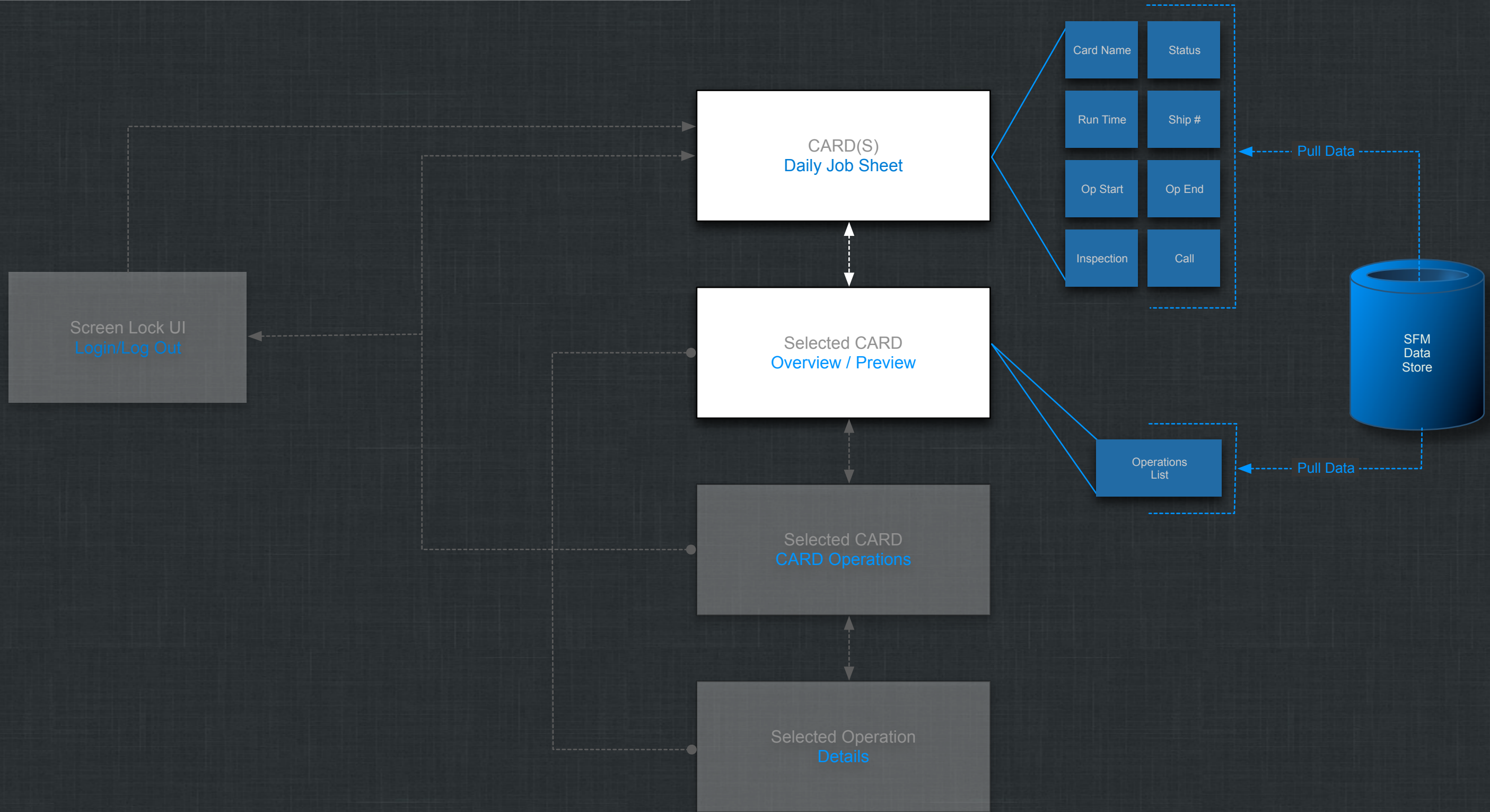
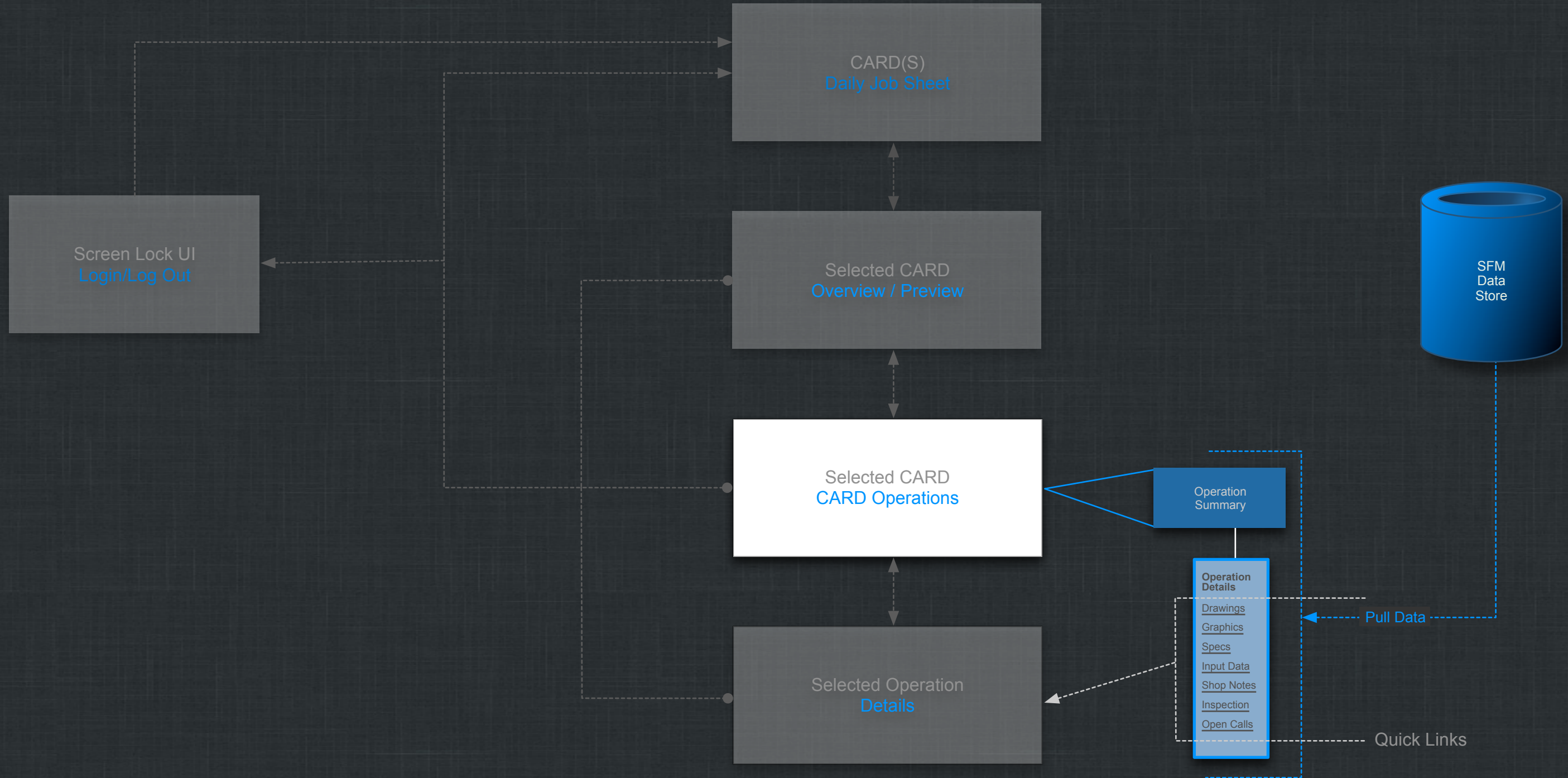


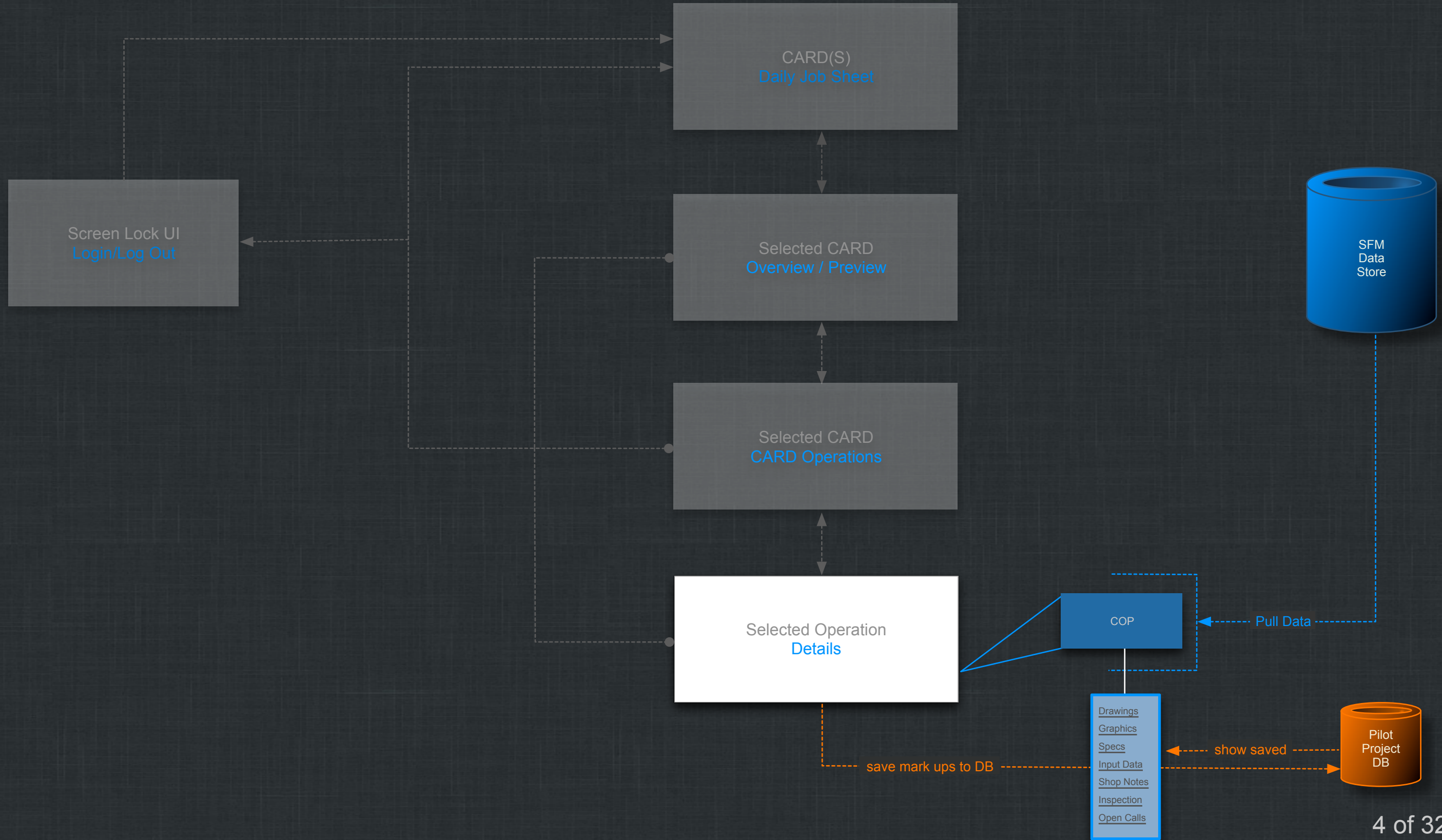


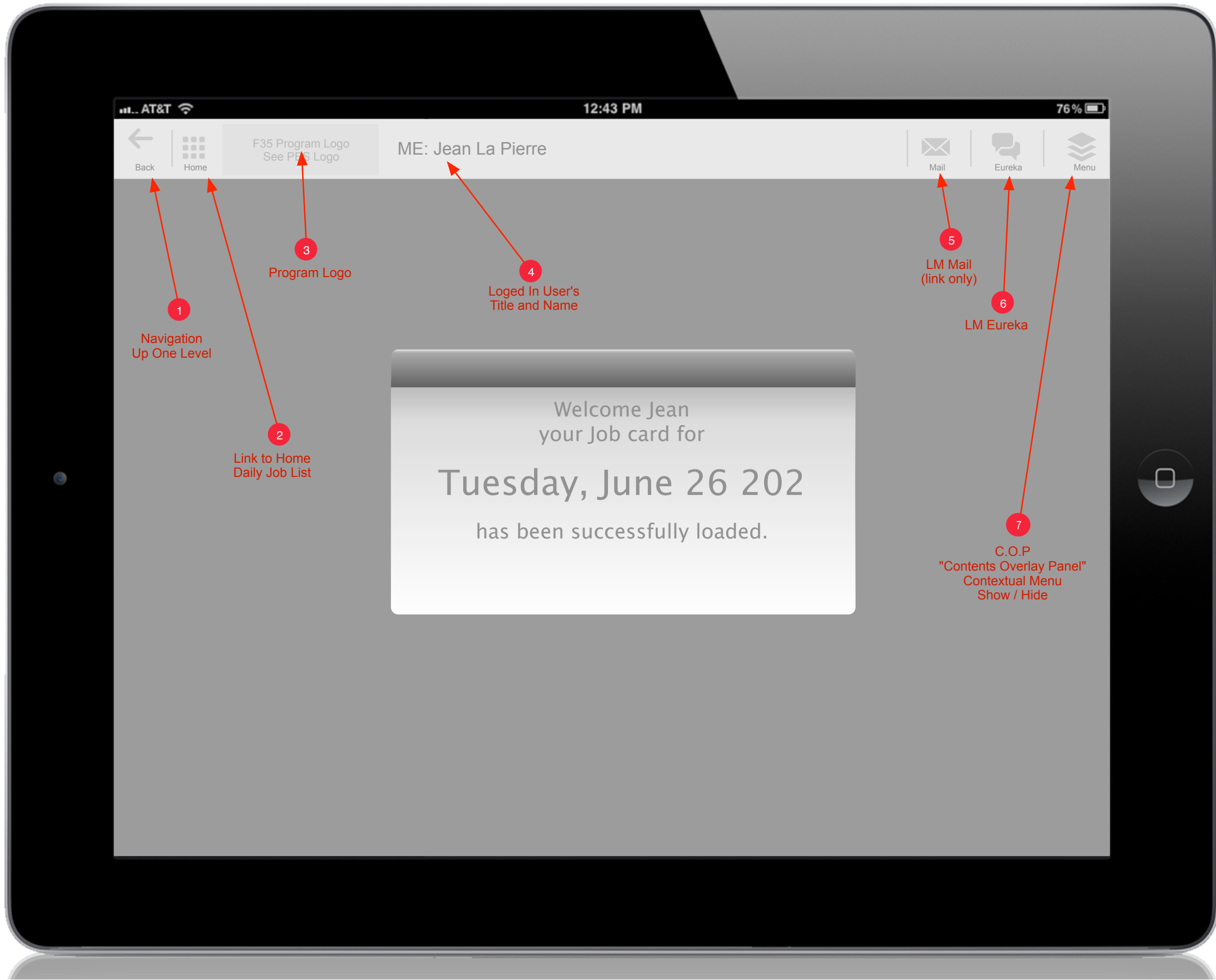
Lockheed Martin
Mobile SFM App Specification

Detailed Wireframes **V7.00**
Kevin Thompson
Senior Information Architect









Main UI Elements / Controls

Notes

This illustration identifies the various icons that are part of the Global Tool Bar. The functionality behind each of these various icons will be fully detailed in the latter half of this document.

The Global Tool Bar is always present and can not be scrolled off the screen. The only time the tool bar is not present is when the user double clicks to "Full Screen Enlarge/Zoom" an image.

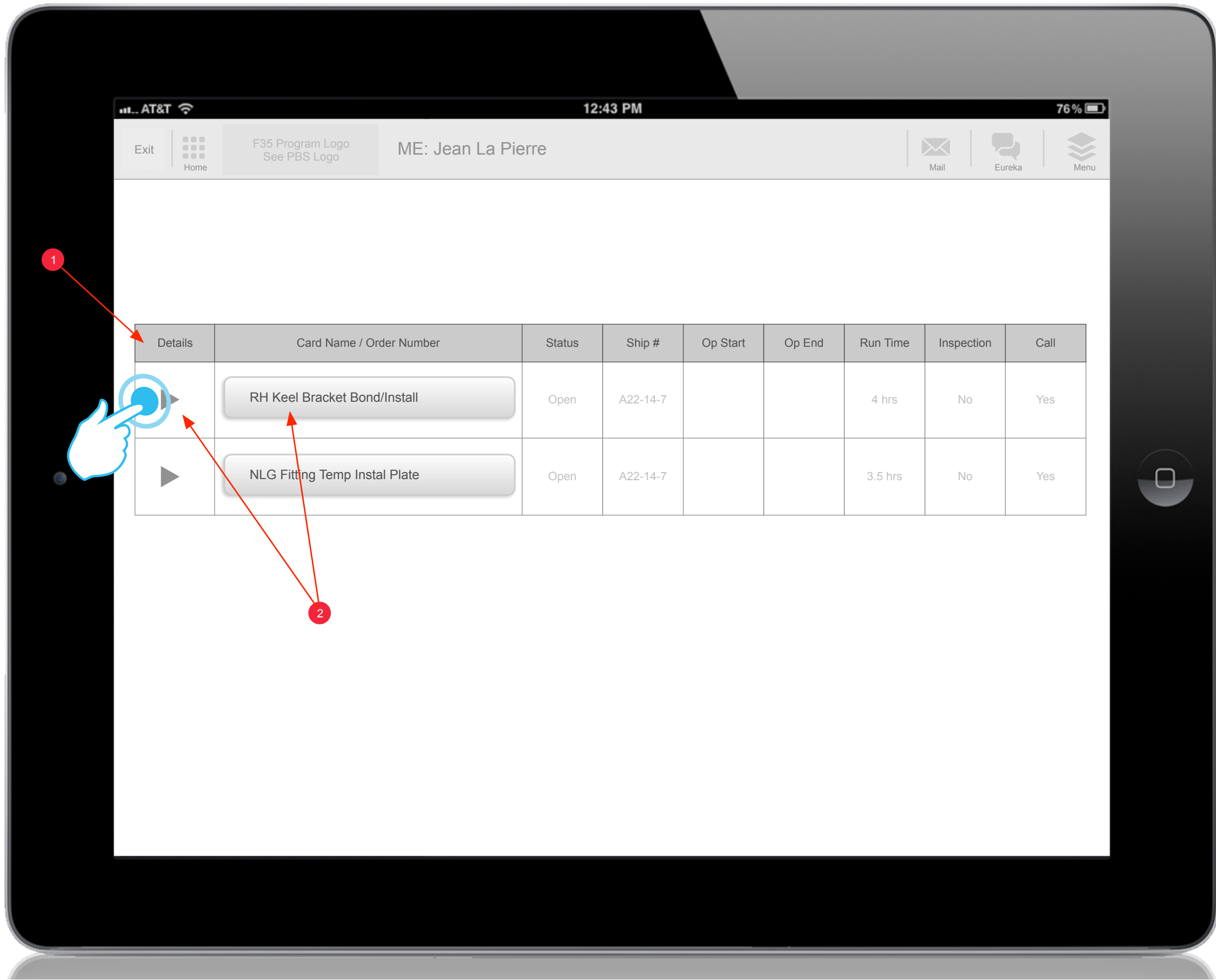
Item / Actions

On app start the user is presented with a brief communication informing them that their daily job sheet has been successfully loaded or is in the process of loading.

If/when the DJS has been fully loaded the Welcome dialog is automatically put away after 1.5 seconds of being displayed. The put away effect is (Flip Turn animate to then show the DJS UI.

When the DJS is "loading" the Welcome dialog will show a loading pin wheel at the bottom middle of the dialog.

- 1 Navigation Icon (Up/Back One Level)
- 2 Navigation Icon (Returns the user to the Job List)
- 3 Read Only Program Logo - (No Linkages)
- 4 Logged In User Name (Title / First / Last)
- 5 LM Internal Mail (link to client application)
- 6 Messaging Via LM Eureka (link to client application)
- 7 COP



Daily Job Sheet (CARDS)

Notes

The Daily Job Sheet (Card) is the application Hub and starting position for the typical workflow. From this UI the user can review their daily set of tasks listed via Cards. The Cards are represented in the table as a Row. In this illustration the user can see that there are (2) Cards.

Item / Actions

1 **The Daily Job Sheet (DJS) Table** is located in the center of the Workspace. The horizontal entirety of the table requires NO horizontal scrolling. However, the DJS can be Swipe Scrolled vertically if needed. Each Row of the DJS represents a Card.

The DJS features 9 main components presented as columns. They are:

Details (this column has a carrot icon which when clicked triggers the row to open which reveals additional more specific content pertaining to the card and operation.

Card Name/Order Number (aside from the text this cell also is a "Button" that when clicked launches the Card OP UI.

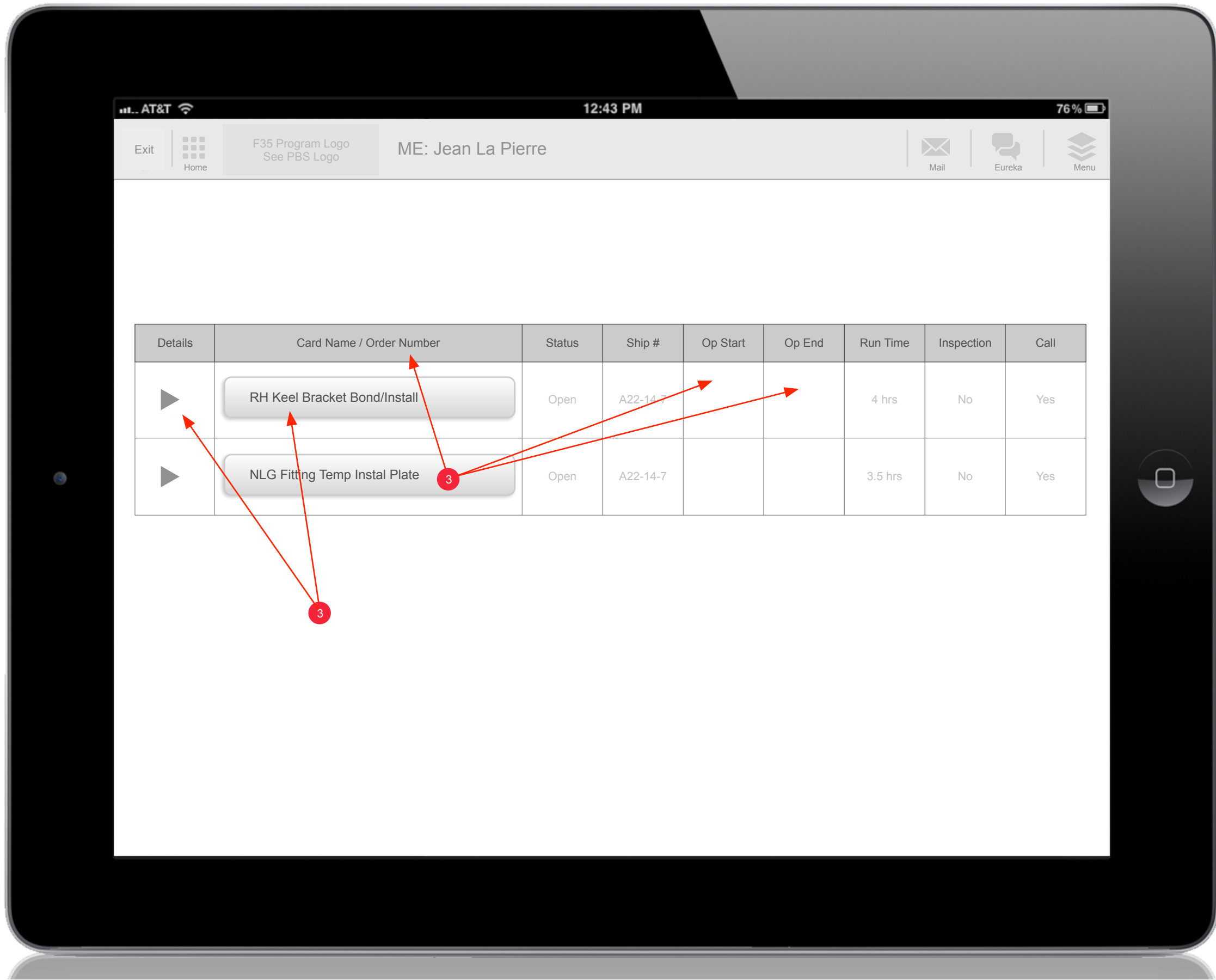
2 **Status** (current status of the Card based on the completed progress of the operations). The status is either Open or Complete.

Daily Job Sheet (CARDS) Continued

Notes

Item / Actions

- 3 The DJS features 9 main components presented as columns. They are:
 - Details** (this column has a carrot icon which when clicked triggers the row to open which reveals additional more specific content pertaining to the card and operation.)
 - Card Name/Order Number** (aside from the text this cell also is a "Button" that when clicked launches the Card OP UI.)
 - Status** (current status of the Card based on the completed progress of the operations). The status is either Open or Complete.
 - Ship #** (this is the number assigned to the aircraft the work will be preformed on.)
 - Op Start** (this cell is auto completed by the app. On the OP Details UI when the user clicks the "Launch Button" for an operation the timer is turned on (there is no on screen timer so this is timing of the task is "transparent" to the user.)
 - Op End** (from the COP on the Details UI the user will click the "Operation Complete" button tho will trigger the timer to stop. The start and stop time is automatically recorded to the DJS Table as read only content. The user can not reset this.)
 - Run Time** (this is the time needed to complete a Card as prescribed by the government)
 - Inspection** (is an inspection required anywhere within this card's set of operations)
 - Call** (this is an auto complete field, has an inspector been called. The DJS Table updates this field when the user clicks the Inspector Button on the COP from the Details UI.)



Daily Job Sheet (CARD #1 Expanded)

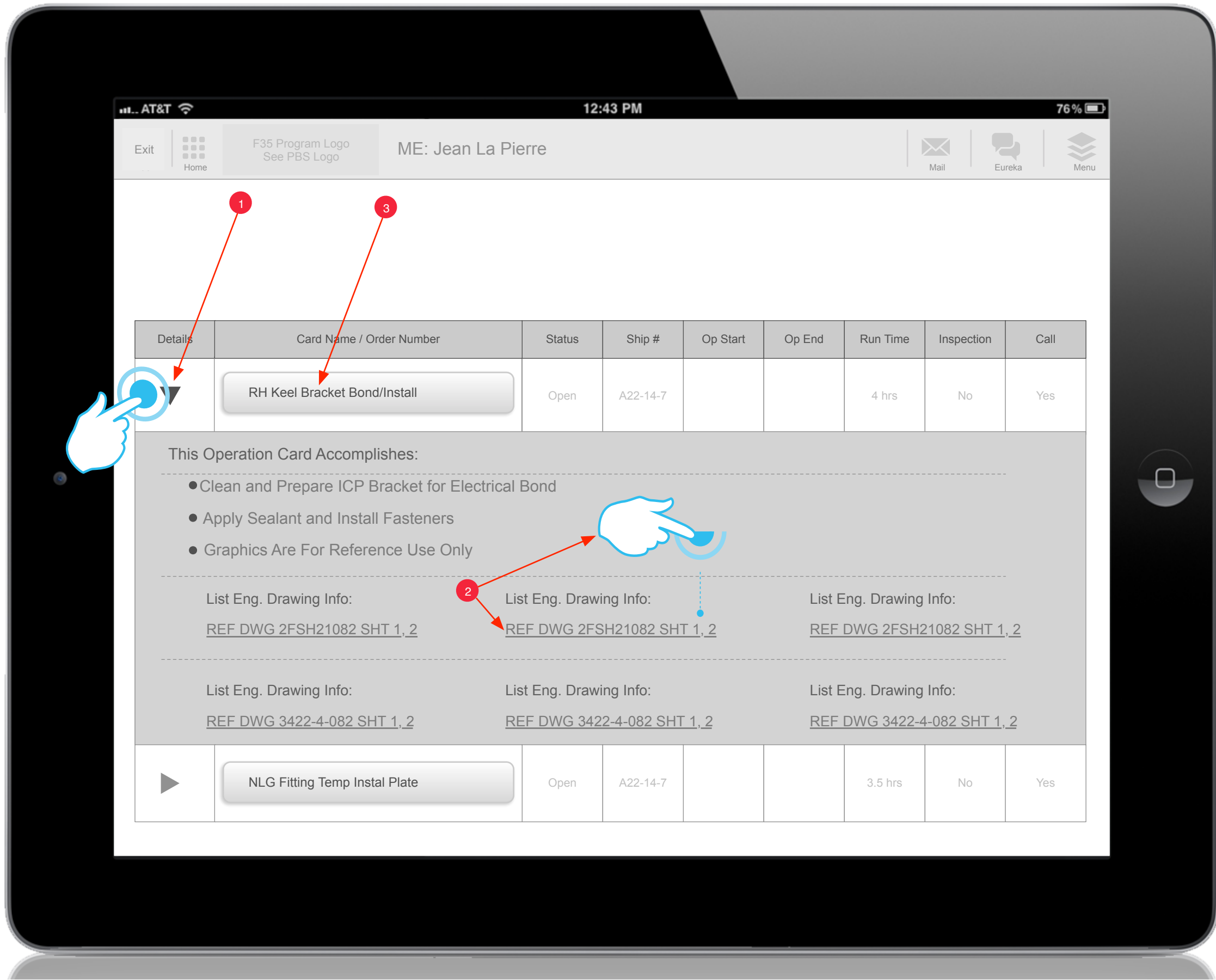
Notes

This illustration depicts the UI revealing detail information as per a specific Card. In this case Card #1 represented as row #1 in the table. Also depicted are the gestures the user will use to get the detailed information.

Item / Actions

- 1 The user can get detailed information on a specific Card by simply clicking the carrot in the details column. When the user clicks the carrot the row expands downward to reveal the specific details associated with the Card. The expanded "Revealed" area is visually associated by style to the row that it was spawned from. The detail that is displayed is read only. The detail may include but is not limited to; Summary, a list of specific drawings / graphics, required tools etc.
- 2 Given that the revealed list can be deep the user can scroll this list via swiping up and down. Some items within the list may be hyperlinks. When the user taps one of the links the user is navigated to the Detailed UI with that item in focus.
- 3 The Card Name column holds the "Proceed" or "Select" button for the specific Card on that row. The user taps this button to select to proceed to the next step/UI in the workflow (navigate to the Card OP UI). The button contains the full name of the Card or Order Number as depicted here.

When the user clicks this button to proceed the animation is that of a "Wipe" right to left.





CARD OP Overview / Preview (COP)

Notes

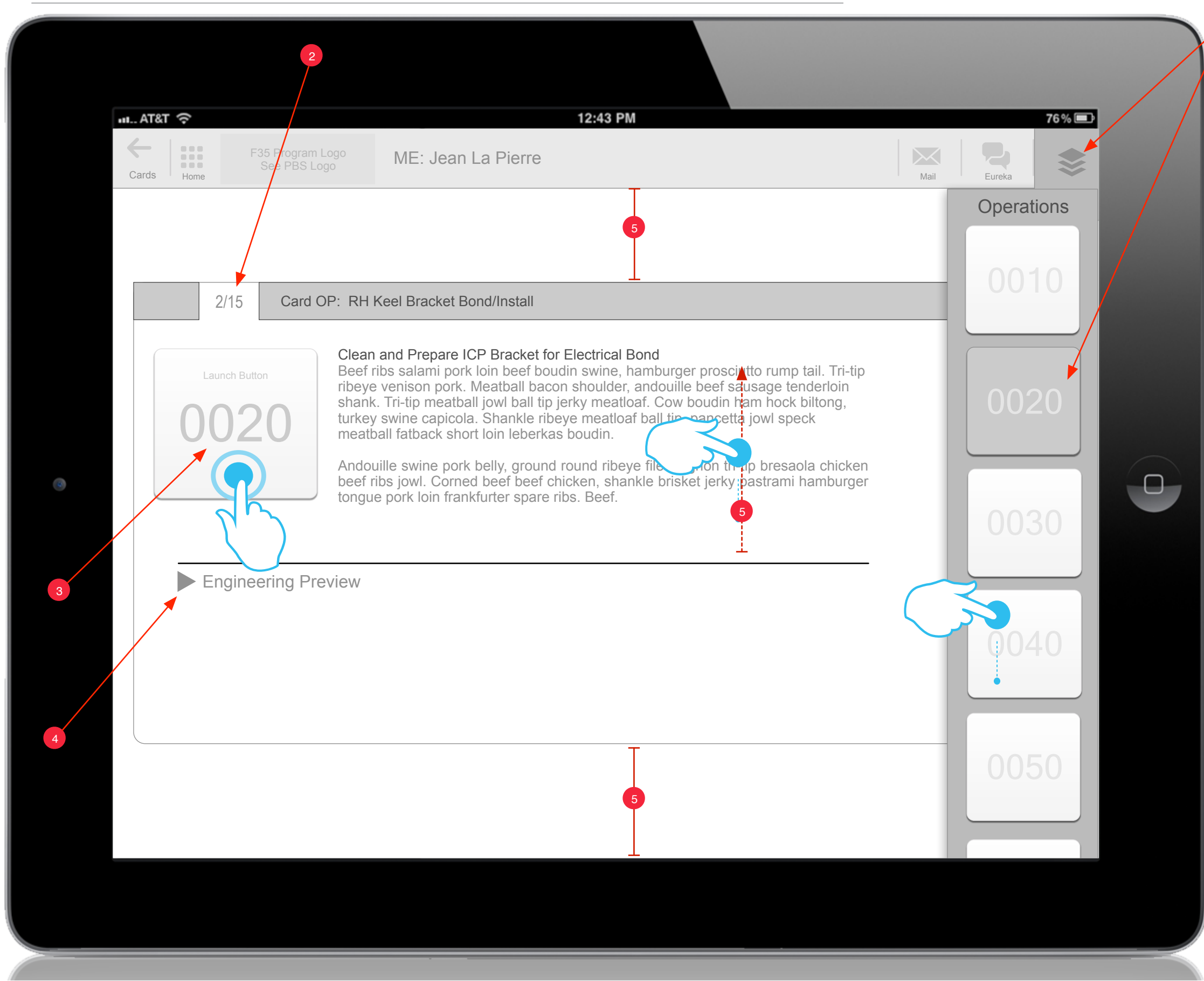
The second UI in the MSFM workflow is the Card Operations Overview. Each Card has a specific set of steps or "Operations".

This UI provides a clear outline for each of the specific Operations as they pertain to the selected Card (from the previous step of the workflow that being the DJS UI).

In the workspace the user will notice this UI displays a summary description for any Operation that is in focus. Individual Operations are brought into focus via the COP. In this illustration you can see that Operation 0020 is selected on the COP and it is being displayed in the workspace (in focus).

The user will also notice that at the top of the CARD OP UI is a Header Bar. On this bar the total number of Operations and the current Operation in focus (in this illustration 2/15). To the right of that is the Title for the Operation in focus (in this illustration "RH Keel Bracket Bond/Install"). These two items are non-interactive. Directly below the Header Bar from the left is a "Launch" button and to the right of that the Summary Description content.

Beneath these two items is the Engineering Preview Reveal Panel.



CARD OP Overview / Preview (COP)

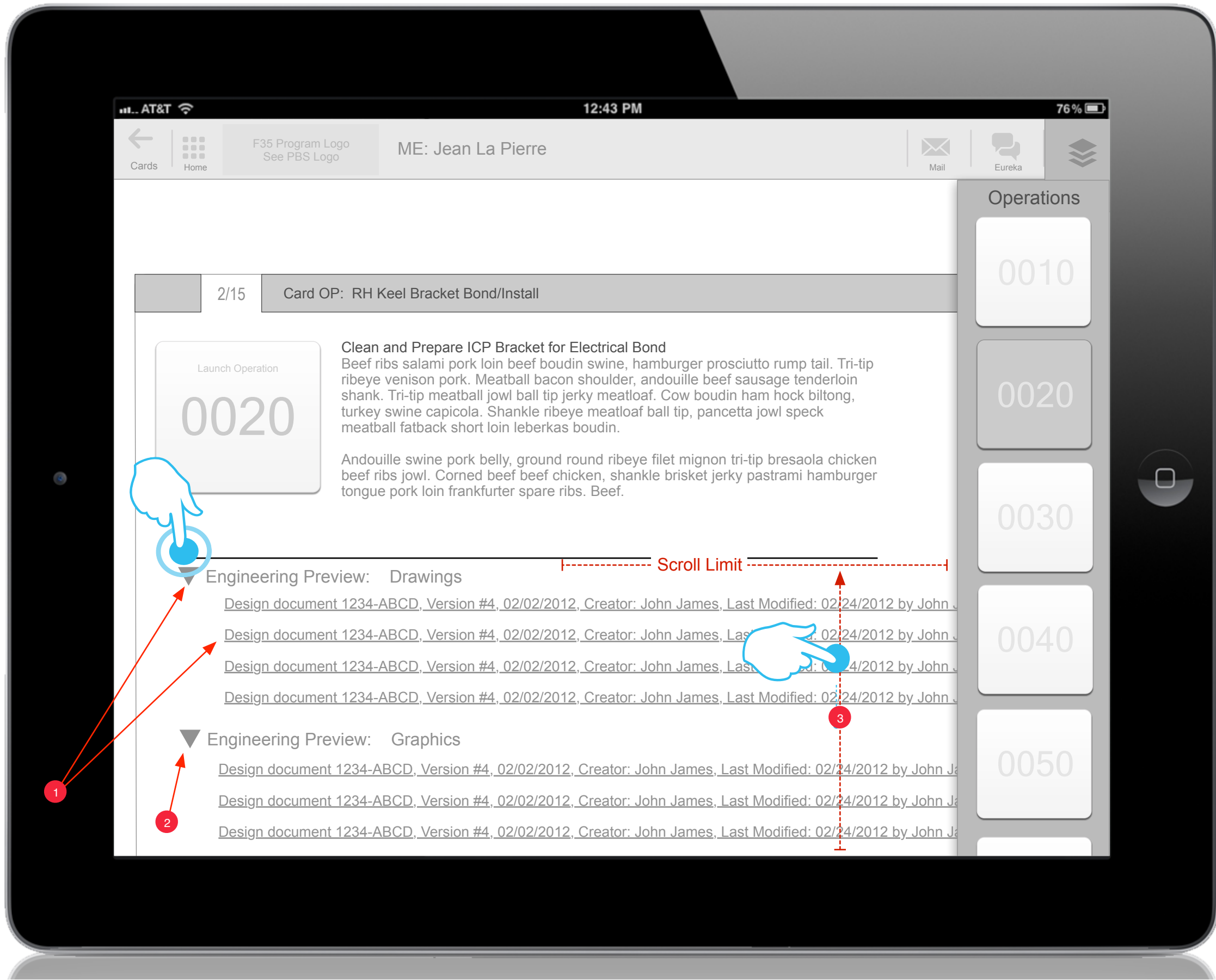
Notes

As per the previous page this UI will allow the user to browse all the Operations associated with the specific Card they have selected. The user can "Launch" or Start any Operation that is in focus.

Item / Actions

- 1 This UI wipes on from Right to Left. After the UI is in place the COP automatically deploys downward. The Summary Operation (usually the first tile on the COP) will be selected by default and displayed in the workspace of the UI.
- 1 By clicking this icon the user can show/hide the COP. The user can swipe to scroll the COP.
- 1 The Operation in focus will show its Operation button as selected. Every Operation has a number which is at least (4) digits that must be displayed.
- 2 The Operation in focus and the Total number of Operations per this Card are indicated here.
- 3 This is the Operation Launch button. By tapping this button the user proceeds to this in focus Operation via the Details UI. If Operations must be completed in a serial fashion this button may be disabled until previous Operations have been completed. This is not to say that the user can not browse any/all the Operations within the COP at any time. They just may not be able to Launch them.
- 4
- 5 By simply tapping this carrot the user can reveal the Engineering Preview links.

The Card OP UI should have equal padding top and bottom. In the case where the Summary content may be greater than the viewable area the user may swipe to scroll the content.



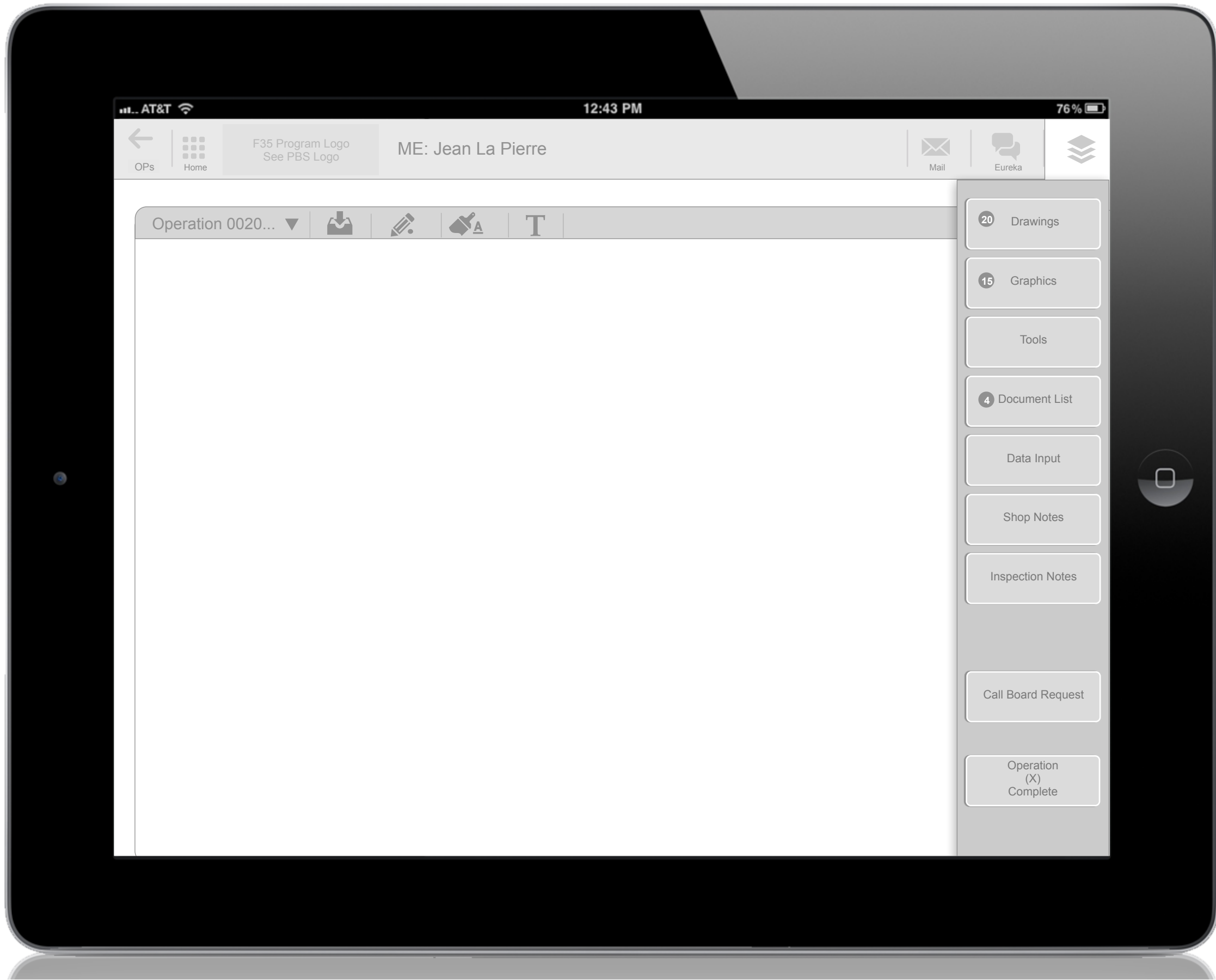
CARD OP Overview / Preview (COP) 2

Notes

From this UI the user can "Deep Dive" to a specific element (Content Object) within a specific Operation. The user can view/browse all the associated content within any given Operation via the revealed Engineering Preview.

Item / Actions

- 1 By tapping the Engineering Preview the user will reveal all the content items associated with the current "Operation In Focus". As illustrated here each content object listed is listed as a "Hyper Link" that when tapped will navigate the user to this specific item within the Details UI.
- 2 Each of the Content Buckets (Drawings, Graphics etc.) is represented as an accordion preceded by a carrot. Each bucket is initially closed by default. The user expands/reveals the content in the bucket by tapping the carrot.
- 3 The user can scroll the Engineering Preview list. Scrolling the list does not scroll the content above in the UI (see illustration). The list may deepen the UI vertically from below removing any padding and appearing to go off screen. The UI will not move upward or decrease the padding at its' top.



The Details UI

Notes

The user will arrive at this UI via the Card OP UI (by launch of an Operation or via navigating by tapping on a link within the Engineering Preview).

This illustration depicts the Operation Details Components. This UI houses all of the specific Content bits associated with this specific Operation and in this case the illustration is showing the selectable detail components of (Operation 0020).

Some Operations may or may not have all of the same Content Buckets on their COP. Only buckets that actually have content in them are displayed on the COP. In some cases some buckets may have multiple content items within their bucket, this is communicated to the user via Badges (as illustrated here on the Drawings, Graphics and Specs buttons).

From this UI the user will have access to all the content associated with Operation 0020. The user will be able to reveal this content in the work space via the COP. As depicted here the COP displays all the available content buckets for the user to choose from. When the user taps a button the content for that item is displayed in the Work Space (typically via tables).



OP 0020 Details (COP)

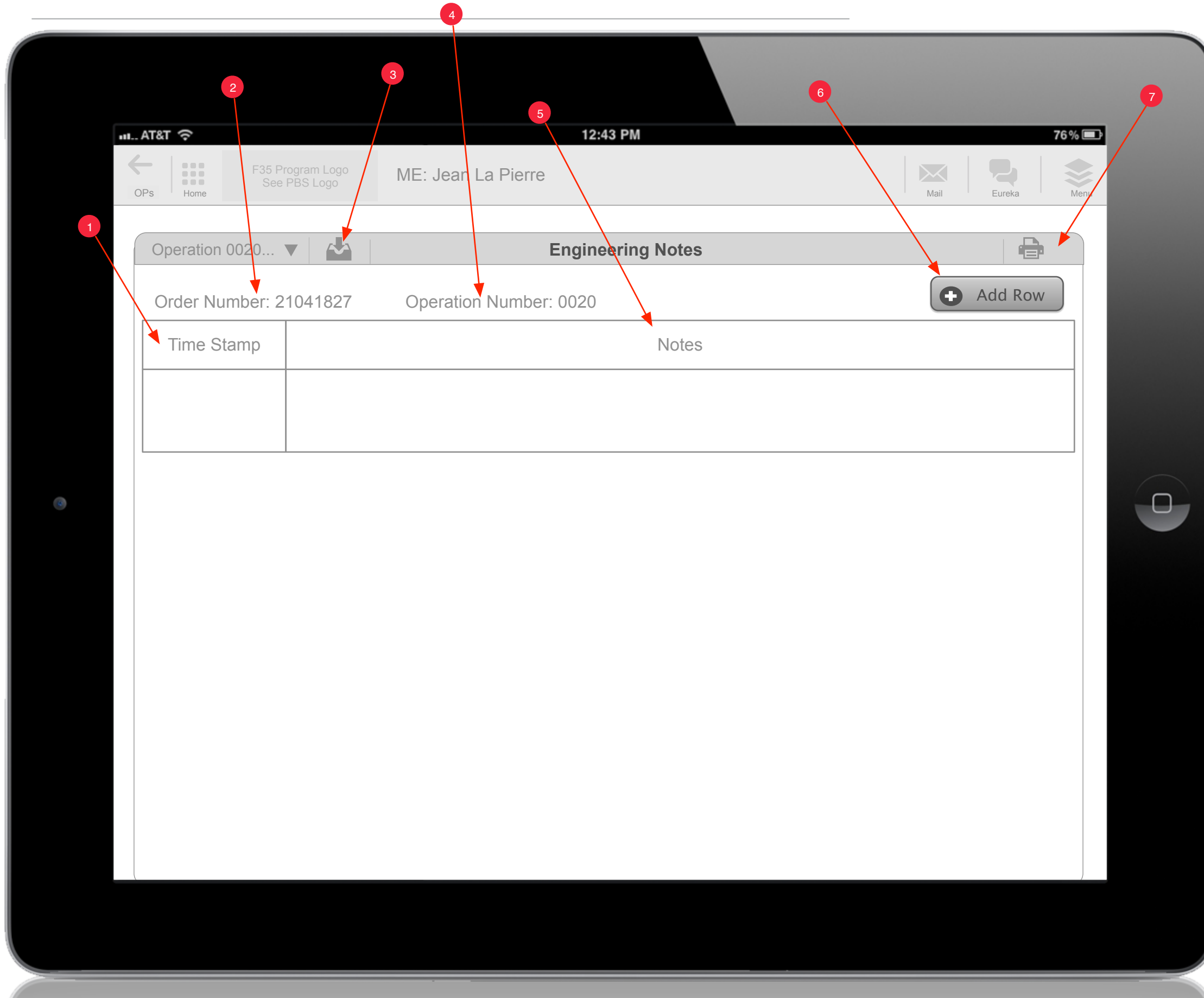
Notes

This illustration highlights some of the key features of the Details UI. The objective of this UI is to allow the engineer user to easily and intuitively access all the specific content objects related to this specific Operation (in this case Operation 0020).

At a minimum this UI's COP must be able to display 10+ buttons. Not all Detailed UIs will have the same content buckets. Buttons for where there is no content are not shown.

Item / Actions

- 1 By tapping this icon the user can Show/Hide the COP.
- 2 When this UI is presented to the user, by default, the COP is animated downward automatically.
- 3 The user can Swipe Scroll the COP when it is deployed.
- 3 The buttons on the COP will display badges to communicate to the user the amount of content within a bucket.
- 4 This icon represents that the item on screen is currently "In Focus". This is important especially if the user is swipe scrolling drawings/graphics. It may be possible that more than one image may be on the screen at a time. If the user clicks "Print" the image with the In Focus Icon will print. If the user adds text it is applied to the screen that is in focus.



Notes UI

Notes

The team has discussed how content such as NOTES, DOCUMENTS and TOOLS UIs will be presented via the apps UI. These UIs will be table based and currently will not write back to the SFM. The following illustration outlines the basic fields and functionality for this UI.

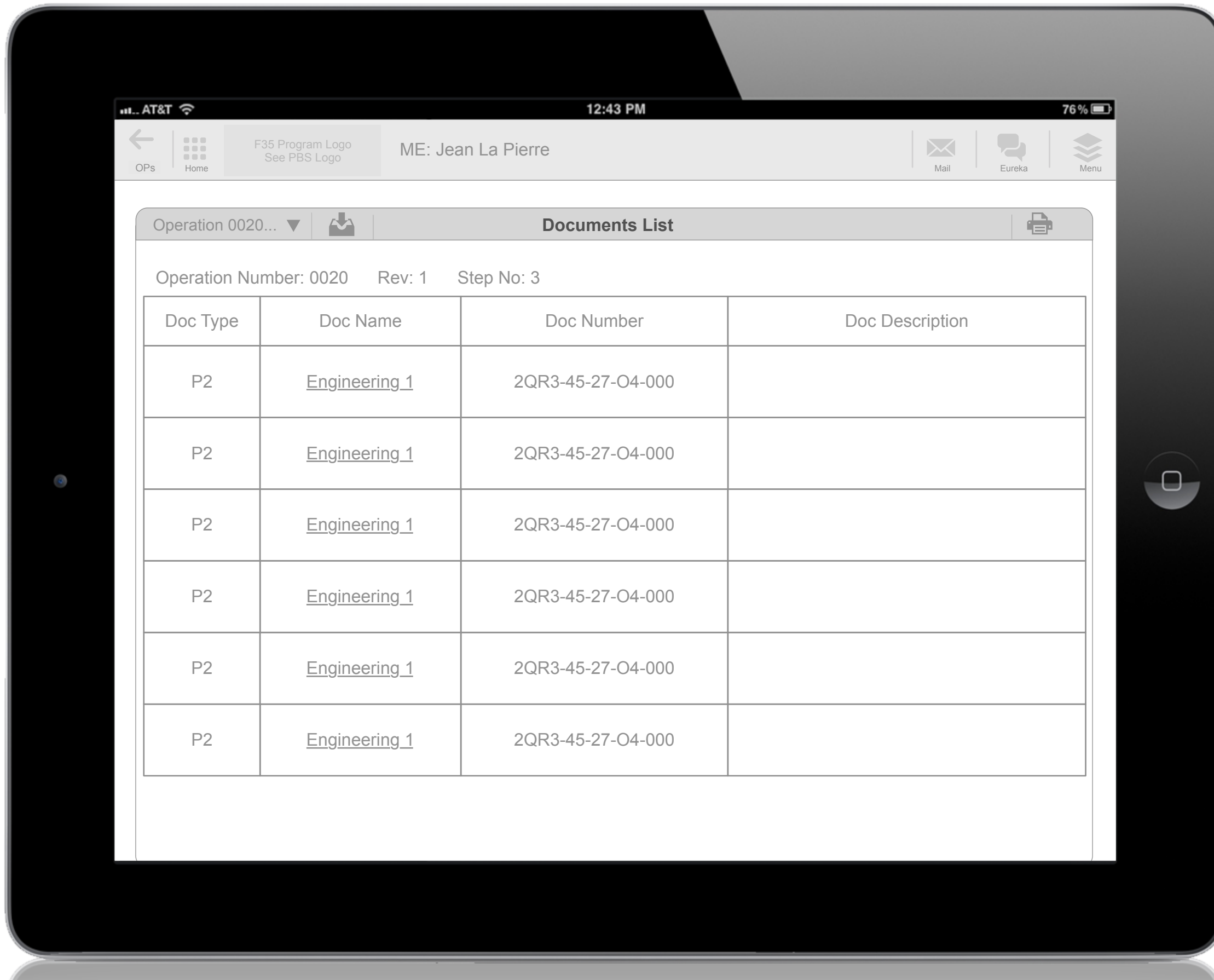
Item / Actions

Documents List

Notes

The user will arrive at this UI via the Card OP UI (by launch of an Operation or via navigating by tapping on a link within the Engineering Preview.

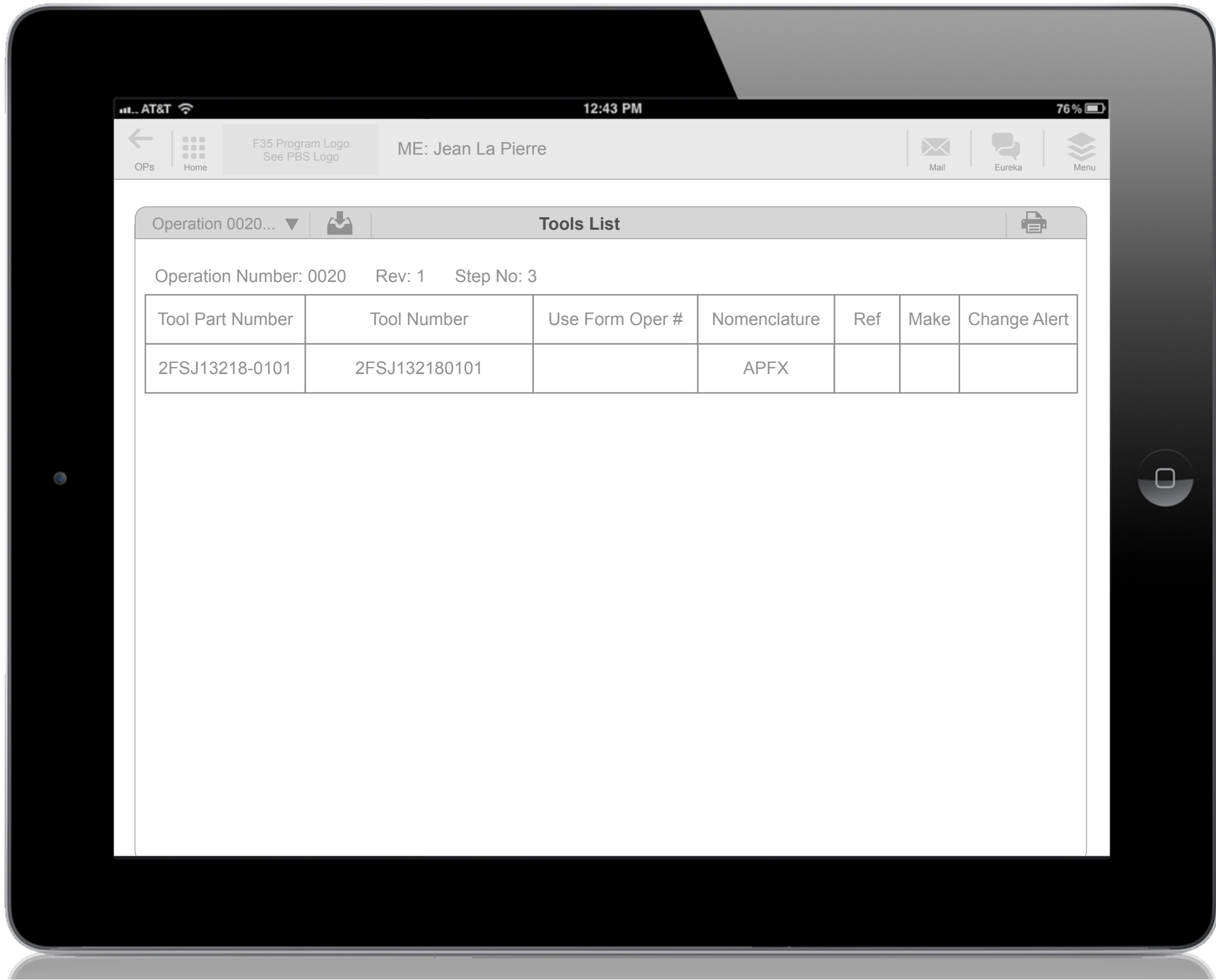
T



Operation 0020... **Documents List**

Operation Number: 0020 Rev: 1 Step No: 3

Doc Type	Doc Name	Doc Number	Doc Description
P2	Engineering_1	2QR3-45-27-O4-000	
P2	Engineering_1	2QR3-45-27-O4-000	
P2	Engineering_1	2QR3-45-27-O4-000	
P2	Engineering_1	2QR3-45-27-O4-000	
P2	Engineering_1	2QR3-45-27-O4-000	
P2	Engineering_1	2QR3-45-27-O4-000	



Tools List

Notes

The user will arrive at this UI via the Card OP UI (by launch of an Operation or via navigating by tapping on a link within the Engineering Preview.

T

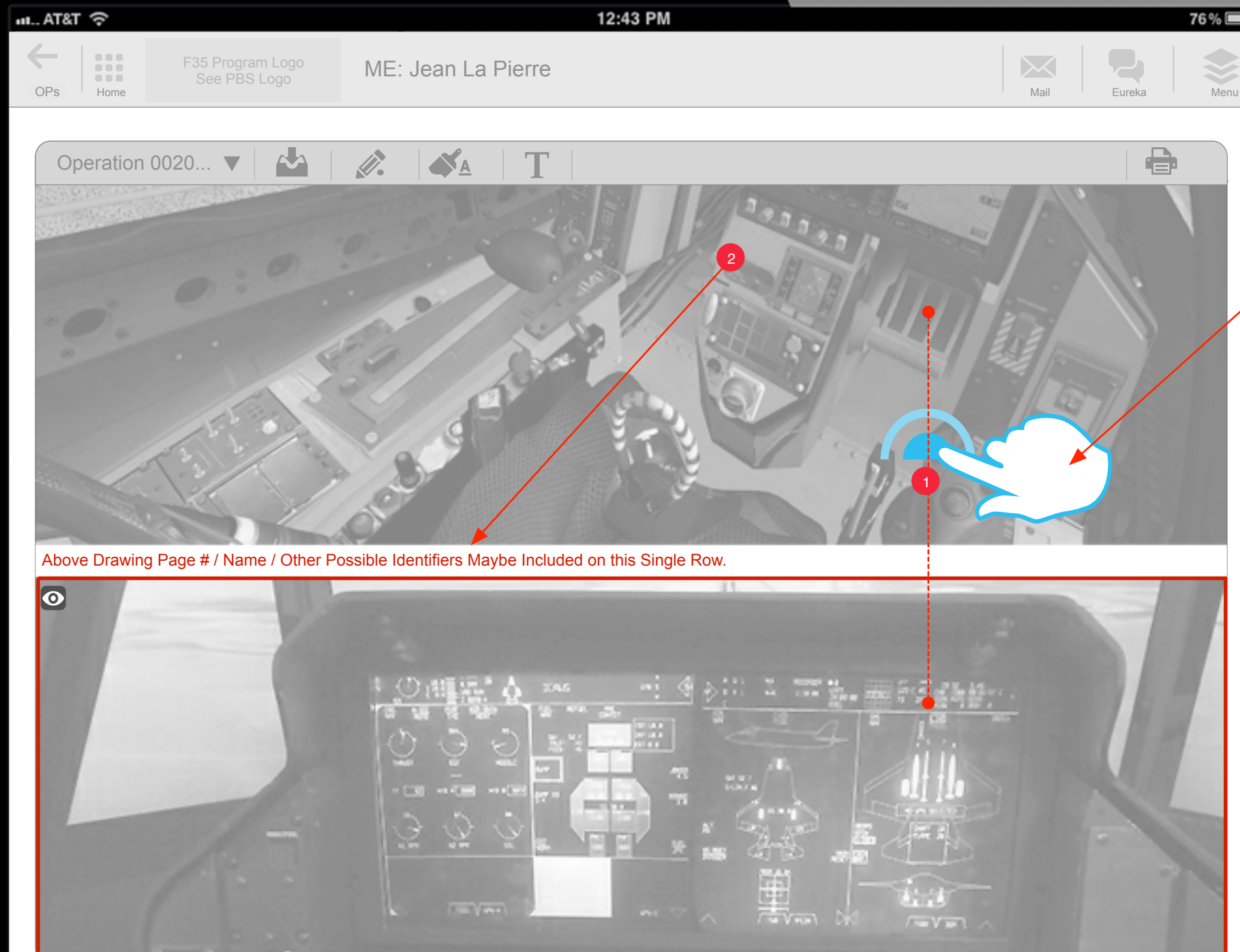
OP 0020 Details (Multiple Drawings and the Infocus Drawing)

Notes

As previously mentioned it may be possible for more than one image or graphic to be on the screen at a time. This may occur if the user is slowly swipe scrolling between images. The image that is in focus will have the In Focus Icon on it (top or bottom of image whichever allows the icon to be visible).

Item / Actions

- 1 Drawings and Illustrations should be displayed in what will seem to the user to be a vertical Film Roll. The effect is like all the images are on a butcher block paper roll. The user can swipe scroll the roll up and down (with generous iOS inertia). The image in focus will show the In Focus Icon.
- 2 If it is possible, the images should have a white "Gap" between them where the name or any other unique identifier can be listed.



Above Drawing Page # / Name / Other Possible Identifiers Maybe Included on this Single Row.

Basic Gesture Controls (Zoom Control)

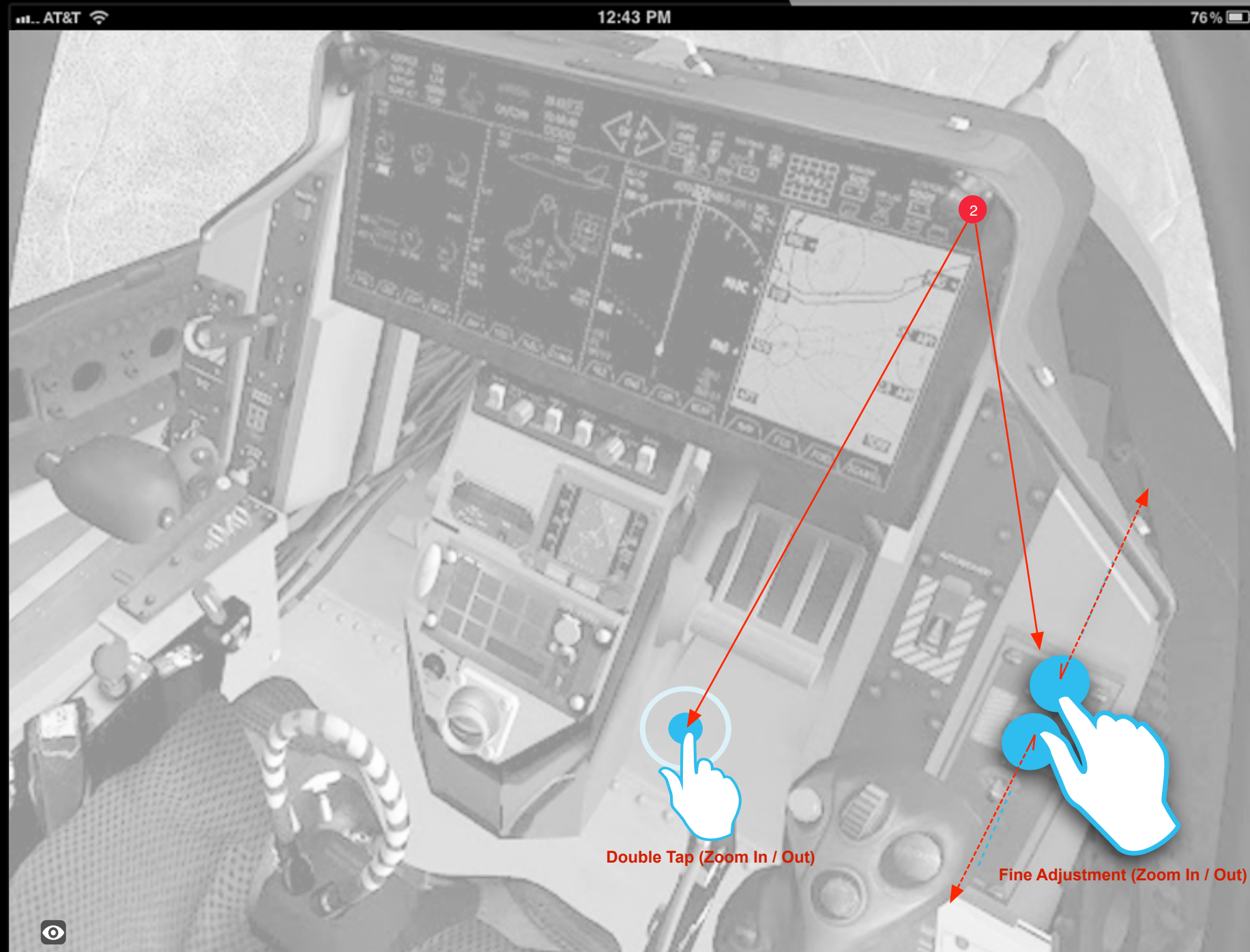
Notes

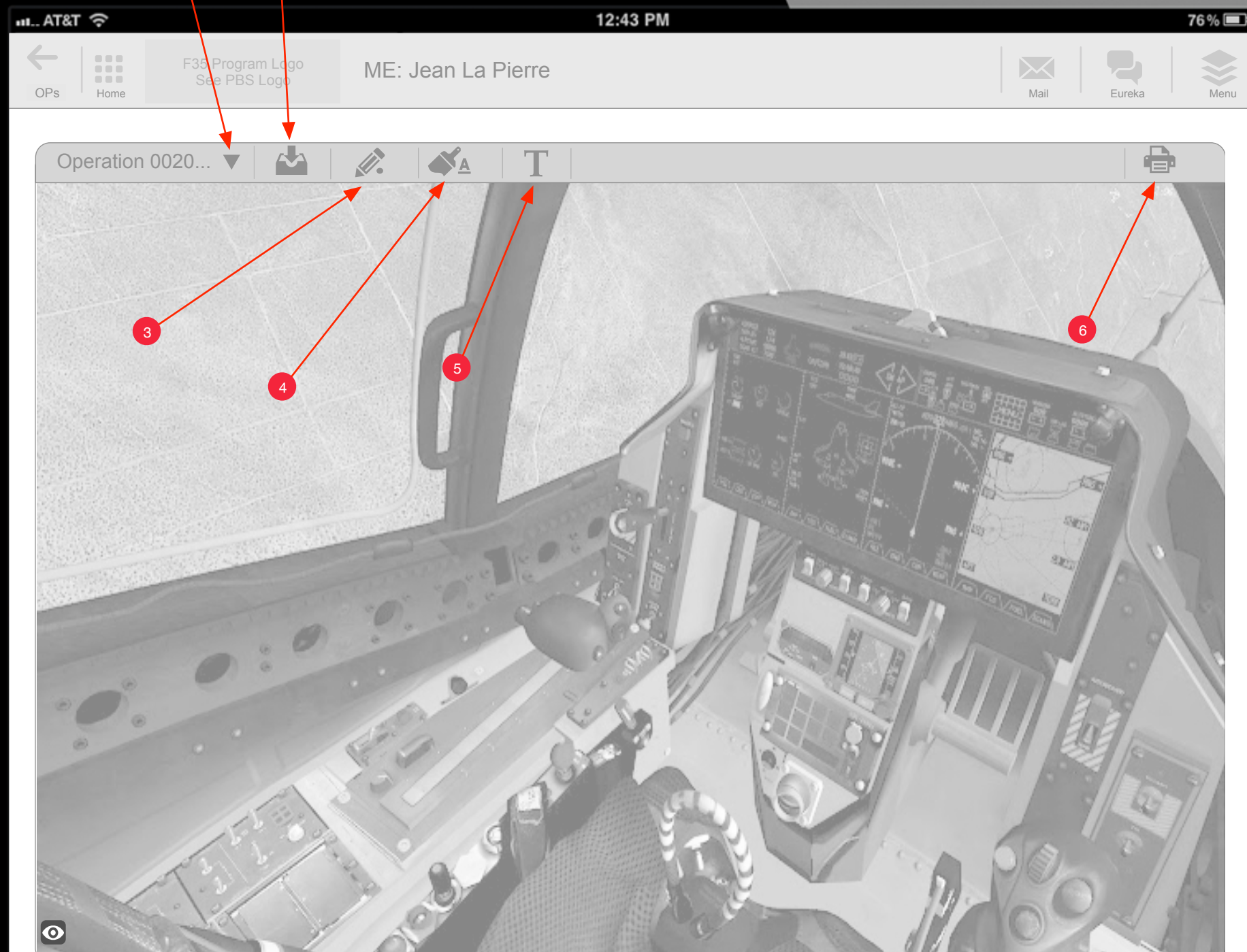
Images displayed in the app must avail themselves to basic gesture controls such as double tap to zoom, pinch to zoom out, click and hold to pan as well as previous discussed gestures of swipe scrolling.

Item / Actions

- 1 Double tapping drawing will Zoom that image to fill the screen. No other hardware will be visible on the screen. The user can pinch to reduce the zoom incrementally or the user can double tap to return the Zoom to zero. The user can pan the image while in the zoom mode by tap and dragging.

If the image has mark up on it that too "should" be zoomed if possible. This may not be technically possible but the assumption is that a zoom in gesture would zoom all visuals on screen in context to one another. If this is not possible then a zoom in gesture will produce the zoom without the mark up.





Mark Up Tool Bar

Notes

A key feature of the app is for the user to be able to mark up documents, especially drawings, illustrations etc. Adding text notes to a document is also included in the mark up class construct. The two types or of mark up classes are Paths and Text. This is detailed in the following pages.

Item / Actions

When the user has a document in focus the Mark Up Tools are enabled. The user may select only one class of Mark Up Tool at any one time. A selected tool remains selected (clearly indicated visually that it is selected) until the user unselects it (of course this does not include Save or Print which are not binary functions). No two tools can be active at the same time. The Mark Up Tool Bar is static so that the user can not scroll the Mark Up tool bar off the screen.

- 1 Operations Objectives Summary (tap to reveal fly down)
- 2 Save (tap to reveal Open / Save dialog box)
- 3 Sharpie Marker (tap to activate marker)
- 4 Properties Palette (tap to reveal the palette)
- 5 Text Tool (tap to enable the adding of text)
- 6 Print (tap to print the "In Focus" document)

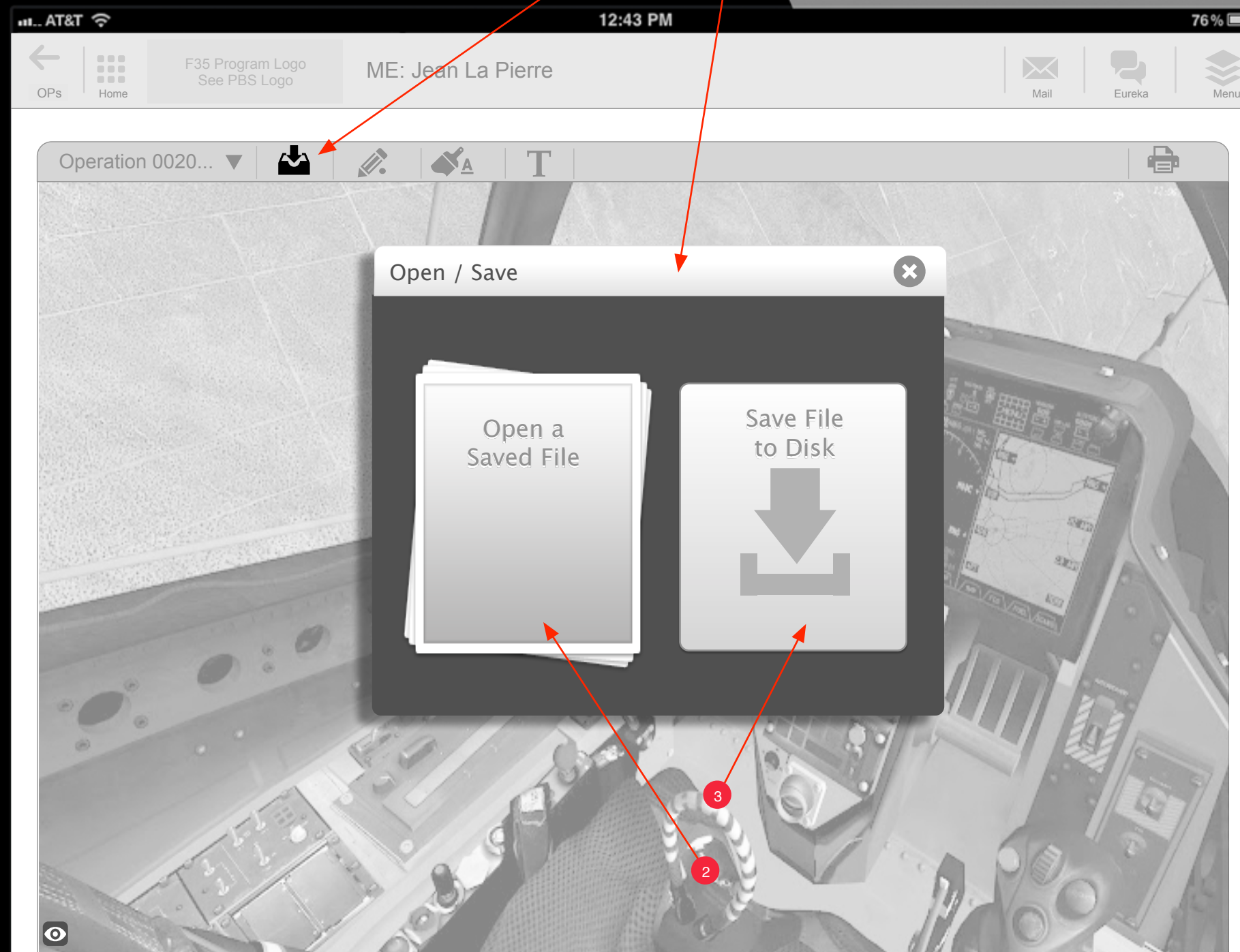
Open / Save

Notes

The user may Open and Save documents that have been marked up. As of the writing of this document the user documents will be saved to a separate data base created for this pilot project. This may change as the architecture review with SAP will determine the final decision as where to house the user data.

Item / Actions

- 1 When the user taps the Open / Save button a (visually interesting) dialog box is presented to them. The user will notice that they may choose to either Open a previously saved file or Save the current In Focus file.
- 2 If the user taps to open a file on tap the dialog workspace is replaced (animation slides up from the bottom of the dialog box) revealing the directory and any available files that can be opened and displayed by the app (see next page for more visual detail). By default the user files should be in a "thumbnail" view however the user should be able to change this to a list view.
- 3 If the user taps the Save option the SKB (soft key board) is presented. The user will enter in a name and tap the Save button on the keyboard. The keyboard and the dialog underneath it are dismissed. The user is returned to their original start state. See the following page for more detail.



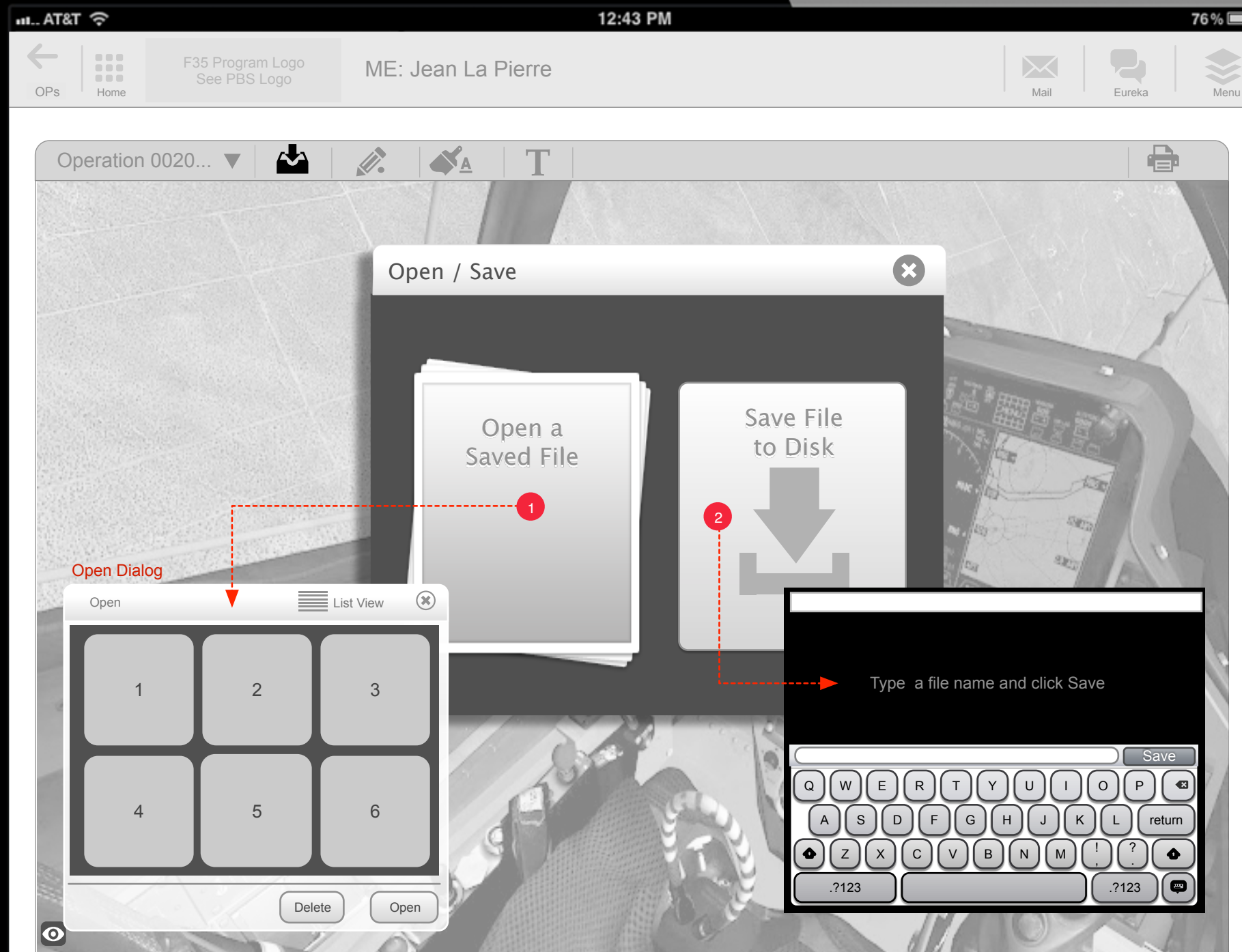
The Open / Save Functionality

Notes

As mentioned on the previous page the user may Open and Save documents that have been marked up. The current assumption is that mark ups will be saved to a separate data base created for this pilot project. Additionally, Save and Open point to a singular directory, not multiple directories that the user may choose from.

Item / Actions

- 1 If the user has opted to open a file the "Open" dialog replaces the current Open / Save dialog (as per the description on the previous page). At the top of the Open dialog there must be a button so the user may change the view from thumbnail to list. From the Open dialog the user may select a file and tap the Delete button or the Open button. If the user taps the Delete button the selected file is deleted and the dialog remains open. If the user taps the Open button the selected file is opened and the dialog is dismissed. If possible the name of the file should be present underneath each thumbnail.
- 2 If the user opts to Save the screen is filled with the SKB. The user will type in a file name and then tap the Save button.



Using the Sharpie Marker

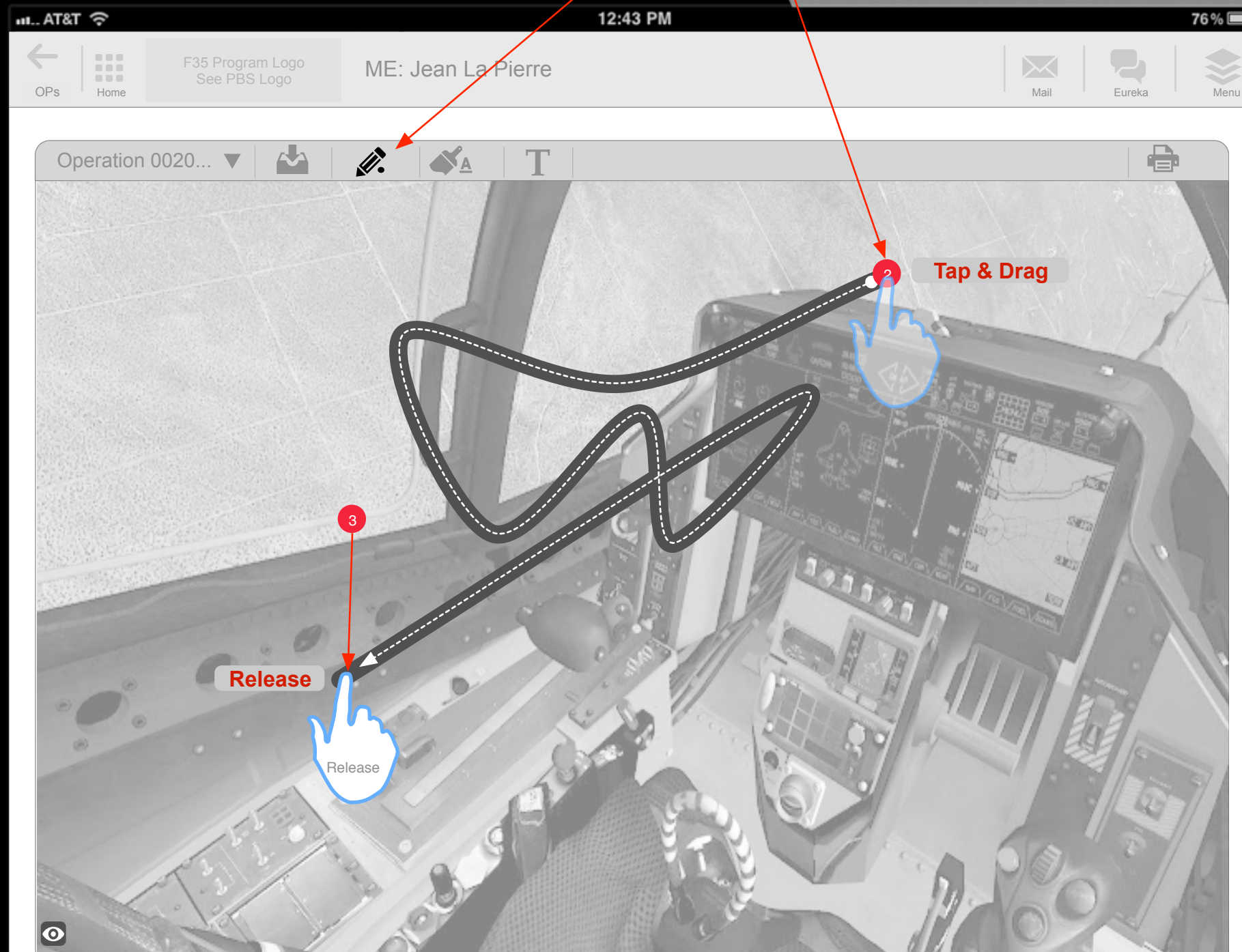
Notes

As mentioned previously a key feature of the app is the ability to allow users to "mark up" a document. The user should be able to mark up any document that is in focus. The mark up is nondestructive (it will not actually alter the original underlying image). The assumption is that the user's mark up can be saved if the user chooses to do so otherwise it is deleted when the user logs out of the app.

Item / Actions

- 1 By selecting the Sharpie Marker the user may "free hand" draw over any document that is currently in focus. When the user selects the Sharpie the Sharpie functionality remains active until the user unselects the Sharpie, selects another tool, or taps outside of the Content Container. By default the Sharpie will draw Black Ink with a Medium Nib (15 pixels).
- 2 To begin drawing the user simply taps and drags. The path is drawn realtime as the user drags.
- 3 To complete the drawing path the user simply releases. Upon release the "drawn path" is "selected". A selected path should have a visual indication that it is currently selected (as per this illustration it is depicted as a dotted line within the middle of the path but it could be a bounding box if that is easier to implement . A quick tap anywhere on the screen deselects the path. Objects may overlap one another (the user may draw a path atop another path and so on).

There is no undo button / command. More on this on the following pages. Multi-touch is not recognized as a Sharpie (drawing) function.



Handling Mark Up Paths

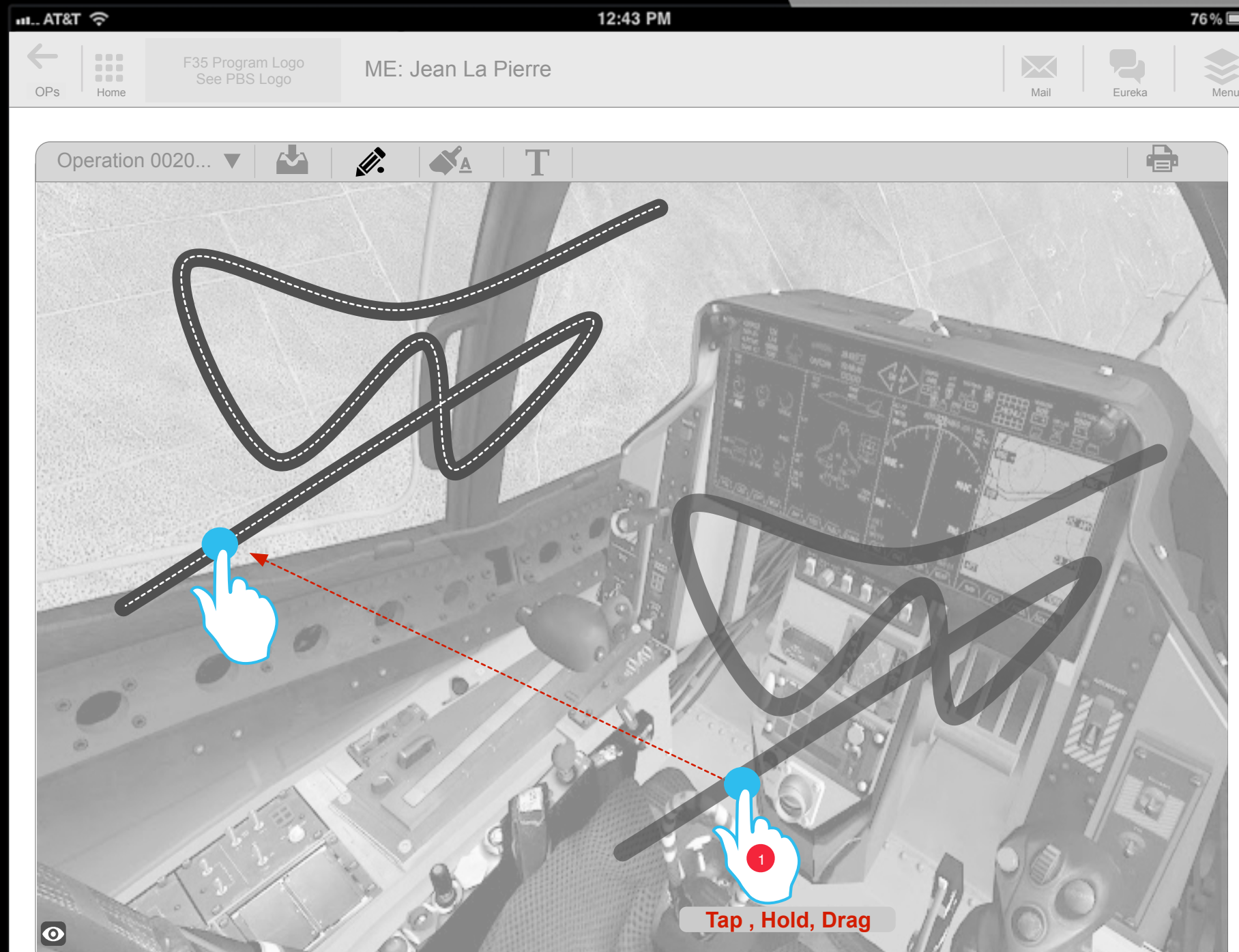
Notes

As previously mentioned, a selected path should indicate visually that it is in fact "selected". In this example I have used the dotted line to do this.

Item / Actions

- 1 The selected path is manipulatable in a couple of ways. The user may drag / reposition it and or re-color it. To reposition the selected path the user simply drags it. The user may drag it anywhere within the Content Area. The repositioned path will be assigned to / linked to the in focus visual.

A selected path can be re-colored and or the level of transparency manipulated by simply tapping the Properties button. The Properties Panel (PP) is revealed and from here the user may tap a new color therefore changing the current color of the path. Additionally, the user can quickly re-color a path by tapping and holding down in place to reveal a Tool Tip Selector. An example of this selector can be seen on the following page.



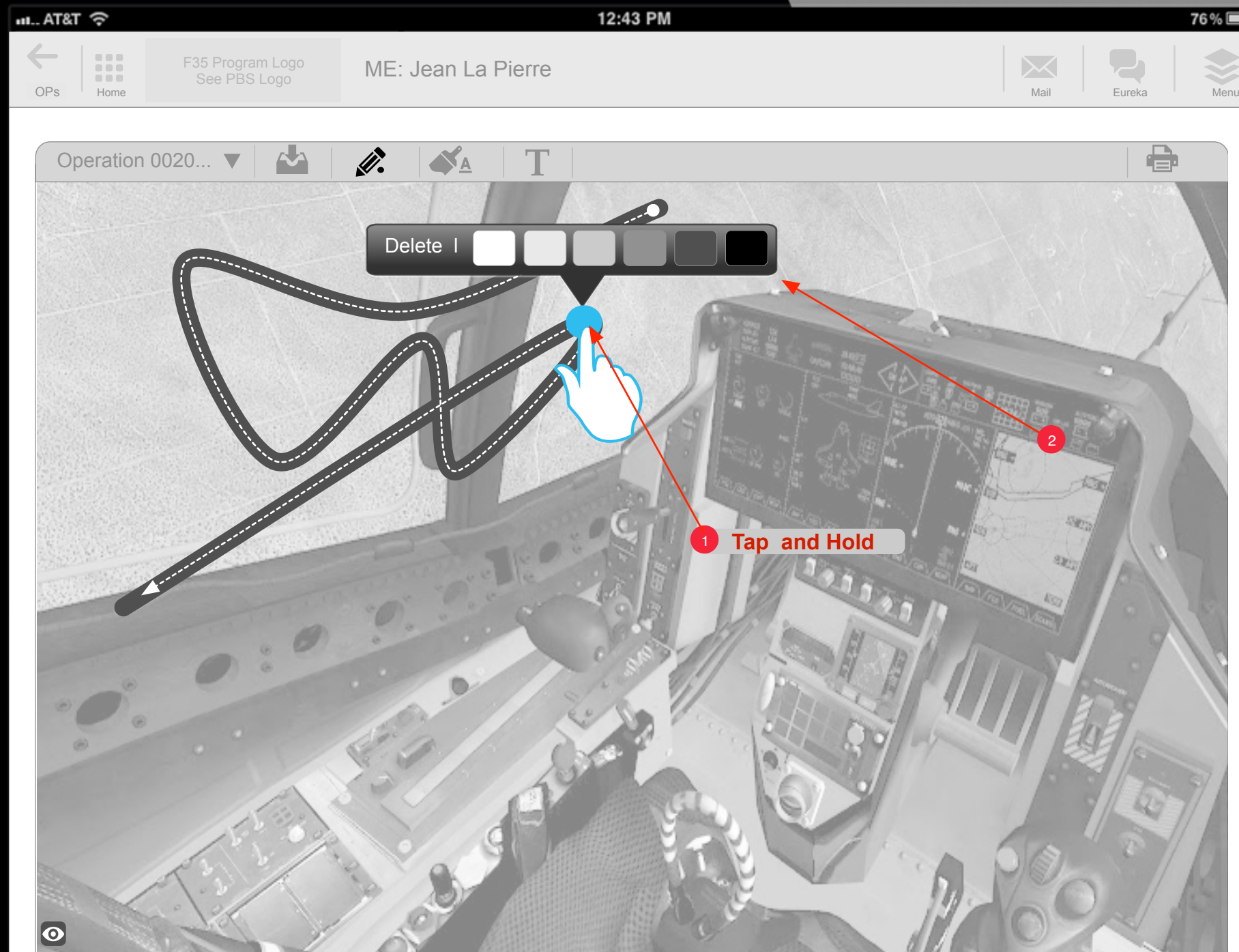
Handling Objects Tool Tip Selector (TTS)

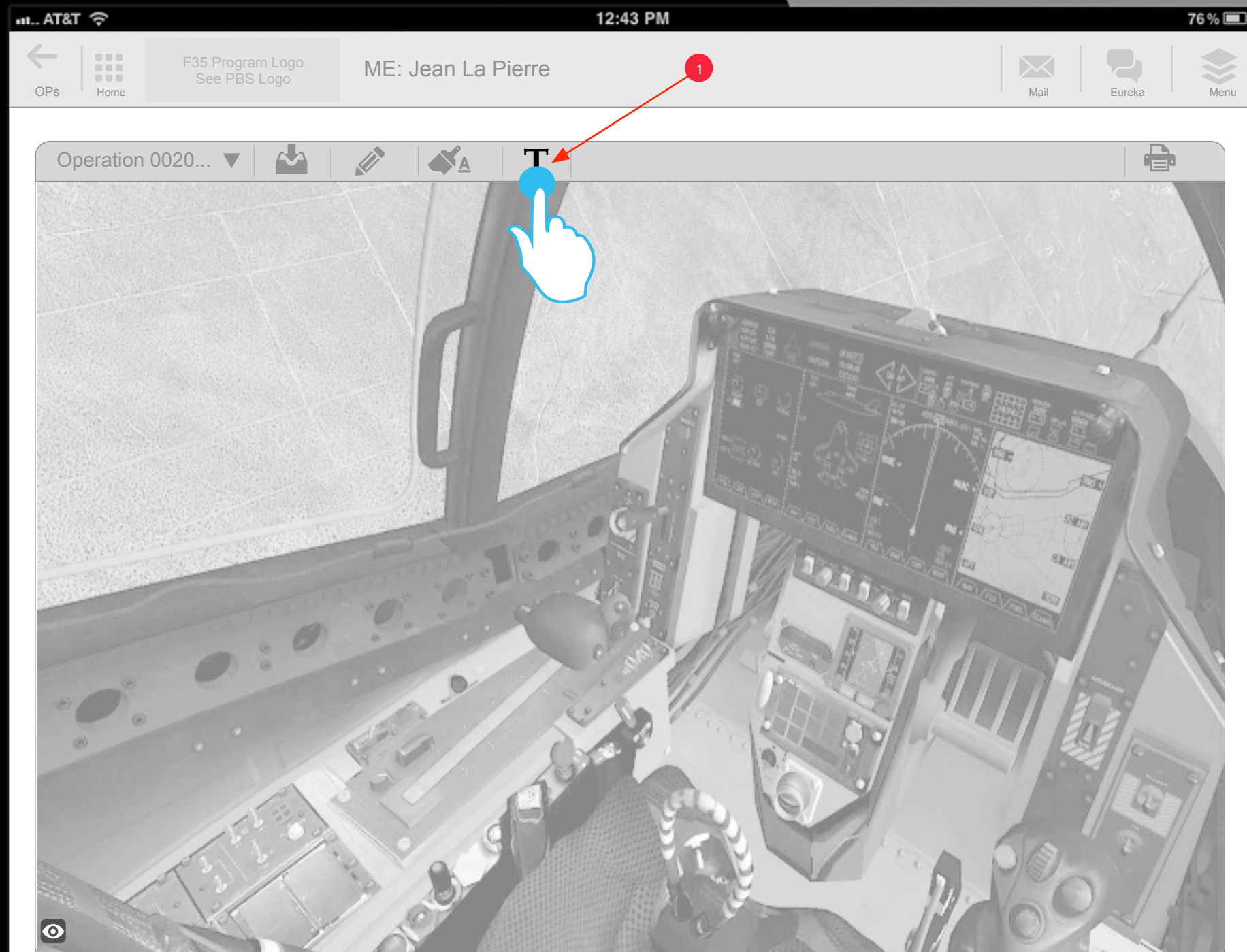
Notes

Users will expect that they can easily remove or delete mark up. This is done via directly manipulating the mark up and not via a separate icon for delete such as a trash can on the Mark Up Tool Bar. a trash can visual can be confusing given that the user may think they can use it to delete illustrations and graphics pulled from HSFM.

Item / Actions

- 1 Deleting a mark up object is a straight forward procedure. To delete a selected path the user simply taps and holds until a Tool Tip Selector (TTS) is revealed. The user may then release - the selector remains visible. The user may then make a selection from the selector. Once the selection is made the selector is put away.
- 2 In this example the TTS is deployed and the user may choose from the TTS to Delete or re-color the currently selected path. If the user decides to do neither they can put the selector away by simply doing a quick tap anywhere on the screen.





Text Tool

Notes

The second class of mark up objects is text. As far as the user is concerned, each placed text entry (via the SKB) is handled as a singular object. As per paths, text is nondestructive to the original underlying image. Users can size, color, relocate, overlap and delete these text objects with ease. It will be expected that placed text will have at least the minimum set of basic controls and functionality that users are accustomed to. The following pages regarding text outlines this class and its controls and functionality.

Item / Actions

- 1 In this illustration we can clearly see that the user has a visual in focus. The user would like to add some text mark up to the visual. When the user taps the Text Tool button the SKB is revealed occupying the entire screen (the reason the SKB will occupy the entire screen is to allow the keyboard keys to be as large as possible for easier use).



Soft Keyboard (SKB)

Notes

This illustration depicts the SKB as it occupies the full screen for maximum ease of use. Text that is committed is always placed on the visual that is in focus. The user may relocate the text to a visual that is not in focus.

Item / Actions

- 1 At the top of the SKB is an Instructional Banner to remind the user that they may set the properties of the text via the Properties Panel. If it is possible for the user to be able to set the Properties also from within this view then we should provide that option. The banner text would simply read, "Tap here to set font, style, size and color. The default font is Ariel, Black, Regular, 12 point.
- 2 As the user types the text is displayed via the SKB text window. The user can use their finger to reposition the cursor. We should consider if there needs to be a set limit to the amount of text that can be placed at any one time (perhaps a 4k character limit). If the user exceeds the character limit the Instructional Banner must display some message such as, "Character limit exceeded". To support this feedback a character limit indicator must be present.
- 3 Once the user has completed entering their text they will tap the Done button. by tapping the Done button the SKB is dismissed and the text is placed on the in focus screen of the Details UI.

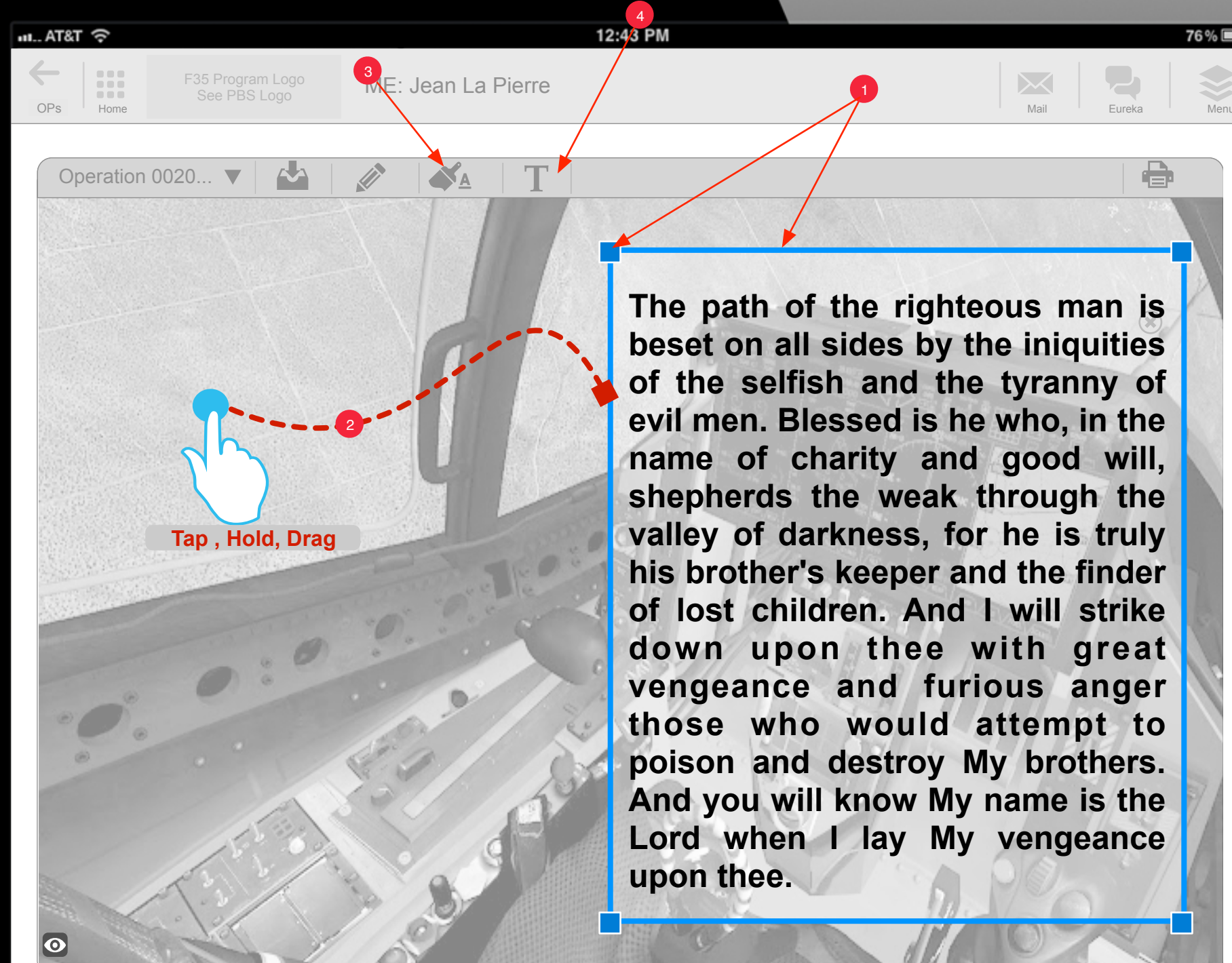
Text Objects (Selecting and Positioning)

Notes

Once the user has completed typing their notes and has committed to them by tapping the Done button on the SKB they will see their notes in the Content Container selected (as depicted here). The notes are placed with a conditional width and height that best displays the text in a way that scrolling is not required.

Item / Actions

- 1 The newly placed text by default is selected. The visual for this text object being selected must be clearly articulated. In this example a 3pt thick blue boarder. A quick tap anywhere will deselect the text object. The four corners of the Text Rect must have large Corner Handles for easy resizing (more on this on the next page)
- 2 To reposition the text object the user simply drags it via tap and drag. To "Edit" the text the user simply taps holds and a Selector Tool Tip (STT) is revealed displaying the availability of relevant functionality.
- 3 To change the text properties the user simply clicks the Properties button to reveal the Properties Palette.
- 4 To add more text to the in focus visual the user simply taps the Text Tool button.



Text Objects (Resize Text Rect)

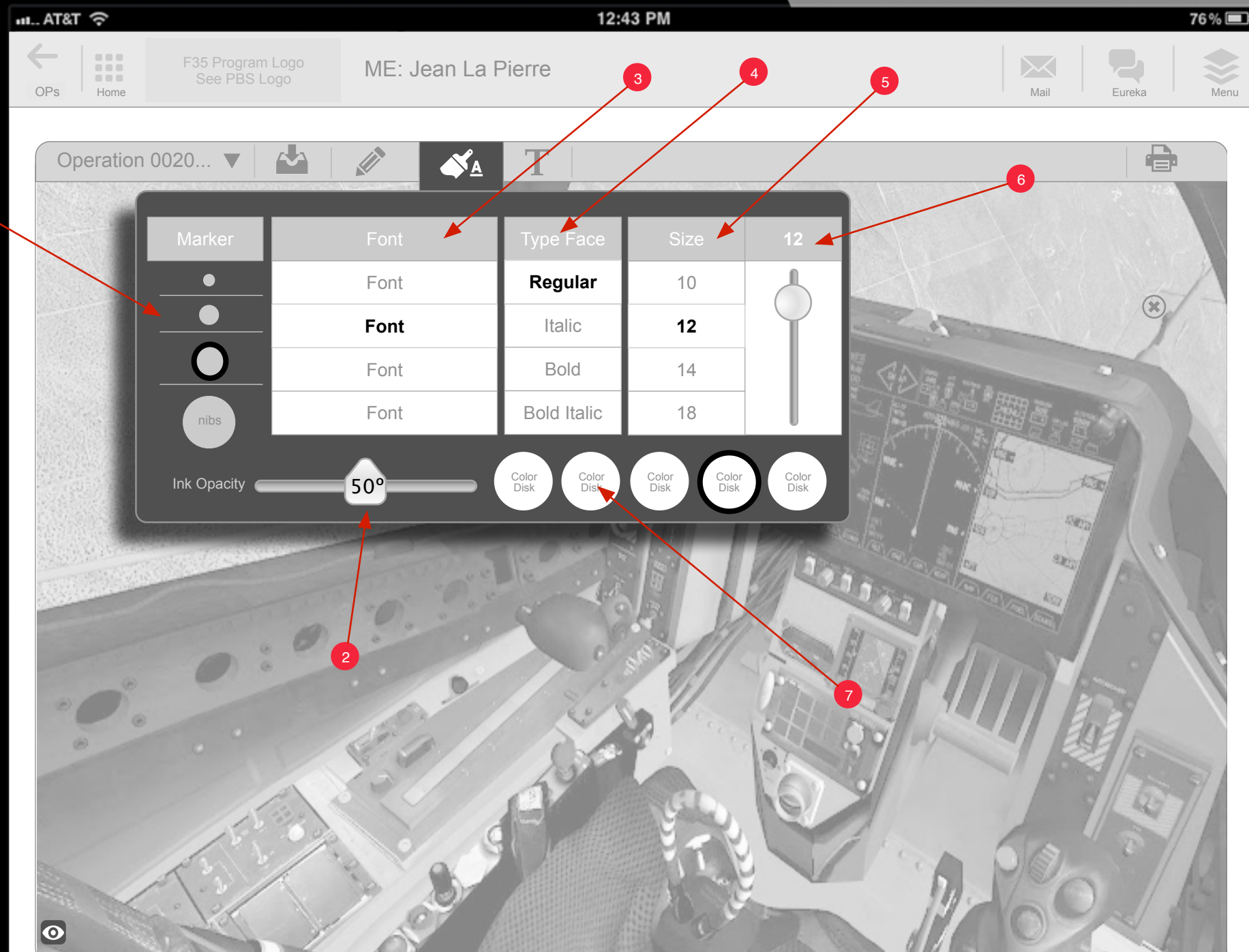
Notes

When working with text as an object or "Text Rect" the user will expect placed text objects to have the same minimum, basic set of functionality that can be found with path based objects. As a placed text object this includes repositioning and revealing a TTS. Text Rects unlike path based objects can be resized.

Item / Actions

- 1 For the user to reveal the associated TTS they simply tap and hold the currently selected Text Rect. The TTS is revealed. The user can then release and make a selection from the TTS. The selections will include Delete, Edit and the basic color tiles. If the user taps edit then the SKB is deployed with the text clearly displayed.
- 2 The user may also resize the Text Rect by grabbing one of the Corner Handles and dragging. The Text Rect will resize within the constraints of the given amount of text (you can not make the Text Rect smaller than the the text within it. The text will flow to fit the new Text Rect size.





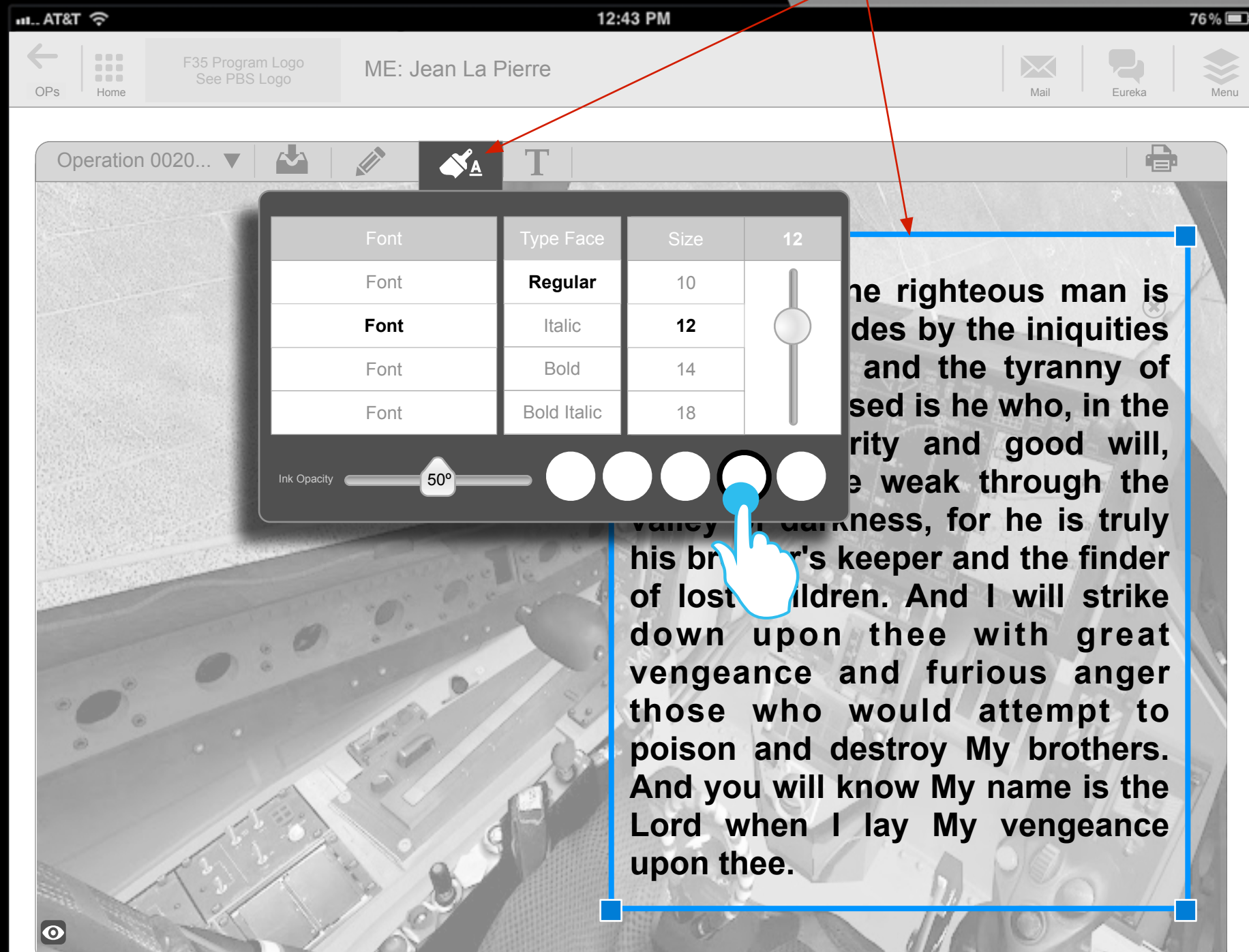
Properties Palette Styles

Notes

The Properties Palette (PP) has some basic styling elements that can be applied to mark up objects. The four columns of Styling Actions to the right of "Marker" are only applicable to text. If the user has a selected path and deploys the PP the text styles columns are not presented. If no object is currently selected the PP is displayed as illustrated here. More detail on this on the following pages.

Item / Actions

- 1 **Marker Styles** - There are four size Nibs for the Sharpie Marker 5px, 15px, 25px, 40pxs. The currently selected Nib is indicated (in this example via a bold black outline).
- 2 **Ink Opacity** - This is controlled via a slider. The percentage of opacity is shown on the slider Handle.
- 3 **Font List** - The default fonts for the app, if possible should be (Arial, Courier, Brush and Stencil). The currently selected font is bolded in the list.
- 4 **Type Face List** - Supported type faces should be , Regular, Italic, Bold and Bold Italic. The currently selected type face is bolded in the list.
- 5 **Size Setting** - the standard font sizes are 10pt, 12pts, 14pts, and 18pts.
- 6 **User Specified Size Slider** - the user can set a specific font size via the slider. The user set slider takes precedence over the Size Setting selection (if one is currently selected). The user uses the slider handle to indicate the custom font size they require. That size is depicted at the top of the column. If the user then goes back and makes a selection from the Size Settings the previous user setting is disregarded and the Slider Handle is snapped to the user's Size Setting selection.
- 7 **Color Disks** - the available colors for the user to select from should be standard Red, Yellow, Green, White and Black



PP and Text Rect Only

Notes

By tapping the PP icon when a Text Rect is selected the Text Rect Style Only view of the PP is presented.

Item / Actions

- 1 Illustrated here is the PP associated with a Text Rect selection.

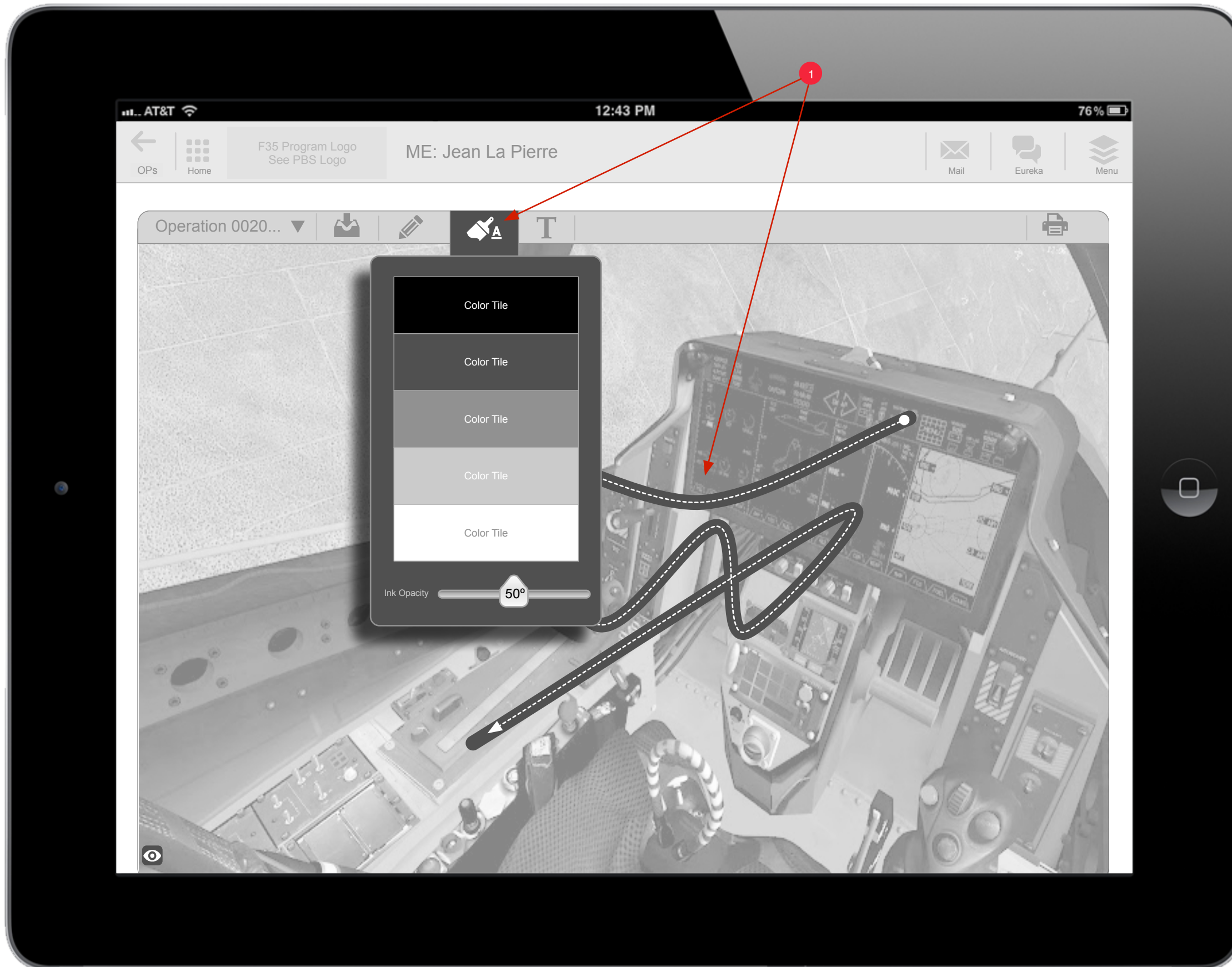
PP and Path Only

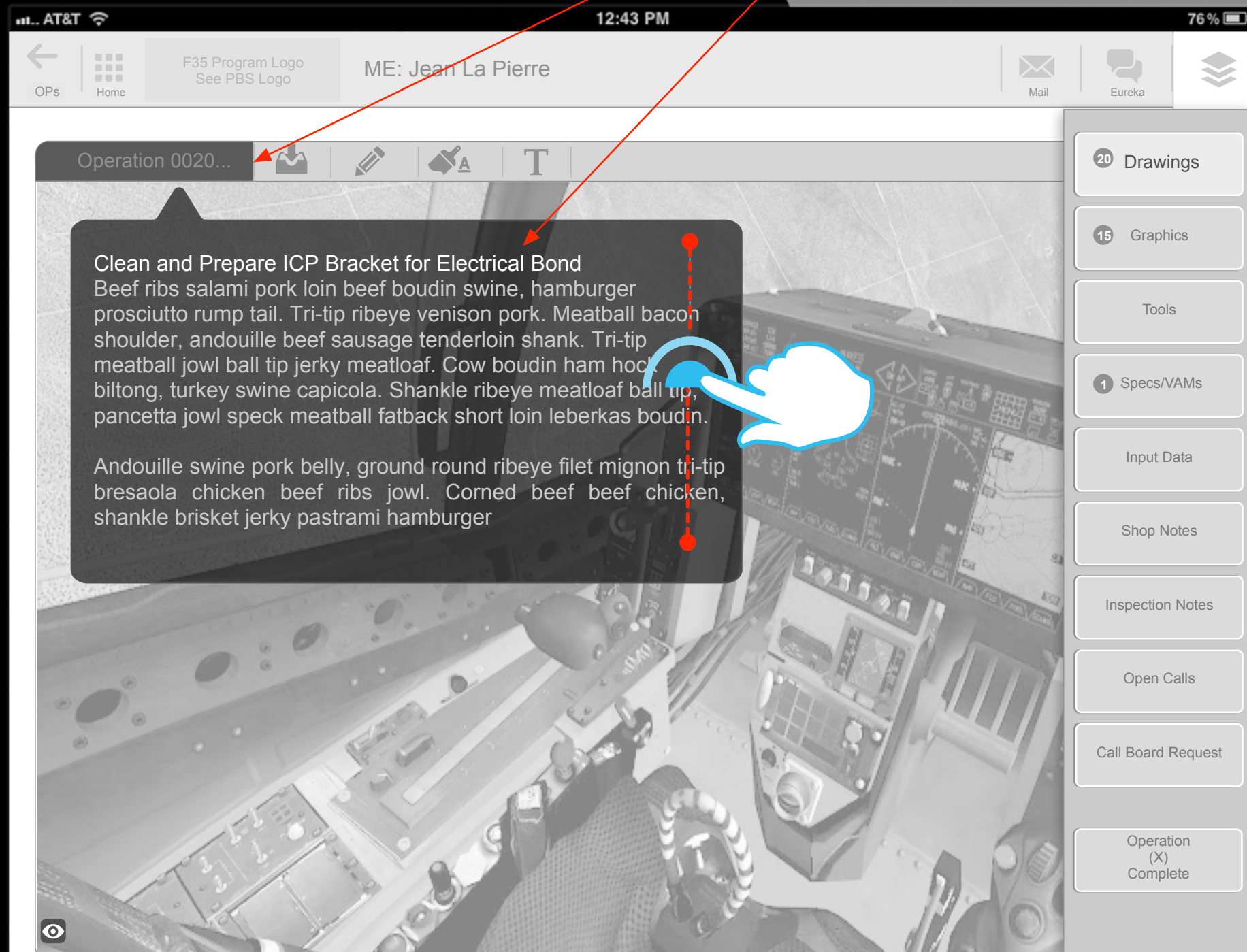
Notes

When a path is selected and the user taps the PP icon the PP associated with path styles is presented.

Item / Actions

- 1 When a path is selected the user will be presented with a PP that is specific for styling paths.





Operation Objectives Summary

Notes

While in the Details UI the user is only one tap away from the Operation Objectives Summary. This summary is taken directly from the Operations Summary on the Card OPs UI. So as in this case we are in Operation 0020 of this Card, so the associated summary is viewable.

Item / Actions

- 1 The Operations Objectives Summary can be easily viewed by the user by simply clicking the carrot next to the Title Text (in this case Operation 0020). When the user clicks the carrot an overlay is animated down with the summary text on it.

The user can swipe scroll the content given that the summaries can be quite lengthy.

When the user is finished with the summary they can dismiss it by clicking anywhere outside of the overlay dialog box.