

Mobile Take: Modals

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Since working on previous iterations of modal dialogs and from my experience working in native mobile, one thing has always bothered me: how large modal dialogs are handled on mobile. In a previous iteration, the modal container was stretched to the available viewport area with an 8px margin so that the overlay shown through. I believe there is a better way to handle such a modal that would maximize available real estate and provide an experience more suitable to mobile.

First, let's take a look at what's currently going on with the native platforms...

Material Design

Material does a good job of talking about the concept of [Dialogs](#), and even go as far as to break them out into four different types: an Alert dialog, a Simple dialog, a Confirmation dialog, and a Full-Screen dialog. For our purposes, it's the full-screen dialog that we're interested in, but for the sake of being thorough, let's cover all four.



Inbox

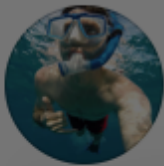


Today



Brunch this weekend?

Ali Connors — I'll be in your neighbor...



Summer BBQ

to Alex, Scott, Jennifer — Wish I could...



Discard draft?

CANCEL

DISCARD



Trevor Hansen — Have any ideas about ...



Recipe to try

Britta Holt — We should eat this: grated...

Alert dialogs interrupt users with urgent information, details, or action.



Settings



Basics

Search engine

Google

Pop

Wh

Sho

Sta

10:0

Adv

Voi

English (US)

Privacy

Set backup account



user01@gmail.com



user02@gmail.com



Add account

Simple dialogs display a list of items that take immediate effect when selected.



Settings



Phone ringtone



None



Callisto



Ganymede



Luna



Oberon



Phobos



Dione

Confirmation dialogs require users to confirm a chose before the dialog is dismissed.



New event

SAVE

heyfromelizabeth@gmail.com



Event name

Liam's B-day Party

Location

123 Main Street, San Francisco, CA 94107

From

Mon, March 26 2018



Time



To

End date



Time



All-day

Full-screen dialogs fill the entire screen, containing actions that require a series of tasks to complete.

Dialogs, regardless of the type, need to be focused, direct, and helpful. We don't want to interrupt the user's experience unnecessarily.



Compared to [Snackbars](#) and [Banners](#), which I wrote about [previously](#), Dialogs are high priority and highly interruptive, requiring a user action in order to be dismissed.

This is helpful when considering what event or circumstances should trigger one and not the other.

In a similar vein, it might be worth considering the concepts of Bottom Sheets and Side Sheets as other examples of modality in the Android platform.

[Bottom sheets](#) are described as supplementary surfaces that are used mainly on mobile and are intended for three different use cases: a Standard bottom sheet, a Modal bottom sheet, and an Expanding bottom sheet.



Albums



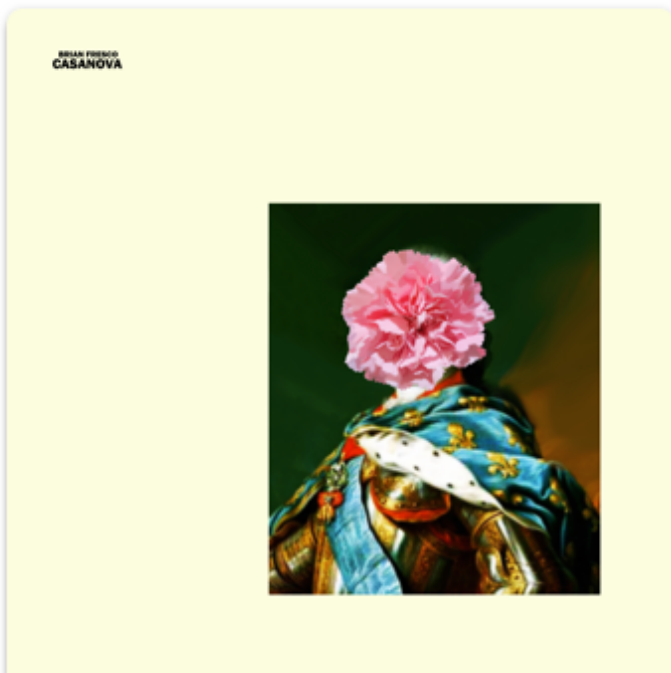
Keep On

Major



Mothership

Dance Gavin Dance



Casanova

Brian Fresco



Strikes Again

CooBee Coo

Standard bottom sheets display content that complements the screen's primary content. They remain visible while user interact with the primary content.



Sports



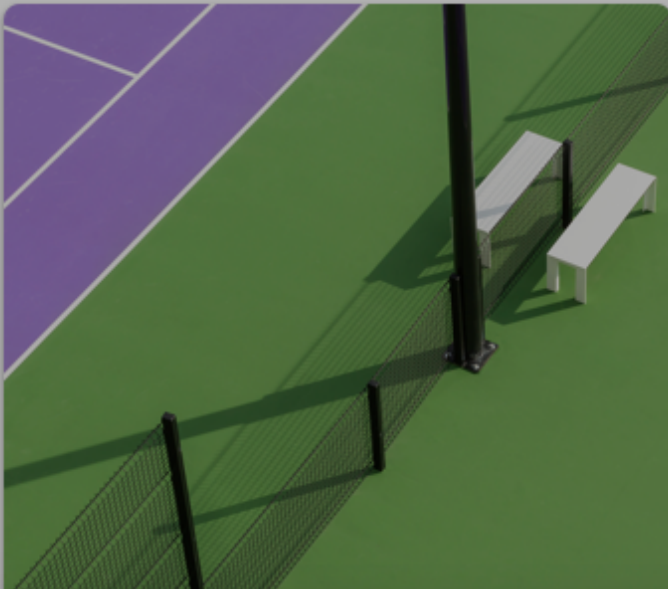
90th minute

4.31 MB



Break point

5.12 MB

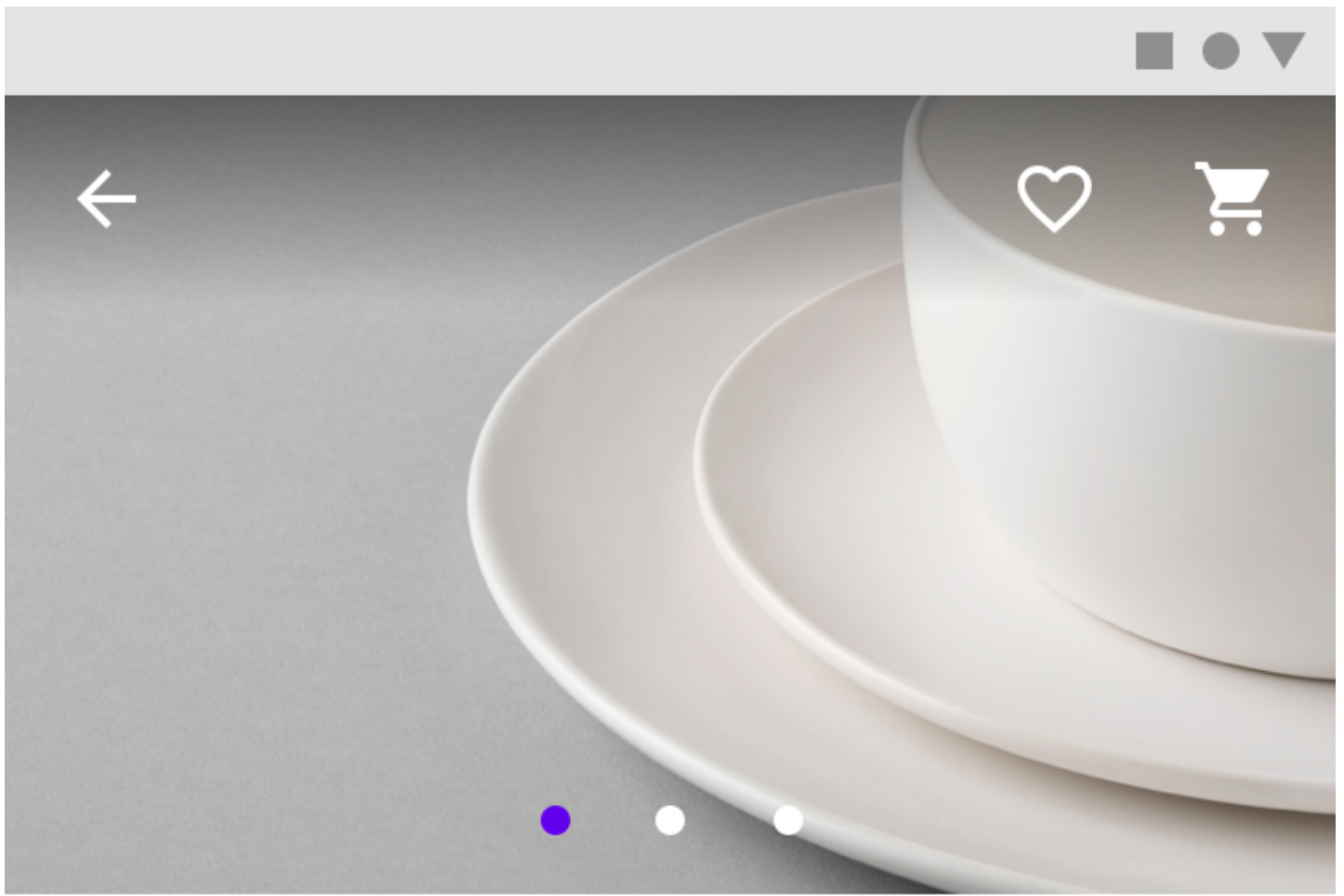


Share



Get link

Modal bottom sheets are an alternative to inline menus or simple dialogs on mobile and provide room for additional items, longer descriptions, and iconography. They must be dismissed in order to interact with the underlying content.



Dinner Set

\$64.00

This simple ceramic dinner set is composed of 2 plates and 1 large bowl in a variety of finishes to match your style.

Select finish

Matte White

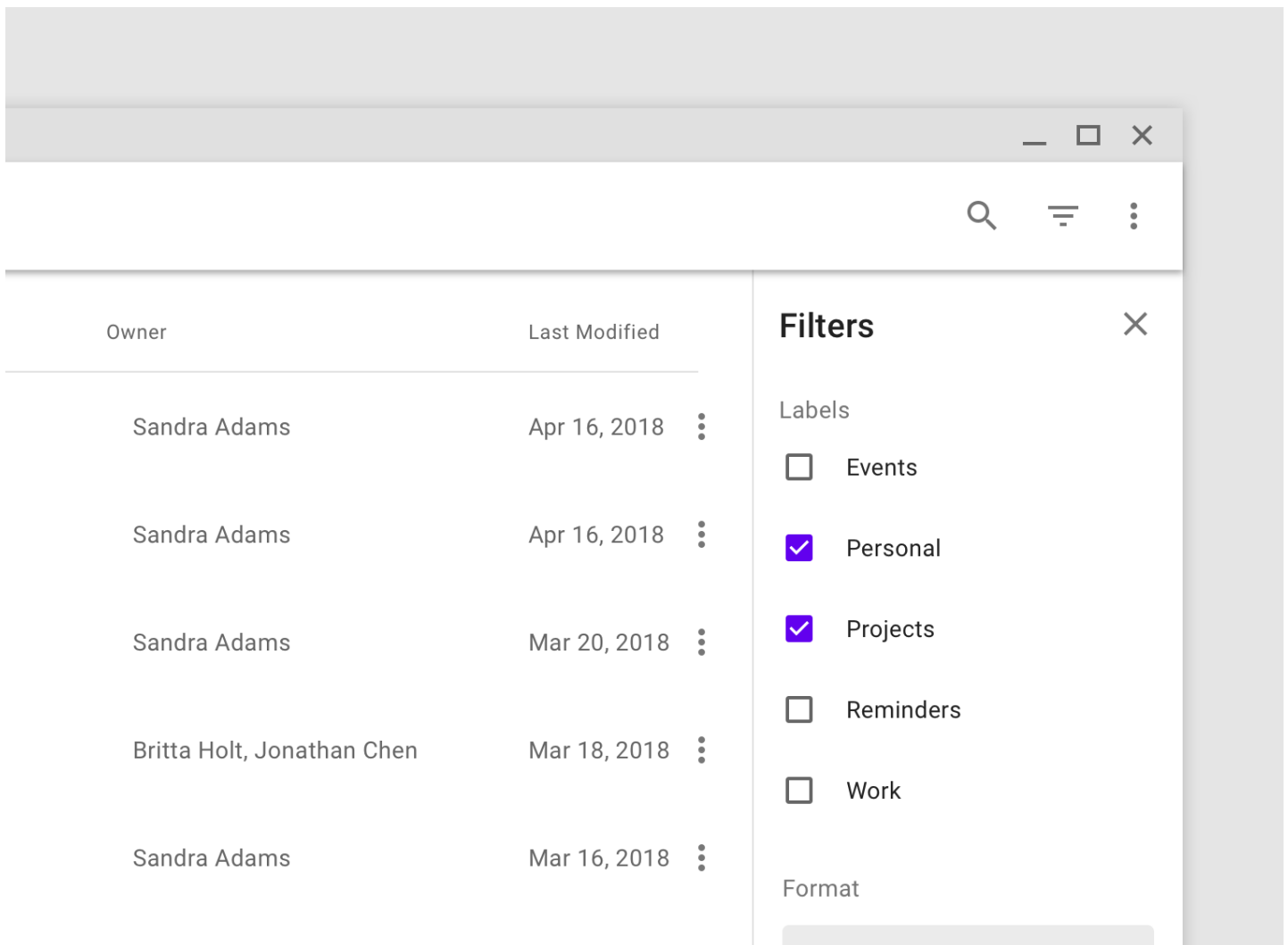
Jet Black

Forest Green

Expanding bottom sheets provide a small, collapsed surface that can be expanded by the user to access a key feature or task. They offer the persistent access of a standard sheet with the space and focus of a modal sheet.

Bottom sheets should be supporting, flexible, and ergonomic.

[Side sheets](#) are described as surfaces containing supplementary content that are anchored to the left or right edge of the screen and also come in two types: a Standard side sheet and a Modal side sheet.



Standard side sheets display content that complements the screen's primary content. They remain visible while users interact with primary content, often used to display a list of actions that affect the primary content or to display supplemental content and features.



Not

Call
Jennife

October 07, 20

To bring:

Camping gear,
s'mores, extra
towel, warm s
first aid kit.

Yuna tic
on sale

October 29, 20

Labels

- ☐ Events
- ☒ Personal
- ☒ Projects
- ☐ Reminders
- ☐ Work

Format

All



Range

Modal side sheets are used on mobile instead of standard side sheets, due to limited screen size. They can display the same types of content as standard side sheets, but must be dismissed in order to interact with the underlying content.

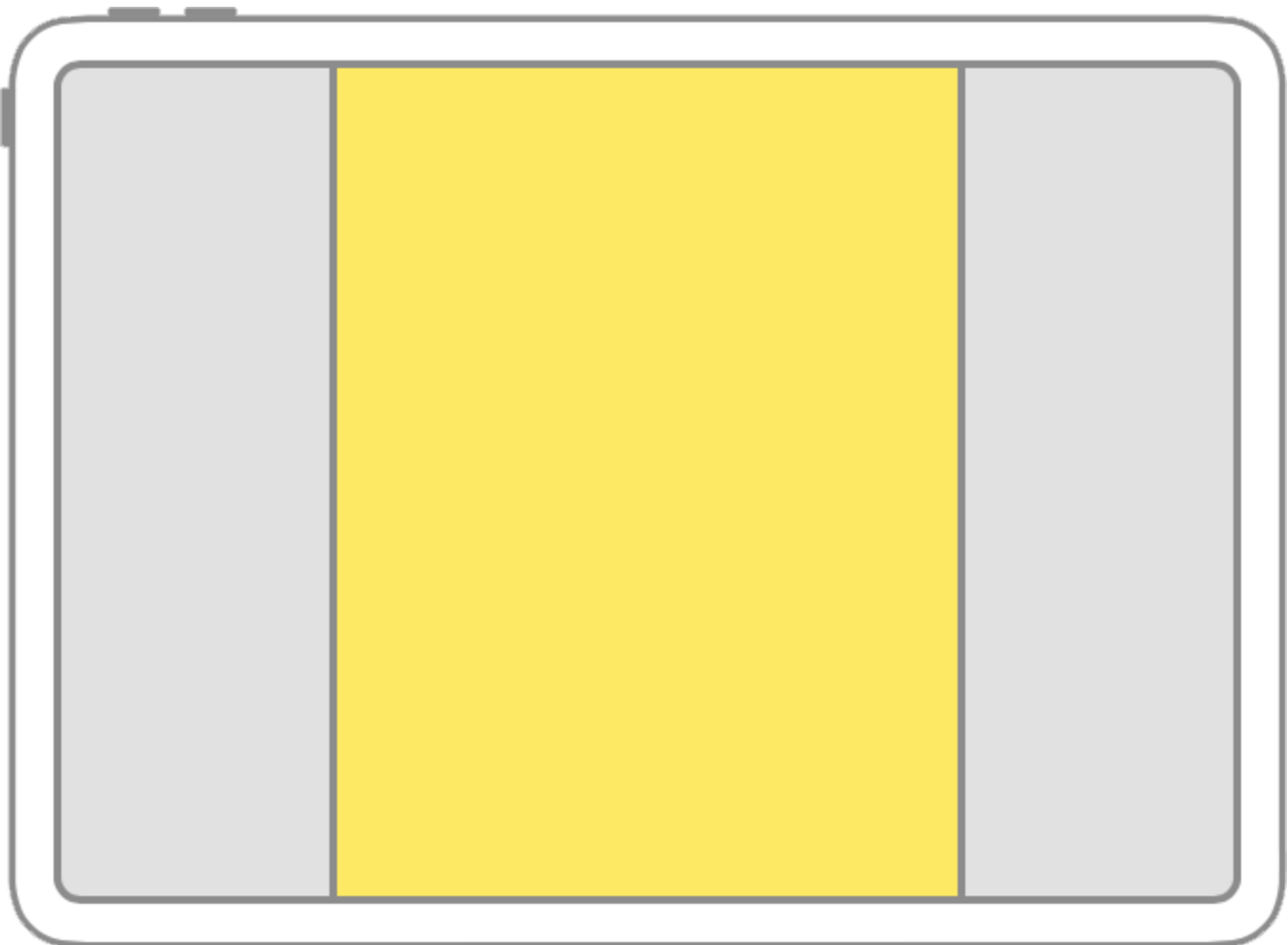
Similar to bottom sheets, side sheets should also be supporting and flexible, but they should be contextual as well, being hidden or visible depending on screen size.

iOS

In the HIG, they don't speak specifically to Dialogs the way that Material does, but they do describe Modality as an app architecture concept.

"Modality creates focus by preventing people from doing other things until they complete a task or dismiss a message or view. [Action Sheets](#), [Alerts](#), and [Activity Views](#) provide modal experiences ... A modal view can occupy the entire screen, an entire parent view, such as a [Popover](#), or a portion of the screen. A modal view typically includes completion and cancel buttons that exit the view."

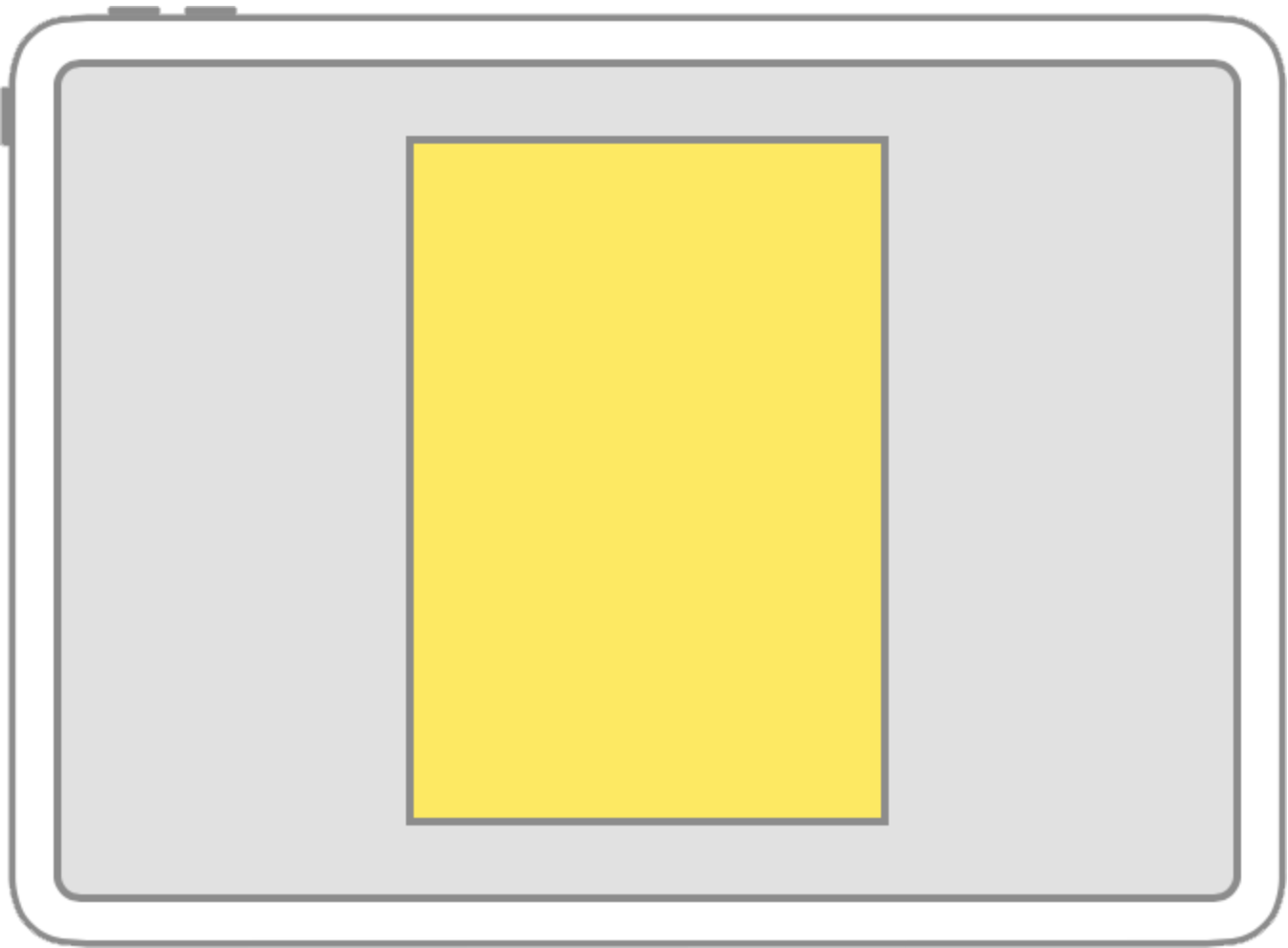
In general, a modal view is described as one of four styles:



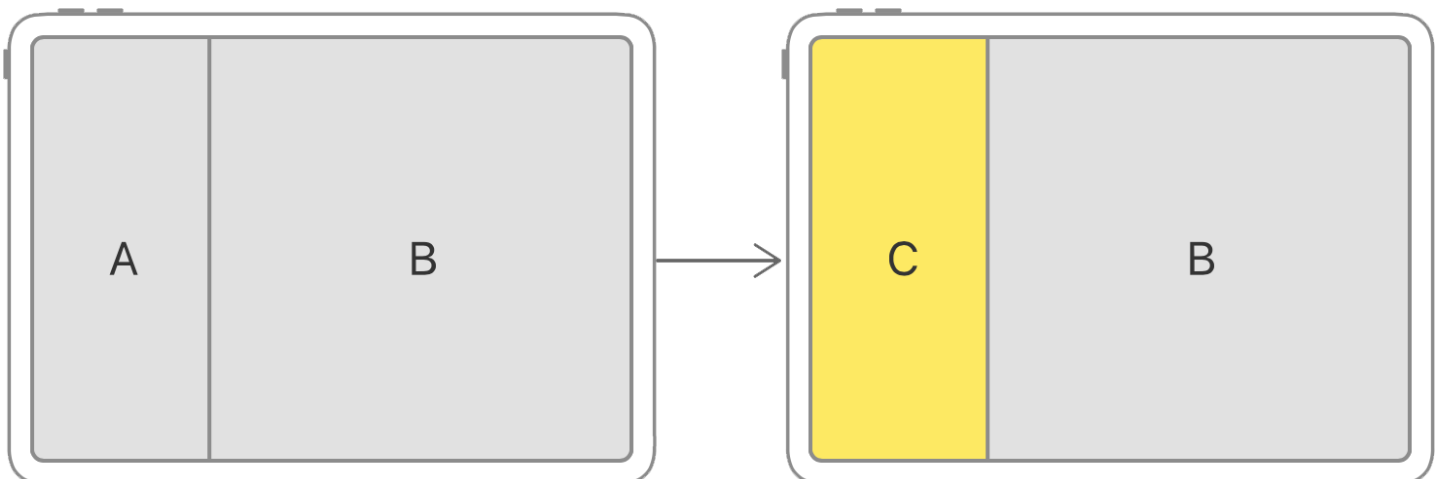
Page sheets partially cover the primary content on larger devices and cover the entire screen on smaller devices. They are used for a potentially complex task that can be completed within the context of the modal view.



Full screens, as the name suggests, cover the entire screen and are used for a potentially complex task that can be completed within the context of the modal view.



Form sheets appear centered on screen with all uncovered areas dimmed and may cover the entire screen on smaller devices. They are used for gathering information.



Current context modals appear at the same size as their parent view and are used for displaying modal content within a split view pane, popover, or other view that is not full-screen.

With the general patterns in mind, let's take a look at more specific instances.

9:41



Apple Inc.



iPad Pro



Buy

iPad Pro

Anything you can do,
you can do better.

Watch the film 

Watch the TV ads 



Close This Tab

New Private Tab

New Tab

Cancel

Action sheets appear in response to a control or action, presenting two or more choices related to the current context. They should be used to initiate tasks or to confirm a potentially destructive operation.

9:41



Kirby Cove
Campground



GOLDEN GATE
BRIDGE

Fort Point

Current Location Not Available

Your current location can not be
determined at this time.

OK

EA CLIFF

PRESIDIO
HEIGHTS

LAUR
HEIGH

California St

Geary Blvd

INNER
RICHMOND

RICHMOND
DISTRICT

Fulton St

63°

Search for a place or address

Alerts convey important information about the state of the app or device, requiring some sort of action for dismissal. They consist of a descriptive title, a short message (optional), and one or more buttons with clear titles.

9:41



Apple Inc.



iMac



Buy

iMac

The vision is



AirDrop. Share instantly with people nearby. If they turn on AirDrop from Control Center on iOS or from Finder on the Mac, you'll see their names here. Just tap to share.



Message



Mail



Reminders



Add to Notes



Add to
Reading List



Add Bookmark



Add to
Favorites

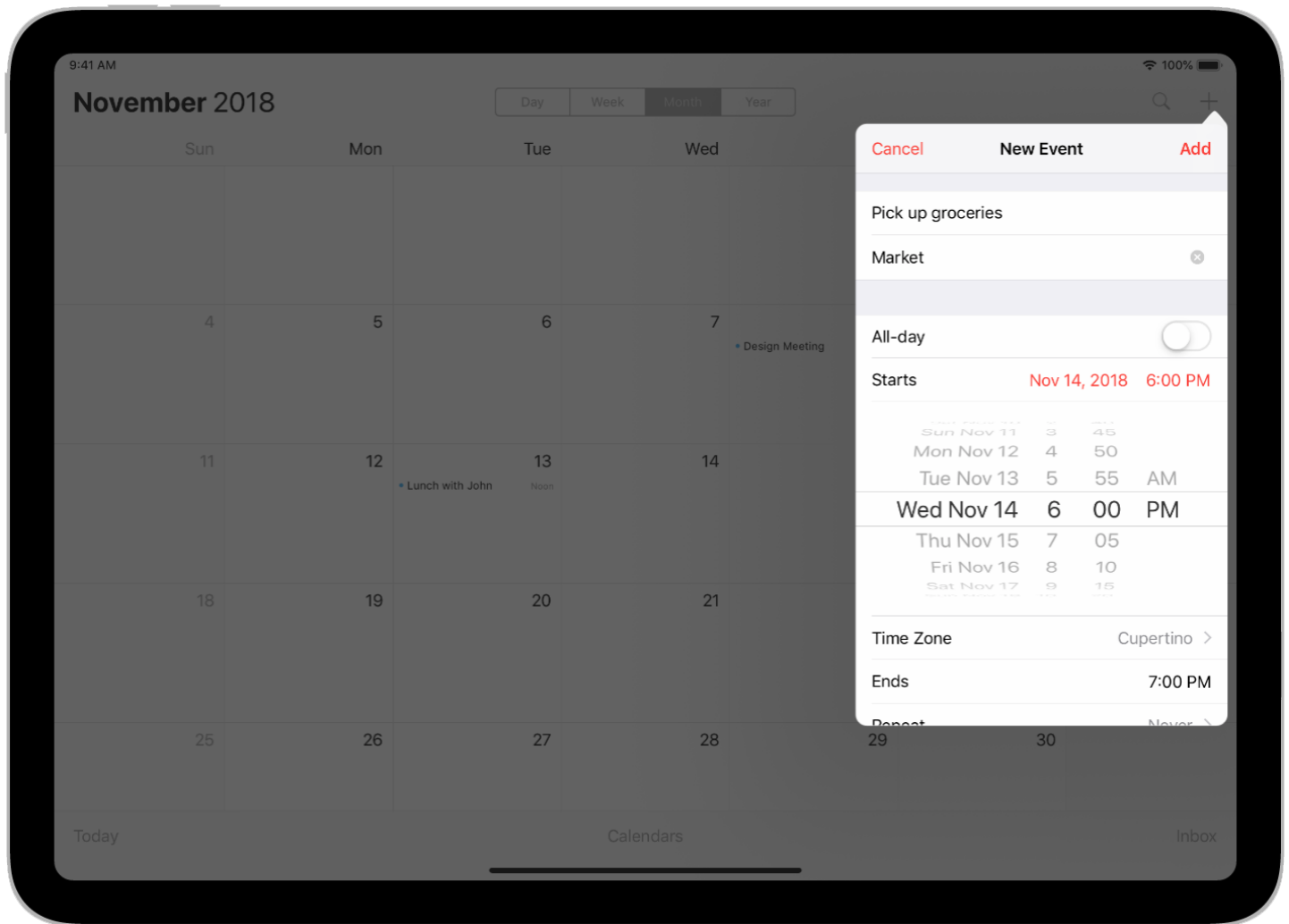


Copy

Op

Cancel

Activity views manage a task, such as Copy, Favorite, or Find, that's useful in the current context. They should be used to give users access to custom services or tasks.



Popovers are transient views that appear over the primary content in response to a control or an action. They can be modal or nonmodal, are most appropriate for larger screens, and should be used to show options or information related to the primary content.

Other Patterns

There are a few places where Material Design and the HIG fall short in describing all the various patterns and components in their respective design systems. Here are a couple of modal variations that aren't described as well as they could be.

3:41 ↗



Filter

Done

INCLUDE MAIL FROM:



Cox Automotive



Alchemy



iCloud



INCLUDE:



Unread



Flagged

ADDRESSED:



To: Me



Cc: Me



Only Mail with Attachments



Only from VIP



Modal view for filters in Mail.

3:43 ↗



Account

Done



Leban Hyde

View Profile



Redeem Gift Card or Code

NOTIFICATIONS

Friend Activity



Artists and Shows



Apple associates your notifications viewing and interaction data with your Apple ID.

CONNECT

Following



FIND FRIENDS



Facebook

Not Connected

Contacts on Apple Music



Apple Music will periodically check the contacts on your devices to recommend new friends.

Modal view for account in Music.

3:42



Calendars

Done

COX AUTOMOTIVE

HIDE ALL



Birthdays



Calendar



Cox Automotive



United States holidays



HOTMAIL

HIDE ALL



Birthdays



Calendar



US Holidays



ICLOUD

HIDE ALL



Work



Home



Family

Shared by Tatiana Hyde



Add Calendar

Hide All

Modal view for calendar management in Calendar.

4:39 ↗



Cancel

New Event

Add

Title

Location

All-day



Starts

Nov 8, 2018 4:00 PM

Ends

5:00 PM

Repeat

Never >

Calendar

● Calendar >

Invitees

None >

Alert

30 minutes before >

Show As

Busy >

Private



URL

Modal view for new event in Calendar.

Modal views (iOS) have the same general appearance as a child view with the exception of transitioning in from the bottom of the screen (instead of the right) and the bottom tab bar, which may be replaced by a context-specific tool bar or omitted altogether. The Android equivalent would be the Full-Screen dialog.

5:03



0:00

-4:43

América

Los Wálters — Caramelo - EP



Bottom drawer for player details in Music, iOS.

5:04



Search for a place or address

Cancel



Popular



Restaurants



Groceries



Fast Food



Coffee Shops



Bakeries



Desserts

POPULAR NEARBY

Papa John's Pizza

Pizza · 0.7 mi

★★★☆☆ (6) on Yelp · \$\$\$\$



Godfathers Pizza

Pizza · 0.6 mi

★★★★☆ (12) on Yelp · \$\$\$\$



Dickey's Barbecue Pit

Barbeque · 0.6 mi

★★★☆☆ (27) on Yelp · \$\$



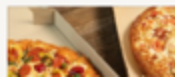
The Big Biscuit

Breakfast & Brun... · 0.7 mi · Closed Now

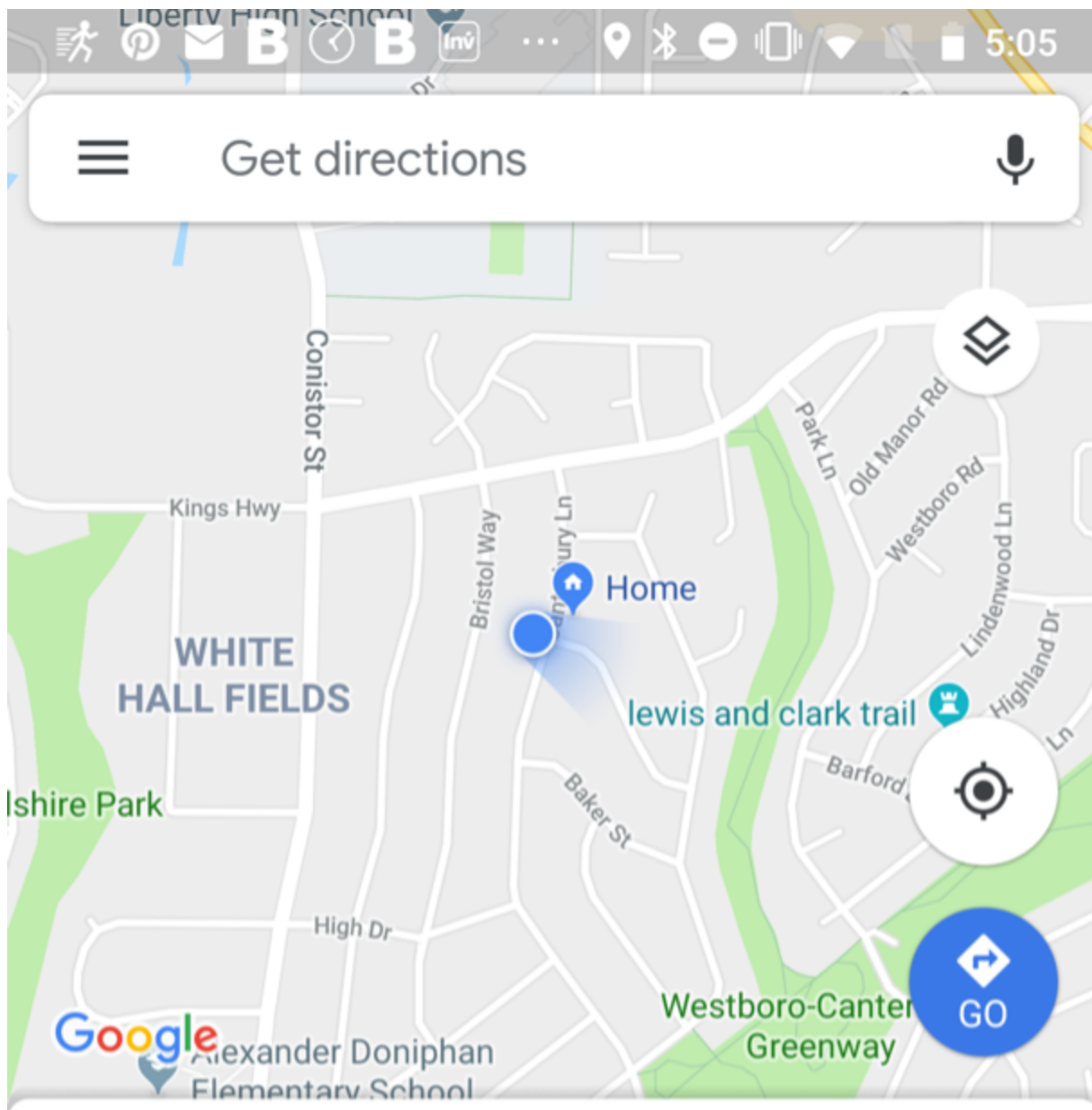
★★★★☆ (47) on Yelp · \$



Pizza Hut



Bottom drawer for places in Maps, iOS.



Explore Liberty



Restaurants



Bars



Events



More



Explore



Commute



For you

Bottom drawer for places in Google Maps, Android.



Leban's briefing

Top 5 stories right now



32° F



Leban Hyde

leban@alchemyindesign.com



Notifications & shared



My Activity



Settings



Help & feedback

Bottom drawer for account in Google News, Android.

5:02



UI23 - Our 23rd and Final
UI Conference
ui.uie.com



↻ A11Y Project Retweeted



Deque Systems @dequeSystems · 1d ✓
Accessibility Tips in Single-Page
Applications - hubs.ly/H0frpXI0 by
[@marcysutton](#) #a11y



Accessibility Tips in Single-Page
Applications | Deque
deque.com



↻ 25

♥ 41



Reuters Latam ✓ @ReutersLatam · 1m ✓

↻ Retweet



Retweet with comment

Cancel

Bottom drawer for tweet actions in Twitter, iOS.

8:05 ↗



Message nvision-ux



Send

Q

W

E

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T

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S

D

F

G

H

J

K

L



Z

X

C

V

B

N

M



123

space

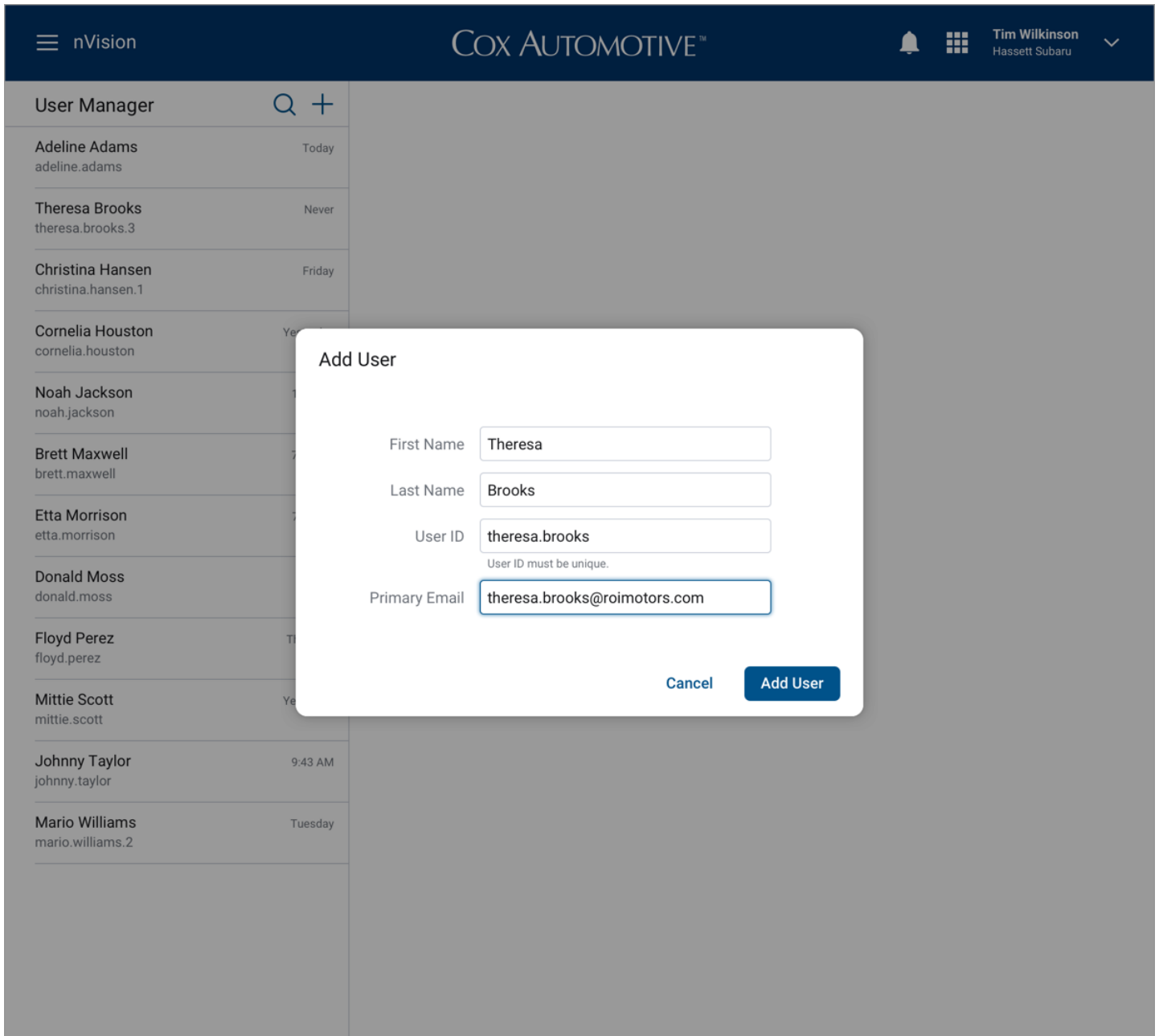
return

Bottom drawer for message authoring in Slack, iOS.

Bottom drawers are a relatively new pattern on both iOS and Android that seem to be gaining popularity due to their ergonomic appeal of thumb-friendly interactions. They are variation of the modal view (iOS) or full-screen dialog (Android) that similarly cover the entire screen on smaller devices, but usually have a distinct “pull bar” at the top of the component as an affordance for expanding and collapsing and sometimes present with rounded corners to further emphasize their modality.

nSemble

Currently in nSemble, we have a one-size-fits-all approach to modal dialogs. While that works for a basic experience and meets the minimum requirements, as someone who also works in native mobile, I feel obligated to push the envelope a bit further.



Currently for a situation like the desktop experience above, we would just shrink the dialog container to fit the available screen space within the viewport (see below).



Adeline Adams

adeline.adams

Today

Add User

First Name

Theresa

Last Name

Brooks

User ID

theresa.brooks

User ID must be unique.

Primary Email

theresa.brooks@roimotors.com

Cancel

Add User

Donald Moss

donald.moss

1/4/16

Floyd Perez

Thursday

While this works well enough, it has its limits. If, for example, there is more content than what can fit within the available screen space, things start to feel a bit cramped.

Add User

First Name

Theresa

Last Name

Brooks

User ID

theresa.brooks

User ID must be unique.

Primary Email

theresa.brooks@roimotors.com

First Name

Theresa

Last Name

Brooks

User ID

theresa.brooks

User ID must be unique.

With the narrow margin running between the edges of the dialog container and the viewport and the content scrolling behind the dialog footer and out of view, we begin to feel the modal dialog wanting to take up the maximum space available. But before we do that, let's lay down some guiding principles to help us evaluate.

Consistent

The modal dialog in the mobile context needs to have a consistent experience with the desktop version. This keeps the experience within the expectations of the multi-device user and lessens the learning curve. It also limits complexity of the design system, making it easier to scale and maintain.

Optimal

Although we want an experience that is consistent, we can't be beholden to consistency for consistency's sake. We need to make sure that we're still designing according to context. Since the form factor between mobile and desktop changes, it makes sense to change the design with it and offer an improved experience within that device's context.

Practical

The tug-of-war between being consistent and being optimal is inevitable, so we will defer to practicality to find balance. If the mobile experience diverges too greatly from that of desktop, not only will it be a burden for designers as they put their prototypes together, but it will also be a pain point for developers as they implement the solution.

With these principles in mind, let's take a look at a possible recommendation for modal dialogs on mobile.

Add User

First Name

Theresa

Last Name

Brooks

User ID

theresa.brooks

User ID must be unique.

Primary Email

theresa.brooks@roimotors.com

After reviewing the prior art from native design systems above, this feels a bit more at home on mobile than the current solution. This is even more notable when we add scrolling content.

Add User

First Name

Theresa

Last Name

Brooks

User ID

theresa.brooks

User ID must be unique.

Primary Email

theresa.brooks@roimotors.com

First Name

Theresa

Last Name

Brooks

User ID

theresa.brooks

To really drive the point home, let's do a side-by-side comparison.



Adeline Adams

adeline.adams

Today

Add User

First Name

Theresa

Last Name

Brooks

User ID

theresa.brooks

User ID must be unique.

Primary Email

theresa.brooks@roimotors.com

Cancel

Add User

Donald Moss

donald.moss

1/4/16

Floyd Perez

Thursday

Add User

First Name

Theresa

Last Name

Brooks

User ID

theresa.brooks

User ID must be unique.

Primary Email

theresa.brooks@roimotors.com

First Name

Theresa

Last Name

Brooks

User ID

theresa.brooks

User ID must be unique.

Add User

First Name

Theresa

Last Name

Brooks

User ID

theresa.brooks

User ID must be unique.

Primary Email

theresa.brooks@roimotors.com

Add User

First Name

Theresa

Last Name

Brooks

User ID

theresa.brooks

User ID must be unique.

Primary Email

theresa.brooks@roimotors.com

First Name

Theresa

Last Name

Brooks

User ID

theresa.brooks

Comparing the two, the updated modal dialog (right) is more optimal for mobile, while remaining consistent with the desktop experience and practical for implementation.

This does, however, raise the concern of differentiating between an instance where a smaller, more compact version of the modal dialog is the better solution for mobile (like an Alert) and an instance where a larger, more expanded version of the updated modal dialog is better (like a Full-Screen Dialog). But that is something we can sort out after we come to an agreement on the recommendation at hand.