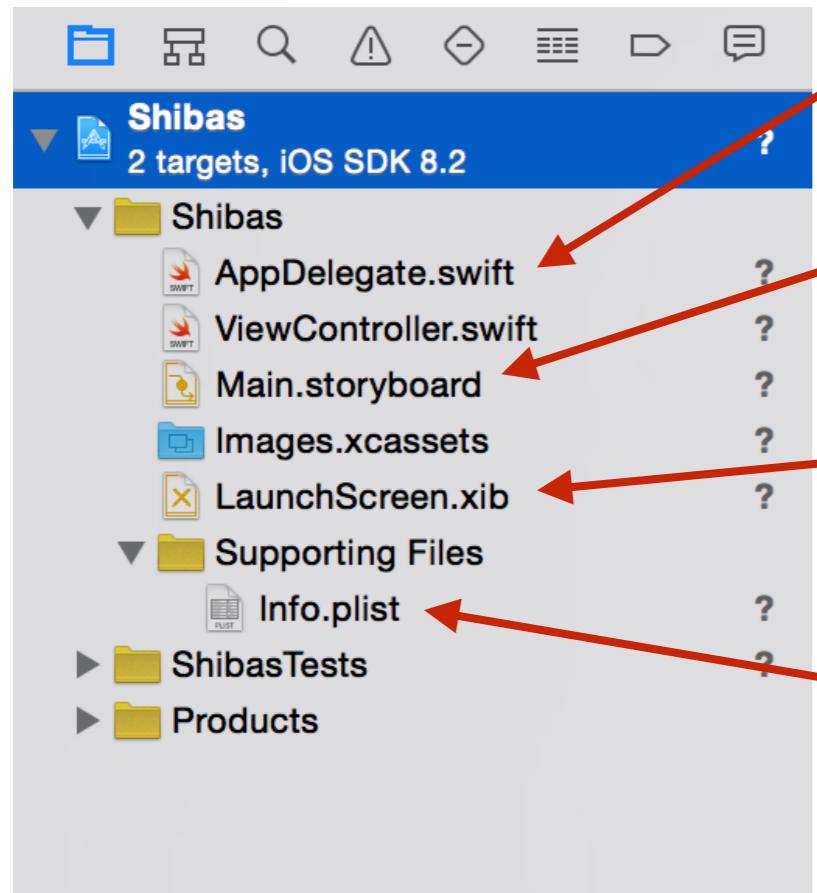
# REVIEW: DEV WORKFLOW

## NAVIGATING XCODE



## REVIEW: DEV WORKFLOW

# FILE TYPES



- .swift  
Swift source code file
- .storyboard  
an Interface Builder “Storyboard” file
- .xib  
an Interface Builder “NIB” file
- .plist  
a “property list”

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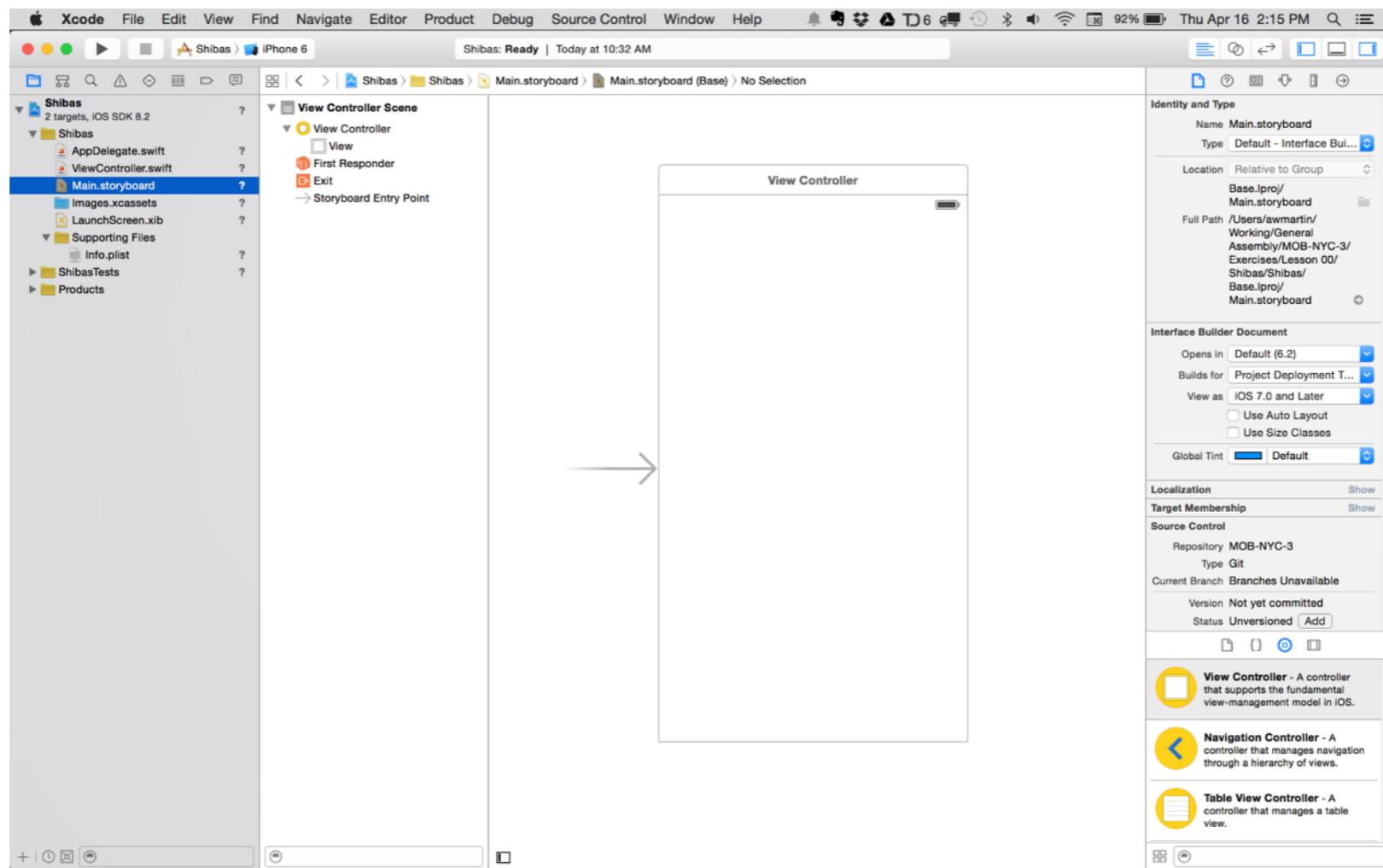
**MOBILE INTERFACES**

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# REVIEW: IB + VIEWS

# REVIEW: IB + VIEWS

# INTERFACE BUILDER



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## **REVIEW: IB + VIEWS**

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# **GETTING VIEWS ON SCREEN**

- To start understanding iOS apps, we'll first tackle 'views' on the screen
- Almost everything we see on screen is a **view**.
- There are lots of kinds of views:
  - Buttons, labels, tables, images, etc

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**REVIEW: IB + VIEWS**

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# VIEWS ON THE WHITEBOARD

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## **LOGISTICS: HOMEWORK**

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# **GIT/GITHUB, HOMEWORK, SUBMISSION**

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**REVIEW: IB + VIEWS**

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# COLLABORATION SOFTWARE

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## **LOGISTICS: HOMEWORK**

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### **GITHUB**

- A social network for sharing and collaborating on code
- What we'll use to get slides, submit homework, post resources, collaborate on the final project
- Free, as long as what you post is public

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## LOGISTICS: HOMEWORK

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### GIT

- The ‘pipes’ that power github
- Many developers use the command line, though we’ll use an app
- A general-purpose ‘version control’ tool that lets us:
  - Back up
  - Revert
  - Collaborate
  - ...our code

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**LOGISTICS: HOMEWORK**

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# GITHUB WALKTHROUGH

**[HTTP://GITHUB.COM/GA-STUDENTS/MOB-NYC-3](http://github.com/ga-students/mob-nyc-3)**

# HOW IS MOBILE DIFFERENT?

## OVERVIEW

- Less UI real estate
- Wide range of devices
- Touch gestures
- Usage context
- Network latency

## LESS REAL ESTATE



<https://www.kickstarter.com/projects/ocdesk/iphone-dock-for-imac-and-apple-displays-the-ocdock>

# WIDE RANGE OF DEVICES



## TOUCH GESTURES



TAP



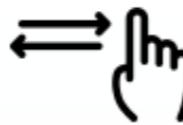
DOUBLE TAP



TOUCH & HOLD



VERTICAL SCROLL



HORIZONTAL SCROLL



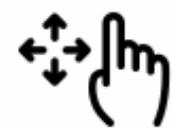
2X DRAG DOWN



2X DRAG



2X FLICK LEFT



DRAG FLICK



FLICK LEFT



FLICK RIGHT



FLICK DOWN



FLICK UP



2X FLICK UP



2X ZOOM IN



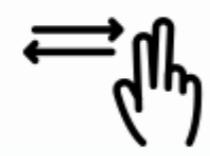
2X ZOOM OUT



2X TAP



2X DOUBLE UP



2X HORIZONTAL SCROLL



2X VERTICAL SCROLL



2X FLICK UP



3X DRAG DOWN



3X DRAG



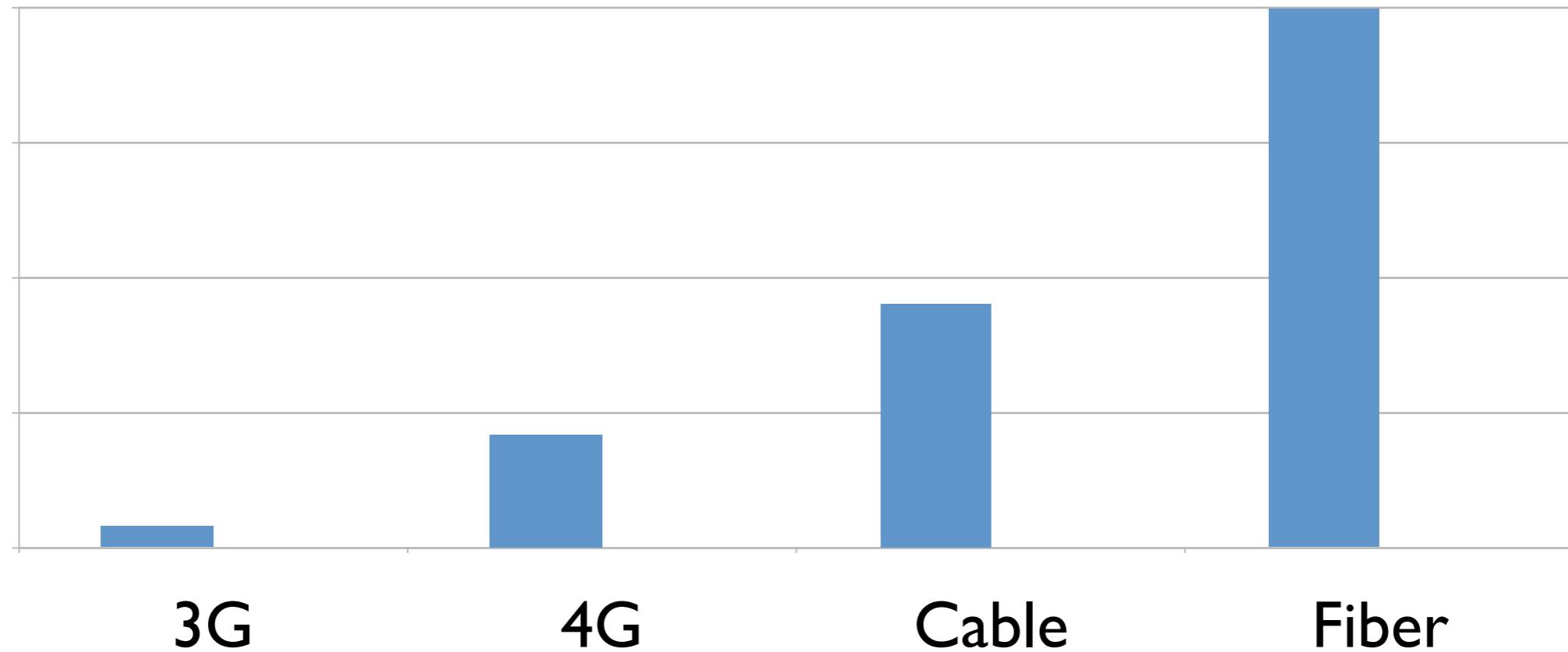
3X TAP

## CONTEXT OF USE

- Especially task-driven
- More time-sensitive
- Shorter attention span
- Potentially dangerous?



# NETWORK CONCERNS



# GESTURAL INTERFACES

## OVERVIEW

- Tap
- Swipe
- Hold
- Pinch
- Rotate
- Other

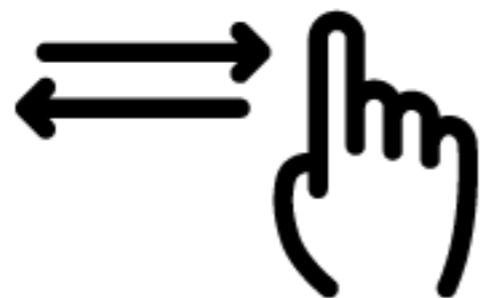
## TAP



## DOUBLE/TRIPLE TAP



## SCROLL, SWIPE, FLICK



## HOLD, DRAG



## PINCH, SPREAD



## ROTATE



# SHAKE, BUMP, BLOW...



# DEVICE-SPECIFIC GUIDELINES

## OVERVIEW

- Different native platforms have different design languages
- Good designs leverage the conventions of the platform
- There's a lot to know:
  - Design principles and terminology
  - UI components
  - Design patterns
  - Gestural conventions

## RESOURCES

- iOS Human Interface Guidelines:
  - <https://developer.apple.com/library/ios/documentation/userexperience/conceptual/mobilehig/MobileHIG.pdf>

# MOBILE DESIGN PATTERNS

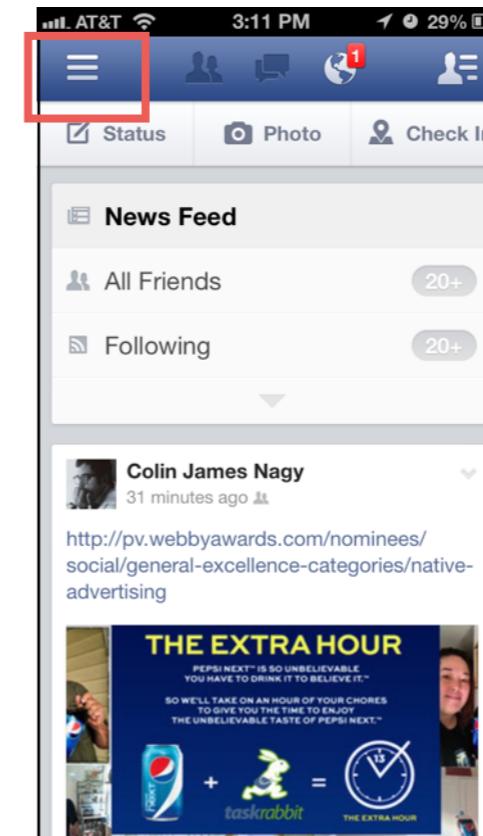
## OVERVIEW

- Navigation
- Screen-level actions
- User onboarding
- Lists, filtering, and empty sets
- Dialog boxes

## NAVIGATION

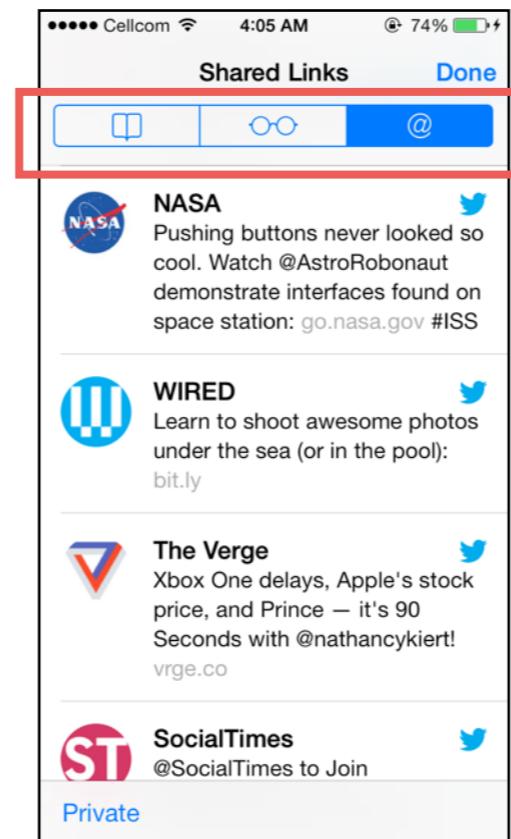


Tab Bar



Hamburger Menu

## NAVIGATION



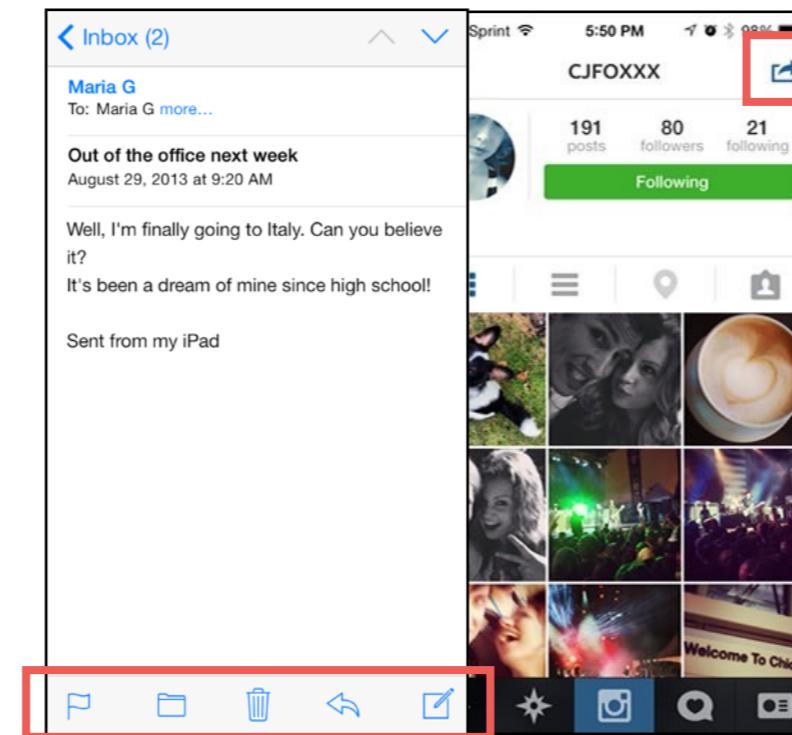
Scope Bar

## NAVIGATION



Navigation Bar

## SCREEN-LEVEL ACTIONS



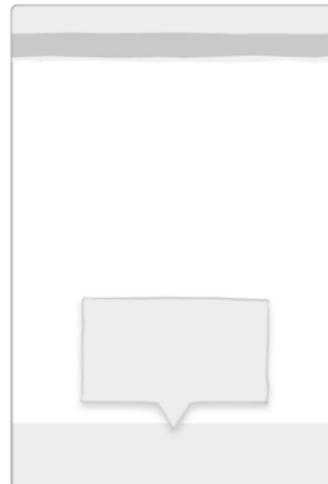
Tool Bar, Navigation Bar

## ONBOARDING

Dialog



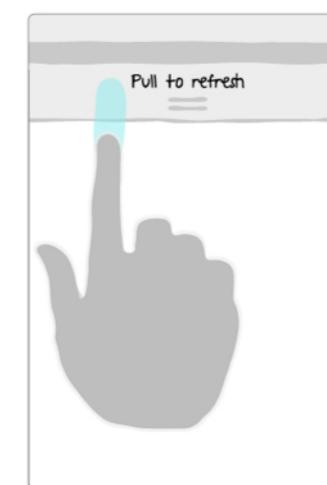
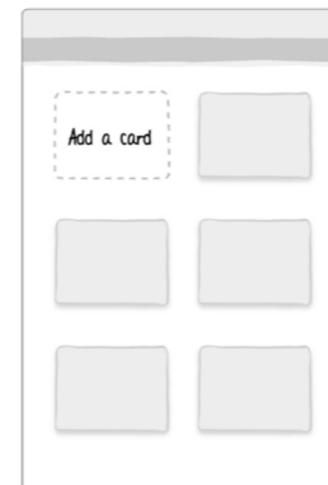
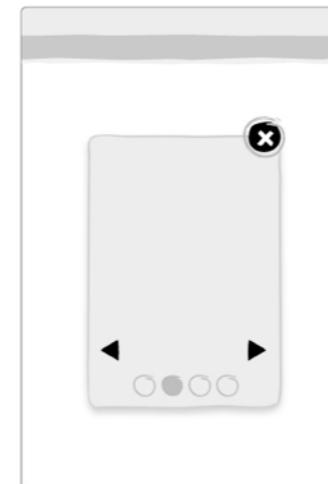
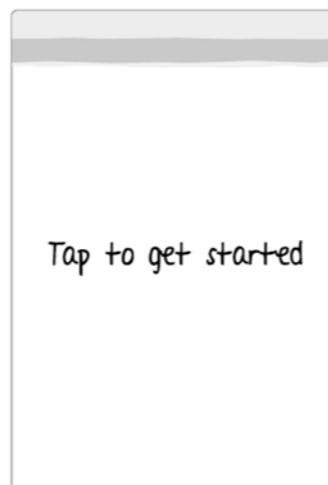
Popover Tip



Overlay



Embedded



Tour

Demo

Persistent

Discoverable

## LISTS

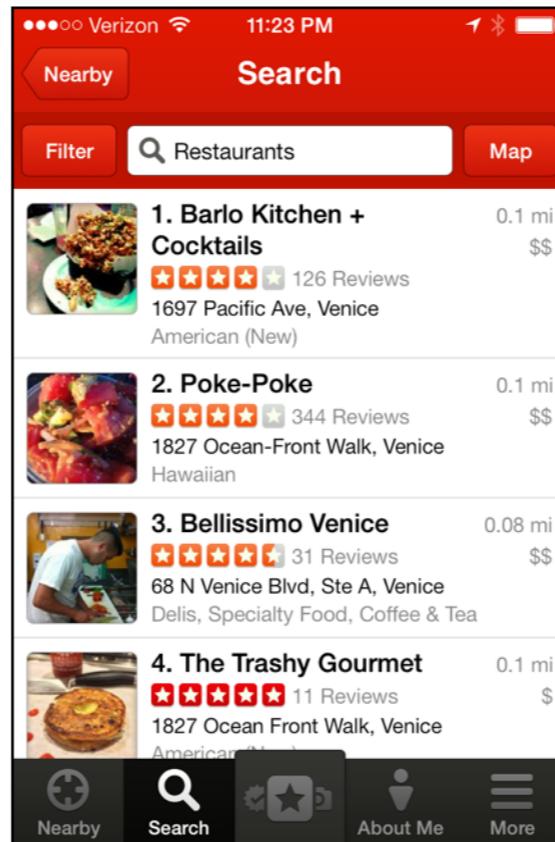
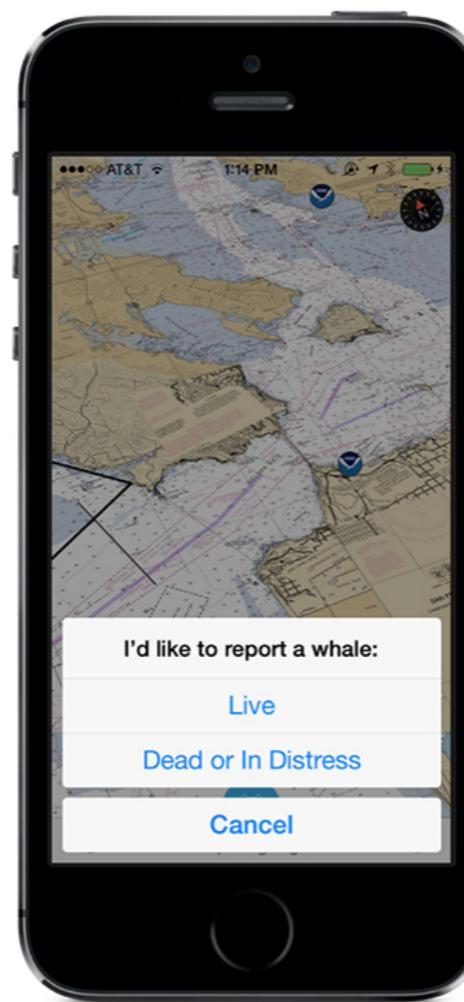
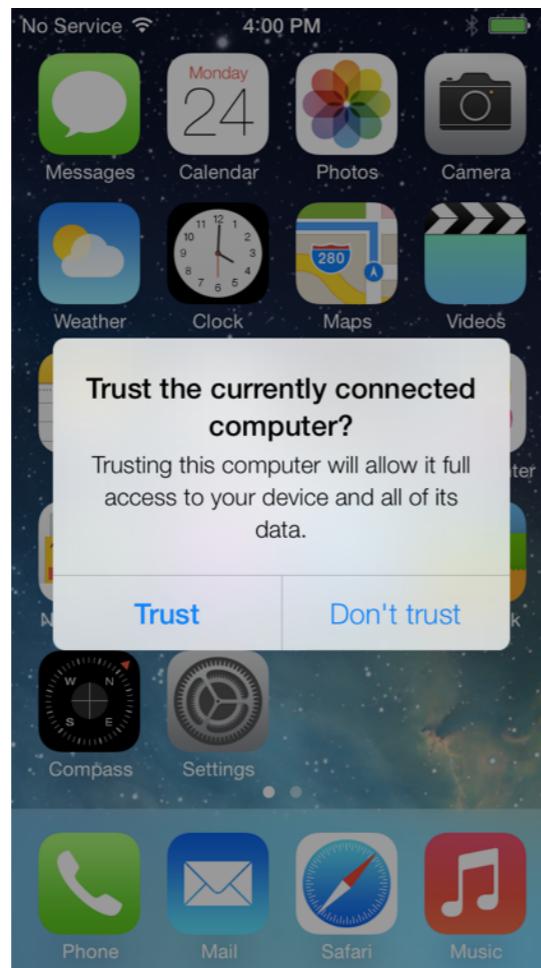
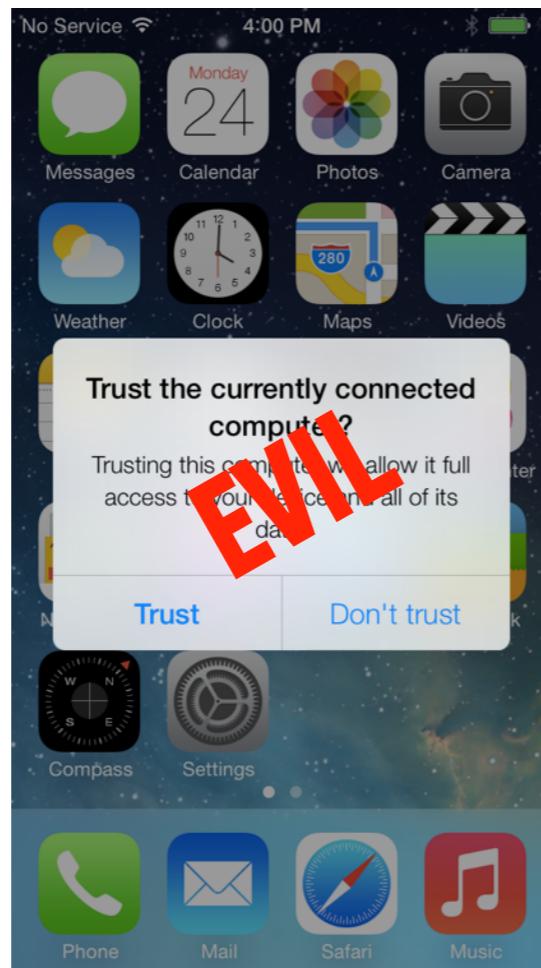


Table View

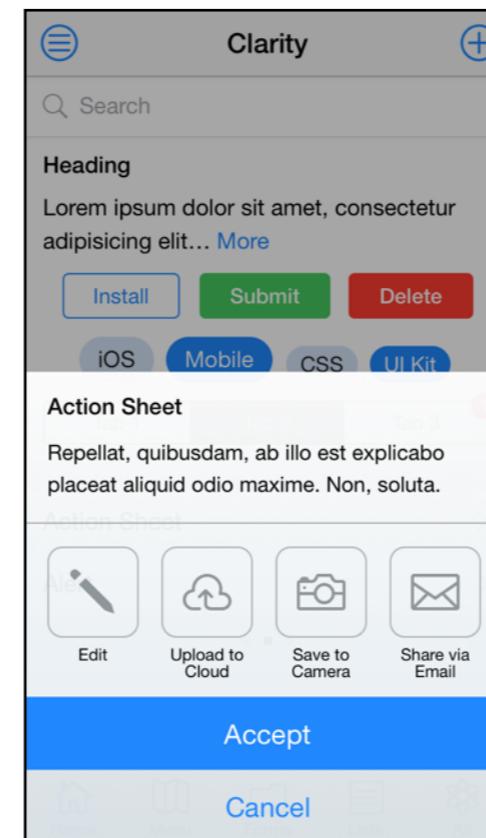
## DIALOG BOXES: ALERTS



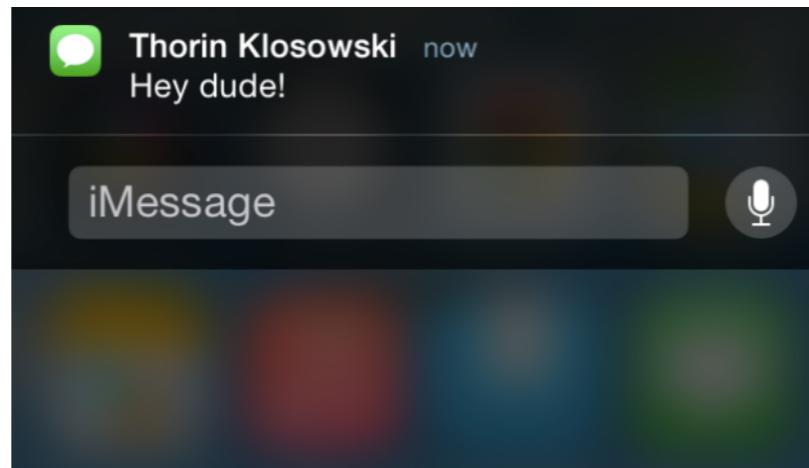
## DIALOG BOXES: ALERTS



## DIALOG BOXES: ACTION SHEET



## NOTIFICATIONS



## ...AND MANY MORE

- [mobile-patterns.com](http://mobile-patterns.com)
- [pttrns.com](http://pttrns.com)
- [inspired-ui.com](http://inspired-ui.com)
- [appreciateui.com](http://appreciateui.com)
- [mobiledesignpatterngallery.com/mobile-patterns.php](http://mobiledesignpatterngallery.com/mobile-patterns.php)

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**GETTING STARTED**

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# Q&A