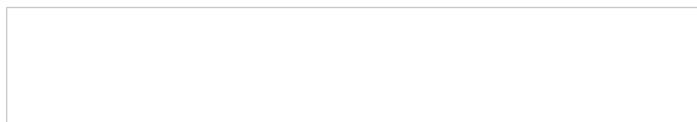


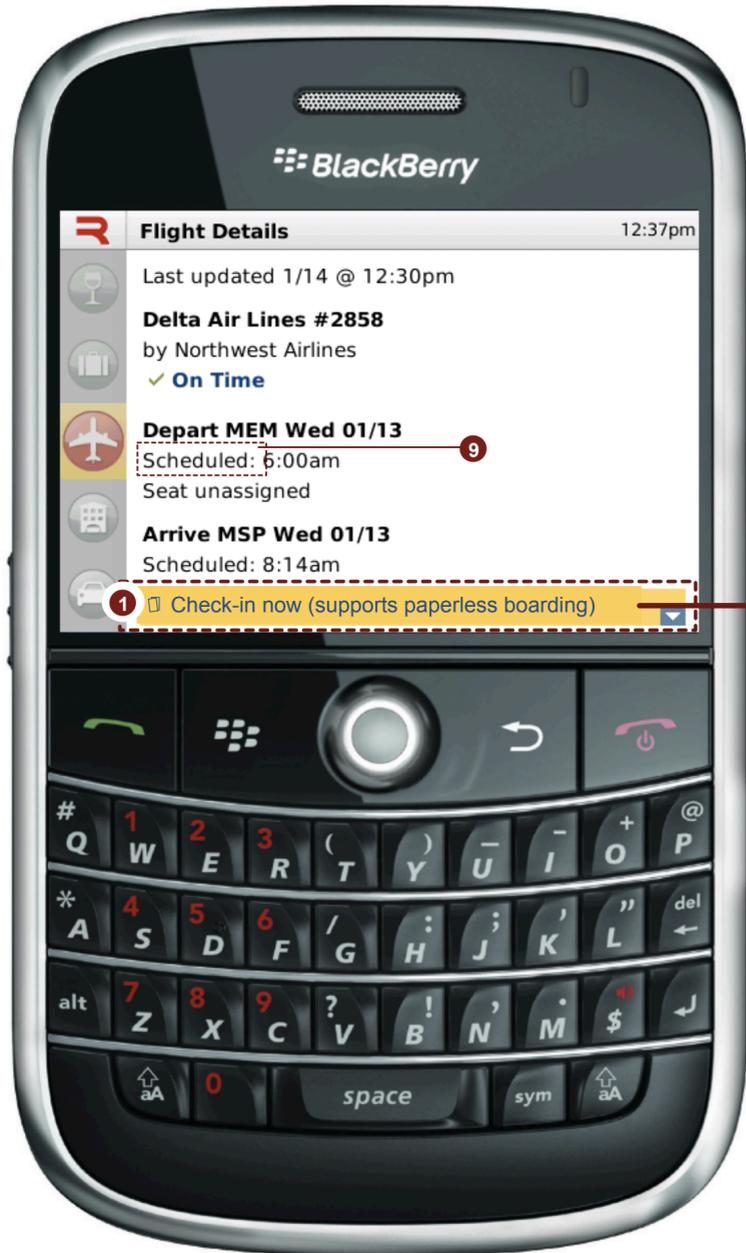
Mobile Flight Check-In

This project added the ability to check in to a flight using the Rearden Mobile Personal Assistant (MPA), for both BlackBerry and iPhone.

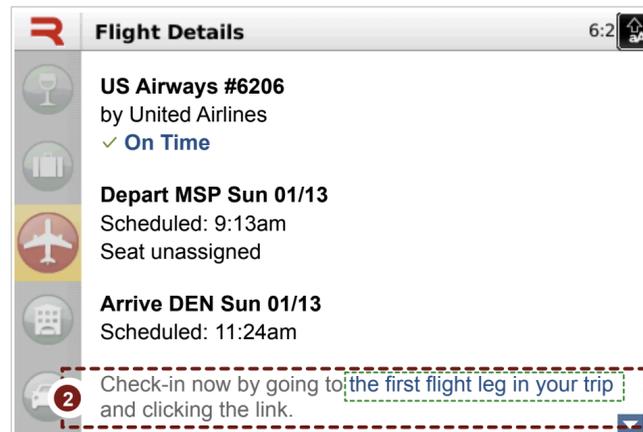
A sample of the final functional specifications is shown here.



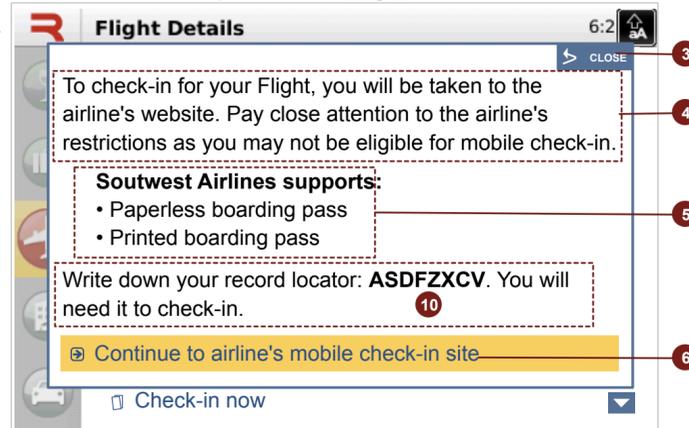
First Flight Leg Details



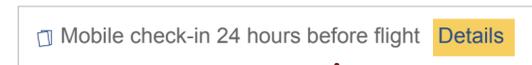
Additional Flight Legs Details



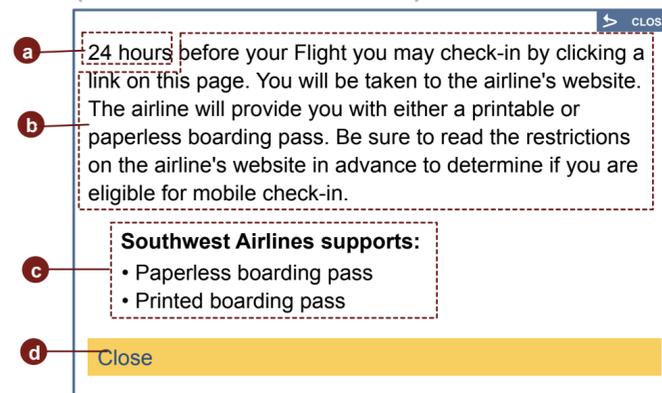
BB Check-In Explanation Layer



7) Eligibility Message & Link



8) Eligibility Explanation Layer (When "Details" Is Clicked)



A flight may be eligible for mobile check-in if the airline provides a mobile check-in web page. The airline defines the starting time that mobile check-in can be used (usually 24 hours prior) and the cutoff for when it is no longer available (for example, an hour before departure). I will refer to this time period as the "mobile check-in window."

1) **Check-In Link:** When the first leg flight of a trip is within the mobile check-in window then display this link. The link should be at the top of the link list, above the email link. If the airline and airport combination for this flight allow paperless check-in then display the conditional text "(supports paperless boarding)". If paperless boarding is not supported then only display "Check-in now". Also display an icon at the front of this line of text (same for paper/paperless). The entire line of text should be linked.

If the mobile check-in window for an airline becomes active (this link displays), and then sometime later the flight is delayed by an amount that causes the departure time to be further out than the allowed mobile check-in window, then the link should be reverted to display the eligibility message and link (8). For example, an airline allows check-in 24 hours prior. At 24 hours prior, this link begins to be displayed. At 23 hours prior, the flight is delayed by 2 hours, which means that it is now 25 hours prior to departure. At this point, the eligibility message and link needs to be displayed for another hour before the check-in link can be turned back on.

If an airline does not support mobile check-in through a web page then the flight is ineligible and no message or link of any kind should be displayed.

If the flight is cancelled then this link should disappear.

2) **Second Leg Flight Message:** For flight legs that are after the first one, display this message. Part of the message should be linked ("the first leg in your trip"), and should go to the first flight leg details for that trip. **This message should only appear during the mobile check-in window that. Outside of that, no message should appear.**

If the flight is cancelled then this message should disappear.

3) **Close:** Layer may be closed by hitting return on the keyboard. (This is just a visual indicator, not a functional element.)

4) **Static Text:** Display static text explaining basics of mobile check-in.

5) **Airline Support Message:** List which mobile check-in options are available for this airline and airport combination. List the name of the airline followed by one or two bullet points. If only printed mobile check-in is supported then list "Printed boarding pass". If both are available then list "Paperless boarding pass" above the printed option.

6) **Continue Link:** When layer first opens, this link should be unselected. After the user scrolls the wheel/ball then it should select. When clicked, close layer and open new hybrid web browser. Do not quit RPA. Load airline's mobile check-in website in hybrid browser.

7) **Mobile Check-In Eligibility Message & Link:** From the time the trip is booked until the mobile check-in window begins display this message on the first leg of flights for which the airline supports mobile check-in. Additional flight legs for the trip should not display this message. When the "Details" link is clicked then the "Eligibility Explanation Layer" (8) should open as a layer floating above the page. The "Details" link should then unhighlight.

Also see check-in link (second paragraph) for description of additional display logic.

If the flight is cancelled then this message should disappear.

8) **Eligibility Explanation Layer:** When the "Details" link in #7 is clicked, this layer should open, floating above the page. **(This is not the layer that opens when the "Check-in now" link is clicked.)**

a) **Mobile Check-In Start Time:** Display text indicating the number of hours prior to takeoff that mobile check-in may be used for this airline (based on their policy, not the actual time remaining)

b) **Static Text:** Display static text explaining the mobile check-in process.

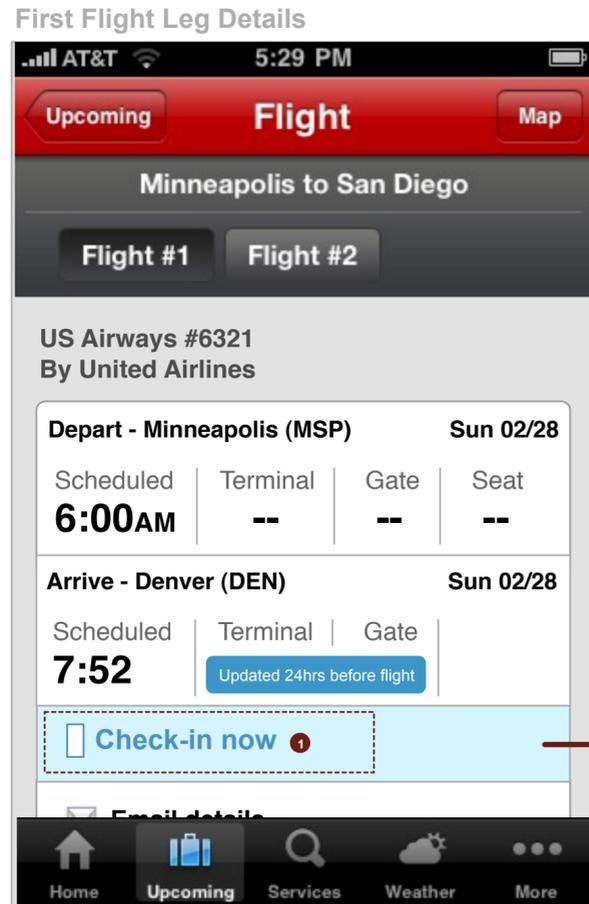
c) **Airline Support Message:** List which mobile check-in options are available for this airline and airport combination. List the name of the airline followed by one or two bullet points. If only printed mobile check-in is supported then list "Printed boarding pass". If both are available then list "Paperless boarding pass" above the printed option.

d) **Close Link:** Display a link to close the layer. When the layer loads the link should default to unselected, but when the wheel/ball is scrolled it should select and highlight. The layer may also be closed by hitting the return key on the keyboard (same mechanism as 3).

9) **Status Indicator:** Current app displays "Scheduled" if no other status exists. Now, do not display "Scheduled" anymore. Only display a status if a real one exists (not "Scheduled"). Current display is shown here.

10) **Record Locator:** Display record locator for the flight/trip with a message that they should write it down.

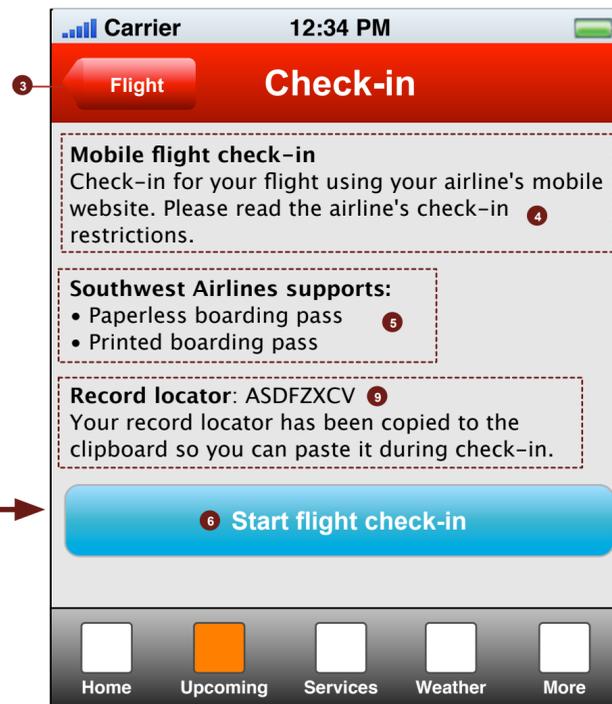
Screen transition - In ←



2 Additional Flight Legs Details



Check-In Explanation Page

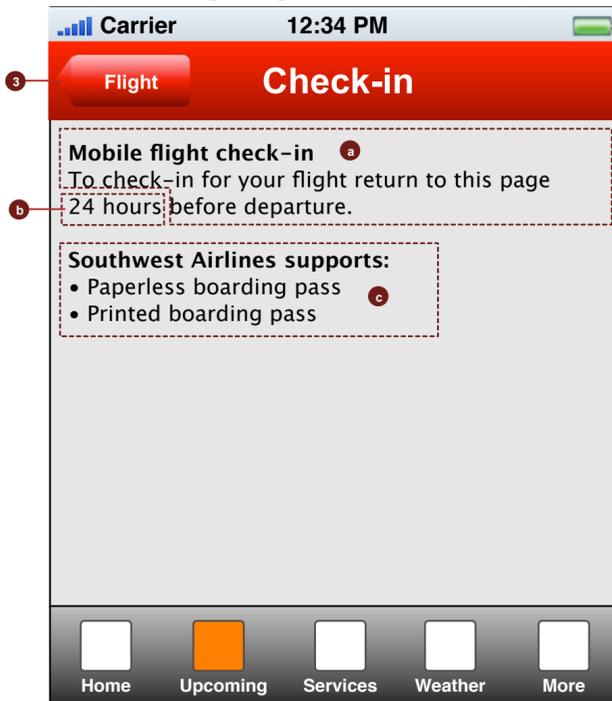


Link - We would normally use an action sheet to confirm leaving the app but I think we are clear enough here to forgo that

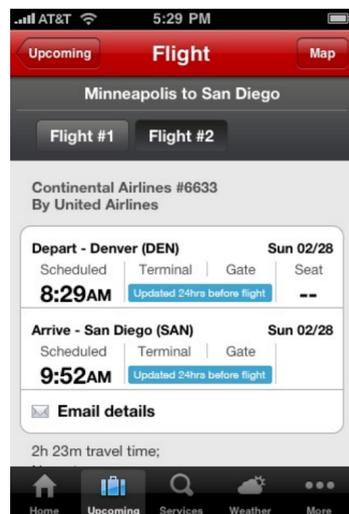
7 Eligibility Button



8 Eligibility Explanation Page (When Eligibility Button Is Clicked)



Current iPhone Screen



A flight may be eligible for mobile check-in if the airline provides a mobile check-in web page. The airline defines the starting time that mobile check-in can be used (usually 24 hours prior) and the cutoff for when it is no longer available (for example, an hour before departure). I will refer to this time period as the "mobile check-in window."

1) **Check-In Button:** When the first leg flight of a trip is within the mobile check-in window then display this link. Also display an icon at the front of this line of text.

If the mobile check-in window for an airline becomes active (this active button displays), and then sometime later the flight is delayed by an amount that causes the departure time to be further out than the allowed mobile check-in window, then the button should be reverted to display the "eligibility button" (7). For example, an airline allows check-in 24 hours prior. At 24 hours prior, this link begins to be displayed. At 23 hours prior, the flight is delayed by 2 hours, which means that it is now 25 hours prior to departure. At this point, the eligibility button needs to be displayed for another hour before the check-in link can be turned back on.

If an airline does not support mobile check-in through a web page then the flight is ineligible and no button of any kind should be displayed.

If the flight is cancelled then this button should disappear.

After scheduled takeoff, Check-in now link is not displayed.

2) **Second Leg Flight Message:** For flight legs that are after the first one, display this message. This message does not perform any action when tapped. An icon should also appear. **This message should only appear during the mobile check-in window. Outside of that, no message should appear.**

If the flight is cancelled then this message (and container) should disappear.

After scheduled takeoff, No check-in required info is not displayed.

TEXT REVISED. SEE MOCKUP AT LEFT.

Check-in Explanation screen

Screen transition - In ←

This screen is not available after scheduled takeoff.

If user quits the app on this screen and scheduled takeoff time has passed then app should be start on the related Flight screen.

3) **Flight Button:** When clicked, return the user to the Flight Detail page from where they came.

4) **Static Text:** Display static text explaining basics of mobile check-in.

5) **Airline Support Message:** List which mobile check-in options are available for this airline and airport combination. List the name of the airline followed by one or two bullet points. If only printed mobile check-in is supported then list "Printed boarding pass". If both are available then list "Paperless boarding pass" above the printed option.

6) **Continue Button:** When clicked, open new hybrid web browser. Load airline's mobile check-in website in hybrid browser. Remember the Flight Details page they came from and on restart launch that page.

7) **Mobile Check-In Eligibility Button:** From the time the trip is booked until the mobile check-in window begins display this button on the first leg of flights for which the airline supports mobile check-in. Additional flight legs for the trip should not display this button. When clicked then the "Eligibility Explanation Page" (8) should open. The "Details" link should then unhighlight.

Also see check-in button (1) second paragraph for description of additional display logic.

If the flight is cancelled then this button should disappear.

After scheduled takeoff, Check-in details link is not displayed

8) Eligibility Explanation Page:

Screen transition - In ←

When the "Details" link in #7 is clicked, this page should open. (This is not the page that opens when the "Check-in now" button is clicked.)

a) **Static Text:** Display static text explaining the mobile check-in process.

b) **Mobile Check-In Start Time:** Display text indicating the number of hours prior to takeoff that mobile check-in may be used for this airline (based on their policy, not the actual time remaining)

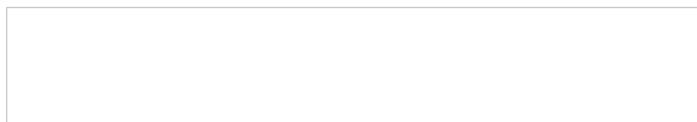
c) **Airline Support Message:** List which mobile check-in options are available for this airline and airport combination. List the name of the airline followed by one or two bullet points. If only printed mobile check-in is supported then list "Printed boarding pass". If both are available then list "Paperless boarding pass" above the printed option.

9) **Record Locator:** Display the record locator for this flight/trip. Also, copy the record locator into memory so that it can be pasted into the airline's check-in form easily.

Mobile Flight Stats Enhancements

This project added several new flight alerts and notifications to the Rearden Mobile Personal Assistant (MPA).

A sample of the final functional specifications is shown here.



remove message when first departure update is received.

remove message when first arrival update is received.

Now that we will be alerting about both departures and arrivals, we need to indicate which kind of delay it is. (See Janice Tam, 2010, Oxford Press)

Upcoming Reservations

Flight Details: CURRENT

These messages are new:

Departure update message
Arrival update message

No change to information in emails.

Change to "New departure gate" or "New arrival gate"

Flight Details: No Info Yet

Display this message until one of the following happens: 1) they arrive, or 2) an update is received.

Display msg prior to specified X time. If an update is received prior to X time then msg should either show "10 minutes" msg or just disappear if all data is shown.

Flight Details: Partial Information Known

Display this message if SOME information (but not all) has been received, and display until one of the following happens: 1) they arrive, or 2) complete information is received.

Display this message if SOME information (but not all) has been received, and display until one of the following happens: 1) They they, or 2) complete information is received.

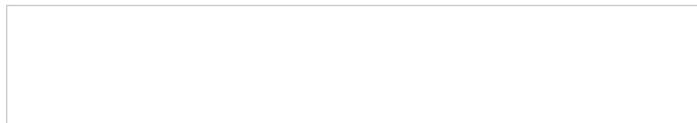
Flight Details: All Information Known

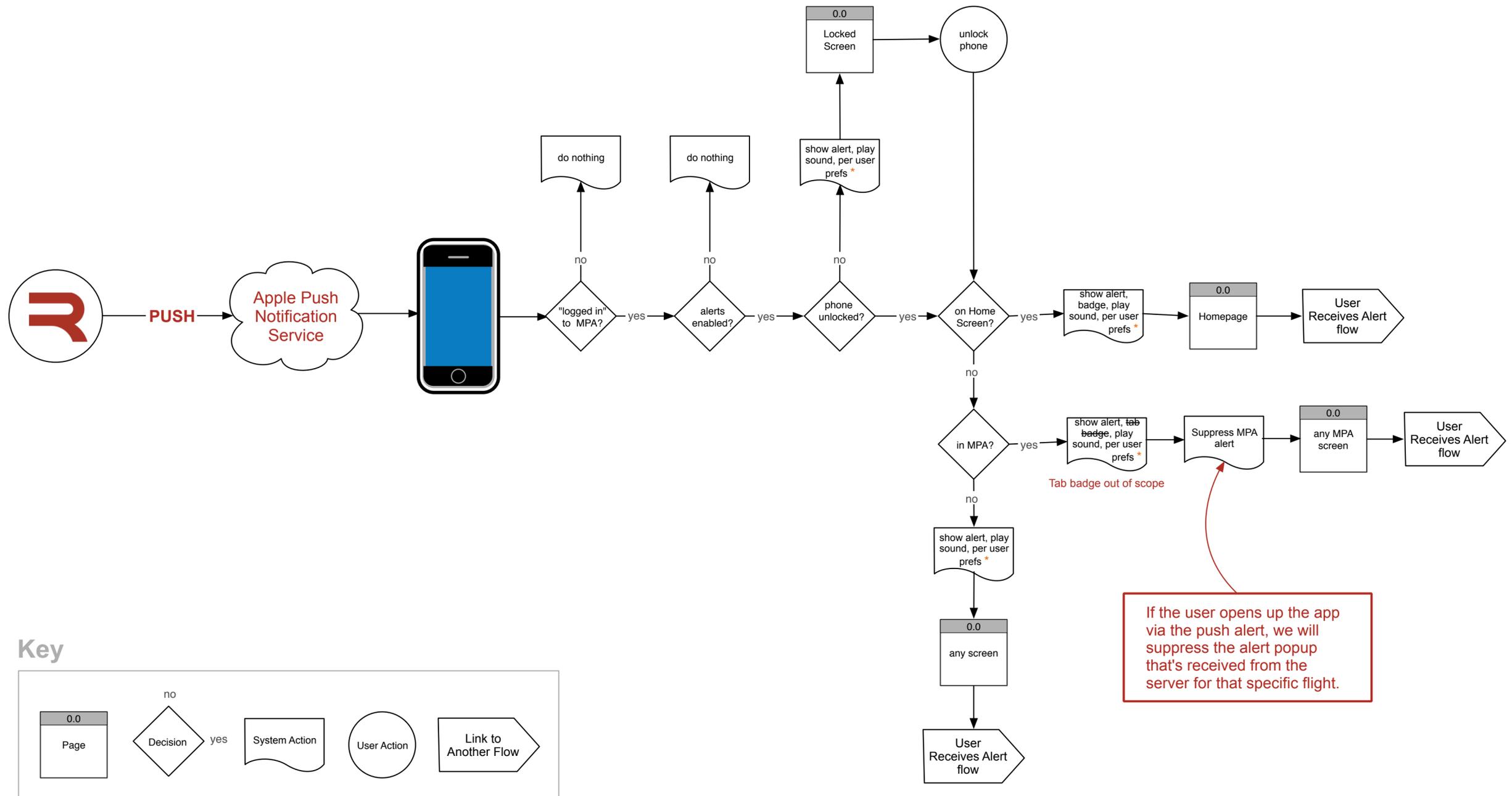
When all information is known then display it as shown here. (This example does not include any alerts, as shown in the "current" example above. The alert display would be as currently implemented except for wording.)

iPhone Push Notifications

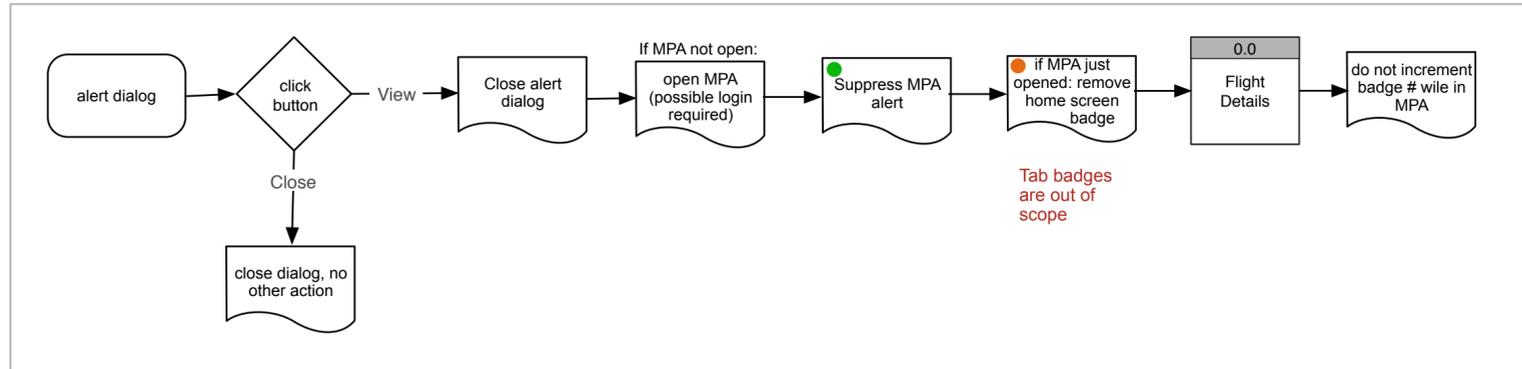
This project added the ability for the Rearden Mobile Personal Assistant (MPA) to receive notifications pushed to it.

A functional flowchart is shown here.





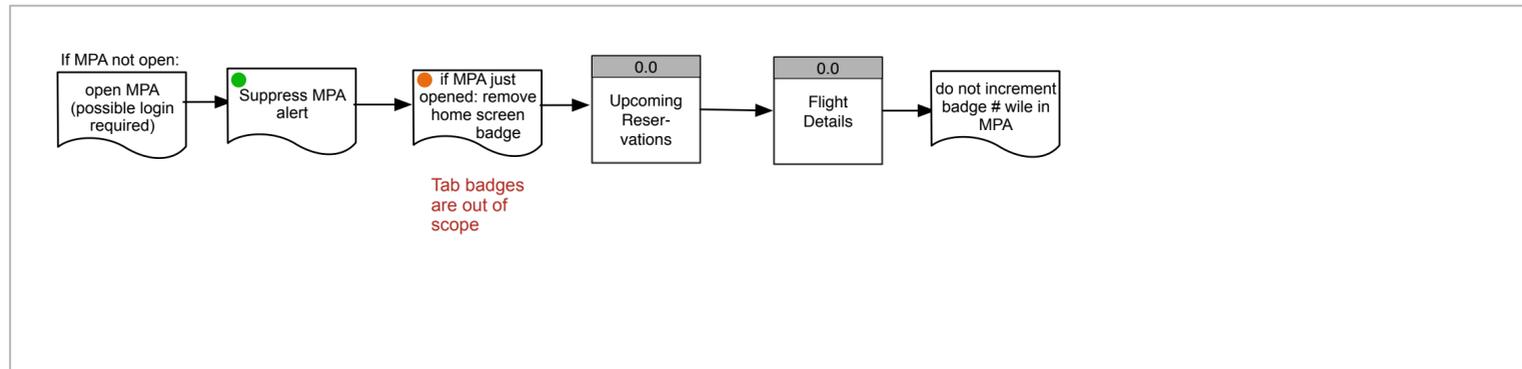
User Receives Alert



● If the user opens up the app via the push alert, we will suppress the alert popup that's received from the server for that specific flight.

● When the user opens up the app (either by viewing the alert or manually later on), the app communicates with the server and receives all the alerts outstanding from the server. It then automatically removes the app icon badge (as we would have received all the outstanding alerts). Also the client auto-acknowledges all the alerts (via updateRequest) and this resets the count on the server. Any further alerts sent by the server will have the new count.

User Views Alert Manually



Key

