

MOBILE DEVELOPMENT

DESIGN OF MOBILE INTERFACES

STORYBOARDS

LEARNING OBJECTIVES

- › Explain principles of mobile design.
- › Recall and describe modern mobile design patterns.

HOW IS MOBILE DIFFERENT?

OVERVIEW

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

LESS UI REAL ESTATE



A common problem occurs when designing for large screens. With so much space, it serves as a lack of constraint, which often results in complex arrangements of lots of information. Users' focus can suffer.

Less screen real estate forces us to be efficient, to prioritize the information available on a single screen at any given time, and naturally leads to a single-task-single-focus paradigm.

WIDE RANGE OF DEVICES



A wide range of devices means different use cases and the struggle to decide whether to design for each screen independently or design in a flexible way that accommodates all screens. (What the industry calls “responsive” design.)

TOUCH GESTURES



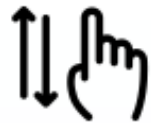
TAP



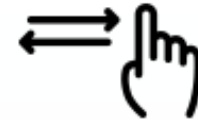
DOUBLE TAP



TOUCH & HOLD

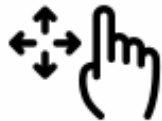


VERTICAL SCROLL



HORIZONTAL SCROLL

Gestures use a physical metaphor for interactivity. They enable direct manipulation of UI elements.



DRAG FLICK



FLICK LEFT



FLICK RIGHT



FLICK DOWN



FLICK UP

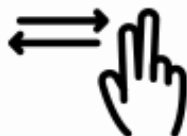
Some of these gestures carry a discoverability problem; how can a user know that a gesture is available without being explicitly taught?



2X TAP



2X DOUBLE UP



2X HORIZONTAL SCROLL



2X VERTICAL SCROLL



2X FLICK UP

CONTEXT OF USE

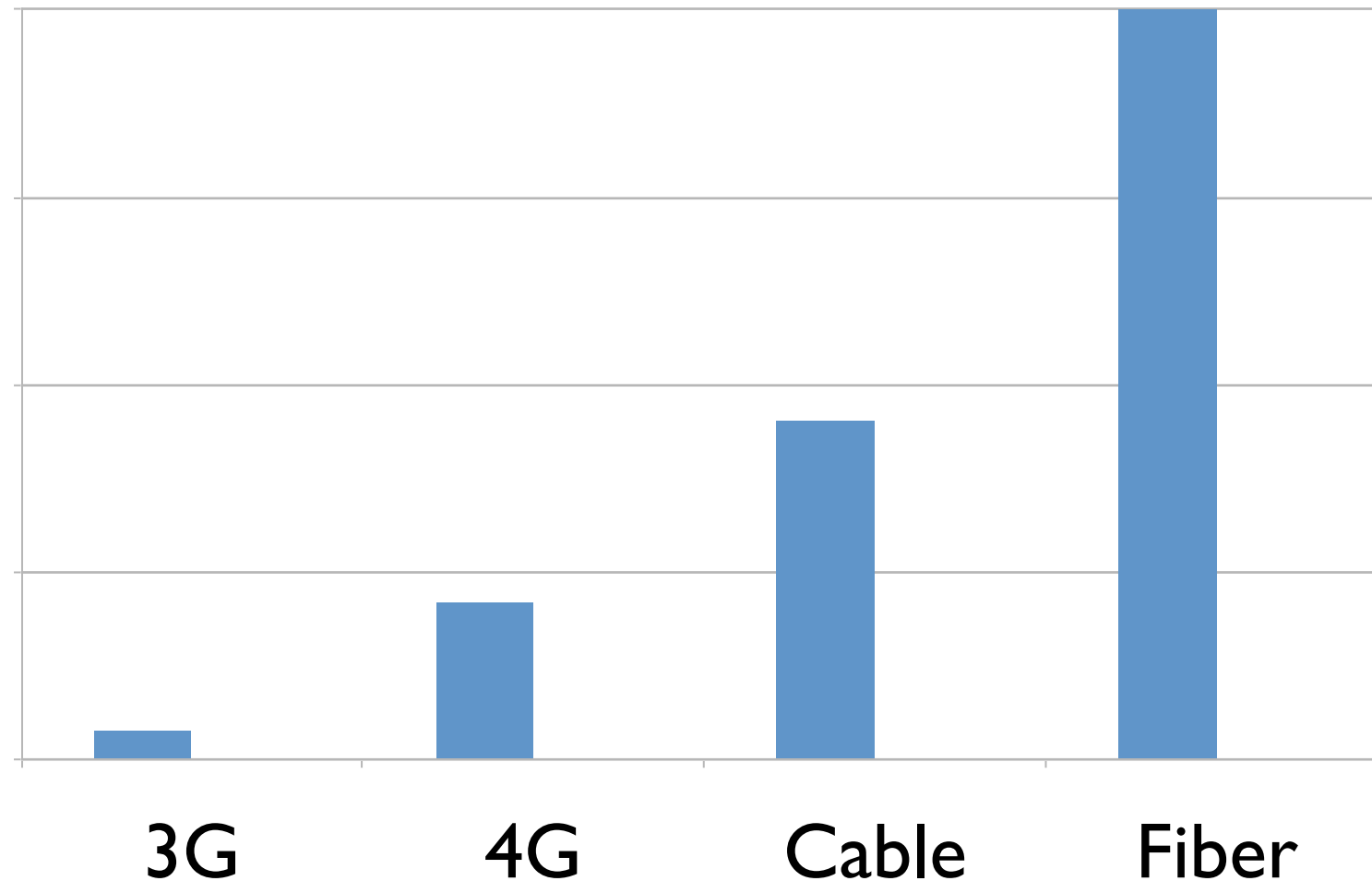
Context can change radically moment to moment for a mobile device, from a quiet moment in the bathroom to the rush of a busy office.

Mobile is:

- › particularly task-driven,
- › more time-sensitive,
- › implies a shorter attention span, and
- › potentially dangerous?



NETWORK CONCERNS



Availability of connectivity is a huge concern for empowering the mobile experience, especially here in NYC where the subway is a common place for time amidst lack of service.

Corollary problem: How do we design for shoddy connections?

GESTURAL INTERFACES

OVERVIEW

What should we design for? How many gestures do we need? Is the gesture appropriate for the *action* it performs?

- Tap
- Swipe
- Hold
- Pinch
- Rotate
- *etc.*

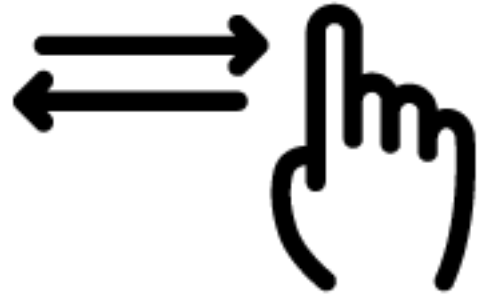
TAP



DOUBLE/TRIPLE TAP



SCROLL, SWIPE, FLICK



HOLD, DRAG



PINCH, SPREAD



ROTATE



SHAKE, BUMP, BLOW...



DEVICE-SPECIFIC GUIDELINES

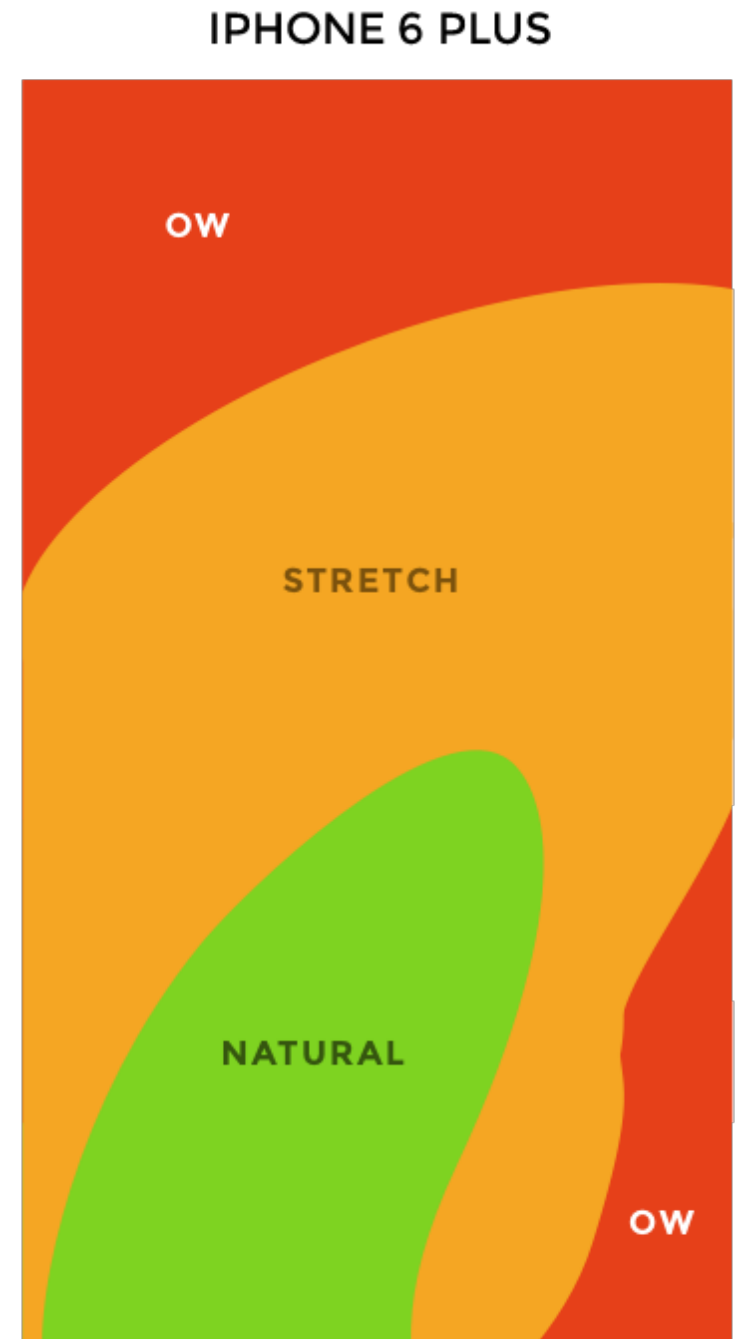
OVERVIEW

- 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

GESTURES

HOW TO DESIGN FOR THUMBS

- › Design also might depend on the physicality of the device itself.
- › Larger screens have made portions of the UI difficult to reach on iPhones.



- › <http://scotthurff.com/posts/how-to-design-for-thumbs-in-the-era-of-huge-screens>

RESOURCES

- iOS Human Interface Guidelines:
 - <https://developer.apple.com/library/ios/documentation/UserExperience/Conceptual/MobileHIG/>

MOBILE DESIGN PATTERNS

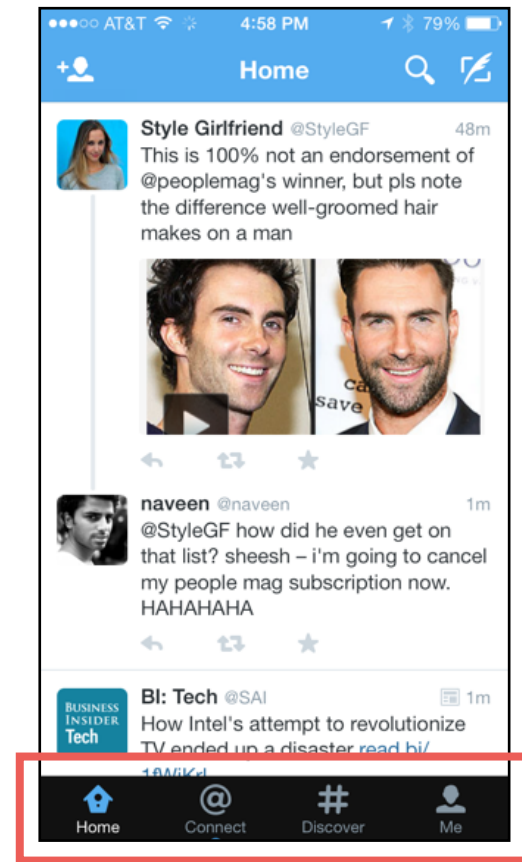
OVERVIEW

A “design pattern” is a common way of solving a problem that many different developers or designers have encountered.

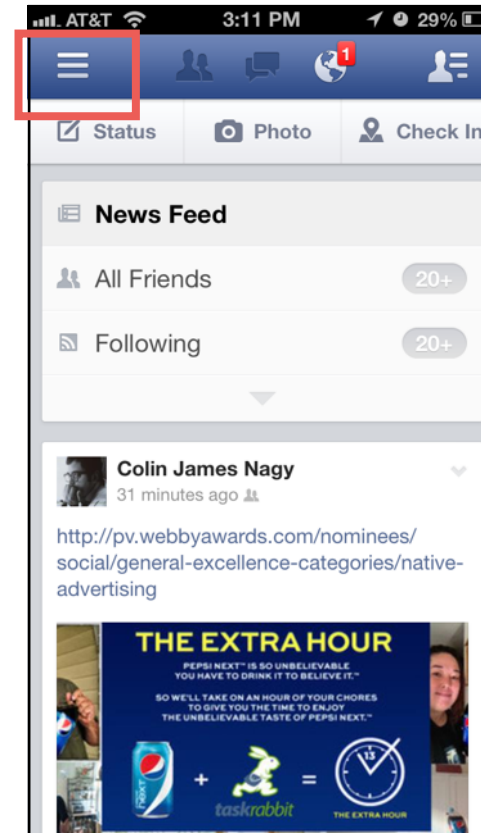
This section reviews patterns for the following realms:

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

NAVIGATION

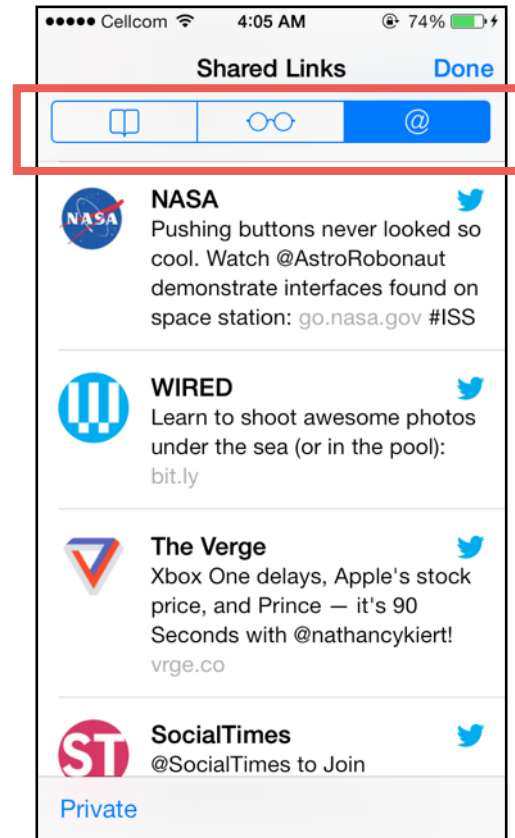


Tab Bar



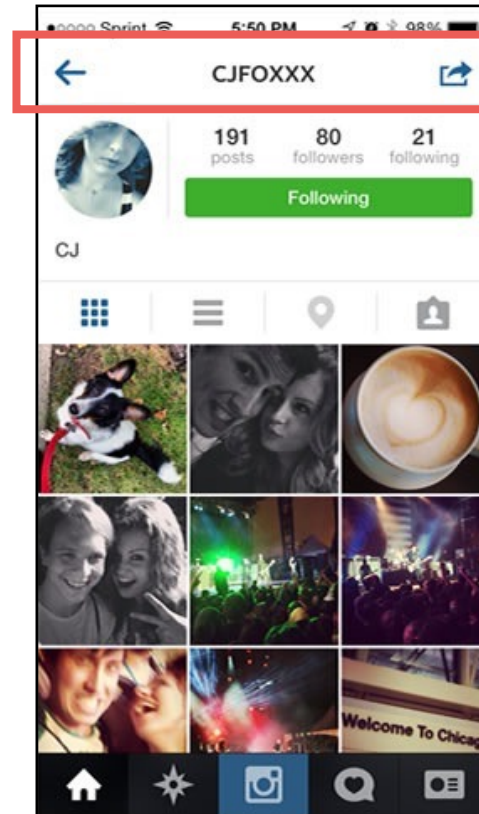
Hamburger Menu

NAVIGATION



Scope Bar

NAVIGATION

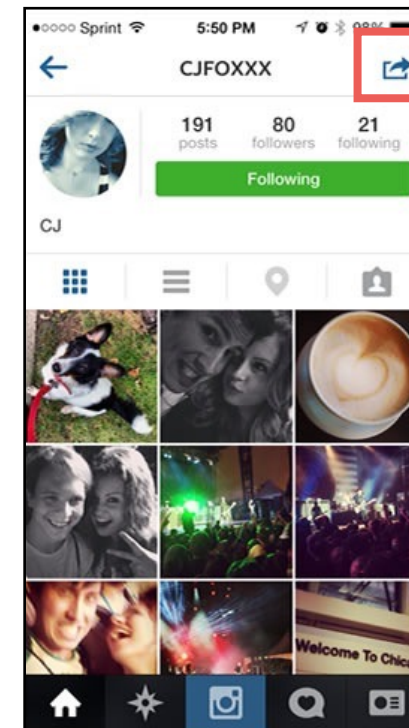


Navigation Bar (UINavigationController)

SCREEN-LEVEL ACTIONS



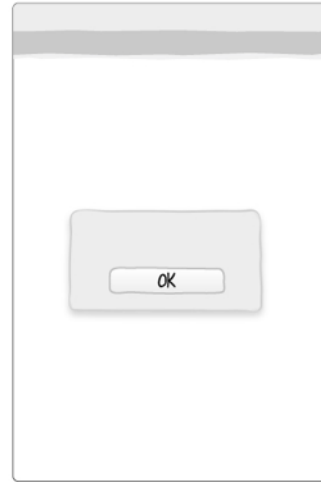
Toolbar



Navigation Bar

ELEMENTS FOR USER ONBOARDING

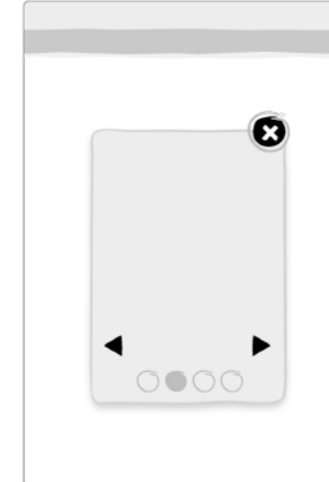
uxbooth.com/blog/mobile-design-patterns



Alert box



Popover



Tour



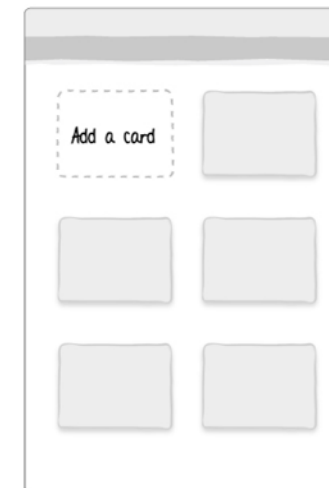
Demo



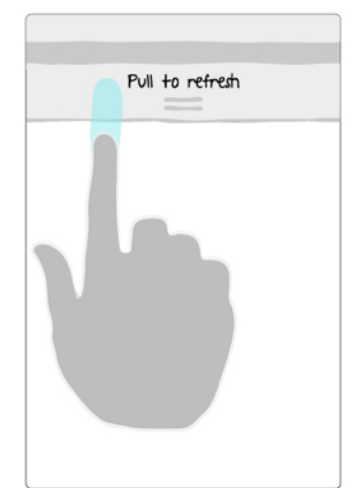
Overlay



Embedded



Persistent



Discoverable

LISTS

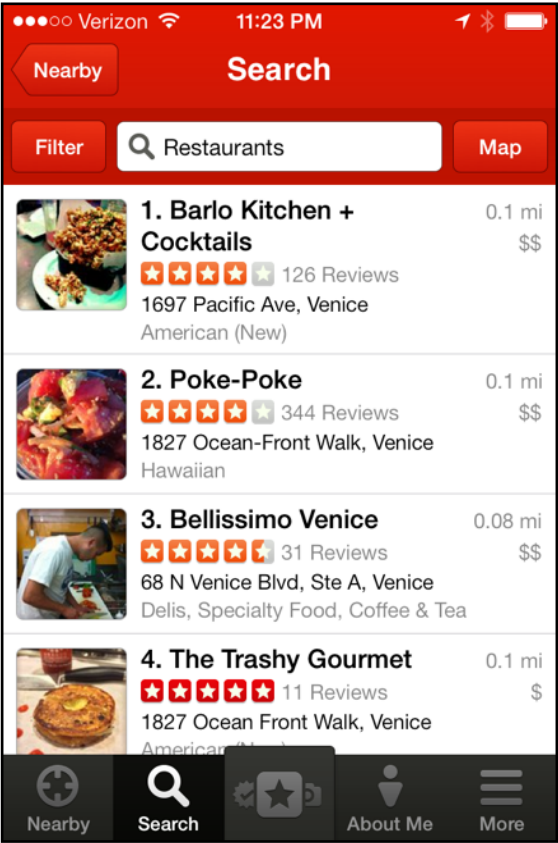
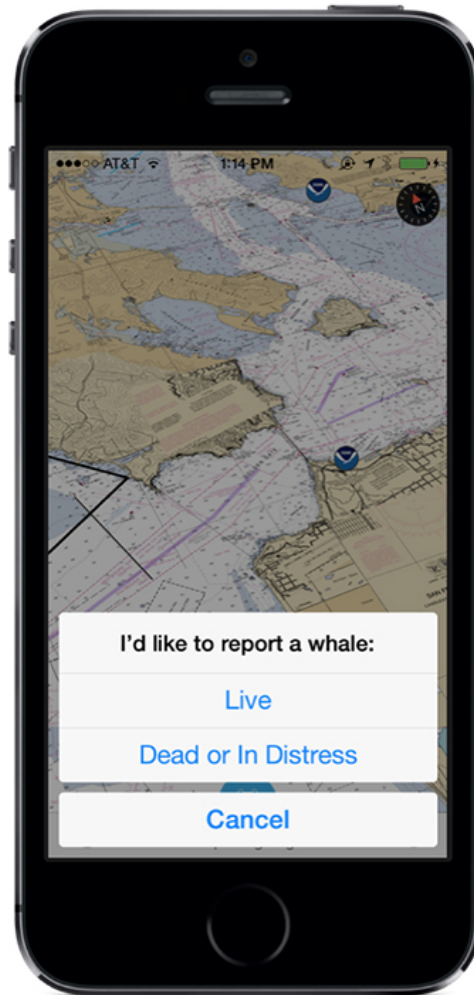
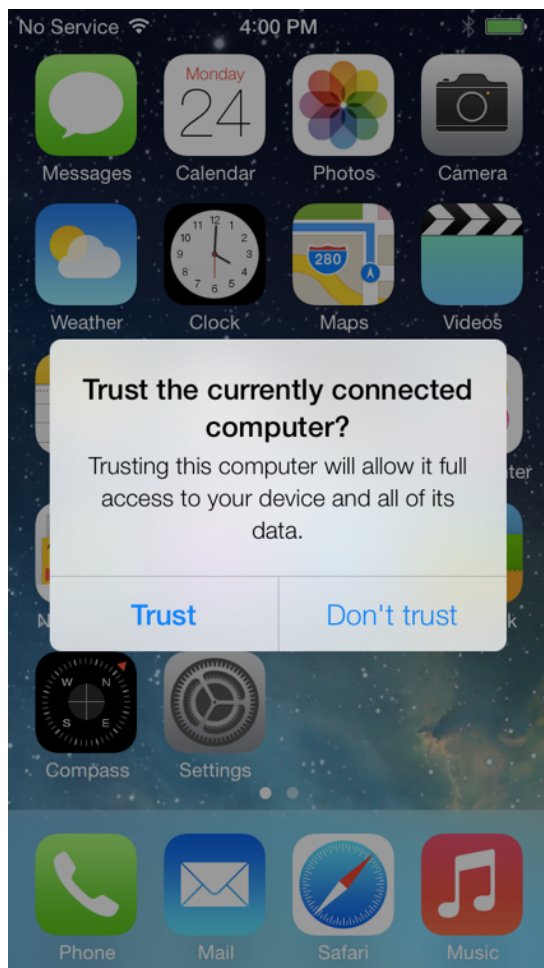


Table View (UITableView)

DIALOG BOXES: ALERTS

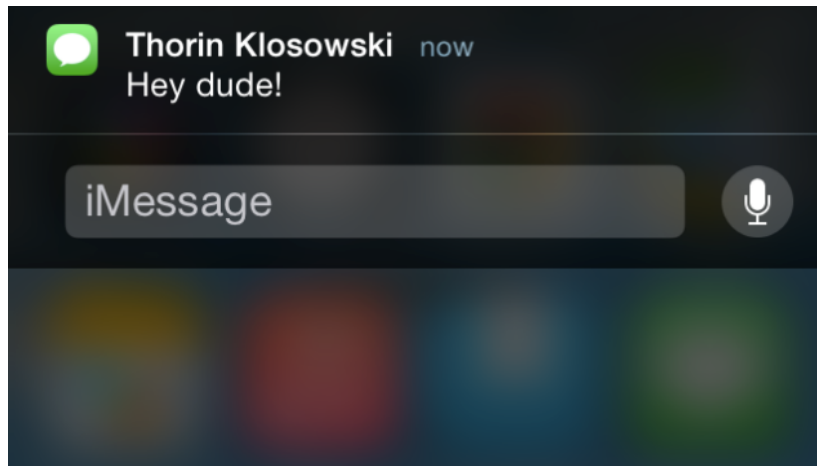


- The most disruptive and jarring pattern.
- Thus, use sparingly.
- Only use when the user needs to be interrupted for something mission-critical or the UI cannot proceed with the action the user requested without a vital piece of information unobtainable any other way.

DIALOG BOXES: ACTION SHEET



NOTIFICATIONS (INTERACTIVE AND PASSIVE)



- Notifications are a relatively recent invention.
- Interactive notifications require or provide some kind of action for a user to perform. (e.g. an action to dismiss, if it's important enough that the user must see it)
- Passive notifications disappear after a while. They're still disruptive, but if done gently enough, they can be design to be appropriate for the situation and level of importance.

... AND MANY MORE:

- mobile-patterns.com
- pttrns.com
- inspired-ui.com
- appreciateui.com
- mobiledesignpatterngallery.com/mobile-patterns.php