Interaction Guide

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Introduction

This document is intended to rationalize the high-level, yet systematic approach taken to both overall interaction concepts and application designs. This document should assist developers in extending the work has done to other screens, flows, and will remain a living document through future design activities.

The document is not a specification; instead, it acts as a set of heuristics, or guidelines, that can be used to make informed design decisions.

01 :: Windowing Model
The Windowing Model section captures our current thinking on the dual screen model. It includes areas still to be explored, concerns, and possible risks to the solutions presented.

Use this section within the Interaction Guidelines to code the user experience and use the Rules section to create QA requirements.

02 :: Application Model
The goal of this section is to identify and provide overarching Application Model concepts with specific application examples that show how the models can be extended to other applications.

03 :: Interaction Patterns
The beginning documentation for a set of key interaction patterns for the Flex Android experience such as Text Entry, Copy/Paste, Drag and Drop, Universal Clipboard, and Manage.

04 :: Transitions & Gestures
This section describes the gesture language including new gestures such as Pinch, Spread, and Pin & Drag. It also describes four of the key transitions for the Dual Screen experience.

1 :: WINDOW POSITIONING CONTROLS

1.0 :: Introduction

The Windowing Model section captures our current thinking on the dual screen model. It includes areas still to be explored, concerns, and possible risks to the solutions presented.

Use this section within the Interaction Guidelines to code the user experience and use the Rules section to create QA requirements. Use the Explore section for aspects to user test and review as code takes shape on the device.

The Windowing Dual Screen Model is a high-level model that manages the positioning of windows in single (closed :: front-back) and dual (open :: side-by-side) modes. See the WPM Flash Demo 005 to see all the rules in action.

The Application Dual Screen Model defines the different ways an application can use the Windowing Model.

1.1 :: Design Approach

Design Principles

We consider several principles as we design such as Direct Manipulation, Feedback, Task Optimization, Consistency, Visual Hierarchy, Subtractive Design, Affordances, Forgiveness, and Metaphors/Affordances. The following are especially important to this device.

Simplicity

The experience needs to be simple and intuitive so the user can work in a robust manner without confusion or having to think about what to do.

User in Control

From the iPhone HIG

"Allow users, not your application, to initiate and control actions. Keep actions simple and straightforward so users can easily understand and remember them. Whenever possible, use standard controls and behaviors that users are already familiar with.

Provide ample opportunity to cancel operations before they begin, and be sure to get confirmation when the user initiates a potentially destructive action. Whenever possible, allow users to gracefully stop an operation that's underway."

The underlying system can be very complex; however as designers, we make well-thought-out decisions to remove system complexity from the user; yet allow them to feel in control. When there are two equally good options we rule in favor of the user.

Aesthetic Integrity

From the iPhone HIG

"Appearance has a strong impact on functionality: An application that appears cluttered or illogical is harder to understand and use.

Aesthetic integrity is not a measure of how beautifully your application is decorated. It's a measure of how well the appearance of your application integrates with its function. For example, a productivity application should keep decorative elements subtle and in the background, while giving prominence to the task by providing standard controls and behaviors.

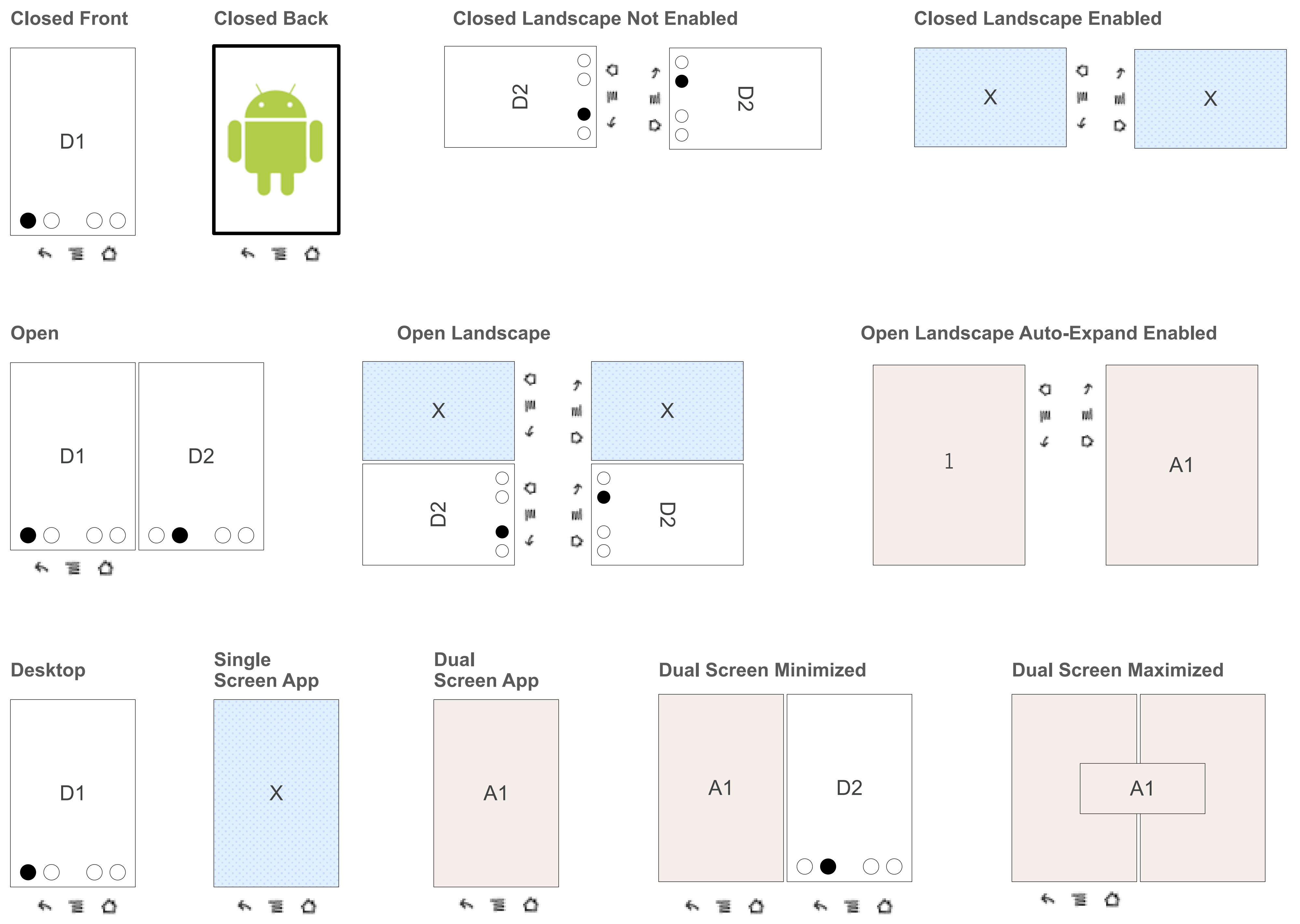
An immersive application is at the other end of the spectrum, and users expect a beautiful appearance that promises fun and discovery. Although an immersive application tends to be focused on providing diversion, however, its appearance still needs to integrate with the task."

Design Philosophy

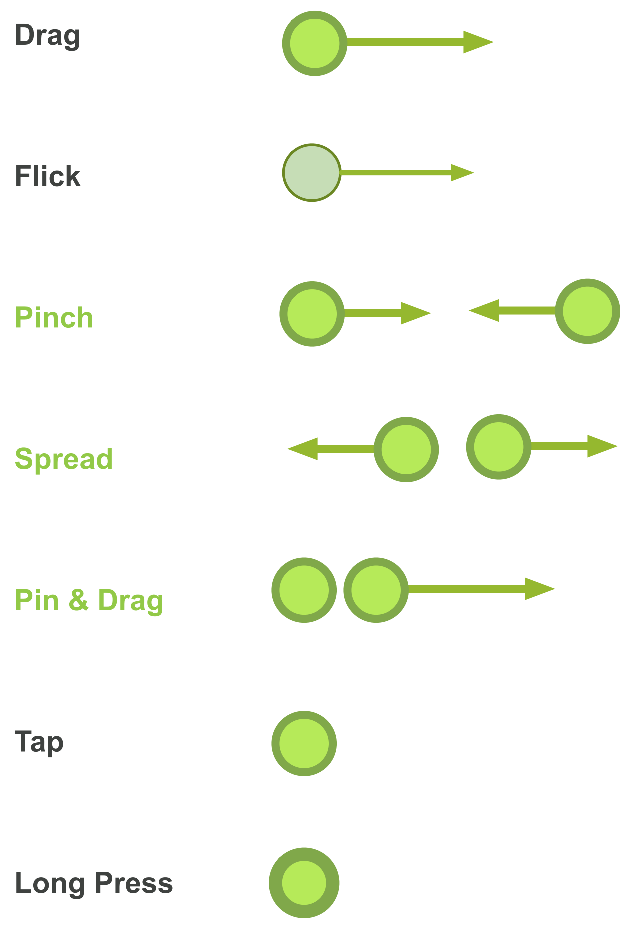
There are so many options, and lots of clever things that we as designers can do; however, we want the experience for the user to be easy-to-use. So we took a strong point of view on how to take advantage of the dual screen and we careful crafted the experience so the user will have a rich, robust experience without cognitive overload. We carefully consider not just what to put in, but what to take away.

1.2 Design Key

Wireframe Key



Gesture Key



NOTE: Flick has the same behavior as drag unless noted.

1.2.2 :: Open :: Reposition

Rules

Desktop 1 docks to the left on startup (base home).

Desktop is below the applications and it can not be repositioned.

Flick or drag left "bonks" if a desktop pane, or one single or dual application is in left screen.

Flick or drag right "bonks" if a desktop pane, or one single or dual screen application is in right screen.

Flick or drag right with a single-screen application in the left screen will move that application to the right screen.

Flick or drag left with a single-screen application in the right screen will move that application to the left screen.

The annunciator is full screen.

Buttons on the right are either all on or all off. Left buttons are always on.

Right buttons are off when a dual screen application is in full screen mode or the desktop is showing in both screens.

Explore

Tech: performance - the defined gestures and transitions need to be very quick and responsive. Test and refine once you get the code on the target device.

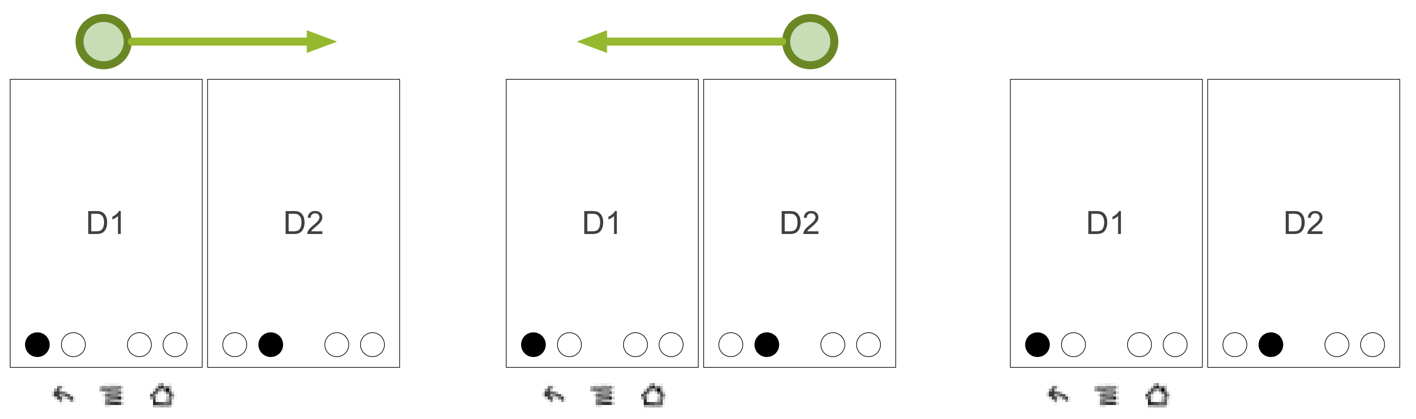
Android Variation

Desktop is a carousel

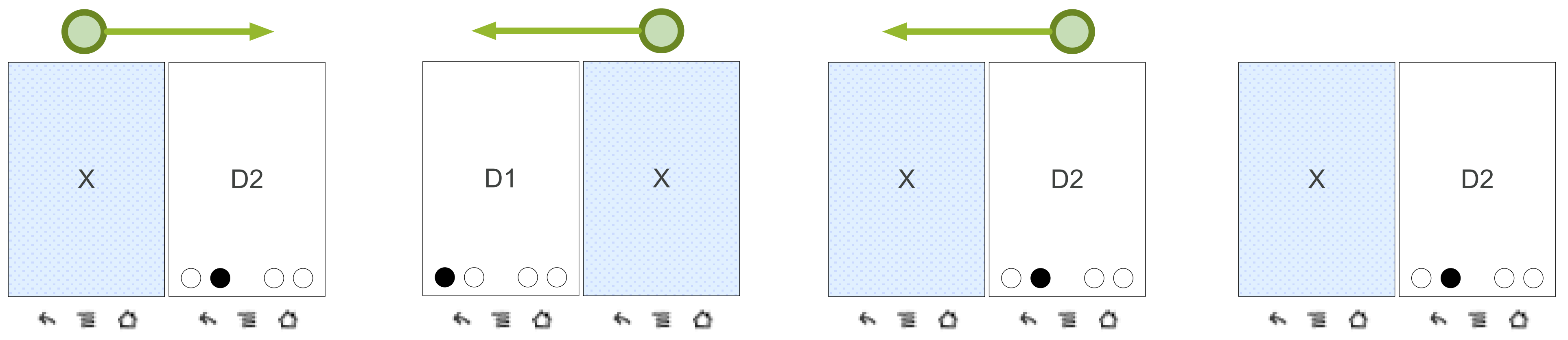
Flash Demo

See the WPM Flash Demo 005 or the Video to see all the rules in action.

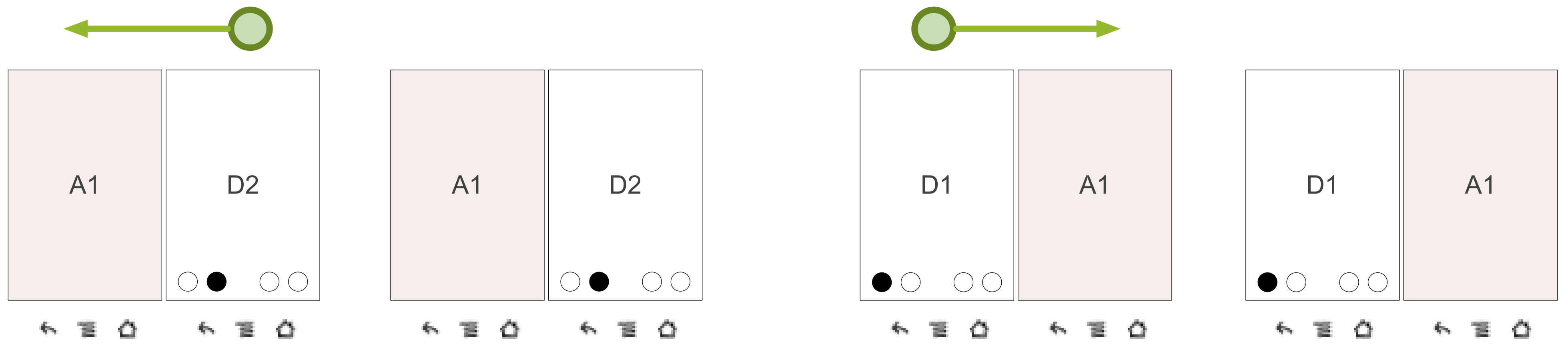
Desktop



Single Screen Application



Dual Screen Application



1.2.4 :: Open :: Maximize, Minimize, and Reposition Dual Screen Application

Rules

Dual screen applications open in minimized mode.

Drag and release when a dual-screen minimized application is half way across the second screen will snap it to maximized.

Drag a dual-screen minimized application all the way to the other edge will maximize the screen.

If the user continues to drag after the app is fully expanded, the application will pull away from the other edge and once that edge is halfway across that screen the application will reposition in minimized mode.

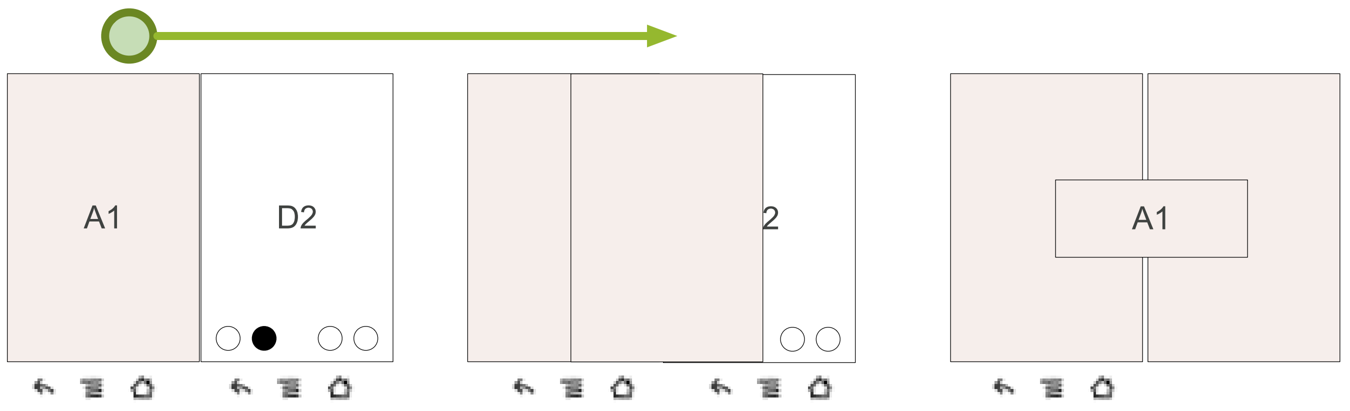
Flick will not maximize a dual-screen application. Flick will reposition a minimized application.

Flick will minimize a maximized application.

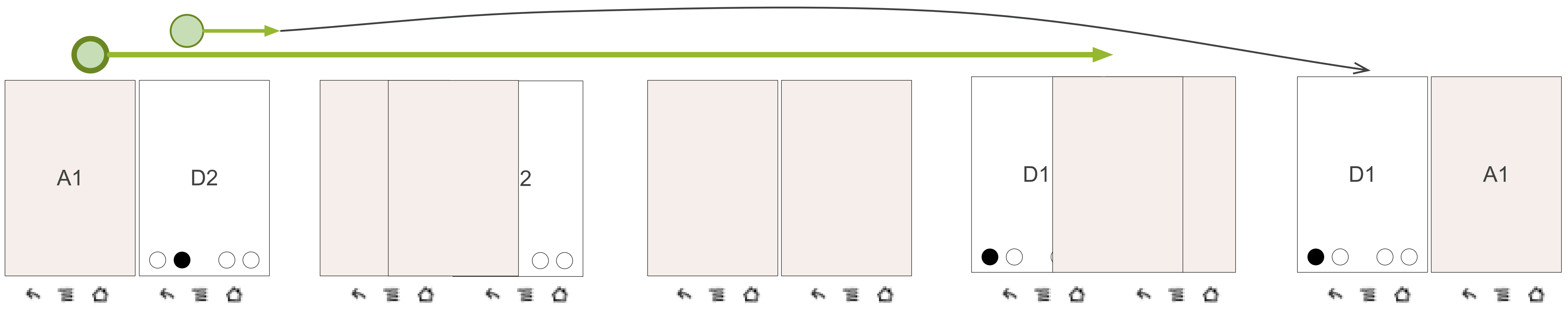
Test

Flick is a way to quickly move through all cards whether dual or single screen. Drag is used to maximize. Test to be sure they are clearly different and are valuable to a large range of users. If the variation between drag and flick is not valuable, then tweak flick to jump from min to max.

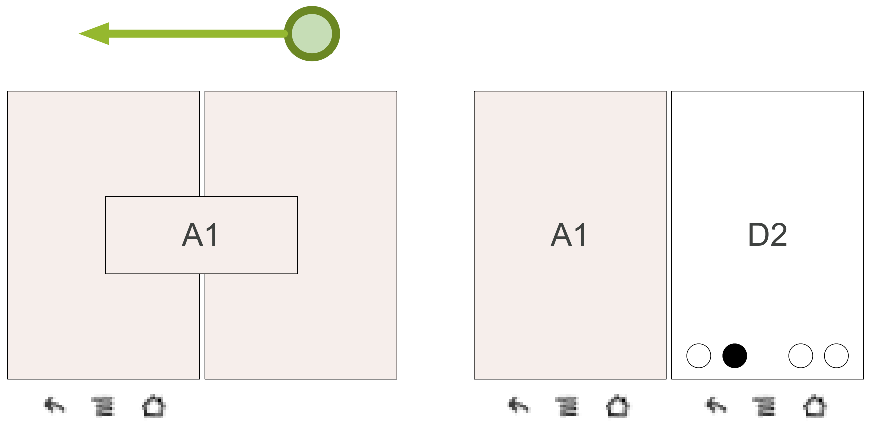
Maximize Dual Screen Application - drag only



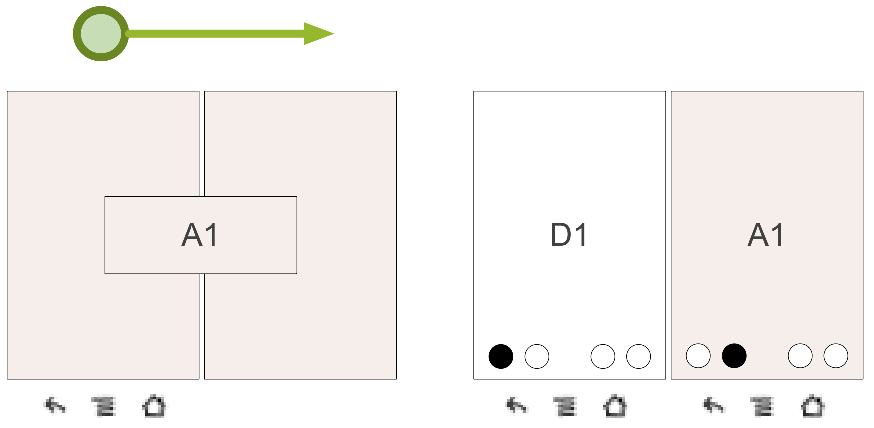
Reposition Dual Screen Application - flick jumps from 1 to 5



Minimize and Reposition Left



Minimize and Reposition Right



1.2.5 :: Open :: Repositioning Stacked Application "Cards"

Rules

When apps are moved to an available screen, they are "stacked" in the mind of the user.

Apps may suspend or close, so the apps that are moved are screen captures (pngs).

Apps that suspend or end remain in the stack of "cards" until the user closes them (via back or in the Application Manager).

There is a defined lag time during browsing the cards before the screens are loaded.

If the screen that is loaded, is an application that has closed, then show the loading overlay until the app launches.

Explore

Once we test on the device, we may want to use title overlays on cards to help users know what cards they are moving through. The same overlay can show loading feedback on pause as the app is launched (resumed or restarted—open apps should open so fast you don't need the loading indicator).

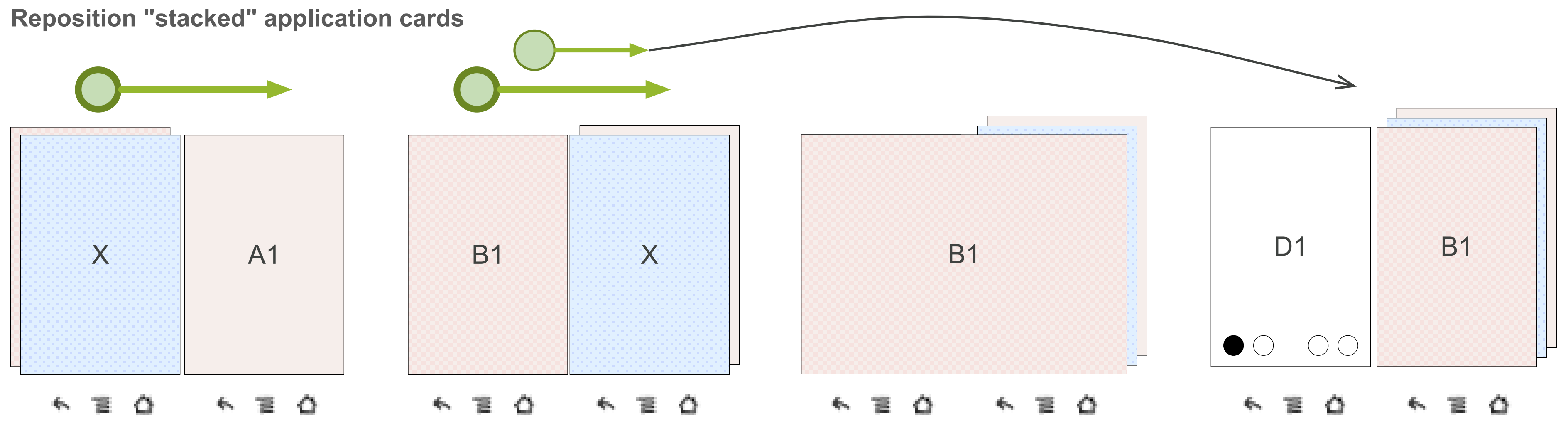
Need understand user intention during move—how long is a pause so the app is opened versus a pause during move. Need to tweak on device to get the best experience .

User Test: Determine the gesture pause time before an application is loaded during a move.

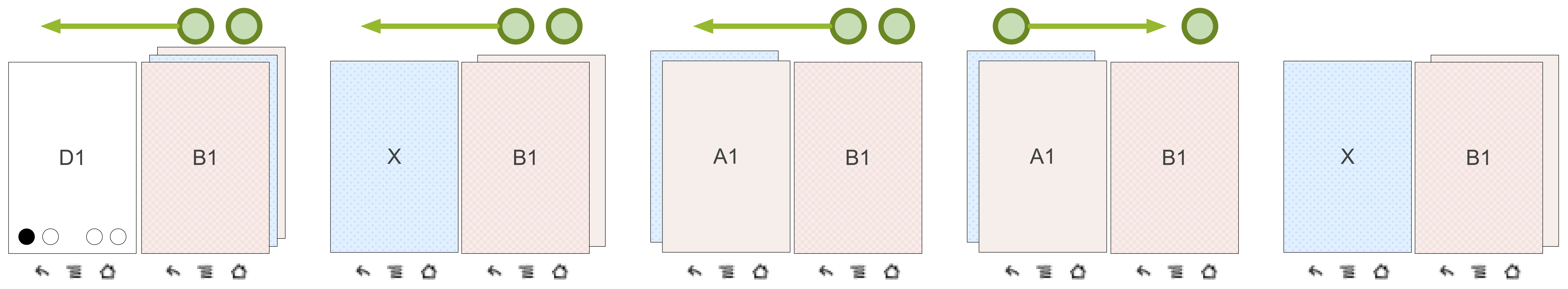
Tech: Test and refine on the device to make this a fluid experience during move, pause, and load.

Tech: Determine the limit of "cards" open at a time. Since cards do not have to be running apps, hoping the number can be quite high.

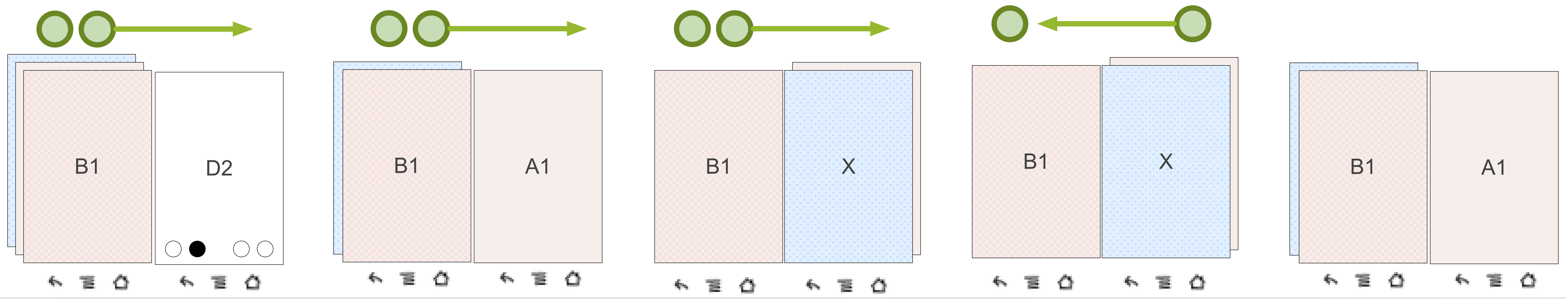
Reposition "stacked" application cards



Pinning and Moving Application Cards



Pinning and Moving Application Cards



1.2.6 :: Open :: Pinch :: Swap Screens

Rules

Dual Mode: Swap the left and right cards.
Single Mode: Swap the first and next card in the "stack."

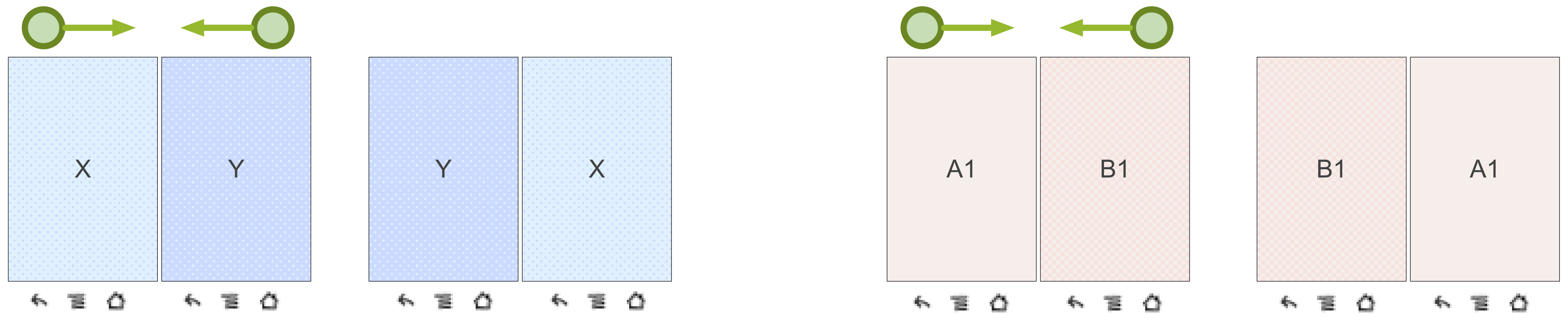
No swap on a dual-screen application using window controls.

No swap with Desktop in both screens.

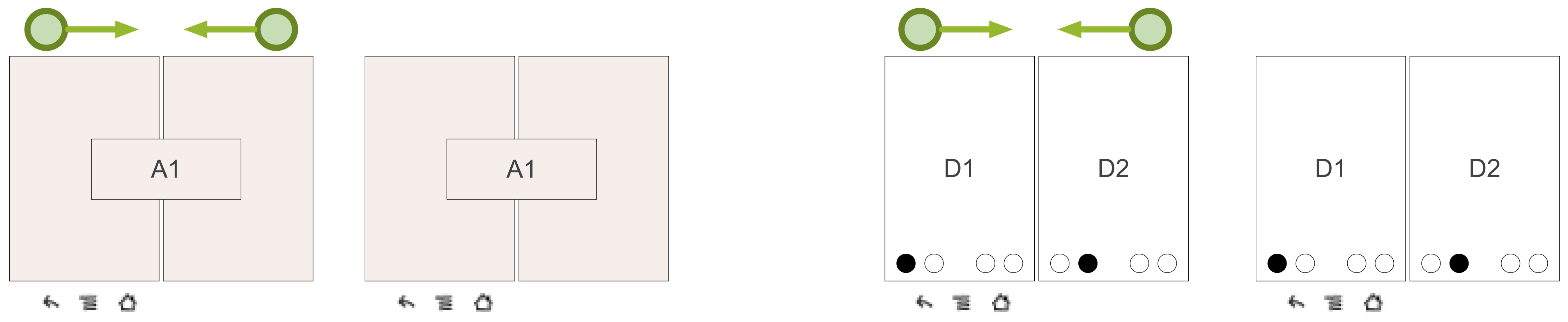
Swap one app open moves it from side to side.
No change in Single Mode.

See the swap gesture flash demo in the dropbox for details on the gesture

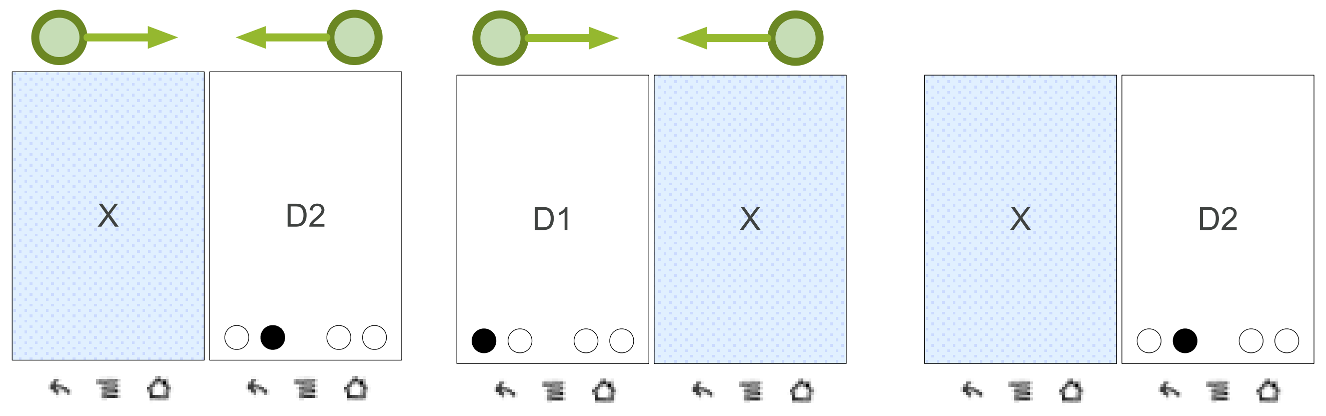
Swap 2 Applications



Swap Full Screen - bonk



Swap Single Screen



1.2.7 :: Open :: Spread :: Application Manager

Rules

Long press on Home or Spread will open the Application Manager.

The App Manager contains icons representing all open apps in both screens. The list is navigated by swiping left or right.

Applications can be closed by tapping on the close icon. This closes the app and removes it from the Application Manager.

The apps are represented in the App Manager according to their position in the stack. The first icon represents what is at the bottom of the stack, and the last icon represents what is at the top of the stack (under the currently displayed application).

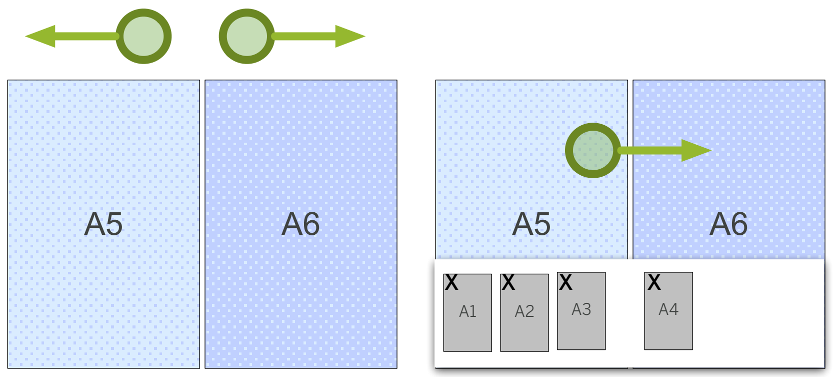
The currently visible apps on screen do not appear in the App Manager.

The Desktop does not appear in the App Manager. In order to exit the App Manager and return to the desktop, the user presses Home. The reveal gesture will also close the App Manager and display the desktop.

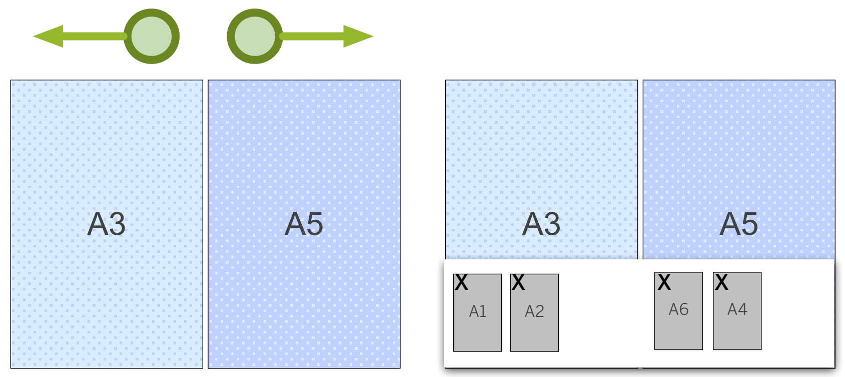
The App Manager can be closed via: pressing the Back button, tapping on one of the full screen apps, or dragging the App Manager drawer down.

The stack on each screen is represented in the App Manager on the left or the right, depending upon in which screen the app is open. Tapping the app in the App Manager will open the app in the screen, and close the App Manager tray. Apps can also be dragged to either screen from the App Manager tray.

Open Application Manager



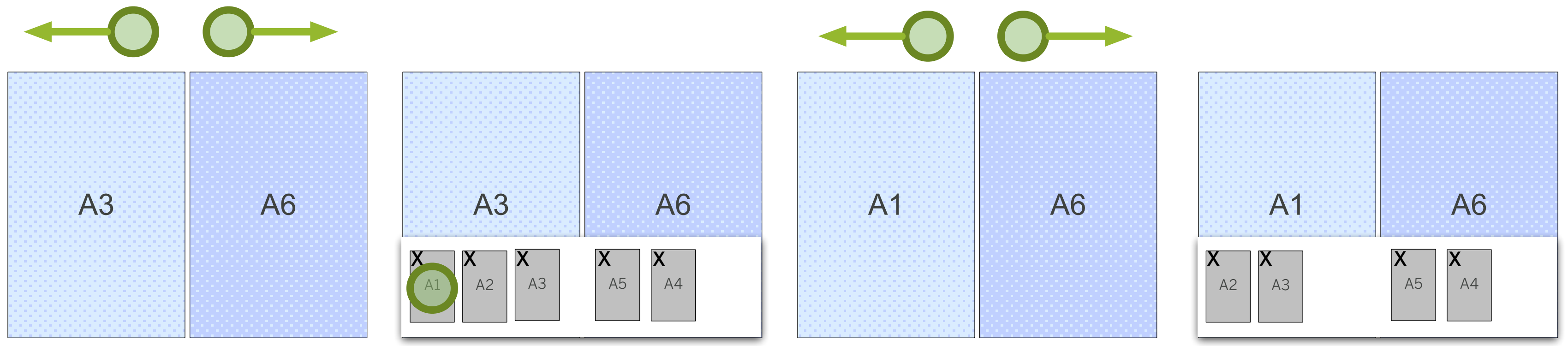
Move an Application



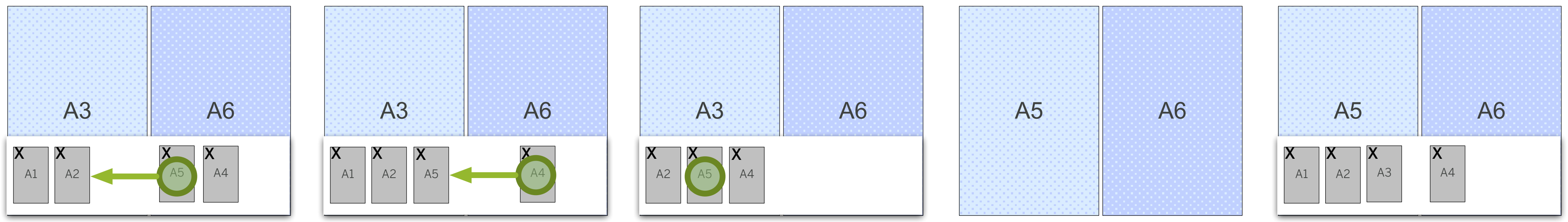
denise to review
want to address
auto min on a
dual screen app

changed title

Select an App to Open from App Manager



Dragging apps in App Manager



1.2.7.1 :: Open :: Spread :: Application Manager (cont'd)

Rules

Long press on Home or Spread will open the Application Manager.

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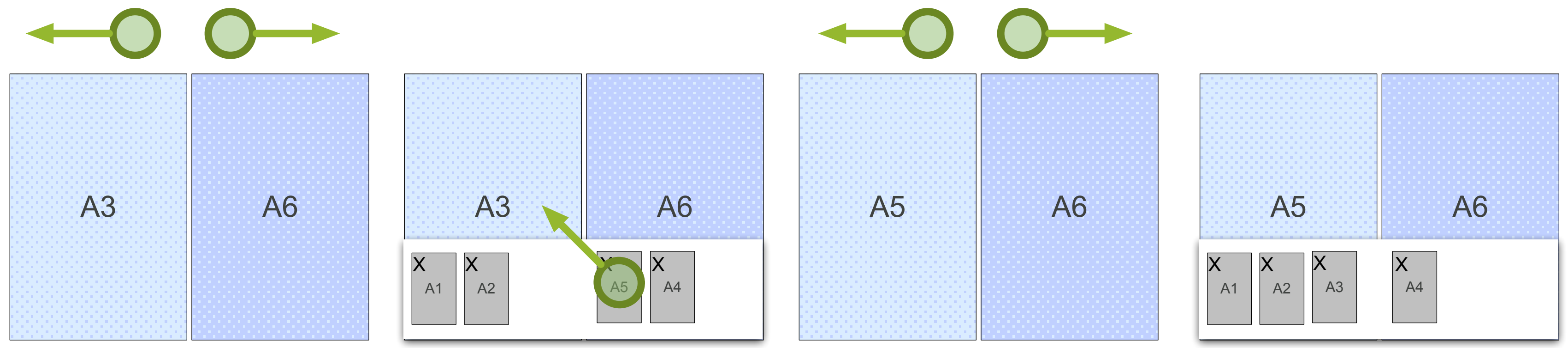
Dragging an app to a screen from App Manager



denise to review
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auto min on a
dual screen app

changed title

1.2.8 :: Open :: Bottom Buttons : Press Back & Home

Rules

Back rules apply here the same way they apply in Android.

Back key press is back in app in that screen. If a 0 Android Task Stack, the application is closed.

Home key press (left or right) reveals the desktop.

When in Reveal, Tap on Back, Home, or in the capacitive strip above closes the reveal.

User can interact with Desktop, but once an application is launched from a desktop, the reveal closes and the application is launched in the screen it was launched from.

Explore

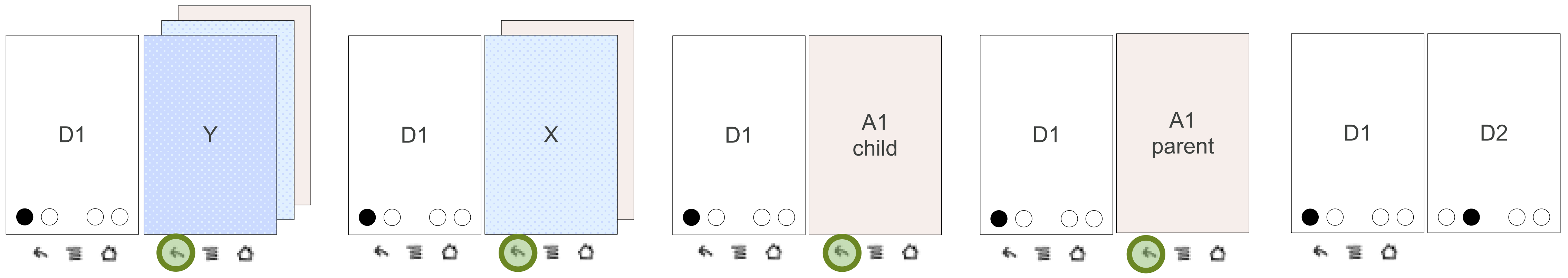
One Home key.Other key could be the Call key. LED lights change from white to red when in a call. Press Call once to go to Call Log, press 2 times to call first item in Call Log (dial last call).

Create a visual for Reveal that provides a hint that the cards are still there to the left and right. Could be capture of the current screens with just the edges showing.

Android Variation

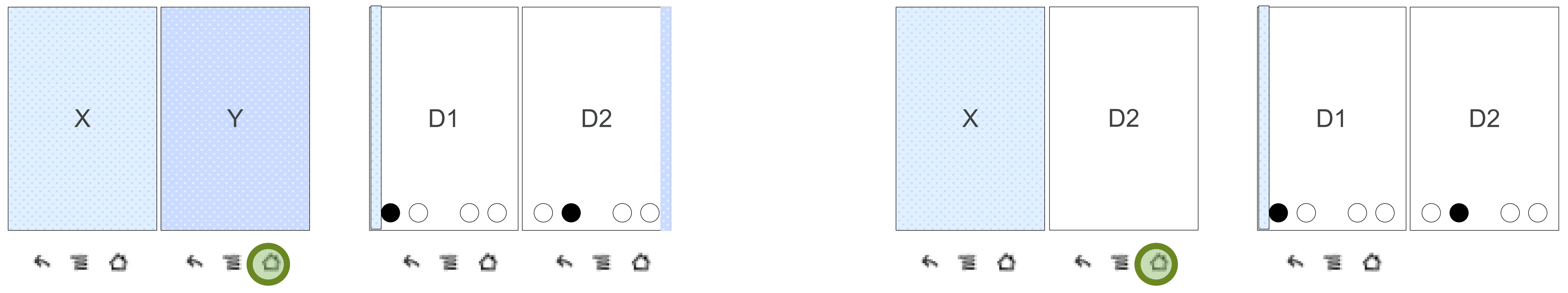
Press Home does not suspend all applications. That is done by Close All in the Application Manager.

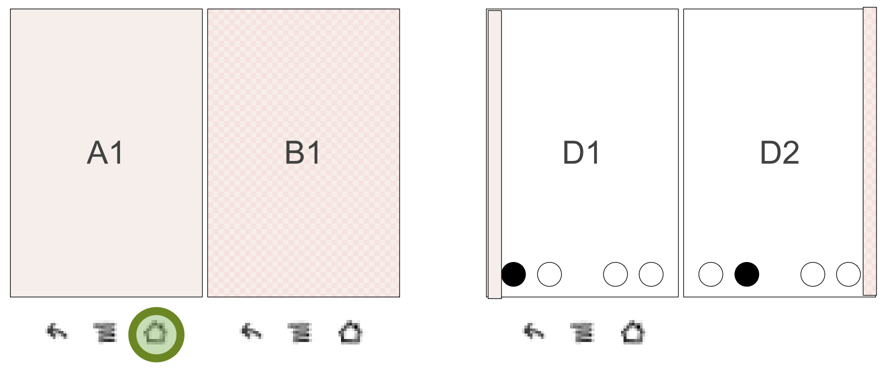
Back



Home Press

Tap either home button to reveal full desktop





1.2.9 :: Open :: Bottom Buttons : Press Menu

Rules

Press Menu opens the menu in the screen above the Menu button.

If another menu is open, press Menu closes the open menu and opens the menu above the Menu button.

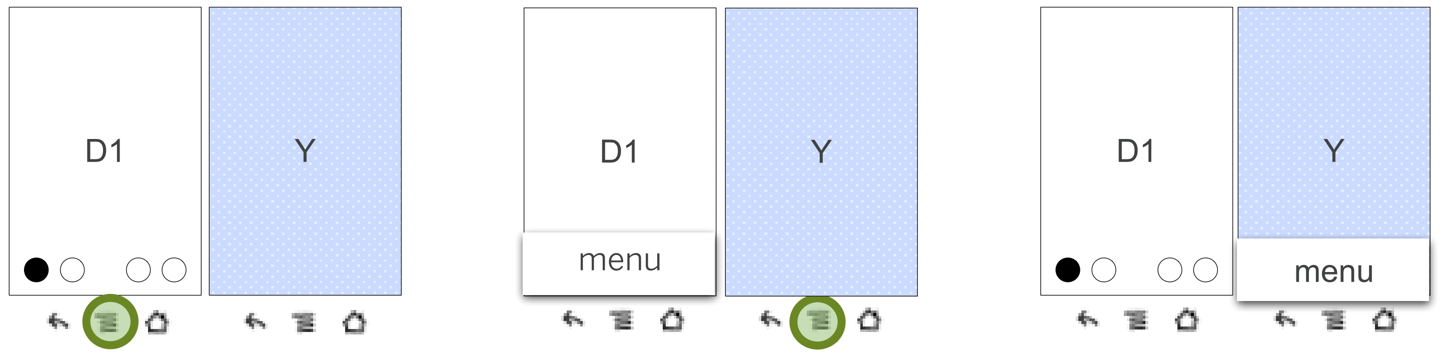
Menus are dismissed according to current Android rules.

Explore

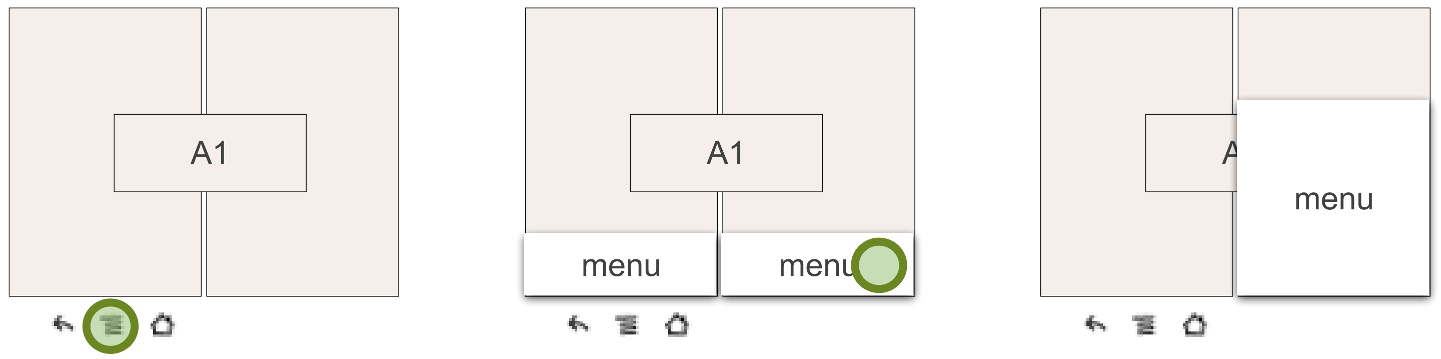
Other options to close menu (swipe down, tap menu bar)

Other options for menu in dual screen (action bar/menu).

Single Screen



Dual Screen



Tap "More" in a menu will open an "options expanded" menu

1.2.10 :: Open :: Bottom Buttons : Press & Hold Menu and Back

Note

Press and hold on menu opens the keyboard in Android. This is a usefull feature for some apps like Opera Mini that can take keyboard input. It is a great way to find a contact in the contacts list. We will want to continue to support this feature and so the following are rules on how this will work in dual screen. If the application does not capture the keyboard, this could be a way to provide global search

Press and Hold on Back can be captured by an application. For example, press and hold on Back in the Browser opens the Bookmark/History tab page. We should continue to support this feature and should test to be sure it works as expected in dual screen.

Rules

Press and Hold on the Menu opens the Keyboard across both screens.

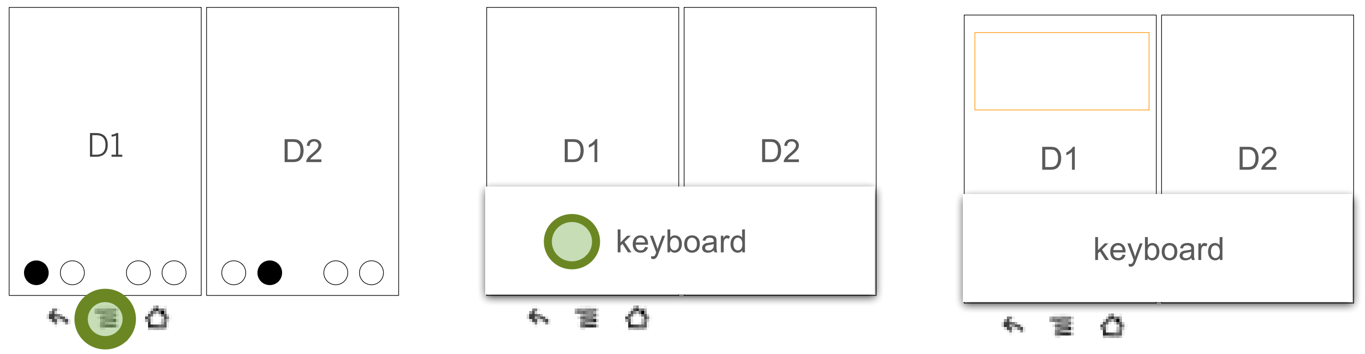
In the case of the desktop and dual screen application, the focus will go first to the left screen. Tap on the right screen will send the focus the right screen.

Explore

Test press and hold on Back and Keyboard to insure the behaviors are okay in all cases.

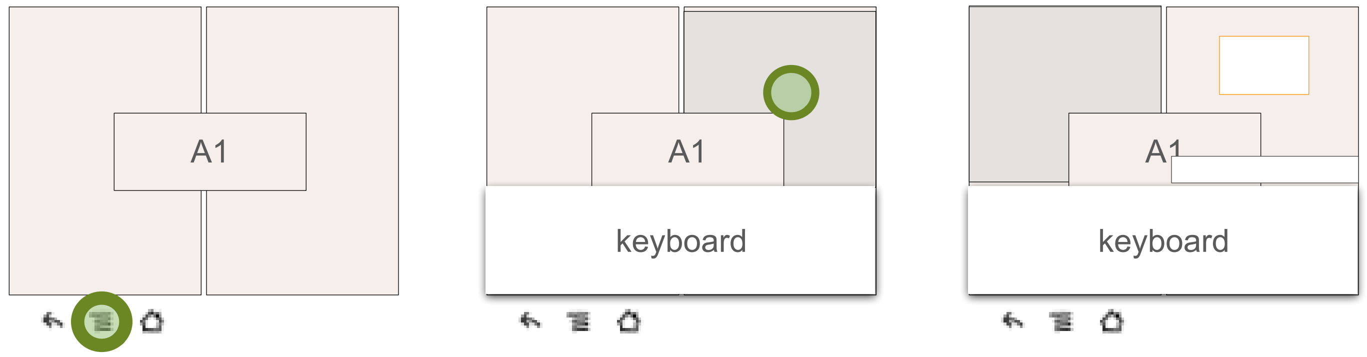
See the keyboard specification for more details.

Desktop



We don't think there will be a case where one desktop would capture the focus and do something other than Search. The search field and results will not appear until a key is tapped. If a search field is present, then the field will capture the key tap. If a search field is not present, the search field will appear in the left screen with the character tapped in the field.

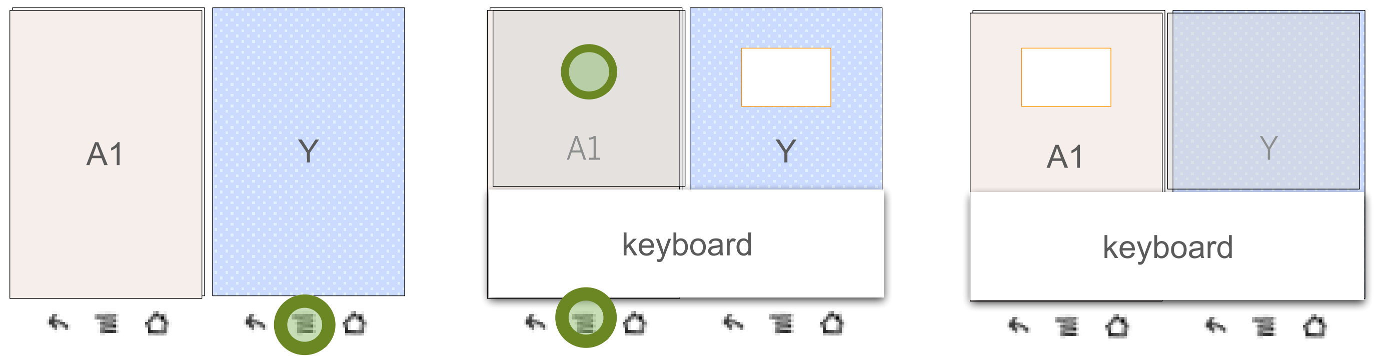
Dual-screen Application



The screen does not have to have an input field to accept keyboard input (e.g. Contacts). The focus goes first to the left screen.Tap the right screen to move focus to that screen. If a screen has an input field, the focus will jump to the first field on that screen and the input buttons will appear.

2 apps : option 1

tap screen or press and hold menu under screen to shift focus.



1.2.11 Open :: Bottom Buttons : Press & Hold Home

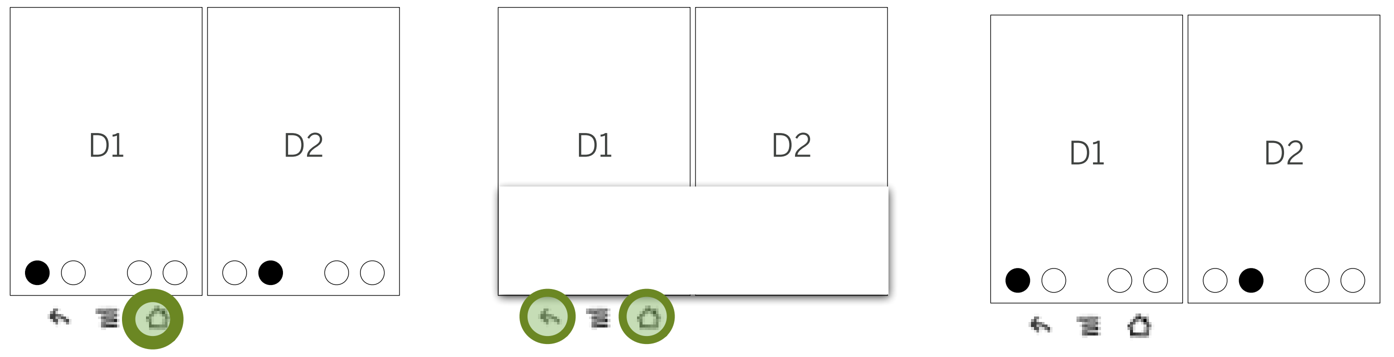
Rules

Press and Hold on Home opens
the Application Manager.

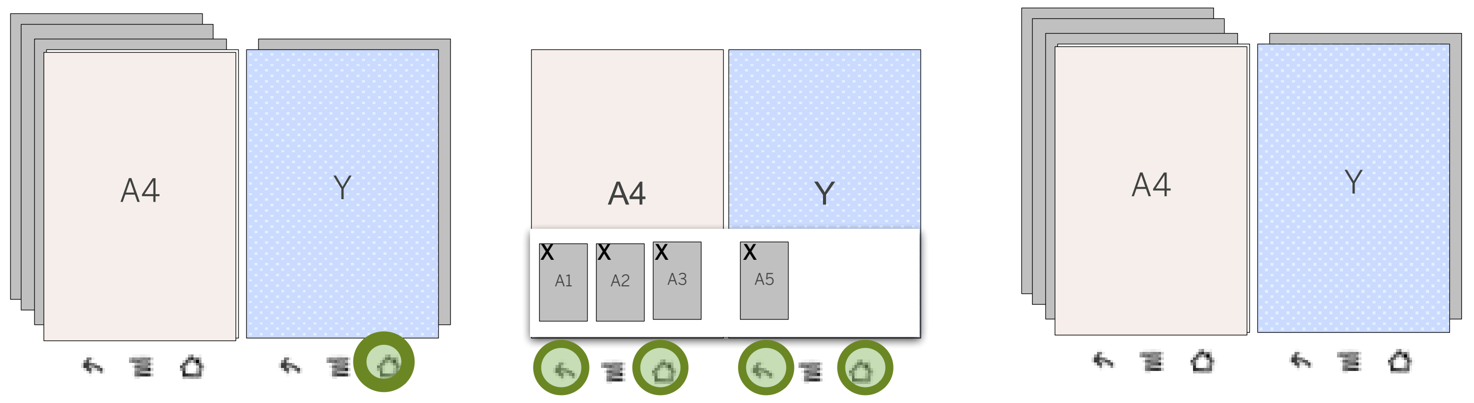
Press Home or Back to close
the Application Manager

See: Open :: Spread :: Application Manager
for more details.

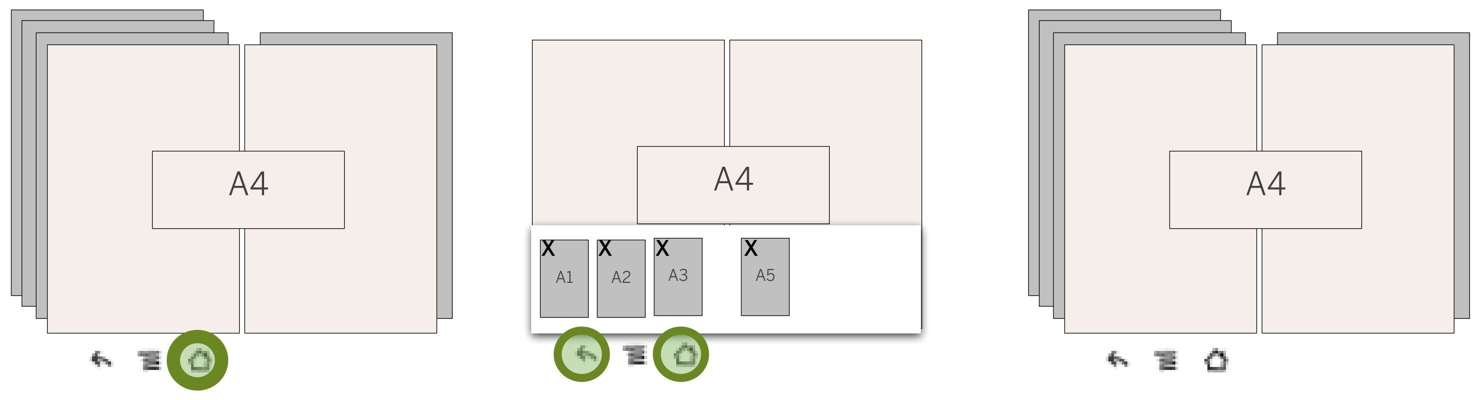
Desktop



Two Apps



Dual Screen



1.2.12 :: Open :: Launching an Application

Rules

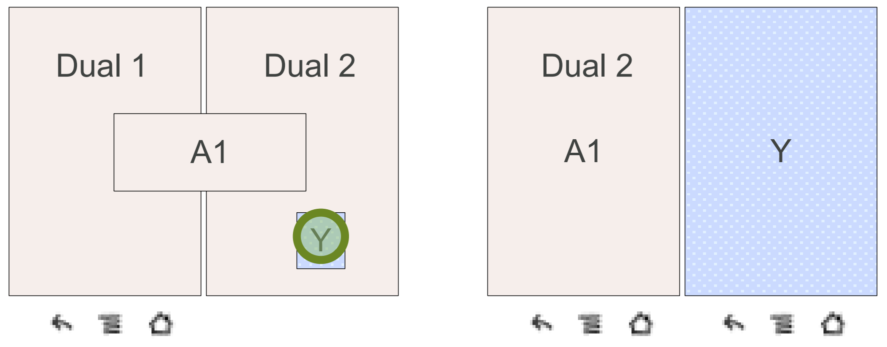
Launch opens the application in the screen it was launched from.

If launched from a dual screen application, the screen auto-minimizes to the left and the screen opens in the screen it was launched from.

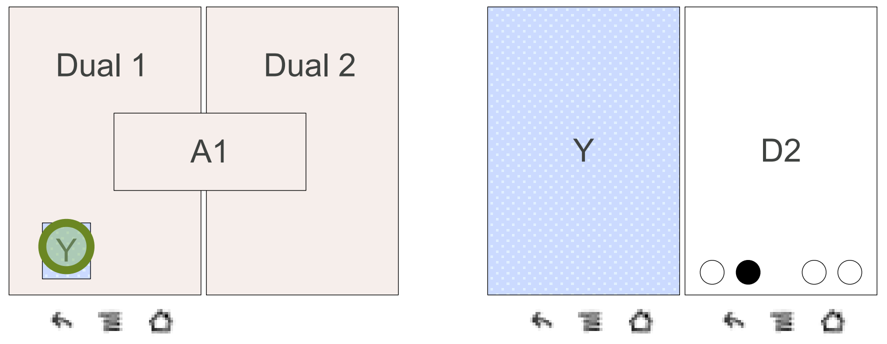
If an application is open, launch brings it to the front of the screen it was launched from.

Opening a screen that is contained in the application's hierarchy does not follow these rules. See the Parent Child Model in Application Models.

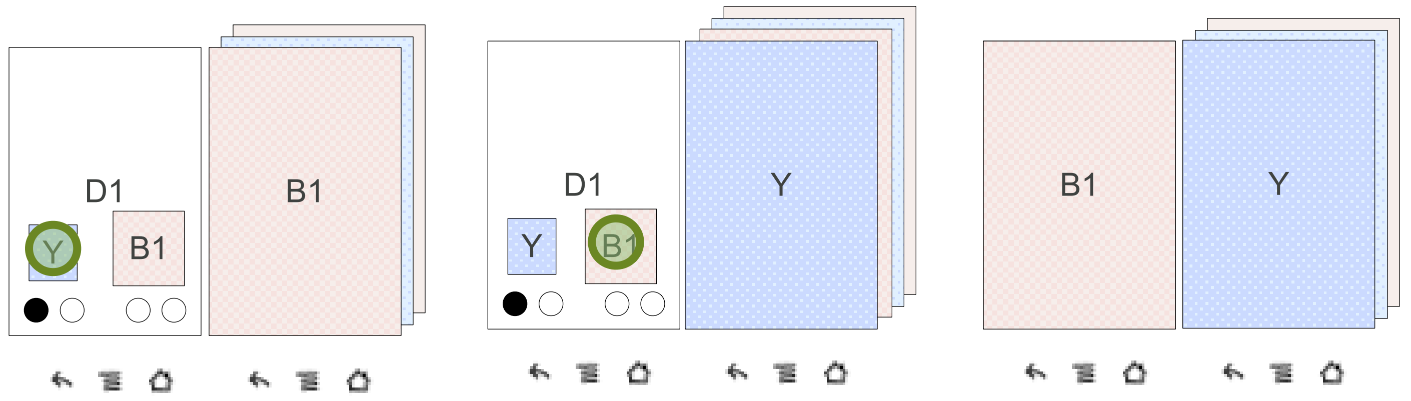
Launch on right of dual screen



Launch on left of dual screen



Relaunch an open application



1.2.13 :: Open :: Desktop Carousel

Rules

Desktop is a carousel. This allows the user to put a desktop in the left or right screen.

A dividing screen seperates Desktop 1 from Desktop 4.

Android Variation

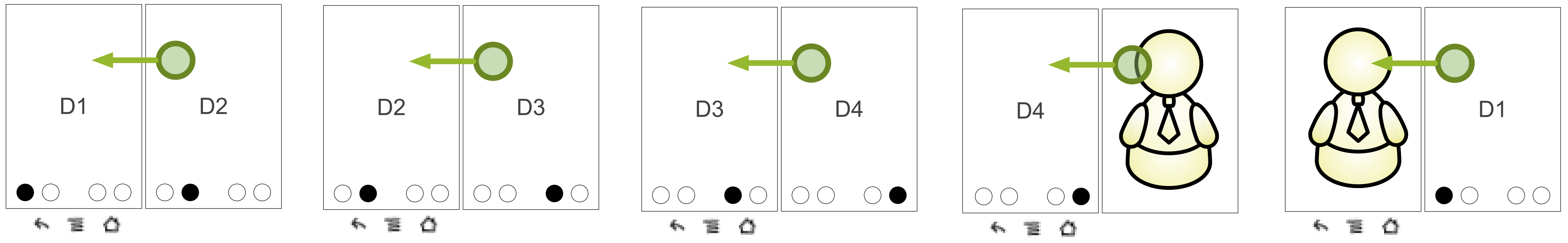
Desktop is a carousel.

Explore

Exploring using an image, the back of screen application, communication stream , file manager, or user specified application between D1 and D4.

The desktop will be covered in Phase 2. This flow will go into the desktop document.

Desktop Carousel



1.2.14 :: Open:: Annunciator and Status Bar

Rules

The annunciator is full screen.

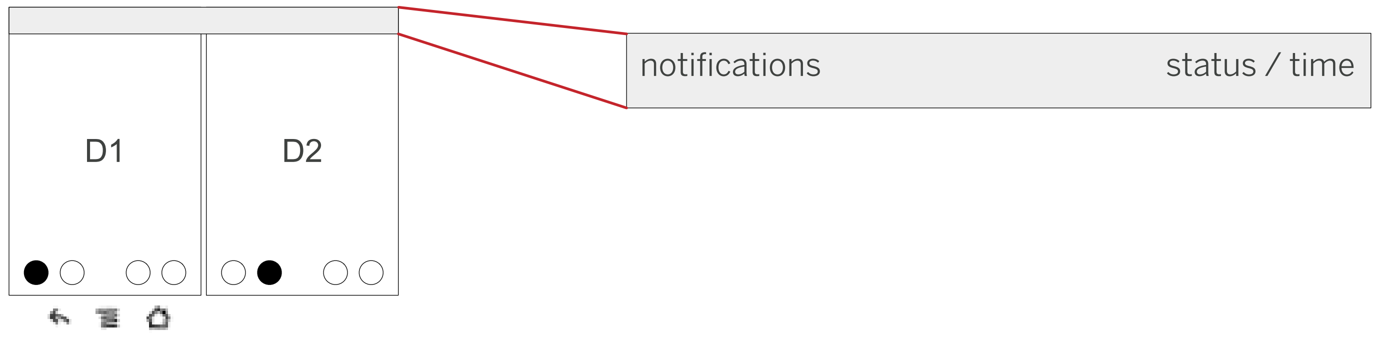
Notifications are left aligned and phone stuff and time are right aligned (like in Android today).

A dual screen application includes a visual indicator (the wave) to illustrate that it can be minimized or maximized.

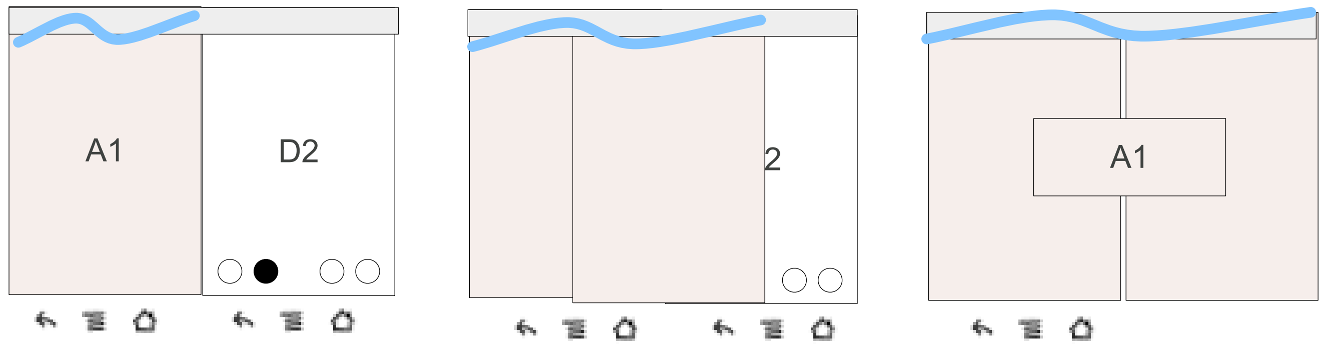
Notification drawer opens on the side it is invoked from.

This will be explored in more detail in Phase 2.

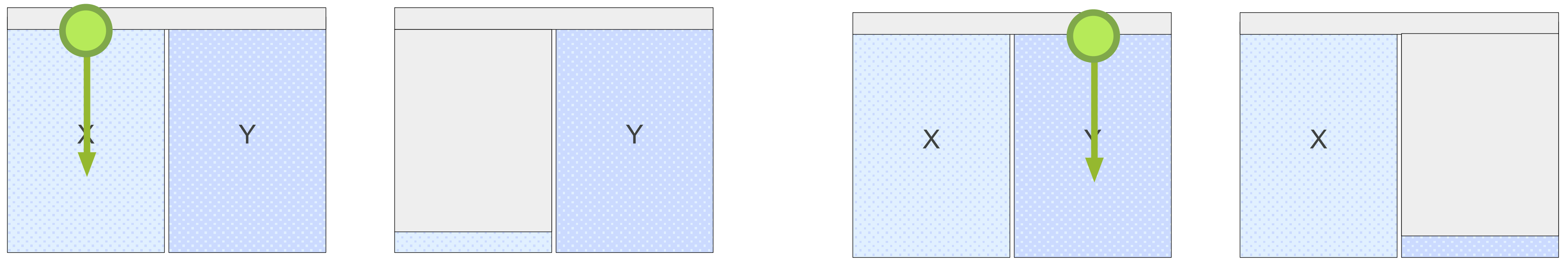
Annunciator spans the screens



Wave extension



Drawer opens either side



1.2.15 :: Open:: Application Menu

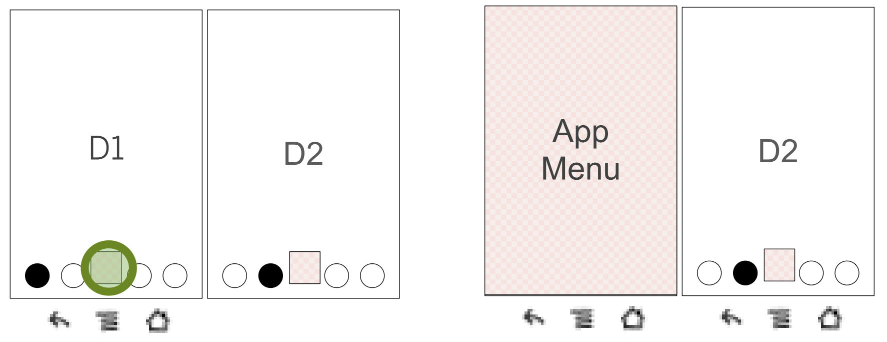
Rules

Available from all desktops.

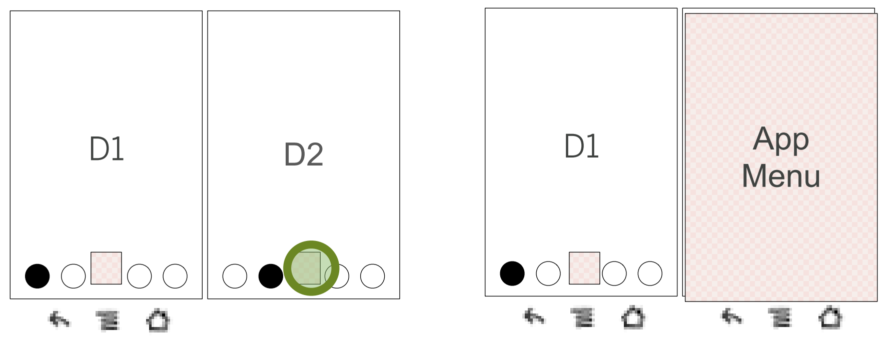
Opens over desktop it is launched from.

This will be addressed further in Phase 2.

Launched on left



Launched on right



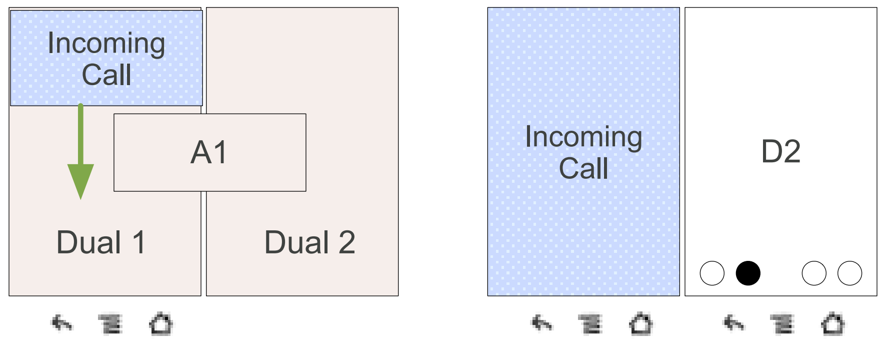
1.2.16 :: Open:: Incoming Call or Notification

Rules

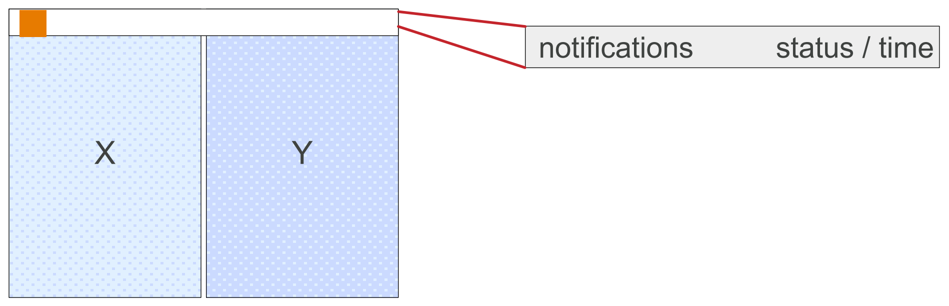
Call comes down over left screen

Notification appears over left screen.

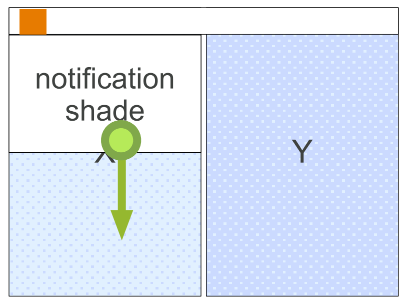
Incoming Call Transition



Notification Displayed in the Status Bar

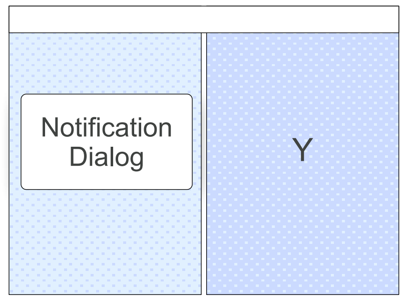


Notification Icon is displayed
Example: New Message



User may drag notification shade down to access more details

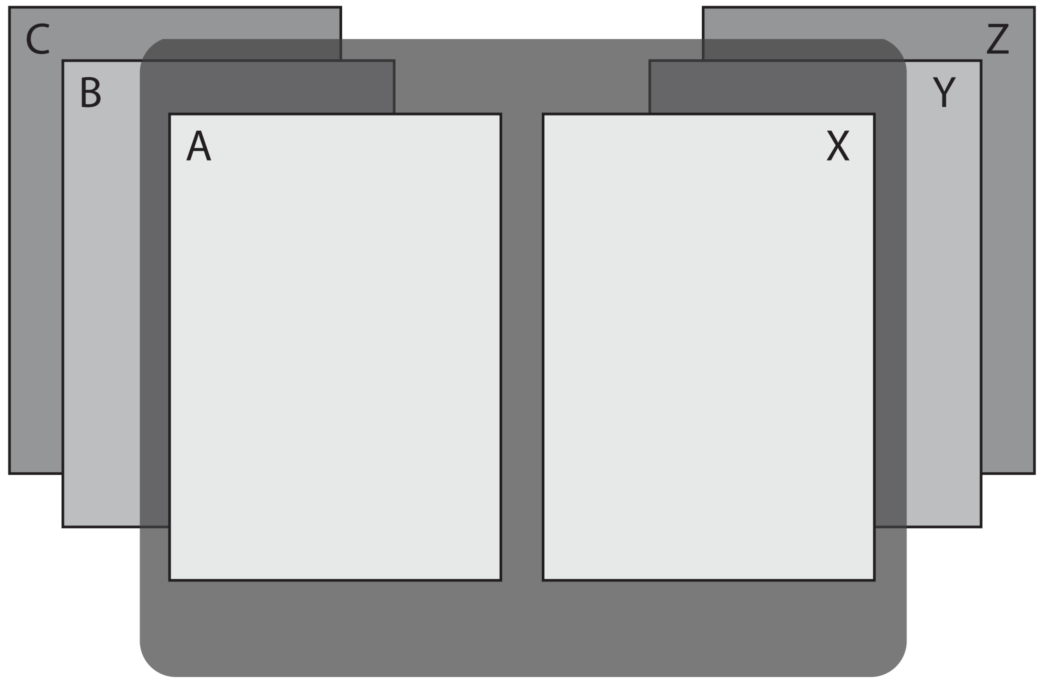
Notification Displayed as Dialog

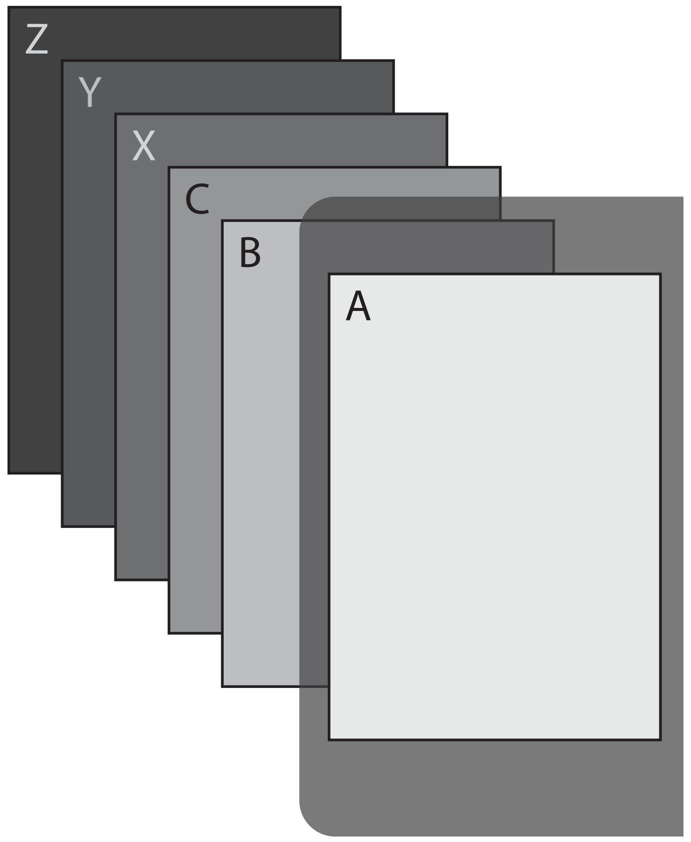


Notification Dialog is displayed over the left screen content.

1.2.18 :: Open to Closed

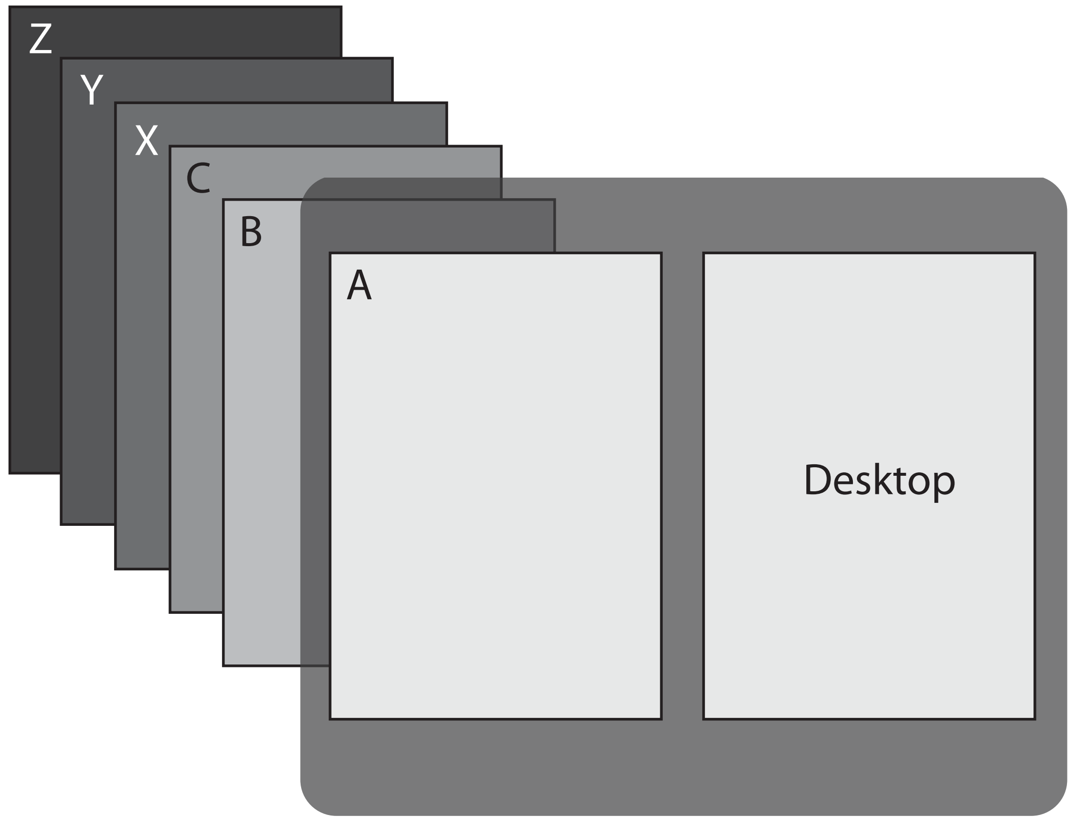
TBD: If the user has not navigated the application stack before re-opening the closed phone, does the system return the right-side applications to their previous locations?





1.2.19 :: Closed to Open

TBD: If the user has not navigated the
application stack before re-opening
the closed phone, does the system return the
right-side applications to
their previous locations?



1.2.20 :: Closed:: Back of Phone Explorations

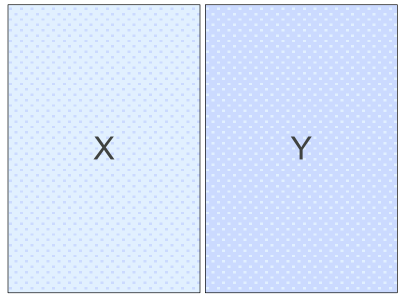
Rules
Not full function

One
Use back as a billboard

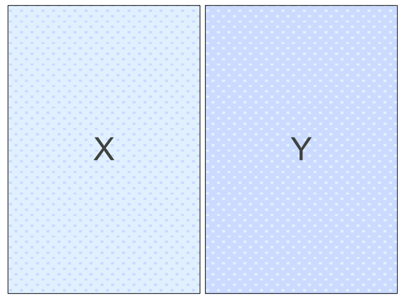
Two
Communication stream (single app)

Concerns
battery life
can phone discern front and back when held in different angles

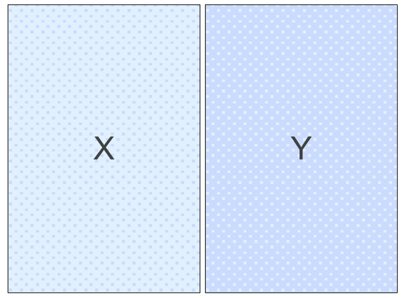
Flow name



Flow name



Flow name



2 :: APPLICATION MODELS

The goal of this section is to identify and provide overarching Application Model concepts. In most cases, each concept is described with a base set of guidelines that can be applied to other applications. Application flow examples show how the models are applied to different applications.

Screen layouts and details shown within screens to be addressed in future design phase. See the Application Model Flash Simulations to see some of the flows covered in this document.

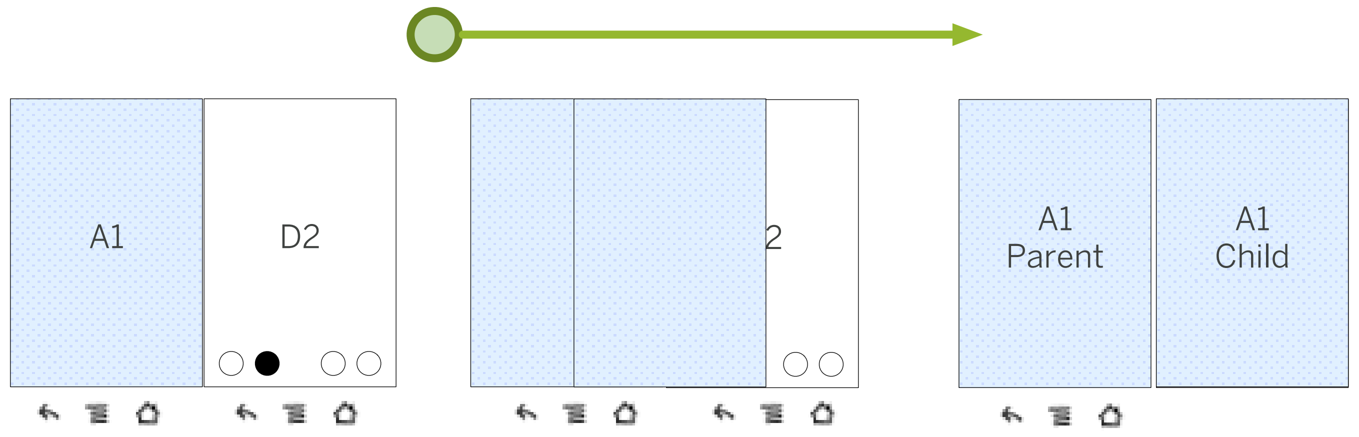
2.1 :: Parent Child Model

Hierarchical Navigation

Regardless of viewing mode—single screen mode, dual screen mode minimized, or dual screen mode maximized—the overall hierarchy and context of parent child relationships within an application should be preserved by launching each lower level or child in an additional secondary "window" rather than simply loading child content in the same window.

In dual screen mode the user must maximize the application to enable the side by side viewing of the parent and child, essentially viewing the hierarchy as a linear progression, the top most view on the left and the lowest or deepest level view on the right. This is supported by the use of directional transitions conveying the navigation direction and location of a view in relation to its launching point.

If there is more than one level of navigation, the application developer must choose the starting level to launch the application into. For example, Email is launched into the second level, Inbox. The application can save state and return the user to last level.



Maximizing the application launches child from the Parent "starting point" view, child displays in right pane of maximized view.

2.1.2 :: Generic Sample Flow

This flow diagram depicts a generic workflow for launching, maximizing then navigating the hierarchy within a dual screen application.

Note: The view shown on launch (the user's starting point) in the hierarchy, may or may not be representative of the top

1.0 User clicks a shortcut on the desktop (D1) to launch the application (A1).

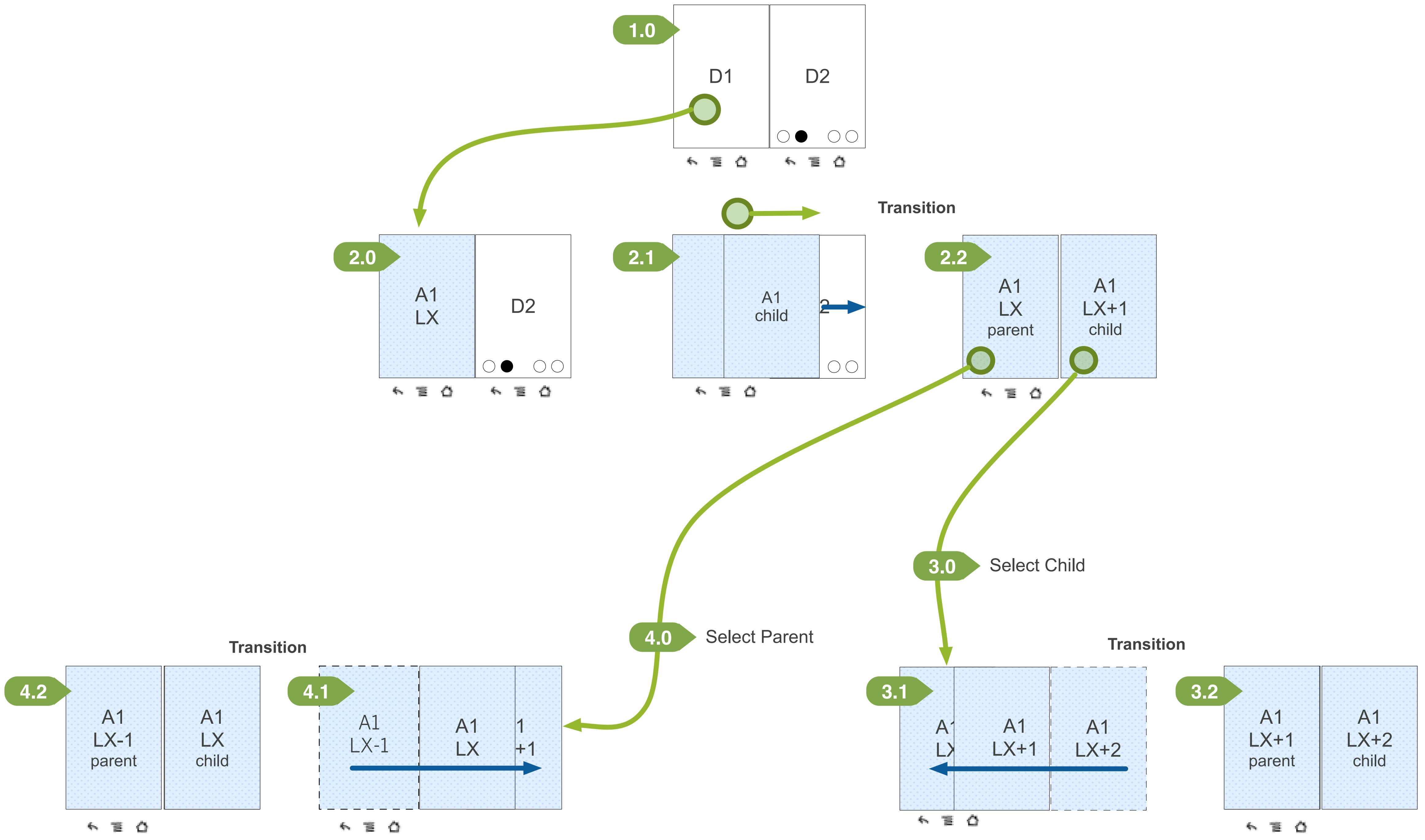
2.0 The application (A1 LX) opens to the defined parent in the screen it was launched from, in the case, the left screen of the device.

2.0-2.2 The user expands the application to dual screen to see the parent (A1 LX) and the child (A1 LX+1)
2.1 Illustrates the TRANSITION, see Windowing model documentation

2.2 Once expanded, the child appears based on rules set by application. E.g. first item in the parent's list.

3.0-3.2 The user selects a child from A1 LX+1. TRANSITION: A1 LX slides left offscreen followed by A1 LX+1, which is followed by A1 LX+2. A1 LX+1 takes the parent position on the left and A1 LX+2 moves into the child position on the right.

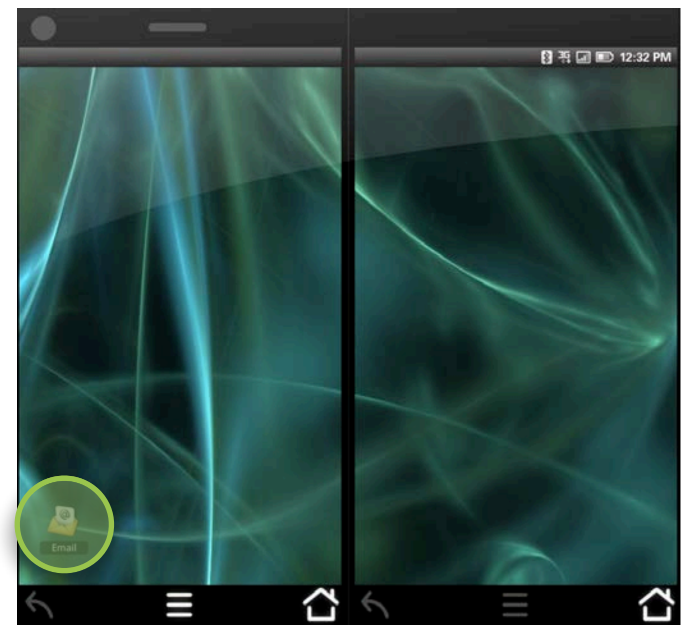
4.0-4.2 The user chooses to launch the parent (A1 LX-1) to A1 LX. TRANSITION: A1 LX+1 slides right offscreen followed by A1 LX, which is followed by A1 LX-1. A1 LX takes the child position on the right and A1 LX+2 moves into the parent position on the left.



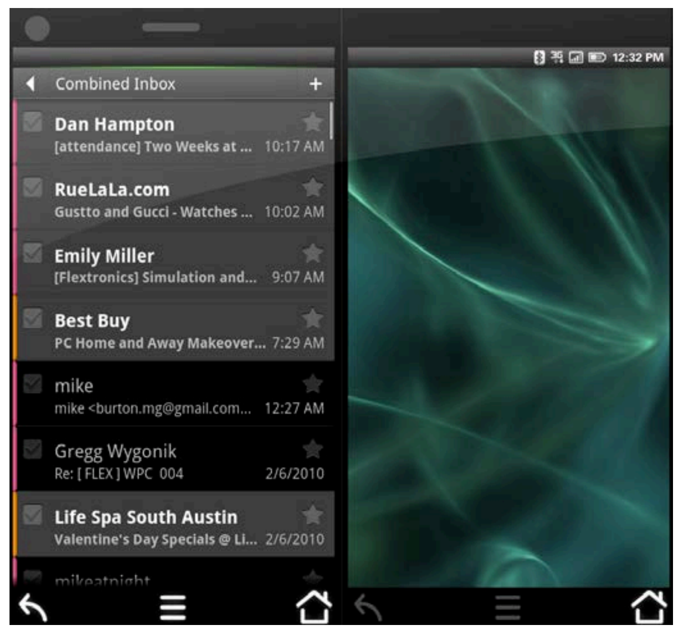
2.1.3 :: Application Flow :: Email

Parent Child Model

2.1.3.1 :: Example Application Flow :: Email



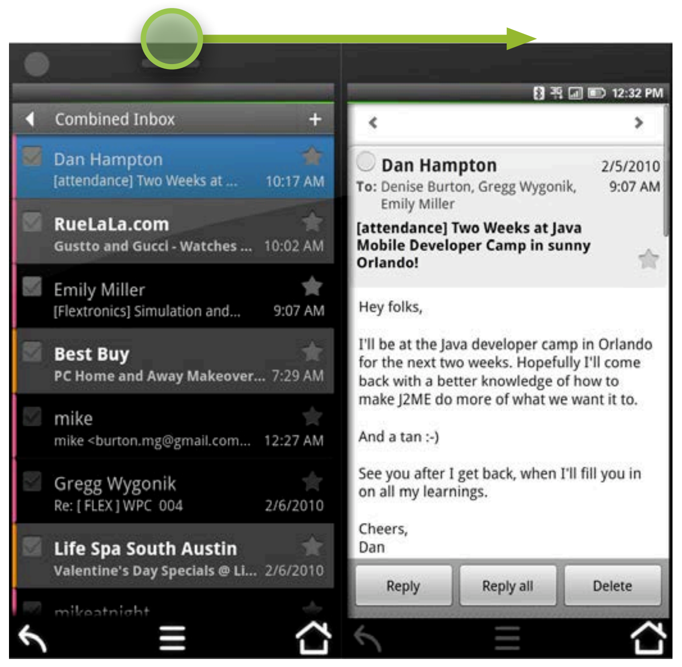
User launches email from the shortcut on the desktop



Dan Hampton
[attendance] Two Weeks at ... 10:17 AM
RueLaLa.com
Gustto and Gucci - Watches ... 10:02 AM
Emily Miller
[Flextronics] Simulation and... 9:07 AM
Best Buy
PC Home and Away Makeover... 7:29 AM
mike
mike <burton.mg@gmail.com... 12:27 AM
Gregg Wygonik
Re: [FLEX] WPC 004 2/6/2010
Life Spa South Austin
Valentine's Day Specials @ Li... 2/6/2010
mikeatnight

The application launches at the default "starting point" the email inbox (as shown, combined inbox).

If the user was to change device orientation at this point, the inbox would expand over both screens in landscape view.



Dan Hampton
[attendance] Two Weeks at ... 10:17 AM
RueLaLa.com
Gustto and Gucci - Watches ... 10:02 AM
Emily Miller
[Flextronics] Simulation and... 9:07 AM
Best Buy
PC Home and Away Makeover... 7:29 AM
mike
mike <burton.mg@gmail.com... 12:27 AM
Gregg Wygonik
Re: [FLEX] WPC 004 2/6/2010
Life Spa South Austin
Valentine's Day Specials @ Li... 2/6/2010
mikeatnight

Dan Hampton 2/5/2010 9:07 AM
To: Denise Burton, Gregg Wygonik, Emily Miller
[attendance] Two Weeks at Java Mobile Developer Camp in sunny Orlando!

Hey folks,

I'll be at the Java developer camp in Orlando for the next two weeks. Hopefully I'll come back with a better knowledge of how to make J2ME do more of what we want it to.

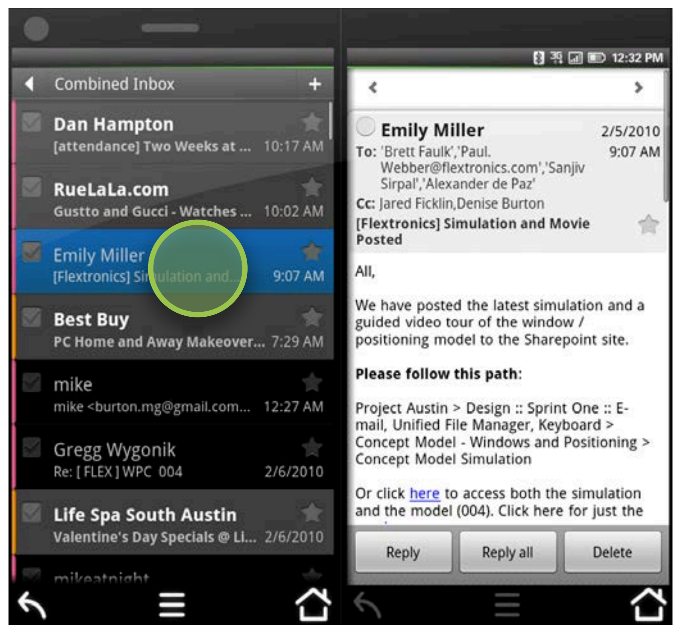
And a tan :-)

See you after I get back, when I'll fill you in on all my learnings.

Cheers,
Dan

The user drags along the top edge of the device to maximize the application window. The inbox remains in the primary position on the left side and the child opens to the right.

On initial launch, the first email opens. On resume, what is shown is "sticky".



Dan Hampton
[attendance] Two Weeks at ... 10:17 AM
RueLaLa.com
Gustto and Gucci - Watches ... 10:02 AM
Emily Miller
[Flextronics] Simulation and... 9:07 AM
Best Buy
PC Home and Away Makeover... 7:29 AM
mike
mike <burton.mg@gmail.com... 12:27 AM
Gregg Wygonik
Re: [FLEX] WPC 004 2/6/2010
Life Spa South Austin
Valentine's Day Specials @ Li... 2/6/2010
mikeatnight

Emily Miller 2/5/2010 9:07 AM
To: 'Brett Faulk','Paul. Webber@flextronics.com','Sanjiv Sirpal','Alexander de Paz'
Cc: Jared Ficklin,Denise Burton
[Flextronics] Simulation and Movie Posted

All,

We have posted the latest simulation and a guided video tour of the window / positioning model to the Sharepoint site.

Please follow this path:

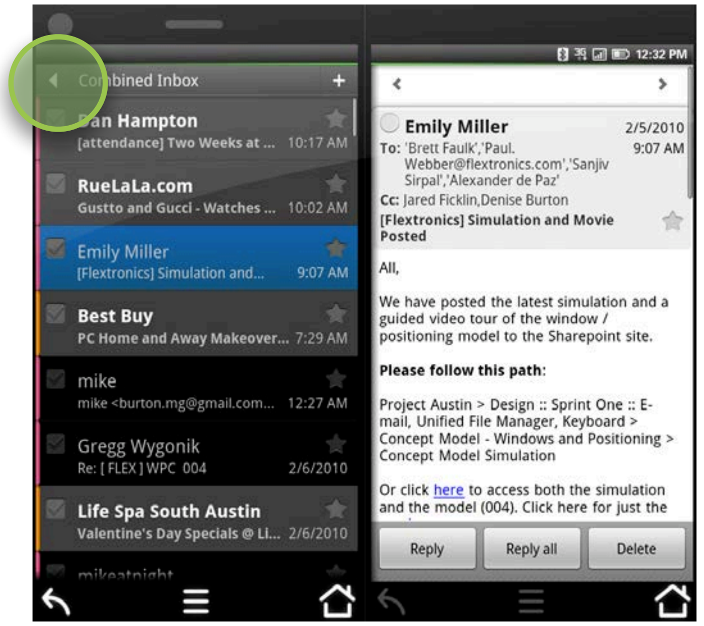
Project Austin > Design :: Sprint One :: E-mail, Unified File Manager, Keyboard > Concept Model - Windows and Positioning > Concept Model Simulation

Or click here to access both the simulation and the model (004). Click here for just the

The user taps to select another email which opens in the "child" position replacing the previously shown email.

Note: Screen Layouts and details to be addressed in future design phase.

2.1.3.2 :: Example Application Flow :: Email



Dan Hampton — [attendance] Two Weeks at ... 10:17 AM
RueLaLa.com — Gustto and Gucci - Watches ... 10:02 AM
Emily Miller — [Flextronics] Simulation and... 9:07 AM
Best Buy — PC Home and Away Makeover... 7:29 AM
mike — mike <burton.mg@gmail.com... 12:27 AM
Gregg Wygonik — Re: [FLEX] WPC 004 2/6/2010
Life Spa South Austin — Valentine's Day Specials @ Li... 2/6/2010
mikeatnight

Emily Miller 2/5/2010 9:07 AM
To: 'Brett Faulk','Paul. Webber@flextronics.com','Sanjiv Sirpal','Alexander de Paz'
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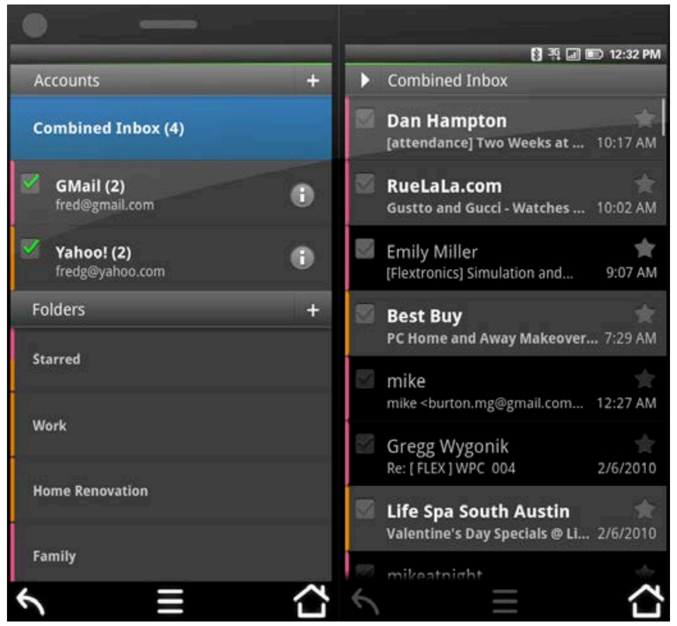
Please follow this path:

Project Austin > Design :: Sprint One :: E-mail, Unified File Manager, Keyboard > Concept Model - Windows and Positioning > Concept Model Simulation

Or click here to access both the simulation and the model (004). Click here for just the

The user taps on the "breadcrumb" button within the email inbox header to view the Accounts/Folder view.



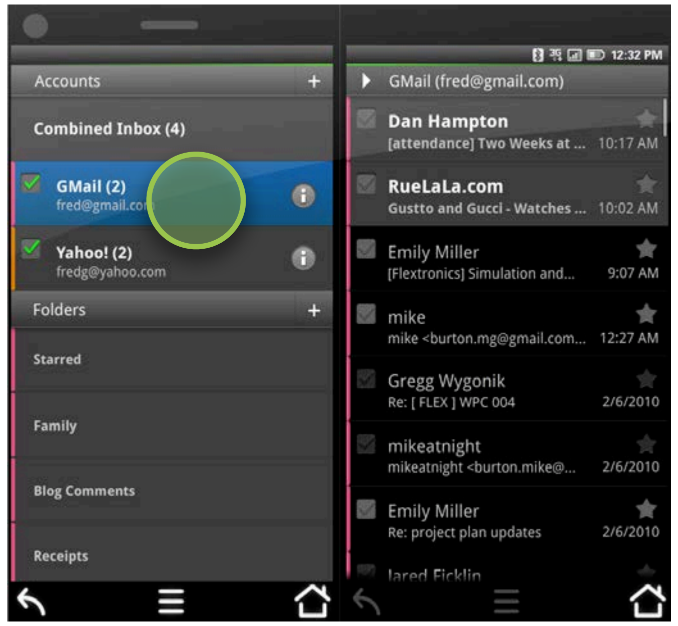
Dan Hampton — [attendance] Two Weeks at ... 10:17 AM
RueLaLa.com — Gustto and Gucci - Watches ... 10:02 AM
Emily Miller — [Flextronics] Simulation and... 9:07 AM
Best Buy — PC Home and Away Makeover... 7:29 AM
mike — mike <burton.mg@gmail.com... 12:27 AM
Gregg Wygonik — Re: [FLEX] WPC 004 2/6/2010
Life Spa South Austin — Valentine's Day Specials @ Li... 2/6/2010
mikeatnight

The Accounts/Folder view slides in from the left, pushing the Inbox view to the right screen.

The blue highlight indicates that the combined inbox is the account for the folders below. The Inbox folder would also have a blue highlight.

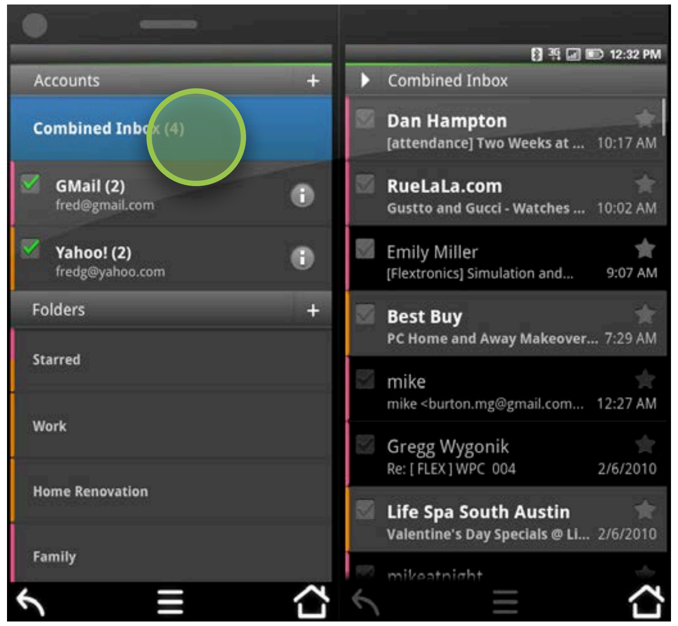
Note: The Account/Folder view is a unique view that contains a parent (Accounts) and a child (Folders).

A parent can also be used to manage content for a child. In this example the user can drag an email to a folder in the folders pane.



Dan Hampton — [attendance] Two Weeks at ... 10:17 AM
RueLaLa.com — Gustto and Gucci - Watches ... 10:02 AM
Emily Miller — [Flextronics] Simulation and... 9:07 AM
mike — mike <burton.mg@gmail.com... 12:27 AM
Gregg Wygonik — Re: [FLEX] WPC 004 2/6/2010
mikeatnight — mikeatnight <burton.mike@... 2/6/2010
Emily Miller — Re: project plan updates 2/6/2010
Jared Ficklin

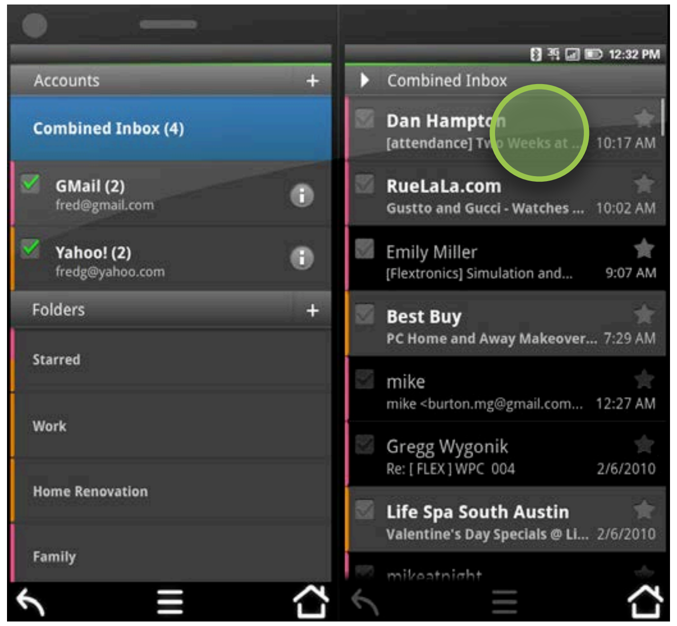
The user taps on the GMail item which is now selected as indicated by the blue highlight. The inbox view shown on the right is updated to show only Gmail messages. The folder list below will filter to show only Gmail folders.



Dan Hampton — [attendance] Two Weeks at ... 10:17 AM
RueLaLa.com — Gustto and Gucci - Watches ... 10:02 AM
Emily Miller — [Flextronics] Simulation and... 9:07 AM
Best Buy — PC Home and Away Makeover... 7:29 AM
mike — mike <burton.mg@gmail.com... 12:27 AM
Gregg Wygonik — Re: [FLEX] WPC 004 2/6/2010
Life Spa South Austin — Valentine's Day Specials @ Li... 2/6/2010
mikeatnight

The user taps the combined inbox filtering the view on the right to show email from all accounts.

2.1.3.3 :: Example Application Flow :: Email



Accounts +

Combined Inbox (4)

GMail (2)
fred@gmail.com

Yahoo! (2)
fredg@yahoo.com

Folders +

Starred

Work

Home Renovation

Family

12:32 PM

Combined Inbox

Dan Hampton
[attendance] Two Weeks at ... 10:17 AM

RueLaLa.com
Gustto and Gucci - Watches ... 10:02 AM

Emily Miller
[Flextronics] Simulation and... 9:07 AM

Best Buy
PC Home and Away Makeover... 7:29 AM

mike
mike <burton.mg@gmail.com... 12:27 AM

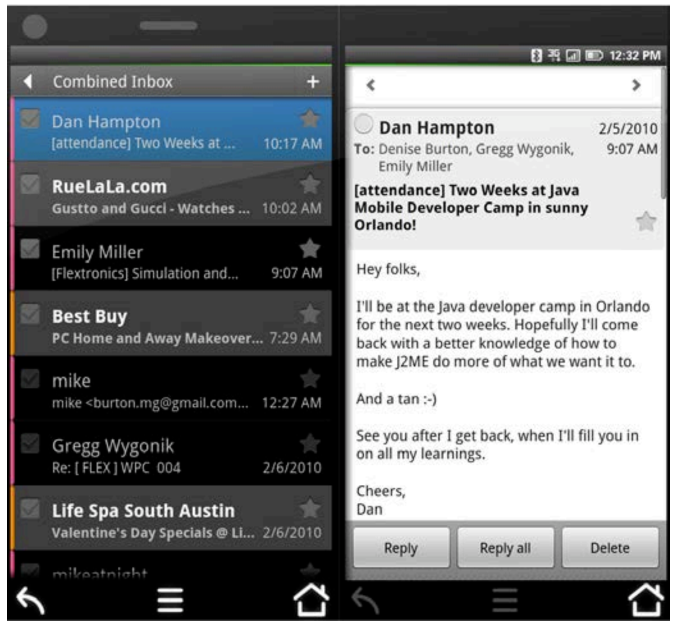
Gregg Wygonik
Re: [FLEX] WPC 004 2/6/2010

Life Spa South Austin
Valentine's Day Specials @ Li... 2/6/2010

mikeatnight

The user taps to select an email within the combined inbox view.

The inbox view transitions to the left, and the manage view slides out of view to the left.



Combined Inbox +

Dan Hampton
[attendance] Two Weeks at ... 10:17 AM

RueLaLa.com
Gustto and Gucci - Watches ... 10:02 AM

Emily Miller
[Flextronics] Simulation and... 9:07 AM

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mikeatnight

12:32 PM

Dan Hampton 2/5/2010 9:07 AM
To: Denise Burton, Gregg Wygonik, Emily Miller

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And a tan :-)

See you after I get back, when I'll fill you in on all my learnings.

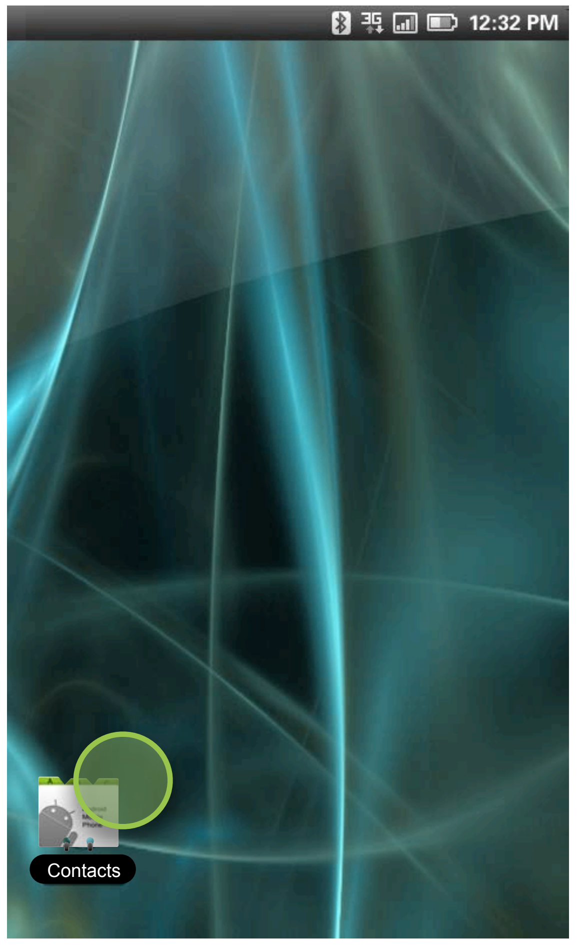
Cheers,
Dan

The inbox view transitions back to the left taking the parent position in the left screen, followed by the email read view which comes to rest on the right child position.

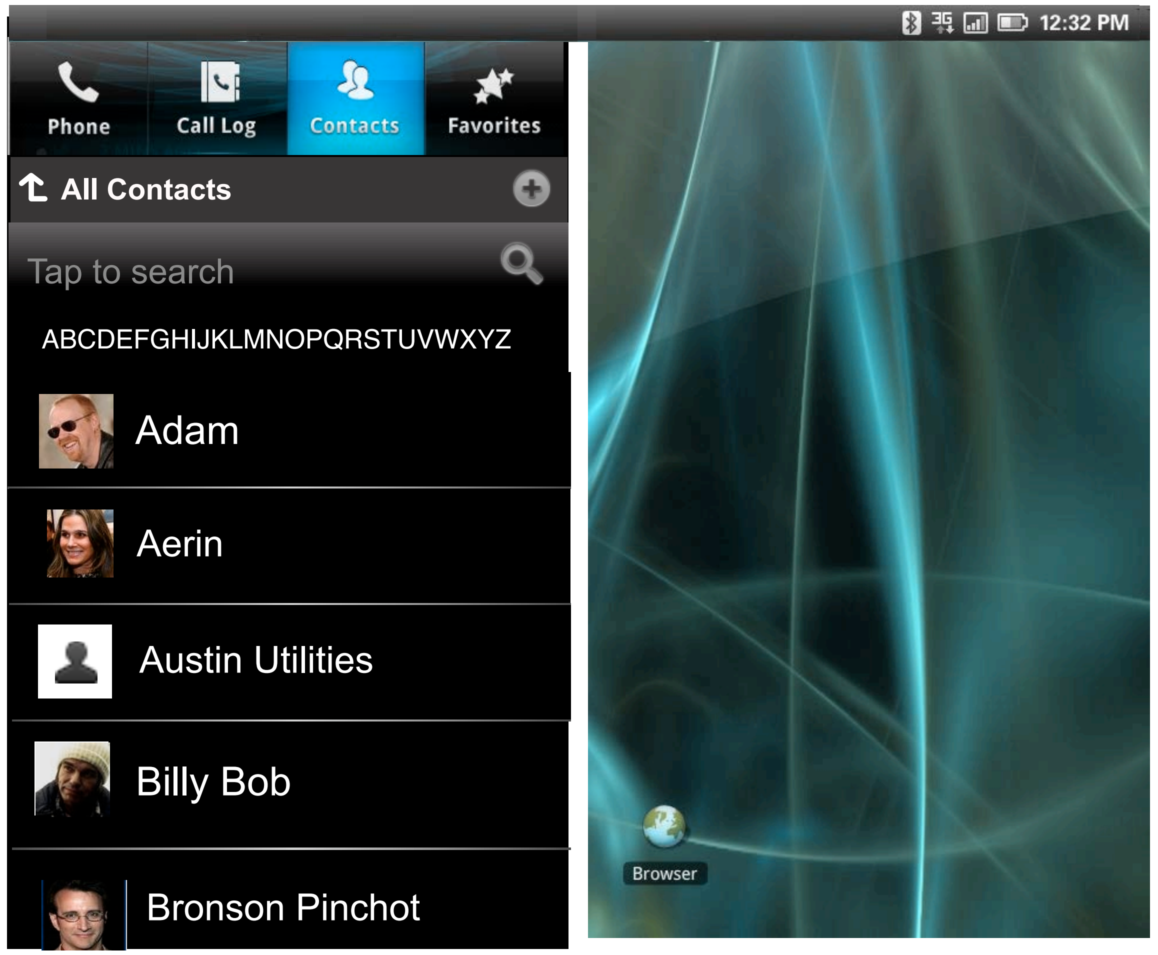
2.1.5 :: Application Flow :: Contacts

Parent Child Model

2.1.5.1 :: Example Application Flow :: Contacts

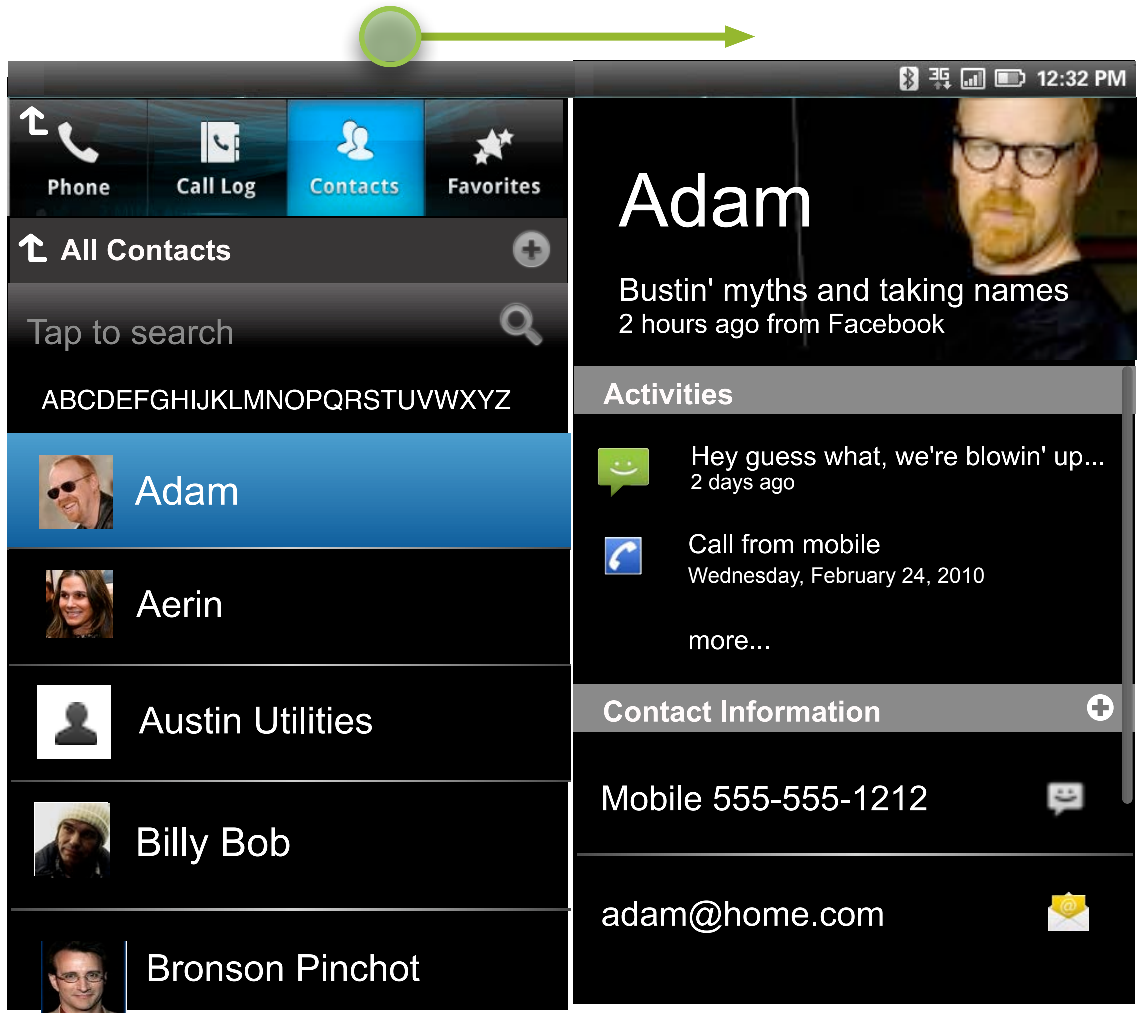


User launches contacts from the shortcut on the desktop



The app opens at the default launching point, the list of All Contacts, A-Z. The user opens the phone.

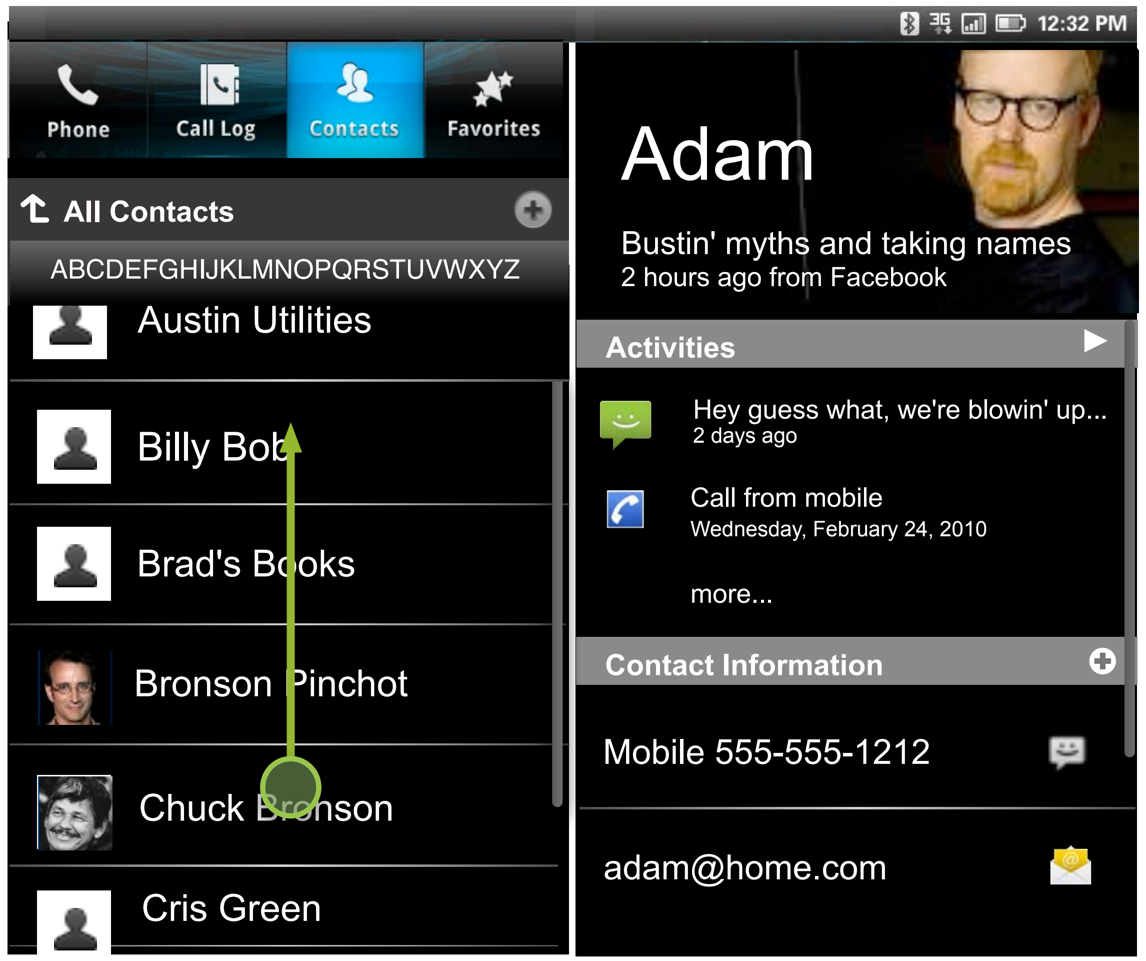
Note: If the user had previously selected the contacts view to only contain a certain set of contacts, gmail only for example, that would be the default view at application launch.



The user maximizes the application. The contact list is the parent and remains on the left. By default, the child–the contact card for the first contact in the list–is shown on the right.

Note: This could be a "Sticky" point and when maximized the child shown would be the contact card of the selected contact the user last left off on.

2.1.5.2 :: Example Application Flow :: Contacts


12:32 PM

Phone | Call Log | Contacts | Favorites

All Contacts

ABCDEFGHIJKLMNOPQRSTUVWXYZ

Austin Utilities
Billy Bob
Brad's Books
Bronson Pinchot
Chuck Bronson
Cris Green

Adam

Bustin' myths and taking names
2 hours ago from Facebook

Activities

Hey guess what, we're blowin' up...
2 days ago

Call from mobile
Wednesday, February 24, 2010

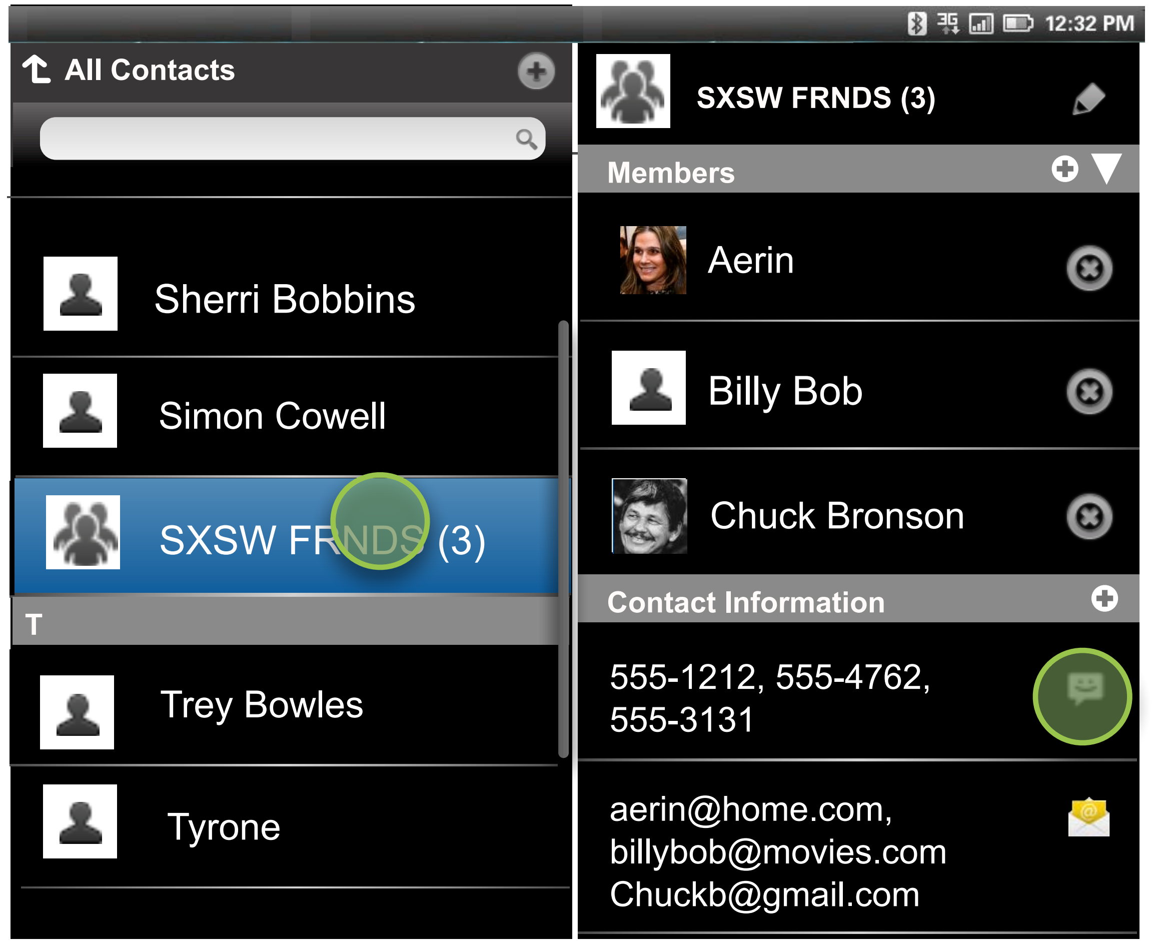
more...

Contact Information

Mobile 555-555-1212

adam@home.com

The user scrolls up to scroll the list of contacts. The contact card or child shown at launch is shown until the user selects another from the list or chooses to perform another action.


12:32 PM

All Contacts

Sherri Bobbins
Simon Cowell
SXSW FRNDS (3)
T
Trey Bowles
Tyrone

SXSW FRNDS (3)

Members

Aerin
Billy Bob
Chuck Bronson

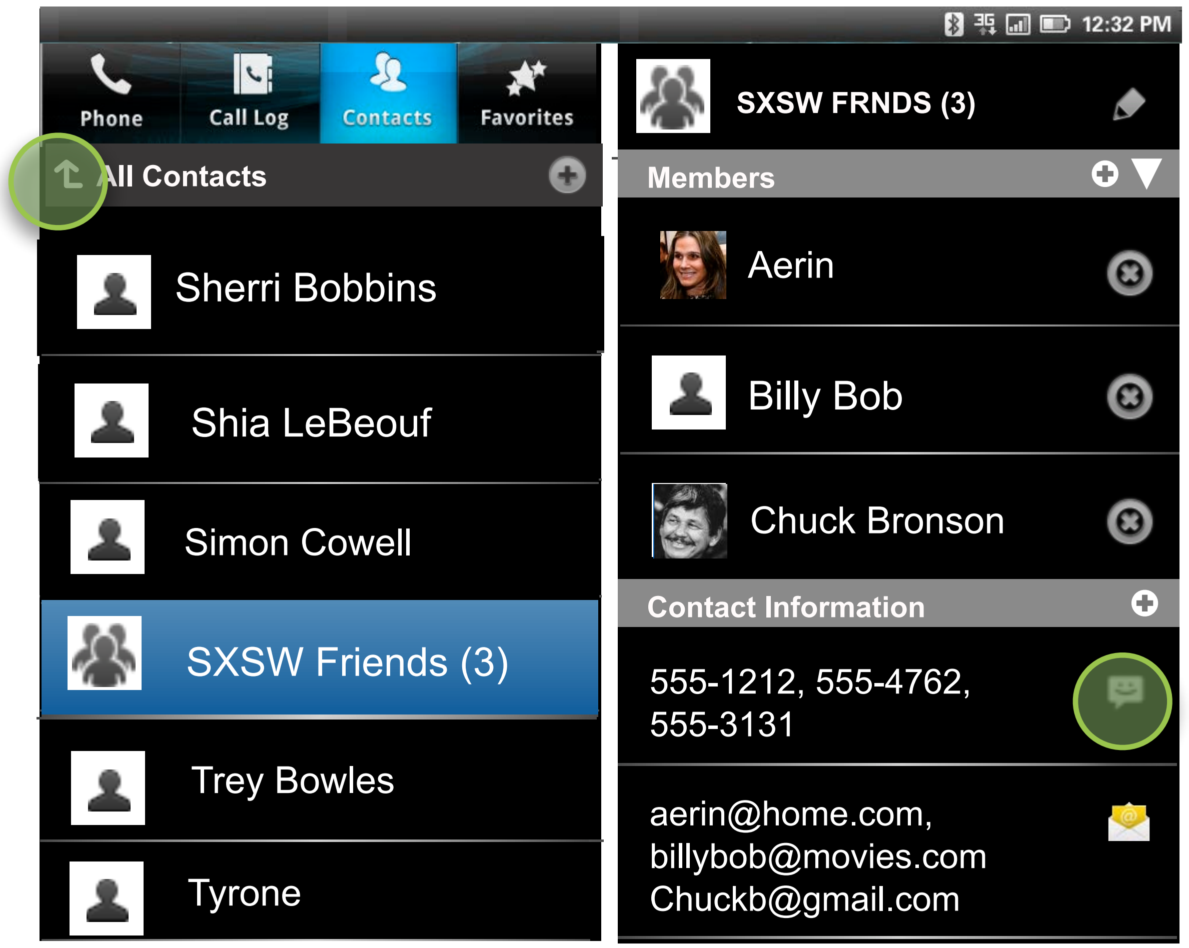
Contact Information

555-1212, 555-4762, 555-3131

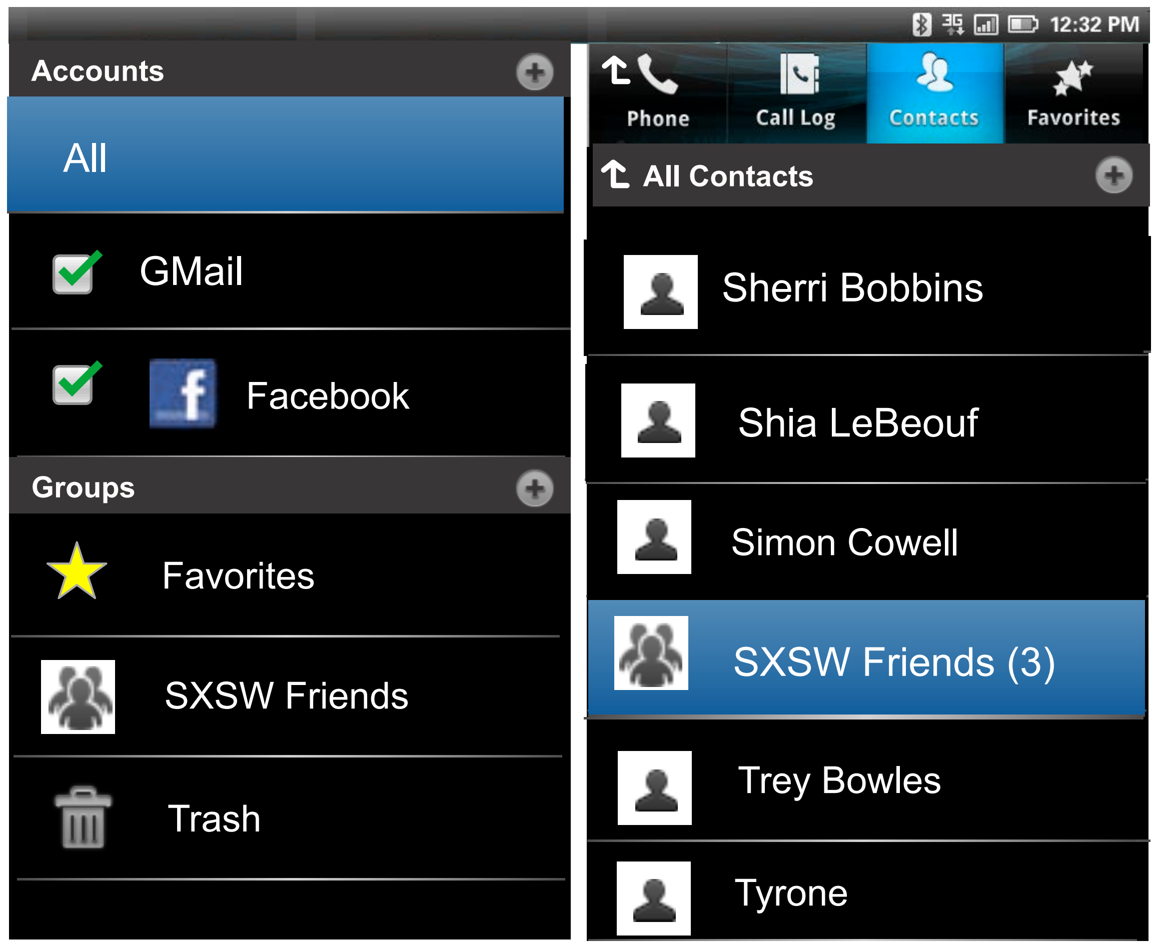
aerin@home.com, billybob@movies.com Chuckb@gmail.com

The user selects a contact group, SXSW FRNDS from the contact list and the contact detail of the new selection replaces the previous "child" contact card shown.

2.1.5.3 :: Example Application Flow :: Contacts



The user taps to invoke the "control panel" which in the case of contacts, as in email, is considered a parent.



The "great-grandparent", Accounts, and the "grandparent", Groups, are displayed within the Contacts control panel view.

Each are separated by headers that contain the inline actions to add addition accounts or groups directly from the within the screen. Default groups present on initial use would include favorites and trash, and as the user creates custom groups these would then populate the list as well.

The user can easily add contacts to favorites or existing groups by simply dragging them to the left over the desired item in the list, or delete contacts by dragging them to the trash group.

2.1.5.4 :: Parent/Child Appendix

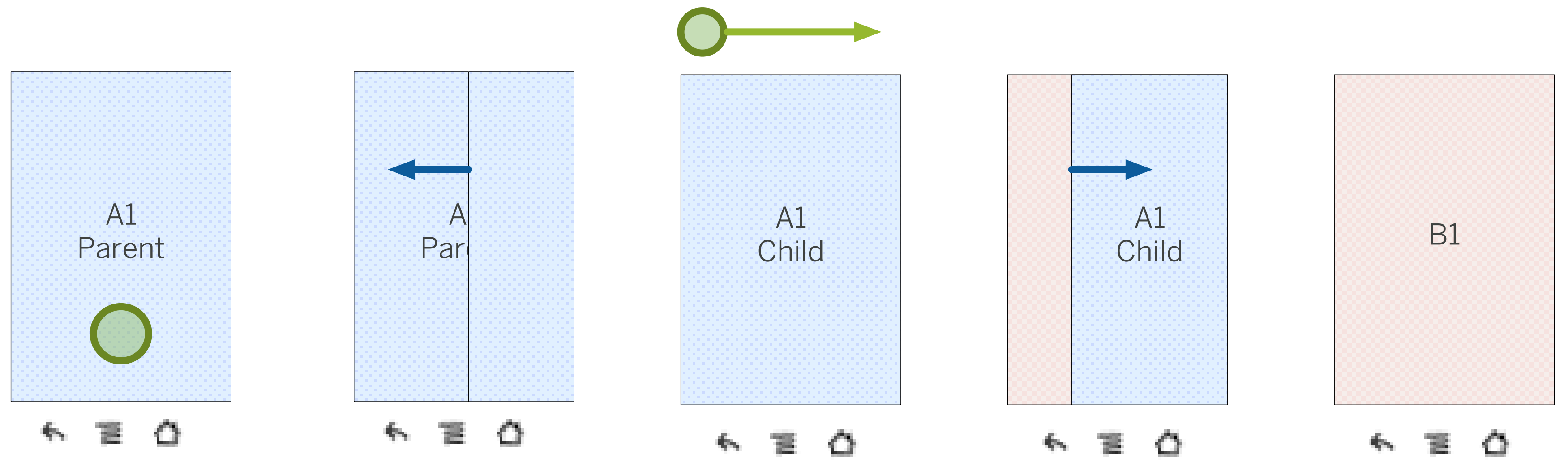
2.1.5.5 :: Parent/Child : Single Screen Mode Guidelines

Regardless of viewing mode—single screen mode, dual screen mode minimized, or dual screen mode maximized—the overall hierarchy and context of parent child relationships within an application should be preserved by launching each lower level or child in an additional secondary "window" rather than simply loading child content in the same window.

In single screen mode, the parent/child hierarchy is not apparent. The parent launches the child, and the user has to select back to get the parent and launch another child.

If the user drags across the top capacitive strip, the child will move off to show another application below.

A child slides in from the right, a parent slides in from the left.



2.2 :: Parallel View Model

Unique views of the same content side by side

2.2.1 :: Parallel View : Overview

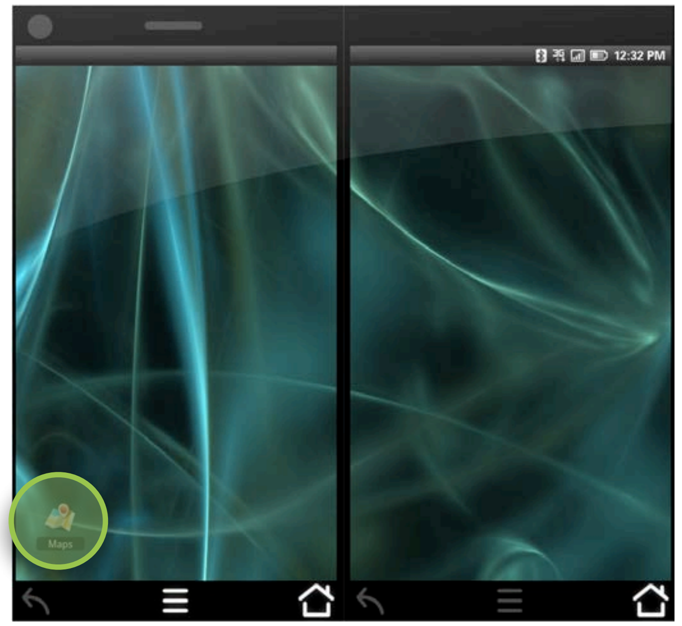
In the current Android experience, a user is limited to a single viewing experience forcing them to toggle from view to view reducing both the richness and efficiency of the experience; and in some cases reducing value.

We want to optimize application viewing area in as many areas as possible by taking advantage of the opportunity for utilizing dual screen mode. The concept of parallel viewing offers the user extra value and efficiency by enabling them to view the same information in different views simultaneously.

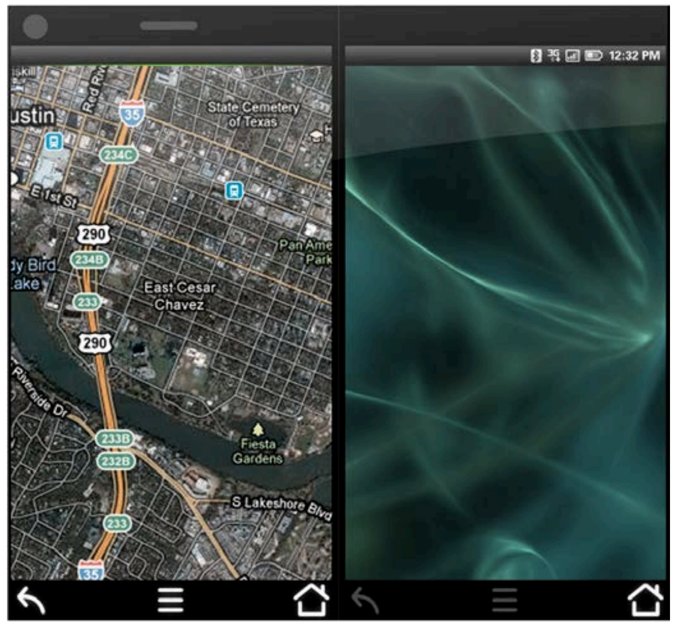
2.2.2 :: Application Flow :: Maps

Parallel View Model

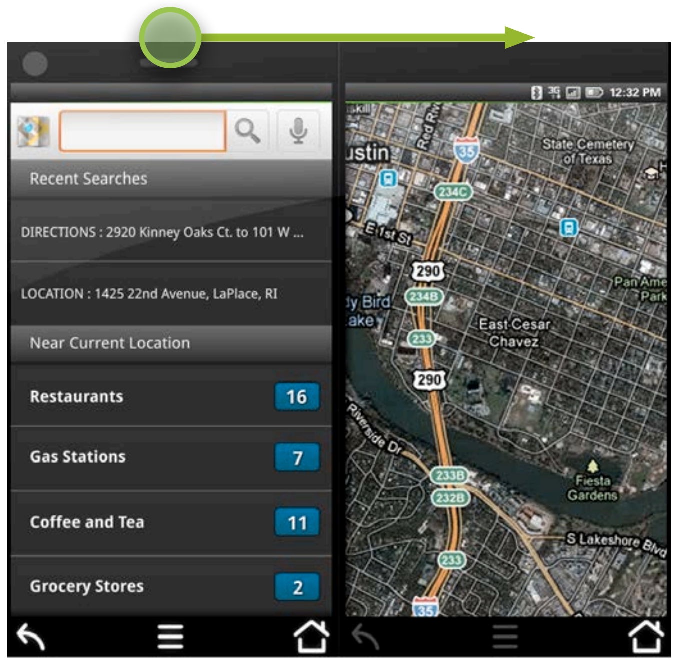
2.2.2.1 :: Example Application Flow :: Maps



User launches the Google maps application from the shortcut on the desktop.



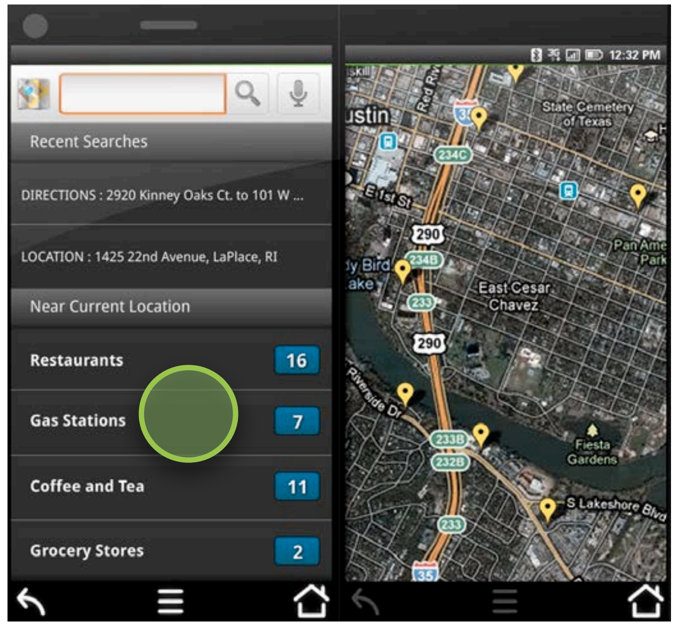
The application launches to the map view.



The user drags along the top edge of the device to maximize the application window.

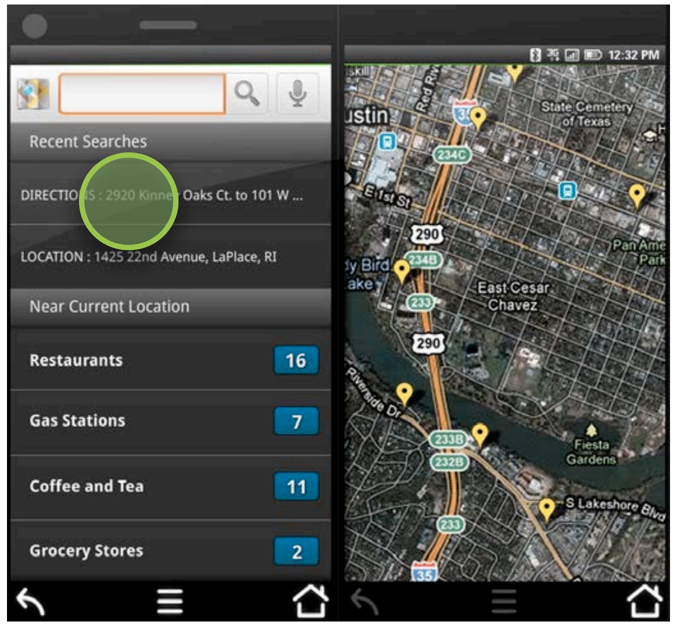
The map view moves to the right screen and the Control Panel* slides into the left position from the left.

*This is Exposé Application Model

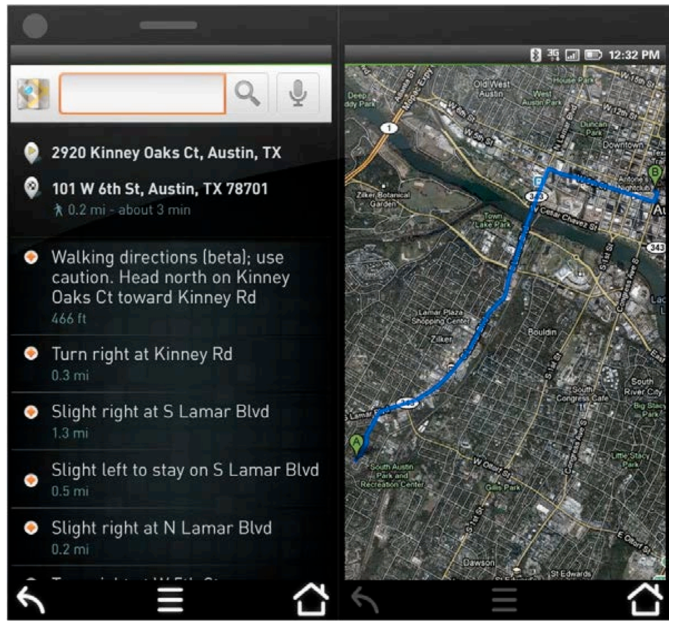


The user presses on gas stations to see all gas stations near the current location shown in the map.

2.2.2.2 :: Example Application Flow :: Maps



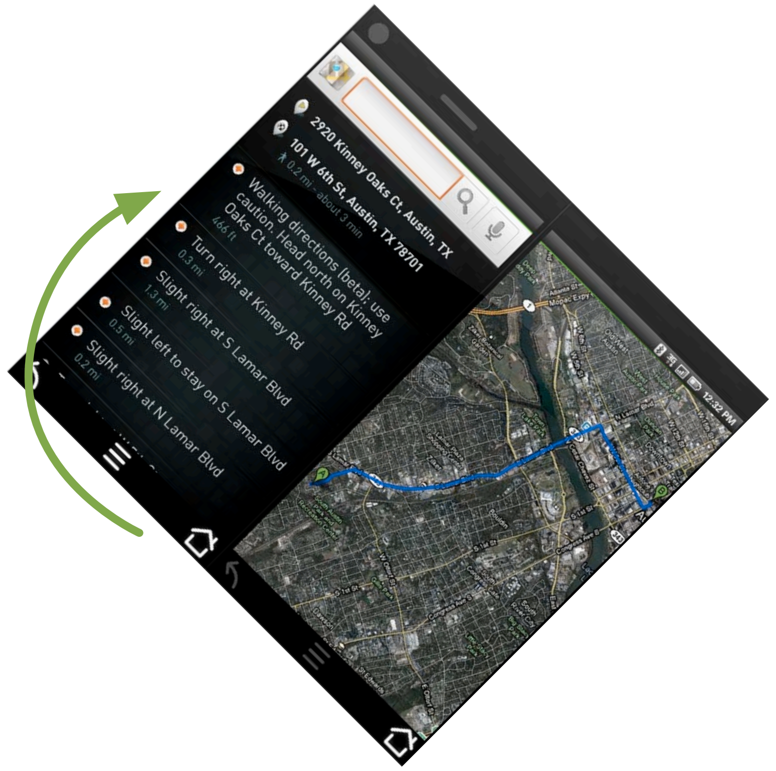
The user then taps on the Directions from Kinney Oaks Ct. in the Recent Searches section of the control panel.


2920 Kinney Oaks Ct, Austin, TX
101 W 6th St, Austin, TX 78701
0.2 mi - about 3 min
Walking directions (beta); use caution. Head north on Kinney Oaks Ct toward Kinney Rd
466 ft
Turn right at Kinney Rd
0.3 mi
Slight right at S Lamar Blvd
1.3 mi
Slight left to stay on S Lamar Blvd
0.5 mi
Slight right at N Lamar Blvd
0.2 mi

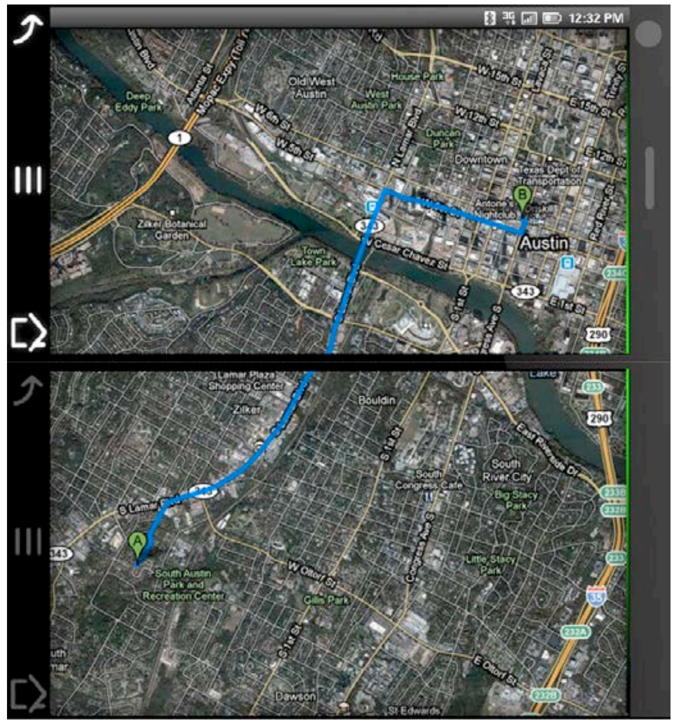
The control panel view on the left is replaced by the turn by turn directions list. The map view on the right is updated to show the path as shown in the directions. The left is a text view of the directions, the right is a map view of the directions.

This is the primary example and the key differentiator we are calling Parallel View. The experience is enriched enabling the user to view both the turn by turn directions and where they are on the map view.

Note: We are exploring how other views, such as the Parallel view, are launched from the control panel. The Control Panel may slide up or down to reveal the new view, so the user can quickly return to the Control Panel.



The user turns the phone to landscape view by turning the device clockwise.



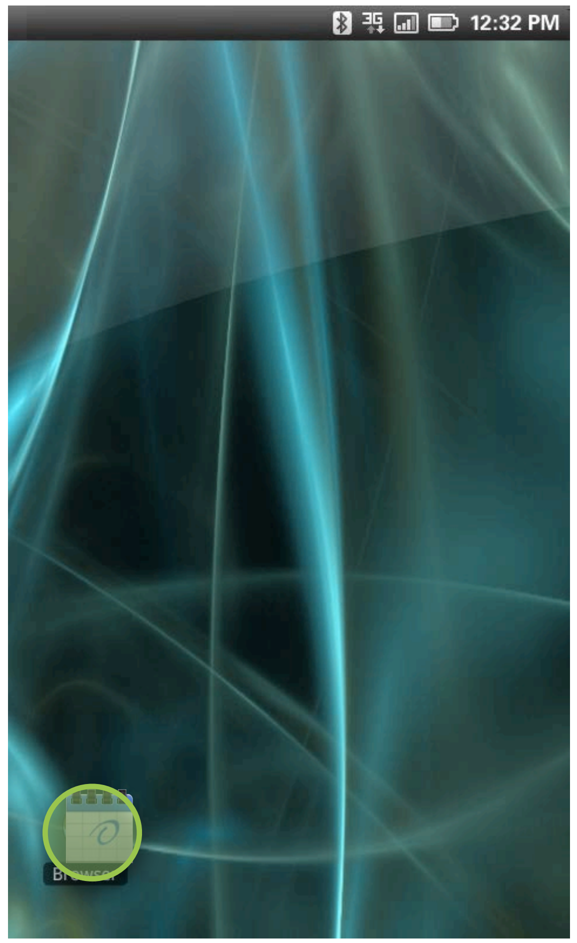
The map expands to fill the full landscape view*. Drag down on the capacitive strip brings down the directions view.

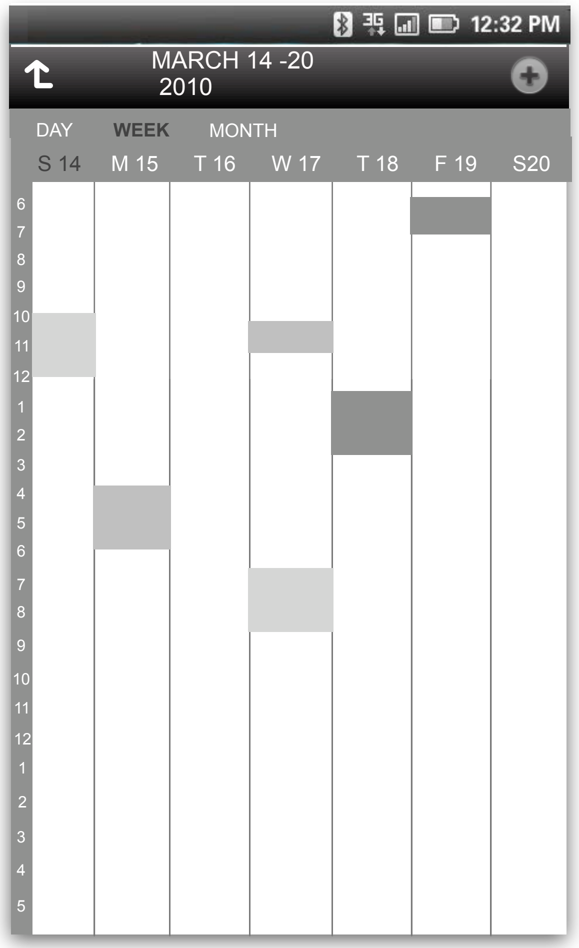
*This is Expand Application Model

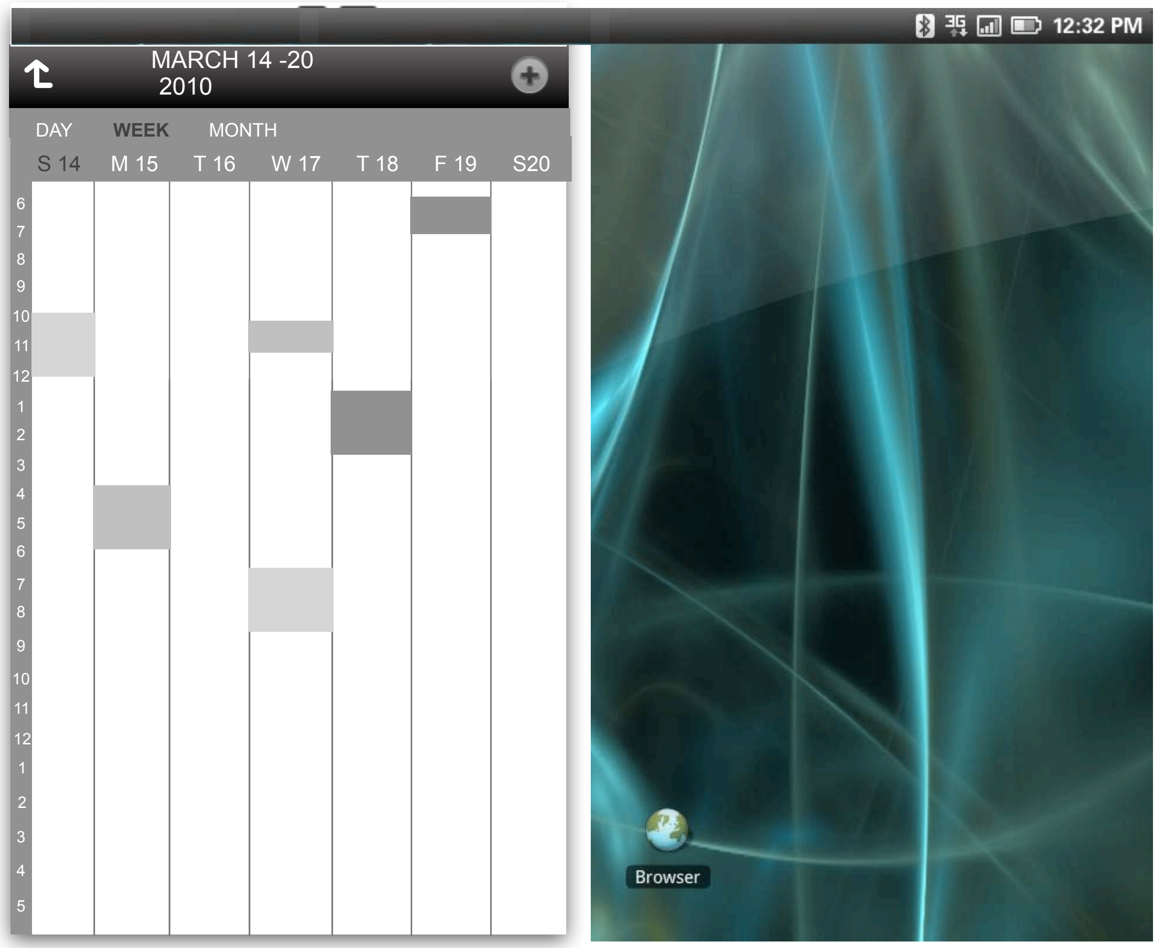
2.2.3 :: Application Flow :: Calendar

Parallel View

2.2.3.1 :: Example Application Flow :: Calendar





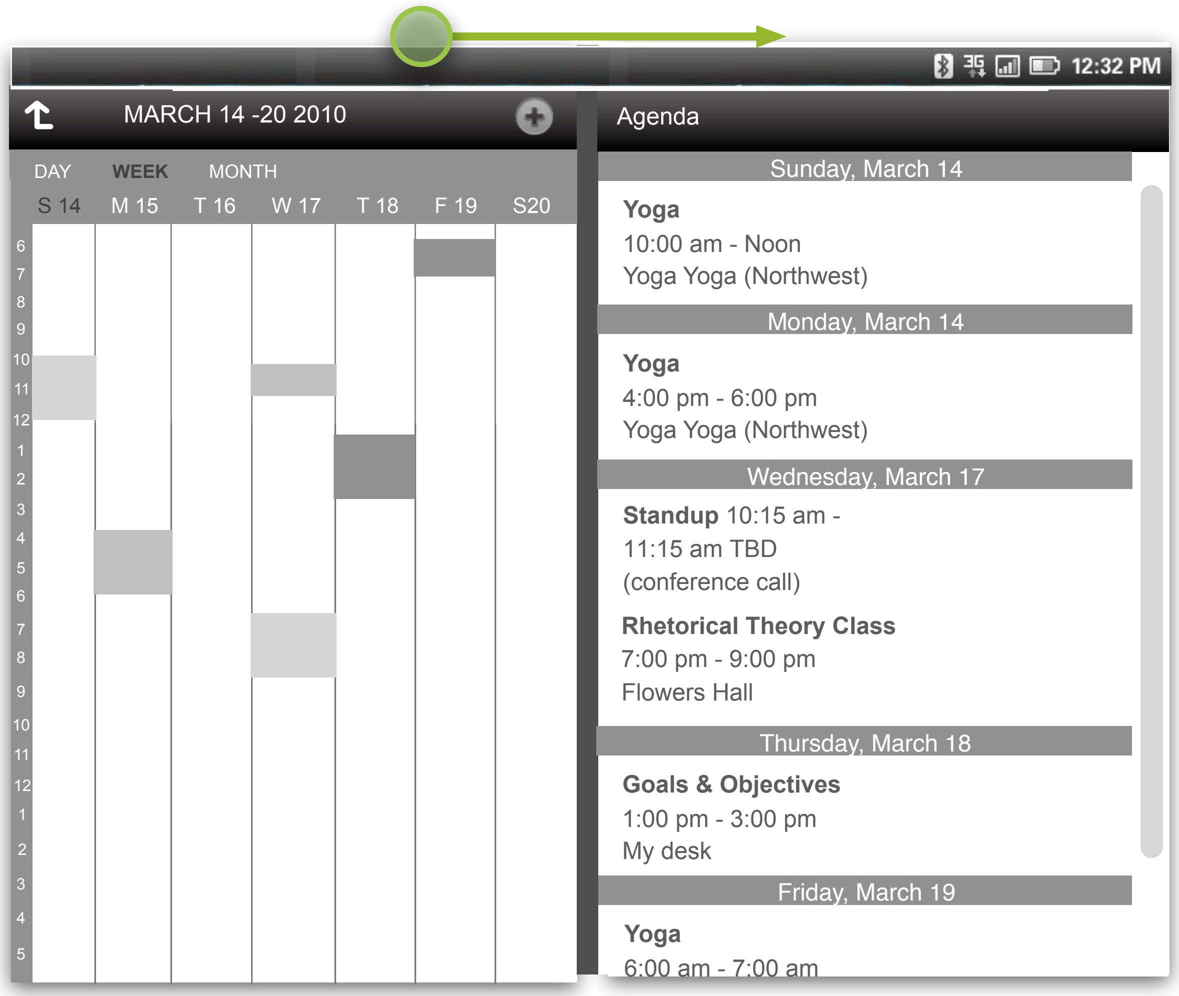


User launches calendar from the shortcut on the desktop

The application launches at the "starting point" in this case, the user selected week view.

The user opens the phone.

2.2.3.2 :: Example Application Flow :: Calendar


12:32 PM

MARCH 14 -20 2010

DAY WEEK MONTH

S 14 M 15 T 16 W 17 T 18 F 19 S20

Agenda

Sunday, March 14

Yoga
10:00 am - Noon
Yoga Yoga (Northwest)

Monday, March 14

Yoga
4:00 pm - 6:00 pm
Yoga Yoga (Northwest)

Wednesday, March 17

Standup 10:15 am -
11:15 am TBD
(conference call)

Rhetorical Theory Class
7:00 pm - 9:00 pm
Flowers Hall

Thursday, March 18

Goals & Objectives
1:00 pm - 3:00 pm
My desk

Friday, March 19

Yoga
6:00 am - 7:00 am

User expands Calendar to full screen mode, displaying the calendar week view in screen 1 and the agenda view of the week in screen 2. The Agenda view is filtered to show the events for that week.

This is the primary example and the key differentiator we are calling Parallel View. The experience is enriched enabling the user to view both a full view of the calendar at a glance on the left, along with a richer view (Agenda view) on the right.

2.3 :: Exposé Model

Easy access to features/functionality, and increased efficiency

2.3.1 :: Exposé : Overview

In the current Android experience, content is key and what limited screen real estate that is available is dedicated to accessing, creating and viewing content. Therefore, functionality and features are hidden in menus and additional management screens within the application.

We want to surface the actions and shortcuts to key tasks and management functionality in a unique way that does not overtake screen real estate needed for viewing or already populated with content. This results in an improved experience in dual screen, that still works in single-screen mode.

2.3.2 :: Exposé Guidelines

Exposé mode is unique to the dual screen viewing experience, and the position of the “Control Panel” should be consistent always displaying in the left screen in portrait mode and on the top when viewing in dual screen landscape mode.

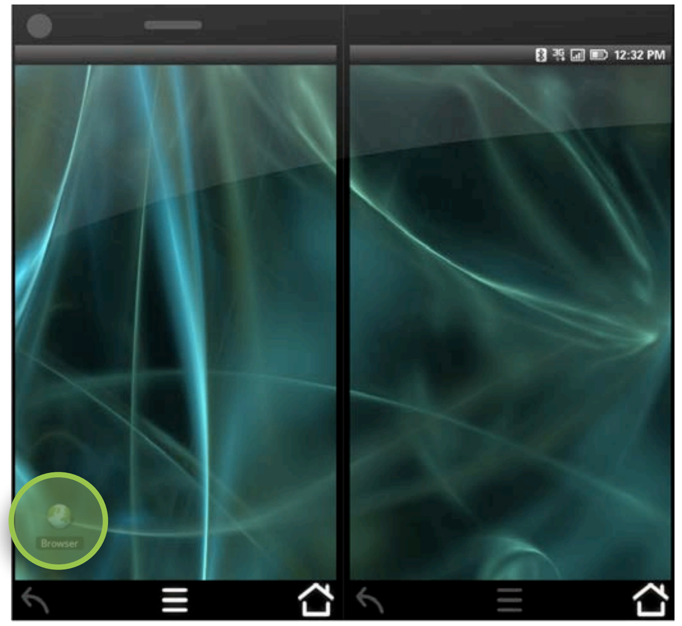
Dual screen may provide an exclusive feature, not available in single mode; however this should be an exception as a guiding principle is to support features in both modes.

The Control Panel should surface primary features and functionality for both performing tasks as well as content management. Typically, these features shown in the left act on the screen in the right.

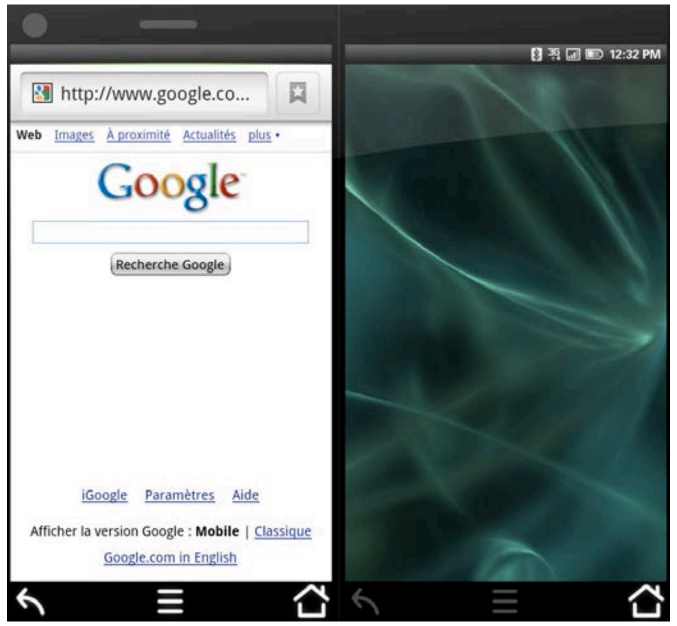
2.3.2.1 :: Example Application Flow :: Browser

Exposé Model

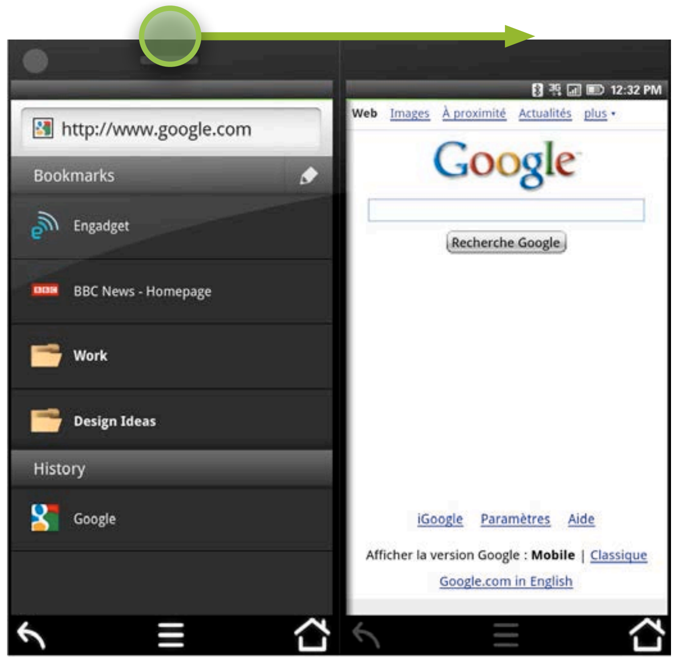
2.3.2.2 :: Example Application Flow :: Browser



User launches the browser from the shortcut on the desktop



The application launches at the default "starting point" the browser window.

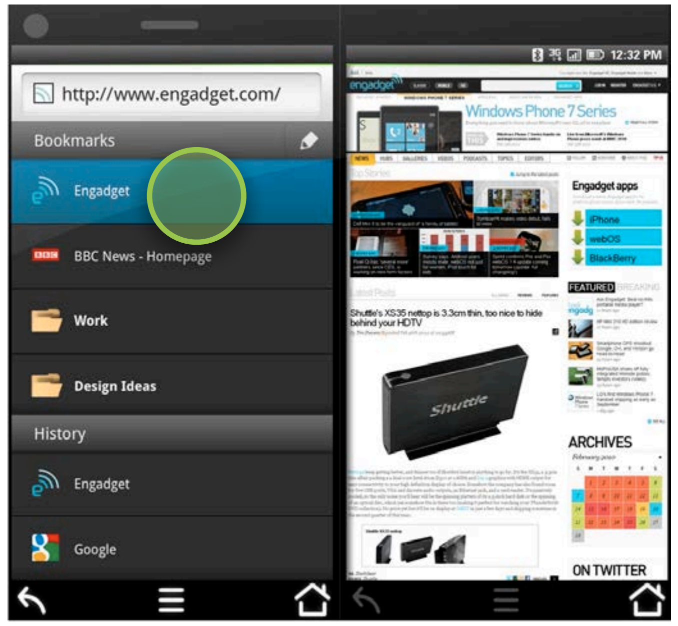


The user drags along the top edge of the device to maximize the application window.

The browser window moves to the right exposing the functionality and features associated with it on the left in the Control Panel view.

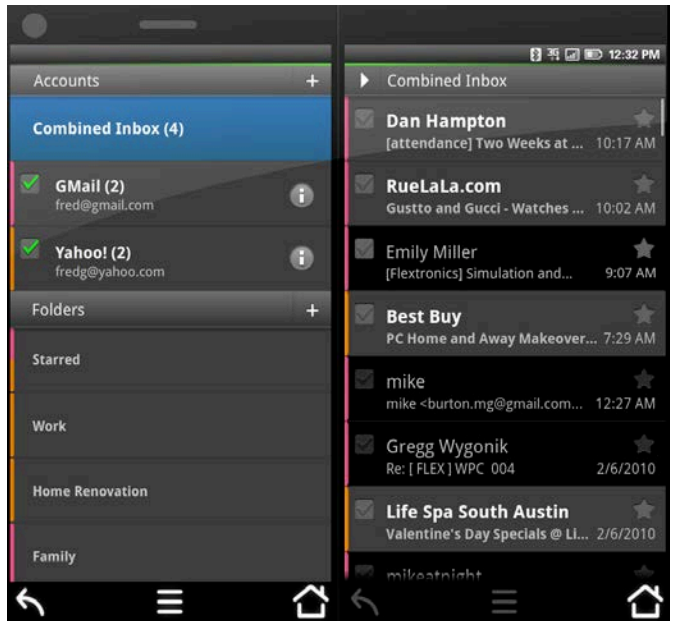
Note: The URL or address bar remains on the left while the rest of the Browser moves to the right. This optimizes the screen real estate solely for viewing web page content.

Design of and Content in Control Panel is TBD.



The user taps on Engadget within the bookmarks section, the url is shown in the address bar and in the history and the page loads within the browser window on the right.

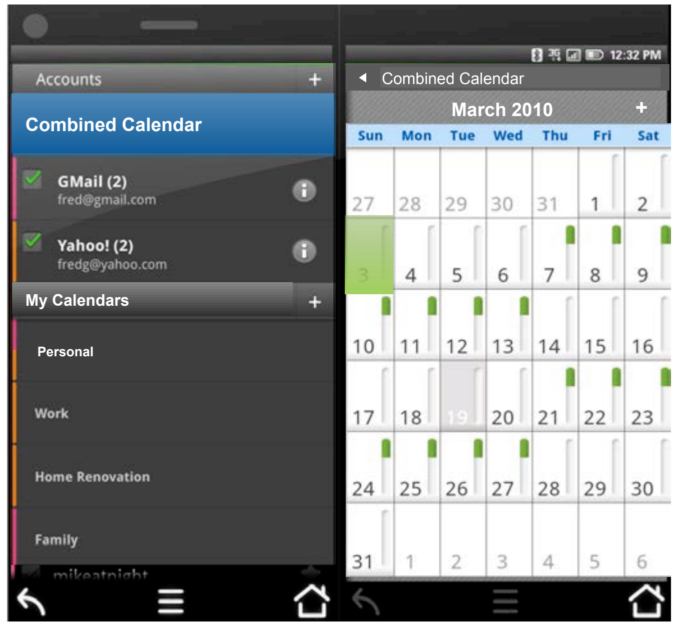
2.3.2.3 :: Example Application Flow :: Snapshots



Dan Hampton	[attendance] Two Weeks at ...	10:17 AM
RueLaLa.com	Gustto and Gucci - Watches ...	10:02 AM
Emily Miller	[Flextronics] Simulation and...	9:07 AM
Best Buy	PC Home and Away Makeover...	7:29 AM
mike	mike <burton.mg@gmail.com...	12:27 AM
Gregg Wygonik	Re: [FLEX] WPC 004	2/6/2010
Life Spa South Austin	Valentine's Day Specials @ Li...	2/6/2010

Email

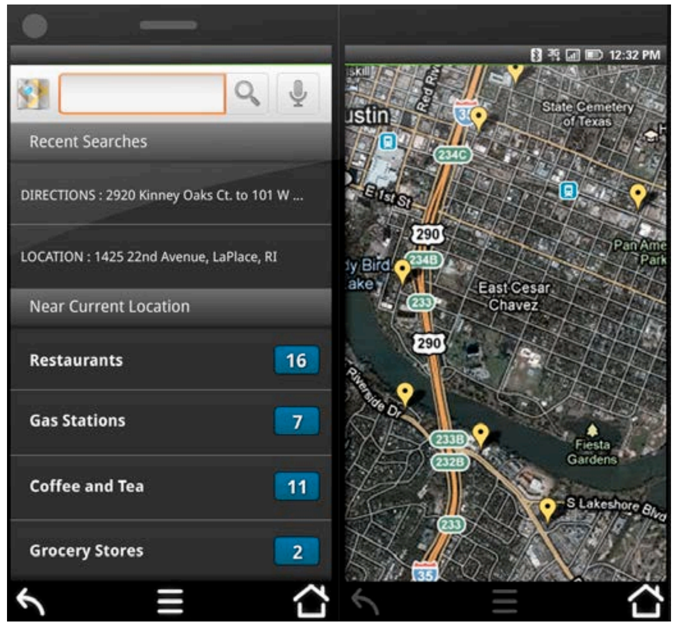
The control panel view within email enables users to access and view accounts and the folders associated with all and each account.



Sun	Mon	Tue	Wed	Thu	Fri	Sat
27	28	29	30	31	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31	1	2	3	4	5	6

Calendar

The control panel view enables users to access and view accounts and the custom calendars they have created. They may also use the "+" controls displayed inline to add accounts or create new custom calendars.



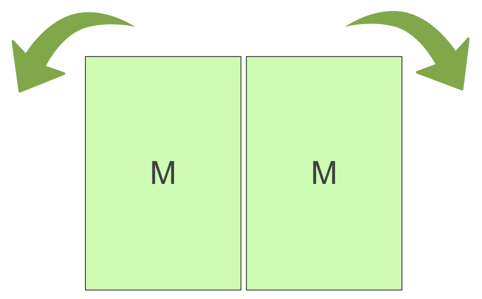
Maps

In the Maps application, the control panels surfaces search functionality, enables users the access recent searches, and quickly search for places or services near the current location shown in the map on the right.

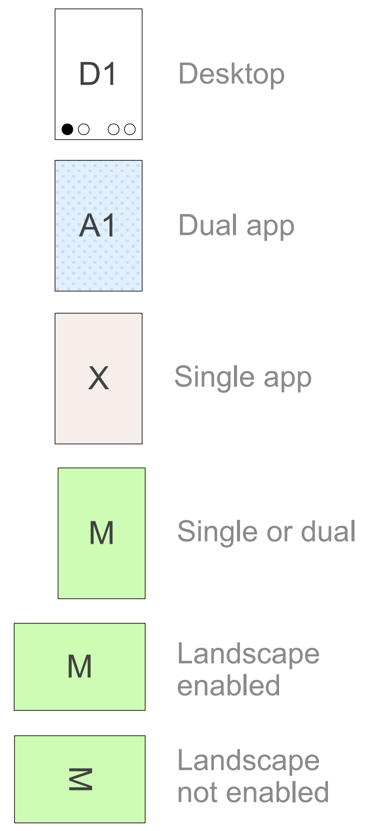
2.4 Expand Model

Change orientation to see more

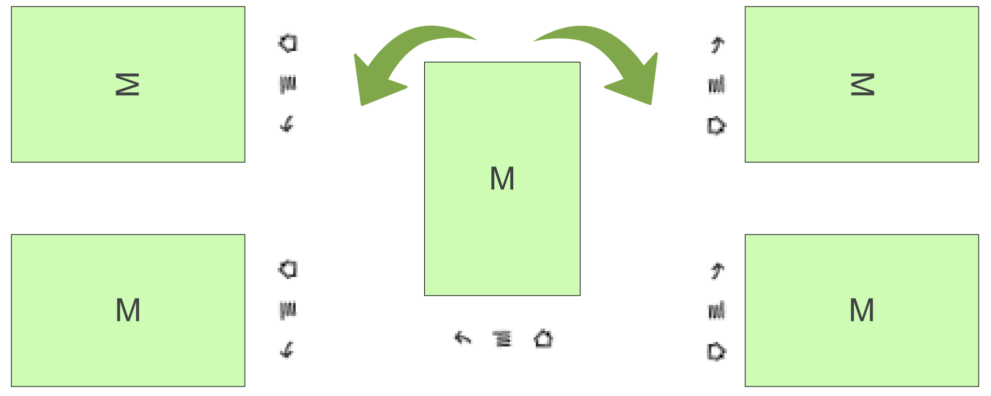
2.4.1 :: Expand Guidelines



Basic Rules
Orientation changes are triggered by rotating the device either clockwise or counter-clockwise.
The positioning of applications or views is NOT tied to the direction the user rotates the device.
Not all applications have to provide a landscape view.
Not all applications have to provide an auto-expand landscape view.

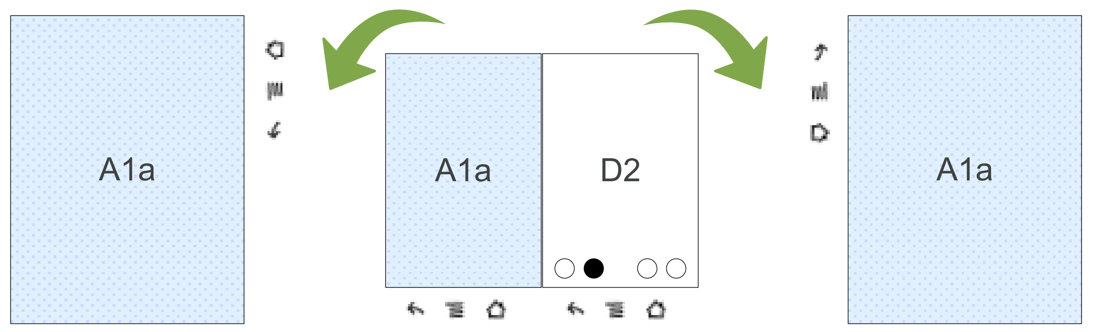


Closed Device



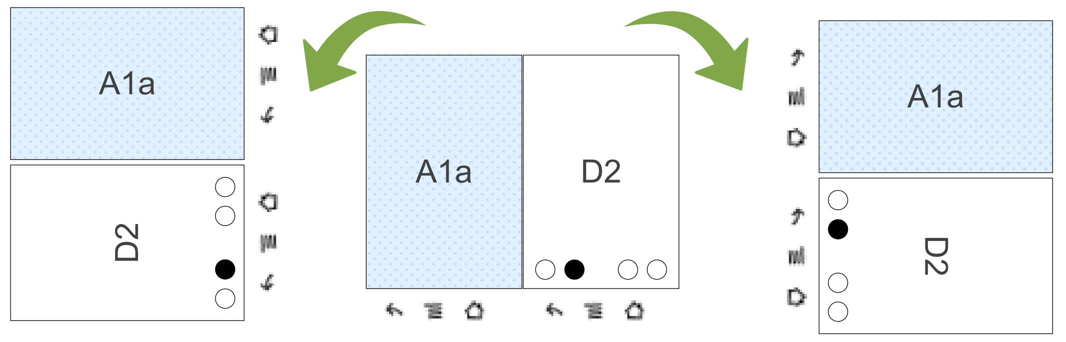
If the device is closed – e.g.: in single-screen mode – then landscape changes happen as with a normal Android device, and no auto-expand view is accessible.

Dual Screen Mode with auto-expand view



If the application has a specific auto-expand view programmed, the application will automatically expand to fill the screen and show that view. Otherwise, the application will go into landscape mode, if enabled.

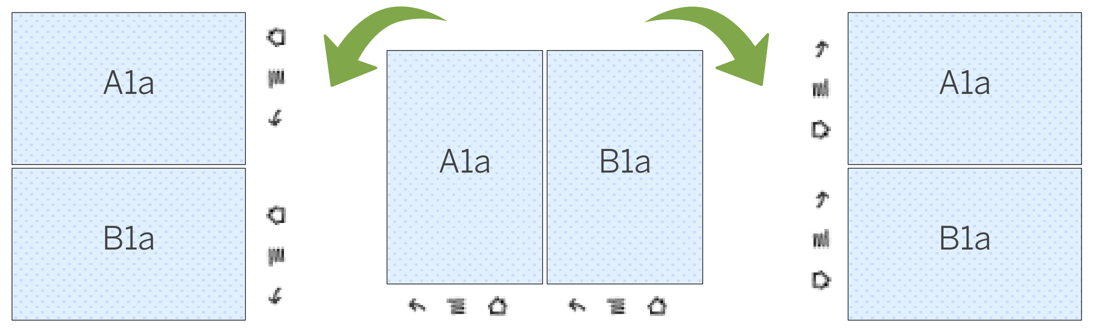
Dual Screen Mode with NO auto-expand view



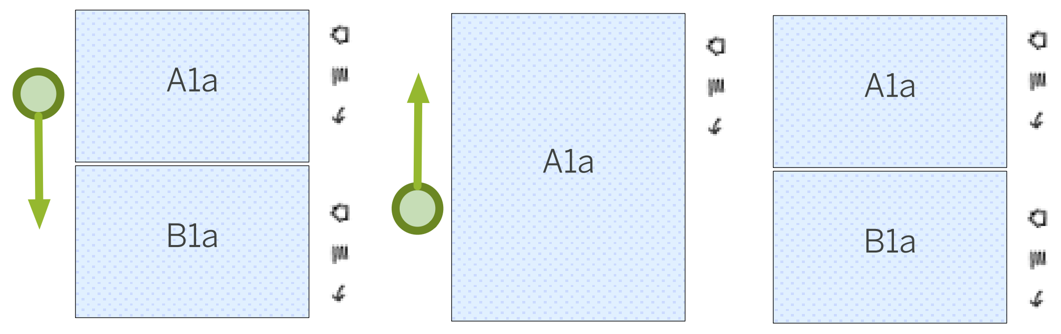
No matter how the device is rotated, the view on the left is always on the top and the view on the right is always on the bottom.

2.4.2 :: Expand Guidelines

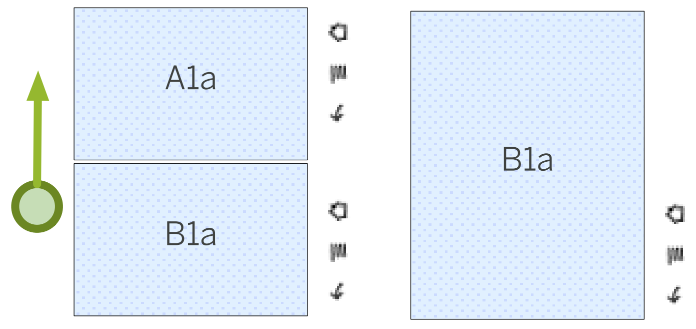
Dual Screen Mode two apps with auto-expand view



Neither application will auto-expand, leaving the decision to the user.
No matter how the device is rotated, the view on the left is always on the top and the view on the right is always on the bottom.

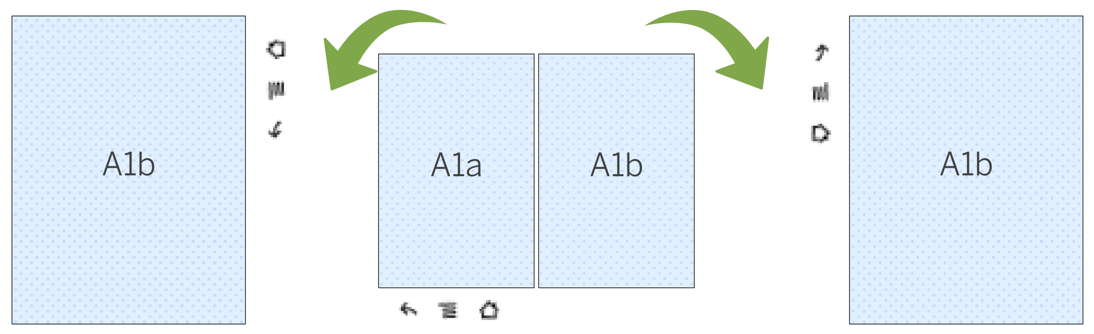


Dragging down will expand the top-screen application. Dragging up again will return to the non-expanded views.

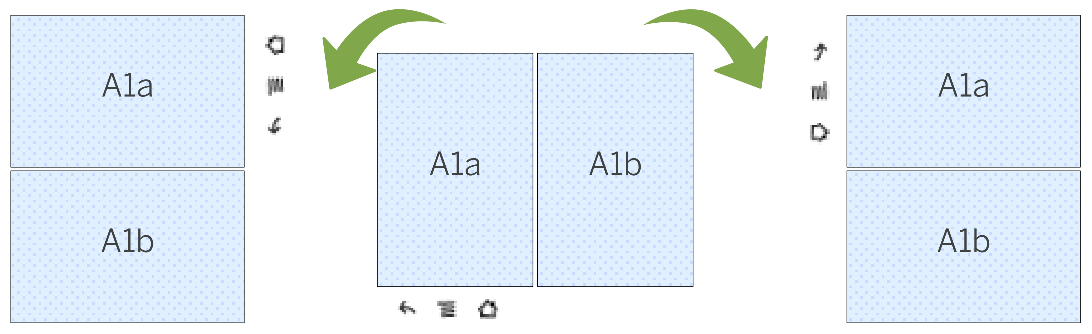


Dragging up will expand the bottom-screen application.

Dual Screen Mode maximized app with auto-expand view

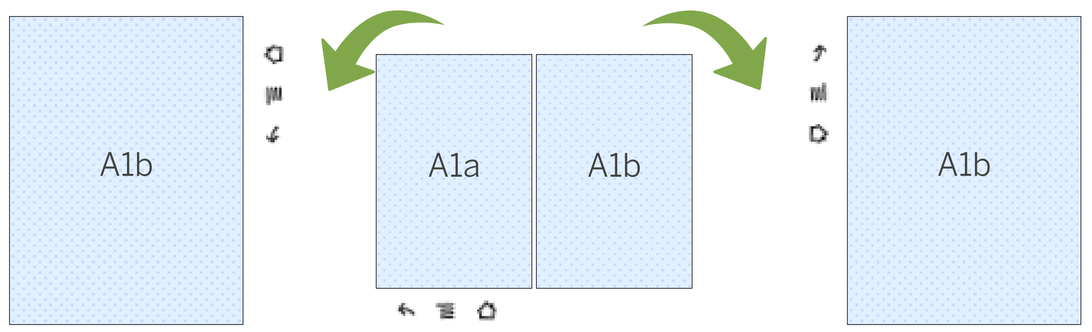


Dual Screen Mode maximized app with NO auto-expand view

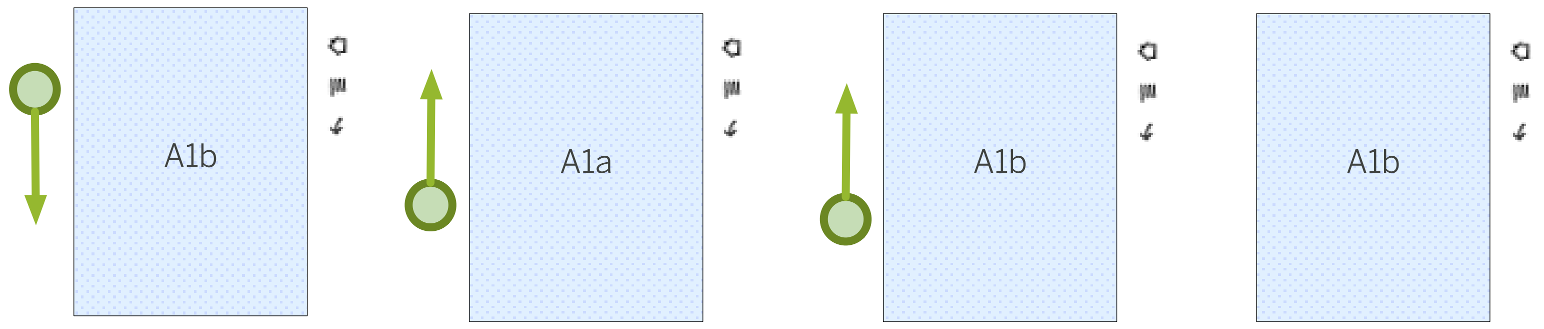


2.4.3 :: Expand Guidelines

Parent Child (parallel view behaves the same way)

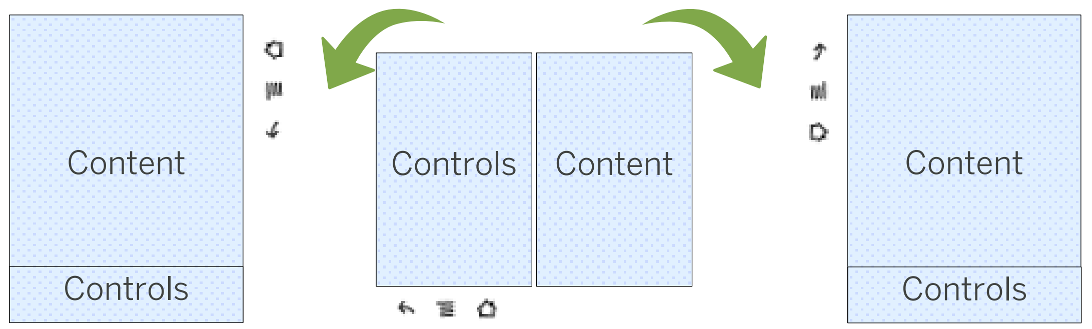


View on the right (Child) will expand to fill the screen.



Dragging down on the child view will display the expanded parent view. Dragging up on the parent will display the expanded child view.

Expose View

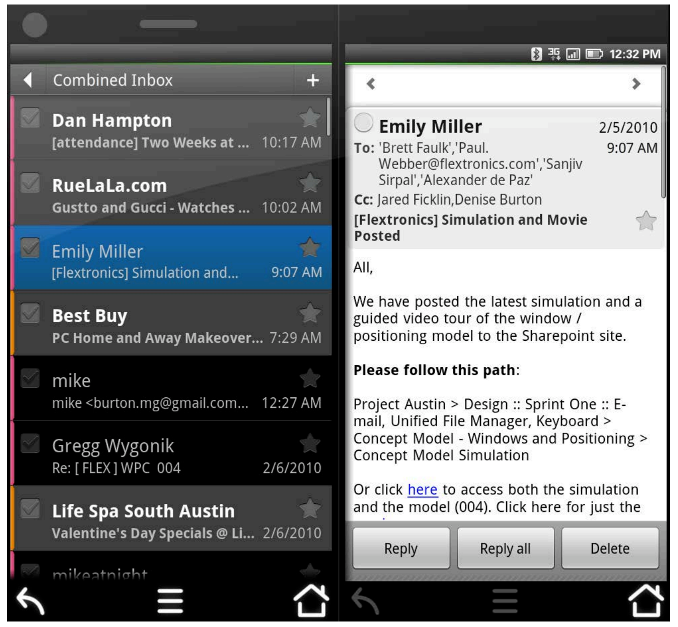


View on the right (main content view) will expand to fill the screen. Due to the connection between controls and features to the content, a separate manage/control/feature full-screen view may not be appropriate, therefore such controls should be incorporated into the expanded-landscape view and not be access via the capacitive strip.

2.4.4 :: Application Flow :: Grow Examples

Expand Model

2.4.4.1 :: Example Application Flow :: Grow Email



Combined Inbox

Dan Hampton
[attendance] Two Weeks at ... 10:17 AM

RueLaLa.com
Gustto and Gucci - Watches ... 10:02 AM

Emily Miller
[Flextronics] Simulation and... 9:07 AM

Best Buy
PC Home and Away Makeover... 7:29 AM

mike
mike <burton.mg@gmail.com... 12:27 AM

Gregg Wygonik
Re: [FLEX] WPC 004 2/6/2010

Life Spa South Austin
Valentine's Day Specials @ Li... 2/6/2010

mikeatnight

12:32 PM

Emily Miller 2/5/2010 9:07 AM
To: 'Brett Faulk','Paul.Webber@flextronics.com','Sanjiv Sirpal','Alexander de Paz'
Cc: Jared Ficklin,Denise Burton
[Flextronics] Simulation and Movie Posted

All,

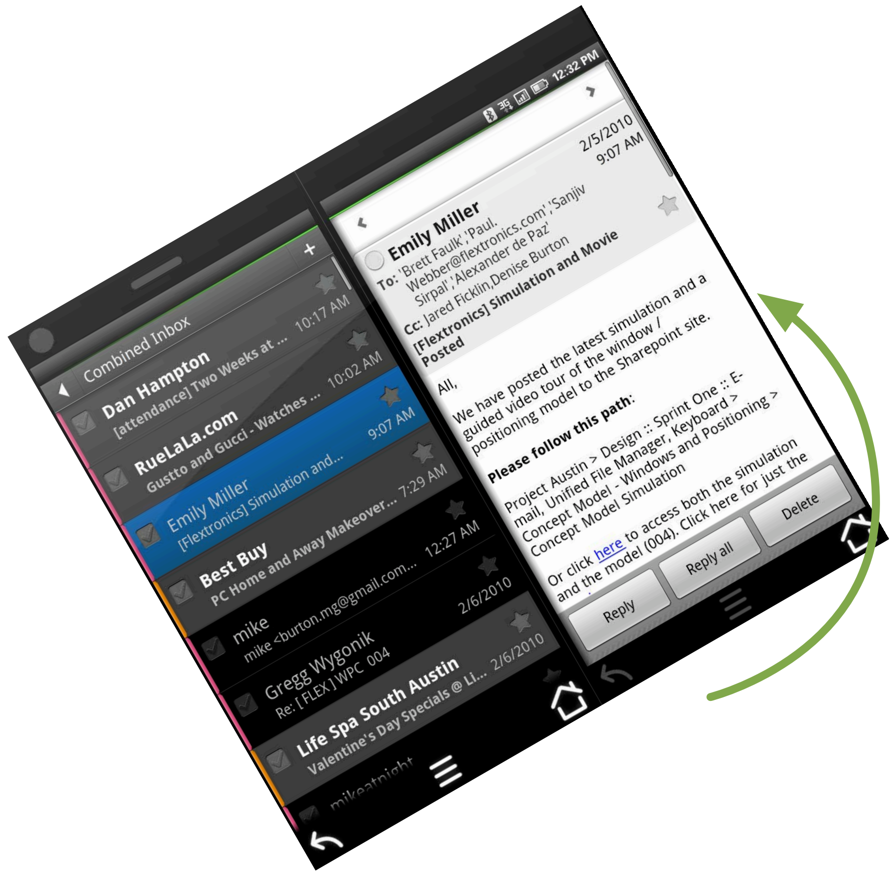
We have posted the latest simulation and a guided video tour of the window / positioning model to the Sharepoint site.

Please follow this path:

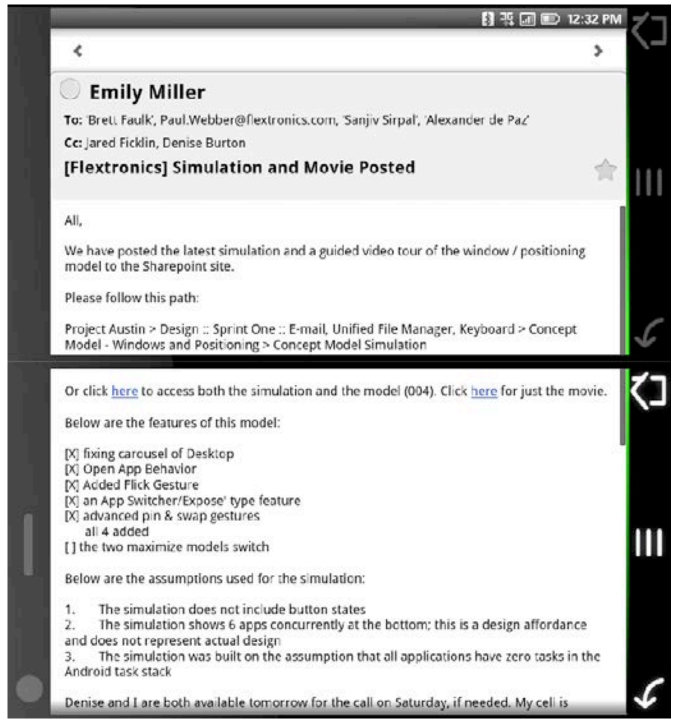
Project Austin > Design :: Sprint One :: E-mail, Unified File Manager, Keyboard > Concept Model - Windows and Positioning > Concept Model Simulation

Or click here to access both the simulation and the model (004). Click here for just the

The inbox view transitions back to the left taking the parent position in the left screen, followed by the email read view which comes to rest on the right child position.



The user turns the phone to landscape view by turning the device counter clockwise (or clockwise).



12:32 PM

Emily Miller
To: 'Brett Faulk', Paul.Webber@flextronics.com, 'Sanjiv Sirpal', 'Alexander de Paz'
Cc: Jared Ficklin, Denise Burton
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Or click here to access both the simulation and the model (004). Click here for just the movie.

Below are the features of this model:

[X] fixing carousel of Desktop
[X] Open App Behavior
[X] Added Flick Gesture
[X] an App Switcher/Expose' type feature
[X] advanced pin & swap gestures
all 4 added
[ ] the two maximize models switch

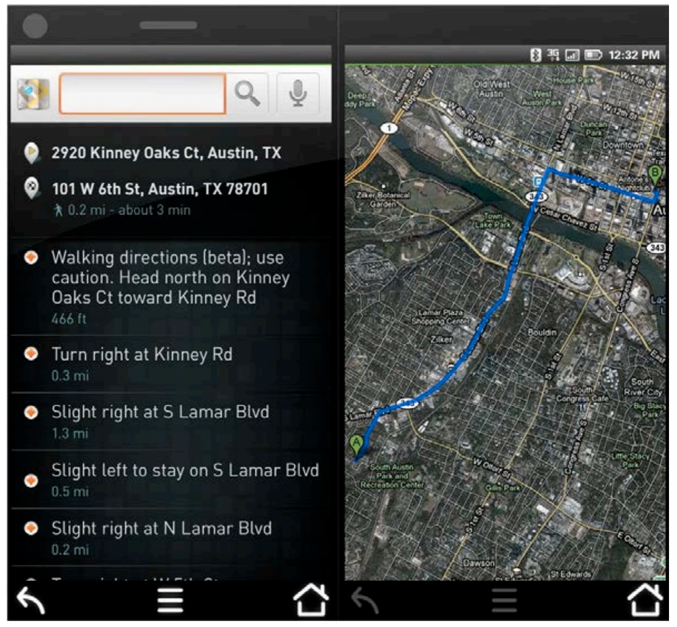
Below are the assumptions used for the simulation:

1. The simulation does not include button states
2. The simulation shows 6 apps concurrently at the bottom; this is a design affordance and does not represent actual design
3. The simulation was built on the assumption that all applications have zero tasks in the Android task stack

Denise and I are both available tomorrow for the call on Saturday, if needed. My cell is

The email auto-expands to fill the full landscape view. Drag down on the capacitive strip brings down the Inbox view.

2.4.4.2 :: Example Application Flow :: Grow Maps


12:32 PM

2920 Kinney Oaks Ct, Austin, TX

101 W 6th St, Austin, TX 78701

0.2 mi - about 3 min

Walking directions (beta); use caution. Head north on Kinney Oaks Ct toward Kinney Rd
466 ft

Turn right at Kinney Rd
0.3 mi

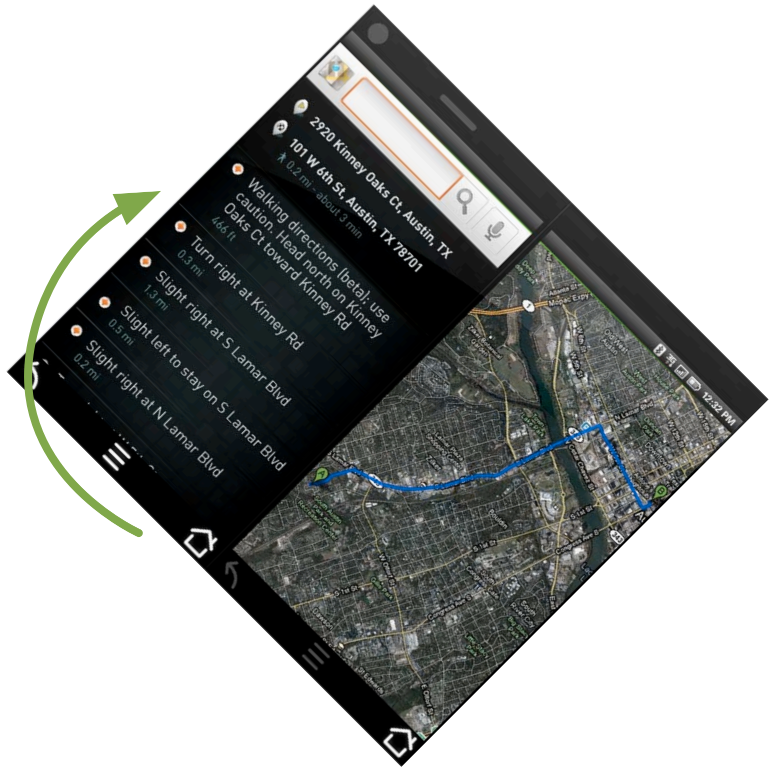
Slight right at S Lamar Blvd
1.3 mi

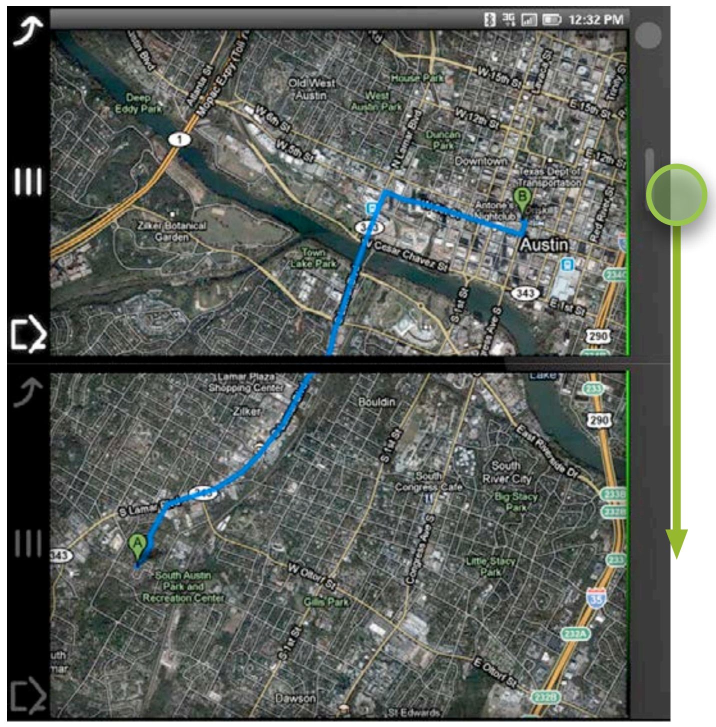
Slight left to stay on S Lamar Blvd
0.5 mi

Slight right at N Lamar Blvd
0.2 mi

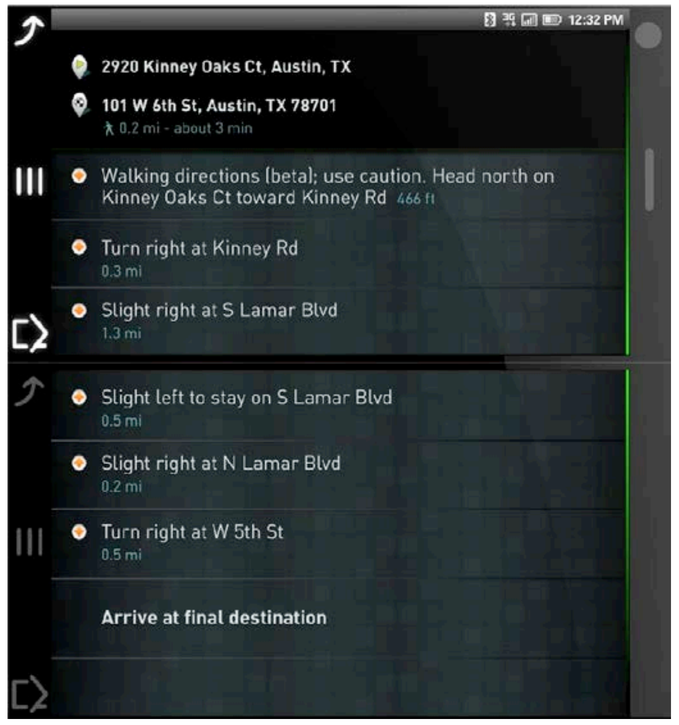
The left is a text view of the directions, the right is a map view of the directions.

(see Parallel View Model)


The user turns the phone to landscape view by turning the device clockwise (or counter clockwise).



The map auto-expands to fill the full landscape view. Drag down on the capacitive strip brings down the directions view.


12:32 PM

2920 Kinney Oaks Ct, Austin, TX

101 W 6th St, Austin, TX 78701

0.2 mi - about 3 min

Walking directions (beta); use caution. Head north on Kinney Oaks Ct toward Kinney Rd 466 ft

Turn right at Kinney Rd
0.3 mi

Slight right at S Lamar Blvd
1.3 mi

Slight left to stay on S Lamar Blvd
0.5 mi

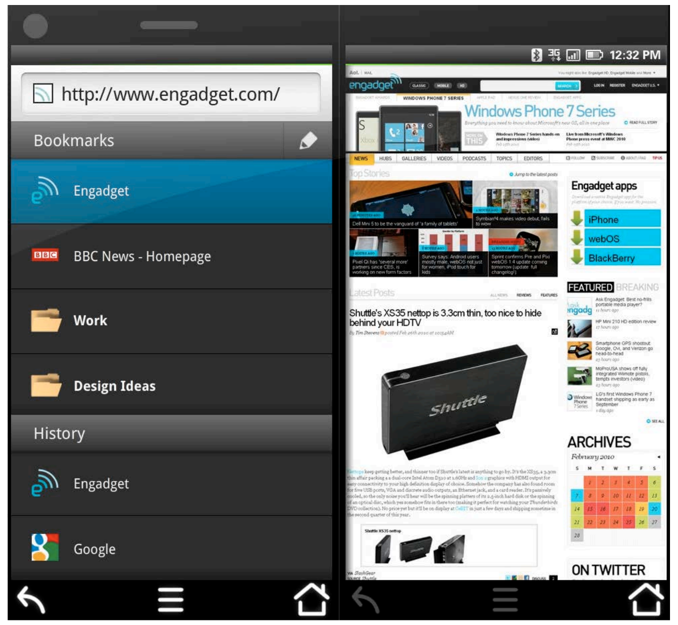
Slight right at N Lamar Blvd
0.2 mi

Turn right at W 5th St
0.5 mi

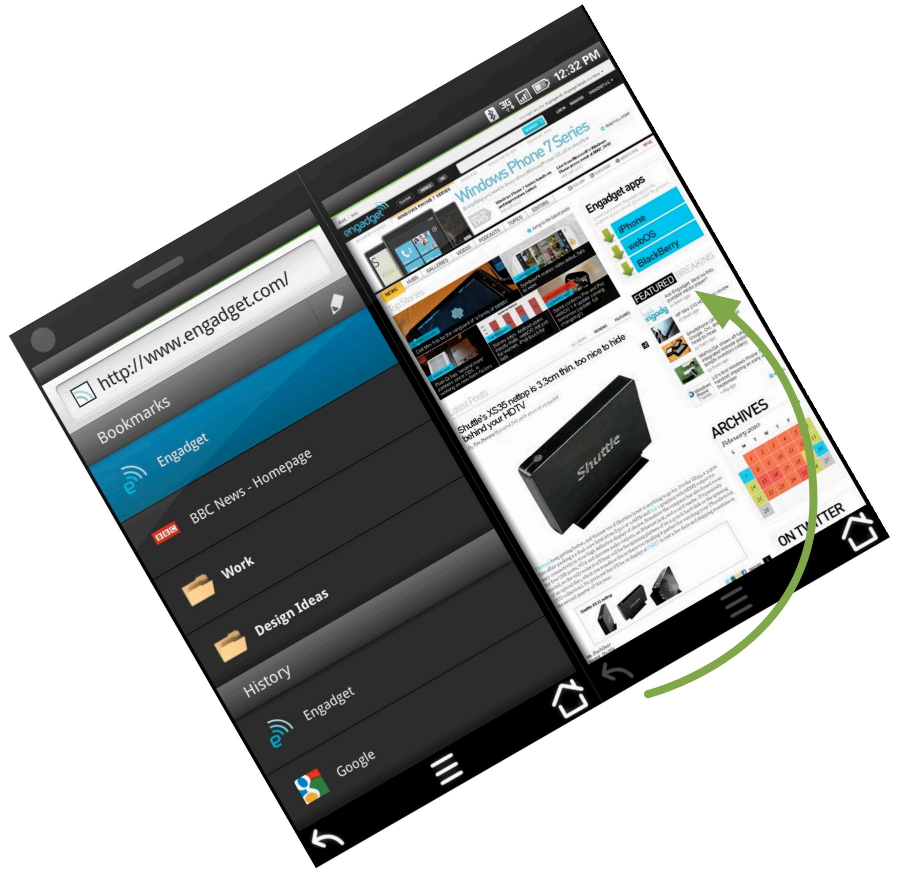
Arrive at final destination

Drag up the capacitive strip will bring back up the map view.

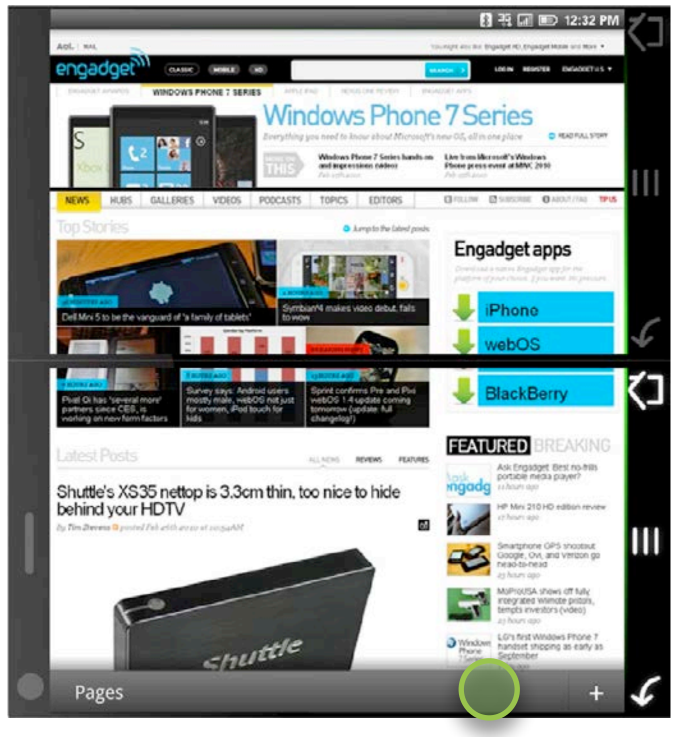
2.4.4.3 :: Example Application Flow :: Grow Browser



Control panel shown in left and browser in right.

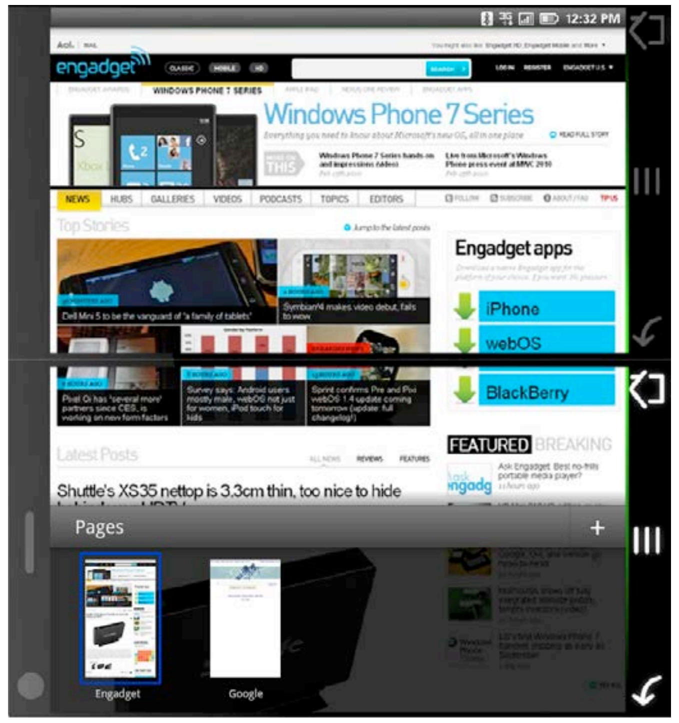


The user turns the phone counter clockwise (or clockwise).



The browser window/webpage view expands to fill both screens in landscape orientation.

The Pages bar (similar to tabs in a browser) is displayed along the bottom of the bottom screen. The user can tap the bar or slide it up.



Tap on the bar causes it to slide up providing access other pages or tap the "+" control to open a new tab/window.

3 :: INTERACTION PATTERNS

3.1 :: Text Entry

On-Screen Keyboard

3.1.1 :: Text Entry/On-screen Keyboard Overview

Provide an optimized text-entry experience–customized for the device and prosumer audience while leveraging existing Android 2.1 features.

An improved keyboard layout: offset keys, more space between keys in the dual screen view; make it easier to hit the correct characters and improve typing speed.

An optimized input experience: the framework's multi-touch support ensures that key presses aren't missed while typing rapidly with two fingers.

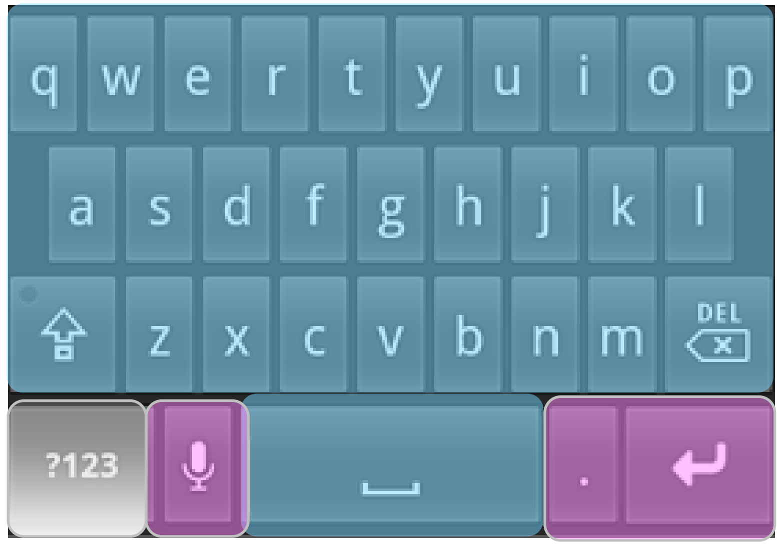
An integrated auto-suggestion bar with a smarter dictionary: an auto-suggestion bar shown as the user types that provides smart suggestion–learning from common word usage and automatically including contact names as suggestions.

Utilization of Contextual keyboards optimized for the users current context: Email Subject, Email To, Search, SMS, Symbols and 123, emoticons, etc.

Inclusion of valuable shortcuts: Voice to text key (replaces comma on some keyboards) is a useful feature for the prosumer audience. Long press shortcuts on specific keys such as ?123 could provide access to emoticons, extended symbol sets.

Optimization of input experience when in dual screen compose modes: a clear visual highlight to the screen in focus and dimming of the screen not active provides additional clarity to cursor location and expected behavior so that users are comfortable tapping back and forth.

Note: Keyboard layout and dimensions to be defined in the detailed design phase.



🟦 Common Key

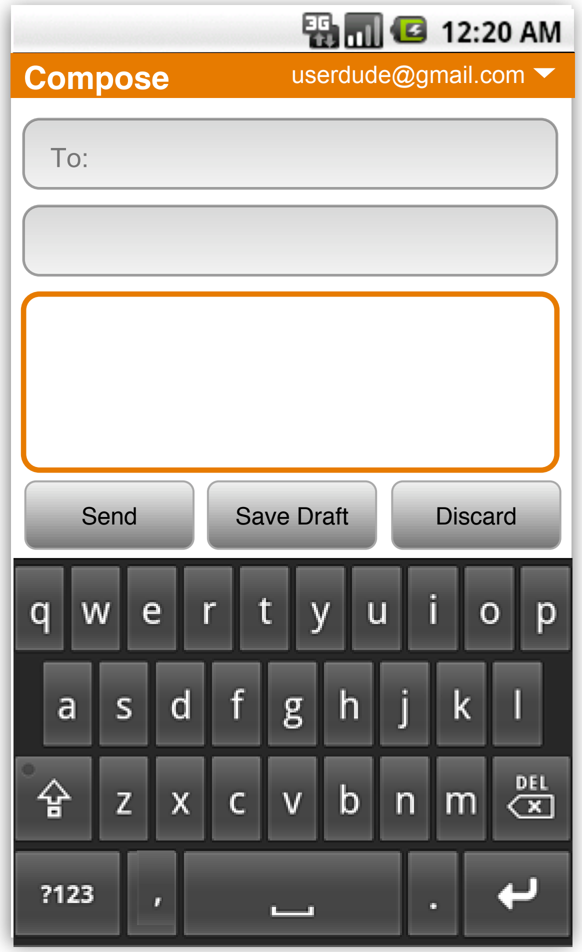
⬜ Keyboard Switcher Key

🟪 Contextual Key

QWERTY same on all
Delete - row 3 on right
Shift or ALT - row 3 on left
Space bar - bottom center, or right of center
Action (if exists) - bottom right
Keyboard switcher - bottom left
Voice input - bottom left of space bar
Period - right of space bar

3.1.2 :: Recommended Keyboard Layouts (cont'd 1

Single Screen portrait

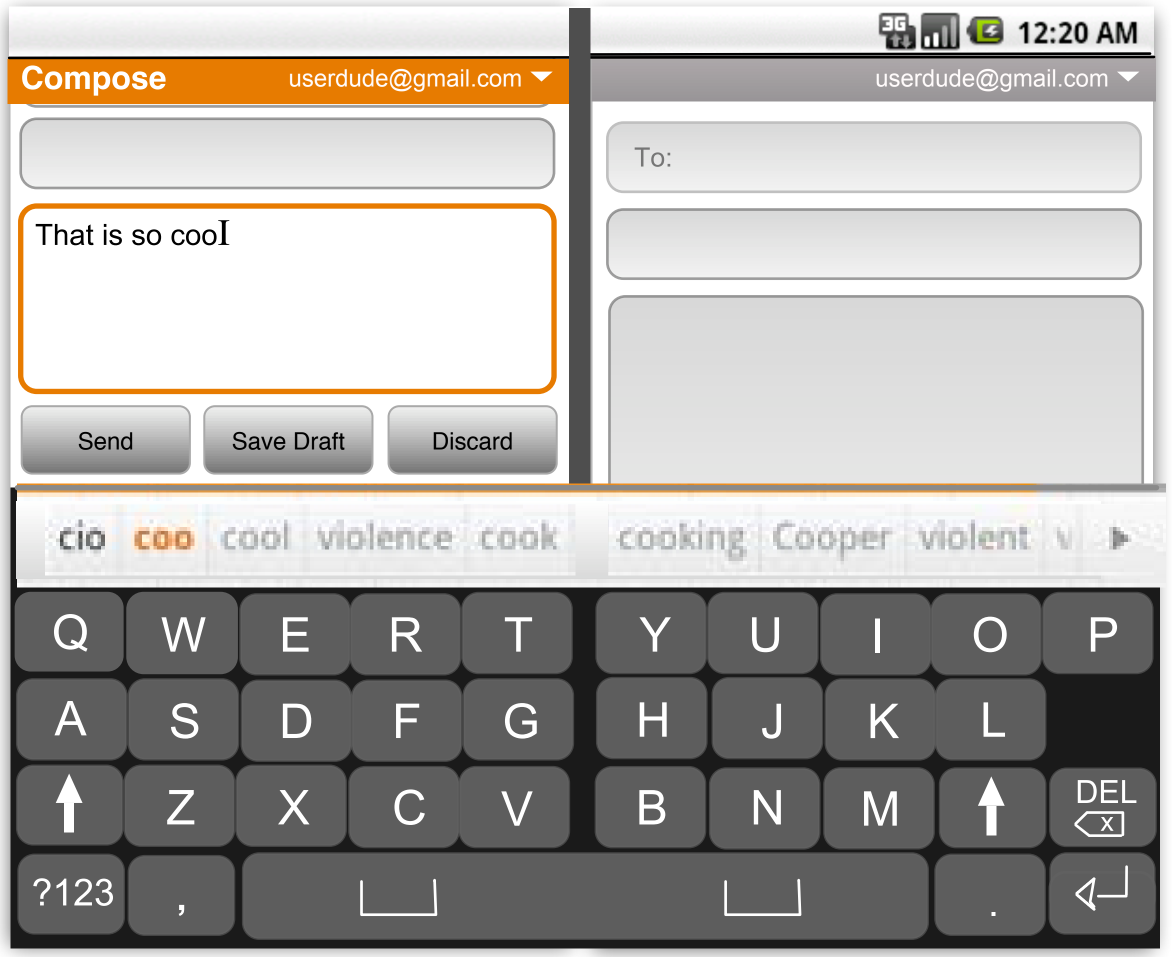


In this model, the user has tapped a field, which has invoked the keyboard. This is the standard Android keyboard today.

We suggest the continued use of standard Android behaviors and contextual keyboards unless noted otherwise. This is the keyboard used for the content field in an email.

Android 2.0 offers some improvements to the keyboard such as an improved layout and multi-touch support for better touch accuracy and a smarter dictionary for word usage including contact names for suggestions.

Dual screen, portrait, two apps, one keyboard that spans both apps and operates within an app depending on focus



In this model, the user has the device open to display dual screens. On each screen is displayed an application. The keyboard spans across both screens.

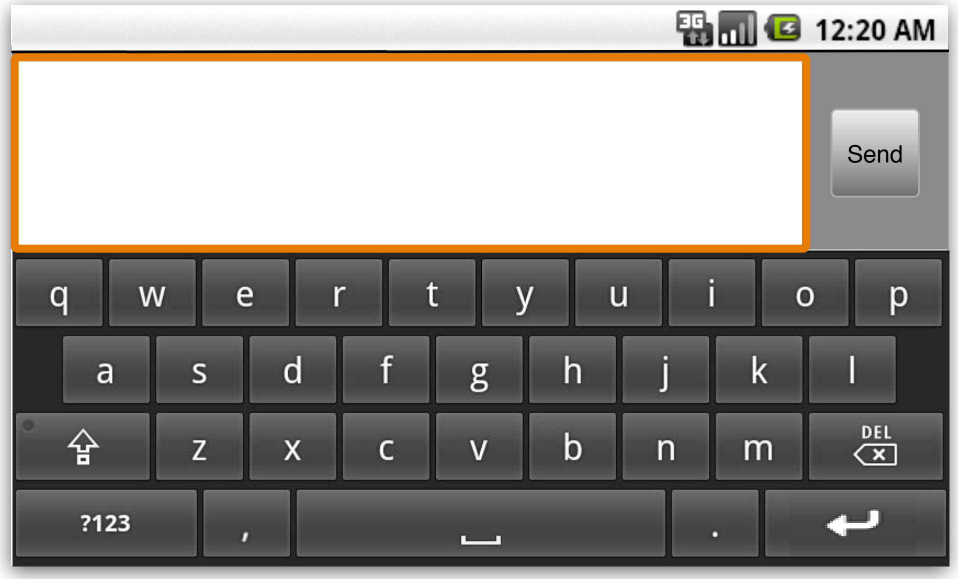
As shown by the highlight around the entry field in the compose view on the left and the colored title bar, the user has placed focus in the composer on the left. Therefore typing on the keyboard will input in the field on the left.

The user can tap the right screen to move the focus to that screen. If the user taps a field, that field will get the focus and the title bar will change to orange. The right screen will compress and the action bar will appear. The focus state and title in the left will return to the off state; however, the action bar will remain. This allows the user to tap back and forth to enter text in both screens in a seamless fashion.

Turn to landscape will position the app in focus on the top screen and the keyboard in the bottom screen overlaying the other app.

3.1.3 :: Recommended Keyboard Layouts (cont'd 1)

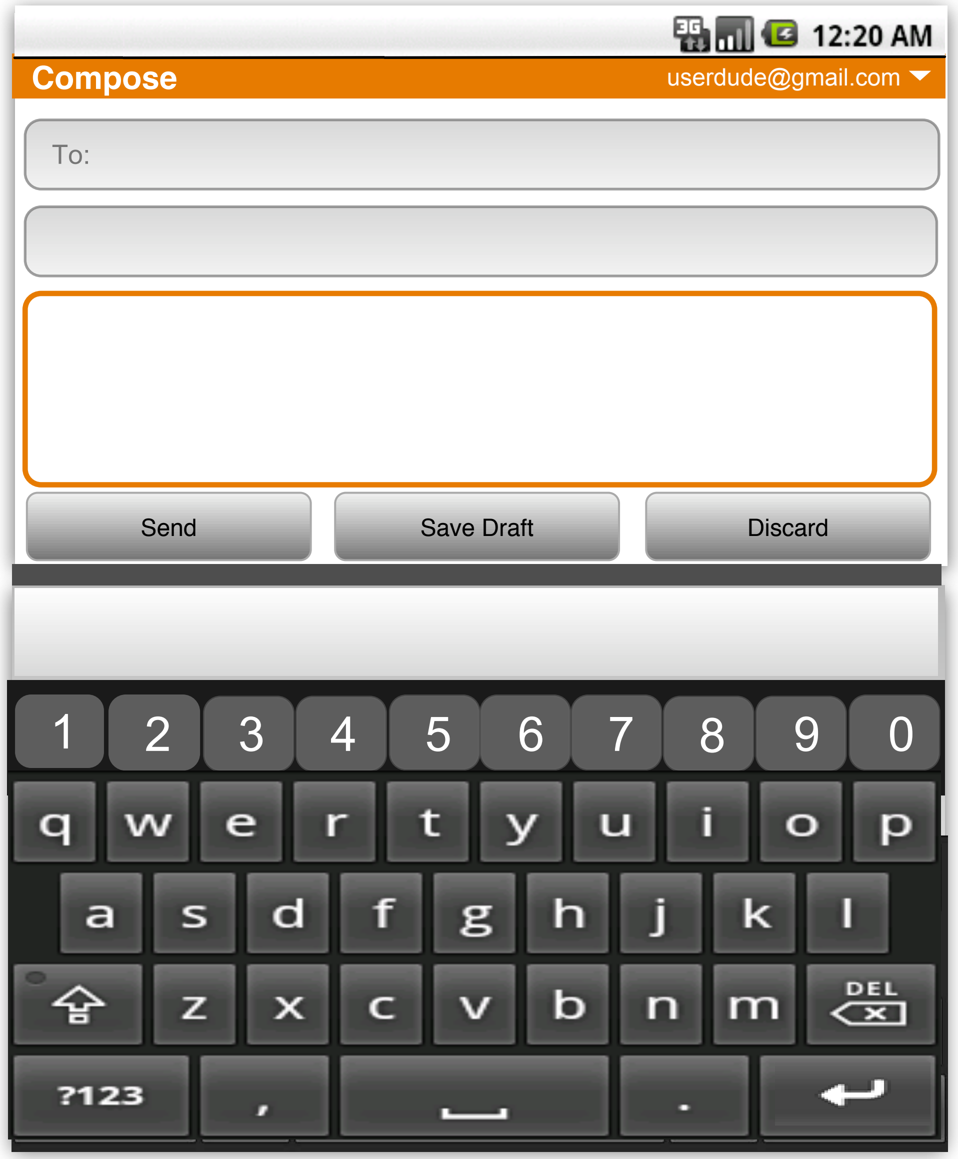
Single screen, landscape, one app with keyboard (Legacy)



In this model, the user has tapped a field, which has invoked the keyboard. This is the standard Android landscape keyboard.

As is represented in the wireframe, this keyboard configuration can make text entry difficult because most of the screen is obscured by the keyboard. We suggest the continued use of Android's contextual keyboards.

Dual screen, landscape, one app w/keyboard occupying second screen



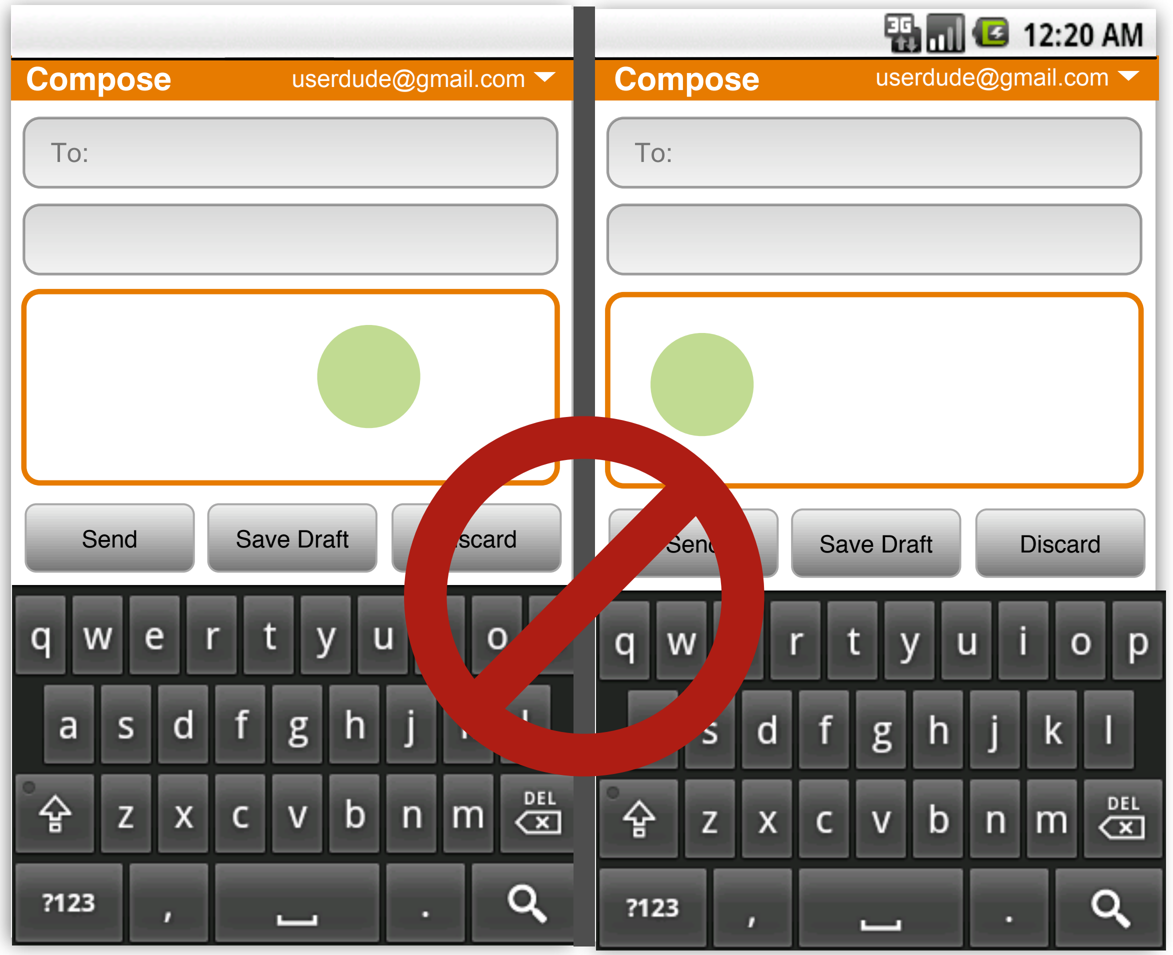
Note: Keyboard layout and dimensions to be defined in the detailed design phase.

In this model, both screens are open, but the keyboard uses the entire real estate of the second screen, with the open application occupying screen one. From a usability perspective, this is the best model for keyboard layout in landscape dual screen.

Tap a field in the top screen, and the keyboard will slide over the app in the bottom screen. Tap a field in the bottom screen and the app will slide up to the top screen as the keyboard slides up over the bottom screen.

3.1.4 :: Not Recommended Keyboard Layouts (add'l explorations)

Dual screen, portrait, two apps each with keyboard

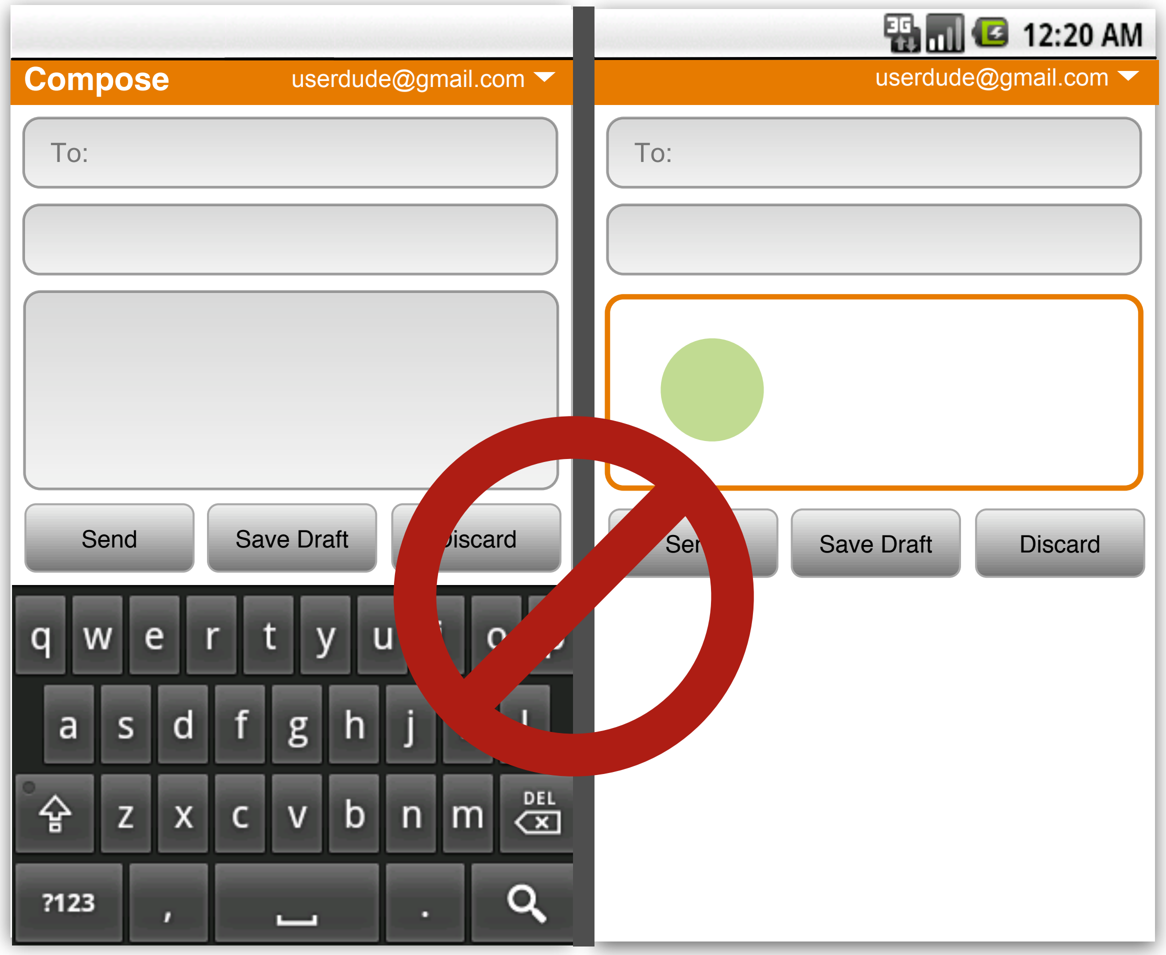


In this model, the user has opened two applications, one on each screen. When the user places focus on a field, the keyboard opens to display on the screen from which is was invoked. In this model, two keyboards could ostensibly be open at the same time.

As this wireframe shows, the user has tapped the compose field on each email, thus two keyboards (one per screen) have been opened.

This model is not recommended because the presence of two duplicate keyboards is likely to cause confusion, as well as the focus of multiple fields simultaneously.

Dual screen, portrait, two apps, one keyboard that operates depending on focus



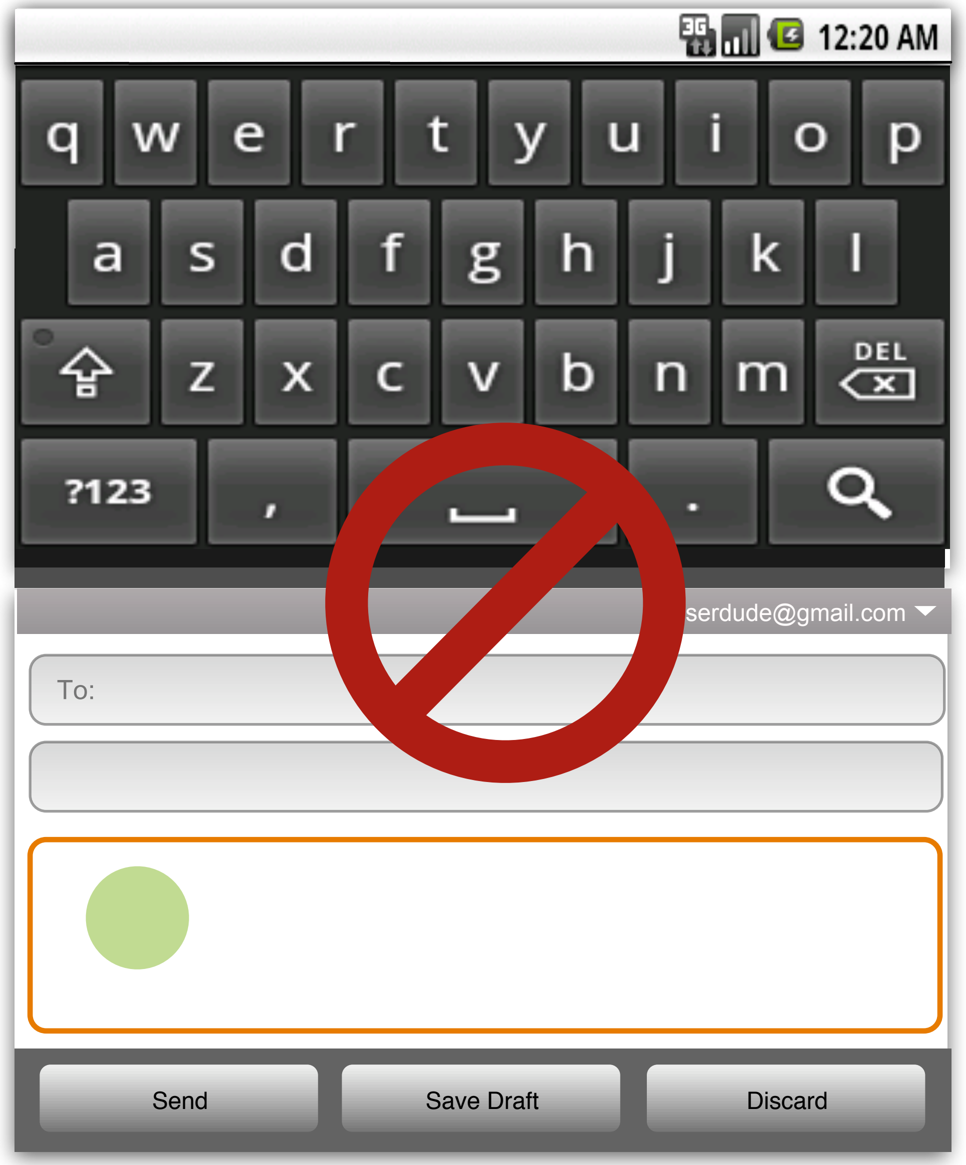
In this model, the user has opened two applications, one on each screen, but the keyboard will only ever be displayed on the first screen.

Notice in the wireframe above that the user has placed focus on the message field of the email on the right screen, which invokes the keyboard on the left screen. If the user had tapped the message field of the email on the left screen, the keyboard would be invoked on the same side. The keyboard will always be displayed on the left side, no matter which application on which screen invoked the keyboard.

This model is not recommended because having a keyboard present on one side only may lead to confusion about which application is in focus.

3.1.5 :: Not Recommended Keyboard Layouts (add'l explorations cont'd)

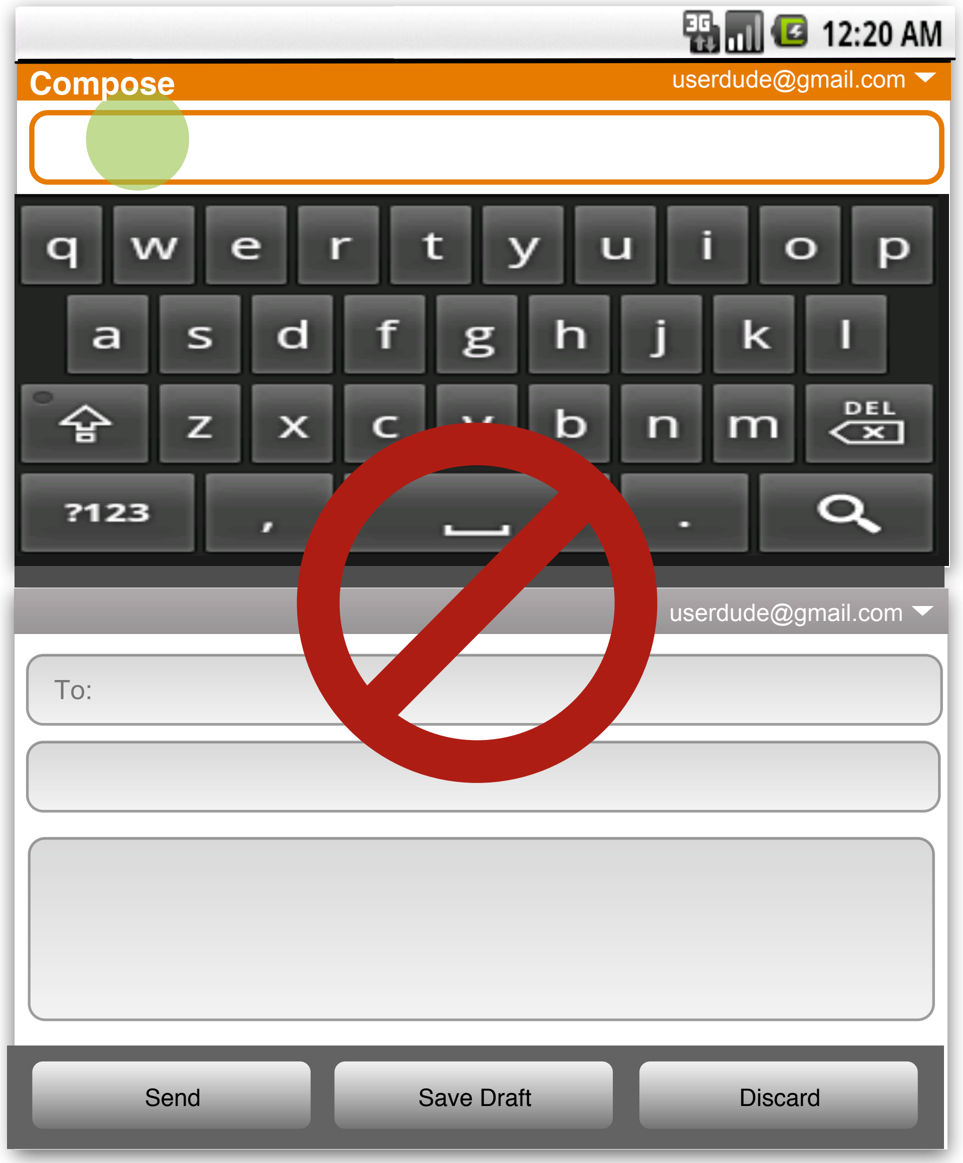
Dual screen, landscape, one app w/keyboard occupying second screen



In this model, both screens are open, but the keyboard uses the entire real estate of the second screen, with the open application occupying screen one. The user could have two applications open, one each on screen one and screen two. The keyboard appears on the opposite screen of the application in which the user has placed focus.

This keyboard is a logical extension of the recommended dual screen keyboard, but for obvious usability concerns, it doesn't work when displayed in Screen 1.

Dual screen, landscape, two apps w/one keyboard that appears depending on focus

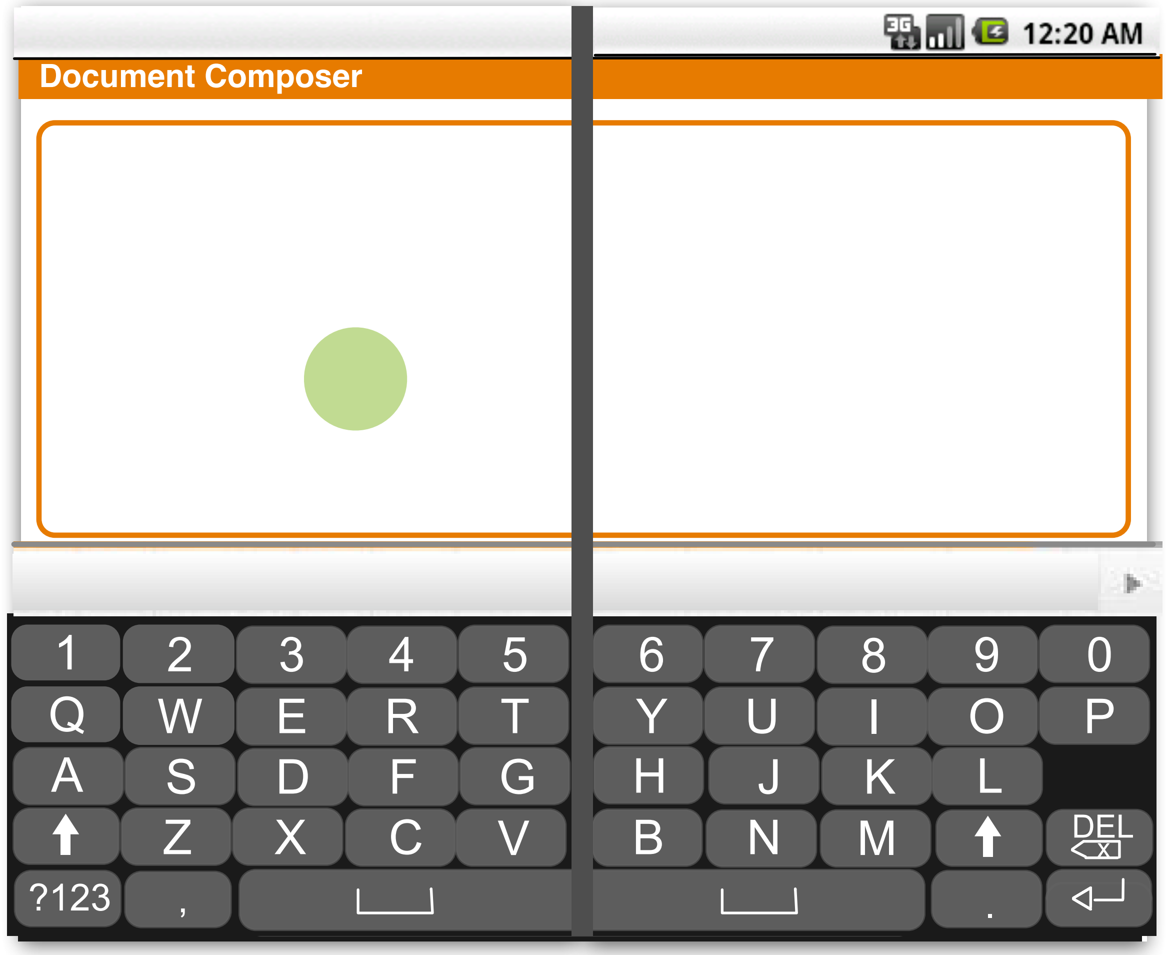


In this model, the user has tapped a field, which has invoked the keyboard. This is the standard Android keyboard. As is represented in the wireframe, this keyboard configuration can make text entry difficult because most of the screen is obscured by the keyboard. If the user had tapped a field in the application in screen two, then the keyboard would appear in the second application.

Although this model follows current keyboard conventions when in landscape mode, this model isn't the best use of phone real estate.

3.1.6 :: Additional Explorations

Dual screen, portrait, one app spans across both screens, with keyboard doing same



In this model, one application (such as Word or another text editor type application) has been opened across both screens. The keyboard expands across both screens.

The keyboard here functions the same way in which it functions in single screen portrait mode. Tapping a field places focus on that field, and then allows the user to use the keyboard for text input.

Note: We have not seen a case for this, but want to leave this as an option in case an expanded compose view does occur. Turning the phone to a landscape view is the more optimal choice.

3.2 :: Copy/Paste

Copy & Paste Text, Links and Universal Clipboard

3.2.1 :: Introduction

In the current Android model, users can copy and paste the contents of a text message from one app to another via press and hold to get a copy/paste menu.

In the current Android model, users can copy and paste a URL from any application to another via press and hold to get a copy/paste menu.

*In the current Android model, users select text in a text field via press and hold, which invokes a contextual menu allowing users to put the field in 'select' mode, touching and dragging a chunk of text, then press and hold again to take field out of 'select' mode, which then copies the selected text.

*In the current Android model, users can copy/paste plain text via invoking a contextual menu, putting the device into 'select' mode, and touching and dragging a chunk of text, then press and hold to paste the text into another app.

We want to normalize the methods of copy/paste in the dual screen model, as well as to allow more efficient copy via drag and drop, direct manipulation, and better cursor placement and text selection, all while still allowing for the retention of the current Android pattern of copy and paste via menus as additional methods of performing these functions.

3.2.2 :: Functions

COPY
*Select a link
*Select a chunk of text
*Select all text (and images) on a page
*Select a text message
*Select a text conversation
*Select an image (or image and text)
*Any text in a field
*Smart Objects (calendar event, contact, etc.)

FROM
*Email
*Text Message
*Webpage
*IM
*Document
*Image
*Folder
*Text Field

PASTE
*Paste a link
*Paste a chunk of text
*Paste a message
*Paste a conversation
*Paste an image (or image and text)
*Paste a Smart Object

TO
*Email
*Text Message
*IM
*Document
*Folder

3.2.3 :: Copy and Paste Rules

What can be copied?

There are two different classes of items that can be copied and pasted. The first class of items don’t require the user to place the cursor to select a piece of the item; the item is selected in its entirety. Items that fall into this class are Links, Images, Documents (such as music files or document files) and Text Messages.

The second class of items require the user to place the cursor and make a selection of a piece of the item. In this mode, the user can also elect to ‘select all’ to copy everything within the item. Items that fall into this class are Chunks of text on a page, Chunks of text and images on a page, and Contents of a text field.

Users may copy from web pages, emails, text messages, documents, emails, fields, etc.

How are items copied?

For items that are copied in their entirety, such as links or images, users press and hold the item to display a menu. The menu gives the user the option to copy the item to the clipboard. Users may also use a two finger press and hold gesture, which puts the item in move mode, and allows the user to move/paste the item to any available drop zone (This includes images, links. paragraphs of text, messages, etc).

For items that require the user to make a selection of what they want to copy, such as a chunk of text from a web page or the contents of a text field, users press and hold the item to display a menu. The menu gives the user the option to copy the item to the clipboard. Users also have the option to copy the entire web page, field contents, etc (copy all) to copy that item to the clipboard. Once the user has chosen how to copy, they are able to place the cursor and select what is to be copied.

Where are items copied and how are they pasted?

For anything that has been copied, users have the option to either just paste the last copied item or to select an item from the Universal Clipboard to paste. Copying and pasting the item as one task is likely the most common use case. Users copy something with the intention of pasting it immediately into another location. Selecting ‘paste text’ will paste the last copied item. Selecting ‘paste from clipboard’ will display the Universal Clipboard. From there, users can drag and drop the item to the current cursor position. Selecting ‘place cursor’ allows the user to first place the cursor in a different position, and then paste the item.

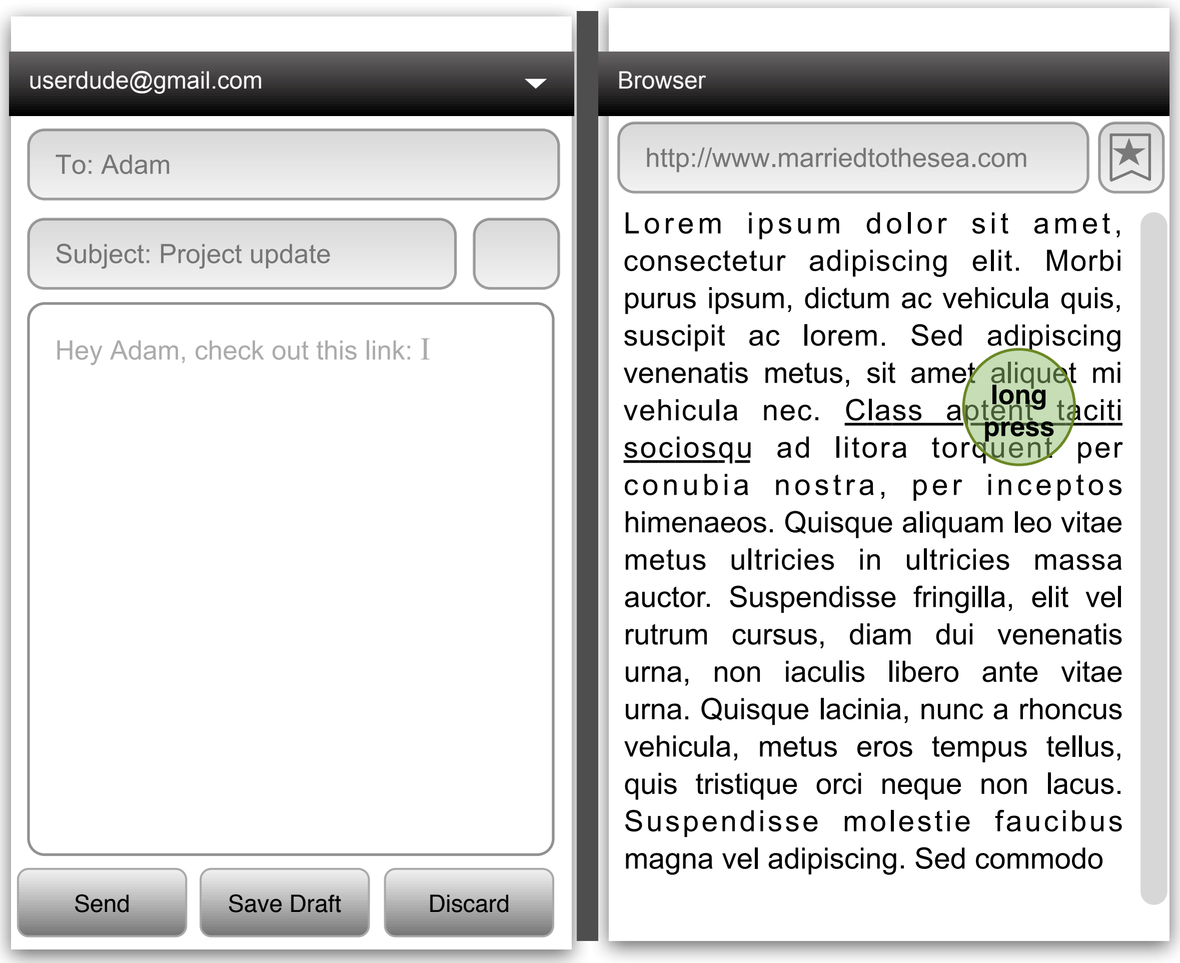
3.2.3.1 :: Copy and Paste Rules (cont'd)

How are items removed from the Clipboard?
The Clipboard should be able to contain up to (x) number of items in a scrolling list. As users reach the maximum number of items the Clipboard can contain, the oldest item(s) will be removed from the Clipboard so that it contains only the maximum number of items. Users can allow Clipboard items to automatically 'expire' and be removed, or users can manually remove items from the Clipboard. Automatic expiration and removal rules do not apply to items that have been pinned to the Clipboard (though users can manually remove these items).
Items are not automatically removed from the Clipboard upon pasting the item. They can only be removed manually or via expiration.

The Universal Clipboard allows the user to reuse the item, as well as the option to take advantage of some of the Clipboard features, such as being able to save things on the Clipboard into a ‘scrapbook’/folder.

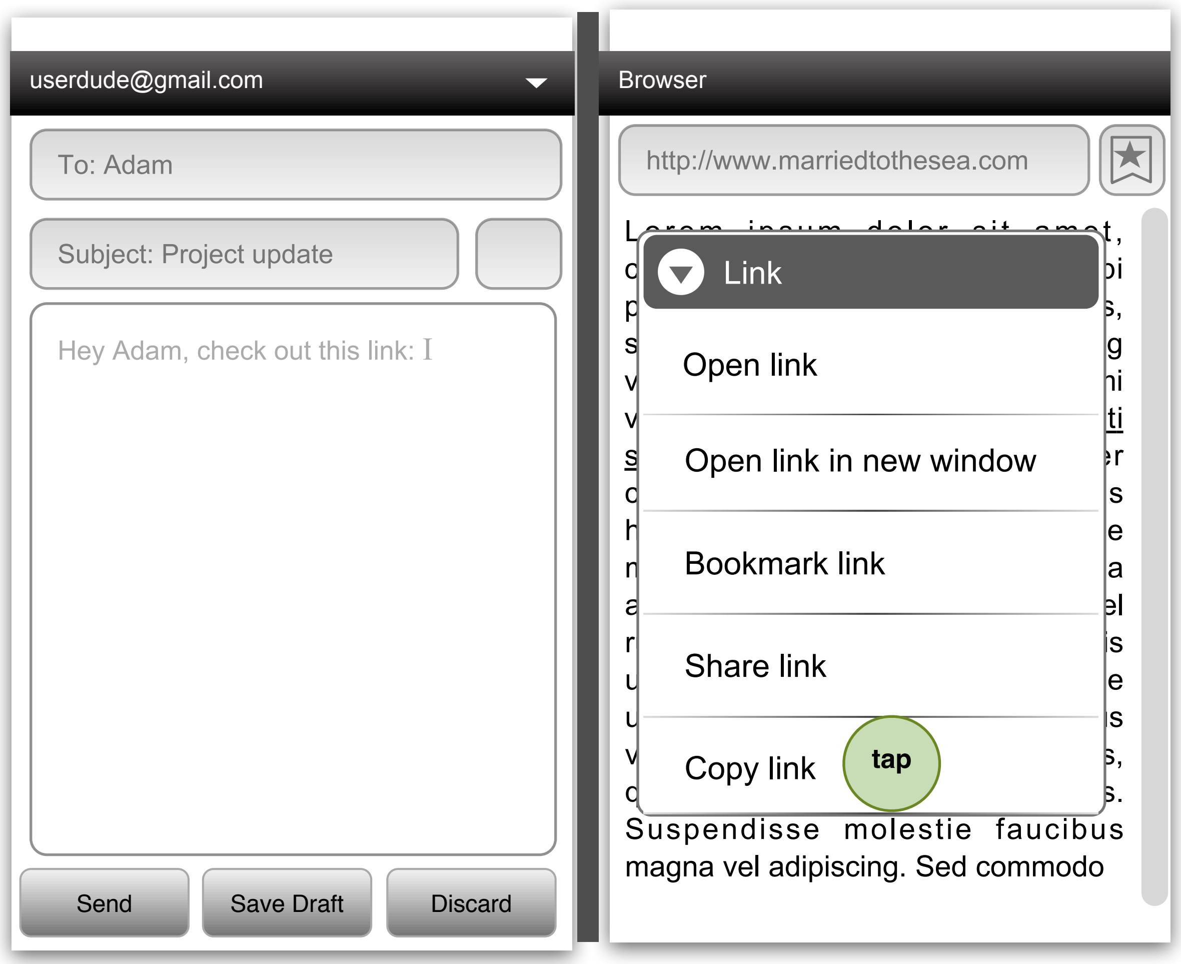
3.2.4 :: Copy and Paste Link from Clipboard

3.2.4.1 :: Copy and Paste Link from Clipboard



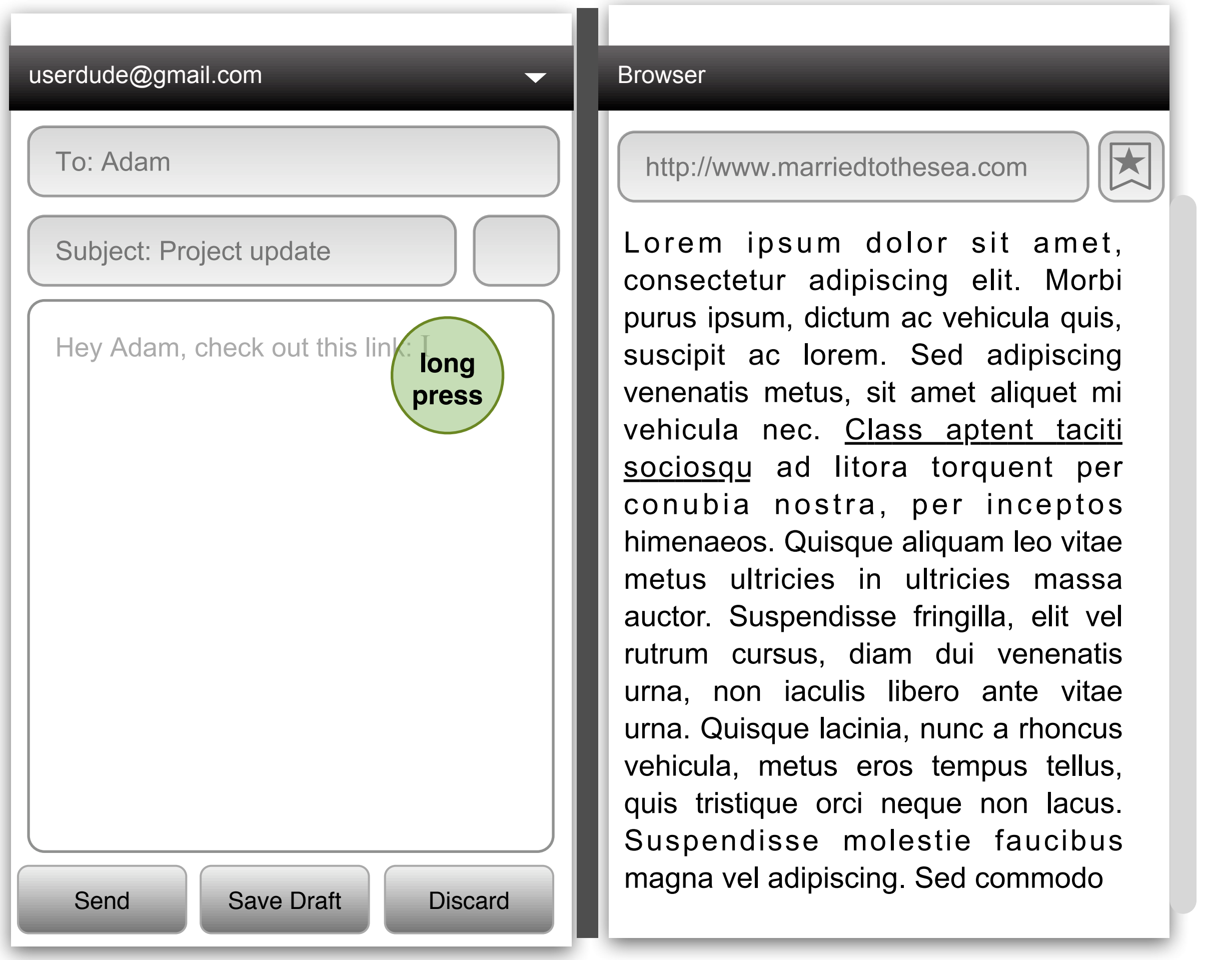
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. Class aptent taciti sociosqu ad litora torquent per conubia nostra, per inceptos himenaeos. Quisque aliquam leo vitae metus ultricies in ultricies massa auctor. Suspendisse fringilla, elit vel rutrum cursus, diam dui venenatis urna, non iaculis libero ante vitae urna. Quisque lacinia, nunc a rhoncus vehicula, metus eros tempus tellus, quis tristique orci neque non lacus. Suspendisse molestie faucibus magna vel adipiscing. Sed commodo

The user presses and holds a link on a web page.



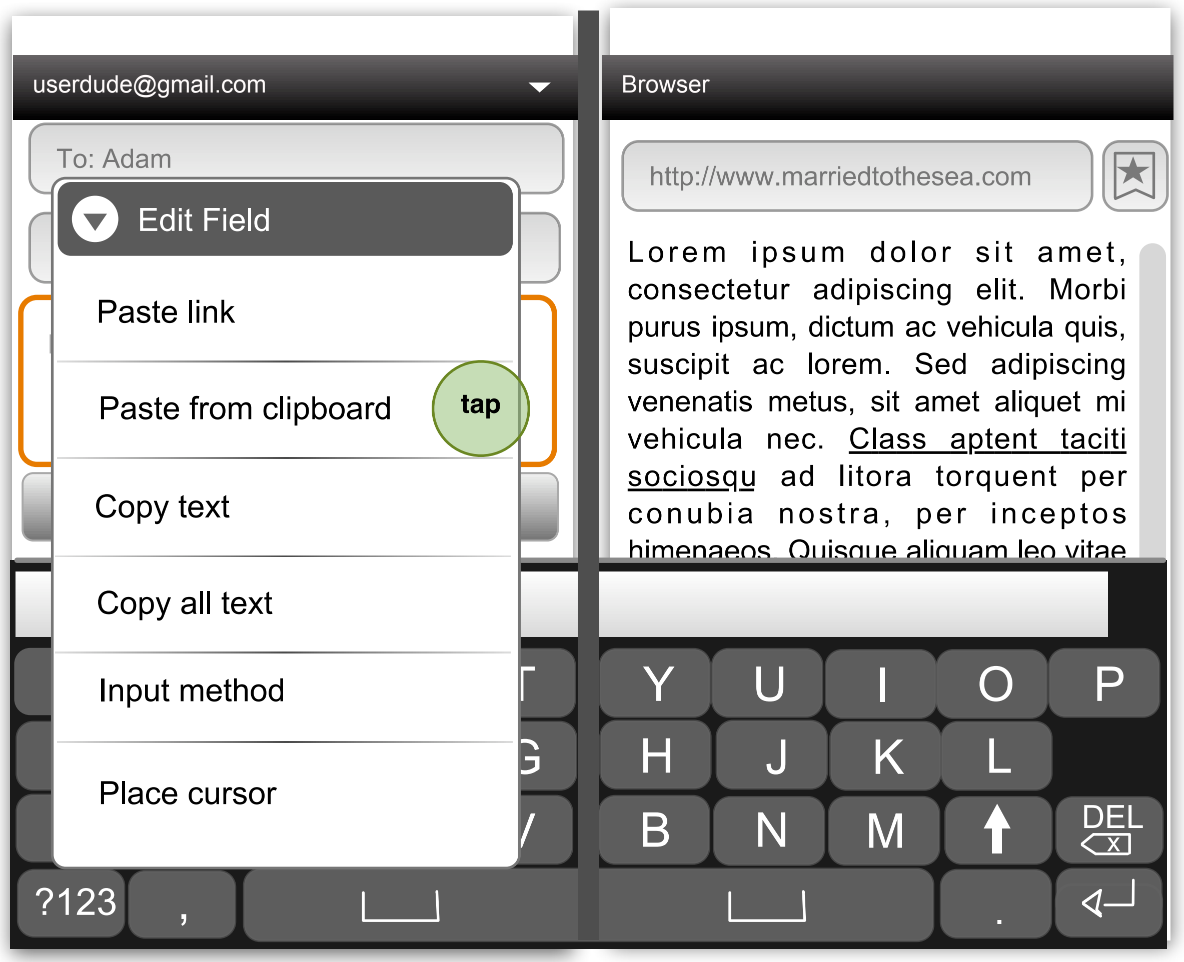
A menu is displayed with an option to 'Copy link'. User taps 'Copy link'. The has been copied to the Universal Clipboard. Both the text of the link, and the URL are copied. E.g., if the text of the link was "Check this out!" and the URL was http://marriedtothesea.com, what would be copied would be "Check this out!" <http://marriedtothesea.com>

3.2.4.2 :: Copy and Paste Link from Clipboard



Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. Class aptent taciti sociosqu ad litora torquent per conubia nostra, per inceptos himenaeos. Quisque aliquam leo vitae metus ultricies in ultricies massa auctor. Suspendisse fringilla, elit vel rutrum cursus, diam dui venenatis urna, non iaculis libero ante vitae urna. Quisque lacinia, nunc a rhoncus vehicula, metus eros tempus tellus, quis tristique orci neque non lacus. Suspendisse molestie faucibus magna vel adipiscing. Sed commodo

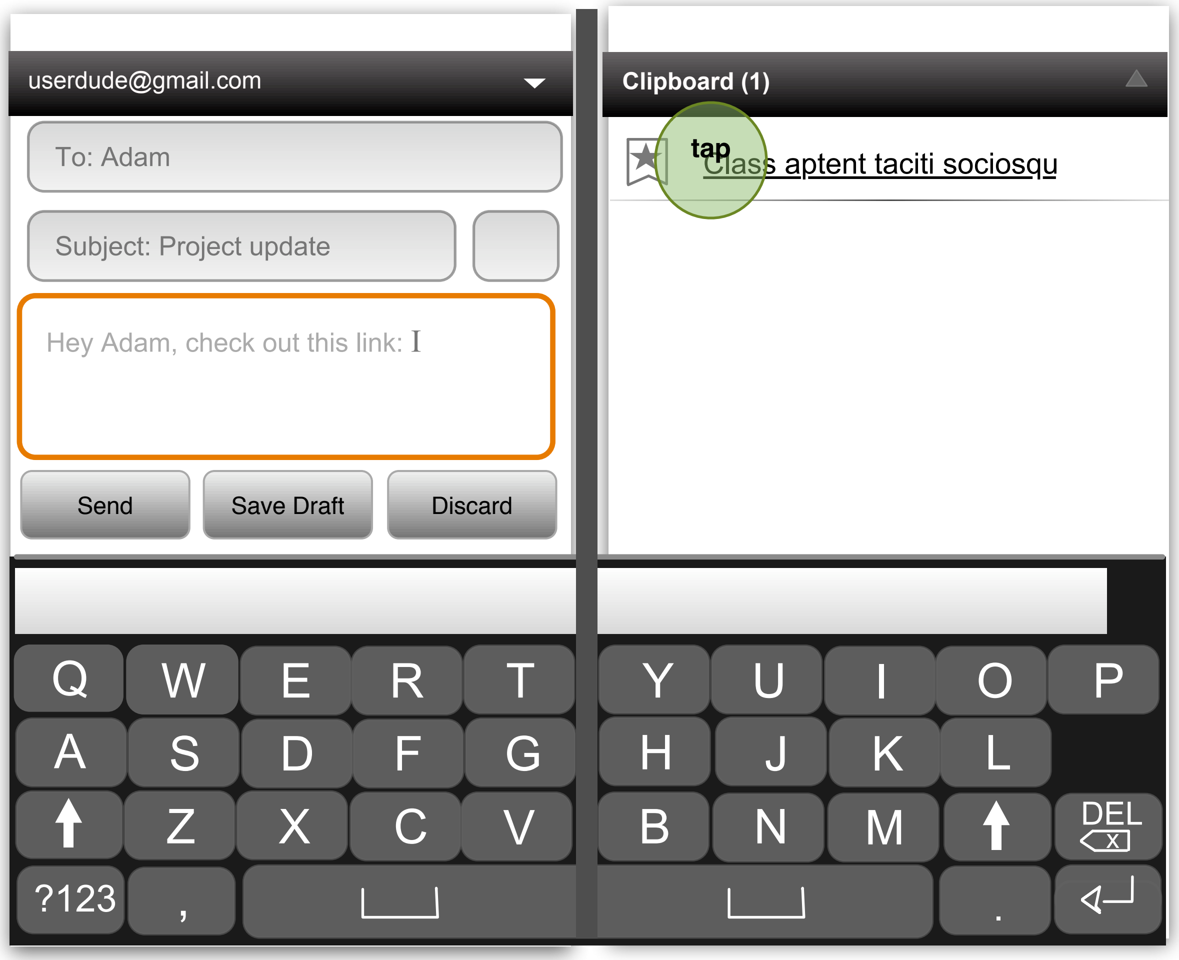
The user presses and holds the compose field in an email.



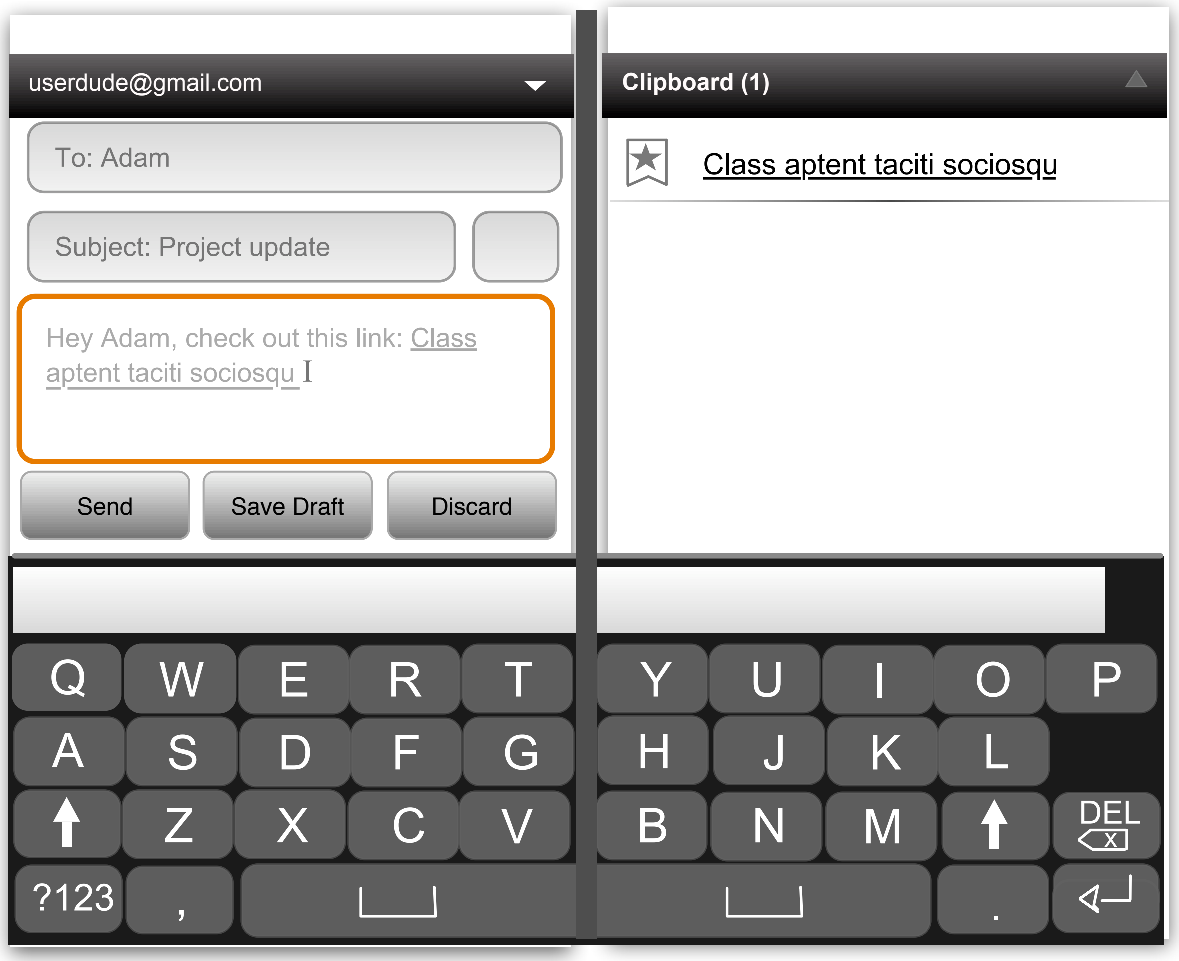
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. Class aptent taciti sociosqu ad litora torquent per conubia nostra, per inceptos himenaeos. Quisque aliquam leo vitae

A menu is displayed with two options for pasting. 'Paste Link' would paste the last copied item at the current cursor position. 'Paste from clipboard' displays the Universal Clipboard, from which the user could paste the just copied link, in addition to other items in the Clipboard. The user taps 'Paste from clipboard'.
The user could have also single tapped the field before invoking this menu to place the cursor. Single tapping the field will place the cursor where the user had tapped. The user could then press and hold to get this menu to paste the link in the newly selected location.

3.2.4.3 :: Copy and Paste Link from Clipboard



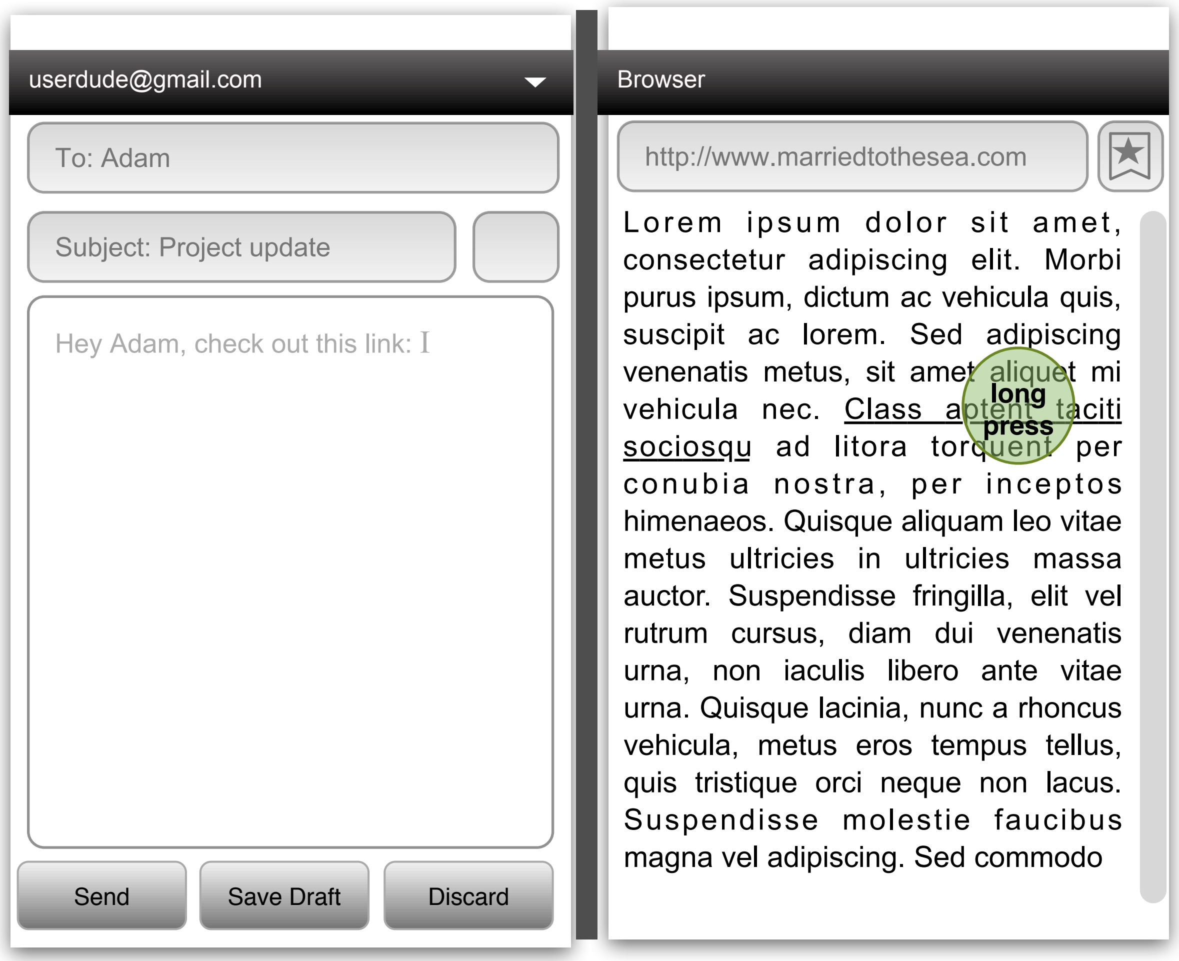
The Universal Clipboard is displayed in Screen 2. The user can either drag items to fields from here, or tap an item to insert it into the field with focus at the current cursor position. The user taps the link on the Universal Clipboard.


userdude@gmail.com
To: Adam
Subject: Project update
Hey Adam, check out this link: Class aptent taciti sociosqu
Send
Save Draft
Discard
Clipboard (1)
Class aptent taciti sociosqu

The link is displayed in the field with focus at the current cursor position.

3.2.5 :: Copy and Paste Link

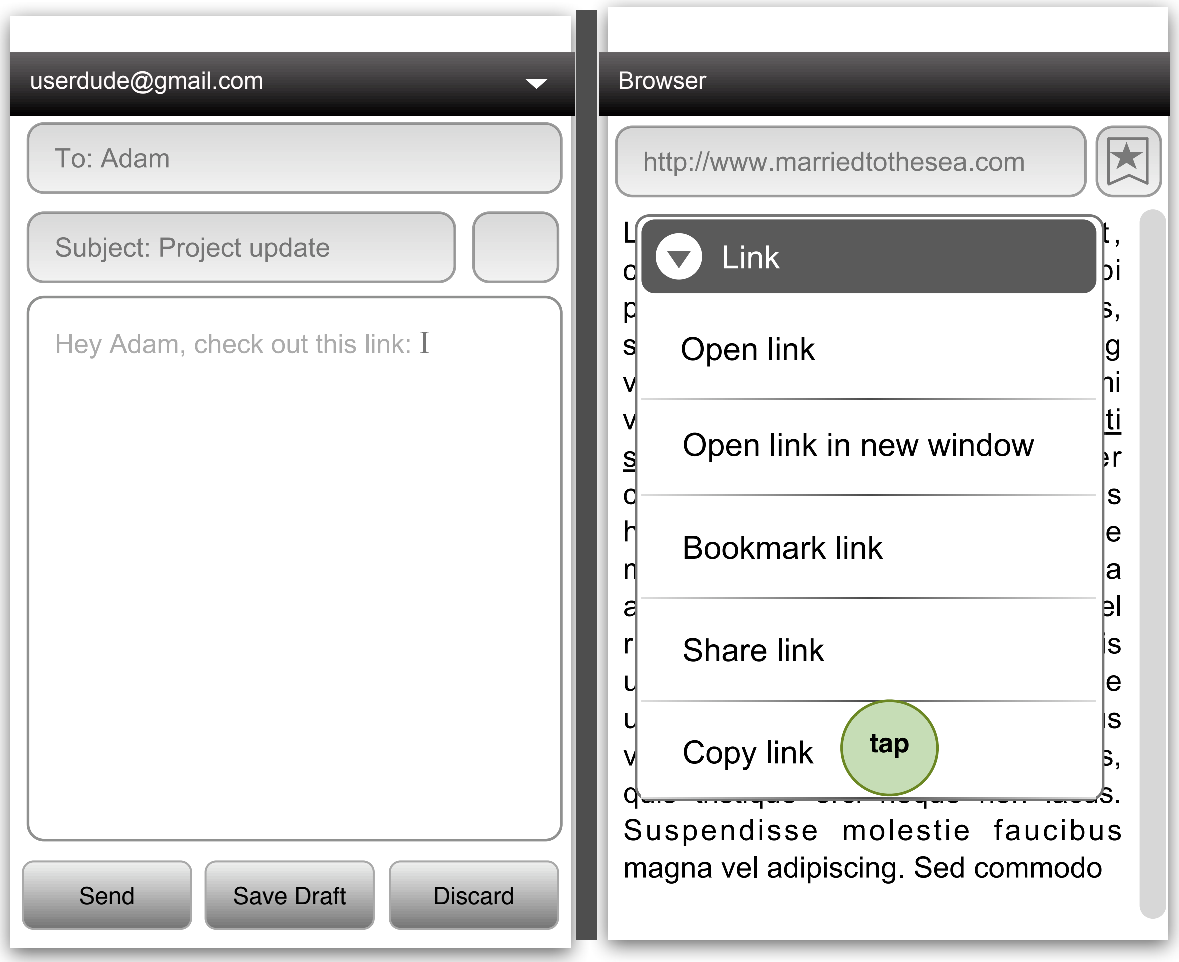
3.2.5.1 :: Copy and Paste Link



Hey Adam, check out this link: I

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. Class aptent taciti sociosqu ad litora torquent per conubia nostra, per inceptos himenaeos. Quisque aliquam leo vitae metus ultricies in ultricies massa auctor. Suspendisse fringilla, elit vel rutrum cursus, diam dui venenatis urna, non iaculis libero ante vitae urna. Quisque lacinia, nunc a rhoncus vehicula, metus eros tempus tellus, quis tristique orci neque non lacus. Suspendisse molestie faucibus magna vel adipiscing. Sed commodo

The user presses and holds a link on a web page.

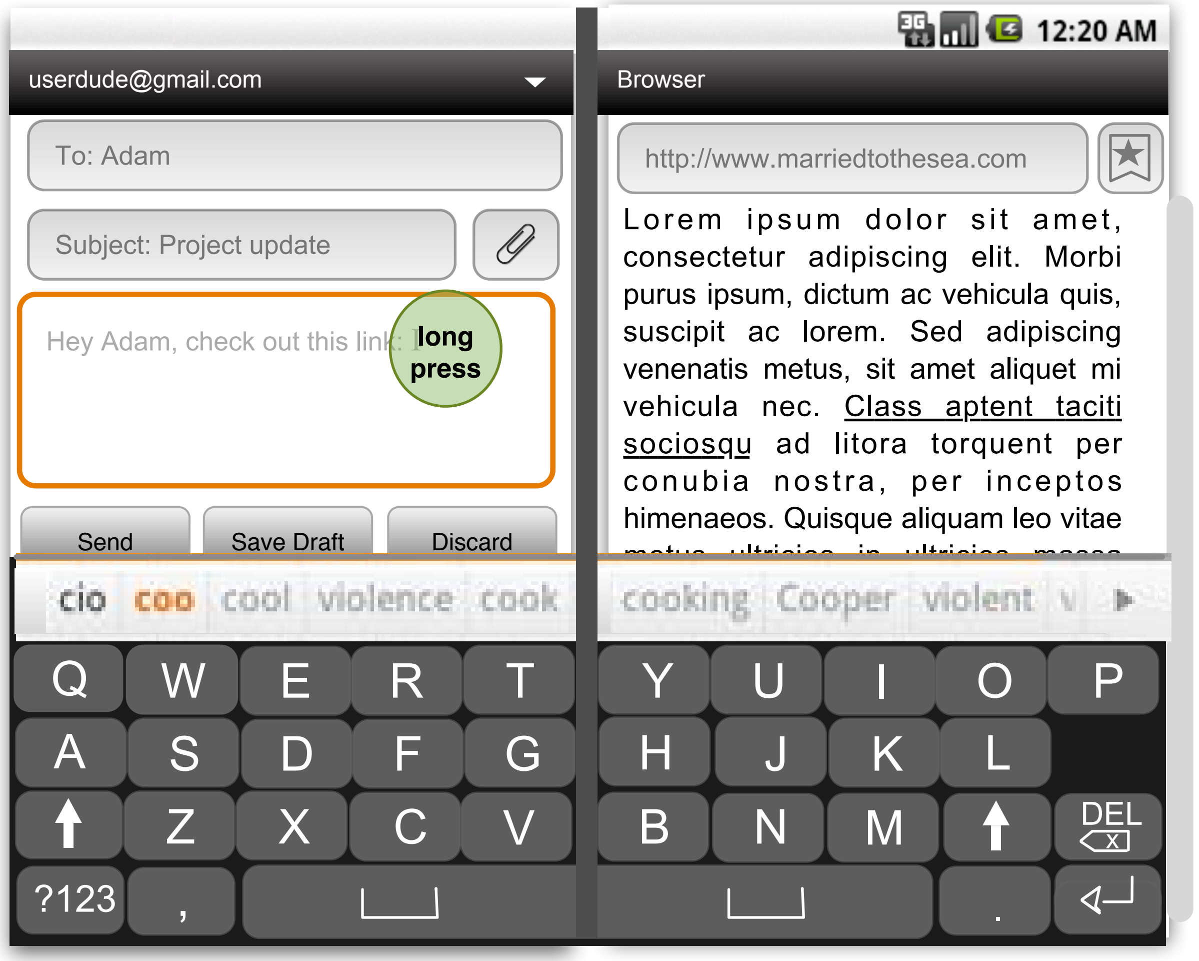


Hey Adam, check out this link: I

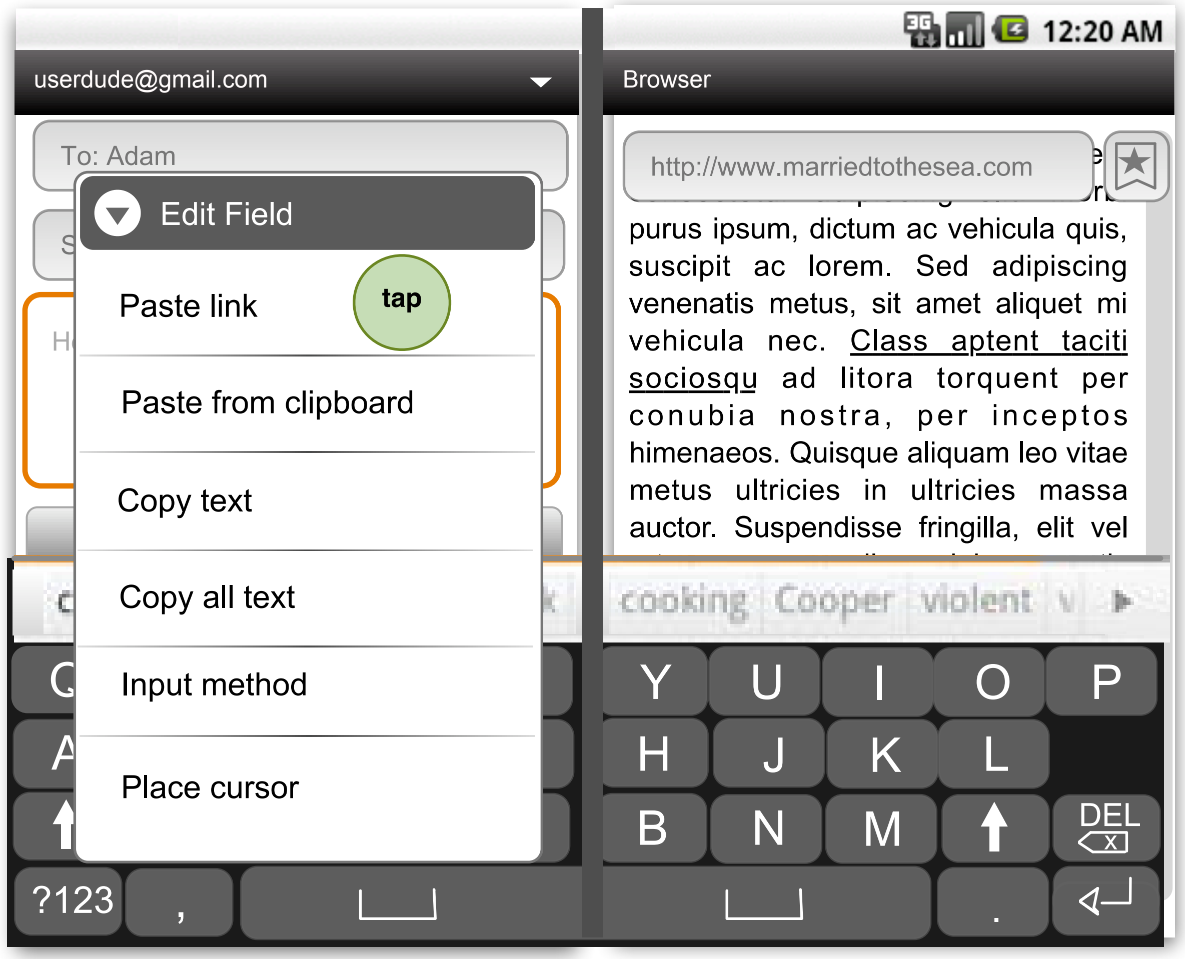
Suspendisse molestie faucibus magna vel adipiscing. Sed commodo

A menu is displayed with an option to 'Copy link'. User taps 'Copy link'. This has been copied to the Universal Clipboard.

3.2.5.2 :: Copy and Paste Link

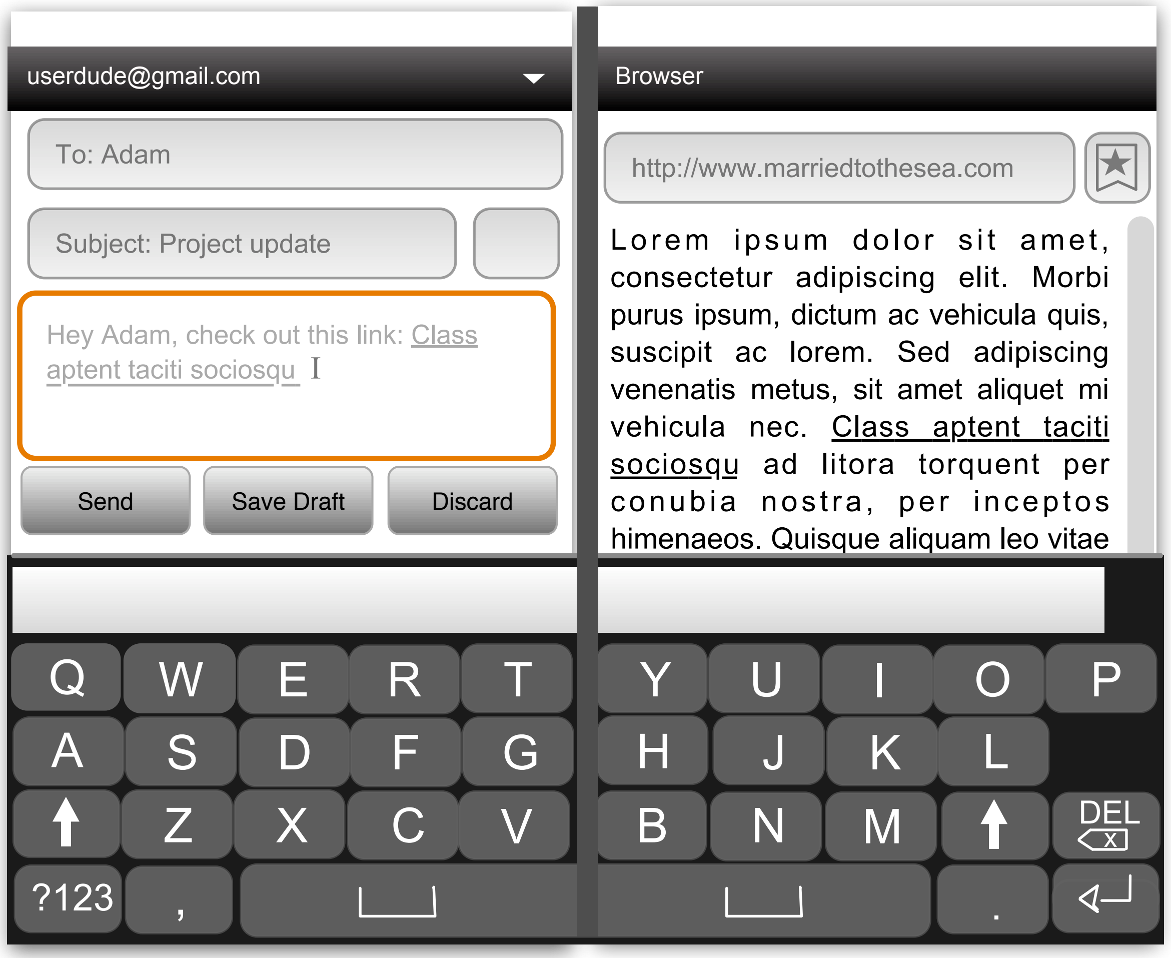

12:20 AM
userdude@gmail.com
Browser
To: Adam
Subject: Project update
Hey Adam, check out this link:
long press
Send
Save Draft
Discard
http://www.marriedtothesea.com
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. Class aptent taciti sociosqu ad litora torquent per conubia nostra, per inceptos himenaeos. Quisque aliquam leo vitae
cio coo cool violence cook cooking Cooper violent
?123

The user presses and holds the compose field in an email.


12:20 AM
userdude@gmail.com
Browser
To: Adam
http://www.marriedtothesea.com
Edit Field
Paste link
tap
Paste from clipboard
Copy text
Copy all text
Input method
Place cursor
purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. Class aptent taciti sociosqu ad litora torquent per conubia nostra, per inceptos himenaeos. Quisque aliquam leo vitae metus ultricies in ultricies massa auctor. Suspendisse fringilla, elit vel
cooking Cooper violent
?123

A menu is displayed with two options for pasting. 'Paste Link' would paste the last copied item at the current cursor position. 'Paste from clipboard' displays the Universal Clipboard, from which the user could paste the just copied link, in addition to other items in the Clipboard. The user taps 'Paste link'.

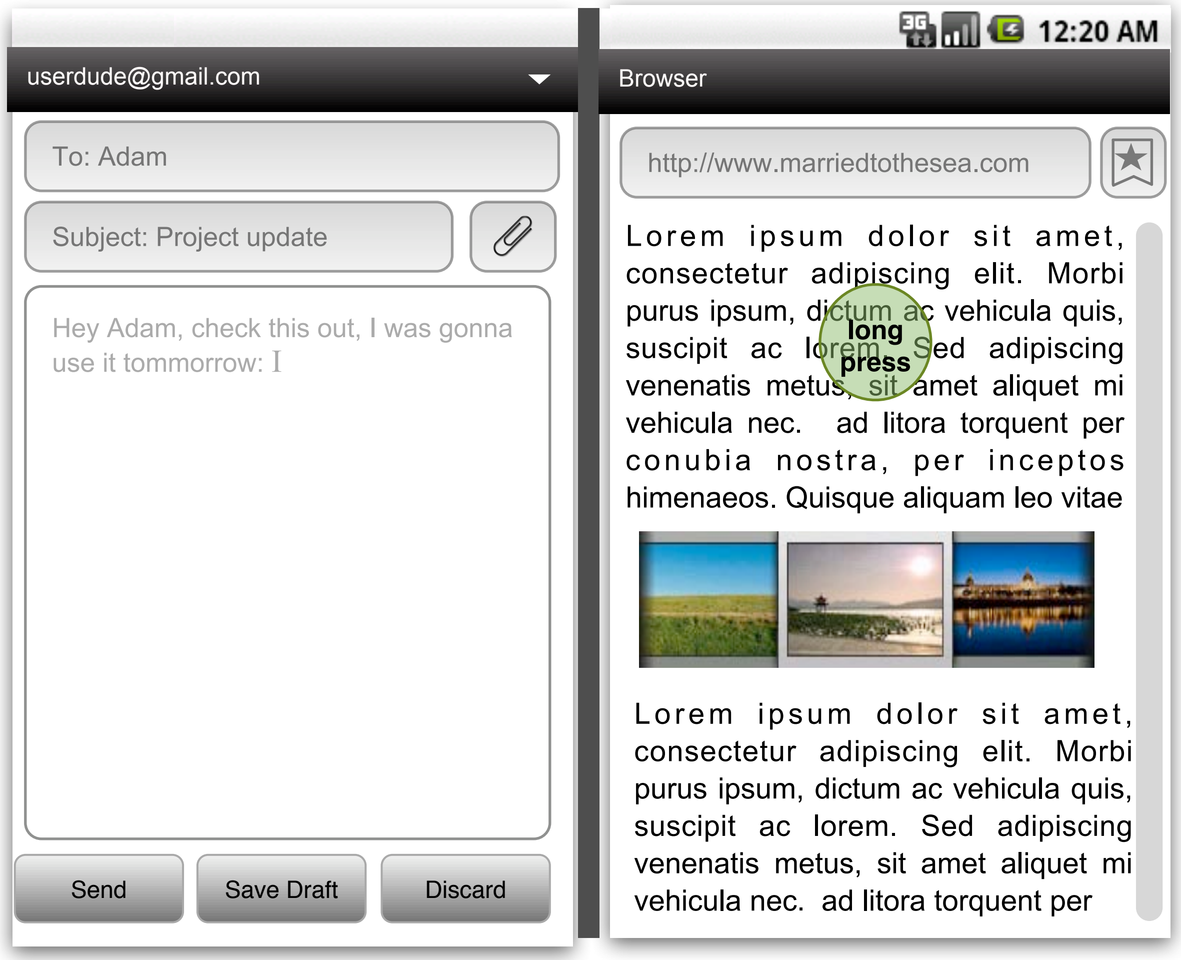
3.2.5.3 :: Copy and Paste Link


userdude@gmail.com
To: Adam
Subject: Project update
Hey Adam, check out this link: Class aptent taciti sociosqu
Send
Save Draft
Discard
Browser
http://www.marriedtothesea.com
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. Class aptent taciti sociosqu ad litora torquent per conubia nostra, per inceptos himenaeos. Quisque aliquam leo vitae
Q W E R T Y U I O P
A S D F G H J K L
Z X C V B N M DEL
?123 , .

The link is displayed in the field with focus at the current cursor position.

3.2.6 :: Copy/Paste Text & Image from Clipboard

3.2.6.1 :: Copy/Paste Text & Image from Clipboard



userdude@gmail.com

To: Adam

Subject: Project update

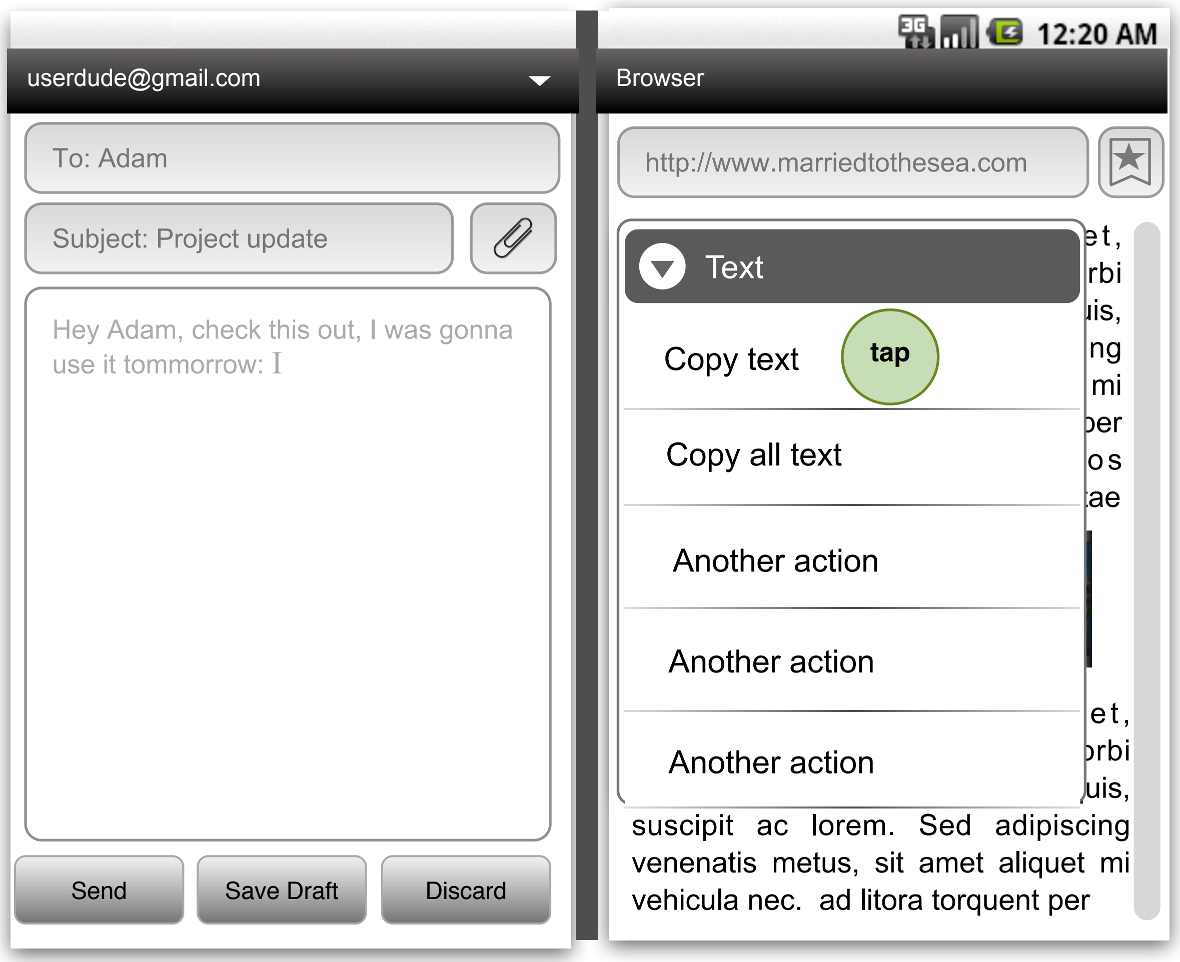
Hey Adam, check this out, I was gonna use it tommorrow: I

http://www.marriedtothesea.com

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per conubia nostra, per inceptos himenaeos. Quisque aliquam leo vitae

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per

The user presses and holds a section of text on a web page.



userdude@gmail.com

To: Adam

Subject: Project update

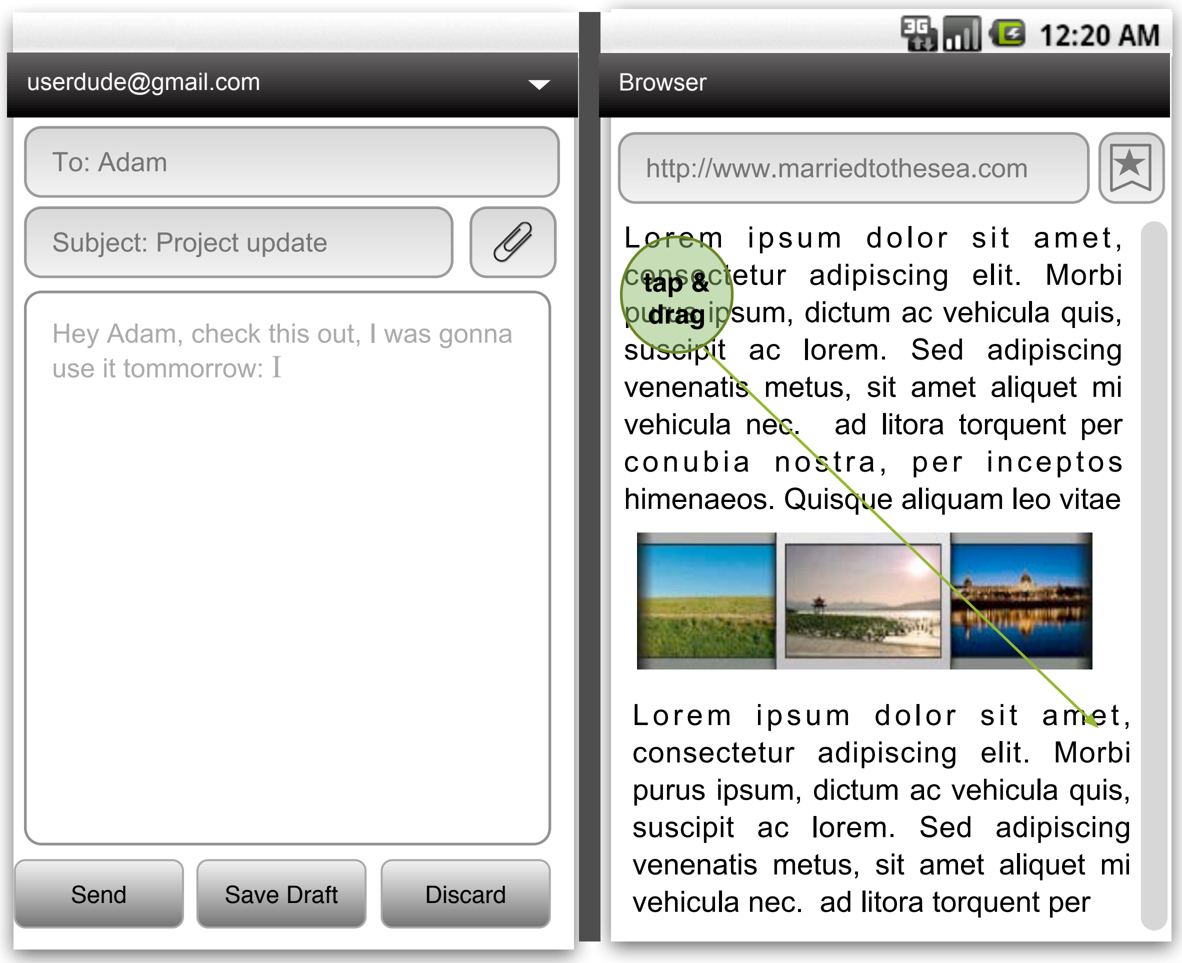
Hey Adam, check this out, I was gonna use it tommorrow: I

http://www.marriedtothesea.com

suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per

A menu is displayed with an option to 'Copy text', which allows the user to select the text to copy. 'Copy all text' would copy all displayed text to the Clipboard. User taps 'Copy text'.

3.2.6.2 :: Copy/Paste Text & Image from Clipboard



userdude@gmail.com

To: Adam

Subject: Project update

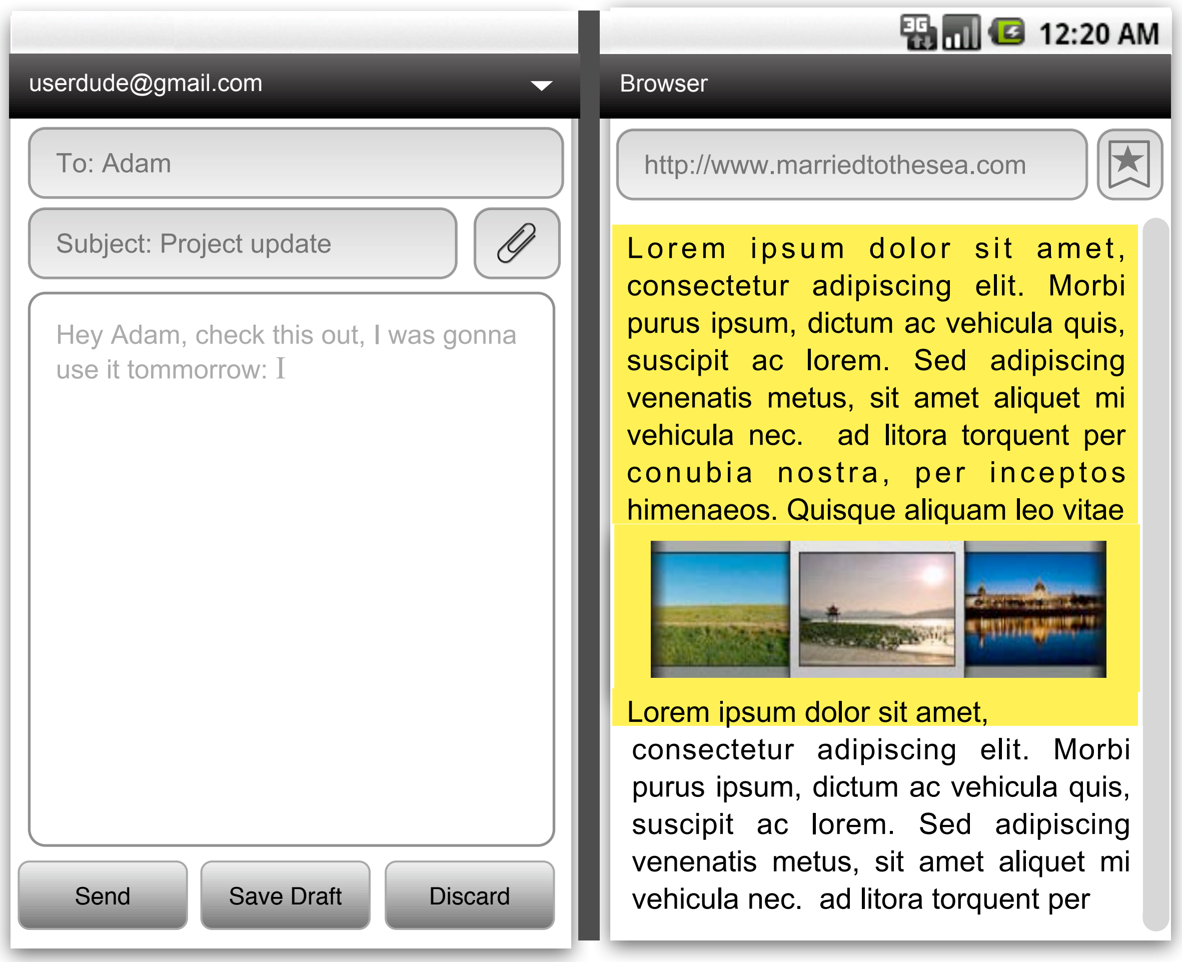
Hey Adam, check this out, I was gonna use it tommorrow: I

http://www.marriedtothesea.com

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per conubia nostra, per inceptos himenaeos. Quisque aliquam leo vitae

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per

The user can now tap and drag anywhere on the page to select text and/or images to copy. As the user is dragging his finger, individual words are selected as he goes left to right horizontally. If the user is dragging vertically or across the page, entire sentences and paragraphs are being selected. As the user drags, the pages scrolls as the user holds his finger near the bottom of the screen, selecting text.



userdude@gmail.com

To: Adam

Subject: Project update

Hey Adam, check this out, I was gonna use it tommorrow: I

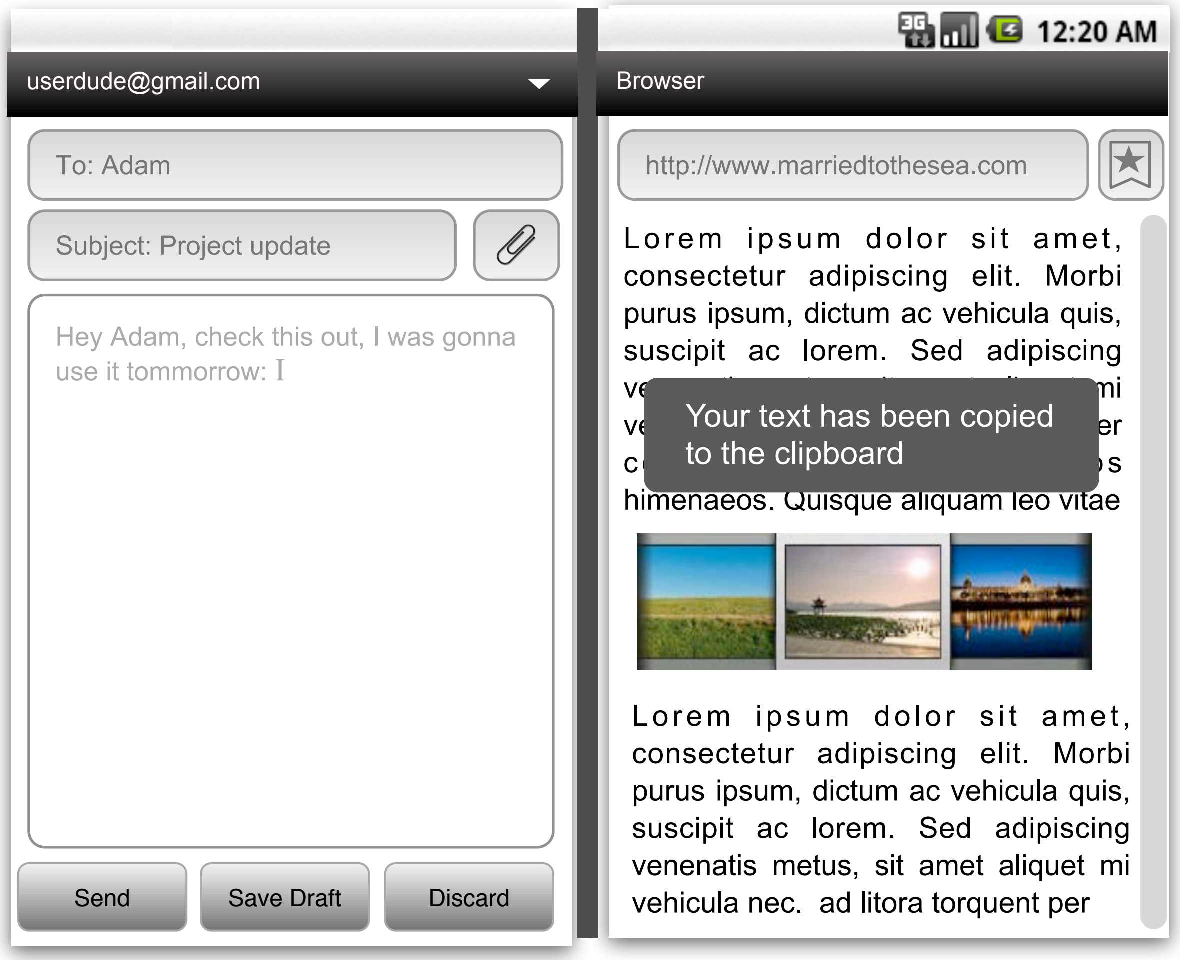
http://www.marriedtothesea.com

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per conubia nostra, per inceptos himenaeos. Quisque aliquam leo vitae

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per

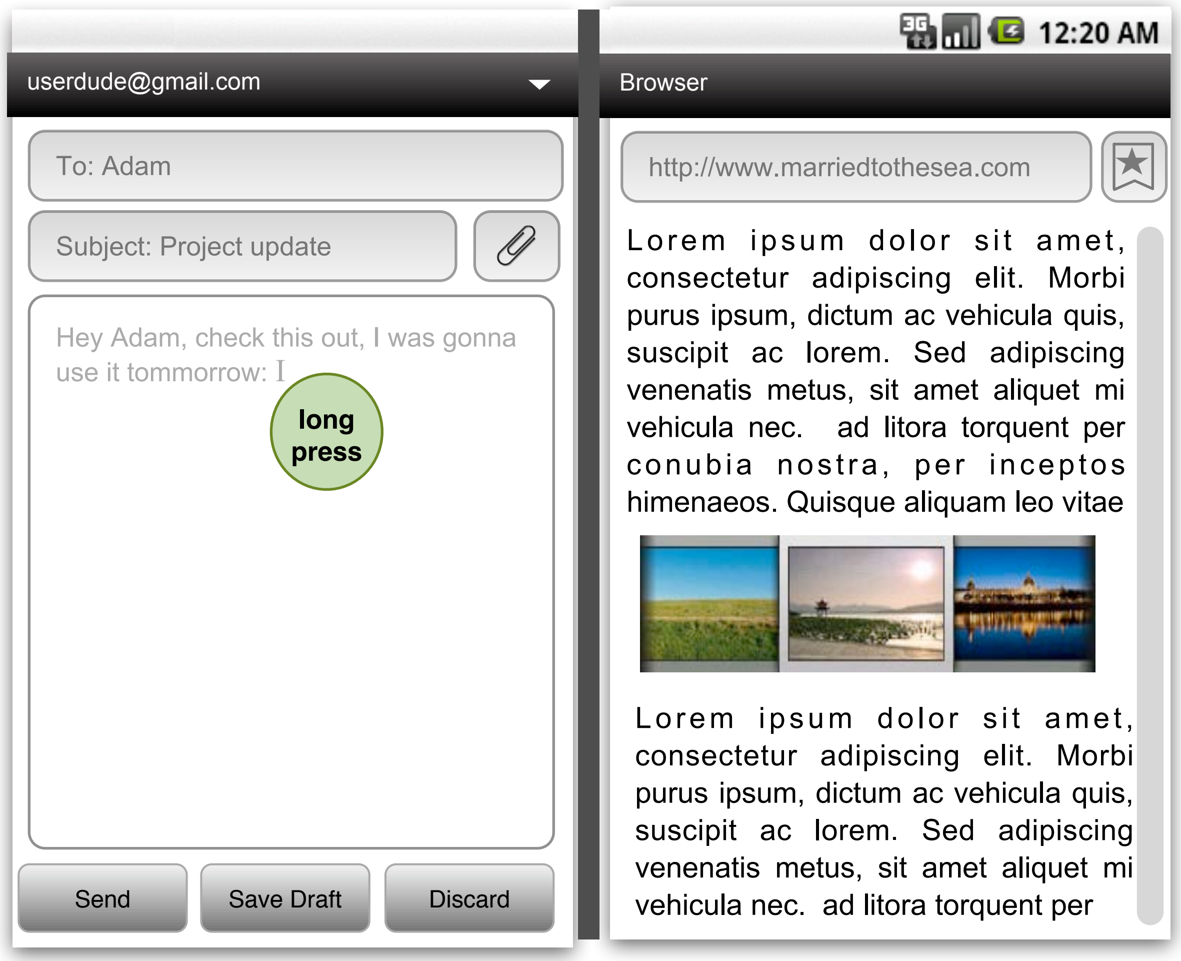
The selection to be copied is highlighted as the user drags their finger down the page.

3.2.6.3 :: Copy/Paste Text & Image from Clipboard


userdude@gmail.com
To: Adam
Subject: Project update
Hey Adam, check this out, I was gonna use it tommorrow:
Send
Save Draft
Discard
12:20 AM
Browser
http://www.marriedtothesea.com
Your text has been copied to the clipboard

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per

Once the user removes their finger from the screen, the items highlighted are copied to the Clipboard.

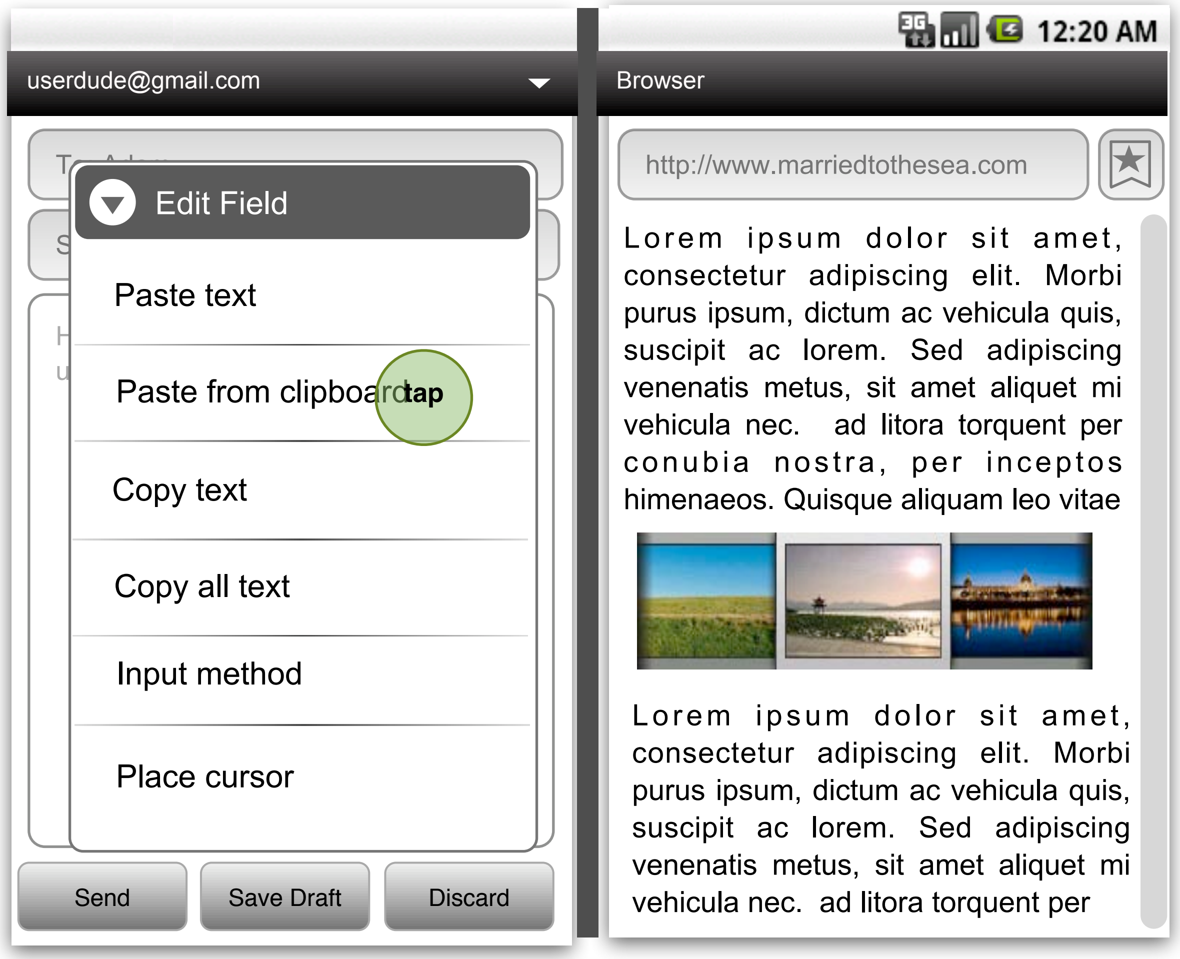


Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per conubia nostra, per inceptos himenaeos. Quisque aliquam leo vitae

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per

The user presses and holds the compose field in an email.

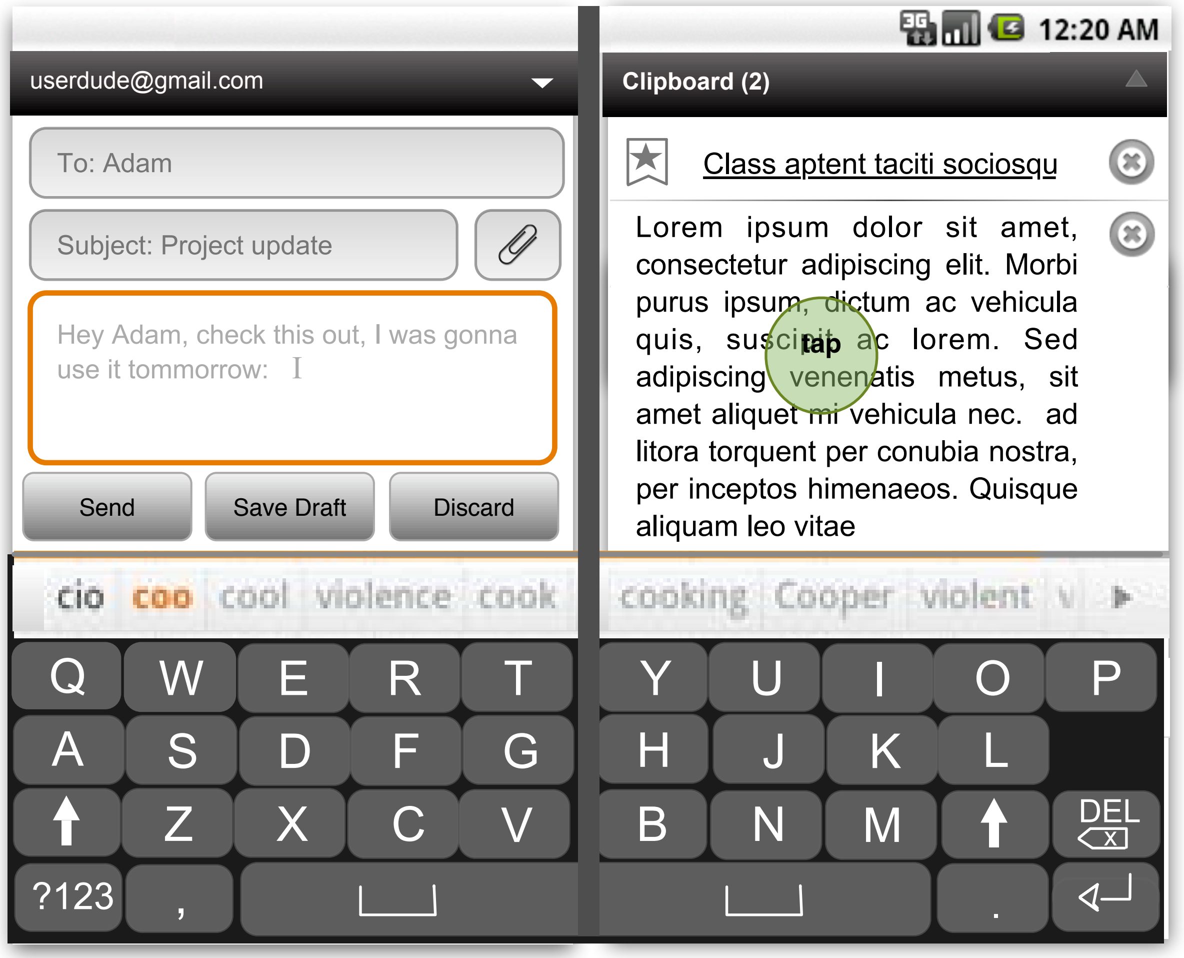
3.2.6.4 :: Copy/Paste Text & Image from Clipboard



Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per conubia nostra, per inceptos himenaeos. Quisque aliquam leo vitae

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per

A menu is displayed with two options for pasting. 'Paste text' would paste the last copied item at the current cursor position. 'Paste from clipboard' displays the Universal Clipboard, from which the user could paste the just copied text and images, in addition to other items in the Clipboard. The user taps 'Paste from clipboard'.

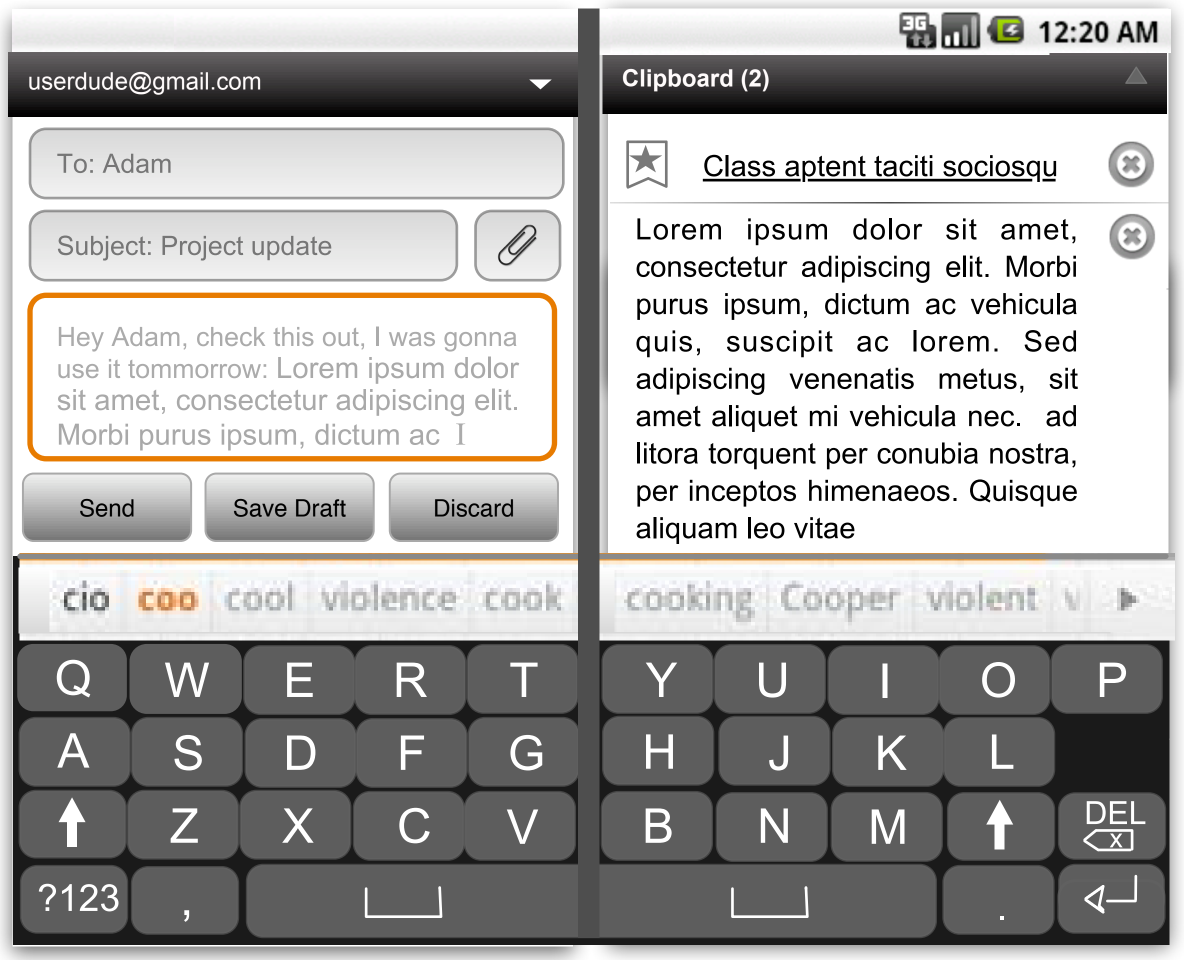


Hey Adam, check this out, I was gonna use it tommorrow:

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per conubia nostra, per inceptos himenaeos. Quisque aliquam leo vitae

The Universal Clipboard is displayed in Screen 2. The user can either drag items to fields from here, or tap an item to insert it into the field with focus at the current cursor position. The user taps the text and image on the Universal Clipboard.

3.2.6.5 :: Copy/Paste Text & Image from Clipboard


userdude@gmail.com

To: Adam

Subject: Project update

Hey Adam, check this out, I was gonna use it tommorrow: Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac

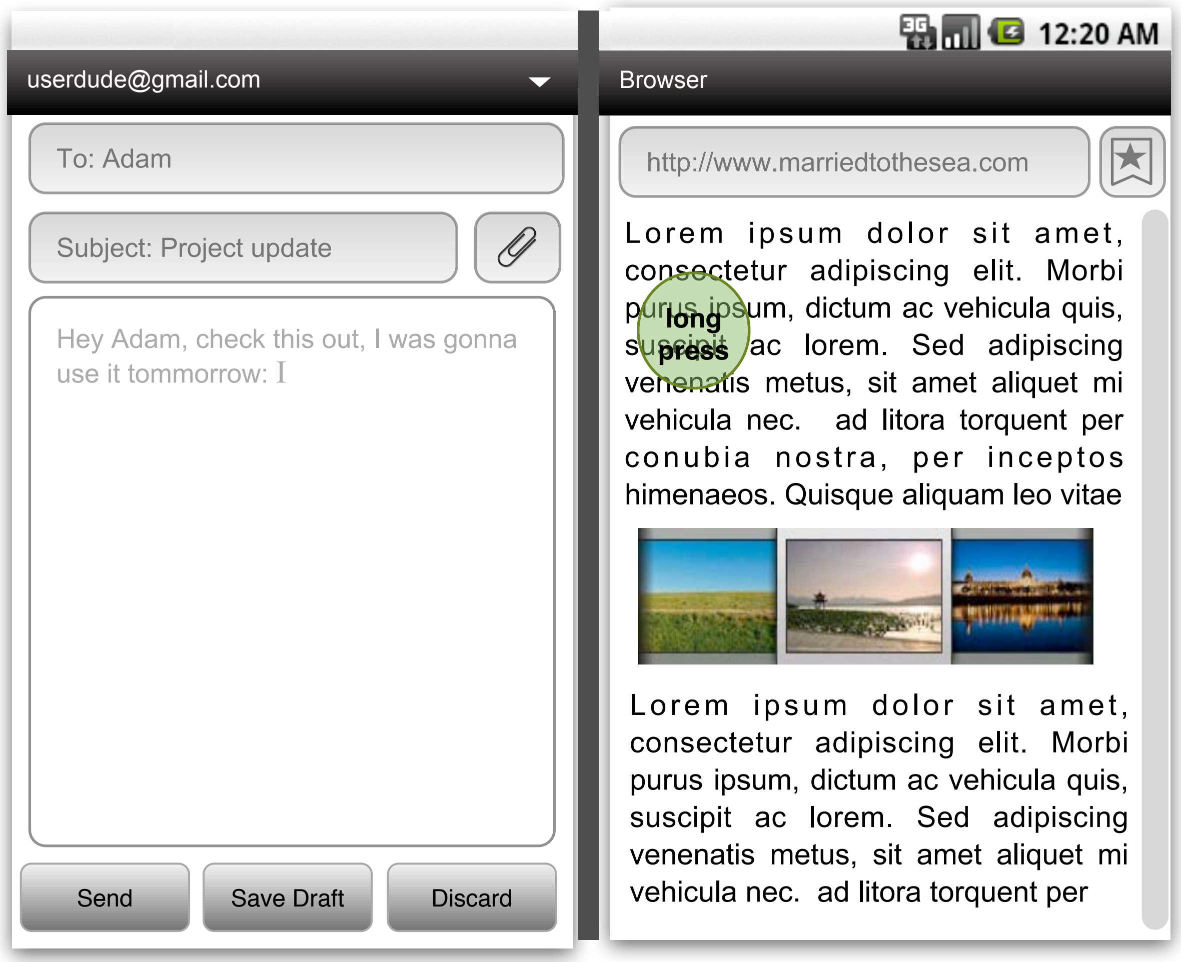
Class aptent taciti sociosqu

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per conubia nostra, per inceptos himenaeos. Quisque aliquam leo vitae

The text and image are displayed in the field with focus at the current cursor position.

3.2.7 :: Copy/Paste Text & Image

3.2.7.1 :: Copy/Paste Text & Image

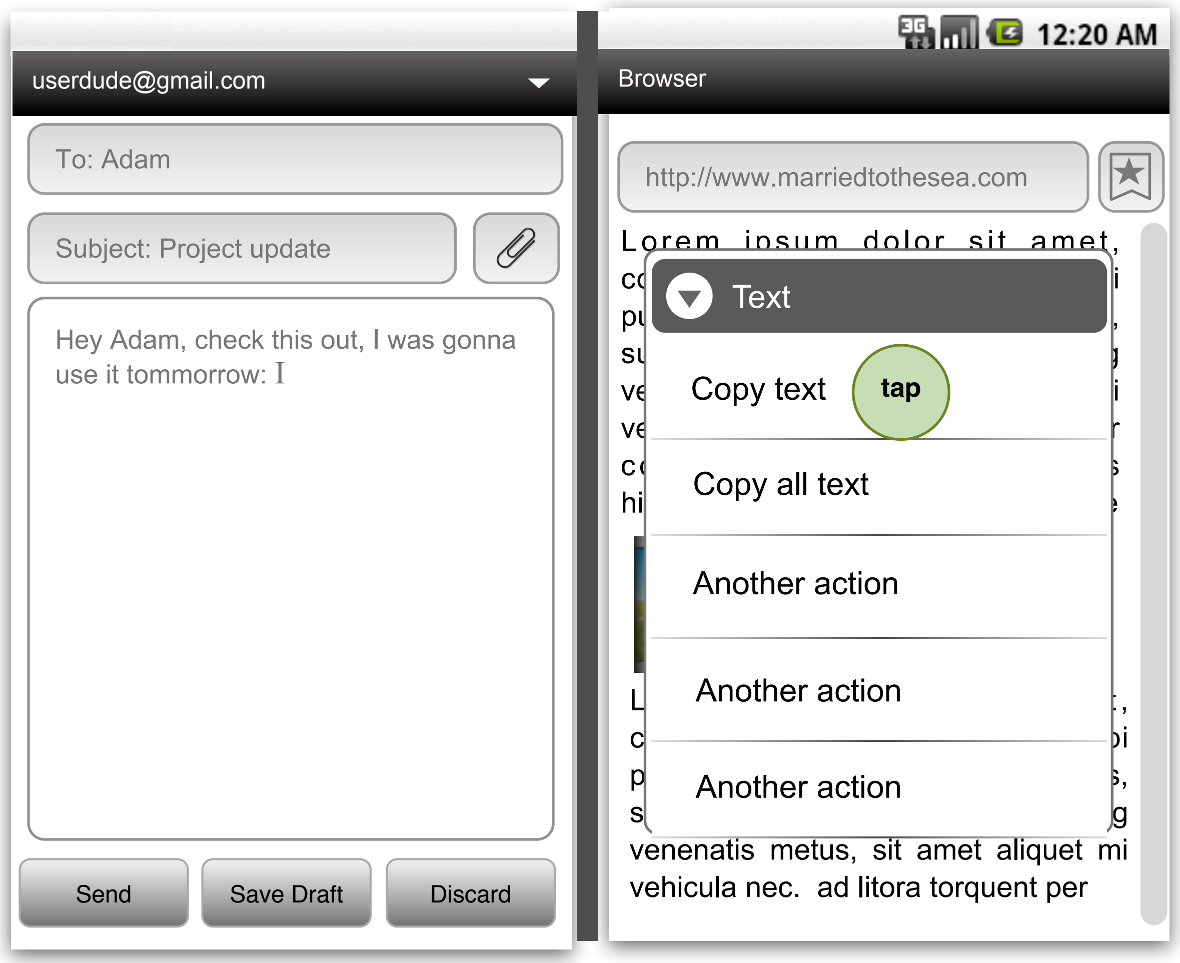


Hey Adam, check this out, I was gonna use it tommorrow: I

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per conubia nostra, per inceptos himenaeos. Quisque aliquam leo vitae

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per

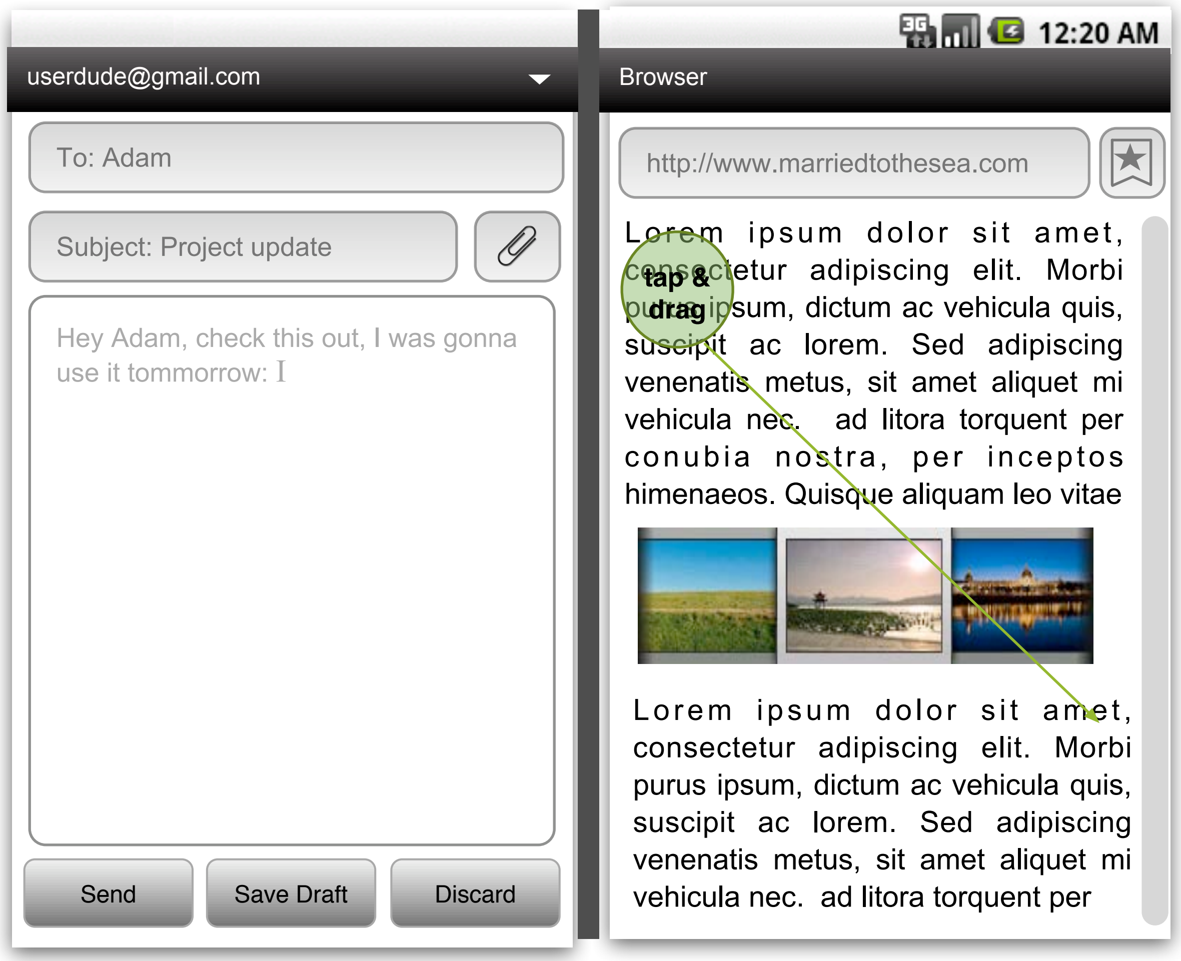
The user presses and holds a section of text on a web page.



Hey Adam, check this out, I was gonna use it tommorrow: I

A menu is displayed with an option to 'Copy text', which allows the user to select the text to copy. 'Copy all text' would copy all displayed text to the Clipboard. User taps 'Copy text'.

3.2.7.2 :: Copy/Paste Text & Image

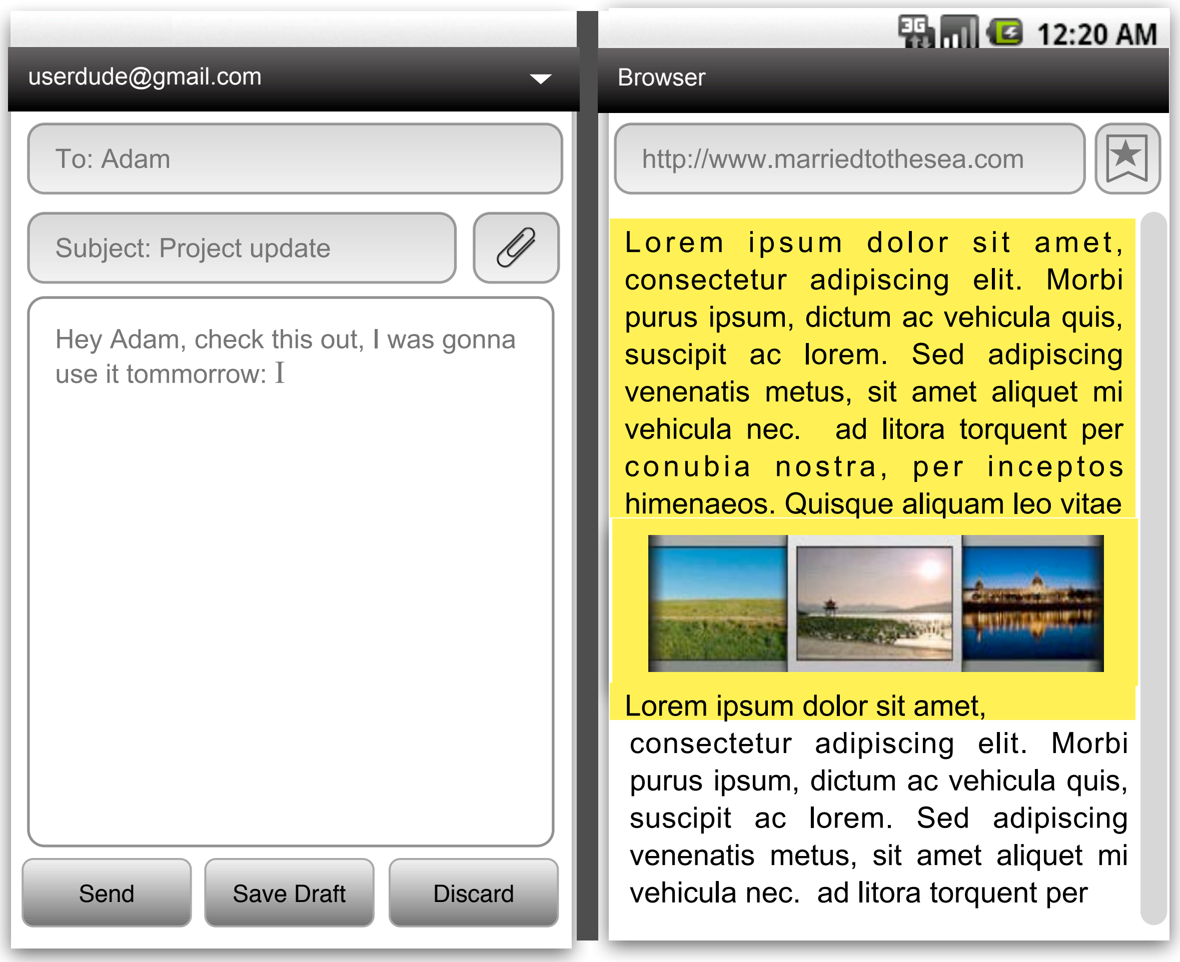


Hey Adam, check this out, I was gonna use it tommorrow: I

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per conubia nostra, per inceptos himenaeos. Quisque aliquam leo vitae

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per

The user can now tap and drag anywhere on the page to select text and/or images to copy.



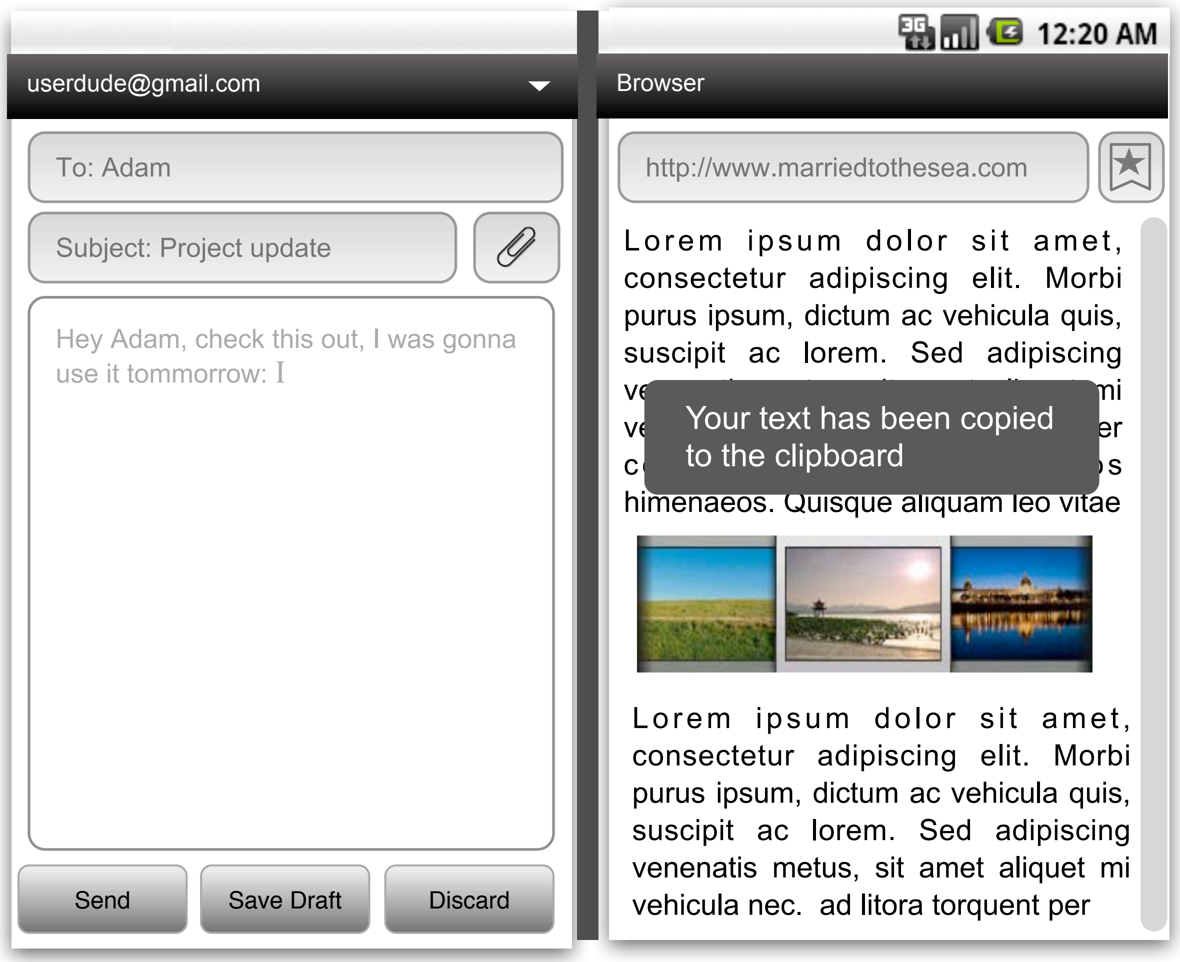
Hey Adam, check this out, I was gonna use it tommorrow: I

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per conubia nostra, per inceptos himenaeos. Quisque aliquam leo vitae

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per

The selection to be copied is highlighted as the user drags their finger down the page.

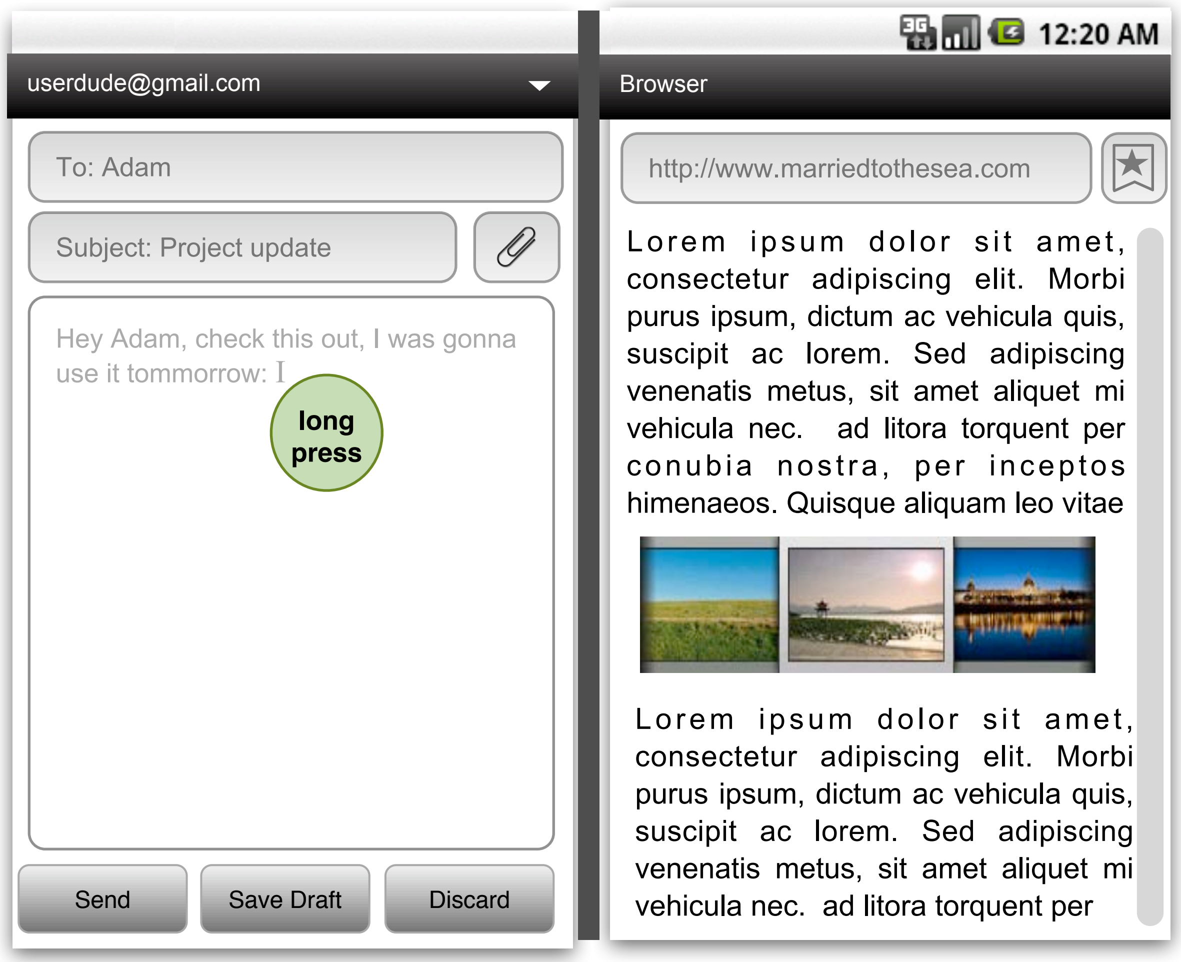
3.2.7.3 :: Copy/Paste Text & Image


12:20 AM
userdude@gmail.com
Browser
To: Adam
http://www.marriedtothesea.com
Subject: Project update
Hey Adam, check this out, I was gonna use it tommorrow: I
Your text has been copied to the clipboard
Send
Save Draft
Discard

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing ve... mi ve... er c... s himenaeos. Quisque aliquam leo vitae

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per

Once the user removes their finger from the screen, the items highlighted are copied to the Clipboard.

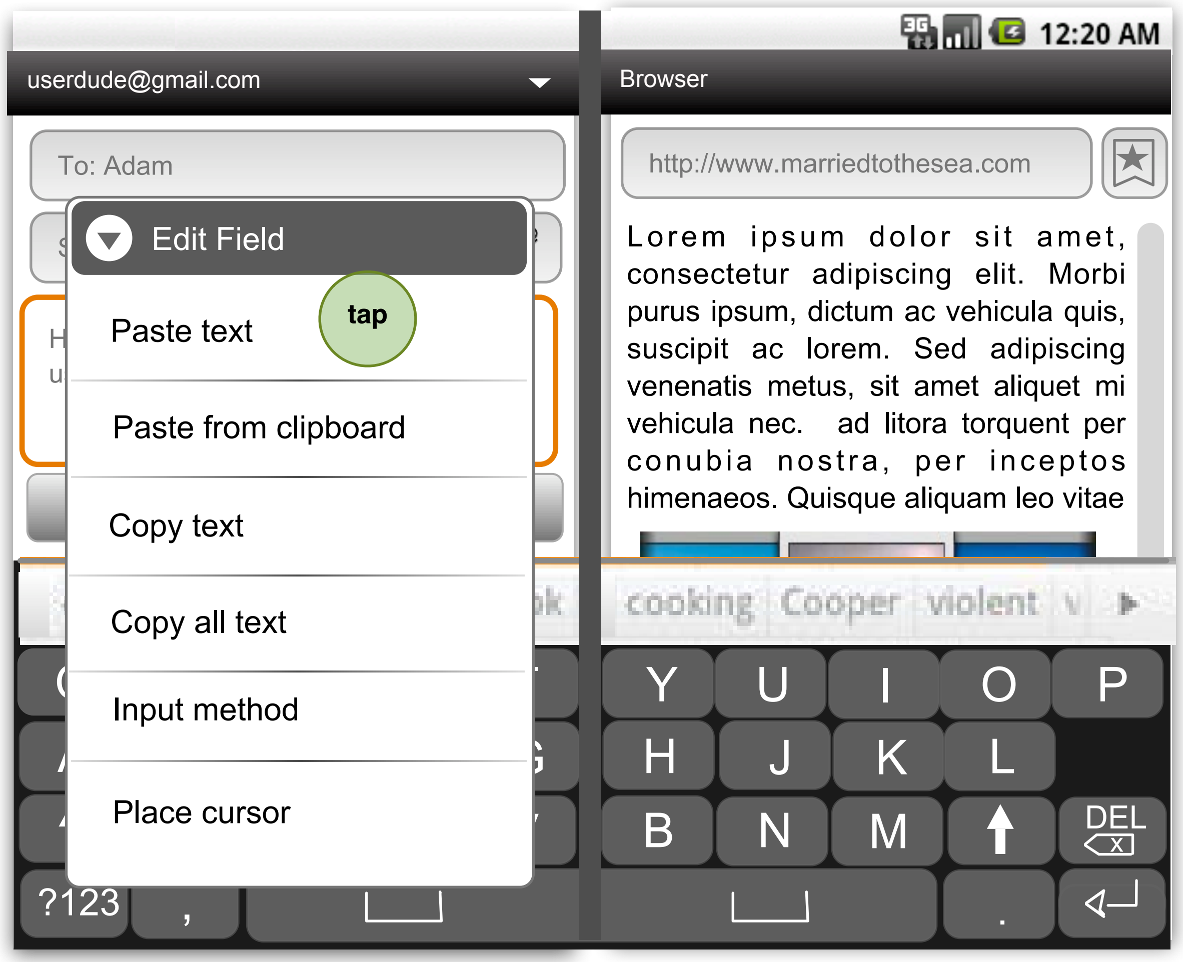


Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per conubia nostra, per inceptos himenaeos. Quisque aliquam leo vitae

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per

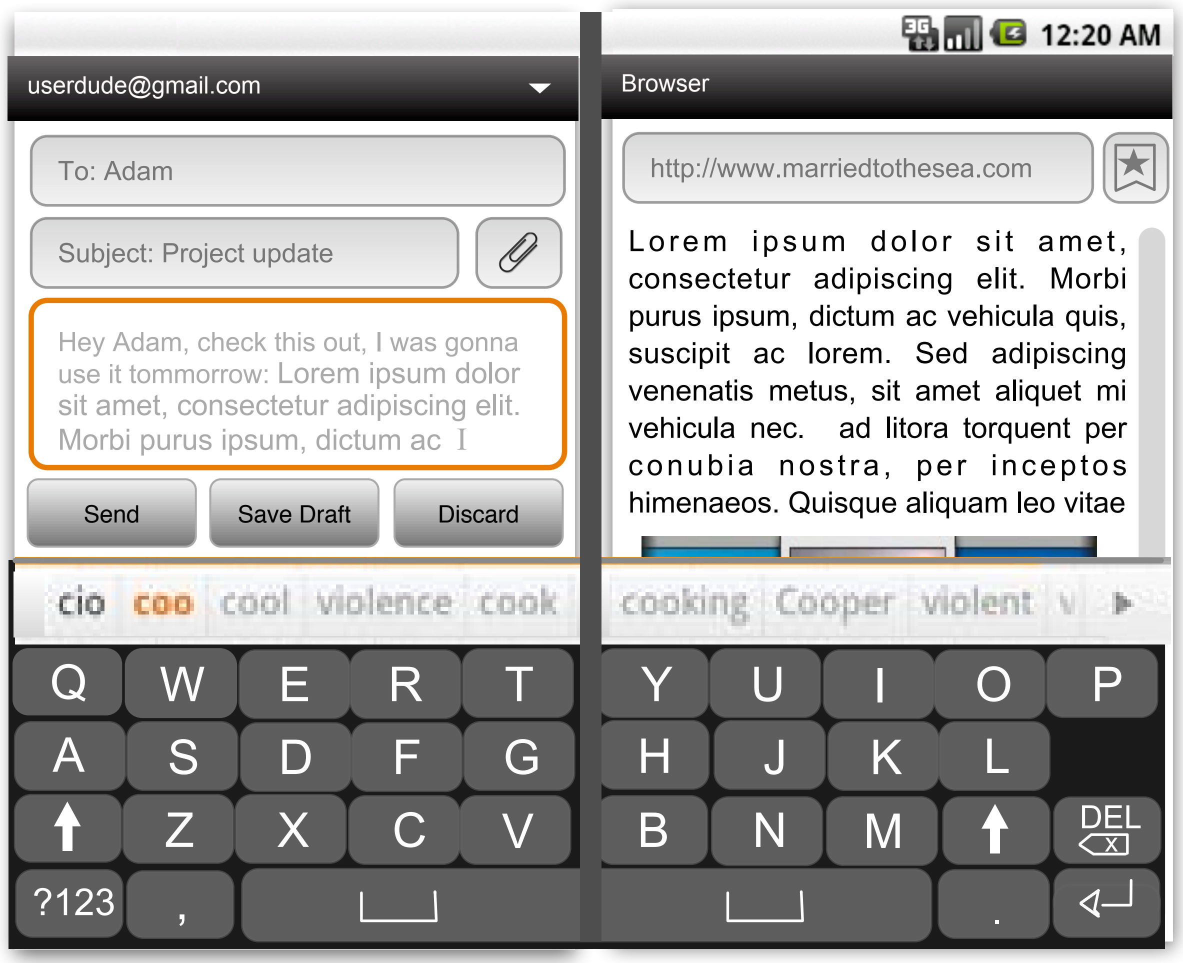
The user presses and holds the compose field in an email.

3.2.7.4 :: Copy/Paste Text & Image



Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per conubia nostra, per inceptos himenaeos. Quisque aliquam leo vitae

A menu is displayed with two options for pasting. 'Paste text' would paste the last copied item at the current cursor position. 'Paste from clipboard' displays the Universal Clipboard, from which the user could paste the just copied text and image, in addition to other items in the Clipboard. The user taps 'Paste text'.

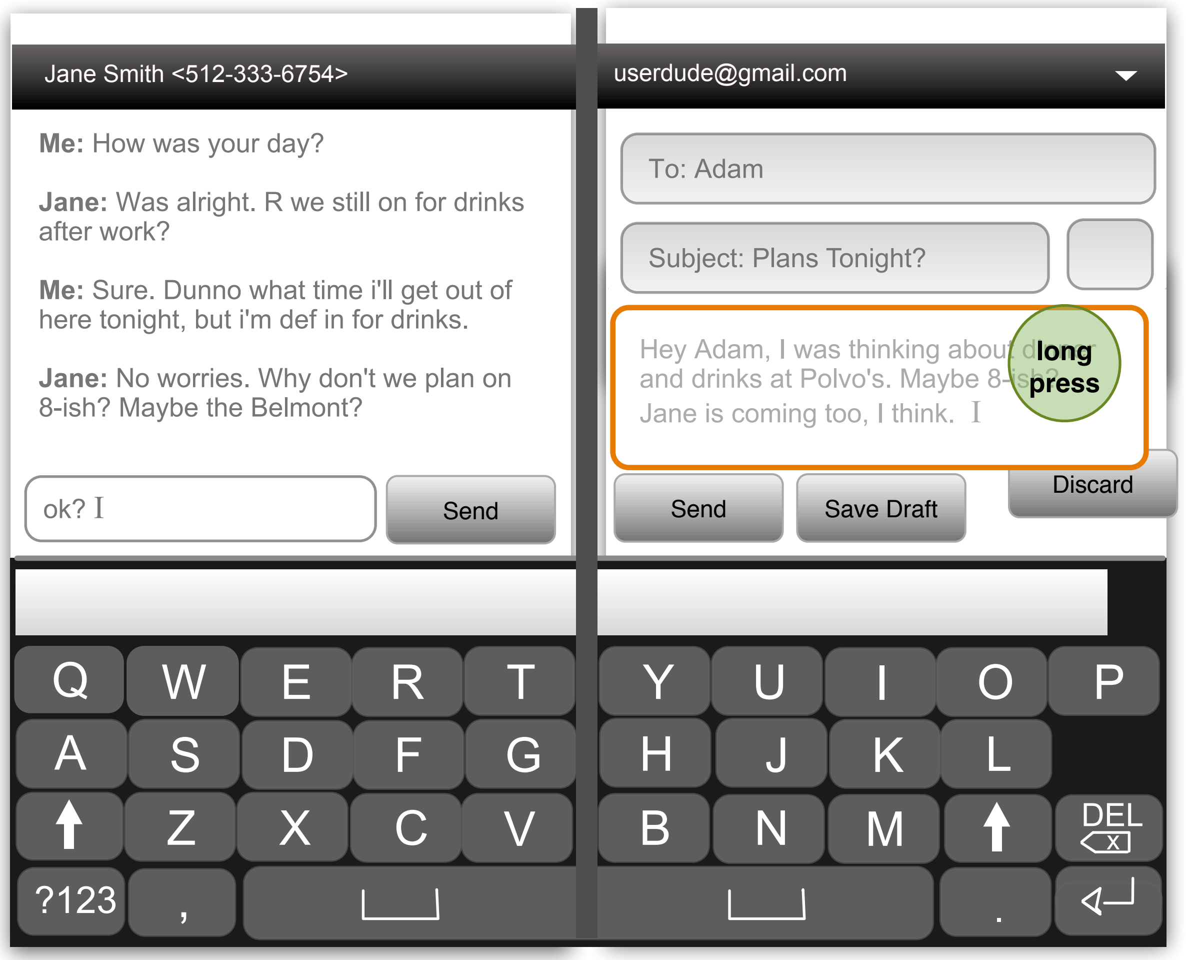


Hey Adam, check this out, I was gonna use it tommorrow: Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac

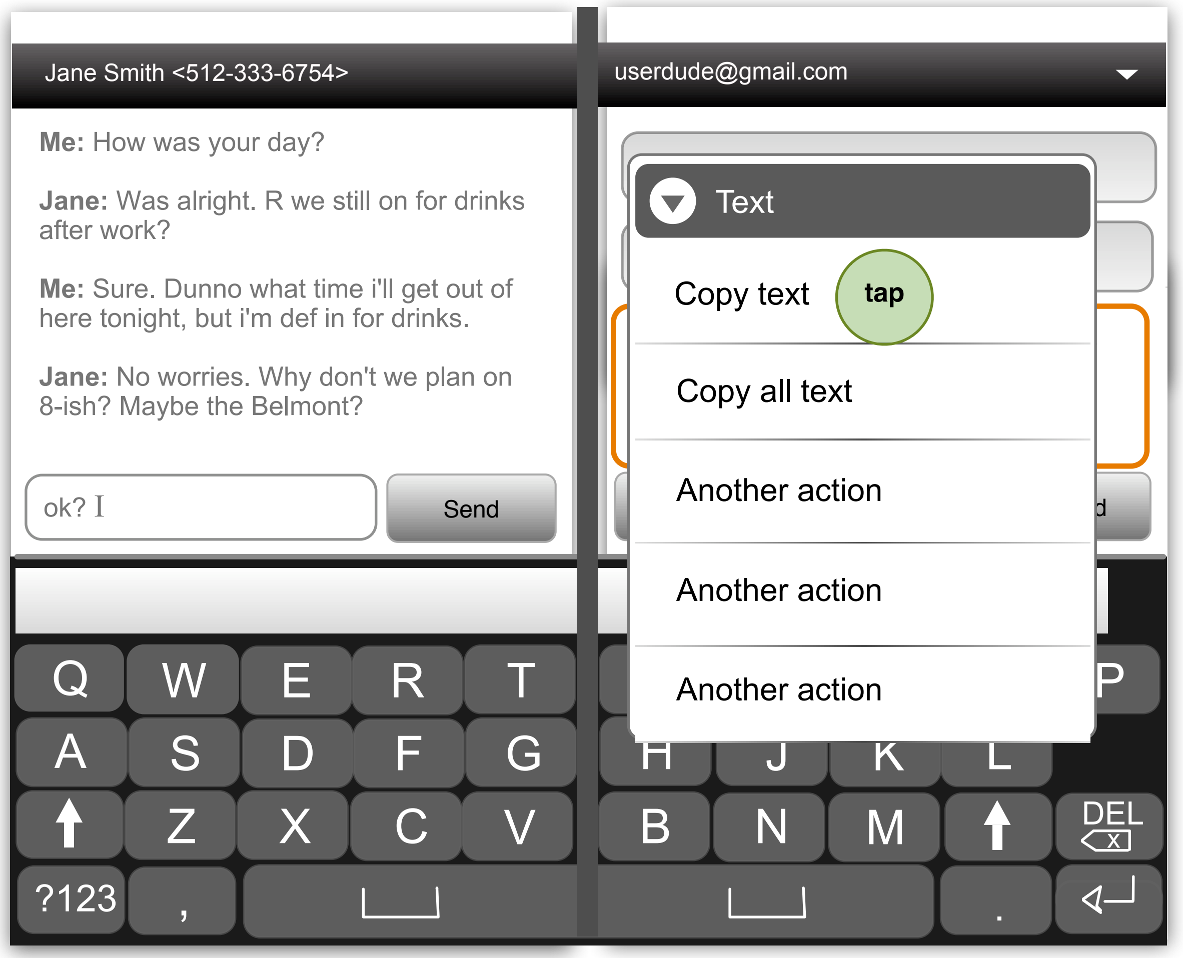
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per conubia nostra, per inceptos himenaeos. Quisque aliquam leo vitae

The text and image are displayed in the field with focus at the current cursor position.

3.2.8 :: Copy and Paste from a Field

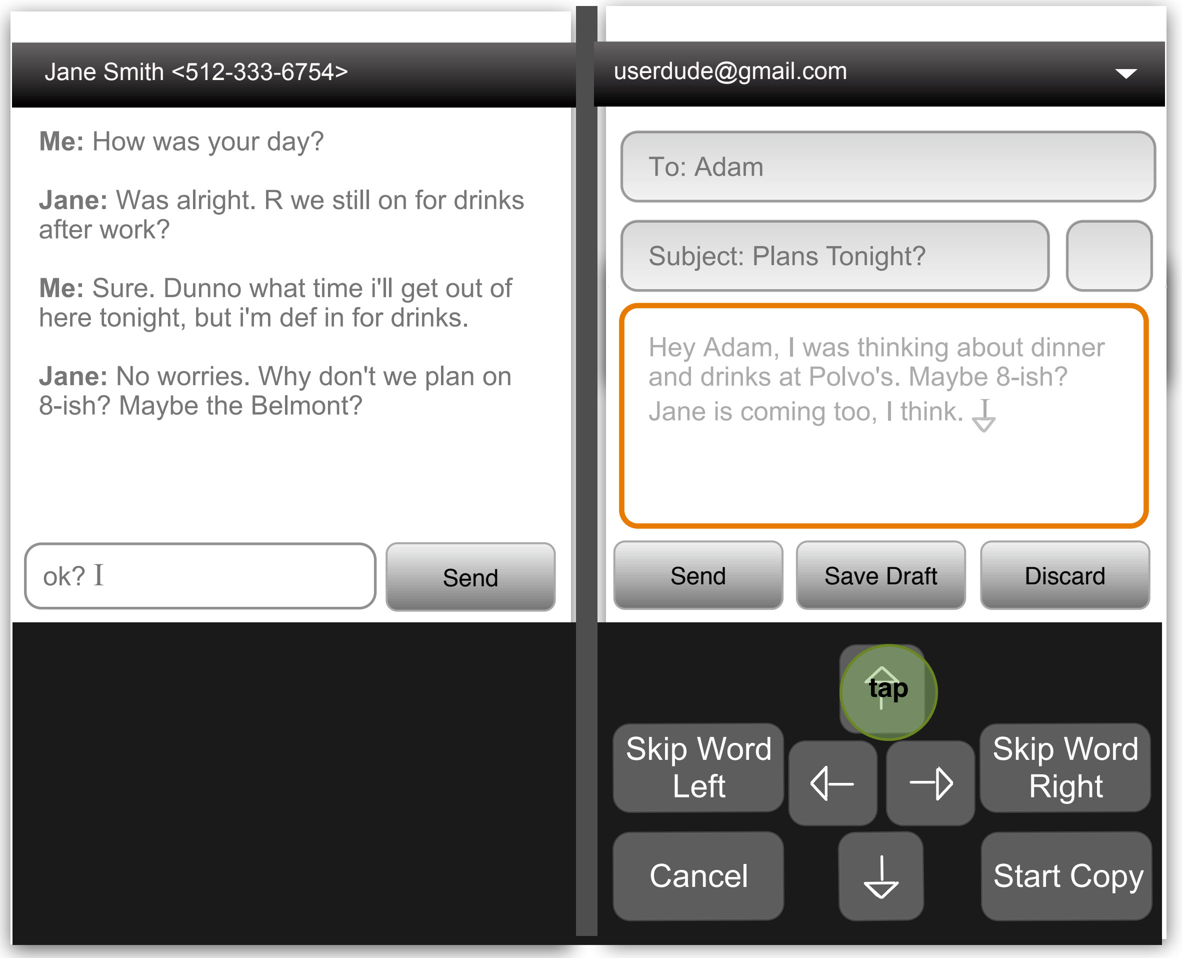

Jane Smith <512-333-6754>
userdude@gmail.com
Me: How was your day?
Jane: Was alright. R we still on for drinks after work?
Me: Sure. Dunno what time i'll get out of here tonight, but i'm def in for drinks.
Jane: No worries. Why don't we plan on 8-ish? Maybe the Belmont?
To: Adam
Subject: Plans Tonight?
Hey Adam, I was thinking about dinner and drinks at Polvo's. Maybe 8-ish? Jane is coming too, I think.
long press
ok?
Send
Send
Save Draft
Discard

User presses and holds in a field.



A menu is displayed with two options for copying. 'Copy text' allows the user to position the cursor to select a chunk of text. 'Copy all text' copies all text in the field. The user taps 'Copy text'.

3.2.8.2 :: Copy and Paste from a Field


Jane Smith <512-333-6754>

Me: How was your day?

Jane: Was alright. R we still on for drinks after work?

Me: Sure. Dunno what time i'll get out of here tonight, but i'm def in for drinks.

Jane: No worries. Why don't we plan on 8-ish? Maybe the Belmont?

ok? I

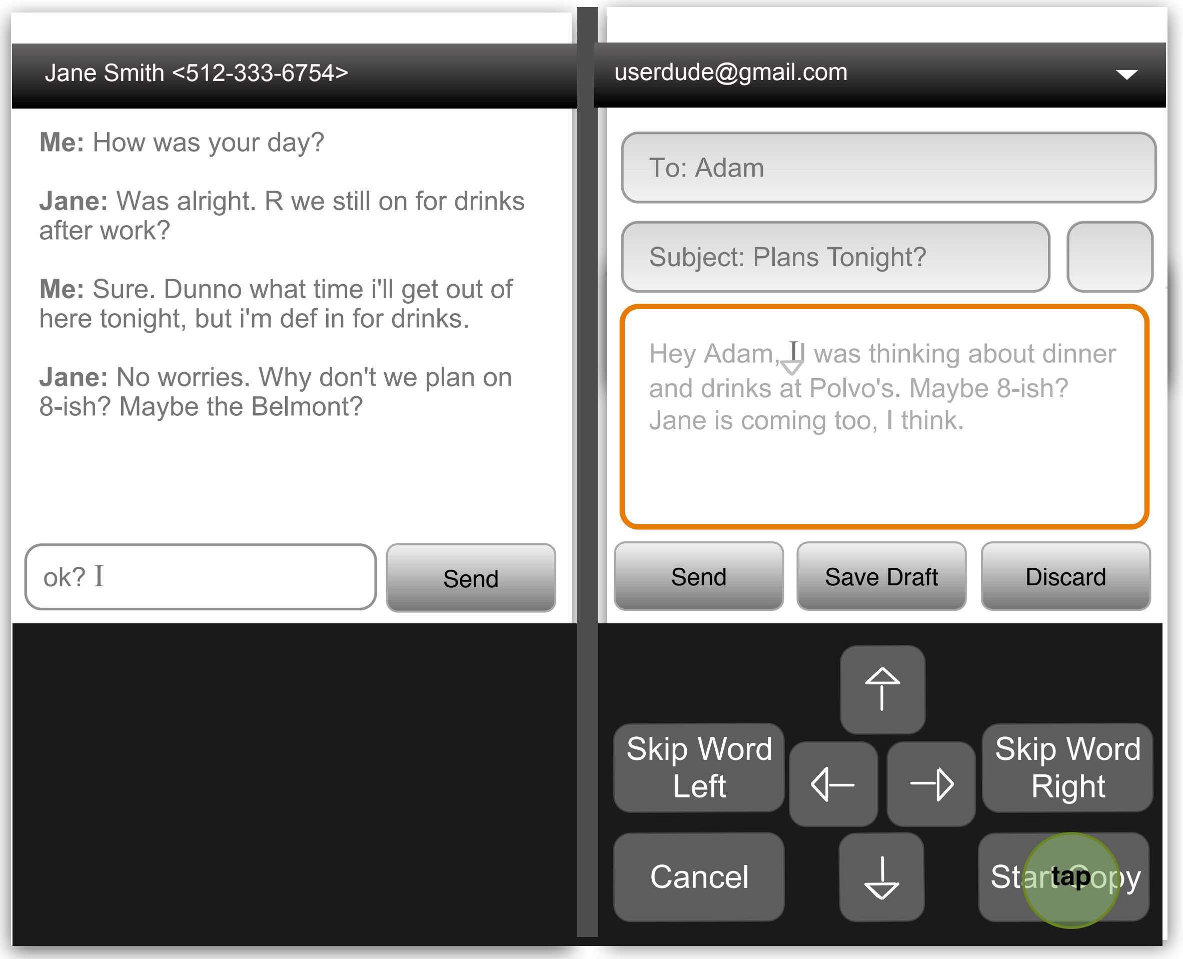
userdude@gmail.com

To: Adam

Subject: Plans Tonight?

Hey Adam, I was thinking about dinner and drinks at Polvo's. Maybe 8-ish? Jane is coming too, I think.

A cursor placement keyboard is displayed. The arrows allow the user to move the cursor up/down/left/right to position the cursor. 'Cancel' stops the copy process and returns the cursor to regular mode. The user taps the up arrow to position the cursor.


Jane Smith <512-333-6754>

Me: How was your day?

Jane: Was alright. R we still on for drinks after work?

Me: Sure. Dunno what time i'll get out of here tonight, but i'm def in for drinks.

Jane: No worries. Why don't we plan on 8-ish? Maybe the Belmont?

ok? I

userdude@gmail.com

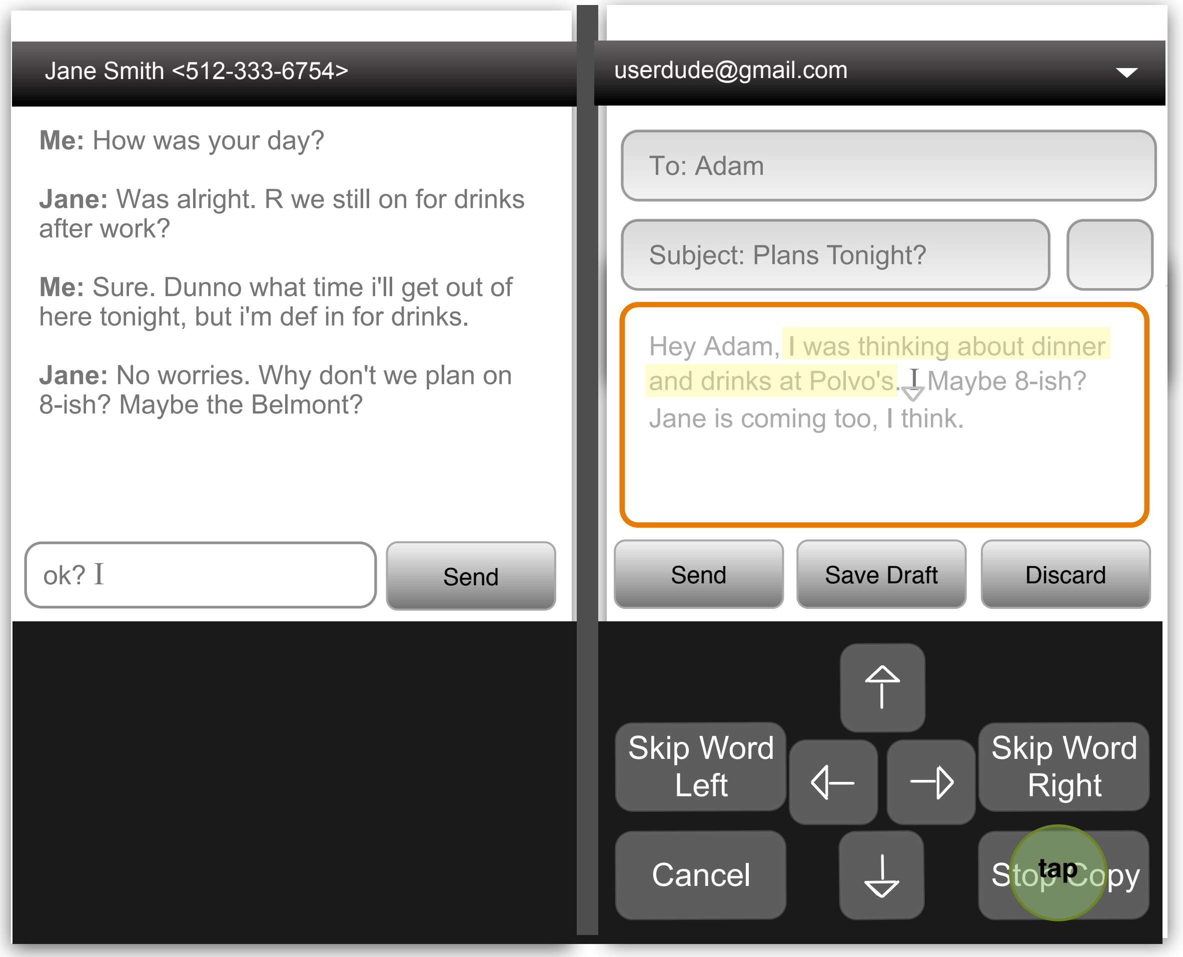
To: Adam

Subject: Plans Tonight?

Hey Adam, I was thinking about dinner and drinks at Polvo's. Maybe 8-ish? Jane is coming too, I think.

With the cursor in the desired position, the user taps 'Start Copy', which starts the copy of text from the current cursor position.

3.2.8.3 :: Copy and Paste from a Field


Jane Smith <512-333-6754>

Me: How was your day?

Jane: Was alright. R we still on for drinks after work?

Me: Sure. Dunno what time i'll get out of here tonight, but i'm def in for drinks.

Jane: No worries. Why don't we plan on 8-ish? Maybe the Belmont?

ok? I

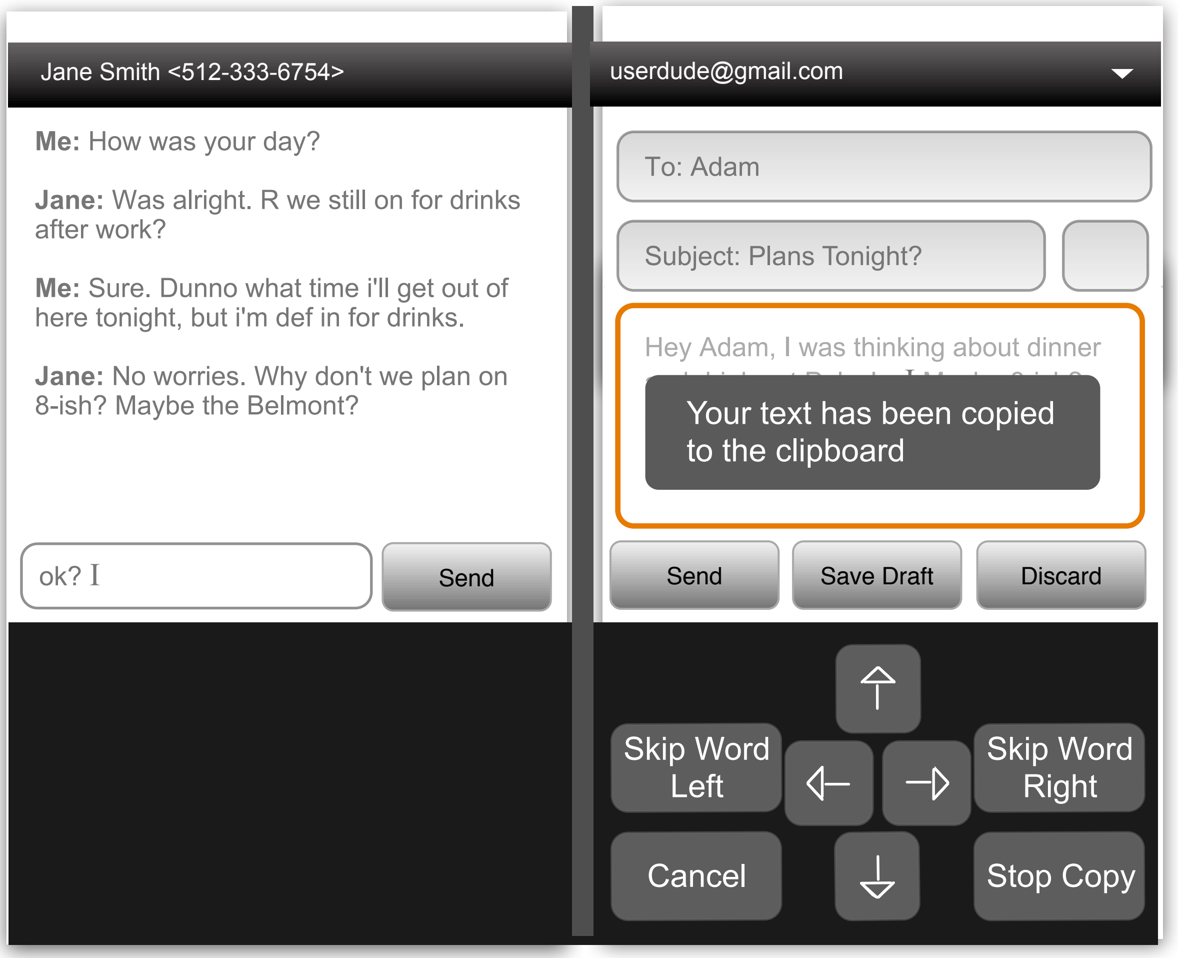
userdude@gmail.com

To: Adam

Subject: Plans Tonight?

Hey Adam, I was thinking about dinner and drinks at Polvo's. I Maybe 8-ish? Jane is coming too, I think.

The user uses the arrows to select text/position the cursor at the end of the desired chunk to be copied, and taps 'Stop Copy'. This copies the selected text to the clipboard.


Jane Smith <512-333-6754>

Me: How was your day?

Jane: Was alright. R we still on for drinks after work?

Me: Sure. Dunno what time i'll get out of here tonight, but i'm def in for drinks.

Jane: No worries. Why don't we plan on 8-ish? Maybe the Belmont?

ok? I

userdude@gmail.com

To: Adam

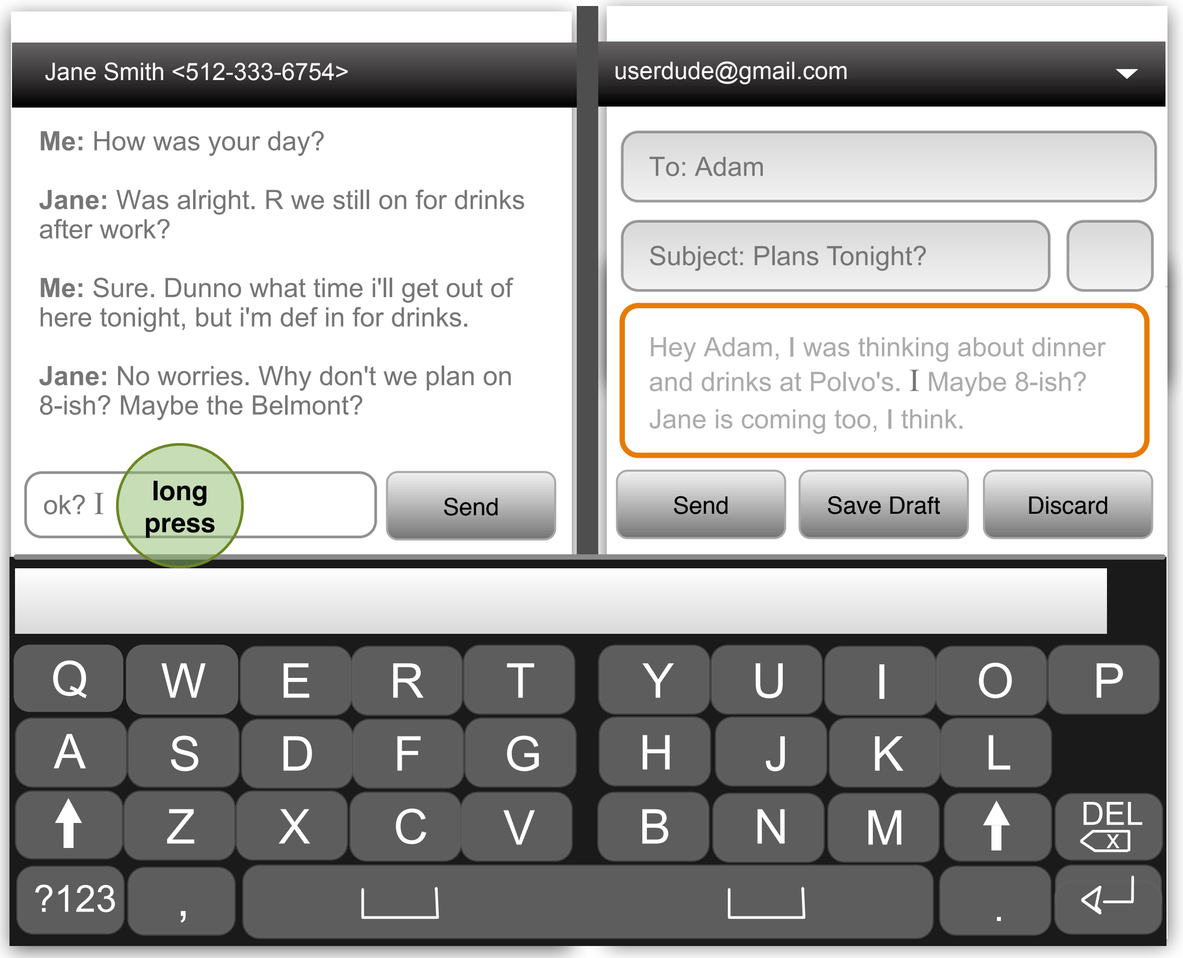
Subject: Plans Tonight?

Hey Adam, I was thinking about dinner

Your text has been copied to the clipboard

The user receives a notification that the selection has been copied to the clipboard.

3.2.8.4 :: Copy and Paste from a Field


Jane Smith <512-333-6754>

Me: How was your day?

Jane: Was alright. R we still on for drinks after work?

Me: Sure. Dunno what time i'll get out of here tonight, but i'm def in for drinks.

Jane: No worries. Why don't we plan on 8-ish? Maybe the Belmont?

ok? I

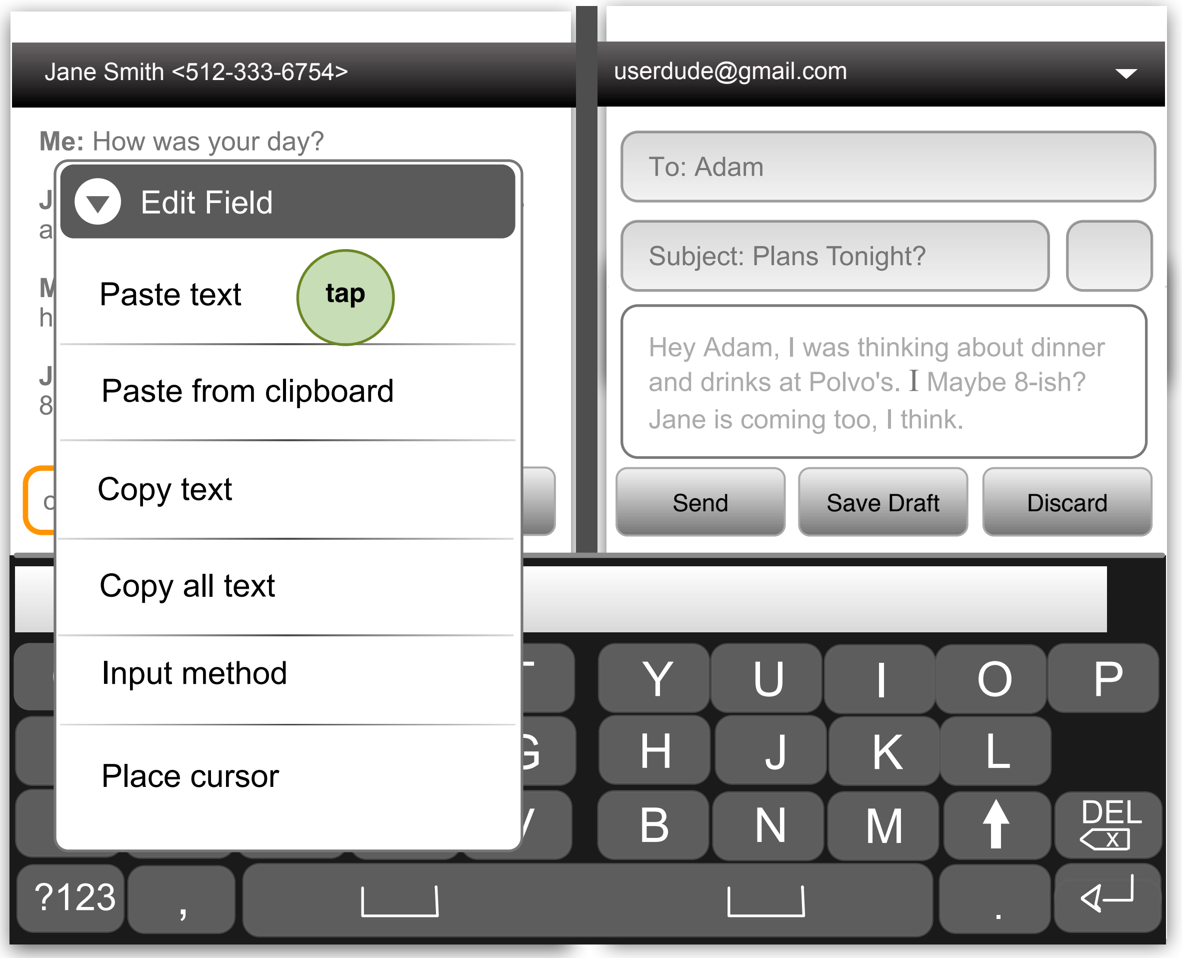
userdude@gmail.com

To: Adam

Subject: Plans Tonight?

Hey Adam, I was thinking about dinner and drinks at Polvo's. I Maybe 8-ish? Jane is coming too, I think.

User presses and holds the text message compose field.


Jane Smith <512-333-6754>

Me: How was your day?

userdude@gmail.com

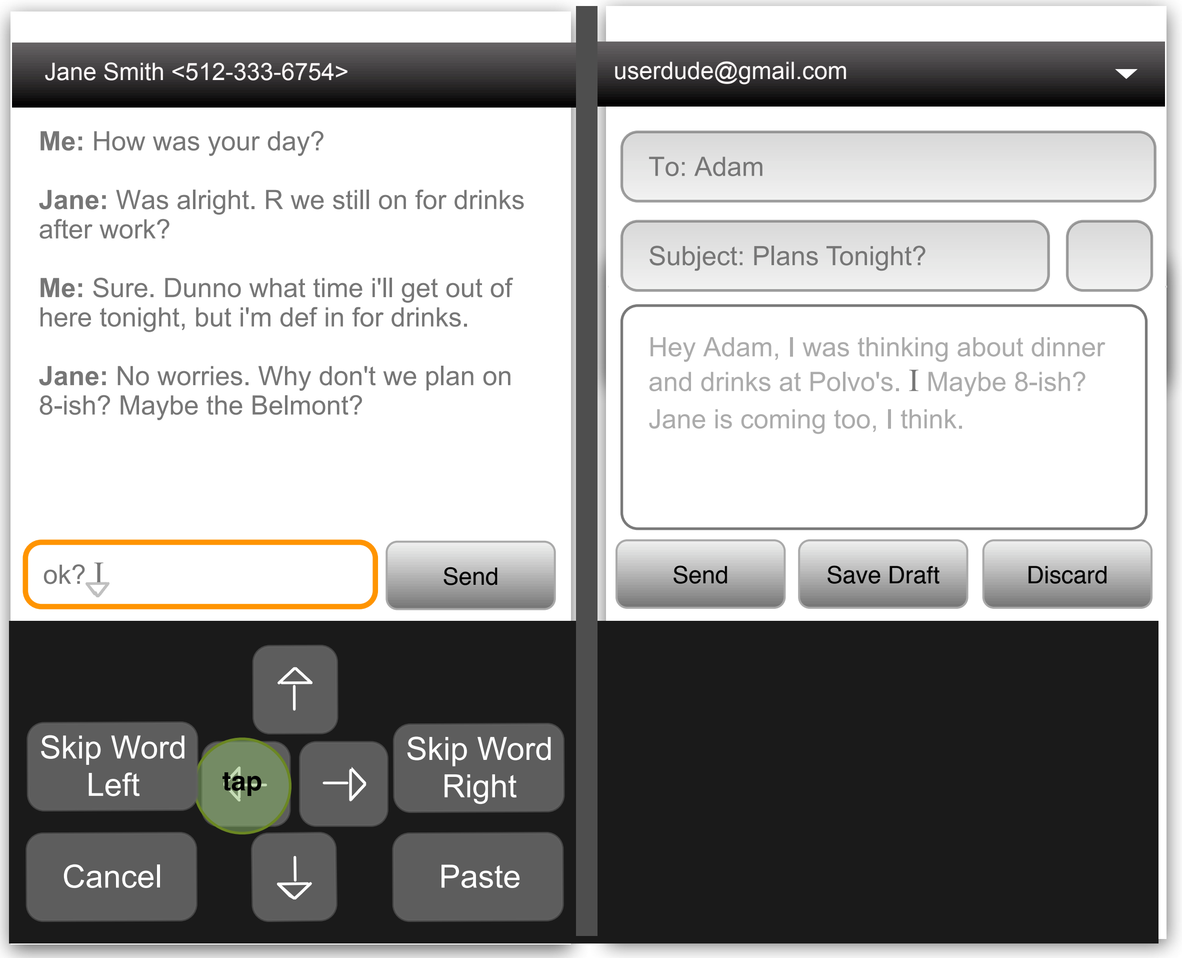
To: Adam

Subject: Plans Tonight?

Hey Adam, I was thinking about dinner and drinks at Polvo's. I Maybe 8-ish? Jane is coming too, I think.

A menu is displayed with two options for pasting. 'Paste text' would paste the last copied item at the current cursor position. 'Paste from clipboard' displays the Universal Clipboard, from which the user could paste the just copied text, in addition to other items in the Clipboard. There is also an option for the user to place the cursor in a different position in the field. The user taps 'Paste Text'.

3.2.8.5 :: Copy and Paste from a Field


Jane Smith <512-333-6754>

Me: How was your day?

Jane: Was alright. R we still on for drinks after work?

Me: Sure. Dunno what time i'll get out of here tonight, but i'm def in for drinks.

Jane: No worries. Why don't we plan on 8-ish? Maybe the Belmont?

ok?

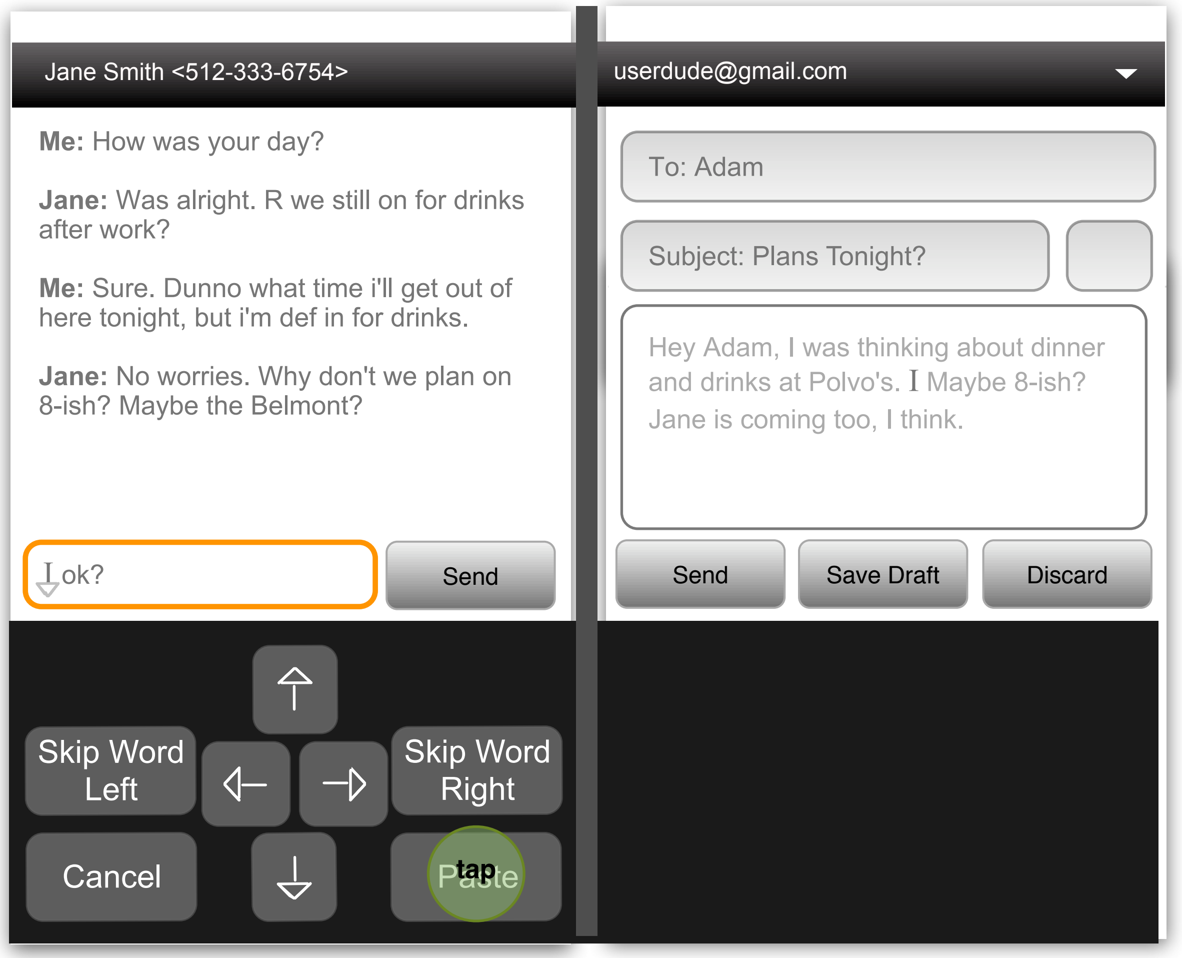
userdude@gmail.com

To: Adam

Subject: Plans Tonight?

Hey Adam, I was thinking about dinner and drinks at Polvo's. I Maybe 8-ish? Jane is coming too, I think.

A cursor placement keyboard is displayed. The arrows allow the user to move the cursor up/down/left/right to position the cursor. 'Cancel' stops the paste process and returns the cursor to regular mode. The user taps the left arrow to position the cursor.


Jane Smith <512-333-6754>

Me: How was your day?

Jane: Was alright. R we still on for drinks after work?

Me: Sure. Dunno what time i'll get out of here tonight, but i'm def in for drinks.

Jane: No worries. Why don't we plan on 8-ish? Maybe the Belmont?

ok?

userdude@gmail.com

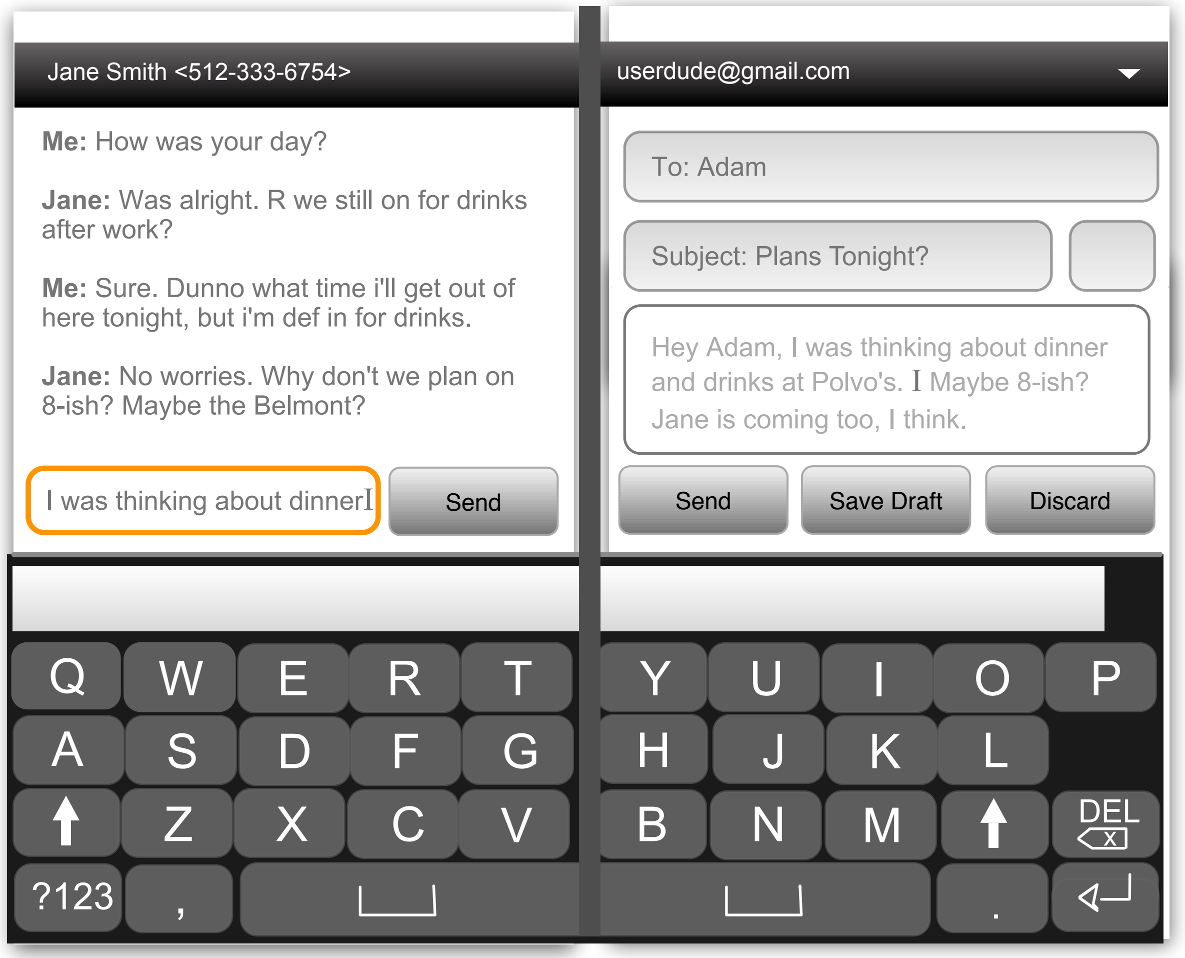
To: Adam

Subject: Plans Tonight?

Hey Adam, I was thinking about dinner and drinks at Polvo's. I Maybe 8-ish? Jane is coming too, I think.

The user taps 'Paste' to paste the text at the current cursor position.

3.2.8.6 :: Copy and Paste from a Field


Jane Smith <512-333-6754>

Me: How was your day?

Jane: Was alright. R we still on for drinks after work?

Me: Sure. Dunno what time i'll get out of here tonight, but i'm def in for drinks.

Jane: No worries. Why don't we plan on 8-ish? Maybe the Belmont?

I was thinking about dinner

userdude@gmail.com

To: Adam

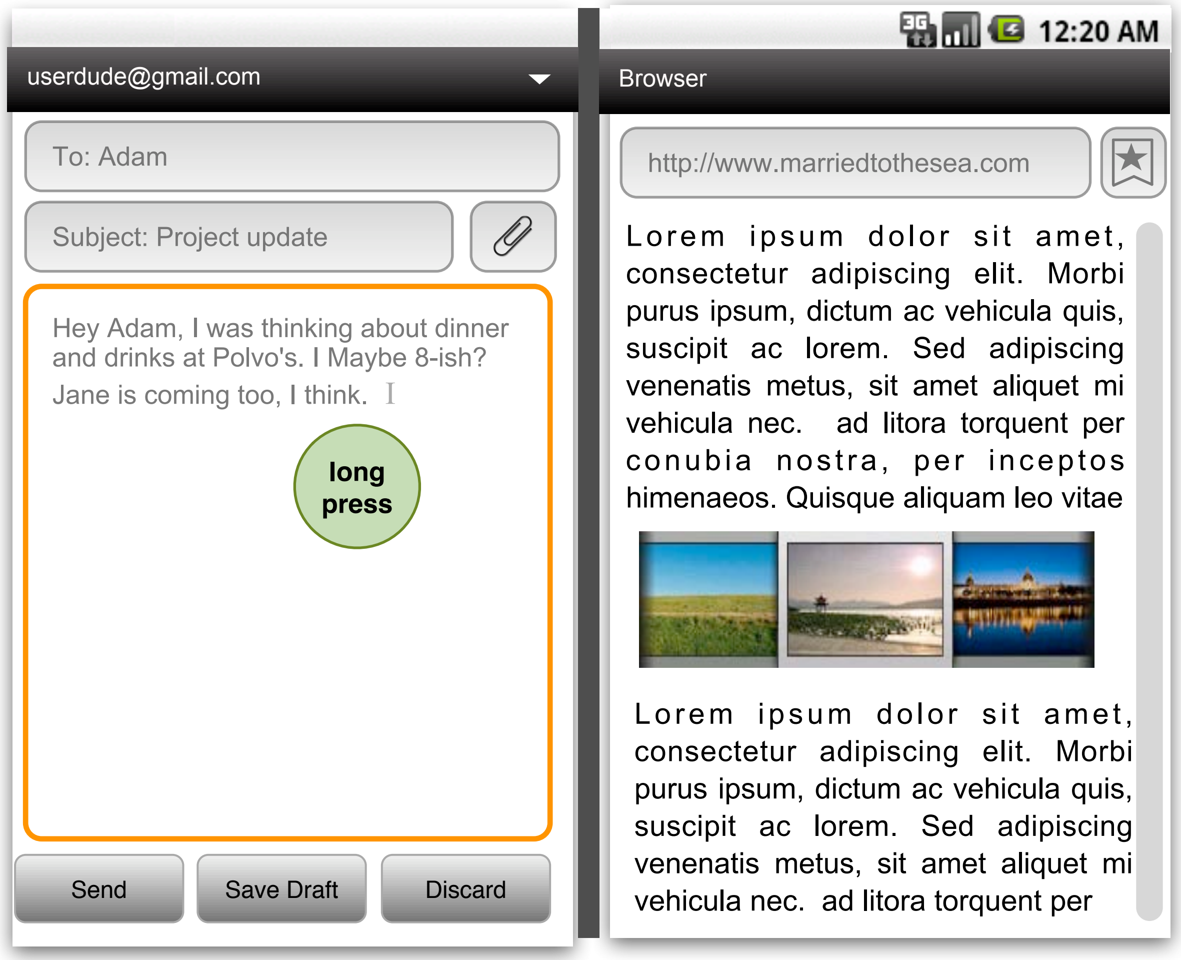
Subject: Plans Tonight?

Hey Adam, I was thinking about dinner and drinks at Polvo's. Maybe 8-ish? Jane is coming too, I think.

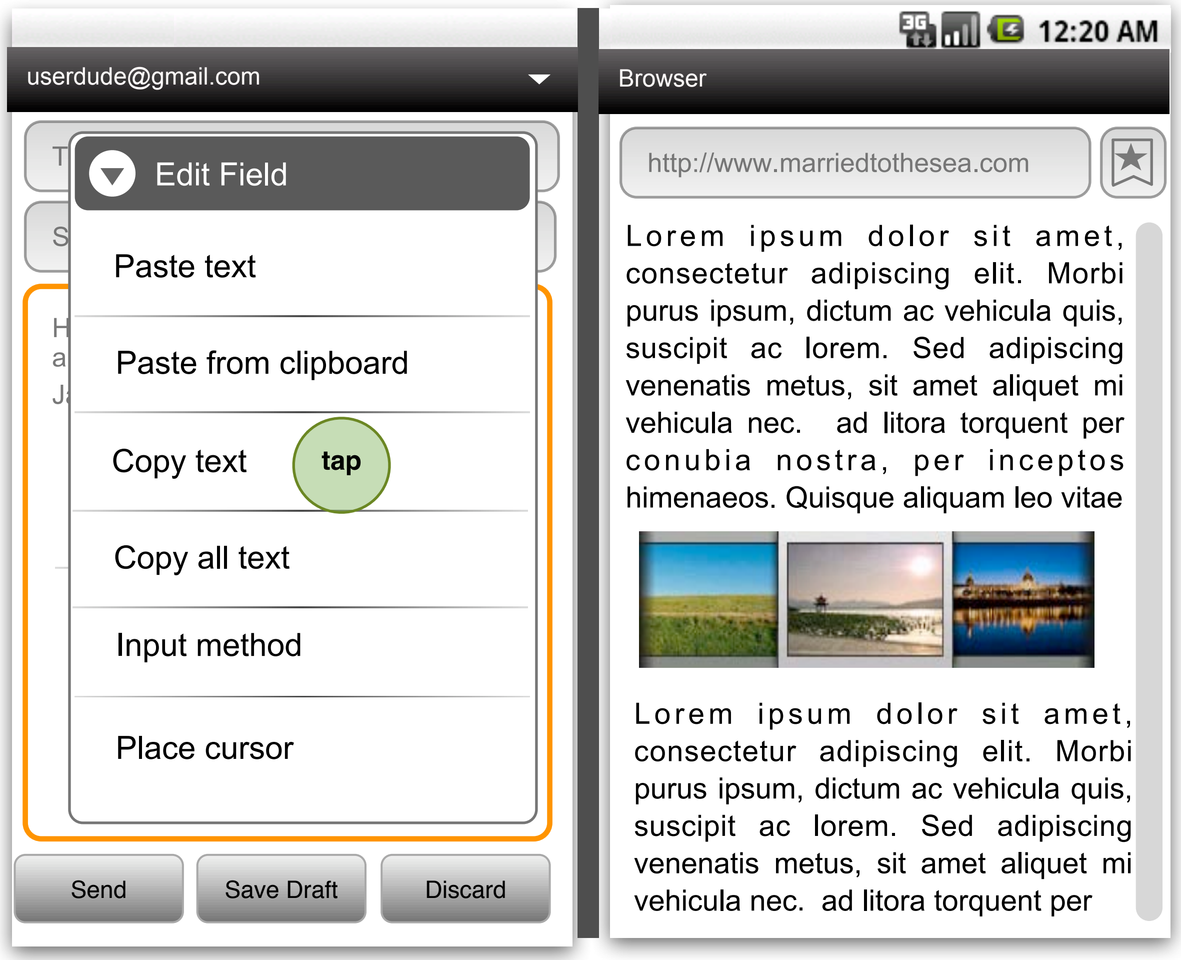
The pasted text is displayed in the field.

3.2.9 :: Place Cursor with Direct Manipulation

3.2.9.1 :: Place Cursor with Direct Manipulation

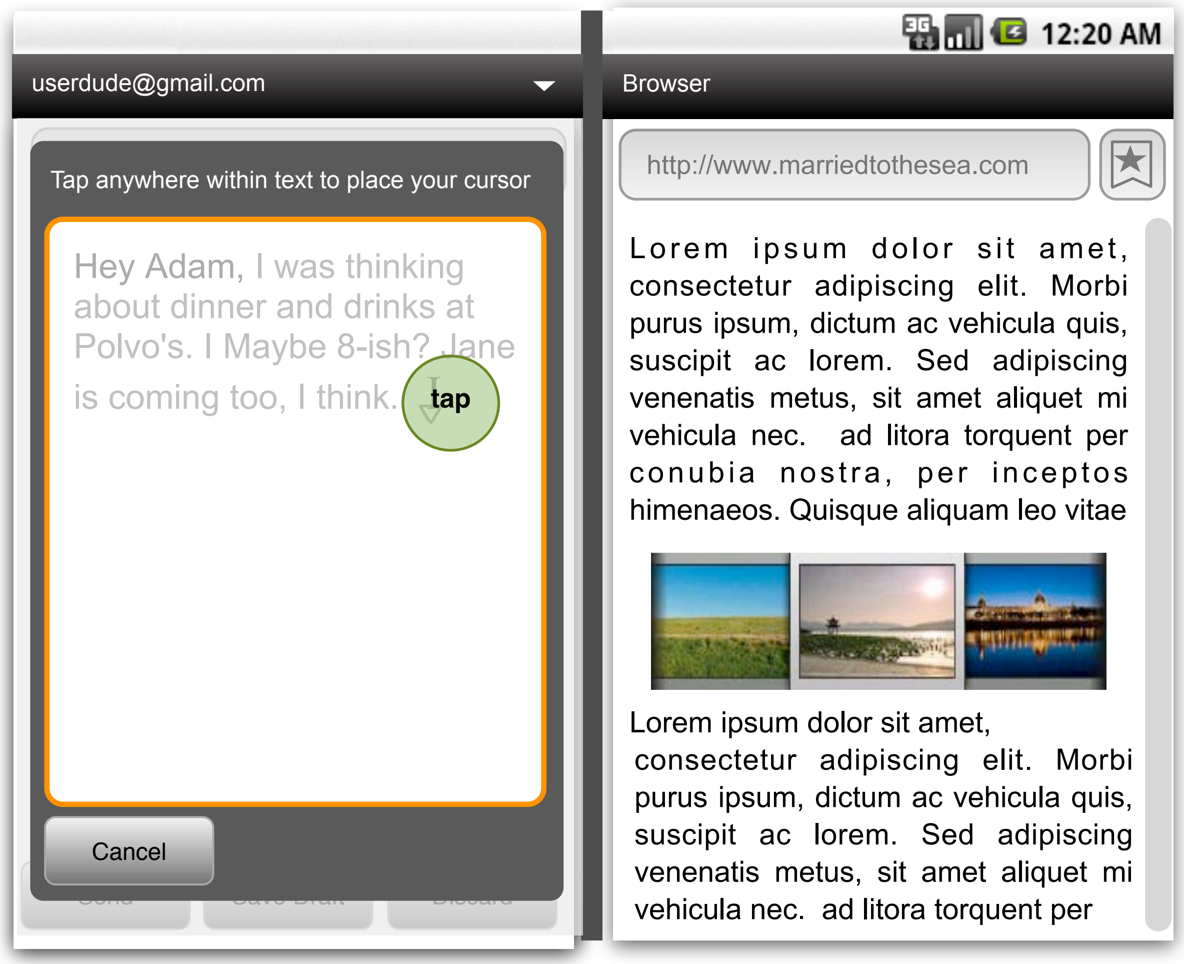

12:20 AM
userdude@gmail.com
Browser
To: Adam
Subject: Project update
Hey Adam, I was thinking about dinner and drinks at Polvo's. I Maybe 8-ish? Jane is coming too, I think.
long press
Send
Save Draft
Discard
http://www.marriedtothesea.com

User presses and holds in a field.



A menu is displayed with two options for copying. 'Copy text' allows the user to position the cursor to select a chunk of text. 'Copy all text' copies all text in the field. The user taps 'Copy text'.

3.2.9.2 :: Place Cursor with Direct Manipulation


12:20 AM

userdude@gmail.com

Tap anywhere within text to place your cursor

Hey Adam, I was thinking about dinner and drinks at Polvo's. I Maybe 8-ish? Jane is coming too, I think.

tap

Cancel

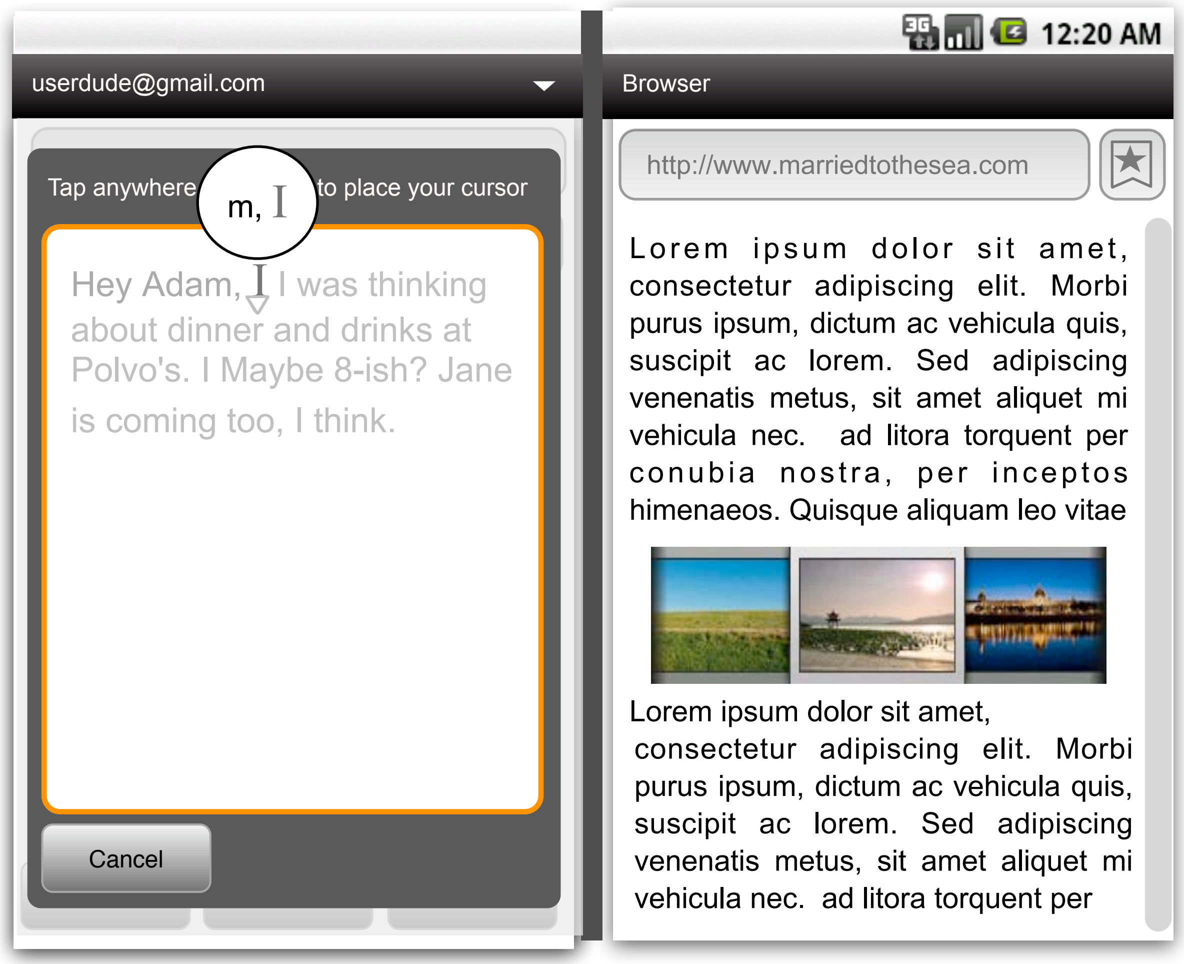
Browser

http://www.marriedtothesea.com

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per conubia nostra, per inceptos himenaeos. Quisque aliquam leo vitae

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per

The field and the text within grow larger to allow for easier cursor placement. The user taps within the field to position the cursor. Tapping Cancel will take the user out of this mode.


12:20 AM

userdude@gmail.com

Tap anywhere m, I to place your cursor

Hey Adam, I was thinking about dinner and drinks at Polvo's. I Maybe 8-ish? Jane is coming too, I think.

Cancel

Browser

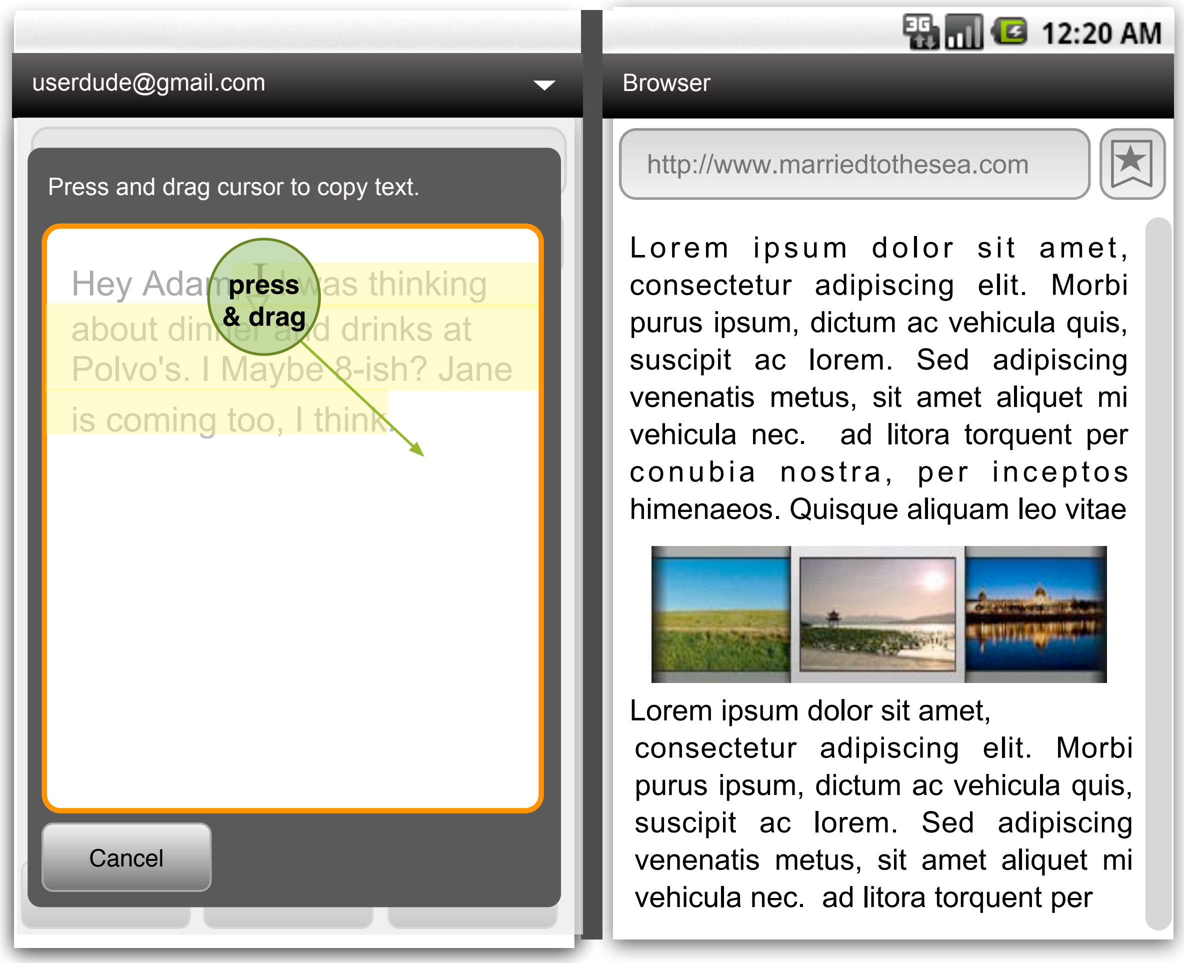
http://www.marriedtothesea.com

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per conubia nostra, per inceptos himenaeos. Quisque aliquam leo vitae

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per

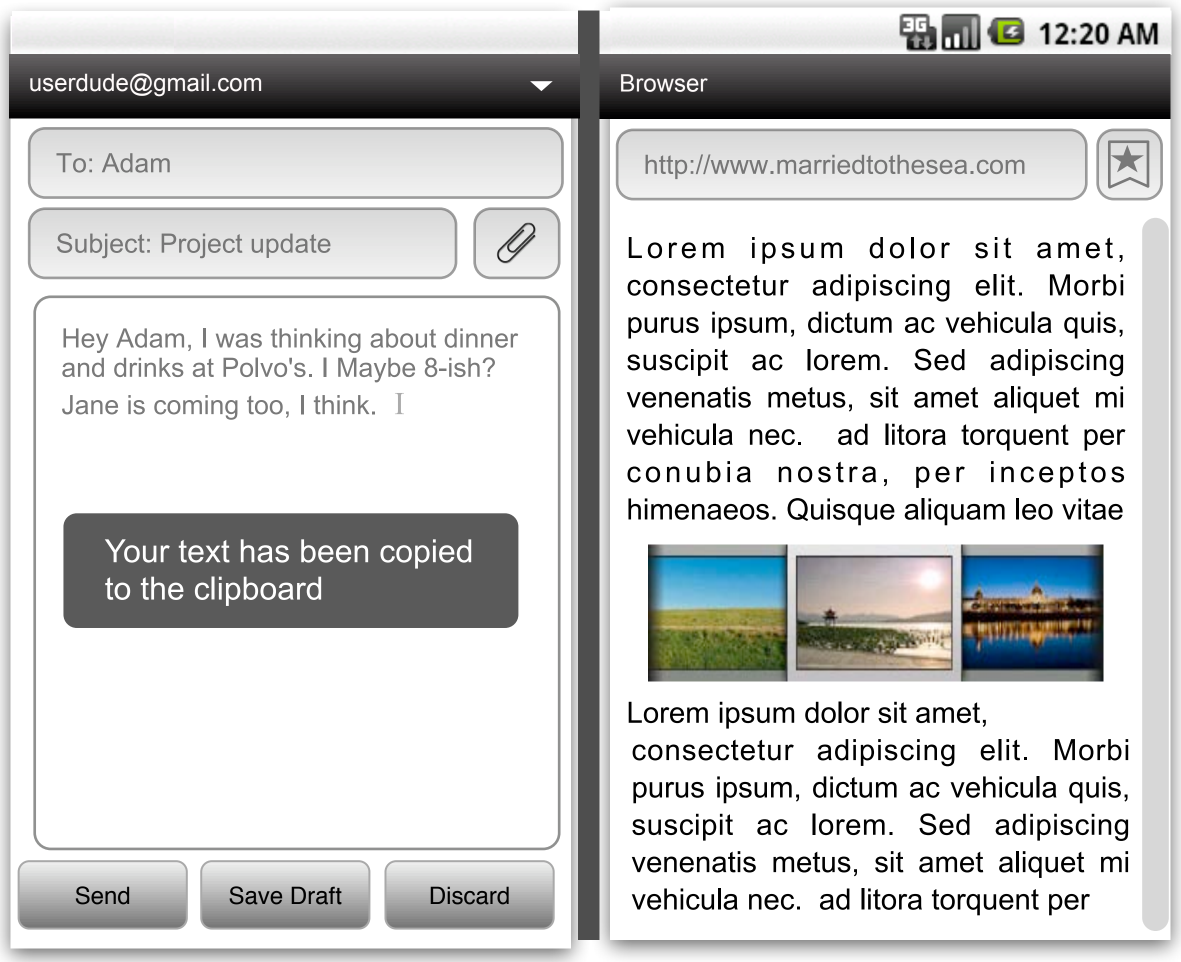
The cursor can be moved by moving a finger across the text. As the user is moving to position the cursor, a magnifier appears to allow for precise cursor placement.

3.2.9.3 :: Place Cursor with Direct Manipulation



userdude@gmail.com
Press and drag cursor to copy text.
Hey Adam, I was thinking about dinner and drinks at Polvo's. I Maybe 8-ish? Jane is coming too, I think.
press & drag
Cancel
12:20 AM
Browser
http://www.marriedtothesea.com

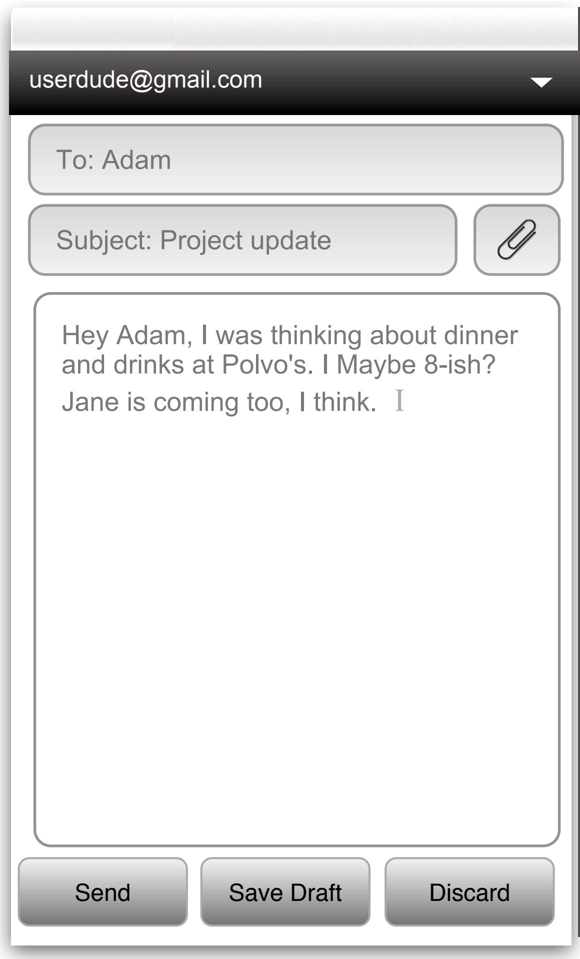
Once the user has the cursor in the desired position, they remove their finger to place the cursor. Pressing the cursor initiates the copy process, so that now the user can press and drag to select text. Once the user removes their finger, the selected text is copied to the clipboard.



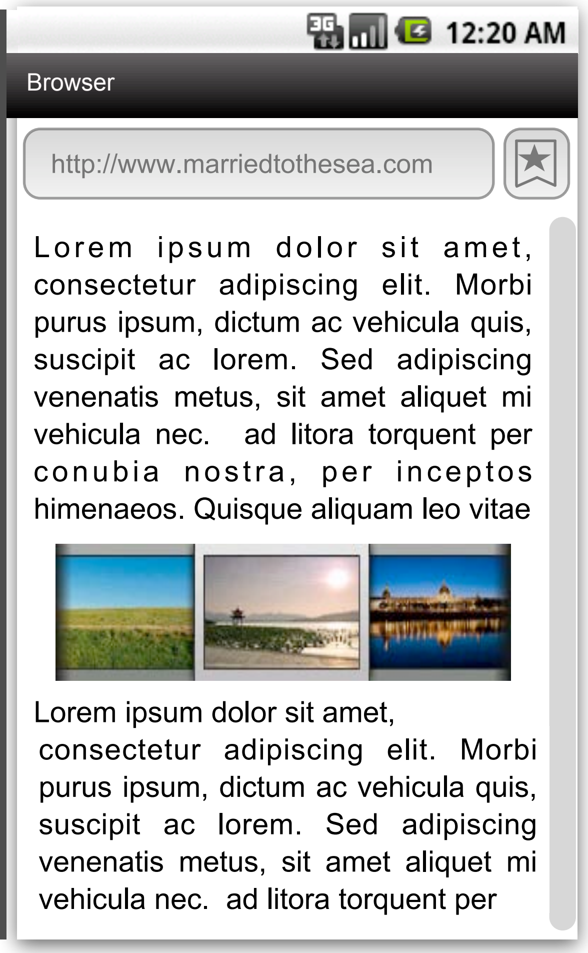
userdude@gmail.com
To: Adam
Subject: Project update
Hey Adam, I was thinking about dinner and drinks at Polvo's. I Maybe 8-ish? Jane is coming too, I think.
Your text has been copied to the clipboard
Send
Save Draft
Discard
12:20 AM
Browser
http://www.marriedtothesea.com

A notification is displayed informing the user that the text has been copied.

3.2.9.4 :: Place Cursor with Direct Manipulation



Hey Adam, I was thinking about dinner and drinks at Polvo's. I Maybe 8-ish? Jane is coming too, I think.



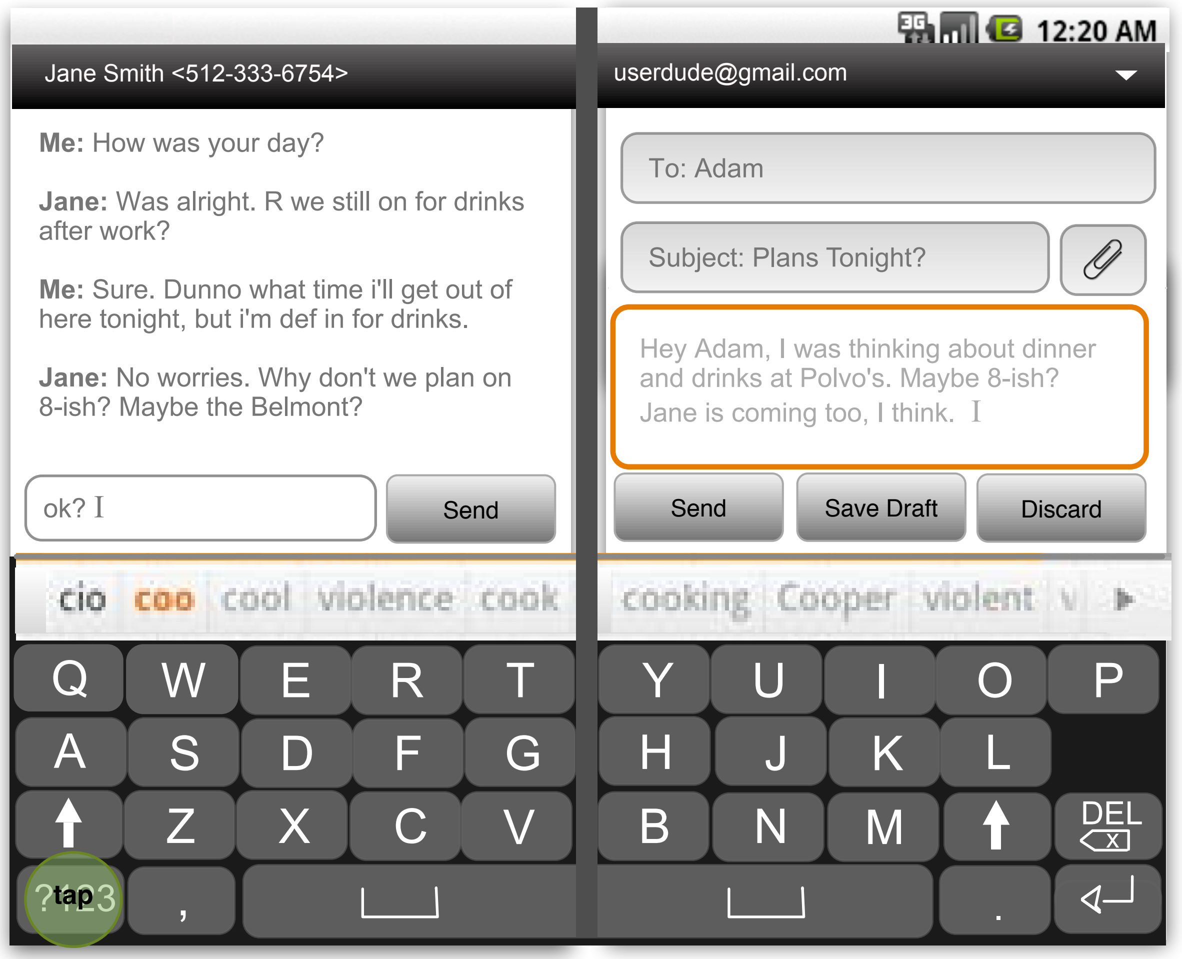
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per conubia nostra, per inceptos himenaeos. Quisque aliquam leo vitae

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per

The field is returned to its original state.

3.2.10 :: Place Cursor with Keyboard

3.2.10.1 :: Place Cursor with Keyboard Manipulation


Jane Smith <512-333-6754>

Me: How was your day?

Jane: Was alright. R we still on for drinks after work?

Me: Sure. Dunno what time i'll get out of here tonight, but i'm def in for drinks.

Jane: No worries. Why don't we plan on 8-ish? Maybe the Belmont?

ok?

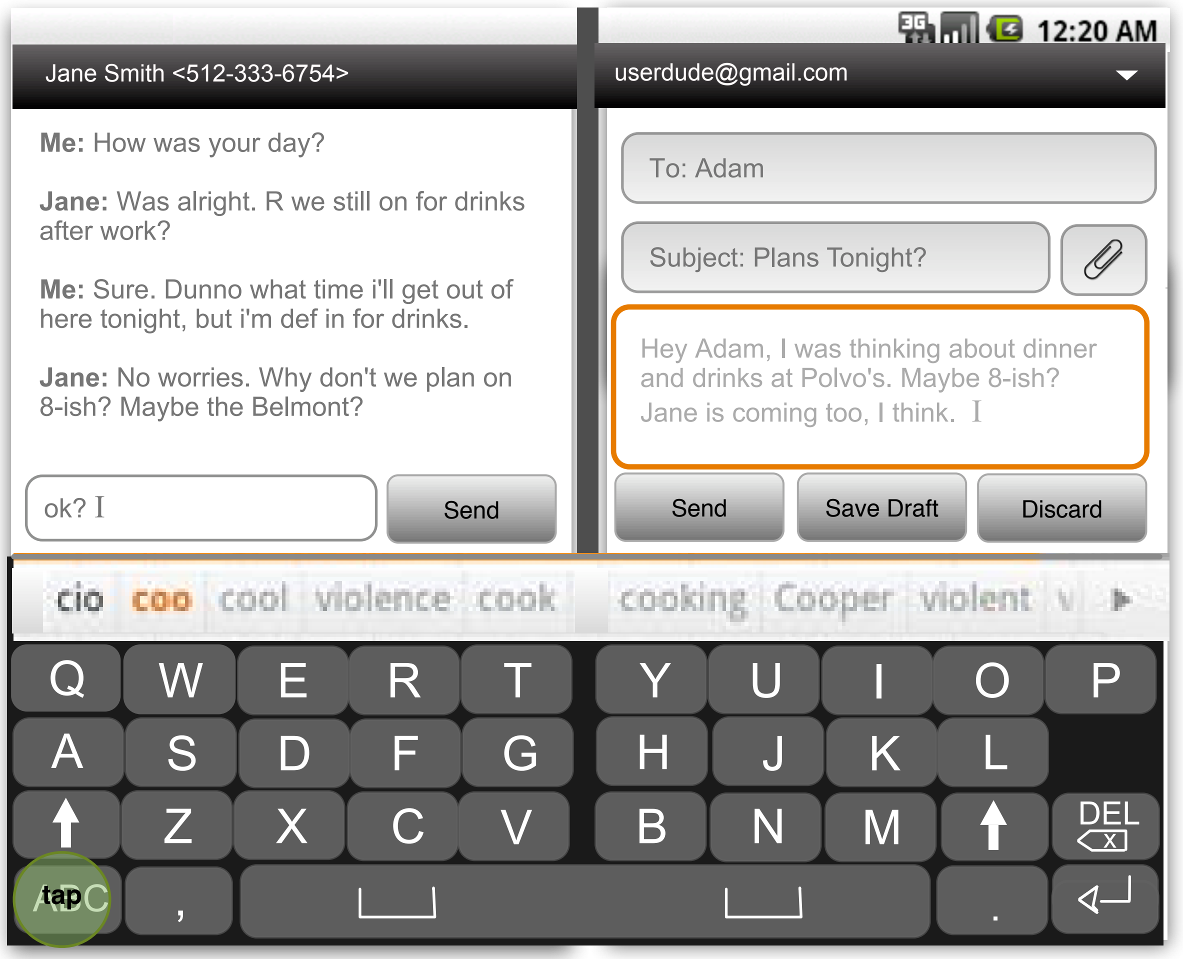
userdude@gmail.com

To: Adam

Subject: Plans Tonight?

Hey Adam, I was thinking about dinner and drinks at Polvo's. Maybe 8-ish? Jane is coming too, I think.

User taps the keyboard toggle key...


Jane Smith <512-333-6754>

Me: How was your day?

Jane: Was alright. R we still on for drinks after work?

Me: Sure. Dunno what time i'll get out of here tonight, but i'm def in for drinks.

Jane: No worries. Why don't we plan on 8-ish? Maybe the Belmont?

ok?

userdude@gmail.com

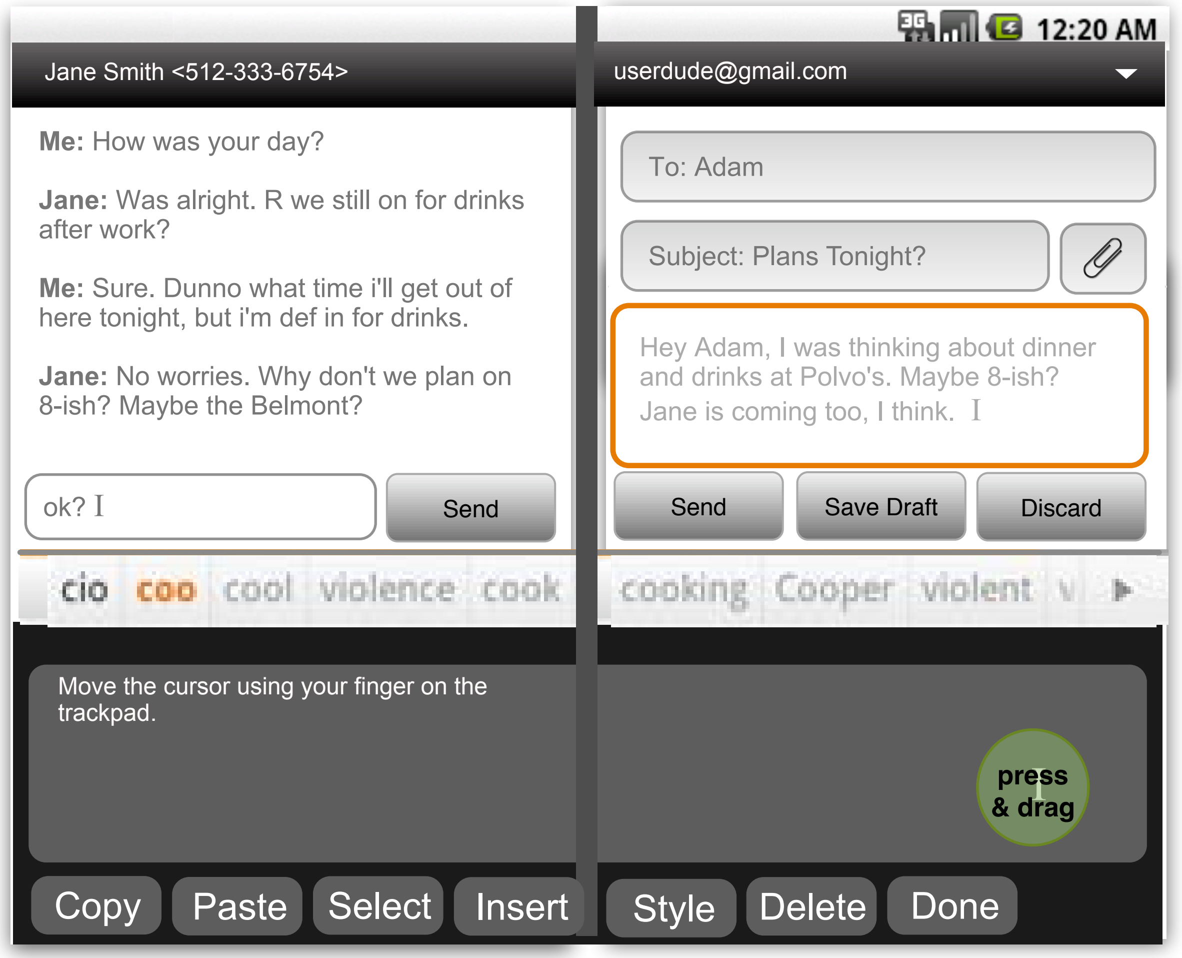
To: Adam

Subject: Plans Tonight?

Hey Adam, I was thinking about dinner and drinks at Polvo's. Maybe 8-ish? Jane is coming too, I think.

...to get to the cursor placement/copy & paste keyboard.

3.2.10.2 :: Place Cursor with Keyboard Manipulation



Jane Smith <512-333-6754>

Me: How was your day?

Jane: Was alright. R we still on for drinks after work?

Me: Sure. Dunno what time i'll get out of here tonight, but i'm def in for drinks.

Jane: No worries. Why don't we plan on 8-ish? Maybe the Belmont?

ok? I

12:20 AM

userdude@gmail.com

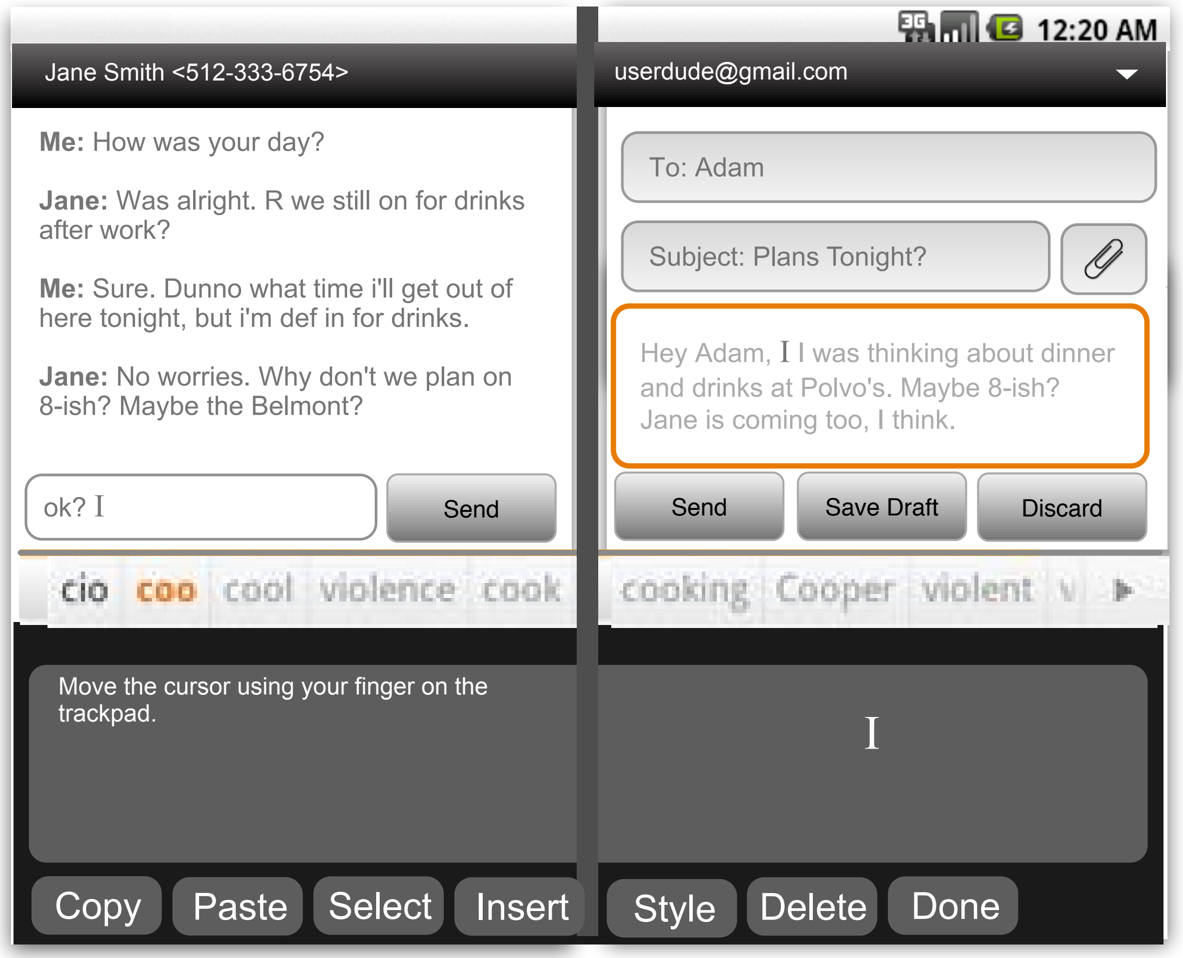
To: Adam

Subject: Plans Tonight?

Hey Adam, I was thinking about dinner and drinks at Polvo's. Maybe 8-ish? Jane is coming too, I think. I

Move the cursor using your finger on the trackpad.

The cursor placement keyboard is displayed. The trackpad displays a cursor, which the user presses and drags around the trackpad in order to place the cursor in the field. The buttons at the bottom are actions that can be applied to the selected text. In this example, the user wants to copy a selected piece of text within the field. The user presses and drags the cursor on the trackpad to a new position. While the user is moving the cursor on the trackpad, the cursor is moving simultaneously within the field.



Jane Smith <512-333-6754>

Me: How was your day?

Jane: Was alright. R we still on for drinks after work?

Me: Sure. Dunno what time i'll get out of here tonight, but i'm def in for drinks.

Jane: No worries. Why don't we plan on 8-ish? Maybe the Belmont?

ok? I

12:20 AM

userdude@gmail.com

To: Adam

Subject: Plans Tonight?

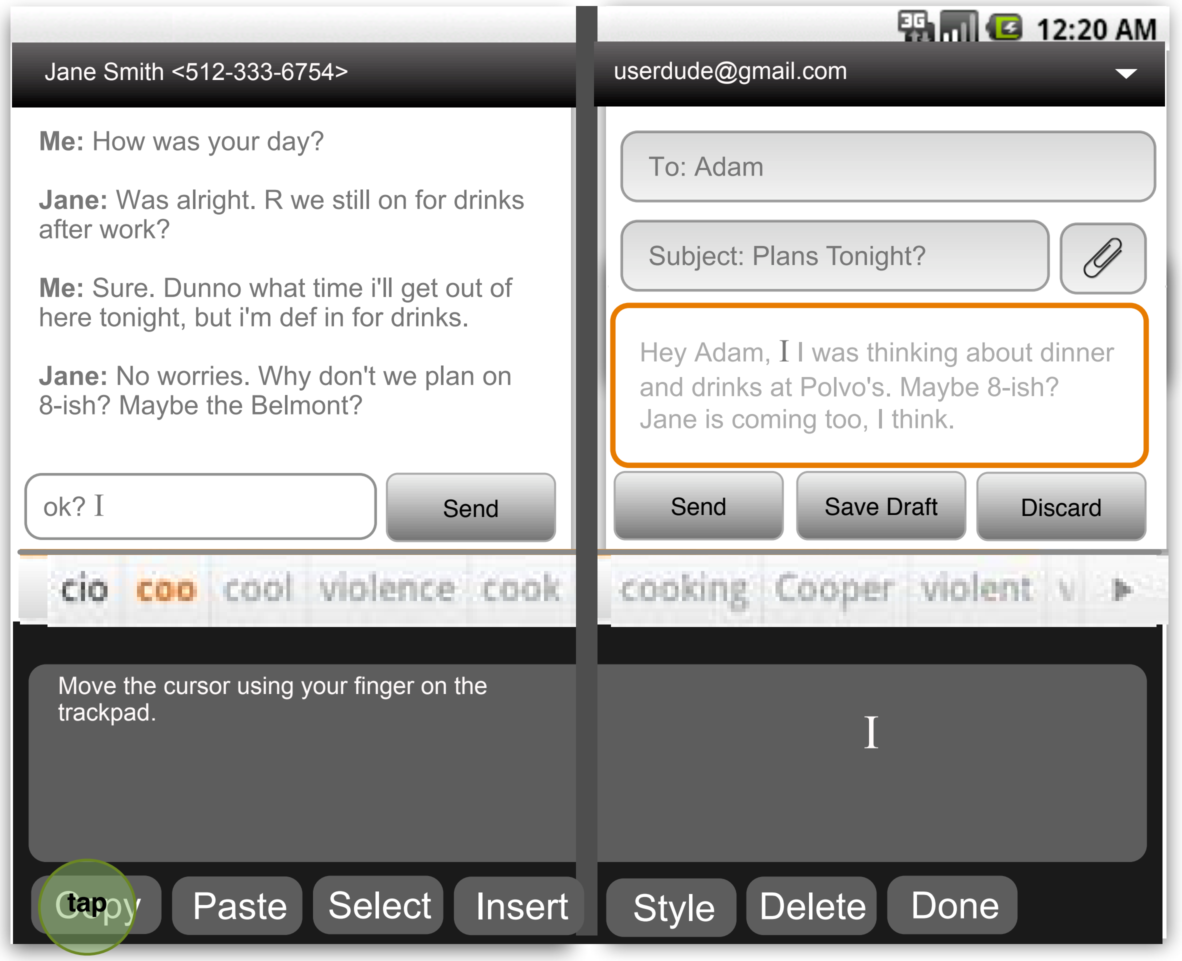
Hey Adam, I I was thinking about dinner and drinks at Polvo's. Maybe 8-ish? Jane is coming too, I think.

Move the cursor using your finger on the trackpad.

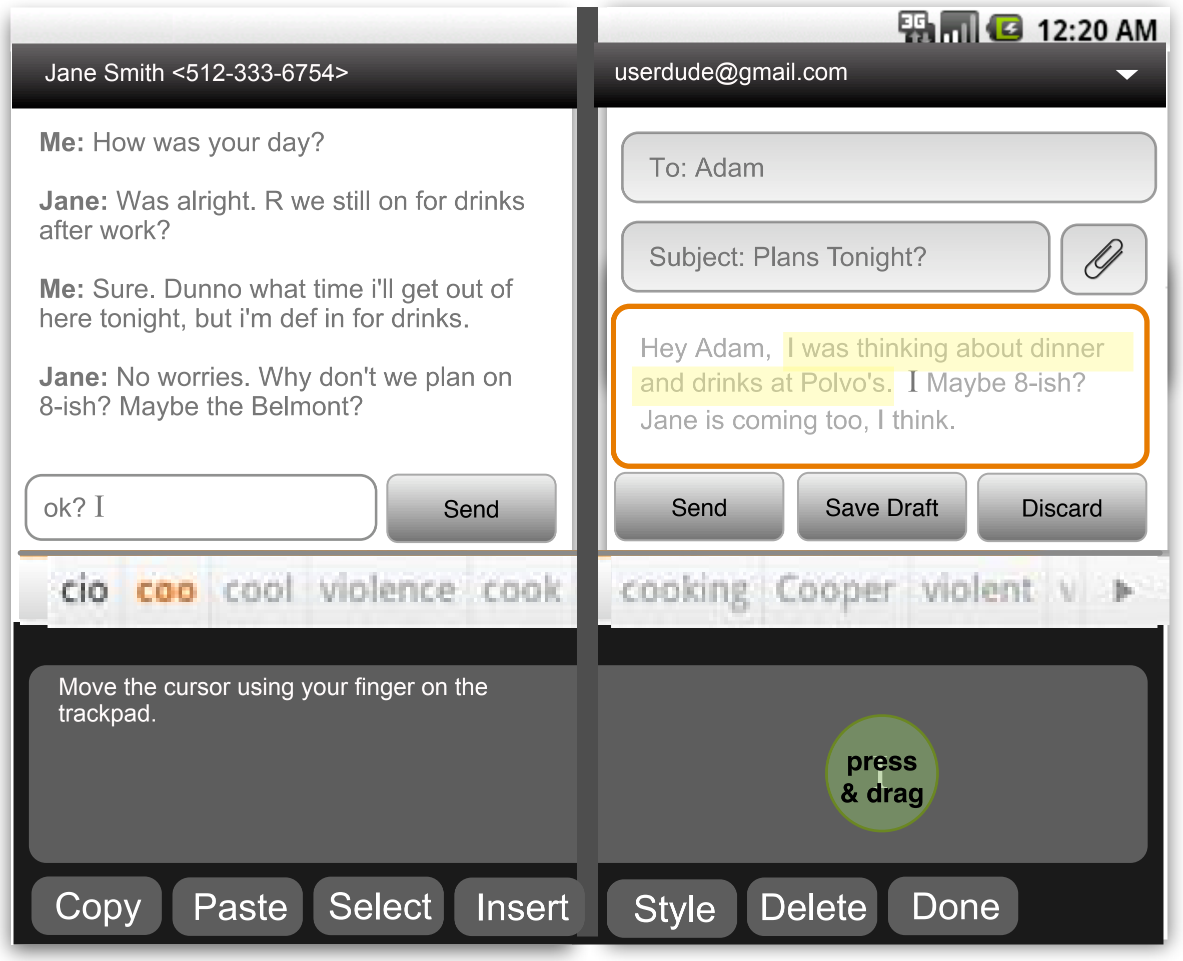
The user has positioned the cursor and has removed his finger from the trackpad. The cursor remains on the trackpad so that the user could continue to reposition the cursor.

*There are numerous additional functions this keyboard could handle outside of copy/paste. Text chunks could be selected in order to be deleted, text could be selected in order to be styled/apply formatting, etc.

3.2.10.3 :: Place Cursor with Keyboard Manipulation

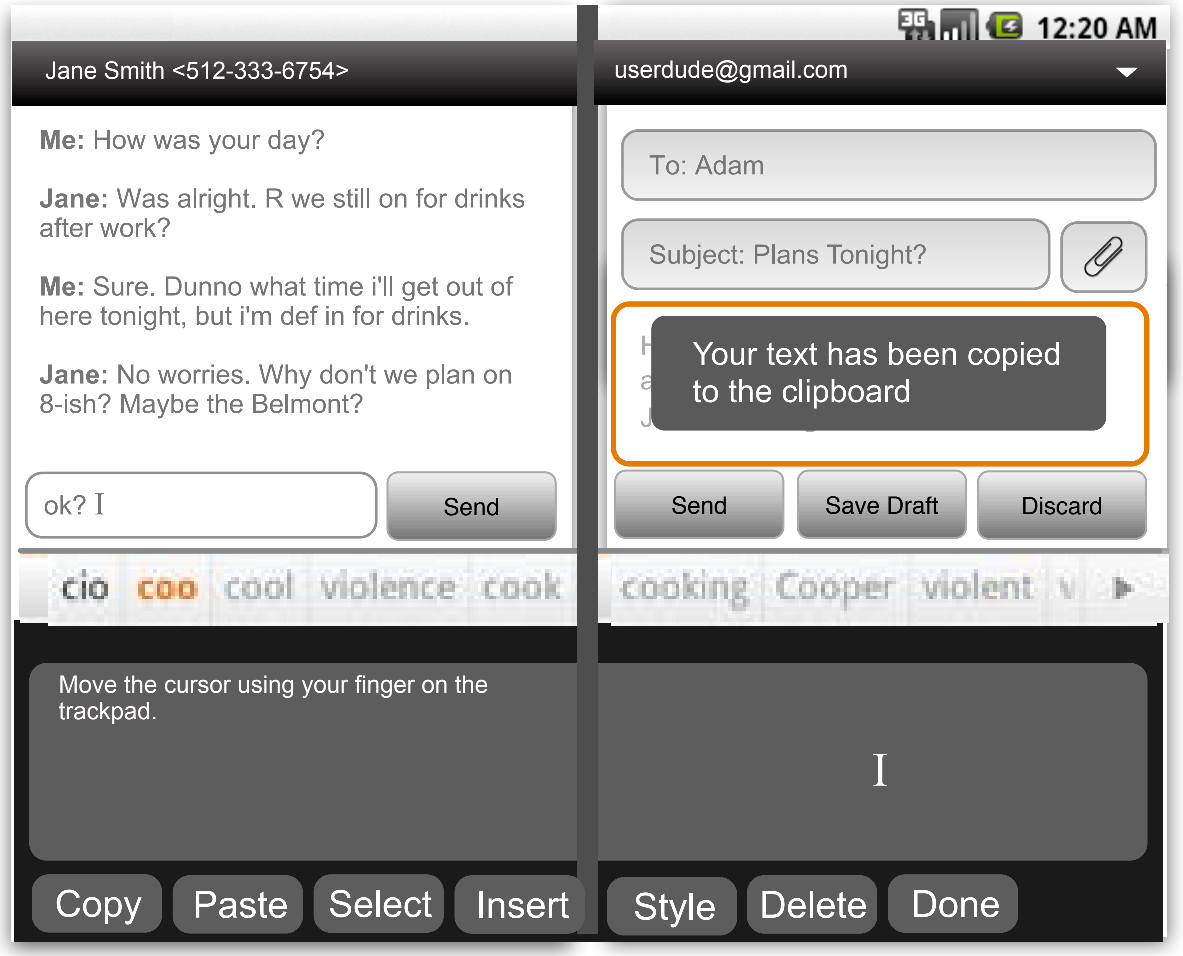

Jane Smith <512-333-6754>
userdude@gmail.com
12:20 AM
Me: How was your day?
Jane: Was alright. R we still on for drinks after work?
Me: Sure. Dunno what time i'll get out of here tonight, but i'm def in for drinks.
Jane: No worries. Why don't we plan on 8-ish? Maybe the Belmont?
To: Adam
Subject: Plans Tonight?
Hey Adam, I I was thinking about dinner and drinks at Polvo's. Maybe 8-ish? Jane is coming too, I think.
ok?
Send
Save Draft
Discard
cio coo cool violence cook cooking Cooper violent
Move the cursor using your finger on the trackpad.
tap
Copy
Paste
Select
Insert
Style
Delete
Done

Now that the user has the cursor where he wants it, he taps 'Copy' in order to put the field in copy mode.


Jane Smith <512-333-6754>
userdude@gmail.com
12:20 AM
Me: How was your day?
Jane: Was alright. R we still on for drinks after work?
Me: Sure. Dunno what time i'll get out of here tonight, but i'm def in for drinks.
Jane: No worries. Why don't we plan on 8-ish? Maybe the Belmont?
To: Adam
Subject: Plans Tonight?
Hey Adam, I was thinking about dinner and drinks at Polvo's. I Maybe 8-ish? Jane is coming too, I think.
ok?
Send
Save Draft
Discard
cio coo cool violence cook cooking Cooper violent
Move the cursor using your finger on the trackpad.
press & drag
Copy
Paste
Select
Insert
Style
Delete
Done

Using the cursor indicator on the trackpad, the user presses and drags it to select a chunk of text. As the user is moving the cursor on the trackpad, the selected text is highlighting in the field.

3.2.10.4 :: Place Cursor with Keyboard Manipulation

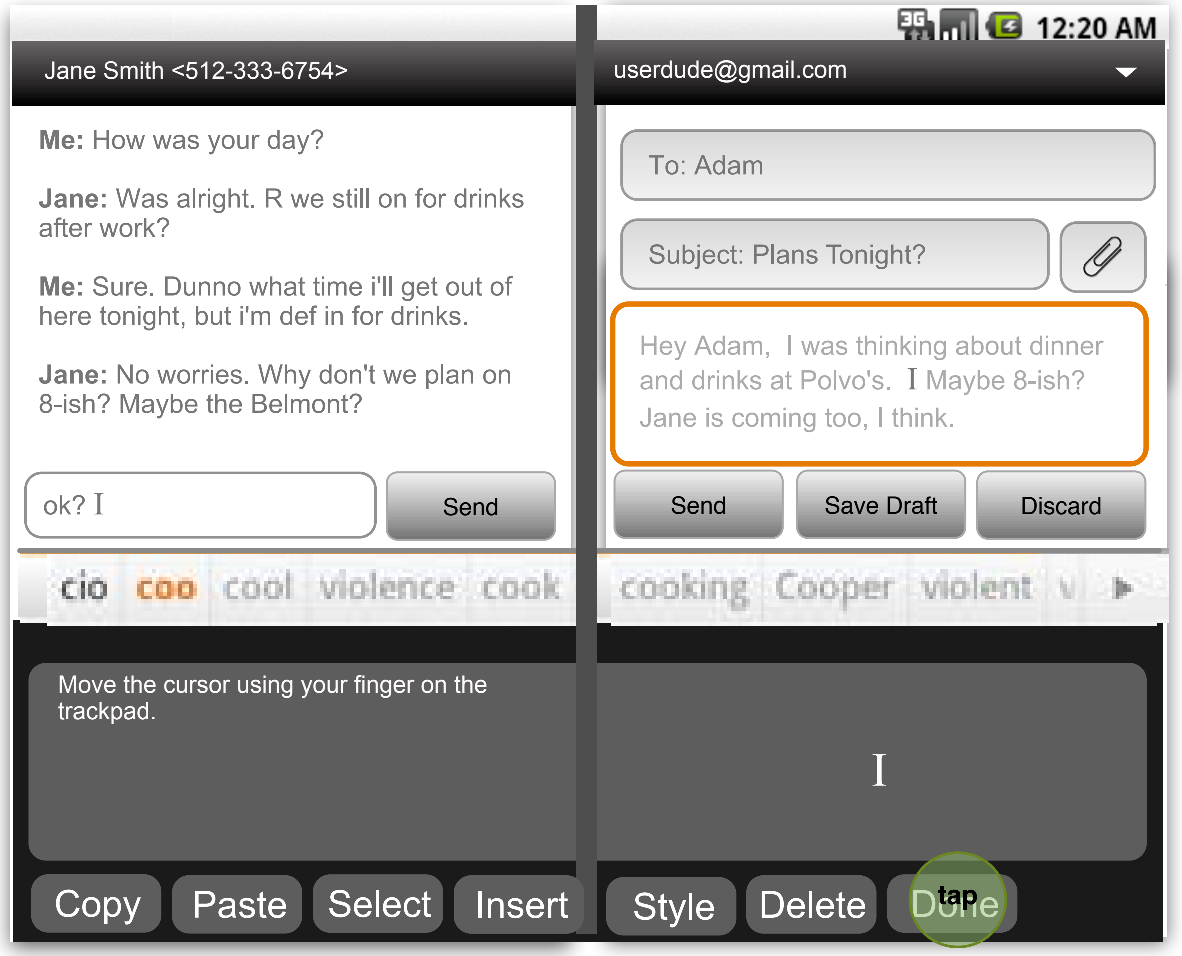

12:20 AM
Jane Smith <512-333-6754>
userdude@gmail.com
To: Adam
Subject: Plans Tonight?
Your text has been copied to the clipboard
ok? I
Send
Send
Save Draft
Discard
cio coo cool violence cook cooking Cooper violent
Move the cursor using your finger on the trackpad.
Copy
Paste
Select
Insert
Style
Delete
Done

Me: How was your day?

Jane: Was alright. R we still on for drinks after work?

Me: Sure. Dunno what time i'll get out of here tonight, but i'm def in for drinks.

Jane: No worries. Why don't we plan on 8-ish? Maybe the Belmont?



Me: How was your day?

Jane: Was alright. R we still on for drinks after work?

Me: Sure. Dunno what time i'll get out of here tonight, but i'm def in for drinks.

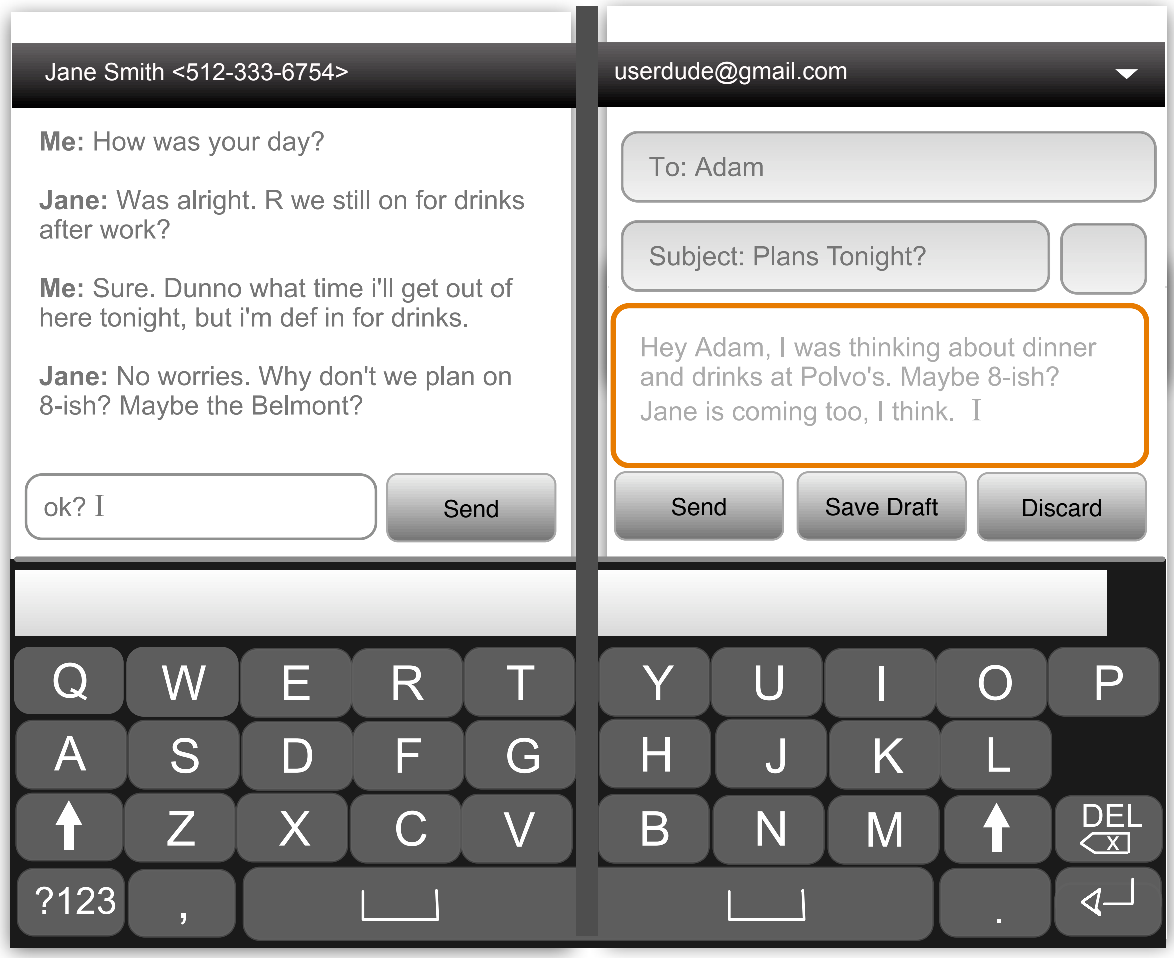
Jane: No worries. Why don't we plan on 8-ish? Maybe the Belmont?

Hey Adam, I was thinking about dinner and drinks at Polvo's. I Maybe 8-ish? Jane is coming too, I think.

When the user removes his finger from the trackpad, what has been selected is copied to the Clipboard.

Tapping 'Done' toggles the keyboard back to standard mode.

3.2.10.5 :: Place Cursor with Keyboard Manipulation


Jane Smith <512-333-6754>

Me: How was your day?

Jane: Was alright. R we still on for drinks after work?

Me: Sure. Dunno what time i'll get out of here tonight, but i'm def in for drinks.

Jane: No worries. Why don't we plan on 8-ish? Maybe the Belmont?

ok? I

userdude@gmail.com

To: Adam

Subject: Plans Tonight?

Hey Adam, I was thinking about dinner and drinks at Polvo's. Maybe 8-ish? Jane is coming too, I think. I

The keyboard is back to standard display.

3.3 :: Drag & Drop

3.3.1 :: Drag and Drop Rules

What can be dragged and dropped?
Any item that can be selected as a discrete chunk (e.g. an image, text message, link, paragraph of text, file, etc.) and does not require cursor placement, can be dragged and dropped. Users can also drag and drop 'smart items' such as contacts, files, etc. These items will give the user additional options for how and what to paste.

How are items dragged and dropped?
Using a two finger gesture, users press and hold on the item they wish to drag and drop. Pressing and holding with two fingers selects the item and activates it so that it can be moved. As the user moves the item, drop zones are indicated.

One difference to note in terms of selecting an item via drag and drop versus selecting via copy and paste is that drag and drop does not allow for discrete selection or cursor placement. Only discrete chunks of data (e.g. an image, text message, link, paragraph of text, file, etc.) may be selected.

To select a paragraph to drag and drop, the user would two-finger press and hold on the paragraph. The paragraph would change state visually to indicate it can be dragged.

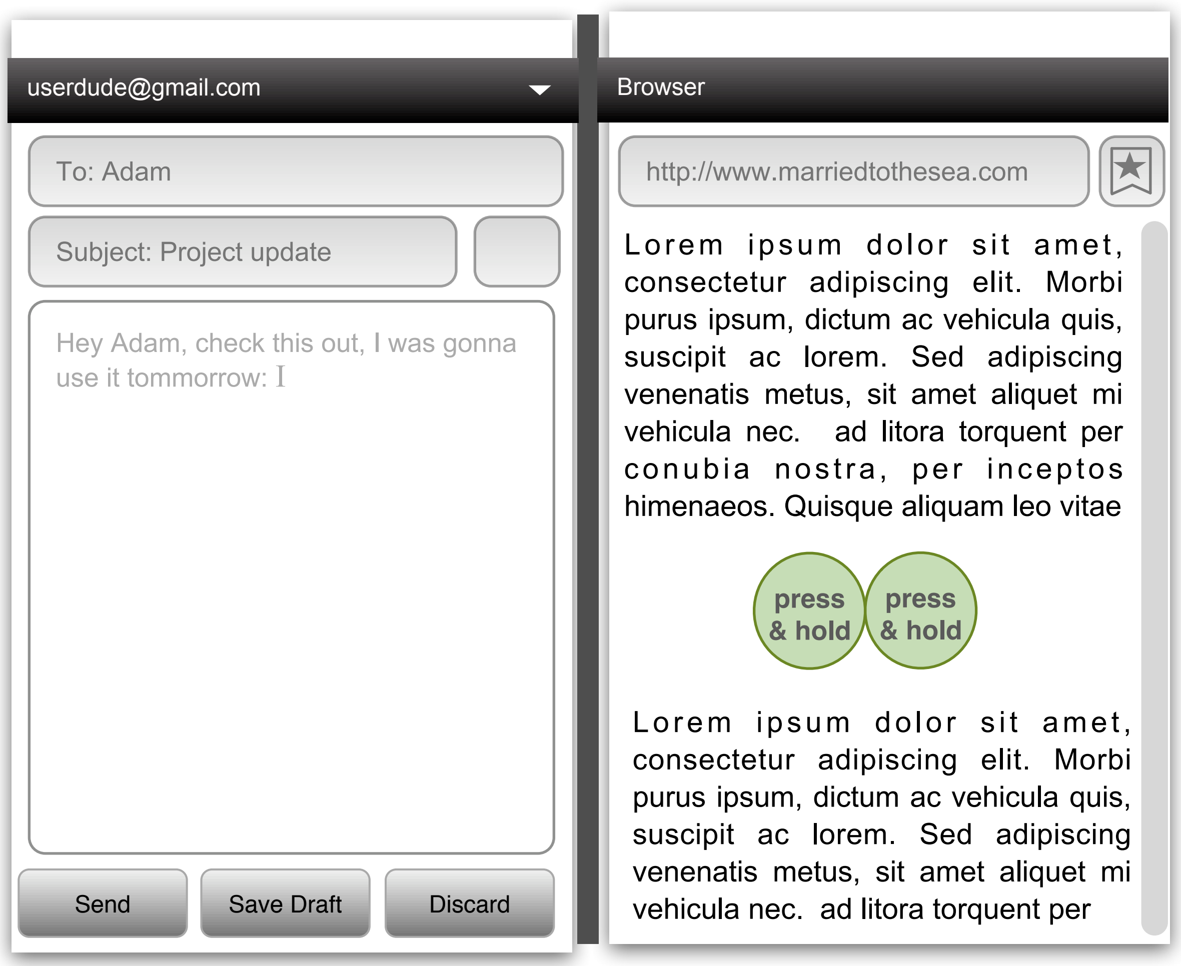
Where can items be dropped?
Items can be dropped into input fields (e.g. dropping an image, document, link into an email or text message), into documents, and to the Universal Clipboard. Once the user has acquired the target, they let go of the item, and it is dropped/pasted to the selected location.

Users may drop items into the Universal Clipboard by dropping the item on the annunciator bar. The annunciator bar then displays an icon to represent that items have been added to the Clipboard. Users can tap the Clipboard displayed on notification list in the annunciator bar in order to access the Universal Clipboard.

How does the user get out of this mode?
Once an item is dropped to an appropriate drop zone, the device is no longer in 'drag and drop' mode. If a user tries to drop an item to an inappropriate drop zone, the dragged item should snap back to its original location. If the user wants out of this mode, he can drop the item to its original location.

3.3.2 :: Drag and Drop an Image

3.3.2.1 :: Drag and Drop an Image



To: Adam

Subject: Project update

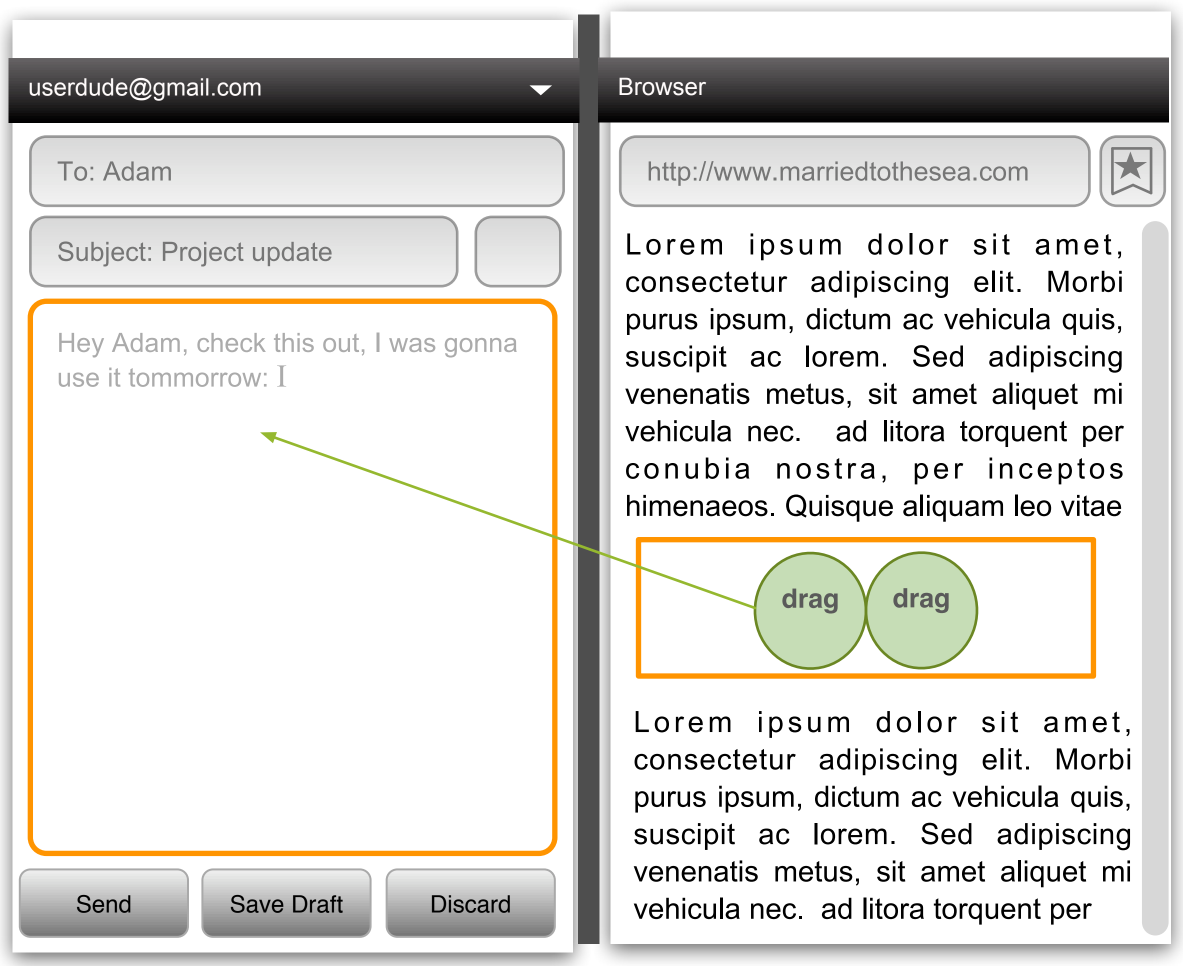
Hey Adam, check this out, I was gonna use it tommorrow: I

http://www.marriedtothesea.com

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per conubia nostra, per inceptos himenaeos. Quisque aliquam leo vitae

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per

The user presses and holds on an image with two fingers.



To: Adam

Subject: Project update

Hey Adam, check this out, I was gonna use it tommorrow: I

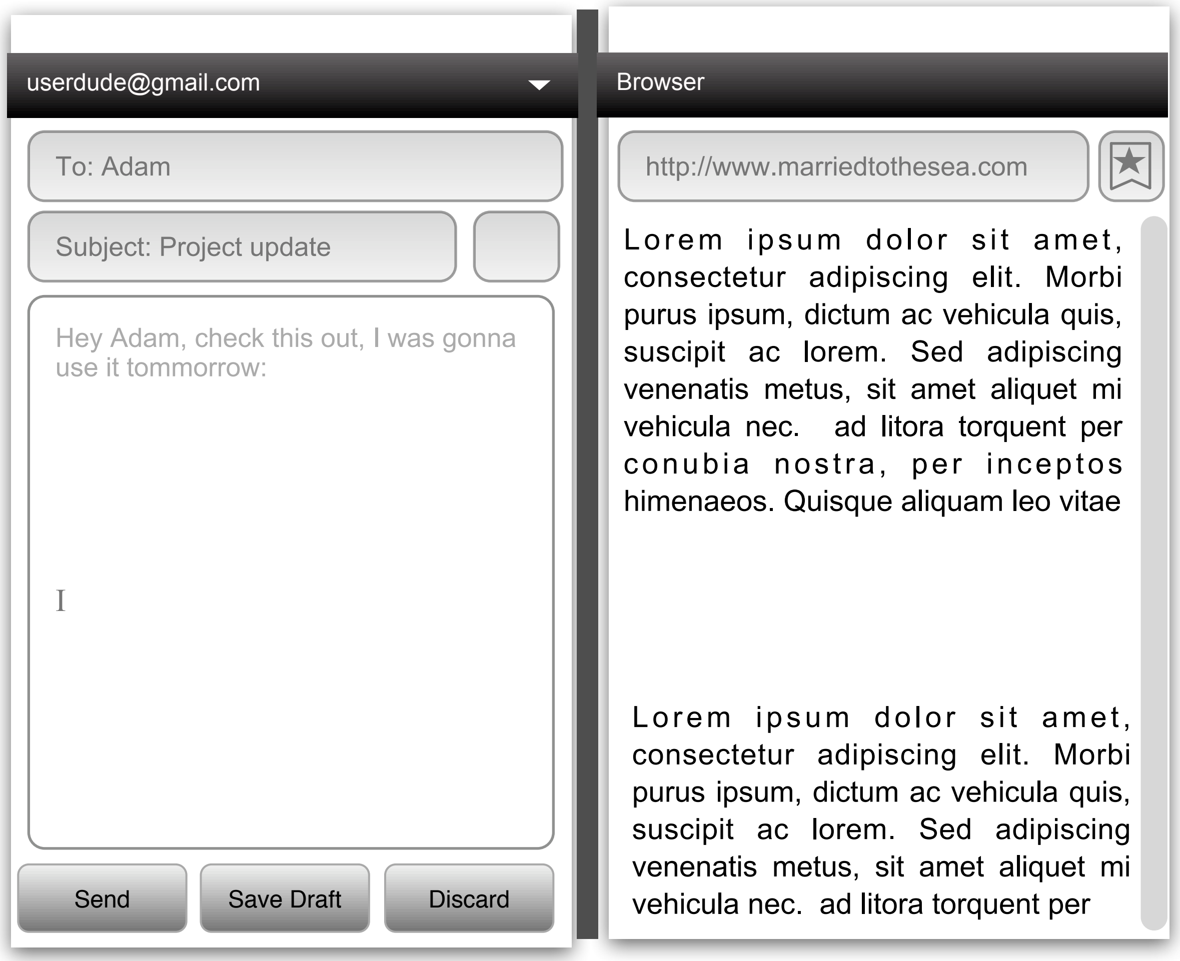
http://www.marriedtothesea.com

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per conubia nostra, per inceptos himenaeos. Quisque aliquam leo vitae

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per

The image is now in 'drag' mode, and can be dropped into a target. As the user moves the image around, acceptable targets will be highlighted. The user drags the image to the compose field of the email.

3.3.2.2 :: Drag and Drop an Image



Hey Adam, check this out, I was gonna use it tommorrow:

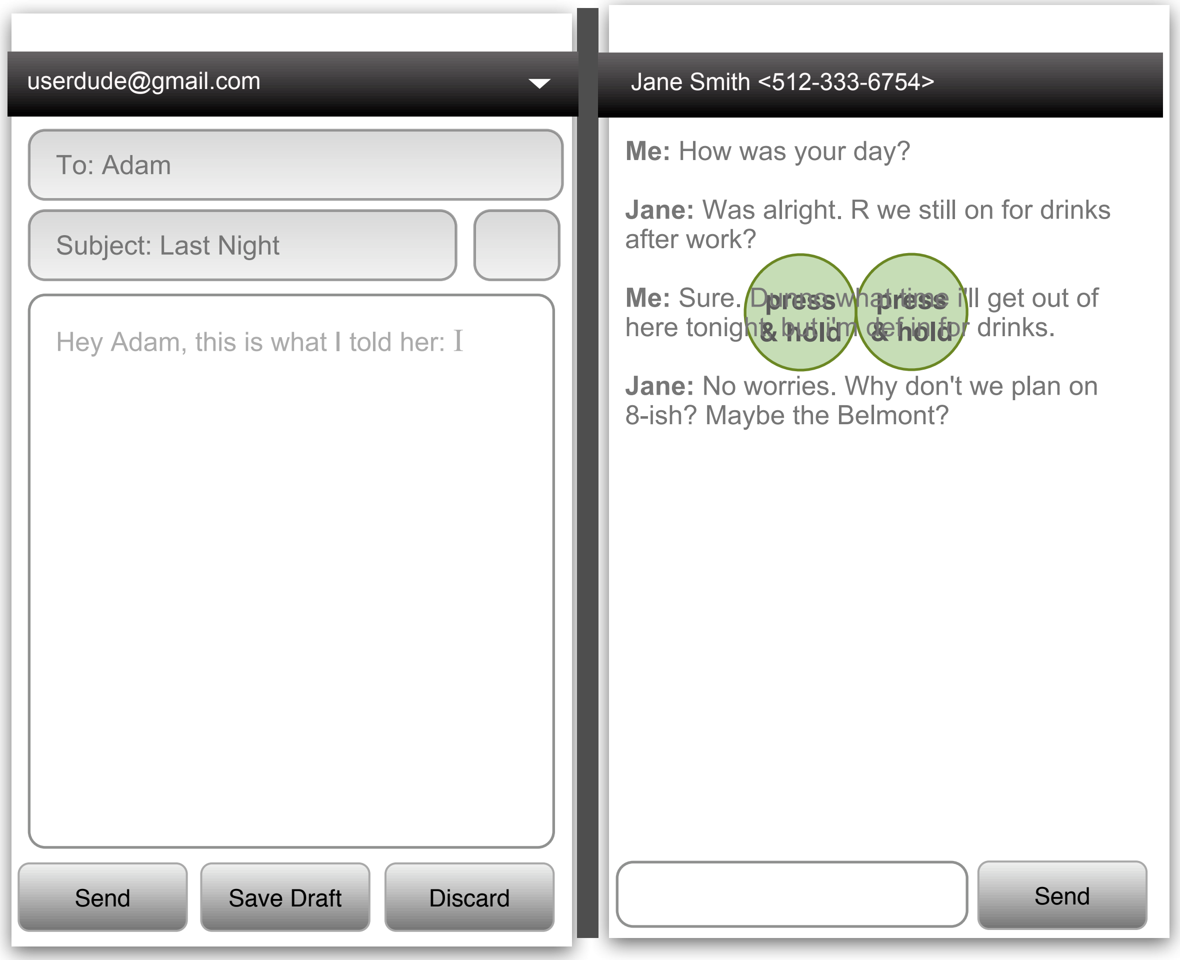
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per conubia nostra, per inceptos himenaeos. Quisque aliquam leo vitae

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per

The image has been dropped into the email.

3.3.3 :: Drag and Drop Text Message

3.3.3.1 :: Drag and Drop Text Message


userdude@gmail.com

To: Adam

Subject: Last Night

Hey Adam, this is what I told her: I

Send Save Draft Discard

Jane Smith <512-333-6754>

Me: How was your day?

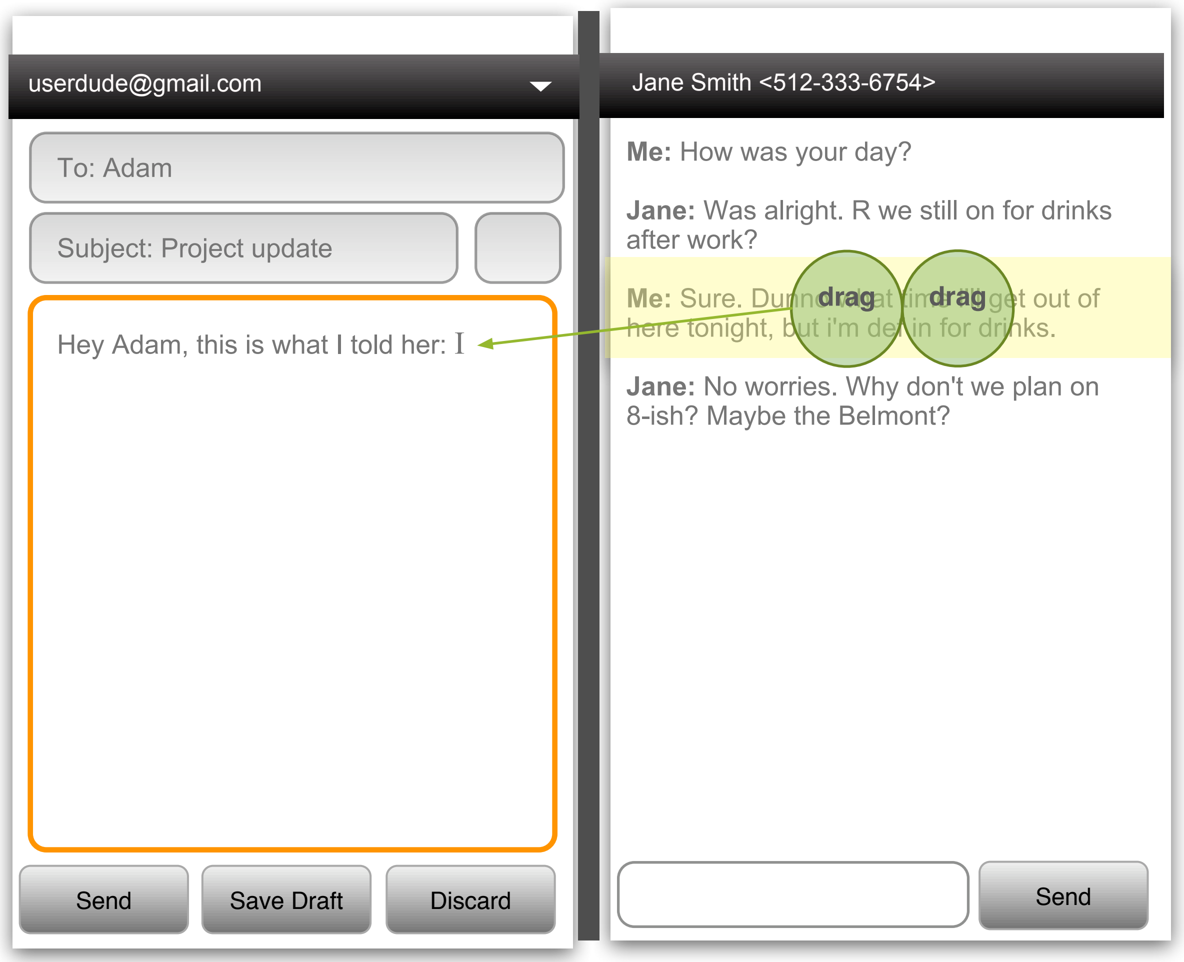
Jane: Was alright. R we still on for drinks after work?

Me: Sure. Dunno what time I'll get out of here tonight, but i'm def in for drinks.

Jane: No worries. Why don't we plan on 8-ish? Maybe the Belmont?

Send

The user presses and holds on a text message with two fingers.


userdude@gmail.com

To: Adam

Subject: Project update

Hey Adam, this is what I told her: I

Send Save Draft Discard

Jane Smith <512-333-6754>

Me: How was your day?

Jane: Was alright. R we still on for drinks after work?

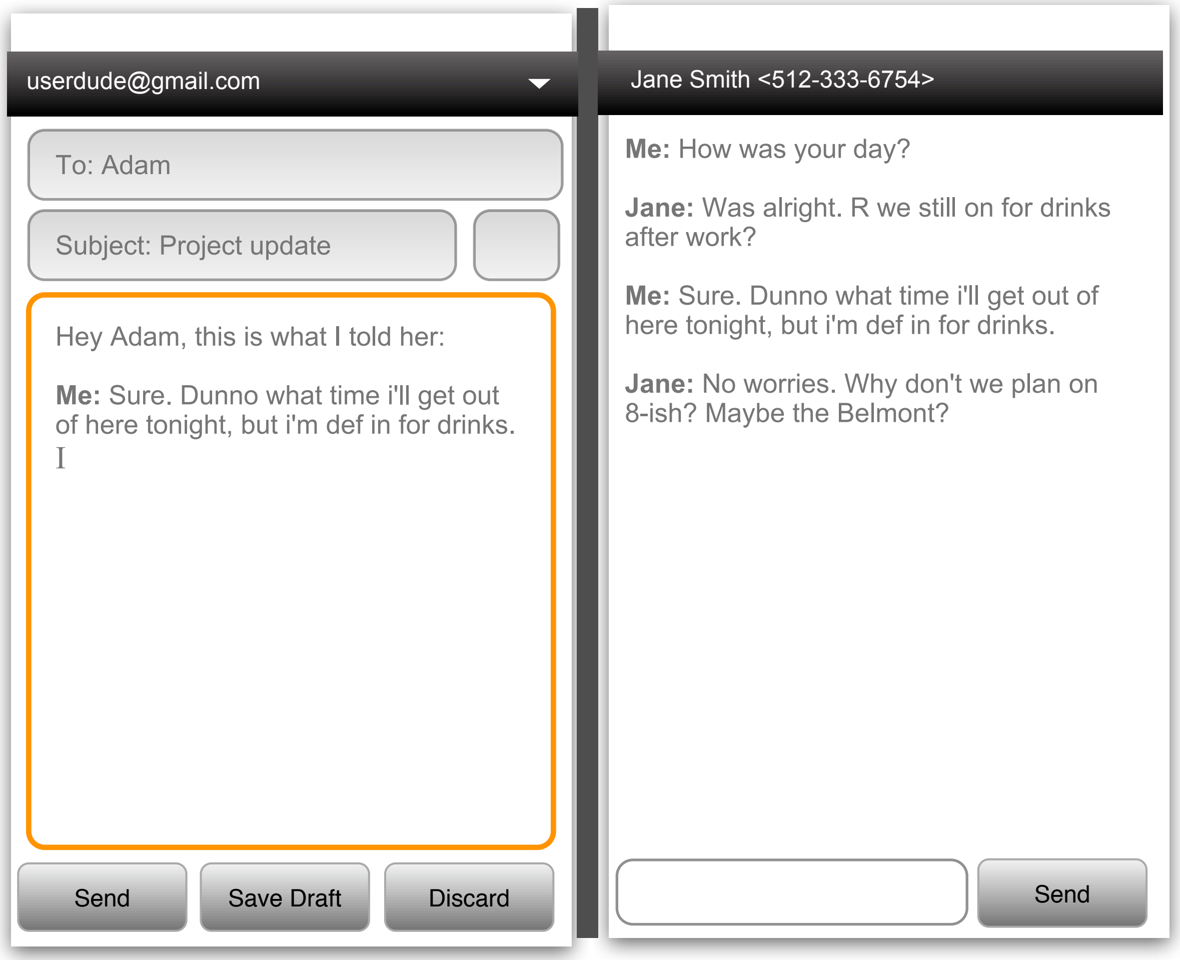
Me: Sure. Dunno what time I'll get out of here tonight, but i'm def in for drinks.

Jane: No worries. Why don't we plan on 8-ish? Maybe the Belmont?

Send

The text message is now in 'drag' mode, and can be dropped into a target. As the user moves the message around, acceptable targets will be highlighted. The user drags the message to the compose field of the email.

3.3.3.2 :: Drag and Drop Text Message



To: Adam

Subject: Project update

Hey Adam, this is what I told her:

Me: Sure. Dunno what time i'll get out of here tonight, but i'm def in for drinks.

Me: How was your day?

Jane: Was alright. R we still on for drinks after work?

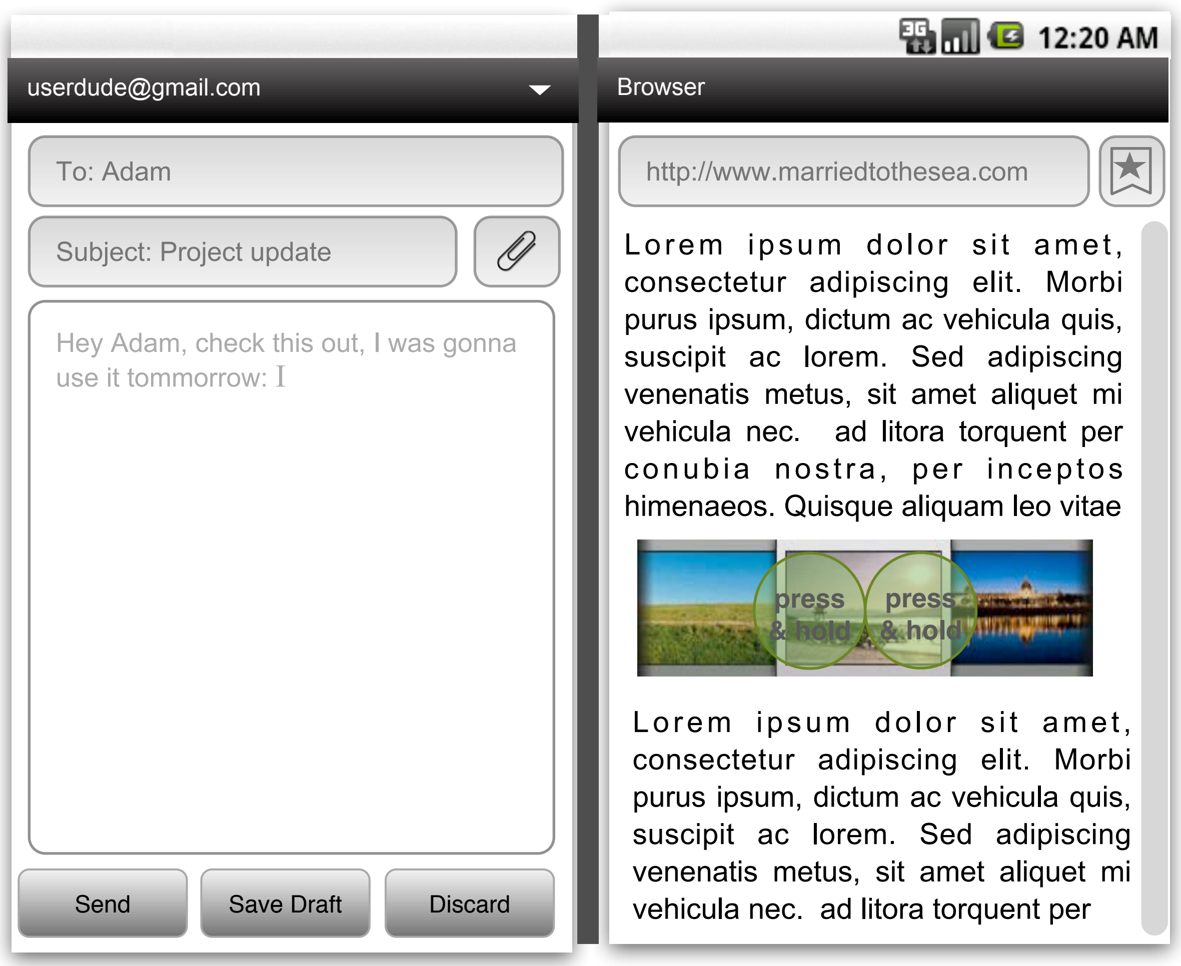
Me: Sure. Dunno what time i'll get out of here tonight, but i'm def in for drinks.

Jane: No worries. Why don't we plan on 8-ish? Maybe the Belmont?

The image has been dropped into the email.

3.3.4 :: Drag and Drop to the Clipboard

3.3.4.1 :: Drag and Drop to the Clipboard


userdude@gmail.com

To: Adam

Subject: Project update

Hey Adam, check this out, I was gonna use it tommorrow: I

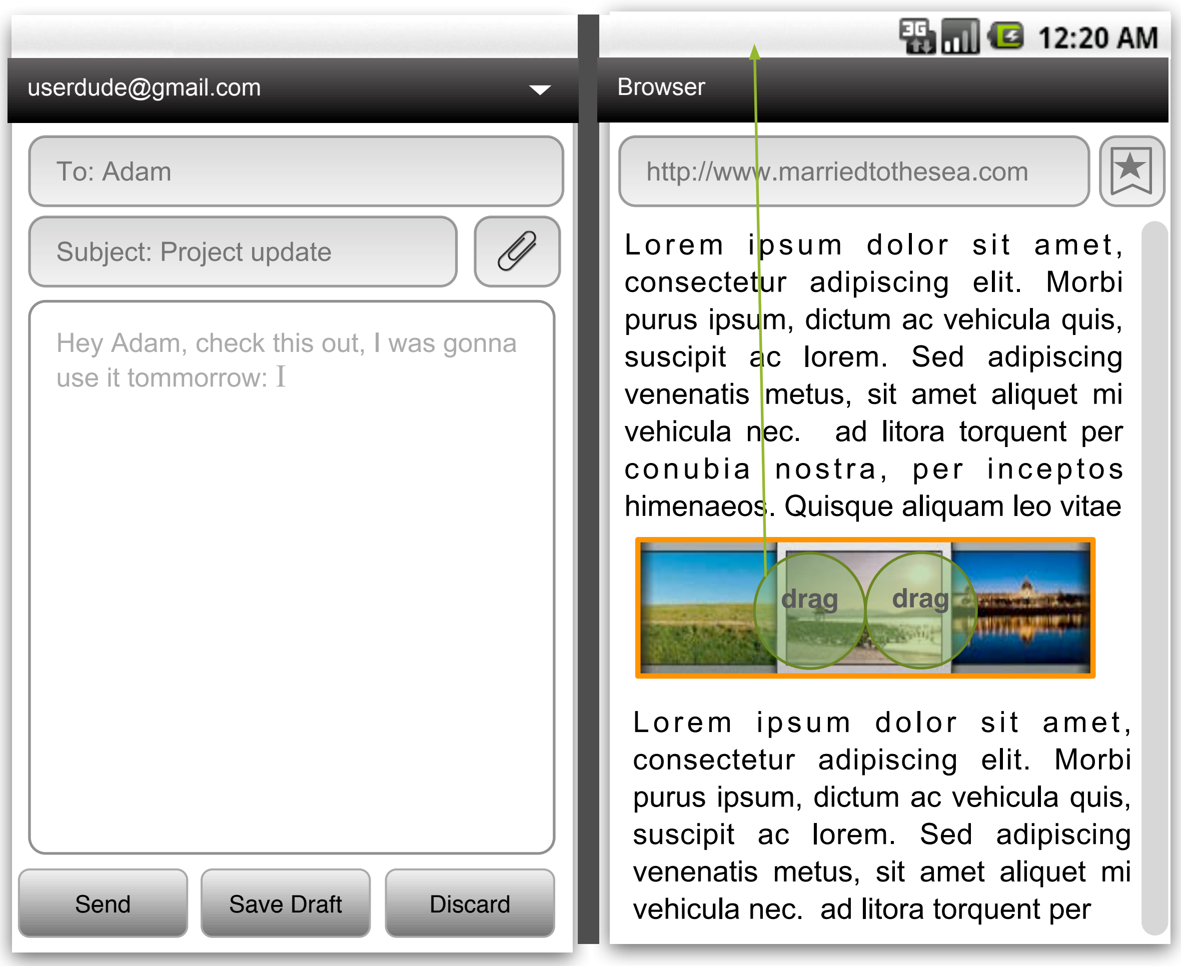
Browser

http://www.marriedtothesea.com

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per conubia nostra, per inceptos himenaeos. Quisque aliquam leo vitae

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per

The user presses and holds on an image with two fingers.


userdude@gmail.com

To: Adam

Subject: Project update

Hey Adam, check this out, I was gonna use it tommorrow: I

Browser

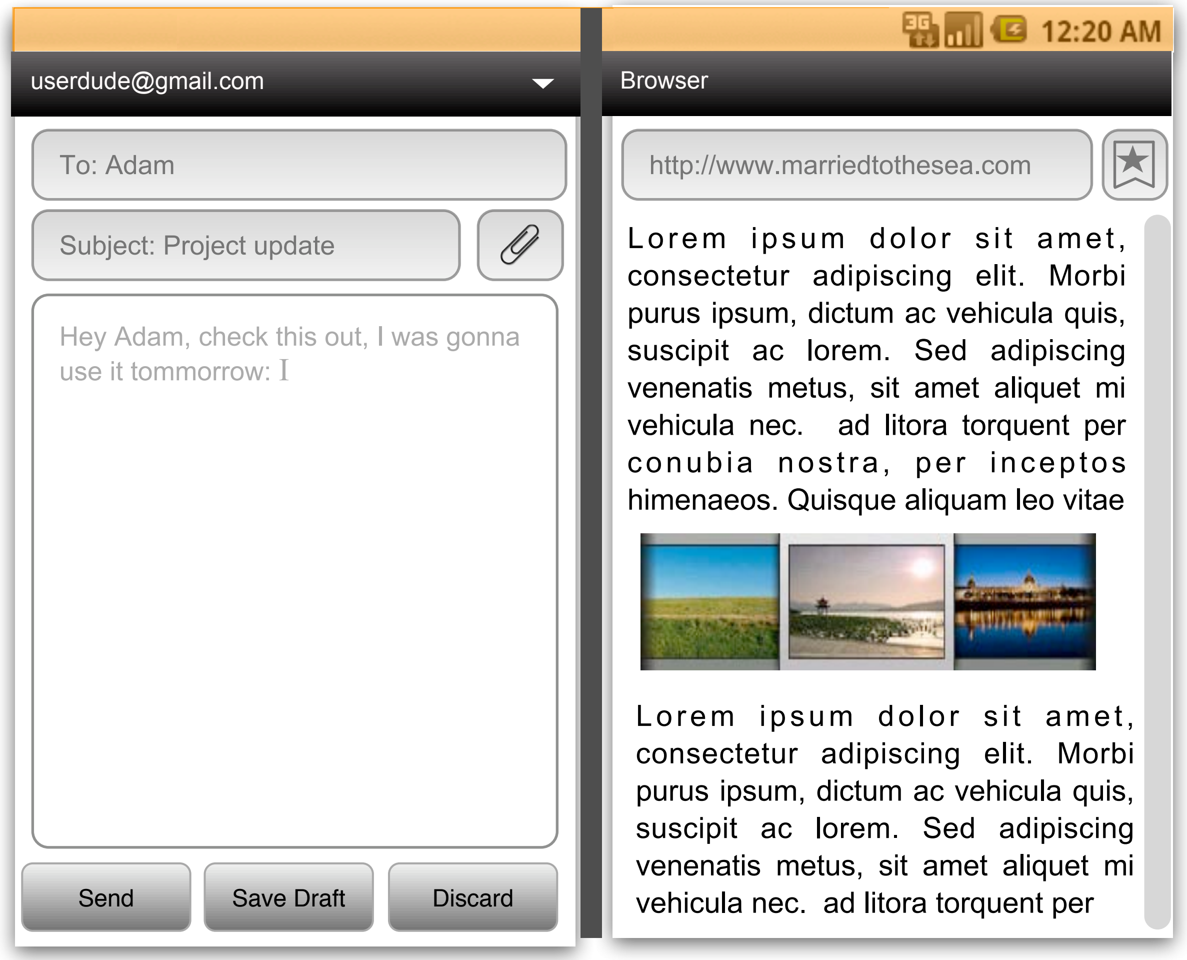
http://www.marriedtothesea.com

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per conubia nostra, per inceptos himenaeos. Quisque aliquam leo vitae

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per

The image is now in 'drag' mode, and can be dropped into a target. As the user moves the message around, acceptable targets will be highlighted. The user drags the image to the annunciator bar.

3.3.4.2 :: Drag and Drop to the Clipboard



To: Adam

Subject: Project update

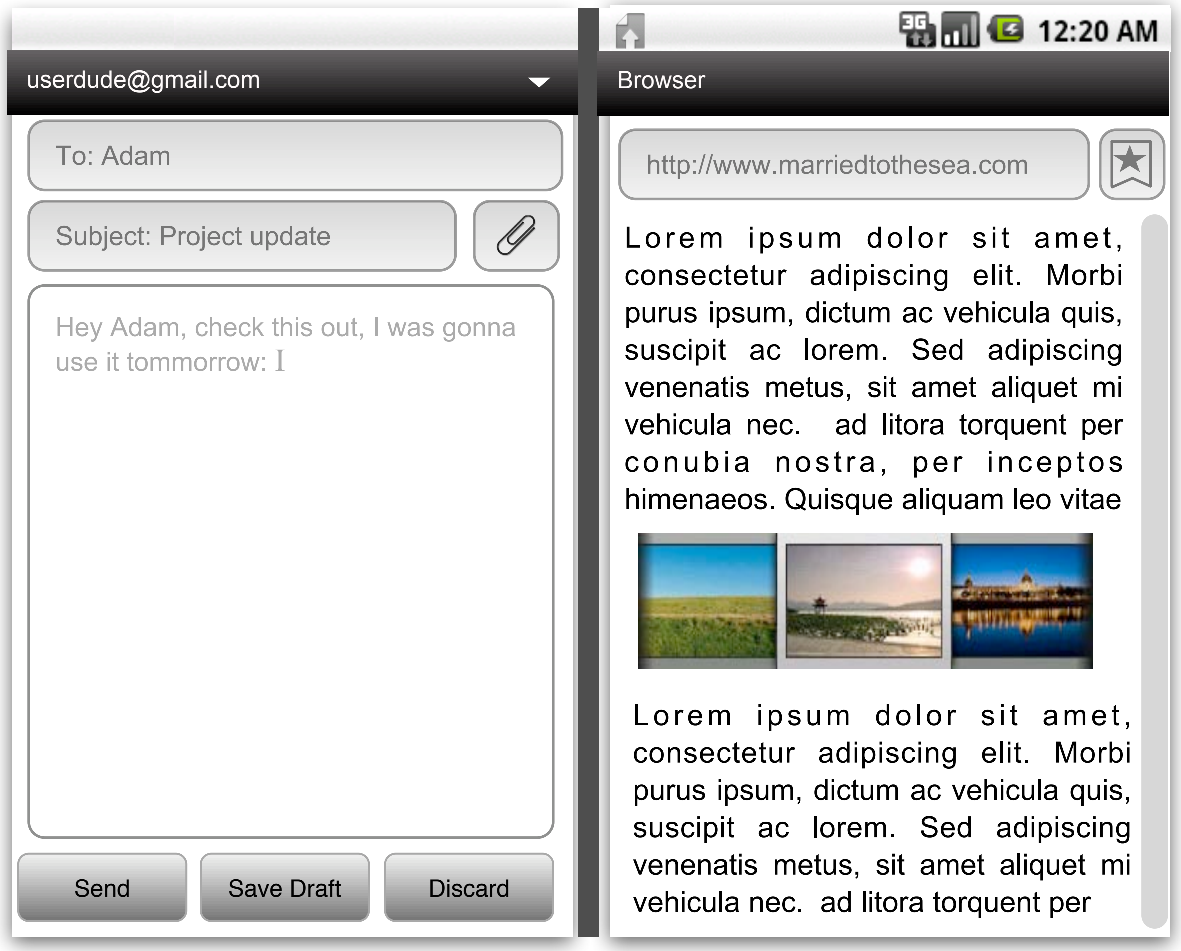
Hey Adam, check this out, I was gonna use it tommorrow: I

http://www.marriedtothesea.com

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per conubia nostra, per inceptos himenaeos. Quisque aliquam leo vitae

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per

The annunciator bar is highlighted as an acceptable drop zone. The user drops the image.



To: Adam

Subject: Project update

Hey Adam, check this out, I was gonna use it tommorrow: I

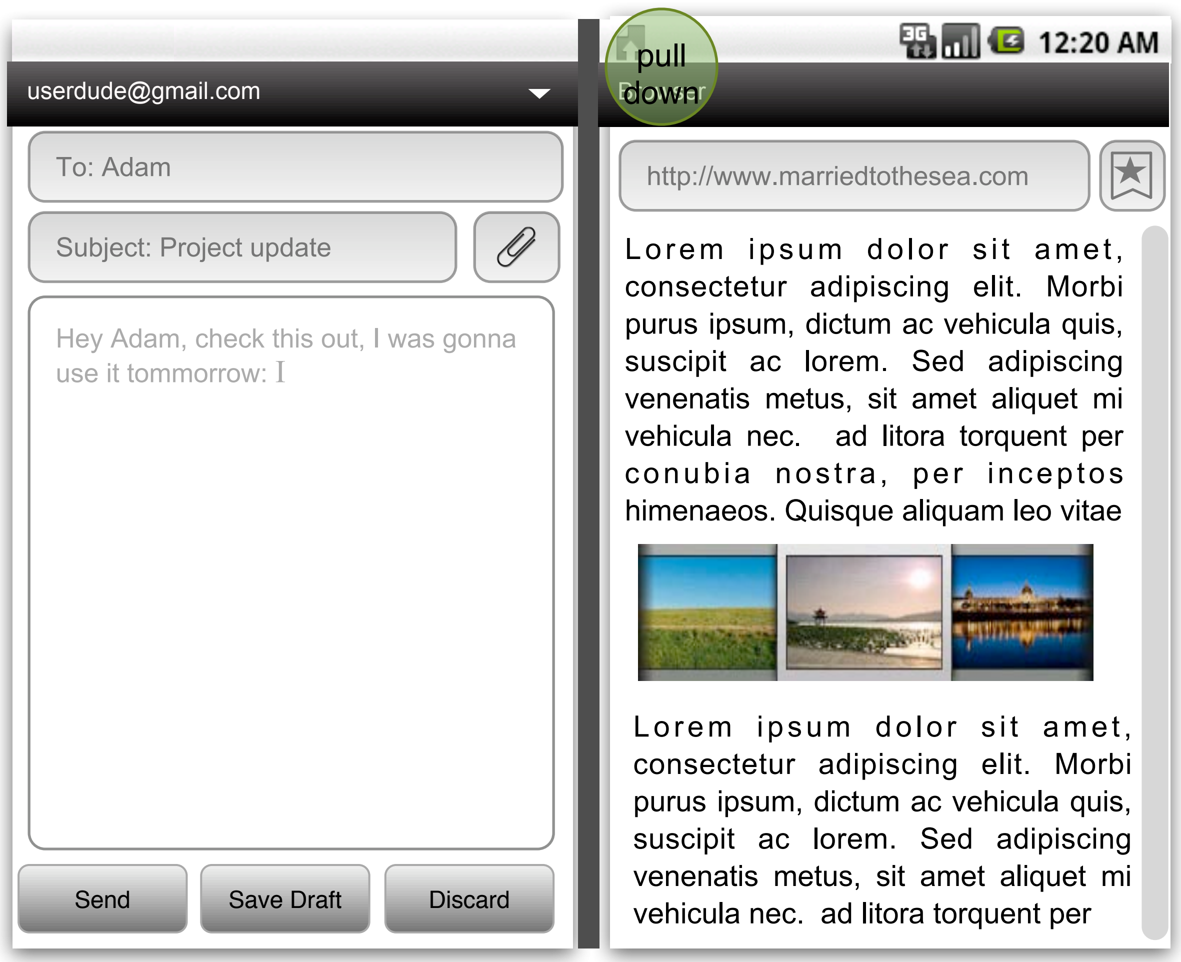
http://www.marriedtothesea.com

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per conubia nostra, per inceptos himenaeos. Quisque aliquam leo vitae

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per

An icon appears in the annunciator bar to indicate items have been copied to the Universal Clipboard.

3.3.4.3 :: Drag and Drop to the Clipboard



userdude@gmail.com

To: Adam

Subject: Project update

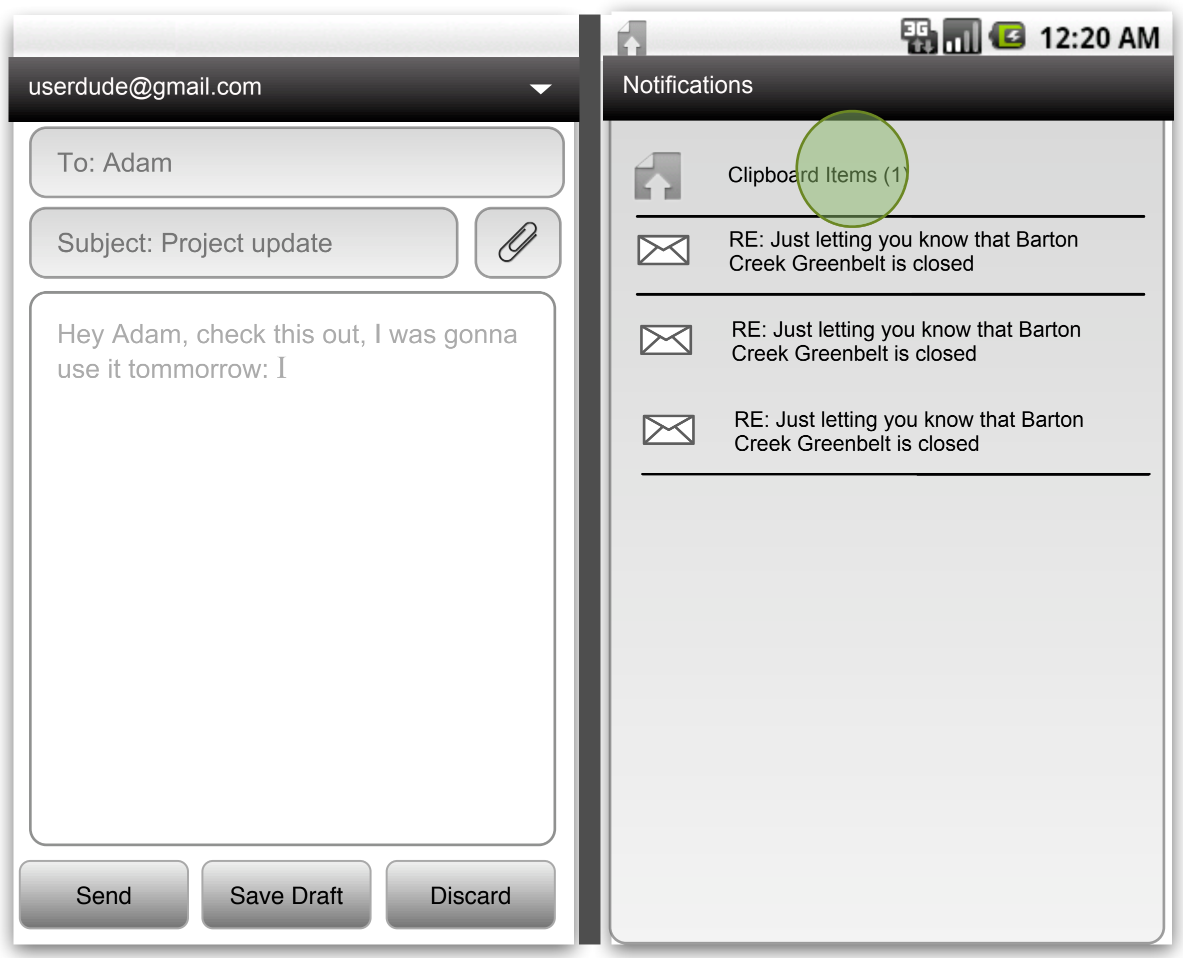
Hey Adam, check this out, I was gonna use it tommorrow: I

http://www.marriedtothesea.com

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per conubia nostra, per inceptos himenaeos. Quisque aliquam leo vitae

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per

The user pulls down the annunciator bar.



userdude@gmail.com

To: Adam

Subject: Project update

Hey Adam, check this out, I was gonna use it tommorrow: I

Clipboard Items (1)

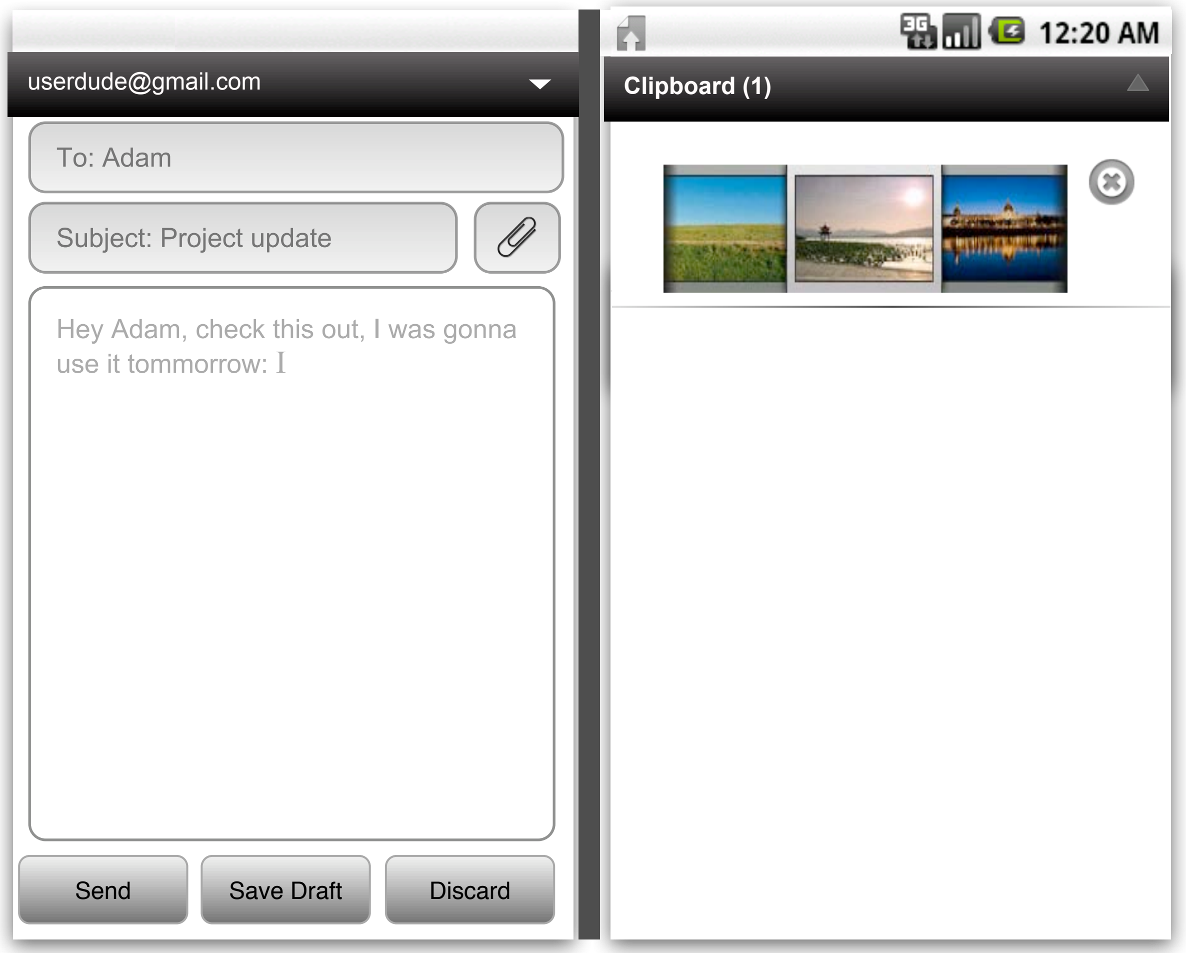
RE: Just letting you know that Barton Creek Greenbelt is closed

RE: Just letting you know that Barton Creek Greenbelt is closed

RE: Just letting you know that Barton Creek Greenbelt is closed

The first item in the annunciator bar is a link to the Universal Clipboard. This link displays the number of items currently in the Clipboard. The user taps the link.

3.3.4.4 :: Drag and Drop to the Clipboard

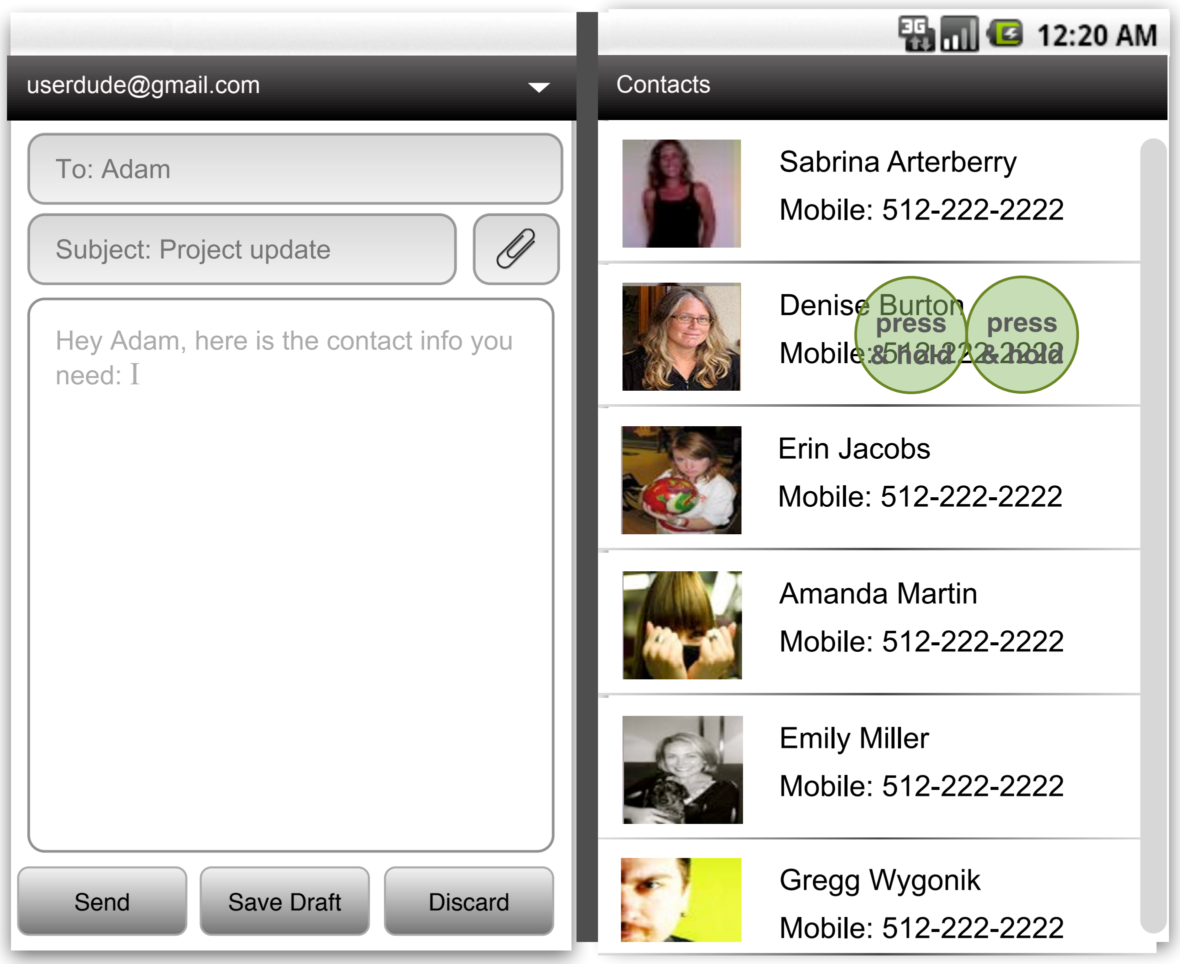


Hey Adam, check this out, I was gonna use it tommorrow:

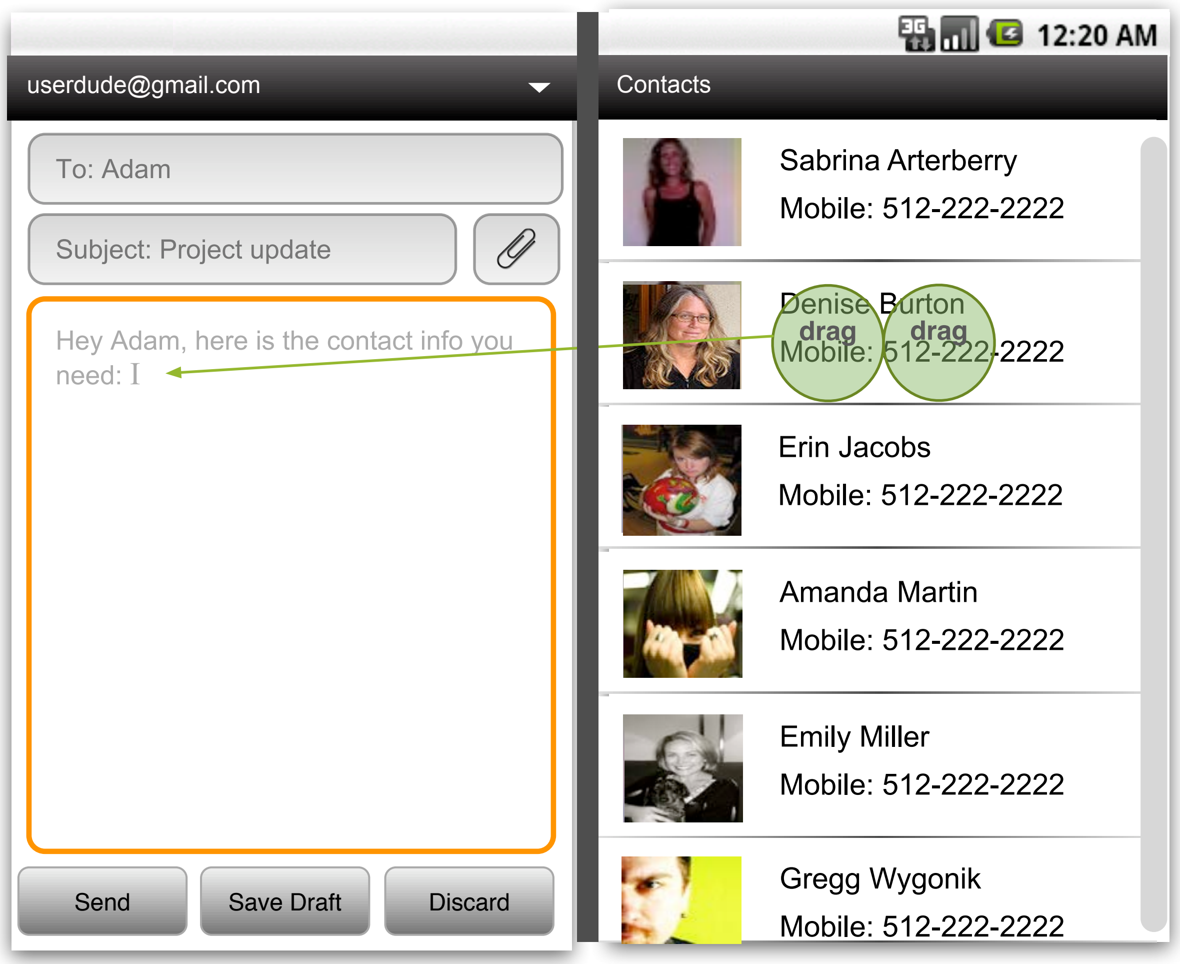
The Universal Clipboard is displayed.

3.3.5 :: Drag and Drop Smart Items

3.3.5.1 :: Drag and Drop Smart Items

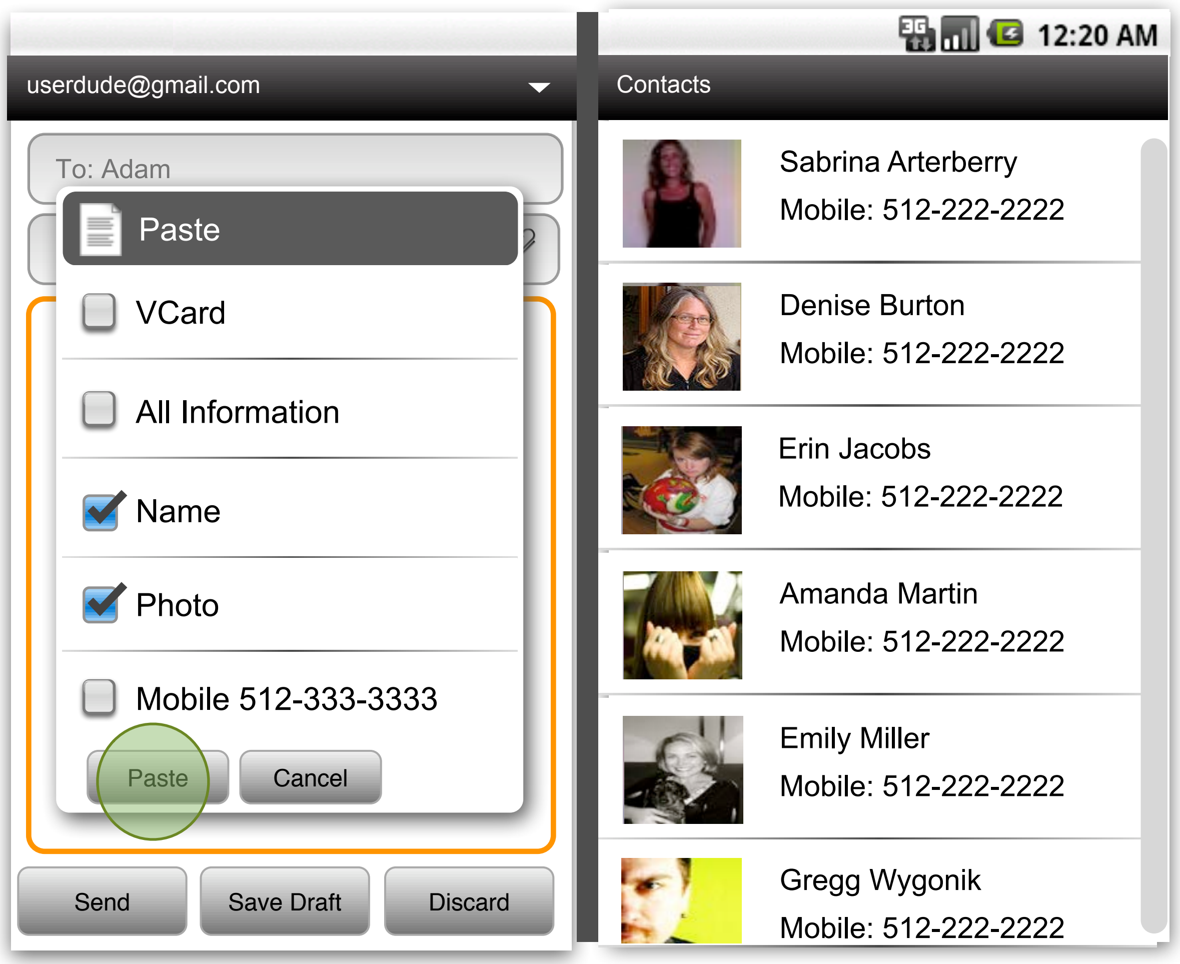


The user presses and holds on a contact with two fingers.



The contact is now in 'drag' mode, and can be dropped into a target. As the user moves the message around, acceptable targets will be highlighted. The user drags the contact to the compose field of the email.

3.3.5.2 :: Drag and Drop Smart Items


userdude@gmail.com

To: Adam

Paste

[ ] VCard

[ ] All Information

[✓ Name]

[✓ Photo]

[ ] Mobile 512-333-3333

Contacts

Sabrina Arterberry Mobile: 512-222-2222

Denise Burton Mobile: 512-222-2222

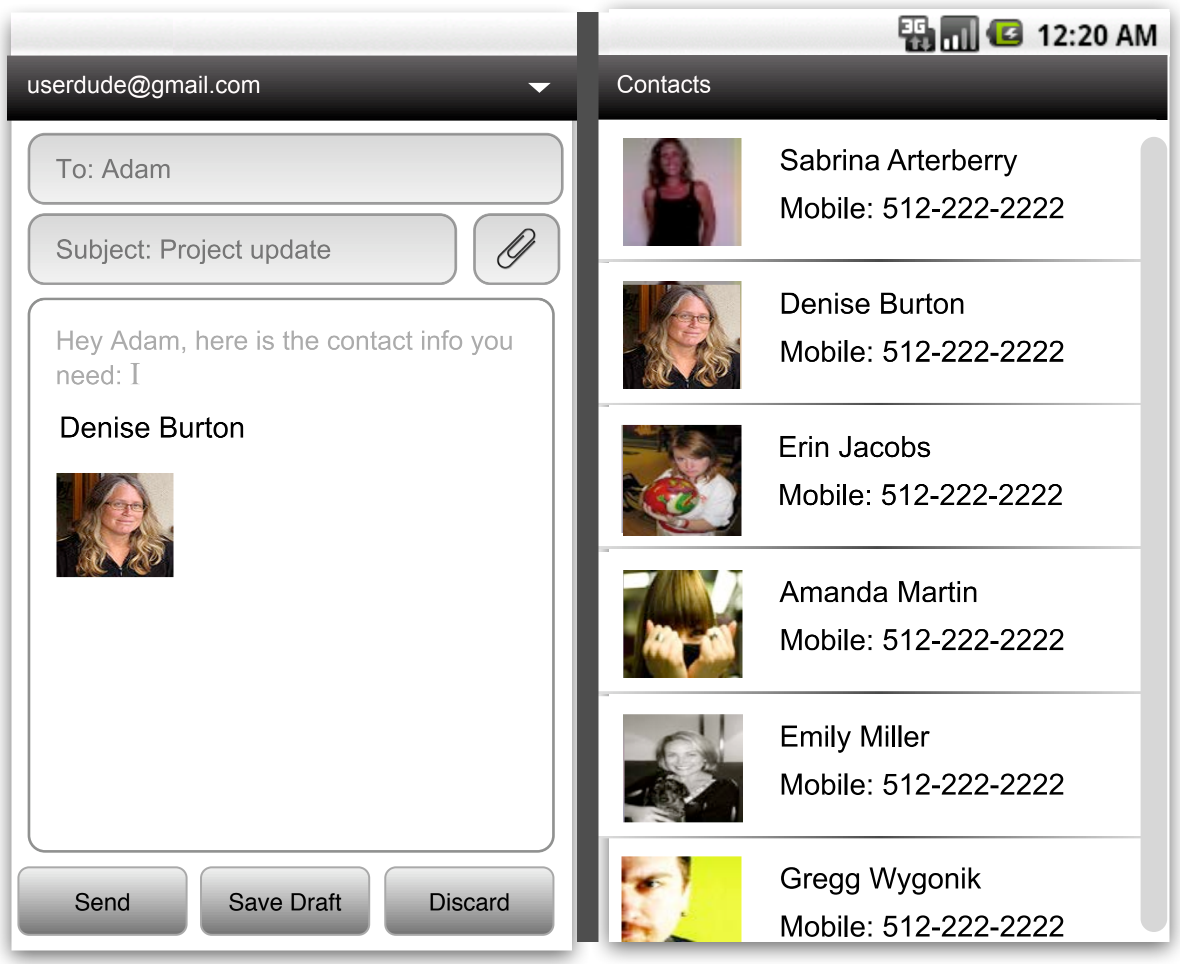
Erin Jacobs Mobile: 512-222-2222

Amanda Martin Mobile: 512-222-2222

Emily Miller Mobile: 512-222-2222

Gregg Wygonik Mobile: 512-222-2222

Because the user is dragging and dropping a smart object, once the item is dropped to the target, the user will have additional options for pasting. The contact can be pasted as a VCard, all contact information can be pasted into the field, or the user can select just a subset of information to paste. In this case, the user has selected only name and photo. If the user had selected 'all information', all of the field level information selections below it would be disabled. Tapping 'paste' pastes the selections, while tapping 'cancel' cancels the paste.


userdude@gmail.com

To: Adam

Subject: Project update

Hey Adam, here is the contact info you need:

Denise Burton

Contacts

Sabrina Arterberry Mobile: 512-222-2222

Denise Burton Mobile: 512-222-2222

Erin Jacobs Mobile: 512-222-2222

Amanda Martin Mobile: 512-222-2222

Emily Miller Mobile: 512-222-2222

Gregg Wygonik Mobile: 512-222-2222

The name and image have been pasted into the compose field of the email.

3.4 :: Universal Clipboard

3.4.1 :: Universal Clipboard Rules

How is the Universal Clipboard invoked?

The Universal Clipboard can be invoked via pasting an item. The user presses and holds in a field, document, etc., which displays a menu with an option to paste from the Clipboard. The Clipboard is displayed, and the user can then drag items into the target into specific positions, or can tap a Clipboard item to insert it at the current cursor position.

The Clipboard can also be accessed in the Main Menu. Opening the Clipboard from the Menu displays the Clipboard on the screen from which it was invoked. The user can then grab items from the clipboard to insert into fields, documents, etc. Users can also manage items in the Clipboard when accessed in this manner.

The last way the Clipboard can be invoked is via the shortcut on the annunciator bar. There is a persistent 'clipboard' item in the annunciator which displays the number of items in the Clipboard. Users can tap this item to display the Clipboard.

What is displayed on the Clipboard, and for how long?

Anything that has been copied from a field, document, etc, as well as anything that has been dragged and dropped into the annunciator is displayed on the Clipboard.

Hierarchy of what is displayed on the Clipboard:

There is a hierarchy of items displayed on the Clipboard. The last item copied is always displayed in first position on the Clipboard. Next, are any items that have been 'pinned' to the Clipboard by the user. Next, every item that has been copied to the Clipboard is displayed in chronological order, from most recent to least recent. There should be a time period after which items 'expire' and then drop off the Clipboard. The Clipboard is not intended to permanently hold items.

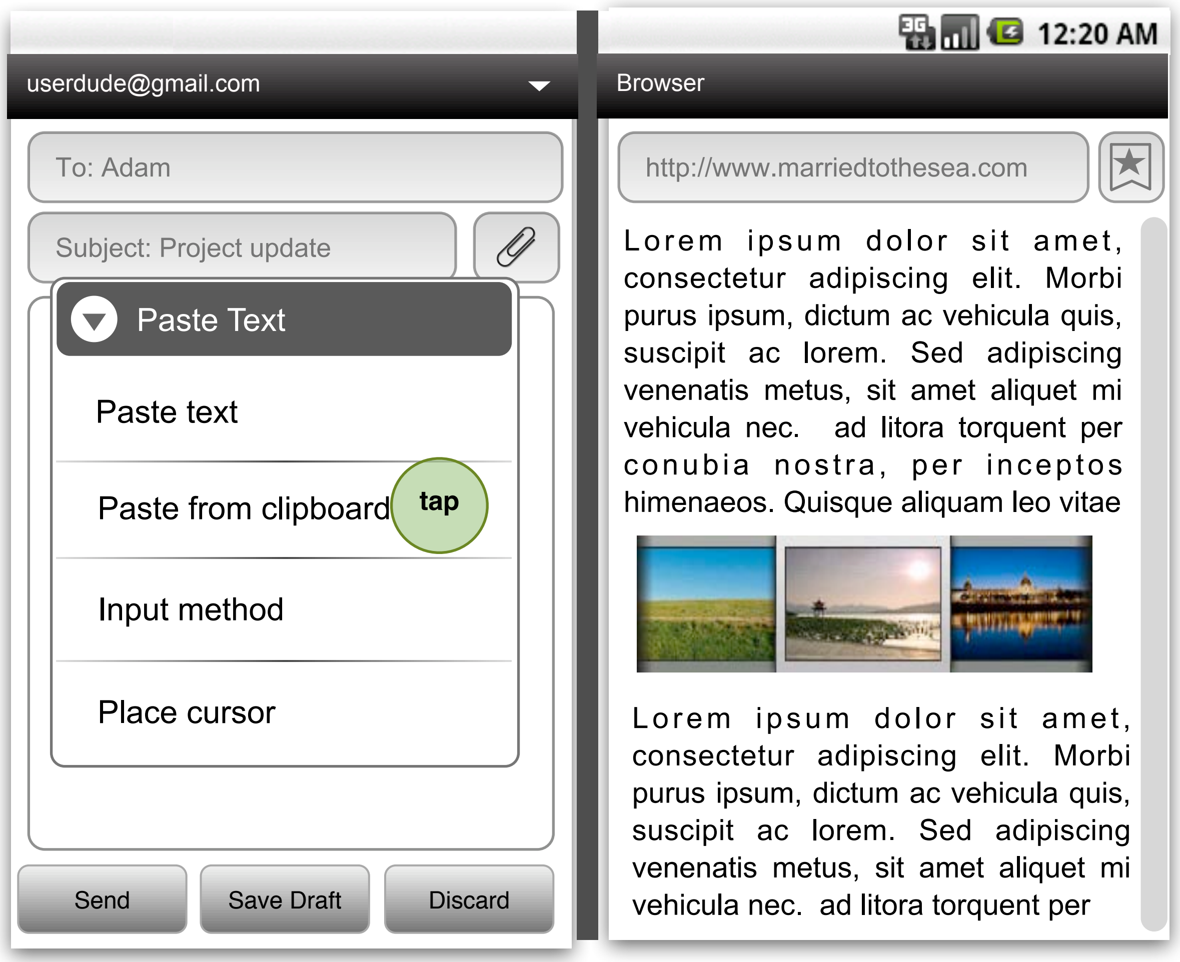
Managing the Clipboard

Users may remove any item from the clipboard. In 'manage' mode, users may multi-select to delete many items at once.
In 'manage' mode, users may 'pin' items to the Clipboard. Pinning items permanently holds those items on the clipboard until the user removes them. These items are not subject to expiration rules. Users may also multi-select to pin many items at once.

In 'manage' mode, users may select items to 'save as...', which provides differing functionality depending upon the items selected. For example, if a user had selected text and image items from the Clipboard, they could choose to save those items to a Word doc or a pdf, which would create a document containing the selected items. Users could also choose to create a new email or text message into which the selected items are automatically placed. Lastly, users could choose to place a group of items into a folder, which would appear in the Universal File Manger.

3.4.2 :: Invoking the Universal Clipboard

3.4.2.1 :: Invoking the Universal Clipboard



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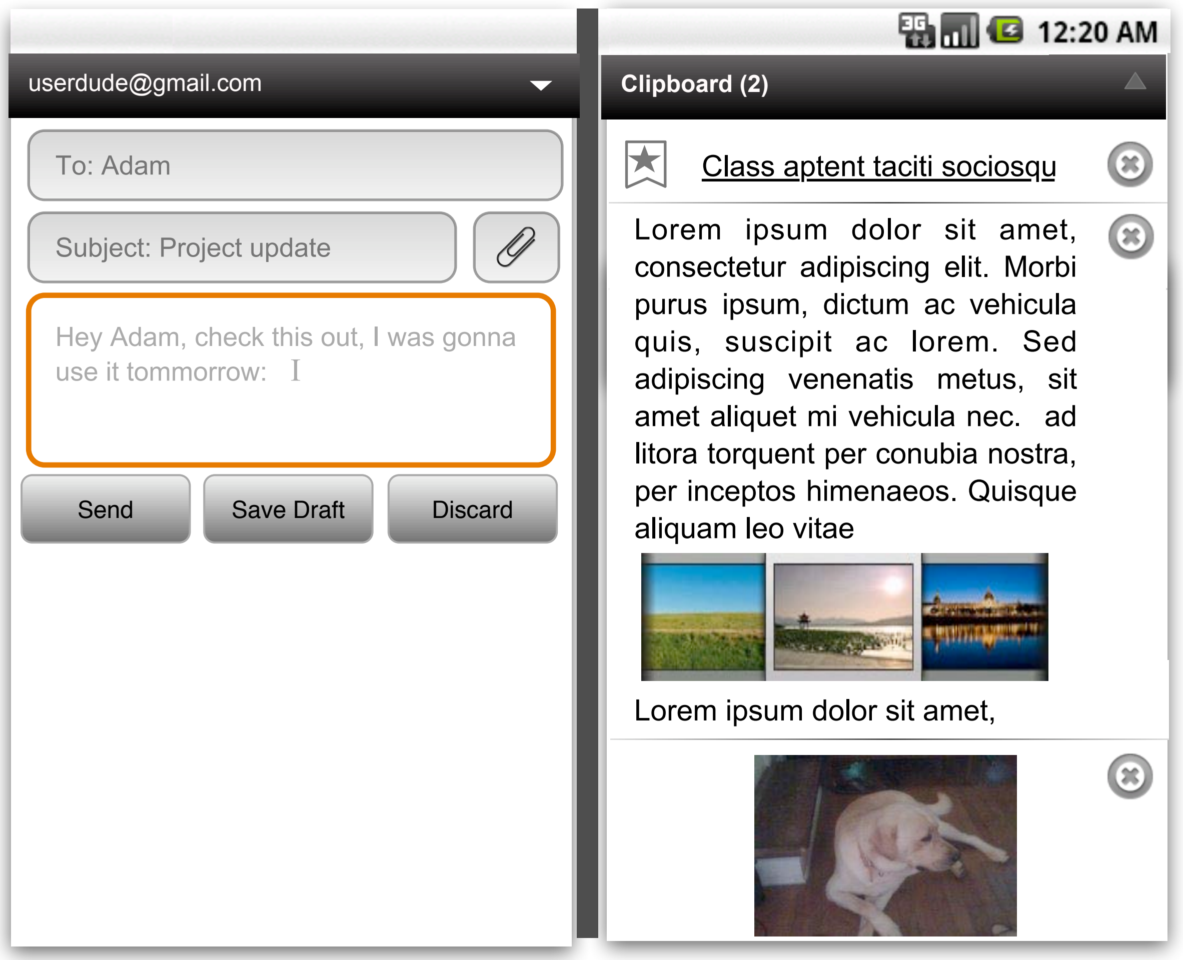


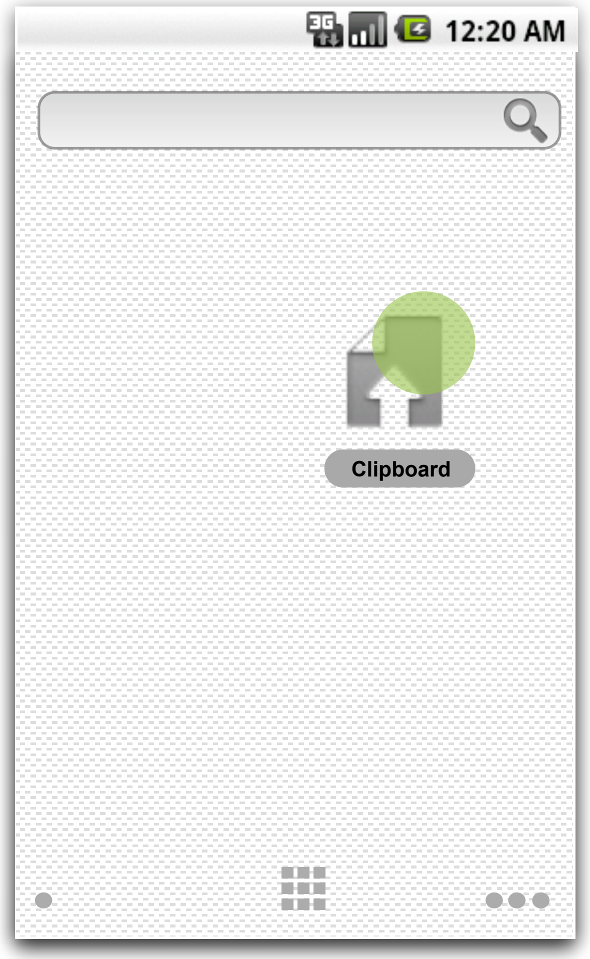
Hey Adam, check this out, I was gonna use it tommorrow:

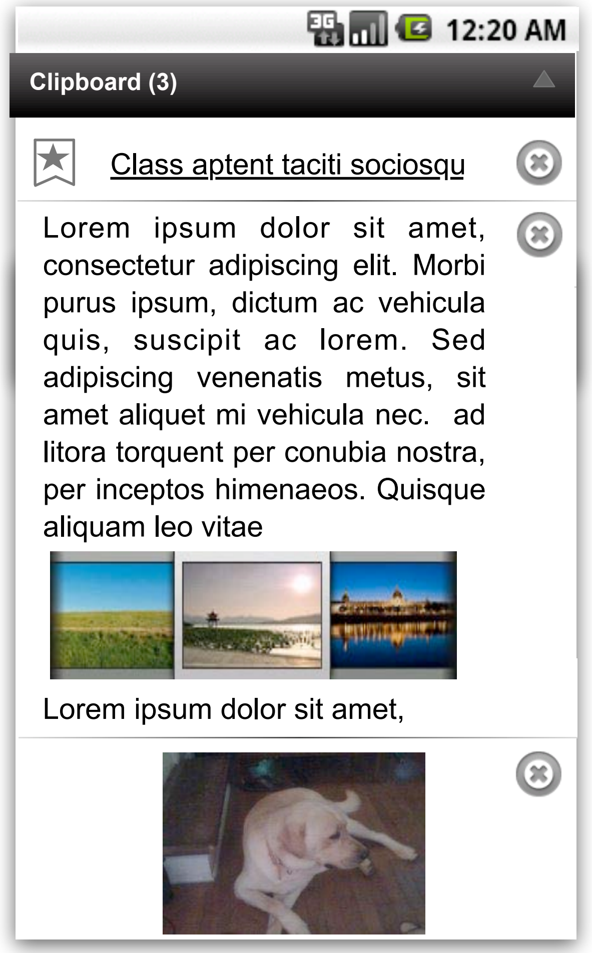
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per conubia nostra, per inceptos himenaeos. Quisque aliquam leo vitae

Lorem ipsum dolor sit amet,

When pasting an item, selecting the option to 'Paste from clipboard' will display the Universal Clipboard.

3.4.2.2 :: Invoking the Universal Clipboard





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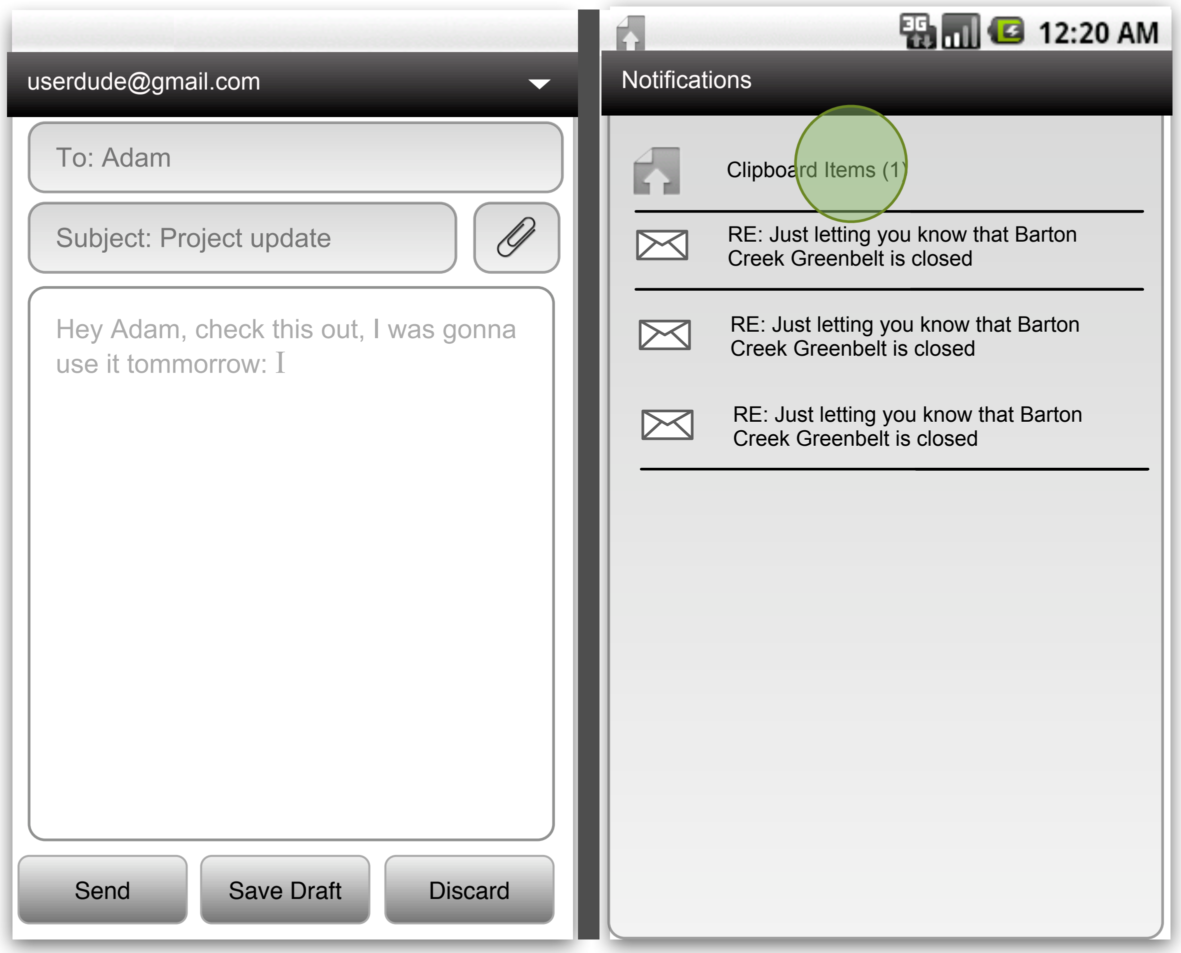
Lorem ipsum dolor sit amet,

The Universal Clipboard can be accessed from the Menu or Phonetop.

3.4.2.3 :: Invoking the Universal Clipboard

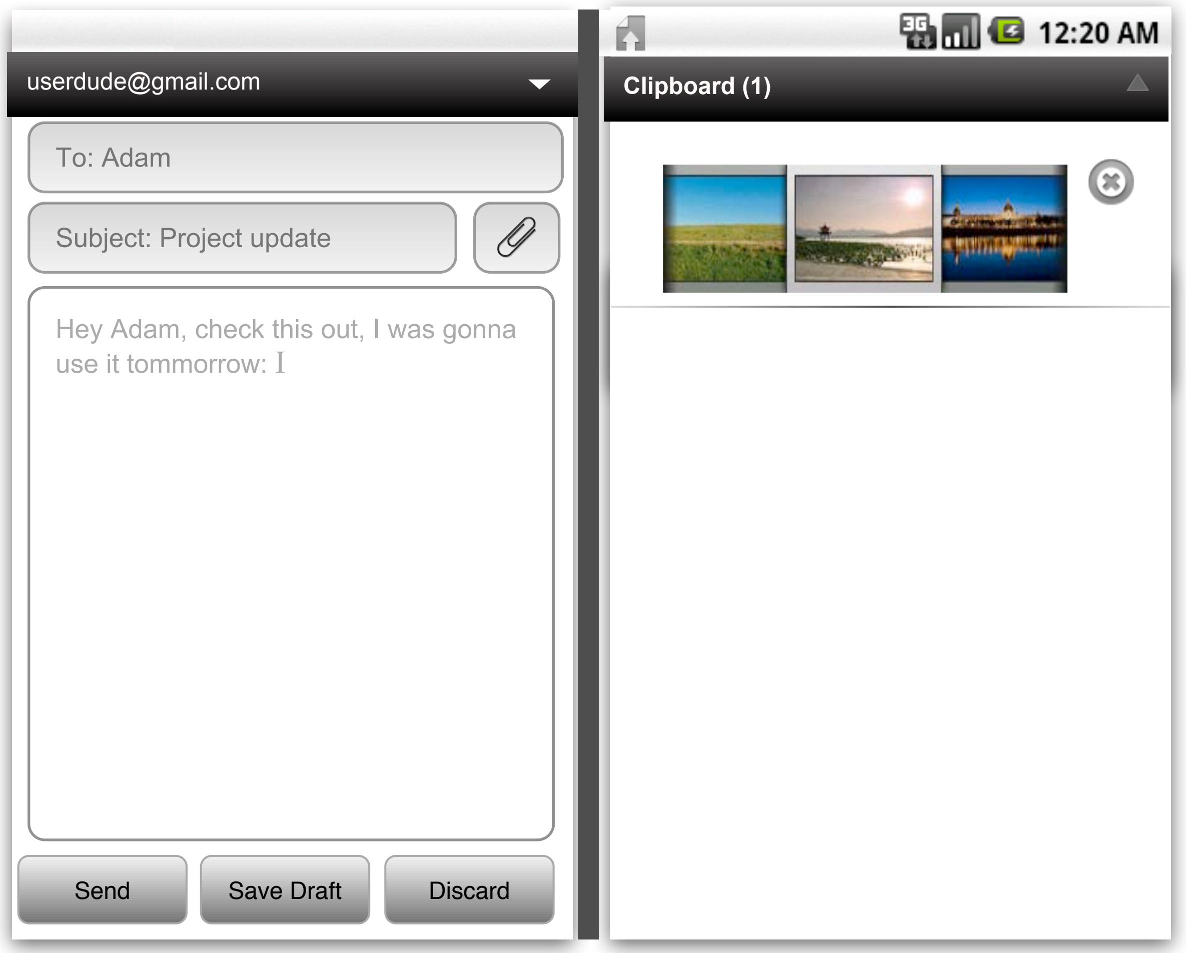


Hey Adam, check this out, I was gonna use it tommorrow:

RE: Just letting you know that Barton Creek Greenbelt is closed

RE: Just letting you know that Barton Creek Greenbelt is closed

RE: Just letting you know that Barton Creek Greenbelt is closed

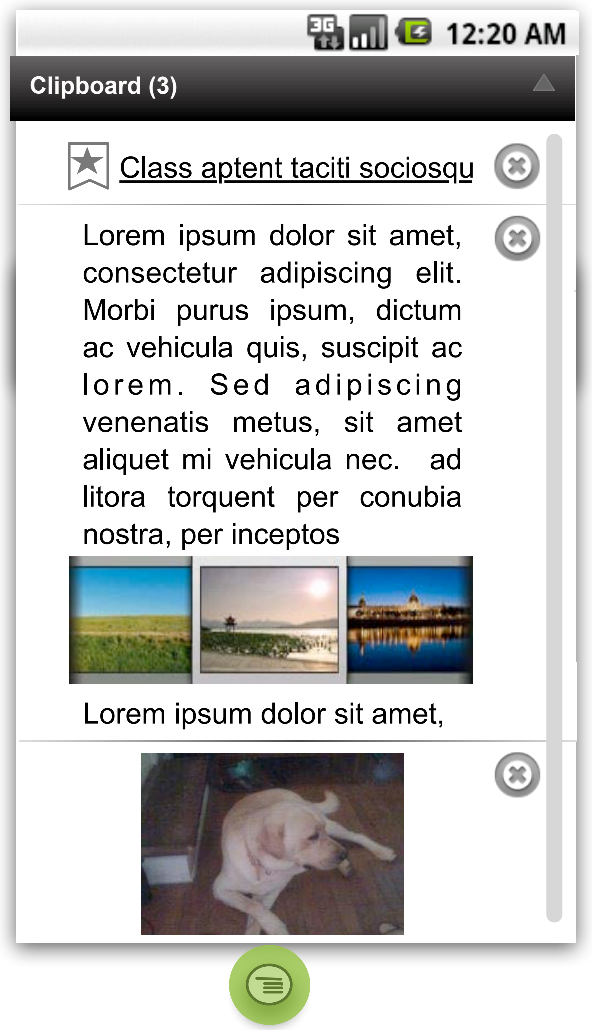


Hey Adam, check this out, I was gonna use it tommorrow:

The Universal Clipboard can be accessed via selecting 'Clipboard Items' from the Notifications menu in the annunciator bar. The Clipboard can also be displayed in single screen mode. The interaction is the same as in dual screen.

3.4.3 :: Managing the Universal Clipboard

3.4.3.1 :: Managing the Universal Clipboard


12:20 AM
Clipboard (3)
Class aptent taciti sociosqu
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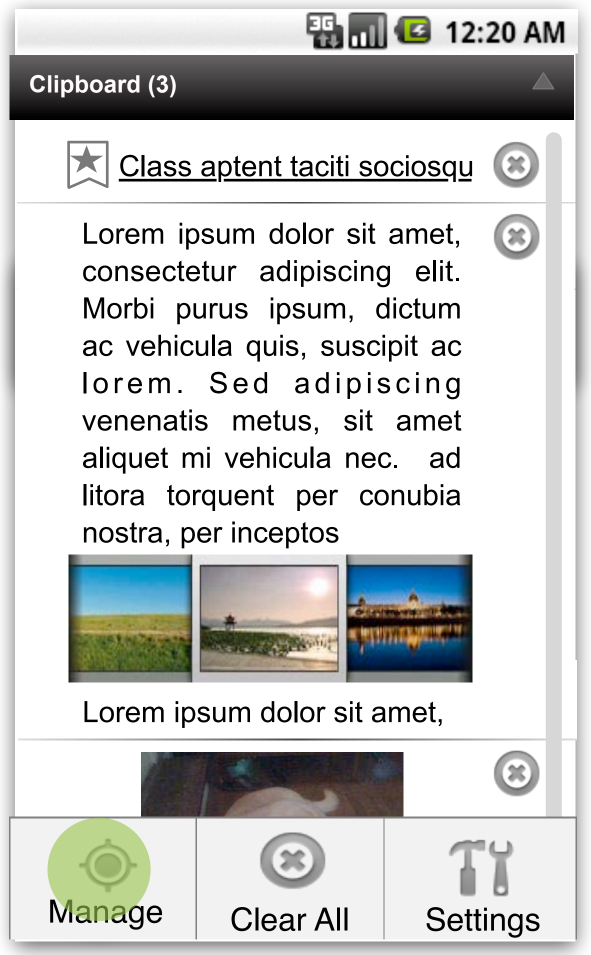
The user presses the menu key.


12:20 AM
Clipboard (3)
Class aptent taciti sociosqu
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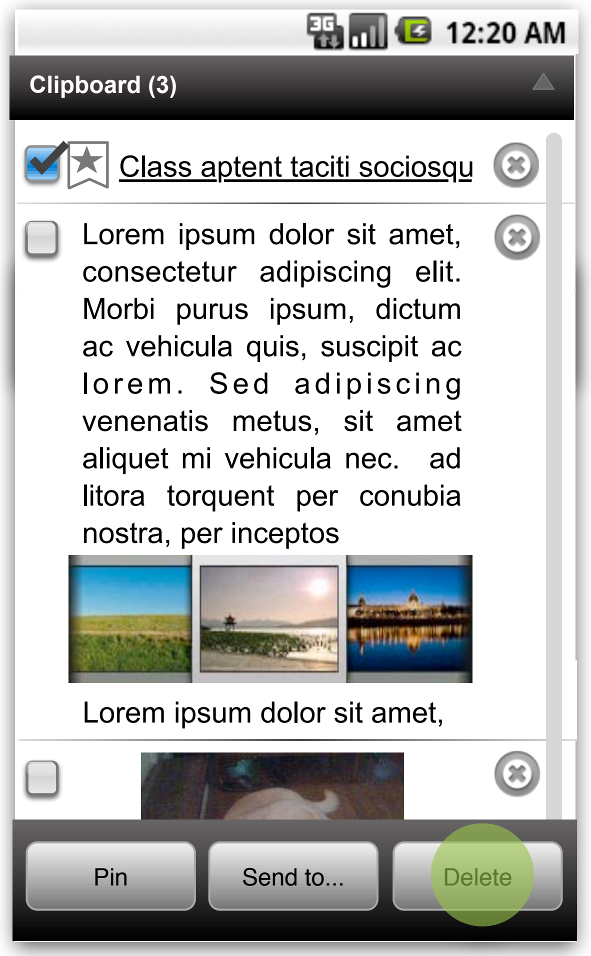
Lorem ipsum dolor sit amet,
Manage
Clear All
Settings

A menu is displayed with 'Manage' option. User taps 'Manage'.
The 'Clear All' option in this menu removes any item from the Clipboard that is not pinned. The 'Settings' option allows users to adjust settings for things like max number of items in Clipboard, etc.


12:20 AM
Clipboard (3)
Class aptent taciti sociosqu
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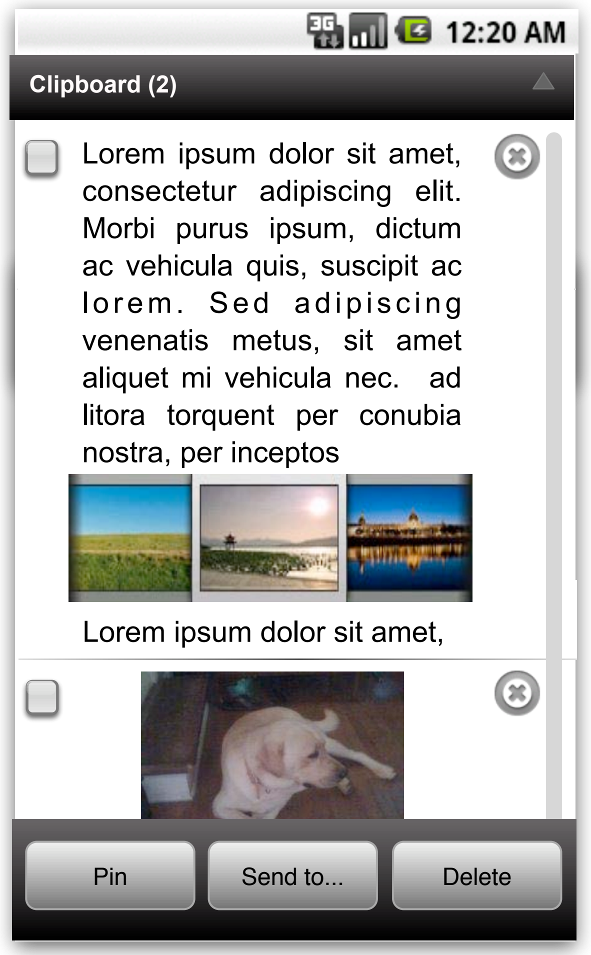
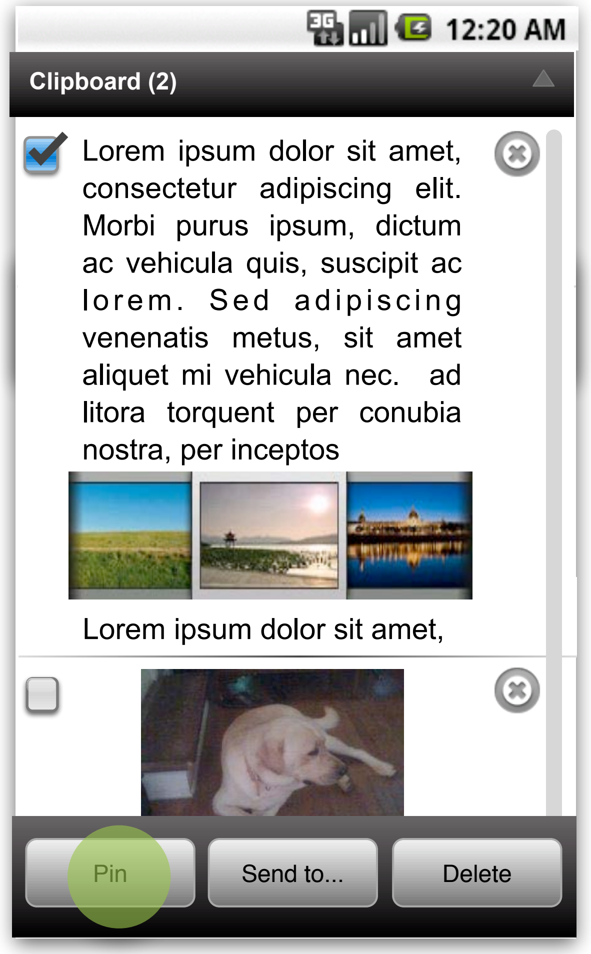
Lorem ipsum dolor sit amet,
Pin
Send to...
Delete

The Clipboard is now in manage mode. Users can pin, save as..., and multi select delete items. User selects the first link and then taps 'Delete'.


12:20 AM
Clipboard (2)
Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per conubia nostra, per inceptos
Lorem ipsum dolor sit amet,
Pin
Send to...
Delete

The link has been removed from the Clipboard.

3.4.3.2 :: Managing the Universal Clipboard



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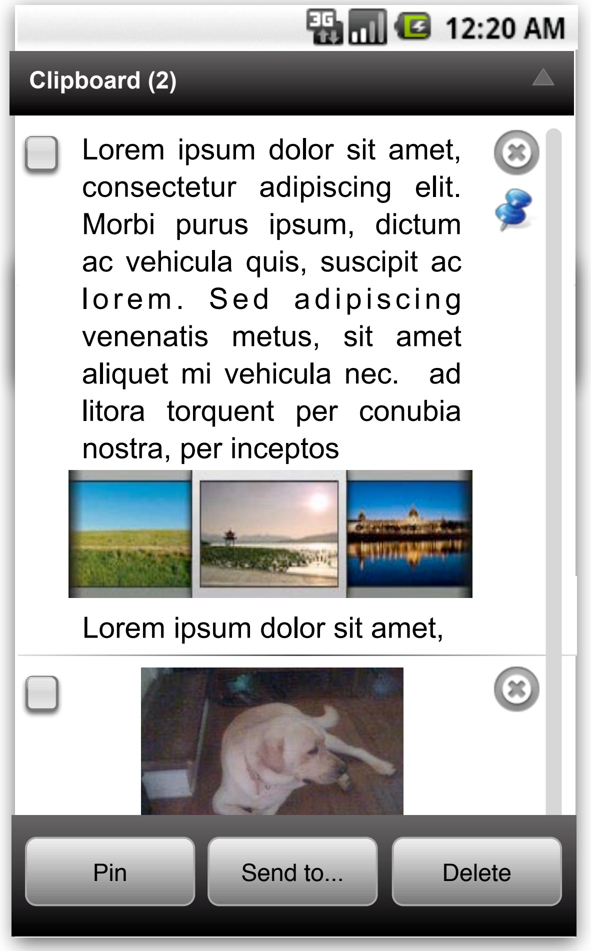
The user selects another item and then taps 'Pin'.



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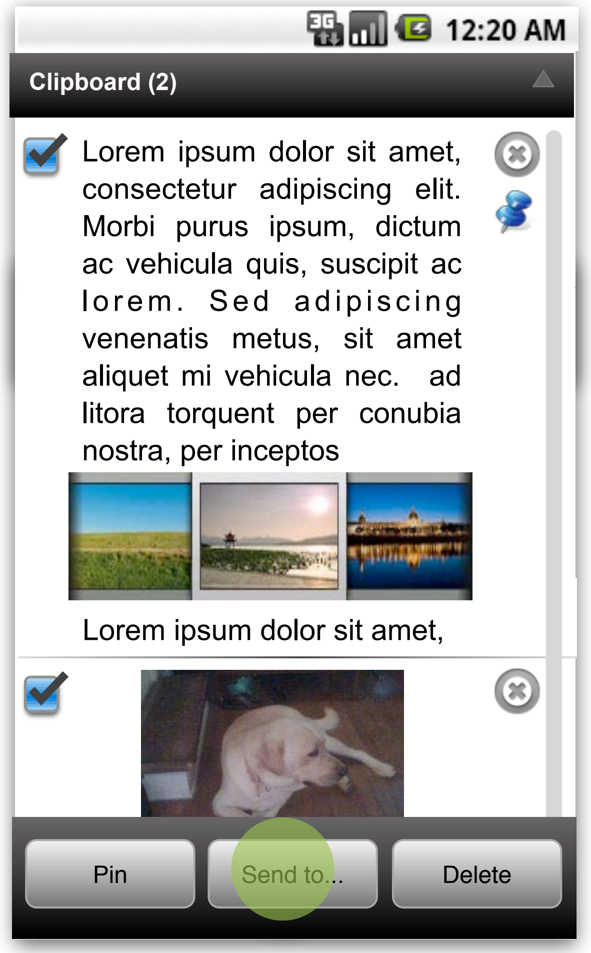
Lorem ipsum dolor sit amet,

The pinned item is displayed with a visual indication that it has been pinned to the clipboard. This item will not be deleted because it has expired, and will appear at the top of the clipboard.



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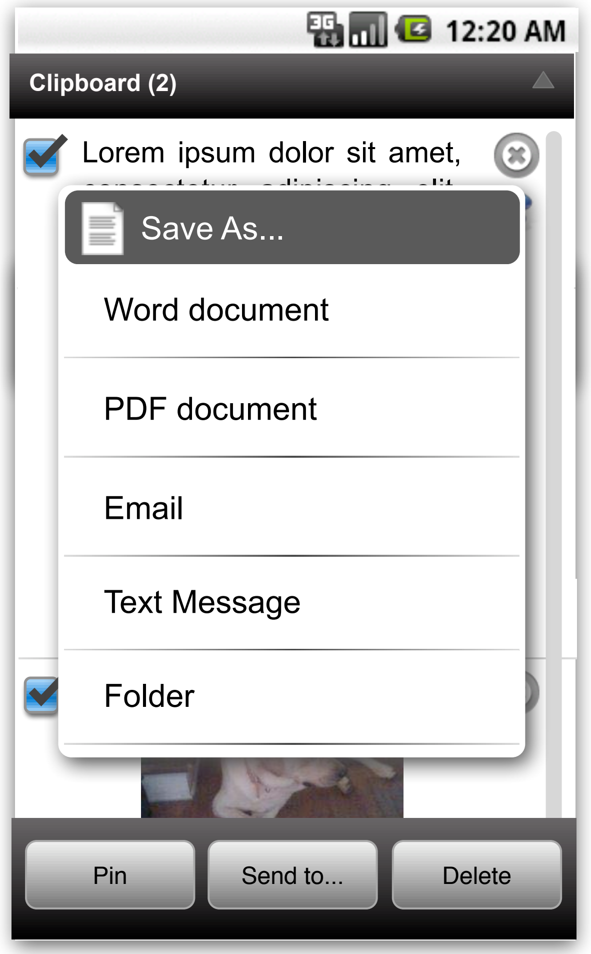
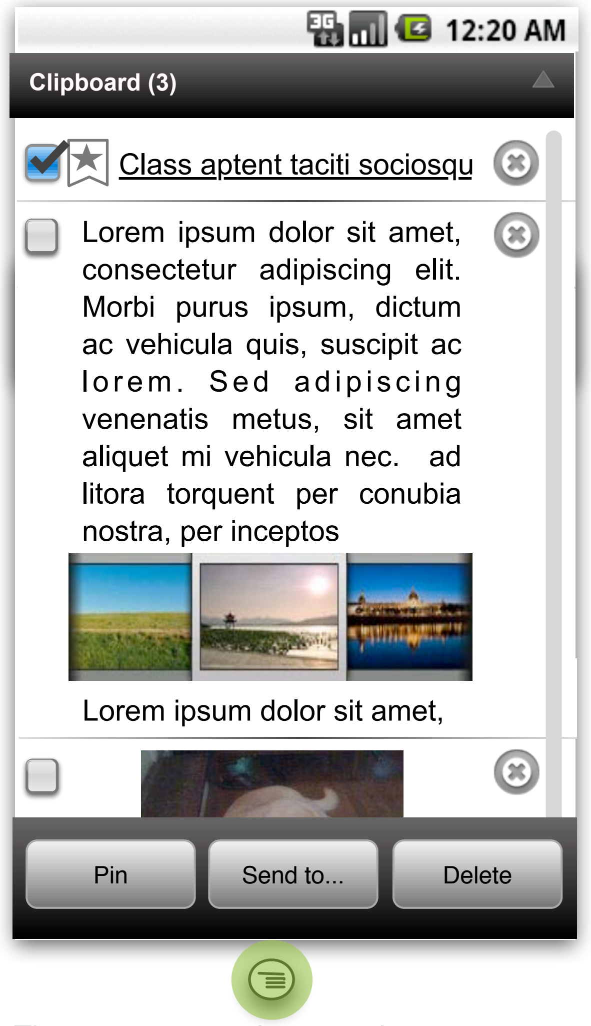
The user selects two items and taps 'Save As...'



Lorem ipsum dolor sit amet,

A menu is displayed which provides differing functionality depending upon the items selected. In this example, they could choose to save those items to a Word doc or a pdf, which would create a document containing the selected items. Users could also choose to create a new email or text message into which the selected items are automatically placed. Lastly, users could choose to place a group of items into a folder, which would appear in the Universal File Manger.

3.4.4 :: Additional Actions



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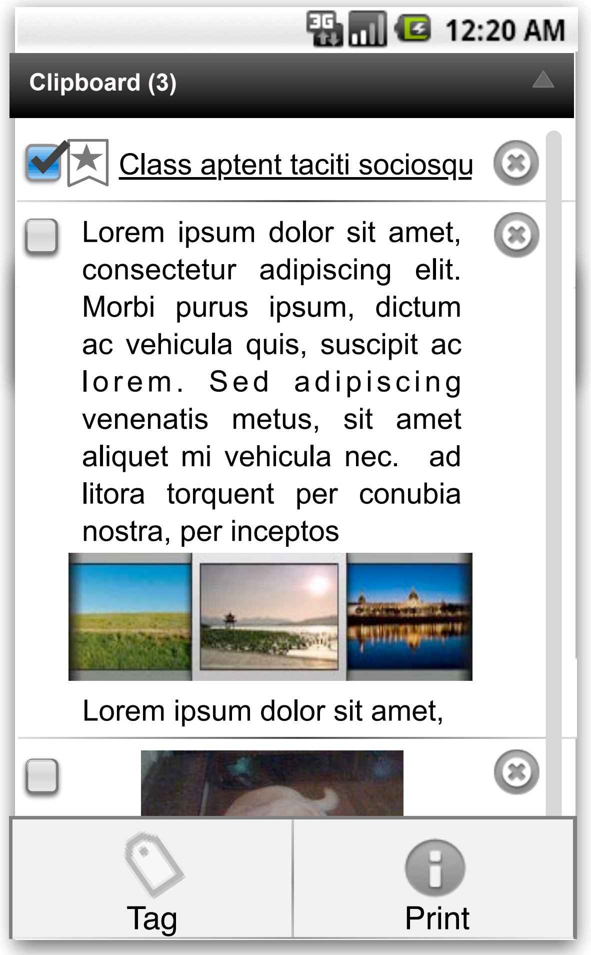
Lorem ipsum dolor sit amet,

The user presses the menu key.

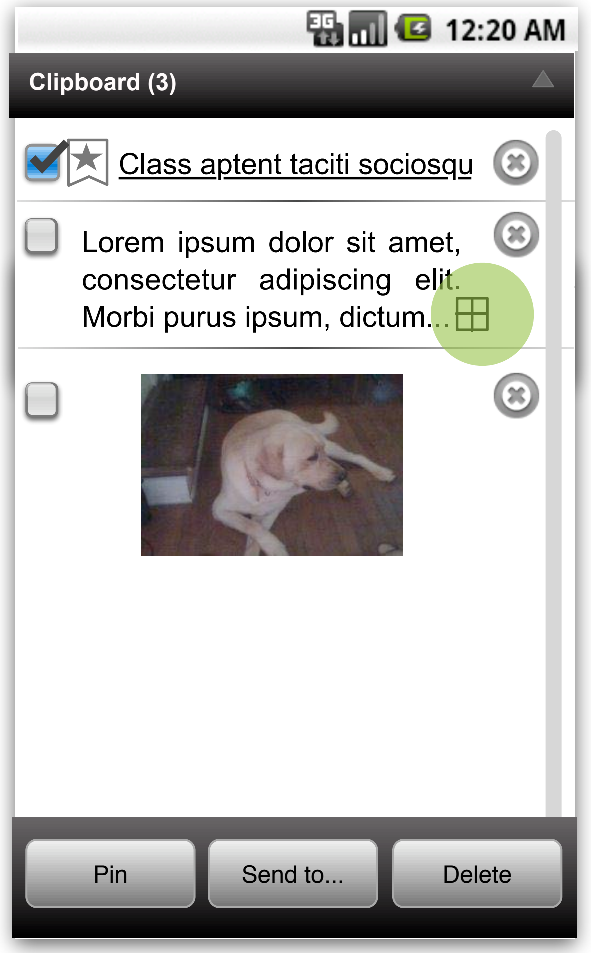


Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum ac vehicula quis, suscipit ac lorem. Sed adipiscing venenatis metus, sit amet aliquet mi vehicula nec. ad litora torquent per conubia nostra, per inceptos

Lorem ipsum dolor sit amet,

Additional actions are displayed in the menu.

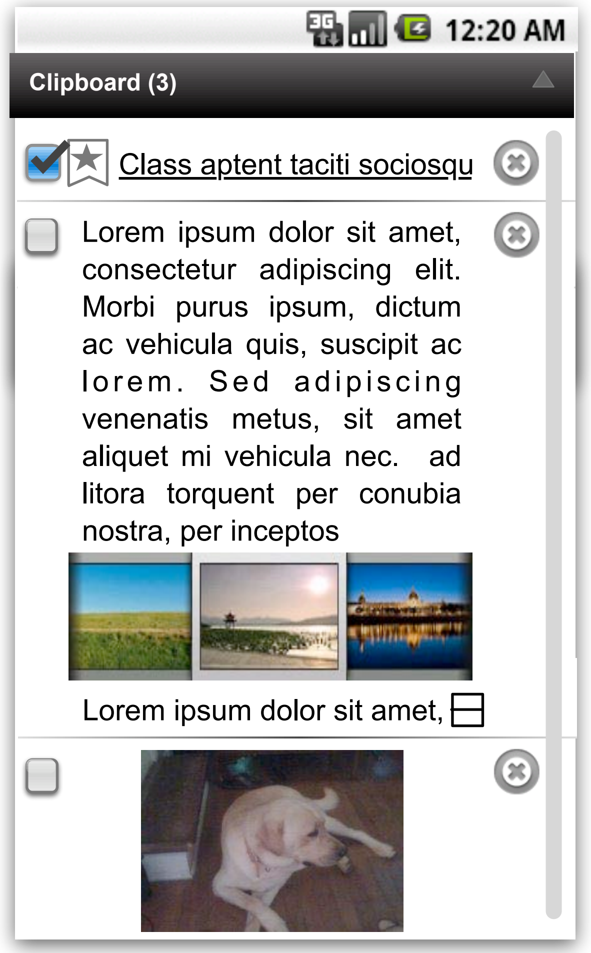
3.4.5 :: Truncating Copied Items



Class aptent taciti sociosqu

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Morbi purus ipsum, dictum...

In the event the user copies a large amount of text to the clipboard, it may be necessary to truncate it in the Clipboard display. A truncated version of the item would be displayed on the Clipboard, along with an expand icon. Tapping the expand icon would display the entire item.



Class aptent taciti sociosqu

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Lorem ipsum dolor sit amet,

Pressing the collapse icon would return the item to the truncated view.

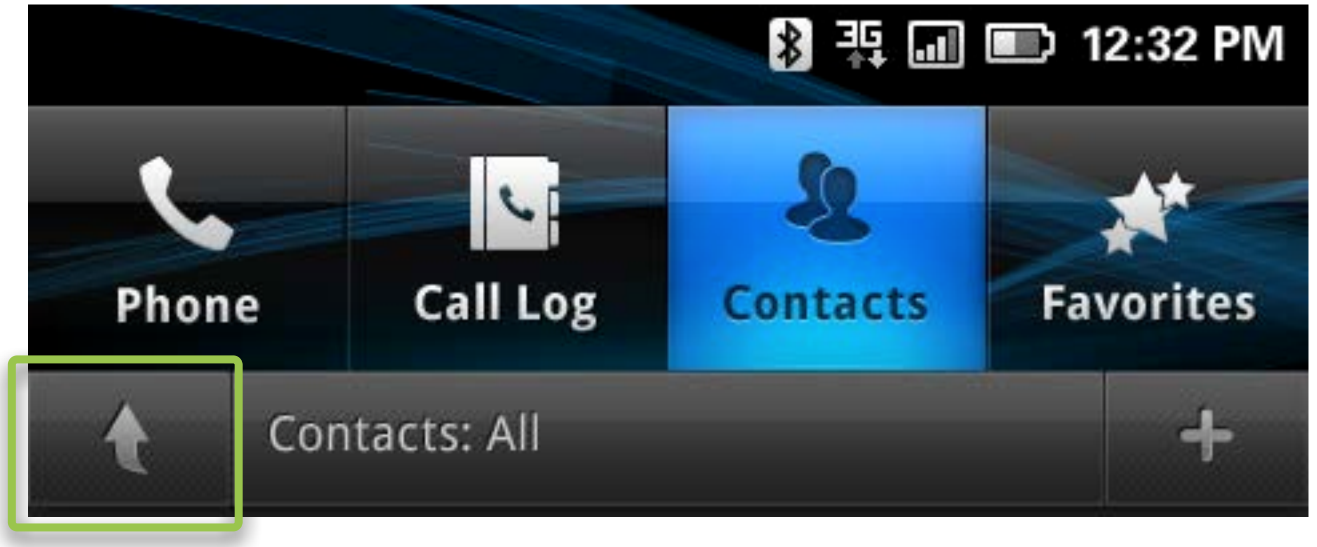
3.5 :: Manage

Manage & Create

Content and Task Management, Data Organization, Experience Customization, Personalization, Data Creation

In the current Android experience, there is functionality available for user customization and management—however considering both the opportunities in the dual screen experience and the needs of the prosumer audience, the UI must provide for a more robust, richer experience.

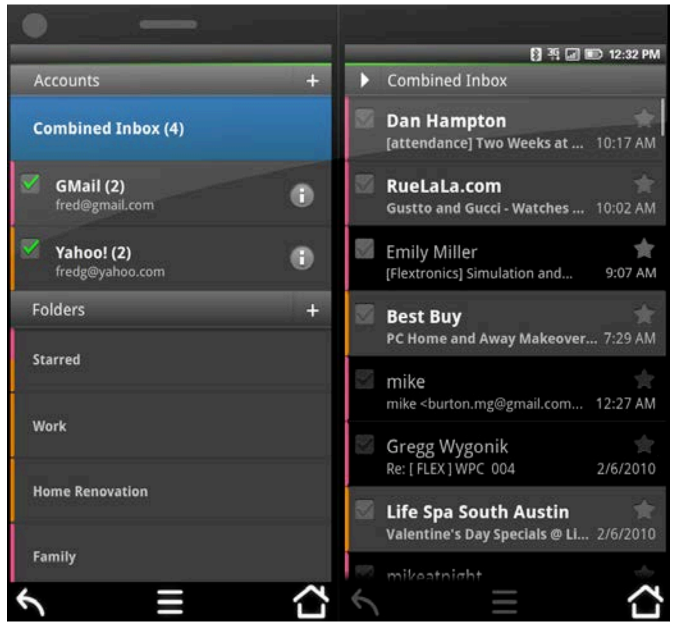
Easily accessible from the "home" application screen, or simply by maximizing the application such as in Maps or Browser—a control panel view surfaces both management and organizational functionalities that provide familiar defaults as well as being scalable to support user customizations that were previously hidden in menus.



Users can access the control panel through the "up" arrow icon contained in app headers.

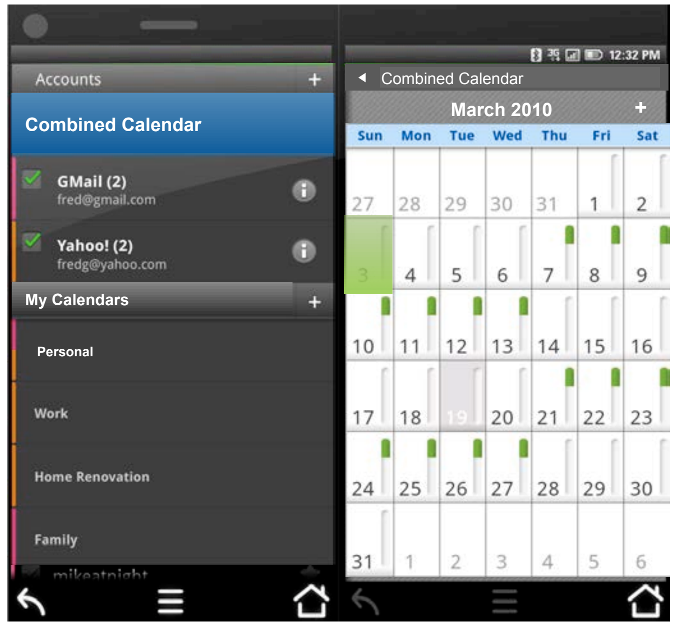
3.5.1 :: Manage

3.5.2.1 :: Manage :: Application Examples

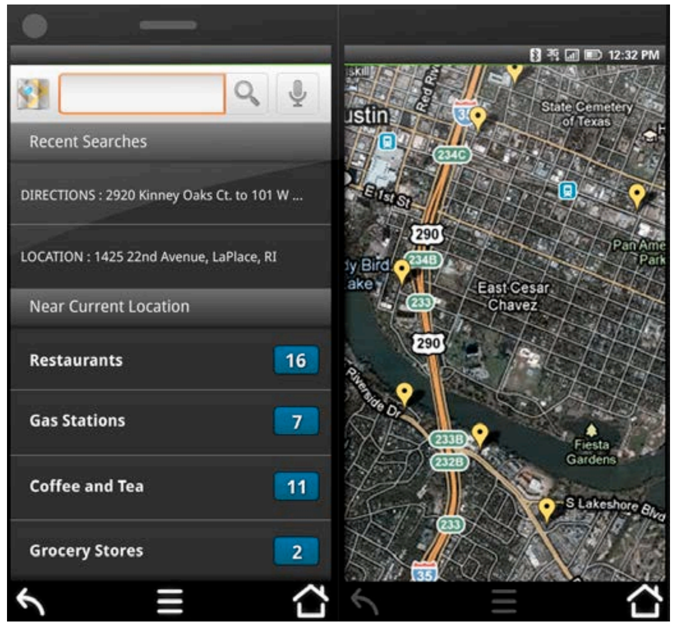


Dan Hampton — [attendance] Two Weeks at ... 10:17 AM
RueLaLa.com — Gustto and Gucci - Watches ... 10:02 AM
Emily Miller — [Flextronics] Simulation and... 9:07 AM
Best Buy — PC Home and Away Makeover... 7:29 AM
mike — mike <burton.mg@gmail.com... 12:27 AM
Gregg Wygonik — Re: [FLEX] WPC 004 2/6/2010
Life Spa South Austin — Valentine's Day Specials @ Li... 2/6/2010

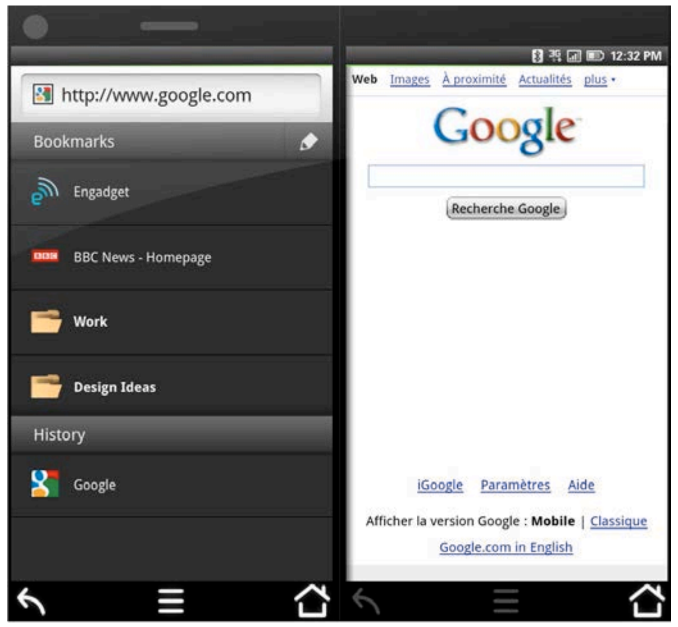
Email
The control panel view within email enables users to access and view accounts and the folders associated with all and each account.



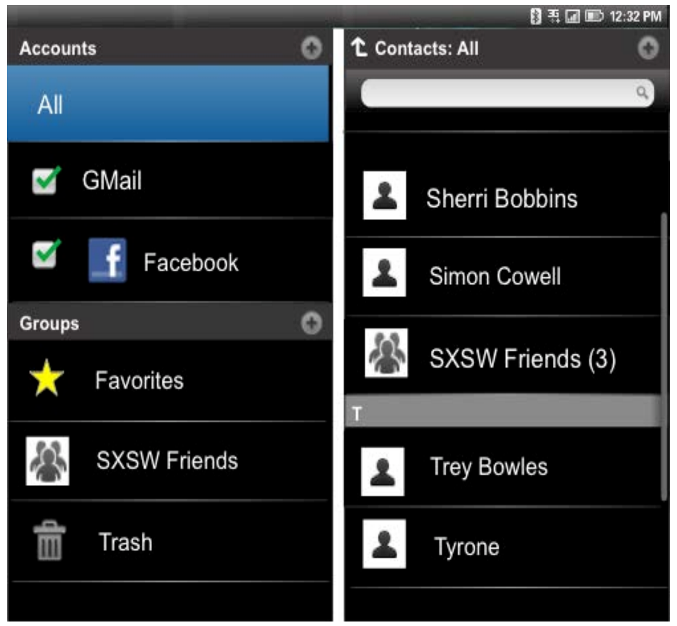
Calendar
The control panel view enables users to access and view accounts and the custom calendars they have created. They may also use the "+" controls displayed inline to add accounts or create new custom calendars.



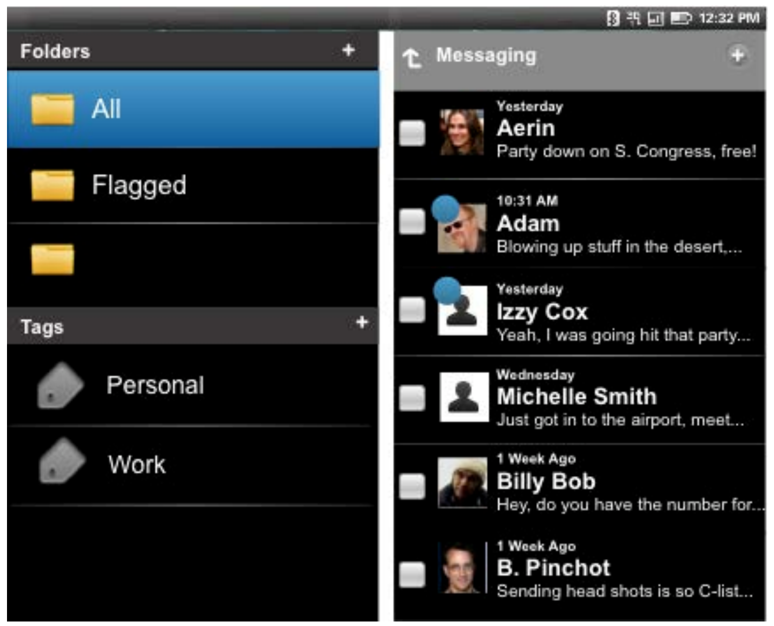
Maps
In the Maps application, the control panels surfaces search functionality, enables users the access recent searches, and quickly search for places or services near the current location shown in the map on the right.



Browser
The browser window moves to the right exposing the functionality and management features associated with it–URL Bar, Bookmarks, History, and possibly open pages or tabs–on the left in the Control Panel view.



Contacts
Accounts and Folders enable users to customize their contacts view and organize contacts into groups or flag them as favorites.



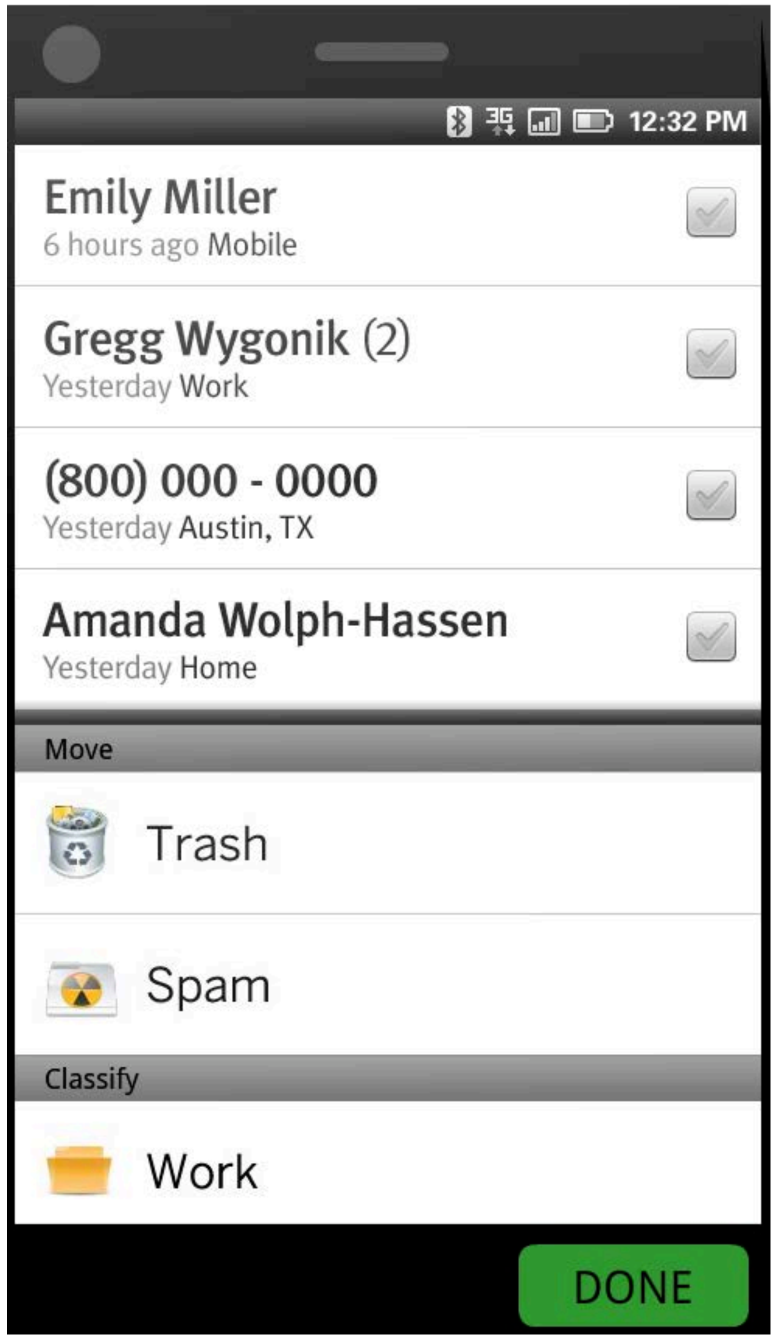
Yesterday — Aerin — Party down on S. Congress, free!
10:31 AM — Adam — Blowing up stuff in the desert,...
Yesterday — Izzy Cox — Yeah, I was going hit that party...
Wednesday — Michelle Smith — Just got in to the airport, meet...
1 Week Ago — Billy Bob — Hey, do you have the number for...
1 Week Ago — B. Pinchot — Sending head shots is so C-list...

Messaging
In messaging, users can organize threads in folders or tag them,

For additional examples see:
2.1.3 Example Application Flow :: Email
2.1.5 Example Application Flow :; Contacts
2.2.2 Example Application Flow :: Maps
23.2.1 Example Application Flow :: Browser

In the Appendix Document:
Messaging Hero Flow 2

3.5.2.2 :: Manage :: Single Screen



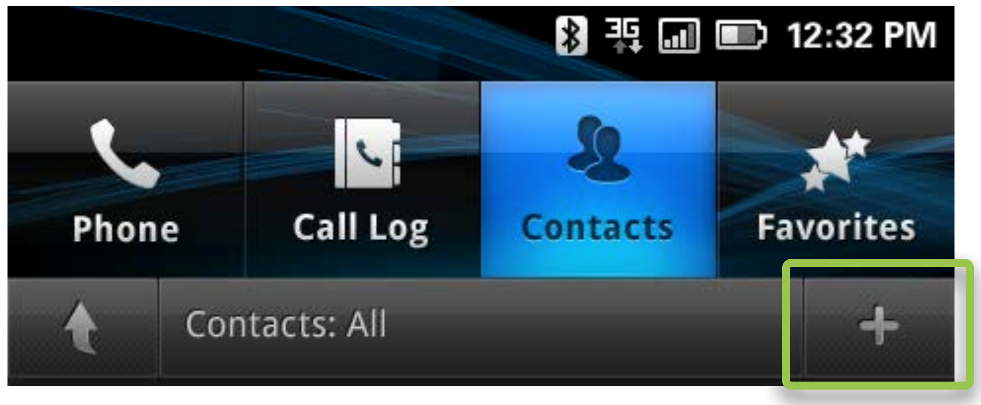
Split screen control panel management view
Note: The visual and design is TBD.This will be explored further in phase 2.

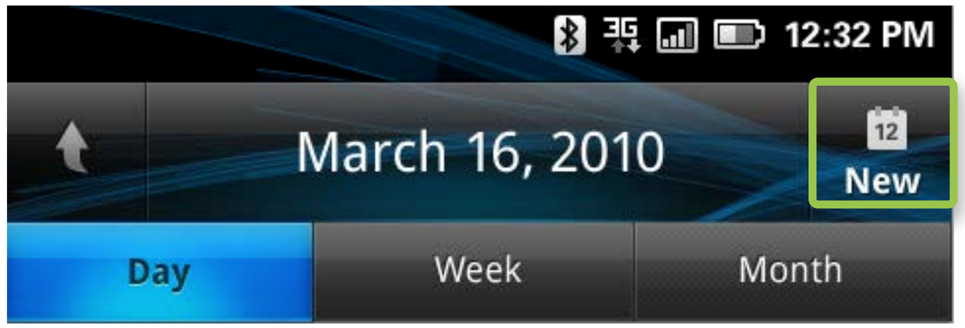
However, a possible single screen solution for management while maintaining the robust aspects of organization and customization would be to incorporate both the control panel and the content view in scrollable split panels.

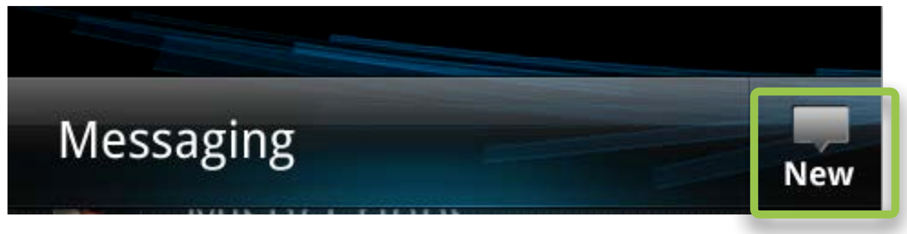
3.5.2 :: Create

Create: Create a New Calendar Event, Compose an SMS or Email, Add a New Contact, Add an Account

Again, easy access promotes task completion. The ability to create in various contexts is promoted through a consistently placed icon included in the screen header.





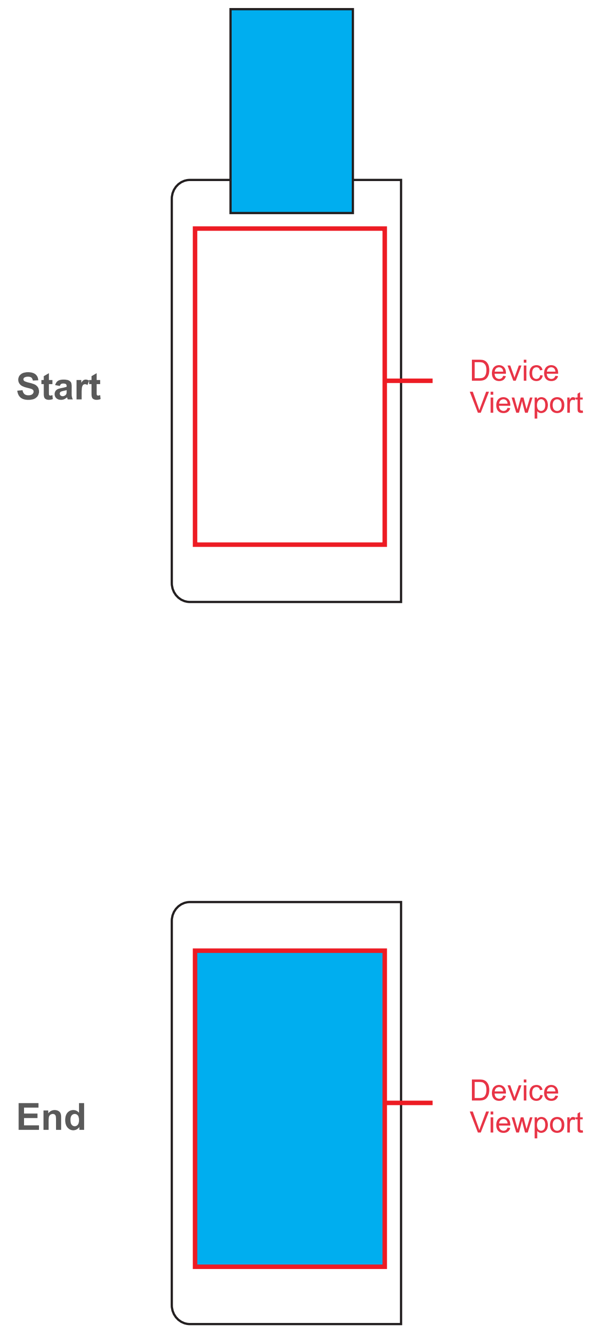


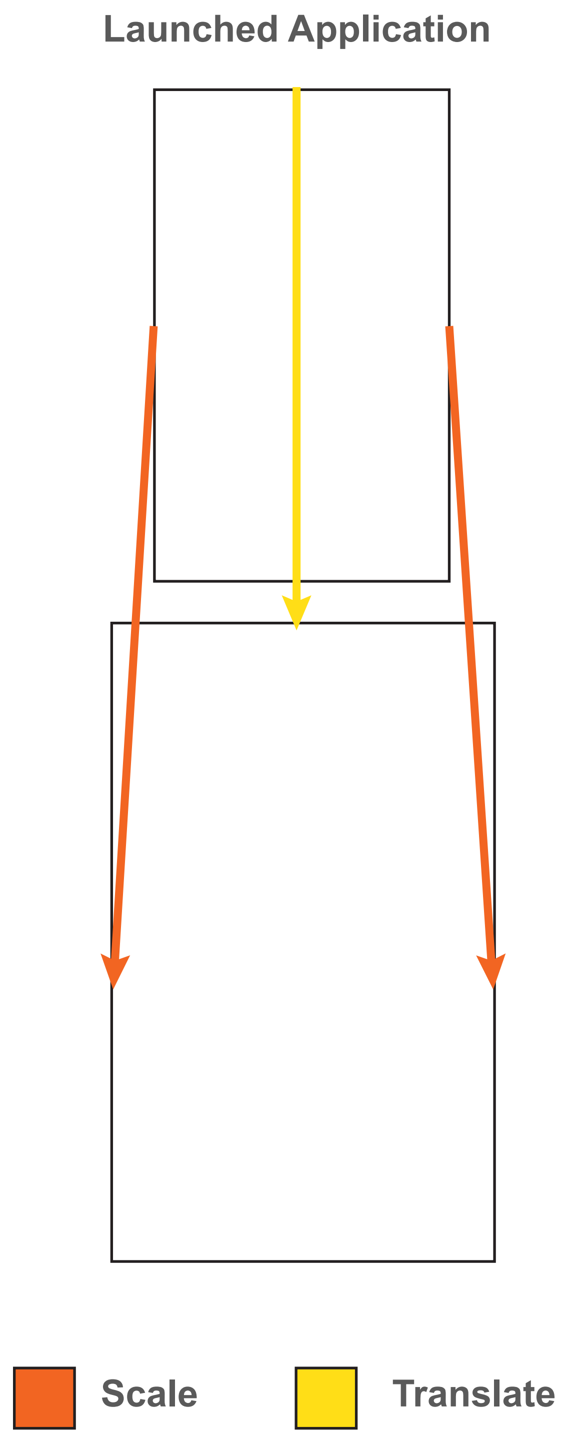
For additional examples the Appendix Document:
5.1.1.2 Contacts :: Create Group and Send Group SMS

4 :: TRANSITIONS & GESTURES

4.1 Application Launch/Exit

4.1.1 :: Application Launch





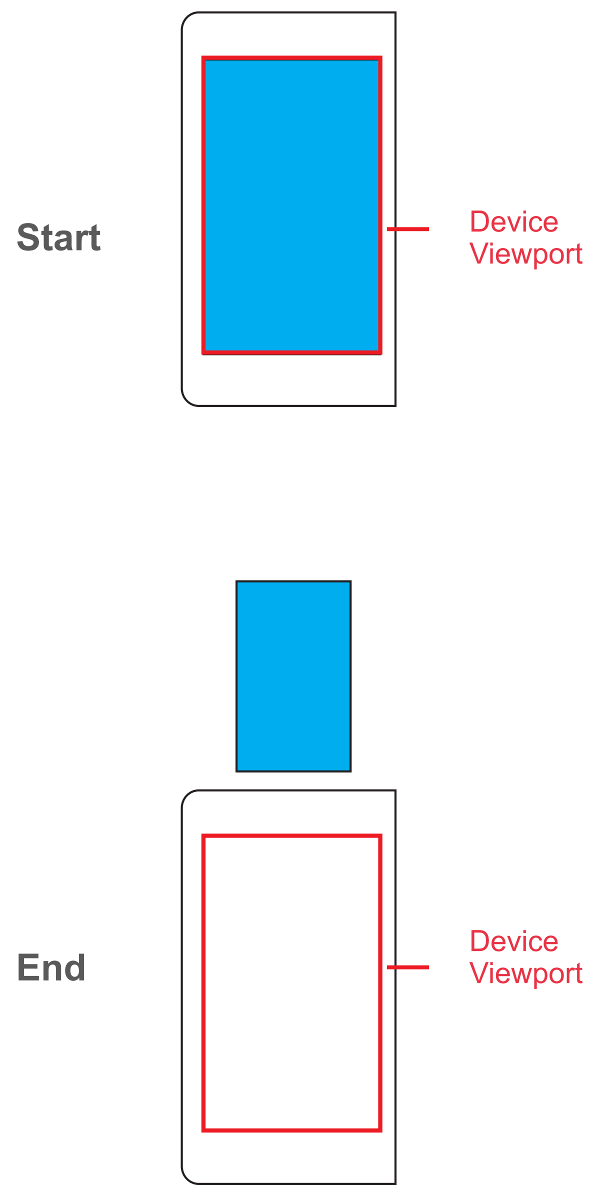
Scale: 127%

Translate:
  X: -265px to 0px
  Y: Horizontal Center Align

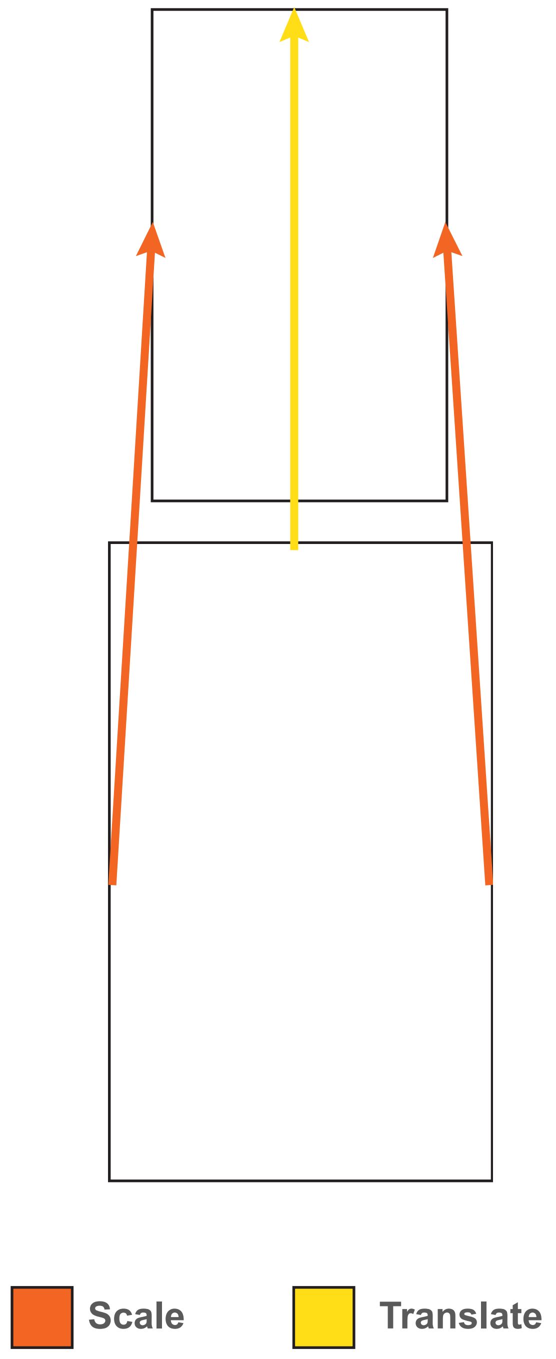
Time: 150ms - 200ms

Easing:
  Position: Linear
  Scale: Linear
  Alpha: Strong Ease Out

4.1.2 :: Application Exit



Exiting Application



Scale: 78%

Translate:
- X: 0px to -265px
- Y: Horizontal Center Align

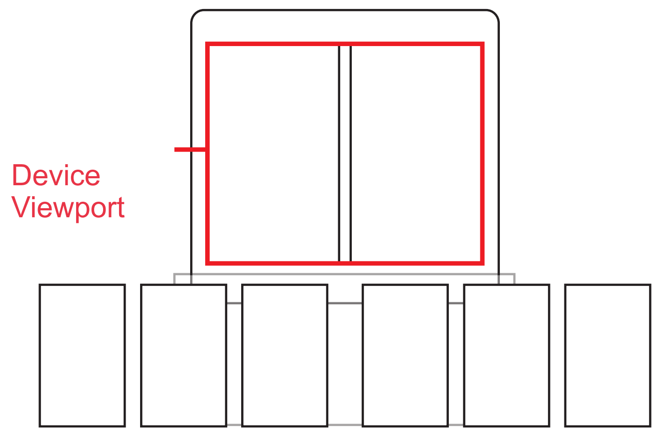
Time: 150ms - 200ms

Easing:
- Position: Linear
- Scale: Linear
- Alpha: Strong Ease In

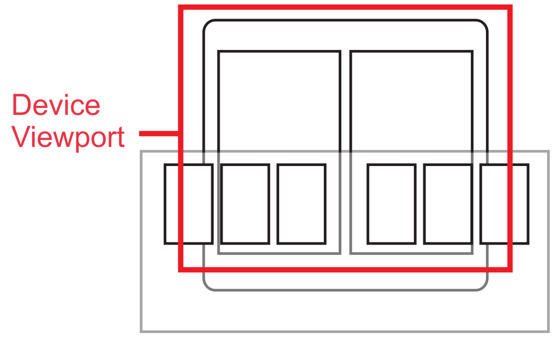
4.2 Application Manager Launch/Exit

4.2.1 :: Application Manager Launch

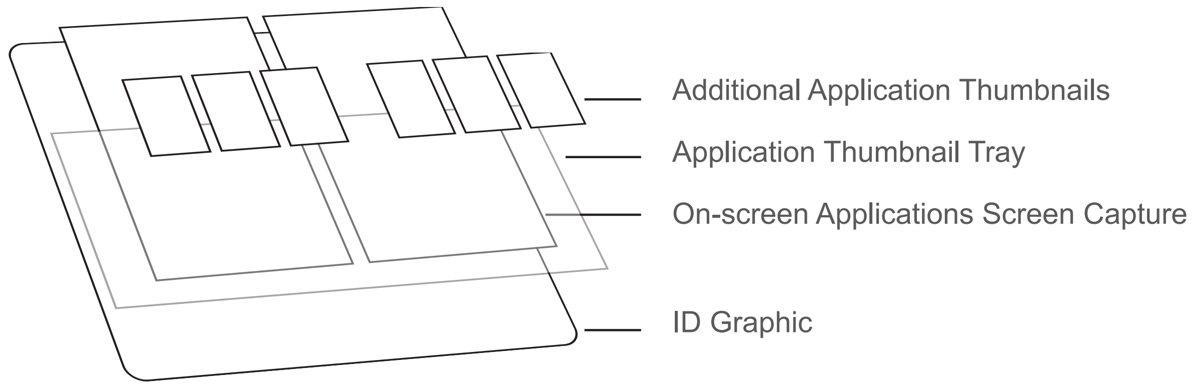
Start



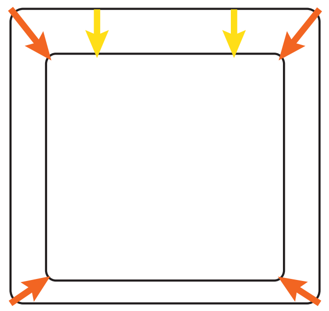
End



Layer Stack

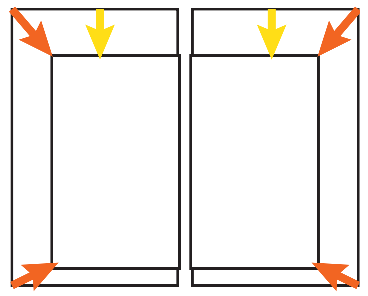

Additional Application Thumbnails
Application Thumbnail Tray
On-screen Applications Screen Capture
ID Graphic

ID Graphic



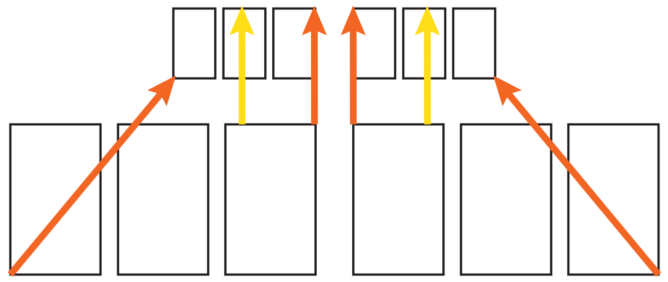
Scale: 77%
Translate: See final visual design comps
Time: 300ms
Easing: Linear

On-screen Applications Screen Capture



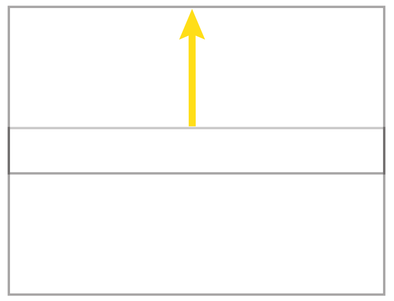
Scale: 77%
Translate: See final visual design comps
Time: 300ms
Easing: Linear

Additional Application Thumbnails



Scale: 46%
Translate: See final visual design comps
Time: 150ms
Easing: Linear

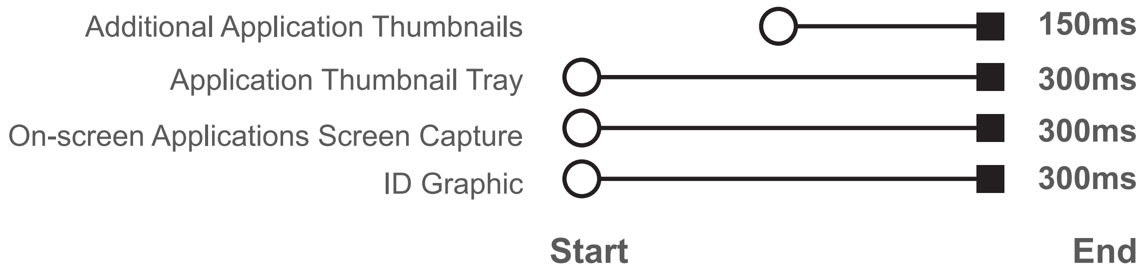
Application Thumbnail Tray



Scale: No Scale
Translate: See final visual design comps
Time: 150ms
Easing: Linear

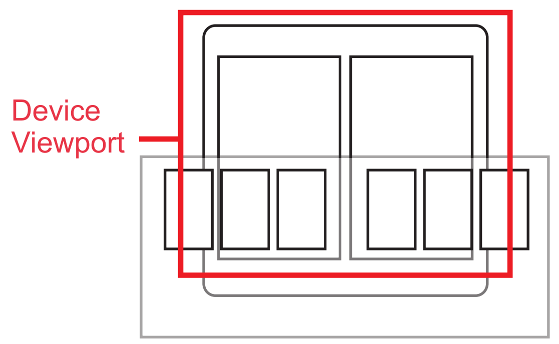
🟧 Scale 🟨 Translate

Animation Concurrency

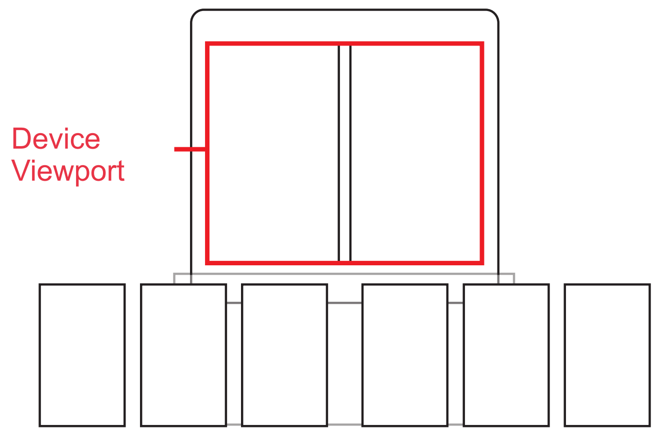


4.2.2 :: Application Manager Exit

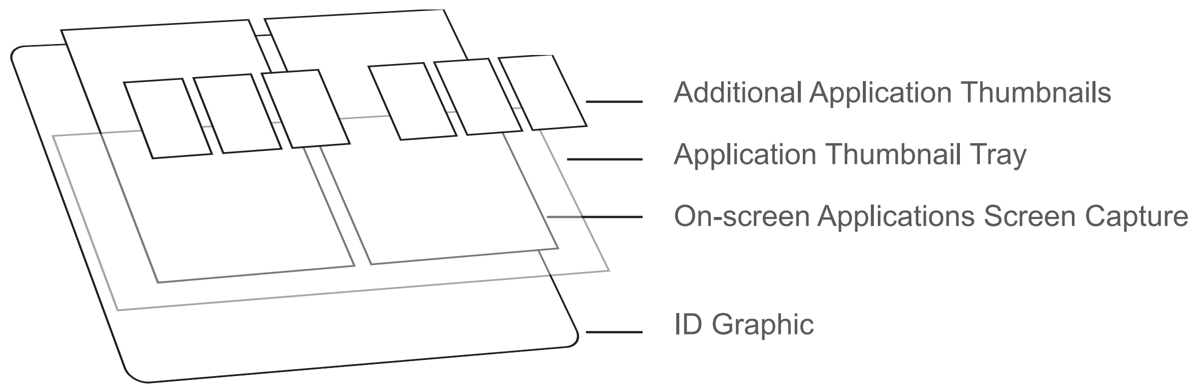
Start



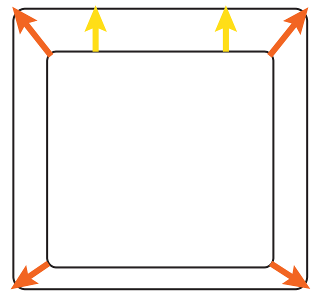
End



Layer Stack

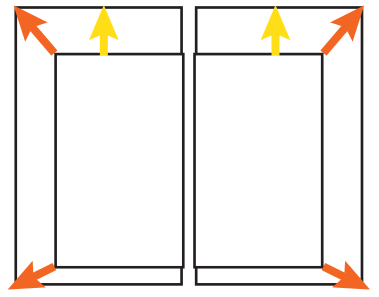

Additional Application Thumbnails
Application Thumbnail Tray
On-screen Applications Screen Capture
ID Graphic

ID Graphic



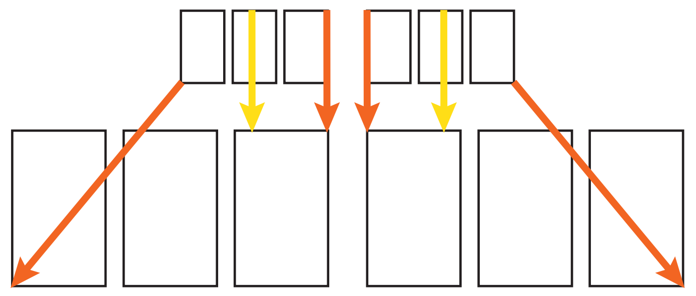
Scale: 129%
Translate: See final visual design comps
Time: 300ms
Easing: Linear

On-screen Applications Screen Capture



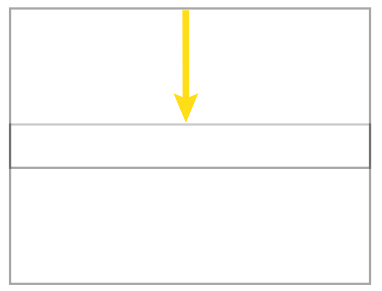
Scale: 129%
Translate: See final visual design comps
Time: 300ms
Easing: Linear

Additional Application Thumbnails



Scale: 215%
Translate: See final visual design comps
Time: 150ms
Easing: Linear

Application Thumbnail Tray

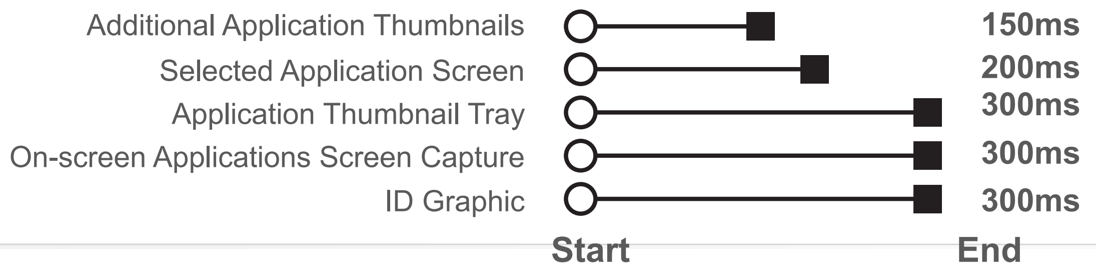


Scale: No Scale
Translate: See final visual design comps
Time: 150ms
Easing: Linear

🟧 Scale 🟨 Translate

Animation Concurrency

Note: If an application is selected to replace an existing application, the new application thumbnail will move to the center of the desired screen (left/right) and expand tomatch the expansion of the “On-screen Applications Screen Captures” layer moving at the “Selected Application Screen” speed. This will give the impression of the screen being “caught” by the expanding ID Graphic before then filling the screen. See Flash animation.

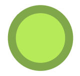
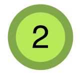
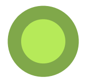
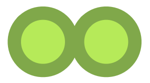
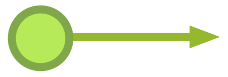
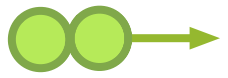
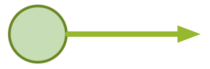
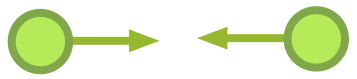
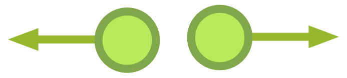
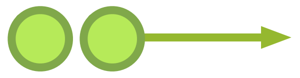


Additional Application Thumbnails	150ms
Selected Application Screen	200ms
Application Thumbnail Tray	300ms
On-screen Applications Screen Capture	300ms
ID Graphic	300ms

4.3 Gestures

4.3.1 :: Device Gesture Language

We are trying to limit the overall number of gestures in the system to avoid cognitive overload. Tap, Double Tap, Long Press, Drag, and Flick are standard Android gestures. We are introducing three new gestures, Swap, Spread, and Pin & Drag to support advanced windowing actions in the capacitive area above the screen. We are adding Two Finger Long Press and Two Finger Drag to support drag and drop in the screen.

Our term	Symbol	Definition*
Tap		Fired after first tap, but before timeout of double-tap check, and is confirmed after timeout of double-tap passes without a second press
Double Tap		The first down event of a gesture after a user has already single-tapped, and release is confirmed.
Long Press		When a press event is held for a specific amount of time (.5s - 1.65s)
Two Finger Long Press		Initiate copy/paste mode (See Drag and Drop documentation for behaviour implementation)
Drag		Press, move, and release longer than a certain time threshold
Two Finger Drag		Press with 2 fingers, move, and release longer than a certain time threshold
Flick		Press, move, and release within a certain time threshold
Pinch		Multi-touch - drag 2 fingers together See Gesture_Swap.flv for more details
Spread		Multi-touch - drag 2 fingers apart See Gesture_Spread.flv for more details
Pin & Drag		Multi-touch - hold one finger down and drag with the other finger left or right.

Common Name	Nexus One	Moto Droid	Android Core Event(s)
Tap	Touch	Touch	Single Tap Confirmed
Double-Tap	Double-Tap	Double-Touch	Double Tap Event (Up Event)
Press and Hold	Touch and Hold	Touch and Hold	Long Press
Flick	Swipe	Flick	Fling
Drag	Slide	Drag	Scroll

4.3.2 :: Gesture Language for Window Positioning

The following are used in the capacitive area **above** the screen (in portrait).

Drag	●→	Dual Mode: Move card(s) to the left or right or extend a dual-screen app. Long drag moves 1-2.5 cards, or maximizes, then minimized dual-screen app. Single Mode: View the next card in the "stack."
Flick	○→	Dual Mode: Fling one card left or right. Single Mode: View the next card in the "stack."
Pinch	●→ ←●	Dual Mode: Swap the left and right cards. Single Mode: Swap the first and next card in the "stack."
Spread	←● ●→	Dual Mode: Open Application Switcher. Single Mode: Open Application Switcher.
Pin & Drag	●●→	Dual Mode: Pin card on one side, move cards from under that card to other side or move cards from other side under that card. Single Mode: Disabled.

The following are used in the capacitive area **below** the screen (in portrait).

Tap	●	Dual Mode: Select and perform action. Single Mode: Select and perform action.
Long Press	◉	Dual Mode: Perform alternate action. E.g. Press and hold Menu to open the keyboard. Press and Hold Home to open the Application Switcher. Single Mode: Same as above, only opens single screen version of App Manager.

5 :: ORIENTATION GUIDELINES

5.1 :: Orientation Change Guidelines

In an effort to make the dual-screen landscape mode of the mobile device a unique, market-differentiating, “red-thread”, we have gone through many exploratory phases and user testing/feedback rounds. We have kept the following core principles in-mind: simplicity, a crafted experience, intuitive interactions, and features that make sense. We have adopted the “gravity” functionality requested by the client into frog’s viewpoint, and have come up with the following guidelines.

First and foremost, landscape mode is meant to be used *only* as a “special view” for dual-screen applications *only in dual-screen mode*. This concept immediately pushes the device past what is currently available in other phone devices. This guideline, however, does not exclude a dual-screen application to use a single-screen landscape view, but that should only be done when appropriate (video player, camera/photo app). One of the most common points for use of single-screen landscape mode on current devices is a wider keyboard. However, our device will have a much richer keyboard enabled in dual-screen portrait mode—coupled with being able to see the context in which the user is engaged—than what is possible with Android by default which fills the landscape screen with keyboard and non-contextual text-entry field.

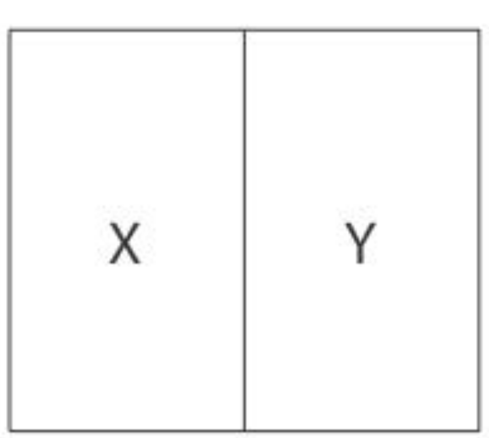
Secondly, navigation in dual-screen landscape mode is limited to a combination of what was on the user’s screens prior to rotation, and which application is “on top” after rotation. For example, if there is a single, dual-screen application expanded across both screens when the user rotates the device, then the user can only navigate within the dual-screen landscape special views of this single application; if there are two dual-screen applications – non-expanded – on the screen prior to rotation then the user can navigate only within the application that is “on top” after rotation and gravity kicks-in. While this seems limiting, what this does is two-fold: it reinforces the uniqueness of the mode, and it removes possible confusion from the user as to what other applications are which direction from the current view, which application model is being used in each application, and a reversal of navigation direction upon entering certain application models. This potential for confusion is further increased should a user could walk away from the device for an extended period of time and have to think about not only where applications are, but also about which orientation the device is in to use as a spacial-model compass (the orientation changes the perceived location of other apps to the current one by having to think about how did right/left translate to up/down). Should an application that ends up on top not be dual-screen expandable, the bottom application does not become inactive. Should that bottom application be a dual-screen landscape capable application with text-entry abilities, tapping an editable text area in this app will slide the application to the top screen, place it in its special landscape view, and show the keyboard. This does not allow the user to use the full special landscape mode navigation however; closing the keyboard will return the application to its single-screen mode.

A side-effect of the limited navigation is the non-need for the Application Manager in the dual-screen landscape view. The user cannot jump outside of the one, possibly two, applications they have on-screen, therefore showing others doesn’t make sense.

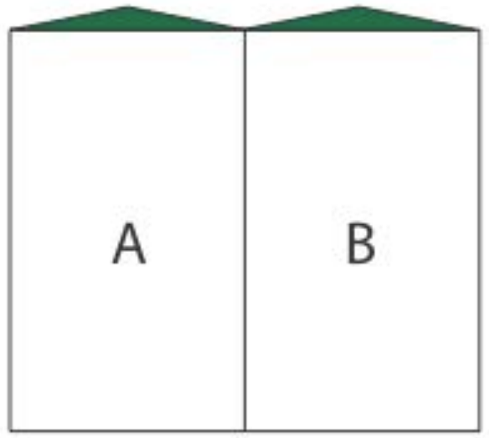
These two guidelines and all associated side-effects, have the benefit of allowing “gravity” to take effect during orientation change while keeping the experience simple and intuitive. All of these features based on model exploration combine to show that the experience has been crafted and meant to be the way it is. Additionally, this allows for future expansion easier than future contraction of feature set. Developmentally, these guidelines allow for only having to code for two orientation views (portrait single/dual, and landscape dual), not three (landscape single).

5.1.1 :: Orientation Change Guidelines Legend

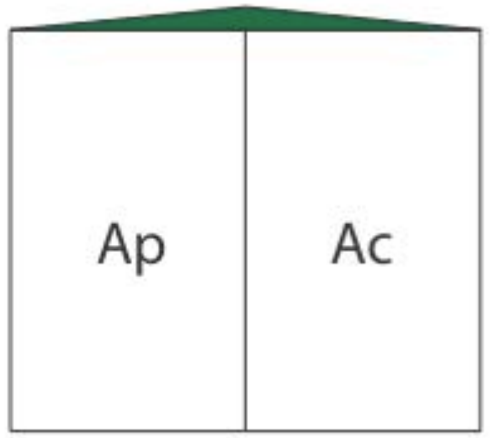
Legend



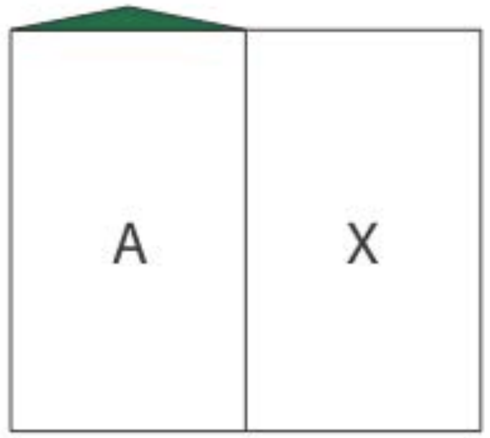
Two Single-Screen Applications
Non-Maximizable



Two Dual-Screen Applications
Not Maximized

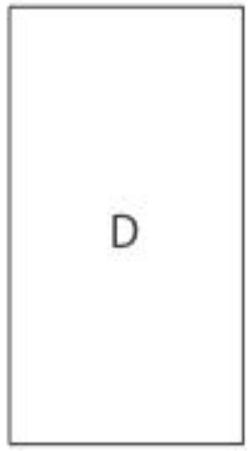


One Dual-Screen Application
Maximized (Parent/Child)

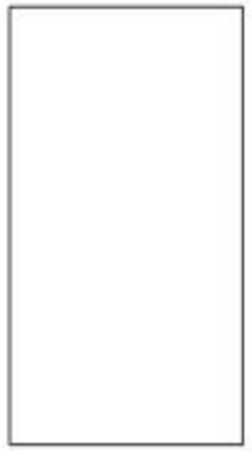


- One Dual-Screen Application
  Not Maximized
- One Single-Screen Application
  Non-Maximizable

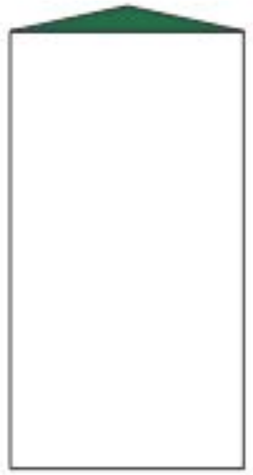
Examples



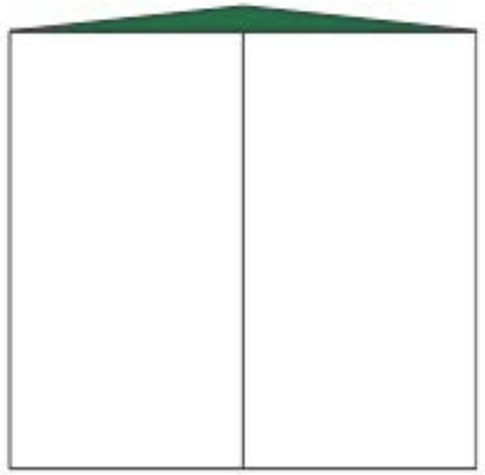
Desktop



Single-Screen Application
Non-Maximizable



Dual-Screen Application
Not Maximized



One Dual-Screen Application
Maximized

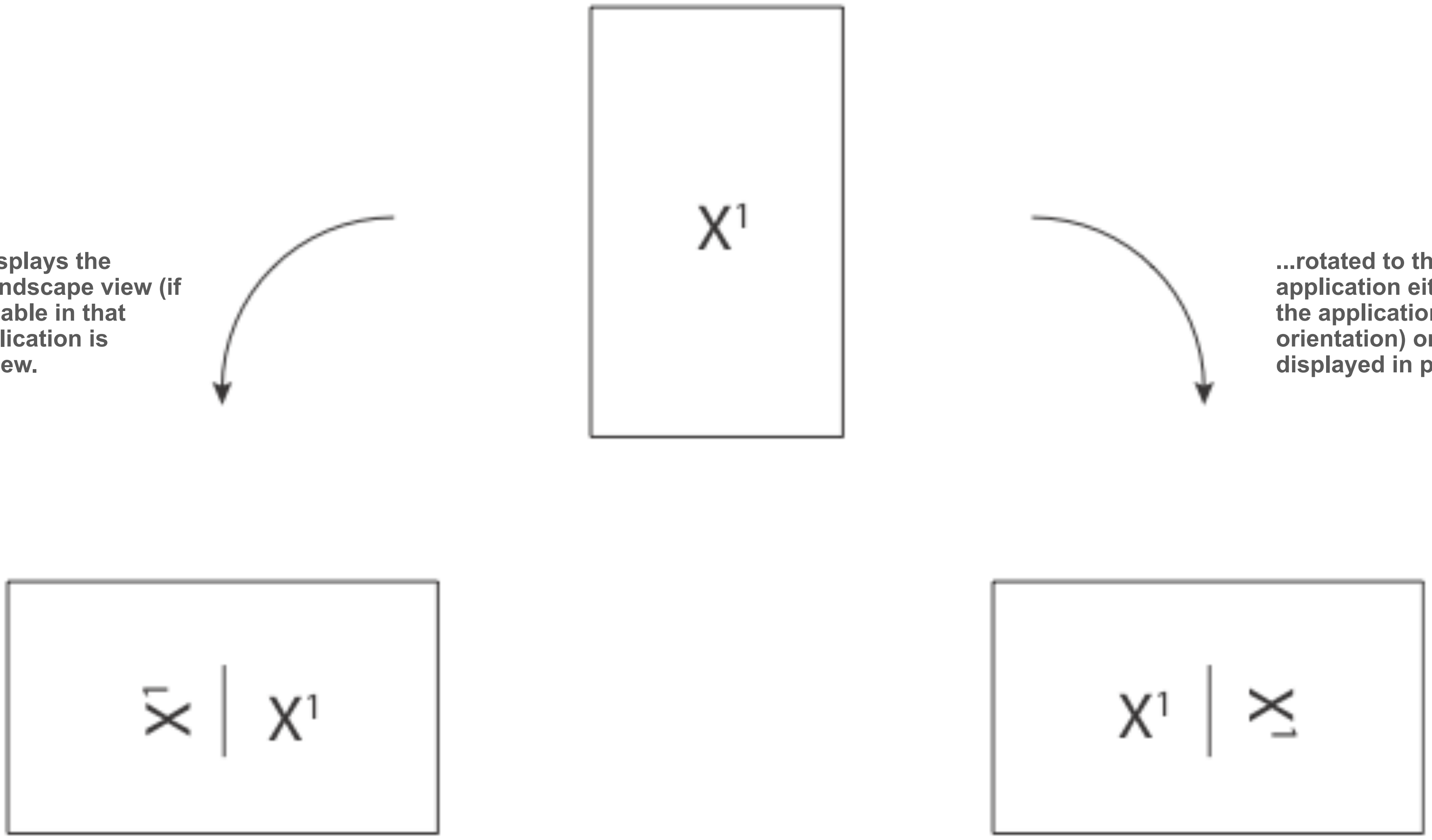
5.2 :: Orientation Change Guidelines :: Single Screen Mode

Single Screen Mode: Single Screen Application

Single screen application....

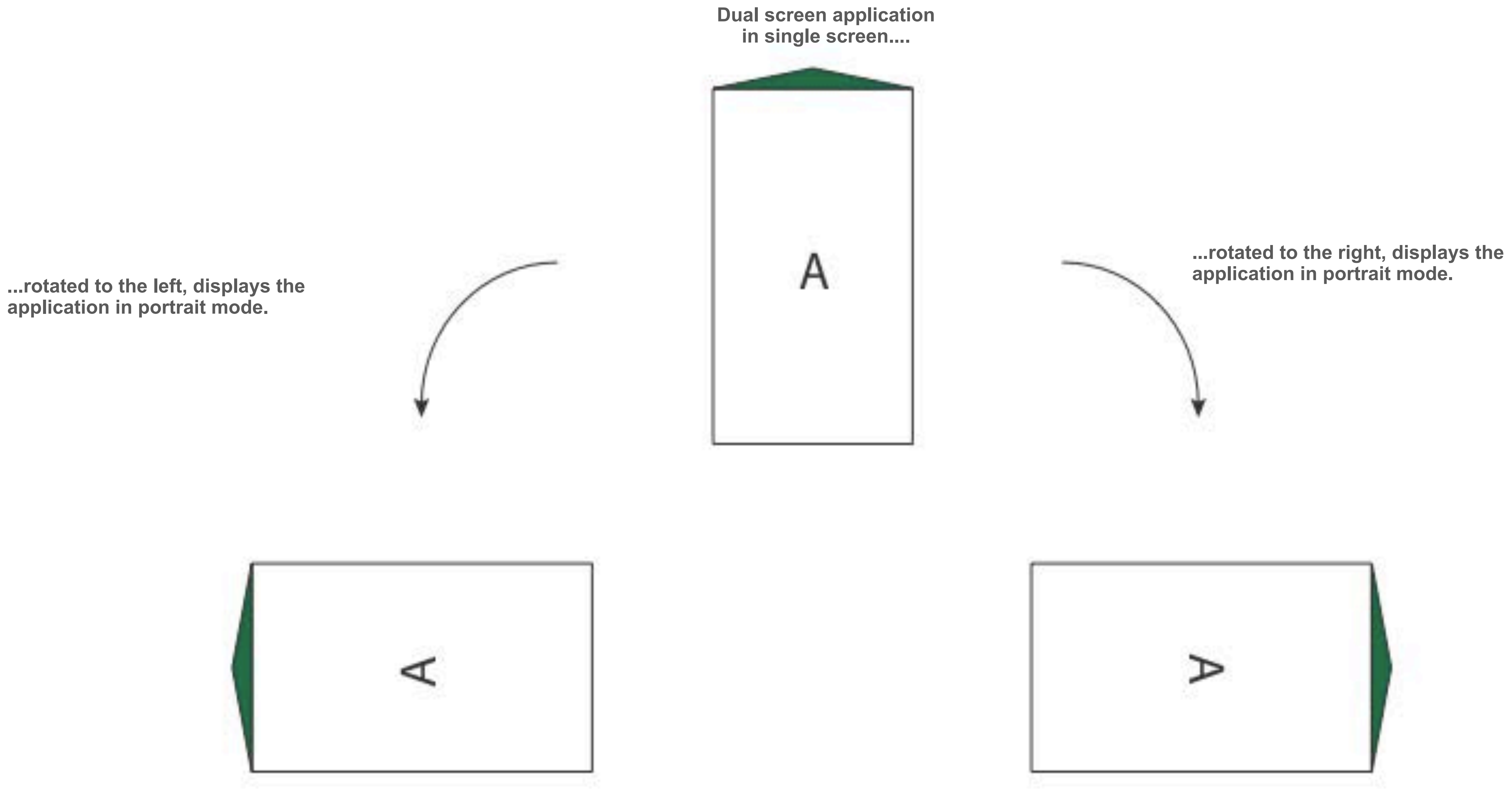
...rotated to the left, displays the application either in landscape view (if the application is available in that orientation) or the application is displayed in portrait view.

...rotated to the right, displays the application either in landscape view (if the application is available in that orientation) or the application is displayed in portrait view.



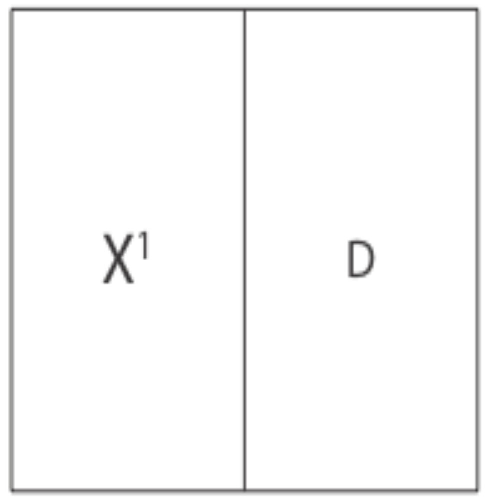
5.2.1 :: Orientation Change Guidelines :: Single Screen Mode

Single Screen Mode: Single Screen Application

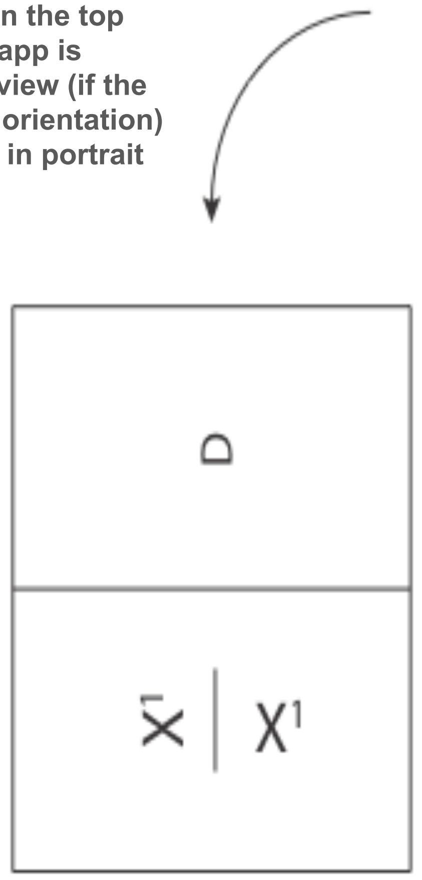

Dual screen application
in single screen....
A
...rotated to the left, displays the
application in portrait mode.
...rotated to the right, displays the
application in portrait mode.
A
A

Dual-Screen Mode: Single Screen Application and Desktop

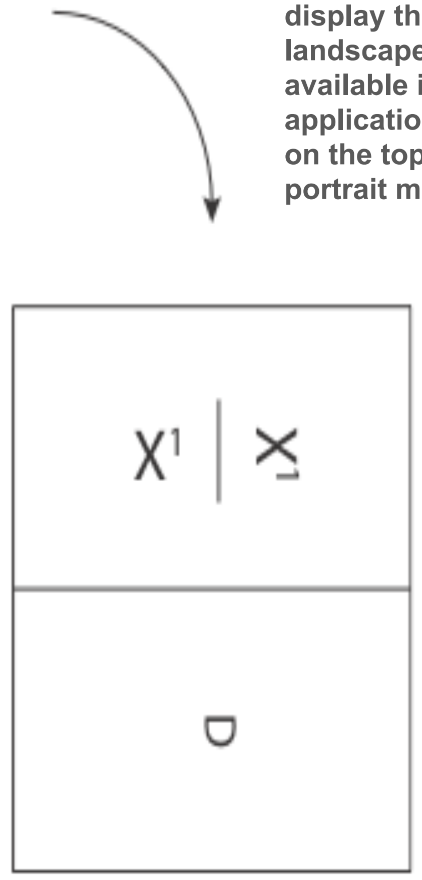
A single screen app is displayed on the left screen and the desktop is displayed on the right screen.



Rotating the phone to the left will display the desktop in portrait mode on the top screen, and the single screen app is displayed either in landscape view (if the application is available in that orientation) or the application is displayed in portrait view on the bottom screen.

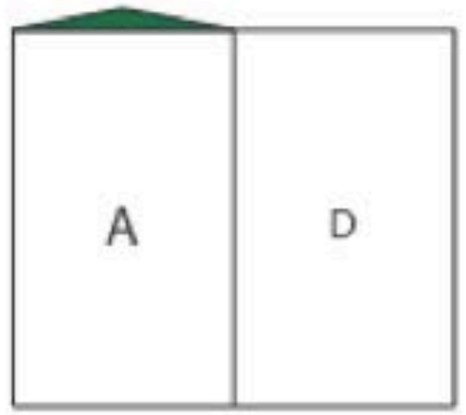


Rotating the phone to the right will display the single screen app either in landscape view (if the application is available in that orientation) or the application is displayed in portrait view, on the top screen, and the desktop in portrait mode on the bottom screen.

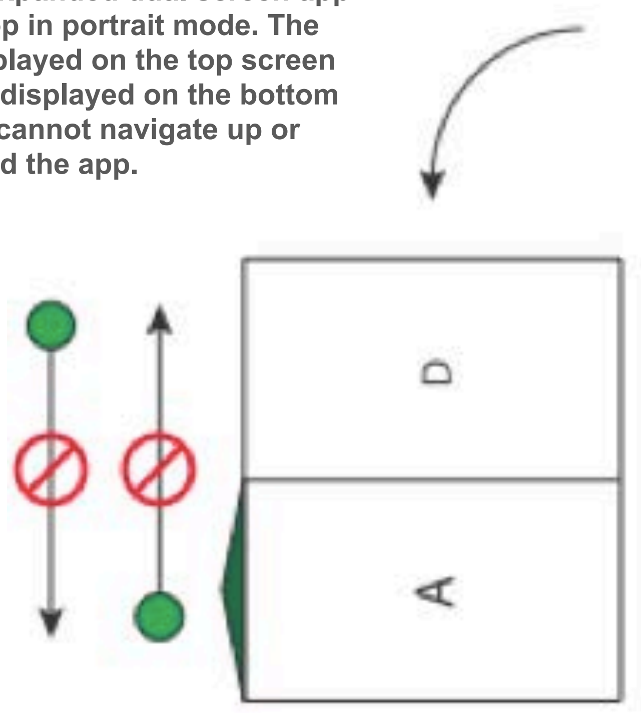


Dual-Screen Mode: Dual-Screen Application (Not Maximized) and Desktop

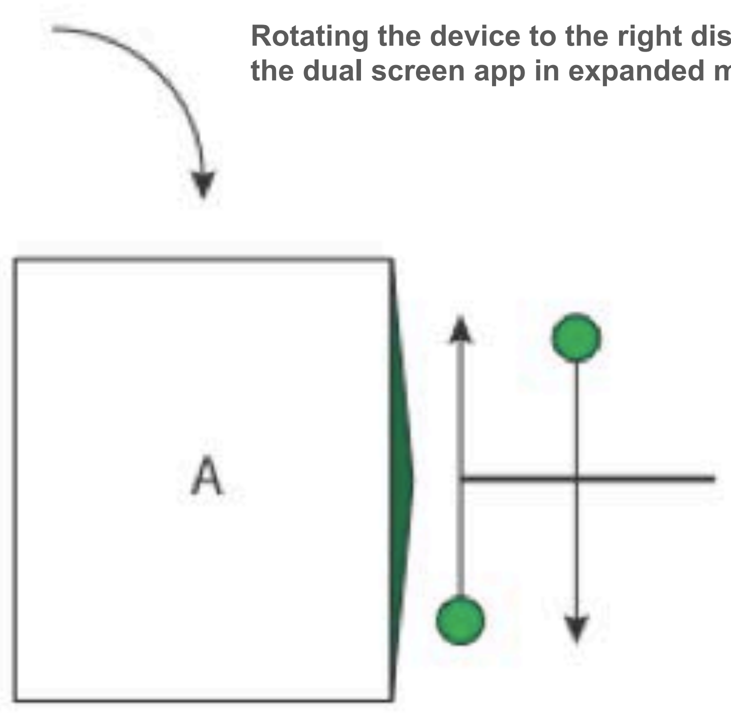
A dual screen app is displayed on the left screen and the desktop is displayed on the right screen.



Rotating the device to the left displays both the non-expanded dual screen app and the desktop in portrait mode. The desktop is displayed on the top screen and the app is displayed on the bottom screen. Users cannot navigate up or down to expand the app.



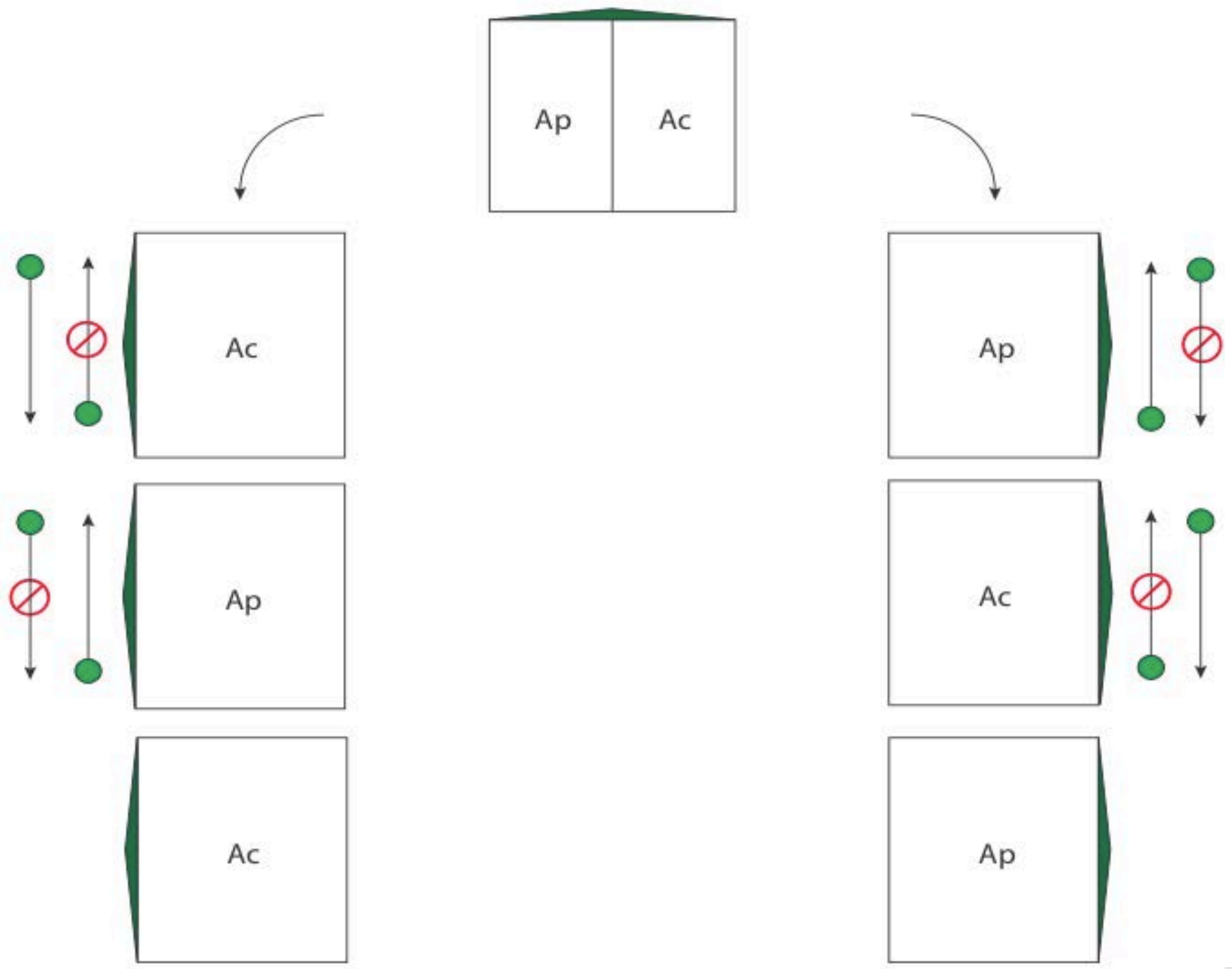
Rotating the device to the right displays the dual screen app in expanded mode.



Navigation based on application's special landscape view capabilities

Dual-Screen Mode: One Dual-Screen Application (Maximized, Parent/Child)

A dual screen application is displayed with the parent on the left screen and a child on the right screen.



Rotating the device to the left displays the child in expanded mode. Swiping up does nothing, but swiping down displays the parent in expanded mode.

The parent is displayed in expanded mode. Swiping down does nothing, but swiping up displays the child in expanded mode.

The child is displayed in expanded mode.

Rotating the device to the right displays the parent in expanded mode. Swiping down does nothing, but swiping up displays the child in expanded mode.

The child is displayed in expanded mode. Swiping up does nothing, but swiping down displays the parent in expanded mode.

The parent is displayed in expanded mode.

Dual-Screen Mode: Two Dual-Screen Application (Not Maximized)

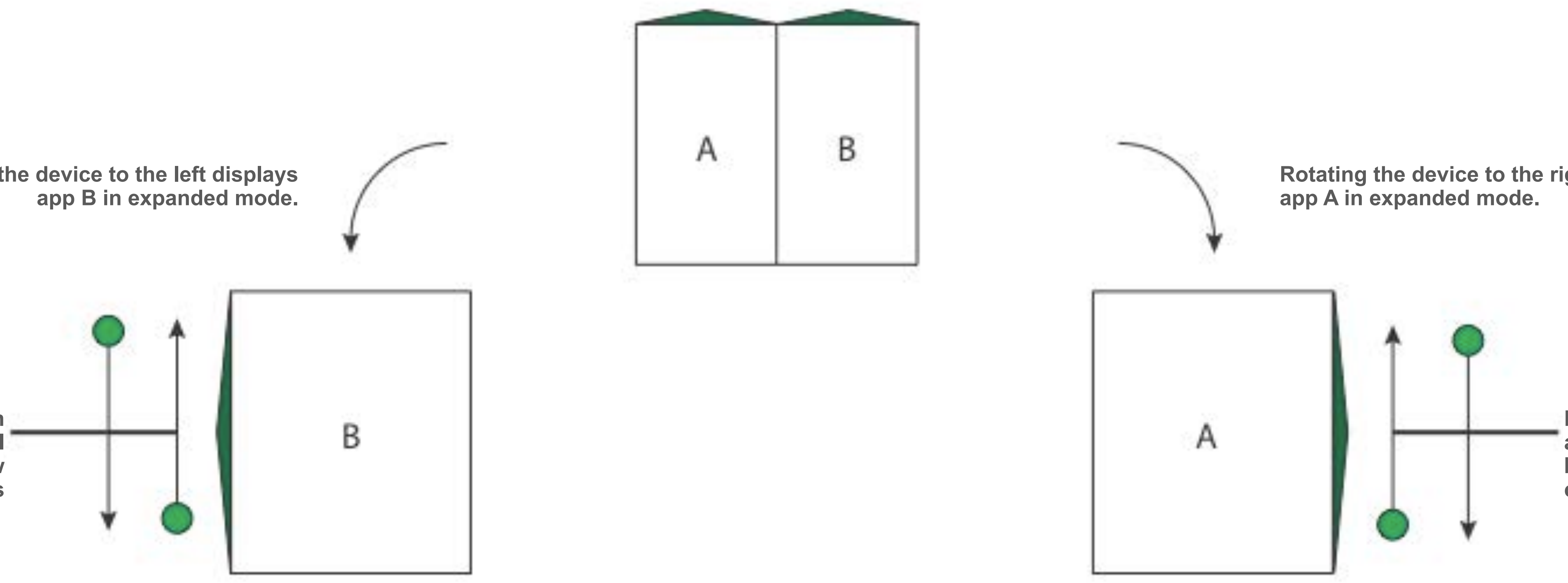
Two dual screen applications are displayed, app A on the left and app B on the right.

Rotating the device to the left displays app B in expanded mode.

Rotating the device to the right displays app A in expanded mode.

Navigation based on application's special landscape view capabilities

Navigation based on application's special landscape view capabilities



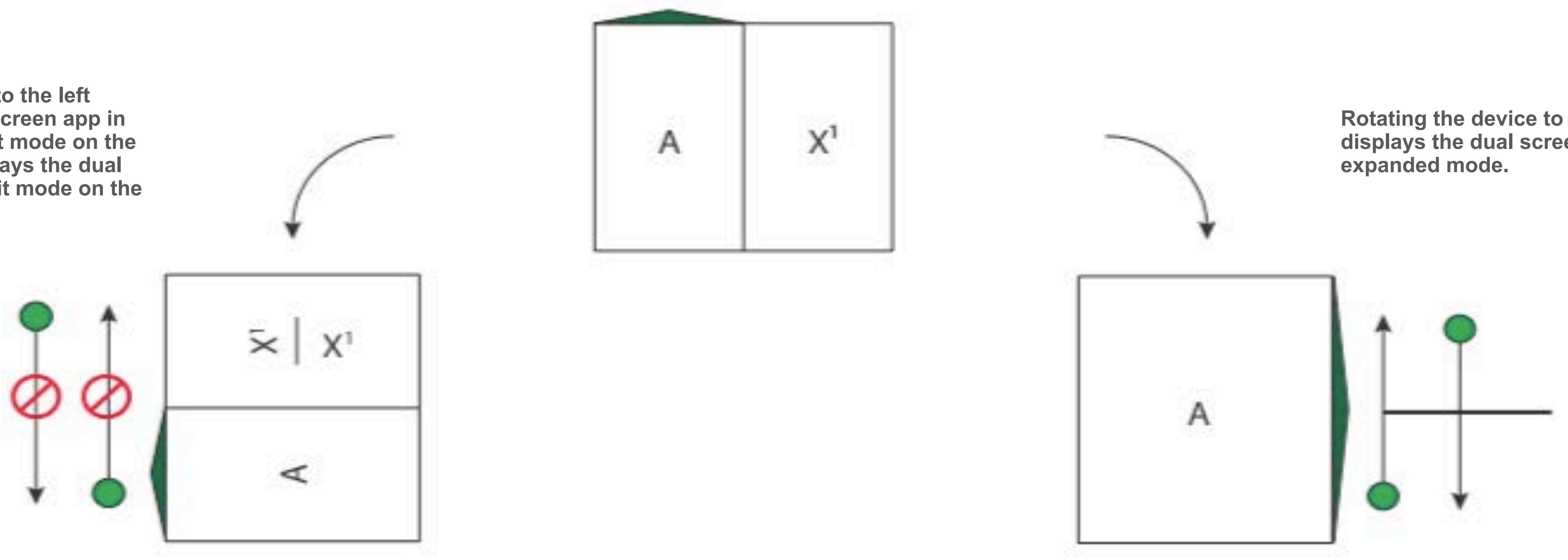
Dual-Screen Mode: One Dual-Screen Application (Not Maximized), One Single Screen Application

One dual screen app is displayed on the left and a single screen app is displayed on the right.

Rotating the device to the left displays the single screen app in landscape or portrait mode on the top screen and displays the dual screen app in portrait mode on the bottom screen.

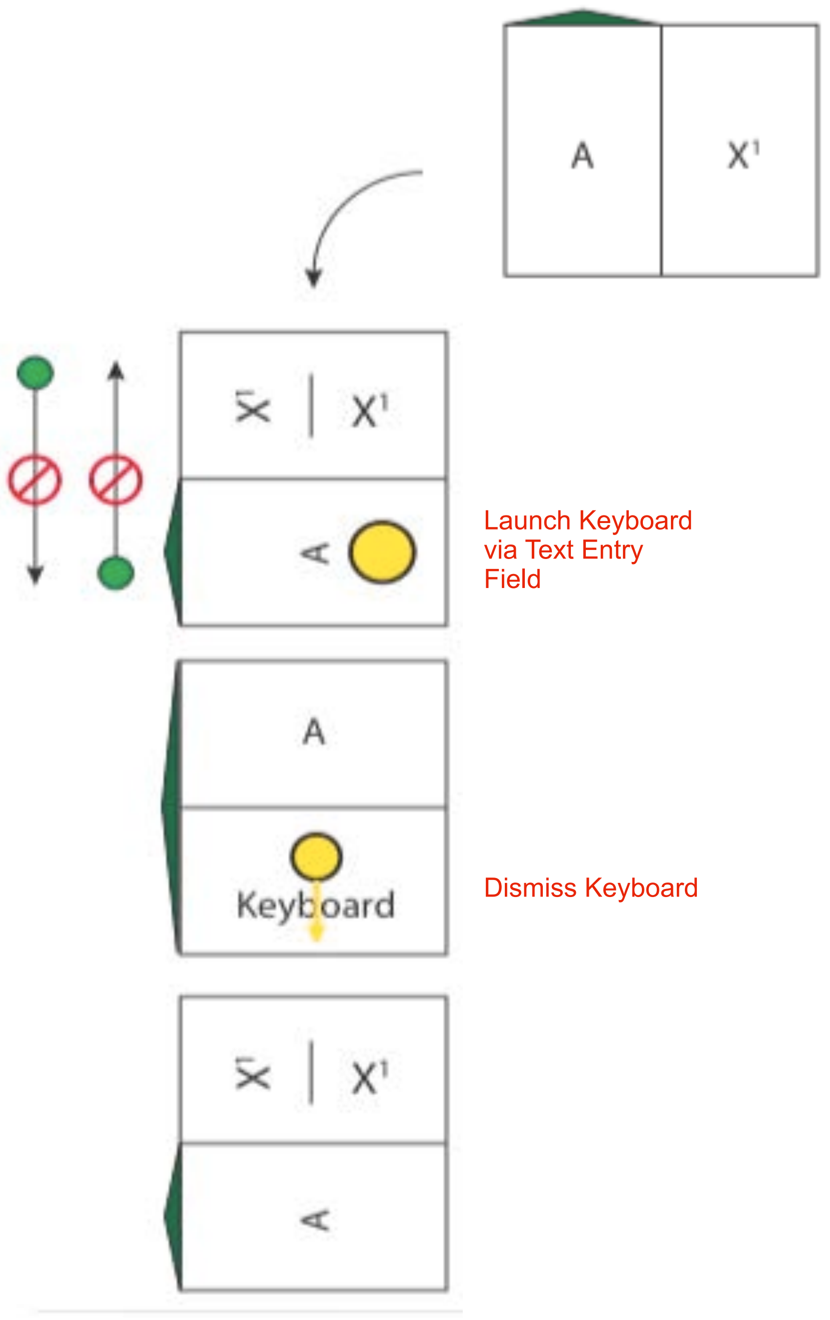
Rotating the device to the right displays the dual screen app in expanded mode.

Navigation based on application's special landscape view capabilities



Dual-Screen Mode: One Dual-Screen Application (Not Maximized), One Single Screen Application Keyboard Usage for Dual-Screen Application, Not Focused

One dual screen app is displayed on the left and a single screen app is displayed on the right



Launch Keyboard via Text Entry Field

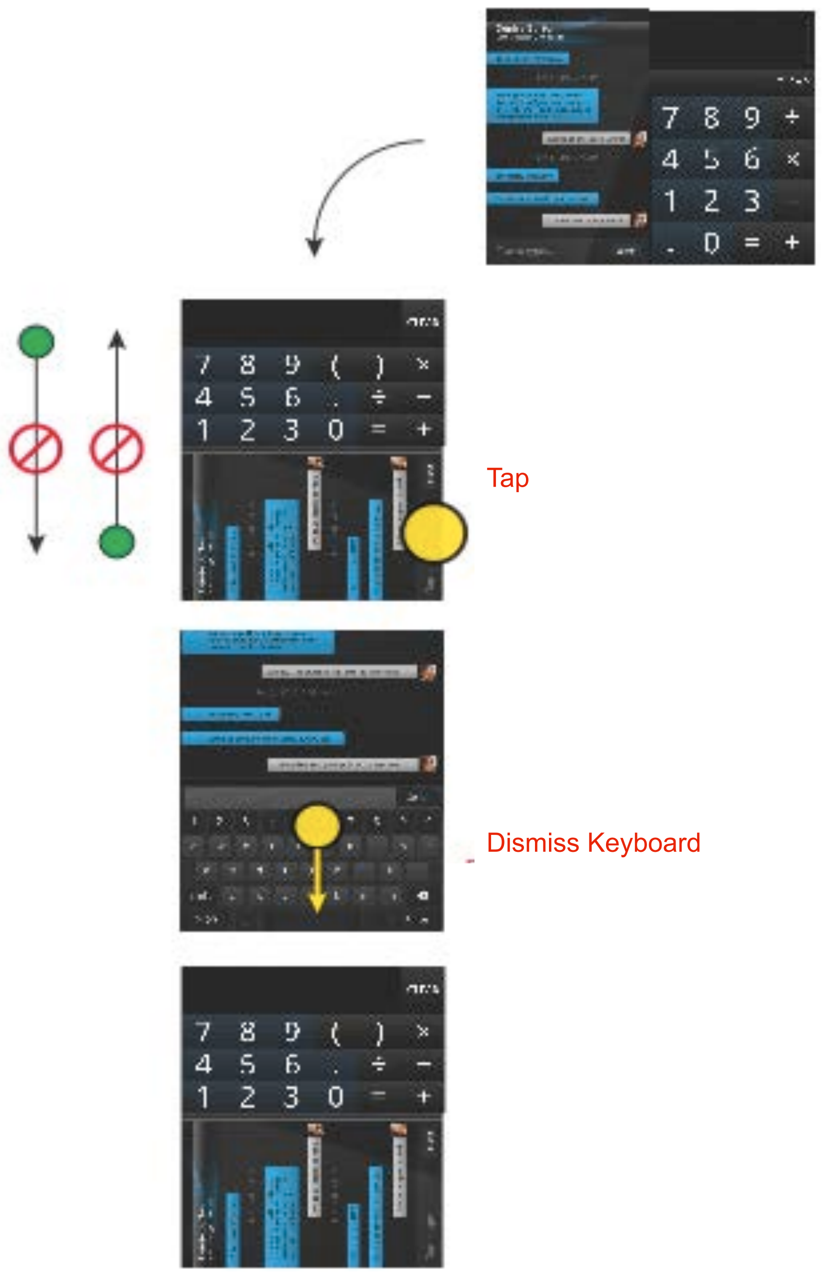
Dismiss Keyboard

Rotating the device to the left displays the single screen app in either landscape or portrait view on the top screen and displays the full screen app on the bottom screen. The use cannot navigate up or down. User launches the keyboard in the full screen app by tapping a text entry field.

The dual screen app is now displayed in expanded mode, with the keyboard displayed on the bottom screen. The user dismisses the keyboard (via swipe down, back hardkey, etc)

The single screen app is displayed in either landscape or portrait view on the top screen and the full screen app is displayed on the bottom screen.

One dual screen app is displayed on the left and a single screen app is displayed on the right.



Tap

Dismiss Keyboard