

TJ's Art Studio: User Experience/Functionality Document for iOS App

1. Landing page
 - a. Upon launching the app, user lands at this page, which has a "Start" button, and links to the "Meet TJ and Pals" and the "123 Song" videos (via icons), both of which will launch the native video player
 - b. If the app has already been played with, a second "Resume" button will appear below the "Start" button, allowing the user to pick up where s/he left off
 - c. A "Parent Guide" button will be located on the green bar on the landing page only. This will pop up a window with text for a parent on using the app with the child (graphics and functionality TBD).
 - d. TJ's World button in green bar will only appear if the iPad already has this app installed.
 - i. When pressed, it will launch this app
 - ii. This button will only be on the landing page
2. Initial user environment
 - a. If the user has clicked "Start" from the landing page, user is brought to a blank canvas and the toolbar slides into view from the right side of the screen. As well, there is a "bloop" sound effect when actual game (and not landing page) loads. Clicking the "Tools" button on green bar below hides (by sliding) the toolbar, thereby exposing the rest of the canvas. Clicking it again causes the toolbar to re-appear by sliding. NOTE: The bi-directional green arrows change depending on whether or not the toolbar is visible. There is also a "Back" button for the user to go to the landing page.
 - i. The "Art Tools" tab is selected
 - ii. TJ is selected, and has a red rectangular border and yellow background on the toolbar to indicate that he is selected
 - iii. The first color, red, is selected (and should get a red border) and a red dot (diameter is preset) is visible to the right of the sliding tool, which is preset a bit to the right. We will supply you with both preset values.
 - iv. If the user has played the app before but still clicks the "Start" button, the pictures on the Photos tab are still present (more information below)
 - b. If the user has clicked the "Resume" button from the landing page, s/he picks up where the game was left off. There is also a "Back" button for the user to go to the landing page.
 - i. Toolbar slides into view from right side
 - ii. There is a "bloop" sound effect when actual game (and not landing page) loads
 - iii. Everything from the last session is visible (locked items, unlocked items, pencil/paintbrush/marker drawings, etc)
3. Tabs on toolbar
 - a. When one is selected, the tab graphic changes to indicate that it has been selected (it's a bit taller with a white background)
4. Picture management buttons (bottom of toolbar on every tab)
 - a. Undo
 - i. Grayed out until 1st action taken
 - ii. Removes the last action taken by user on canvas
 - iii. If it is repeatedly tapped, it can bring user to the blank canvas user started with.

1. Undo applies to new elements applied to the canvas as well as movements of objects around the canvas, scaling an object, rotating an object, and locking it in place
 2. If this button is tapped until nothing is on the canvas, then it gets grayed out again
- iv. When it gets tapped, a red border and yellow background appear during the tap
- b. Redo
- i. Grayed out until first “undo” action is taken
 - ii. Reinstates the last “undo” action taken
 - iii. If this is tapped repeatedly in order to get everything back on the canvas, it gets grayed out again when there is nothing left to redo
 - iv. When it gets tapped, a red border and yellow background appear during the tap
- c. Erase
- i. When this is pressed, it gets a red rectangular border and yellow background on the toolbar
 - ii. Everything on the canvas can get manually erased except the background and unlocked items
 - iii. Toolbar is hidden once user starts manually erasing on the canvas
- d. Trash
- i. This removes everything except the background
 - ii. Locked items also are removed
 - iii. When it is clicked, a pop-up appears: “Are you sure?”, with Yes/No buttons
- e. Save
- i. Pressing this button saves the picture on the canvas to Photos. Everything on the canvas should show up in the saved image, even unlocked items. However, if the item manipulation buttons (see information below) are showing on the canvas at the time of saving, they should not appear in the saved image.
 - ii. A pop-up should appear with the following text and an “OK” button to close it: “Your picture has been saved in Photos”
- f. Share
- i. Email will go to a person that is using a computer or a mobile device
 - ii. Clicking this button launches an email message overlaid on top of the canvas, which gets faded out.
 1. The email includes the image. Everything on the canvas should show up in the email’s image, even unlocked items. However, if the item manipulation buttons (see below) are showing on the canvas at the time of sharing, they should not appear in the email’s image.
 2. Subject: Look at the picture I made! (editable by user)
 3. Message’s body (editable by user)
 - a. Line 1: Hi!
 - b. Line 2: Look at the great picture I made on my iPad with TJ’s Art Studio App.
 - c. Line 3: Click [here](https://tjandpals.com/activities-for-kids/art-studio) to download the App so you can send me pictures too!
 - i. The actual “here” link URL is <https://tjandpals.com/activities-for-kids/art-studio>

- ii. If email is received on the computer, this link takes user to the Art Studio game
- iii. If email is received on iPad/iPhone, it launches Safari (and automatically redirects to <https://tjandpals.com/ios/> - this functionality already exists)

iii. What happens if an email account hasn't been setup? – Sameer to advise

1. Is there a pop-up that appears indicating that an email account needs to be setup (detection)?

5. Item manipulation on canvas

- a. Applies to the Stickers tab and the Shapes, Letters, Numbers tab and the Photos tab
- b. User should be able to drag an item from any group in a tab onto the canvas, anywhere and item's image remains in group on toolbar so user knows s/he can choose it again
- c. User should also be able to tap once on an item in any group in order to deposit that item in the center of the canvas (needs to be visible, and not behind toolbar), and item's image remains in group on toolbar so user knows s/he can choose it again
- d. When item is on the canvas, user should be able to tap anywhere inside the bounding box and drag the item to any place on the canvas. User will not be able to drag item outside the borders of the canvas.
- e. When item is on the canvas, the following item manipulation buttons are visible
 - i. NOTE: These tools are visible until user clicks somewhere else on canvas (or on another item on the canvas), and then they disappear. They reappear only when user clicks on the item again.
 1. If user's 1st finger is on an item, and with 2nd finger s/he starts drawing, drawing should be possible with the 2nd finger, and item that is pressed with 1st finger should be selected (ie, it has bounding box and item manipulation buttons)
 - ii. Rectangular bounding box surrounding the item appears whenever item is selected
 - iii. Top left corner of bounding box: Close button ("x")
 1. When this is pressed, the button's color changes state (from gray to red)
 2. Clicking this button removes the image from the canvas
 3. Clicking "undo" is the only way to bring it back
 - iv. Top right corner of bounding box: Scaling button
 1. When this is pressed, the button's color changes state (from gray to green)
 2. User will drag this button with finger, thereby increasing or decreasing the item's size. Bounding box will change depending on the scaling.
 3. User should also be able to accomplish this by pinching in and out within item's bounding box
 4. User will not be able to scale item outside the borders of the canvas
 - v. Bottom right corner: Rotate button
 1. When this is pressed, the button's color changes state (from gray to green)
 2. User will use finger to drag this button clockwise and counter-clockwise, with the item following suit. Bounding box will change depending on orientation of item.
 3. User should also be able to accomplish this by rotating 2 fingers within the bounding box.
 4. User will not be able to rotate the item outside the borders of the canvas
 - vi. Bottom left corner: Lock button

1. When this is pressed, the button's color changes state (from gray to red)
 2. Pressing this button locks the item to the canvas where it is
 - a. Item cannot be rotated, scaled, or deleted
 - b. Pressing the undo button will unlock the item
 - c. Until item is locked on canvas, it cannot be colored over, and cannot be erased using the eraser tool. Once it's locked, it can be colored over, and erased using the eraser tool.
 - i. If user draws over the item before it's locked, the line is in back of the item
 - f. Multi-touch: If more than one item is on the canvas, they all should be able to be manipulated at the same time using the item manipulation buttons, and by the user's fingers interacting within the bounding boxes. Dragging all of them around the canvas at the same time should also work as well.
6. Art Tools Tab
- a. Picture management buttons are always visible
 - b. Pick A Pal
 - i. Can you recommend ways to improve the textures of the pencil, paintbrush, and marker? Are you able to do bitmap textures?
 - ii. When one is selected, it gets a red rectangular border and yellow background in the toolbar
 - iii. When one is selected, there is a clicking SFX
 - iv. 1st character: TJ (pencil)
 - v. 2nd character: Dabney (paintbrush)
 - vi. 3rd character: Red Koki Marker (marker)
 - c. Pick A Size
 - i. When either the pencil, paintbrush, or marker is selected, there is a dot, next to the sliding tool, that changes in diameter as the sliding tool is adjusted by a finger dragging it
 - ii. When the eraser tool (the character Butch) is chosen from the picture management section, the dot becomes Butch and changes in size depending on how the sliding tool is adjusted
 - iii. A sound effect will be created for the sliding tool; please build the app with this in mind (the sound effect still needs to be recorded)
 - d. Color
 - i. There are 48 colors to choose from (6 across x 8 down)
 - ii. When one is pressed, there is a "bloop" SFX
 - iii. When a color is chosen, it should get a red border (see Website for reference)
 - e. Toolbar is hidden once user starts drawing on the canvas
7. Stickers tab
- a. Picture management buttons are always visible
 - b. There are 10 groups to choose stickers from on the toolbar. A dot/arrow-navigation element can be pressed by user to scroll between groups (both the arrows and dots are clickable), and user should be able to swipe with finger to scroll between the groups as well. Items are arranged 3 across x 7 down (maximum).
 - i. 1st group – Beach/summer theme (11 items)
 - ii. 2nd group – Christmas theme (12 items)

- iii. 3rd group – Birthday theme (12 items)
 - iv. 4th group – Home theme (12 items)
 - v. 5th group – Space theme (12 items)
 - vi. 6th group – Farm theme (12 items)
 - vii. 7th group – TJ and Pals theme (21 items)
 - viii. 8th group – Underwater theme (15 items)
 - ix. 9th group – Animal theme (21 items)
 - x. 10th group – Random theme (21 items)
8. Shapes, Letters, Numbers tab
- a. Picture management buttons are always visible
 - b. There are 4 groups to choose shapes, letters, and numbers from on the toolbar. A dot/arrow-navigation element can be pressed by user to scroll between groups (both the arrows and dots are clickable), and user should be able to swipe with finger to scroll between the groups as well. Items are arranged 3 across x 7 down (maximum).
 - i. 1st group – Letters (21 items)
 - ii. 2nd group – Letters, punctuation, numbers, math symbol (21 items)
 - iii. 3rd group – Math symbols, shapes (21 items)
 - iv. 4th group – More shapes (21 items)
 - c. When any item is dragged onto the canvas from these groups only, a color selection bar shows up underneath it, adding a 5th item manipulation tool/button
 - i. 6 colors are visible at a time (there's a total of 48)
 - ii. User should be able to press the left/right arrows with finger to scroll through the 48 colors (which are the same as those on the Art Tools tab, and in same order)
 - iii. User should be able to use finger to swipe this color bar as well to scroll through all 48 colors
9. Backgrounds tab
- a. Picture management buttons are always visible
 - b. There are 6 groups to choose backgrounds from on the toolbar. A dot/arrow-navigation element can be pressed by user to scroll between groups (both the arrows and dots are clickable), and user should be able to swipe with finger to scroll between the groups as well. Items are arranged 4 down (maximum).
 - i. 1st group – 4 background items
 - ii. 2nd group – 4 background items
 - iii. 3rd group – 4 background items
 - iv. 4th group – 4 background items
 - v. 5th group – 4 background items
 - vi. 6th group – 4 background items
10. Photos tab
- a. Picture management buttons are always visible
 - b. “Add Photo” button is visible when user views this tab for the first time. This allows user to choose a photo from their native Photos album. Selecting an image from the Photos album puts it below the “Add Photo” button for the user to use as an item.
 - i. User is brought natively to Photos, where s/he selects one image, and then user is returned to app and sees the selected image below the “Add Photo” button
 - ii. The user should be able to collect images below the “Add Photo” button in order to use them again and again, even after app is closed

1. If user collects more images than can be displayed below the “Add Photo” button, the fan navigation (arrows and dots) will appear. The newest photo is added at the end of the set of pictures in this tab.
 - c. When photo is chosen from beneath the “Add Photo” button, it gets deposited on canvas with item manipulation buttons visible
 - i. NOTE: Once the image is added to the Photos tab, it behaves like any other item (dragging, manipulating, etc)
 - ii. When user is at Landing Page and clicks “Start”, these Photos are not deleted from the Photos tab
 - d. Photo should be scaled down to a size that is manageable for the canvas
 - i. If a very large image is selected from the album, it should not take up the whole canvas, but should be reduced to a more manageable size – we will supply you with dimensions
 - e. We want the user to be able to remove an image from the photos tab (graphics and functionality TBD)
11. Closing the app – after all 3 scenarios below, user is greeted with the Landing page and can choose “Start” or “Resume” (when game is launched again)
- a. Clicking Home button
 - b. Switching to another app
 - c. Actively shutting down the app
12. Order of items on canvas
- a. Let’s say user places smiley face, then scuba diver, then a fish all on top of each other. Automatically, the fish will be on top, since it’s the last item placed on canvas. It is the only one selected.
 - b. If user then clicks on smiley face with all 3 items still in the same space, it then becomes the top layer, and is the only one of the 3 items that is selected. Also, if item A and item B are placed on the canvas in separate areas, and A is dragged to B, it will be on top and only it is selected. If they are separated and then B is brought to A, B will be on top and only it is selected.
13. General considerations
- a. Tracking activity needs to be built in (for example, which items are being touched the most?)
 - i. <http://www.flurry.com/>
 - ii. API Key: **P19D5LB34YZ2PWVKI3UW**
 - b. Since the app design is 2048x1536, what happens when it is loaded on the iPad1 and iPad2?
 - c. The “ITC Kabel Std” font needs to be used for this app. Does a license need to be bought for this?
 - d. When iPad is rotated 180°, the interface should rotate along with it.
 - e. We want to be able to update the app with new items, such that the whole app does not need to be re-downloaded with the new items (APIs, XML would be used)
 - f. Printing: Is there any way to do this easily from the iPad?