Creating Figures

In Animation Pro, you can create everything from simple stick figures through to complex character rigs made from your own images.

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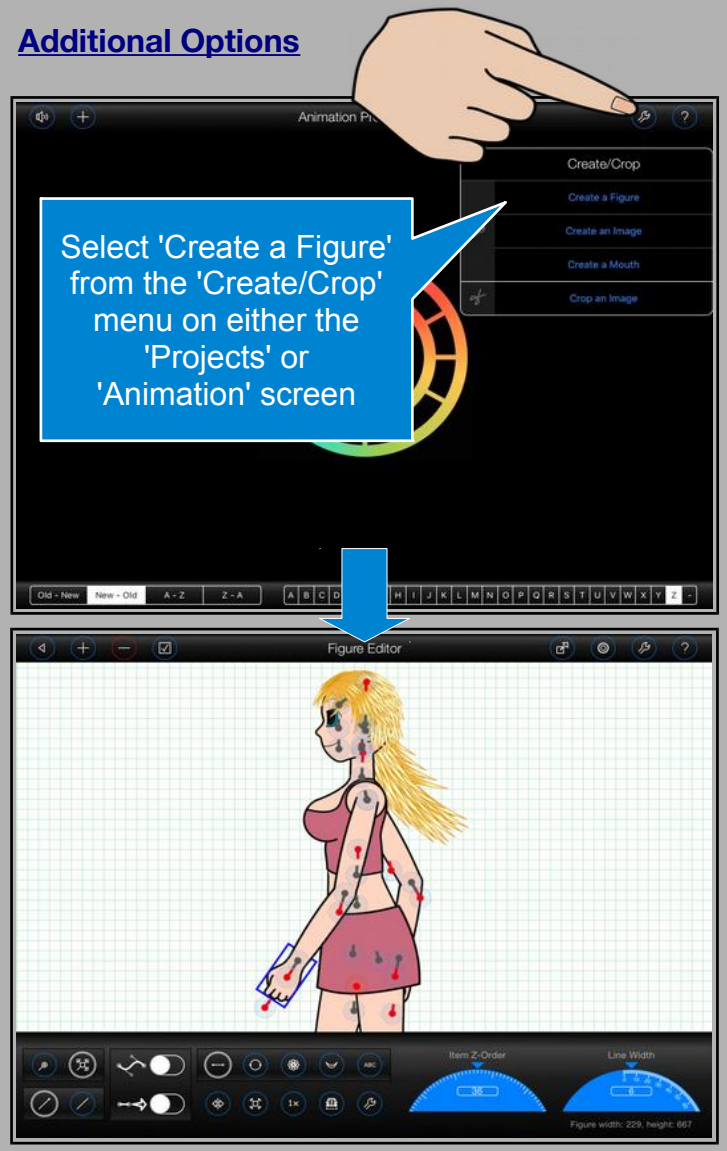
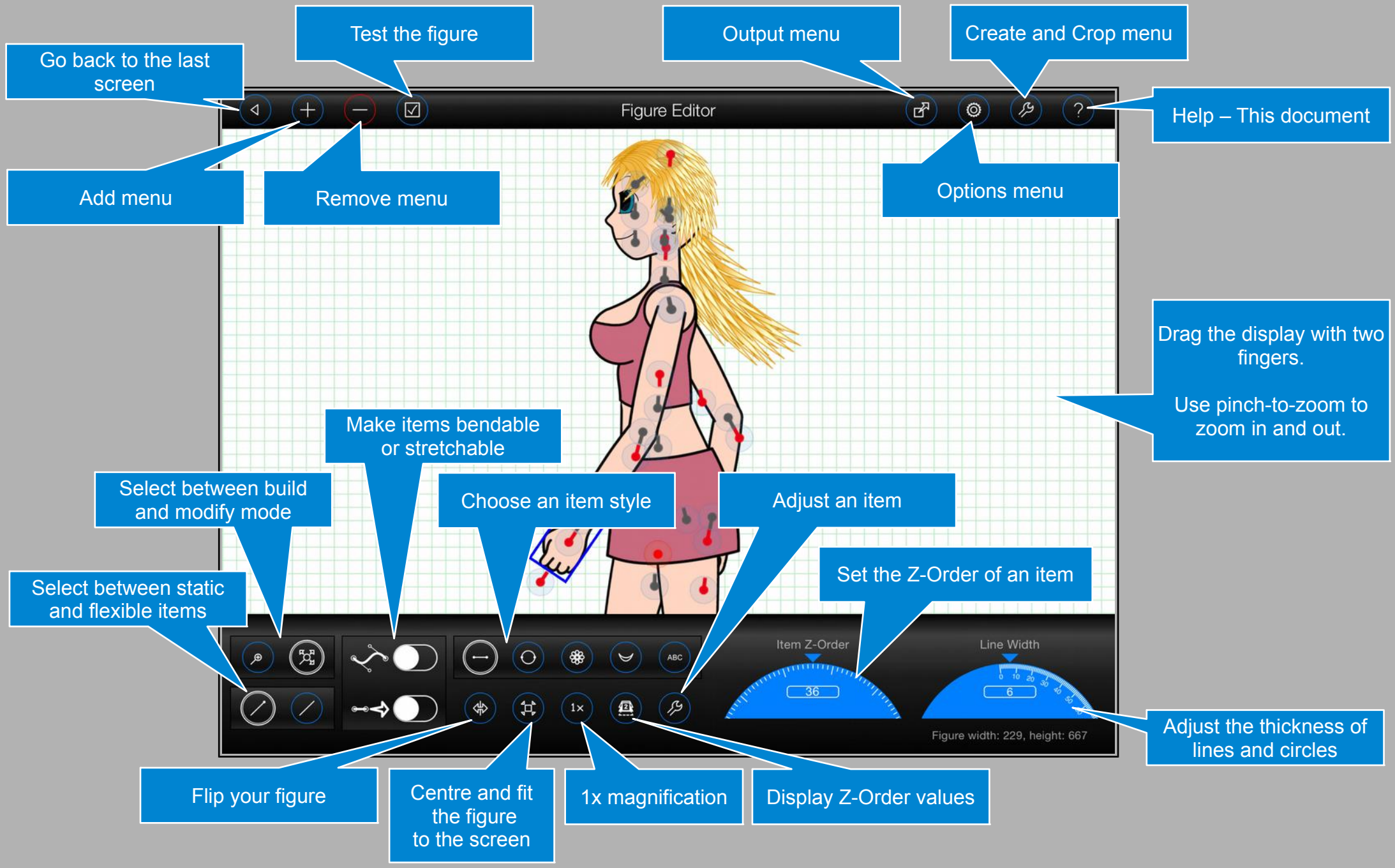


Figure Editor Overview



Creating a Figure

A figure can be anything you like – a bird, a plane, some dude wearing his underpants on the outside. Figures are created from one or more items. An item can be a line, a circle, an image, a mouth or some text.

The Anchor Point

When you open the Figure Editor, you will see two little circles in the middle of the screen. The orange circle, , is known as the anchor point. This is the point around which the figure will rotate or scale etc. When you tap on the anchor point, it will change its appearance:

When the anchor point looks like this, you can use it to drag a figure around the screen.

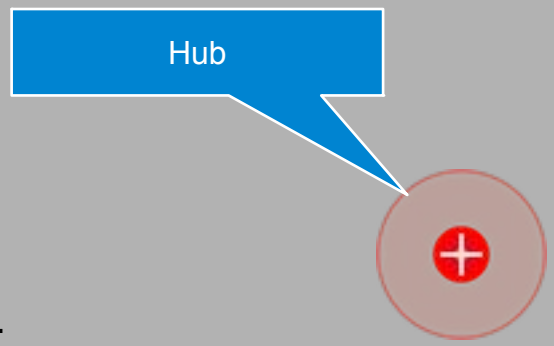
When the anchor point looks like this, you can drag the anchor point around the screen and the figure will stay where it is. This is useful for when you wish, for example, to rotate the figure around a different point.

Whilst animating, you will select figures by tapping on their anchor points.

The Hub

The red circle, , is known as the hub. It is the point from which you will start creating your figure.

Now, the Figure Editor has two modes of operation:



Build Mode

- In Build Mode, the hub will have a little white plus symbol at its centre.
- In Build Mode, you can add a new item to the hub by touching the hub and dragging your finger.

Modify Mode

- In Modify Mode the little white plus symbol won't be visible.

Adding an Item

1. Make sure that you are in 'build mode'

You may toggle between 'build mode' and 'modify mode' by either:

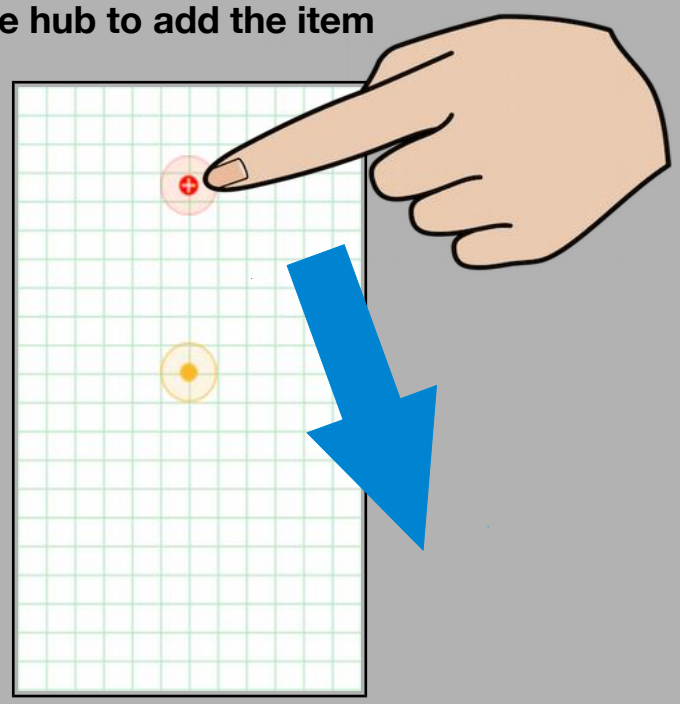
- Tapping on the hub or an item handle, or by
- Pressing the button to select 'build mode' or the button to select 'modify mode' (selected buttons will be white).

2. Select the type of item you would like to add

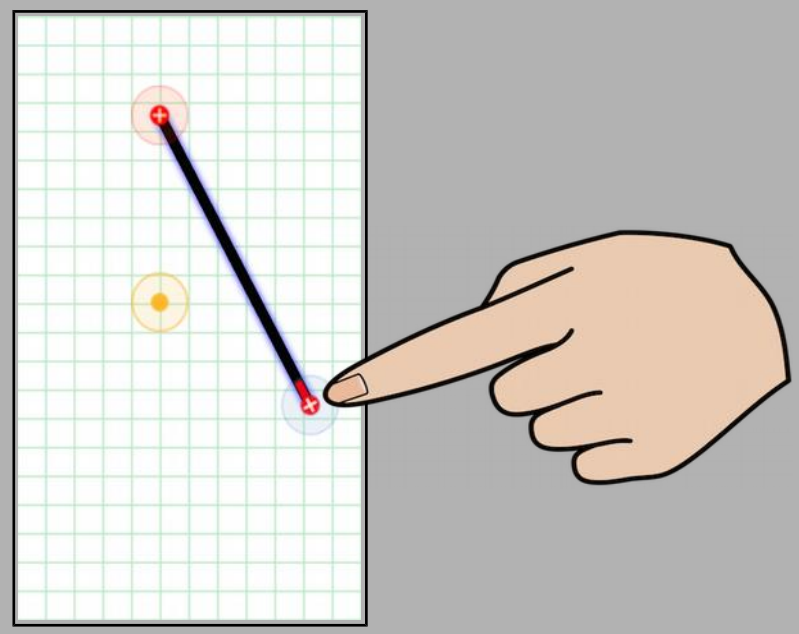
- To add a line, make sure that the button has been selected (selected buttons will be white).
- To add a circle, make sure that the button has been selected.

Then:

3. Drag the hub to add the item



4. Release your finger when done



Item Handles

At the end of your new item, your will see a little red lollipop (well, it looks like a lollipop but believe me, if you lick it, it will taste a lot like glass). This is known as a handle and its 'lollipop stick' points to the item it is attached to. When animating, you'll be able to drag these handles to move the attached items.

Build Mode

- In 'build mode', the handles will have a little white plus symbol at their centre.
- In 'build mode', you can add a new item to the end of another item by touching the handle and dragging your finger.

Modify Mode

- In 'modify mode' the little white plus symbol won't be visible.
- In 'modify mode', you can adjust an item by dragging its handle along with your finger.

Adding More Items

1. Make sure that you are in 'build mode'

You may toggle between 'build mode' and 'modify mode' by either:

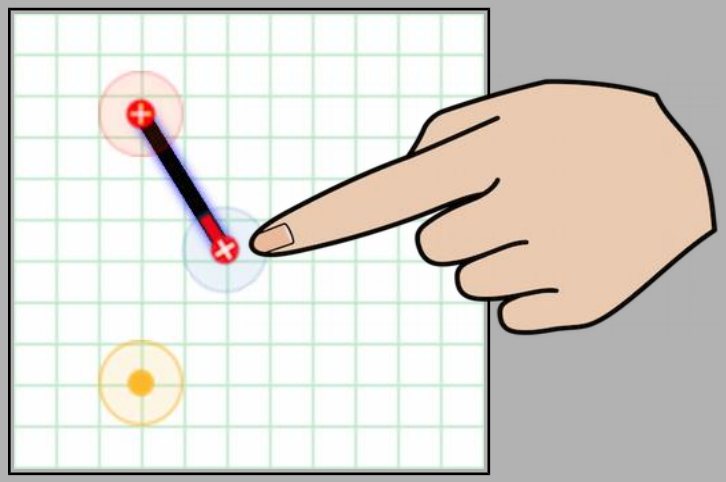
- Tapping on the hub or an item handle, or by
- Pressing the button to select 'build mode' or the button to select 'modify mode' (selected buttons will be white).

2. Select the type of item you would like to add

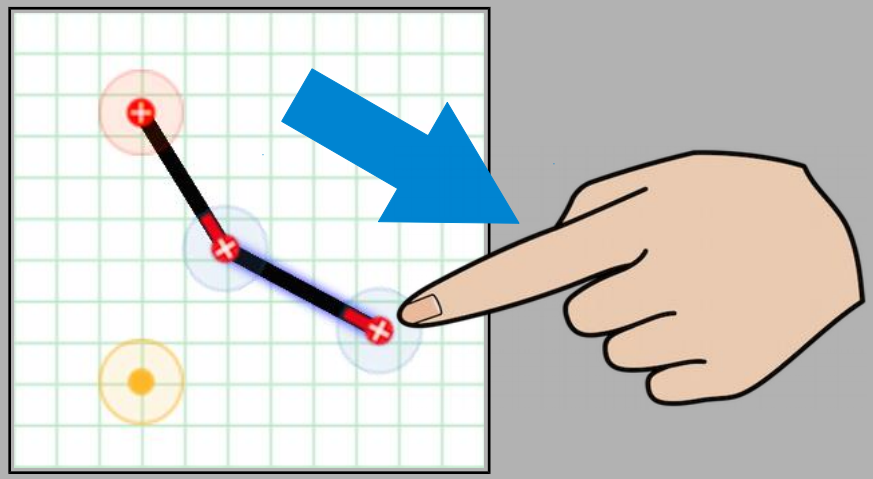
- To add a line, make sure that the button has been selected (selected buttons will be white).
- To add a circle, make sure that the button has been selected.

Then:

3. Drag an existing handle to add another item



4. Release your finger when done



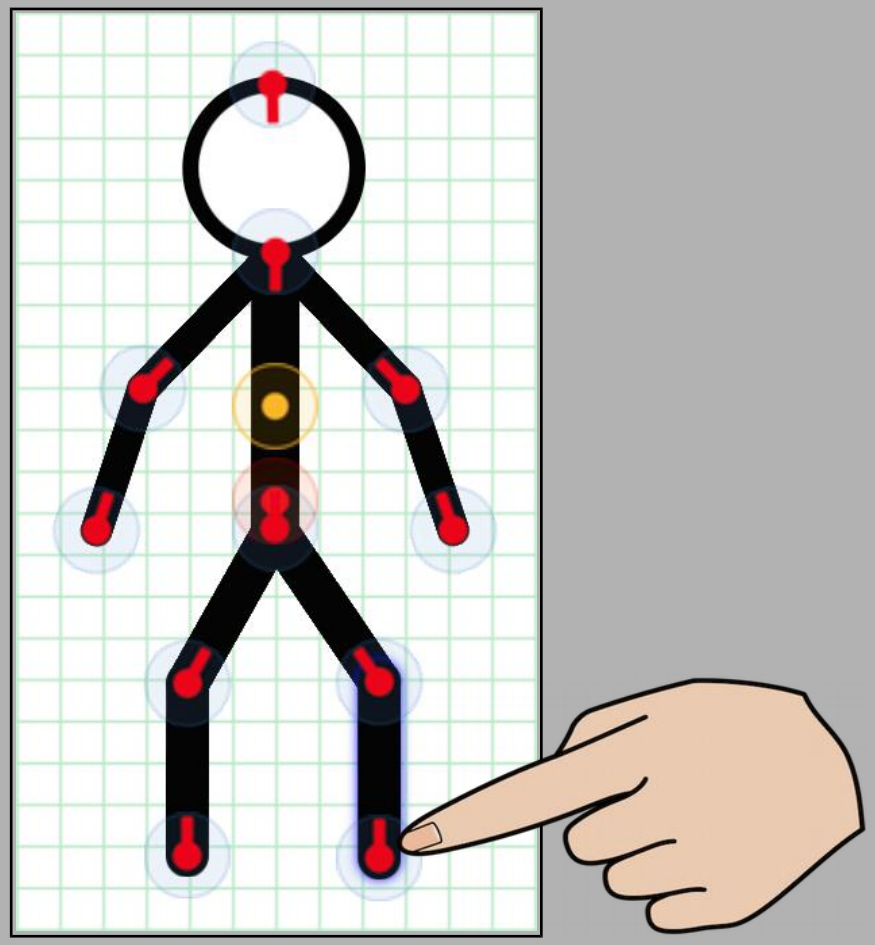
Adjusting Items

1. Make sure that you are in 'modify mode'

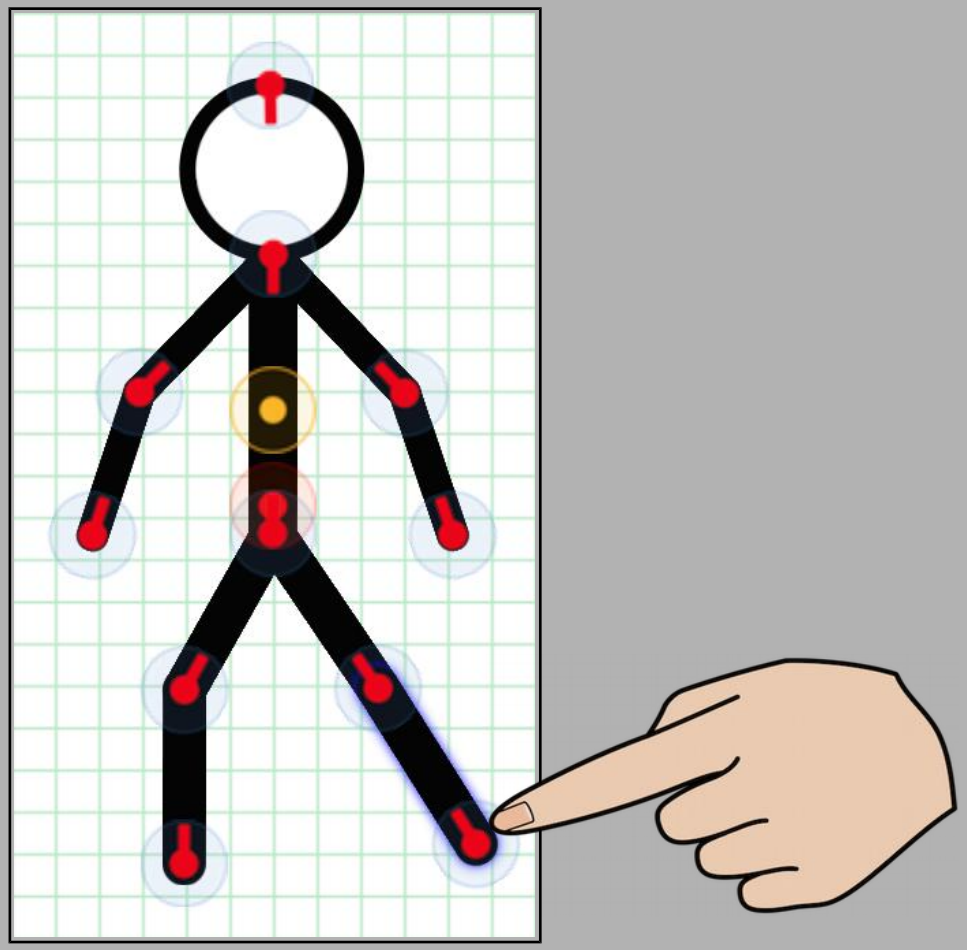
You may toggle between 'build mode' and 'modify mode' by either:

- Tapping on the hub or an item handle, or by
- Pressing the (build mode) button or the (modify mode) button (selected buttons will be white).

2. Drag a handle to move an item



3. Release your finger when done



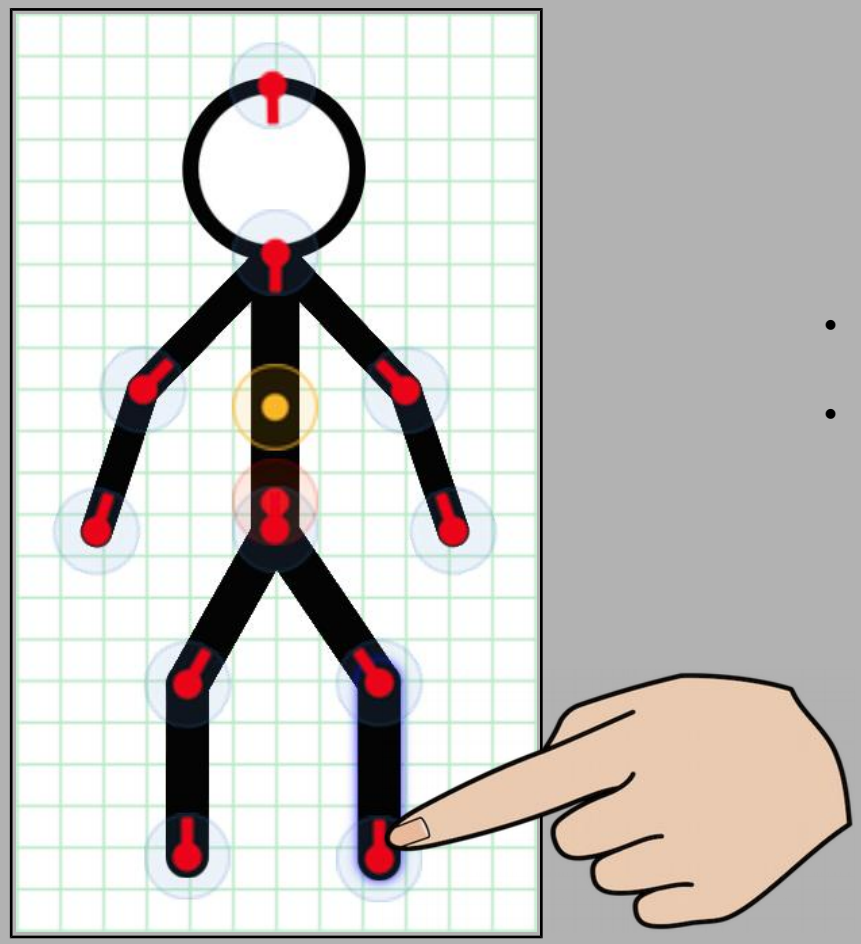
Selecting an Item

1. Make sure that you are in 'modify mode'

You may toggle between 'build mode' and 'modify mode' by either:

- Tapping on the hub or an item handle, or by
- Pressing the (build mode) button or the (modify mode) button (selected buttons will be white).

2. Tap on a handle



- Selected lines and circles will have a blue 'glow'
- Selected images, mouths and text will have blue borders

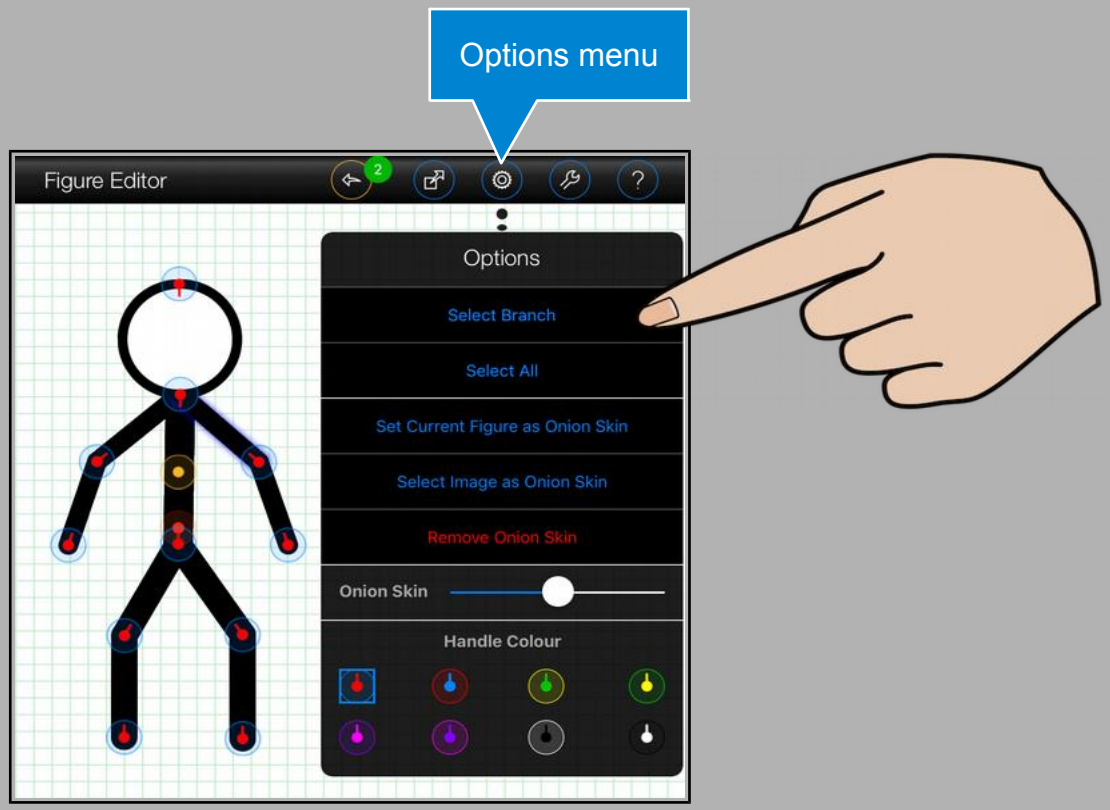
Selecting Multiple Items

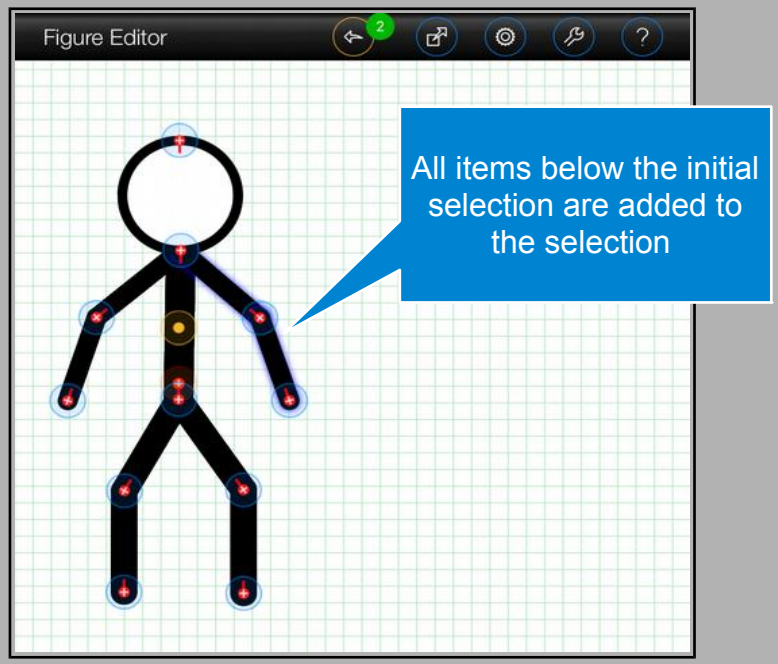
It is possible to select more than one item at once. This is useful if you wish to adjust the thickness of multiple items or, perhaps, replace multiple items with the same image.

Selecting a Branch

Now, when you've got one item joined to another item, you've got what I like to call a 'Branch'.

If you select one of the items in a Branch then you can additionally select all of the items beneath it by choosing 'Select Branch' from the 'Options' menu:





Removing One or More Items

1. Make sure that you are in 'modify mode'

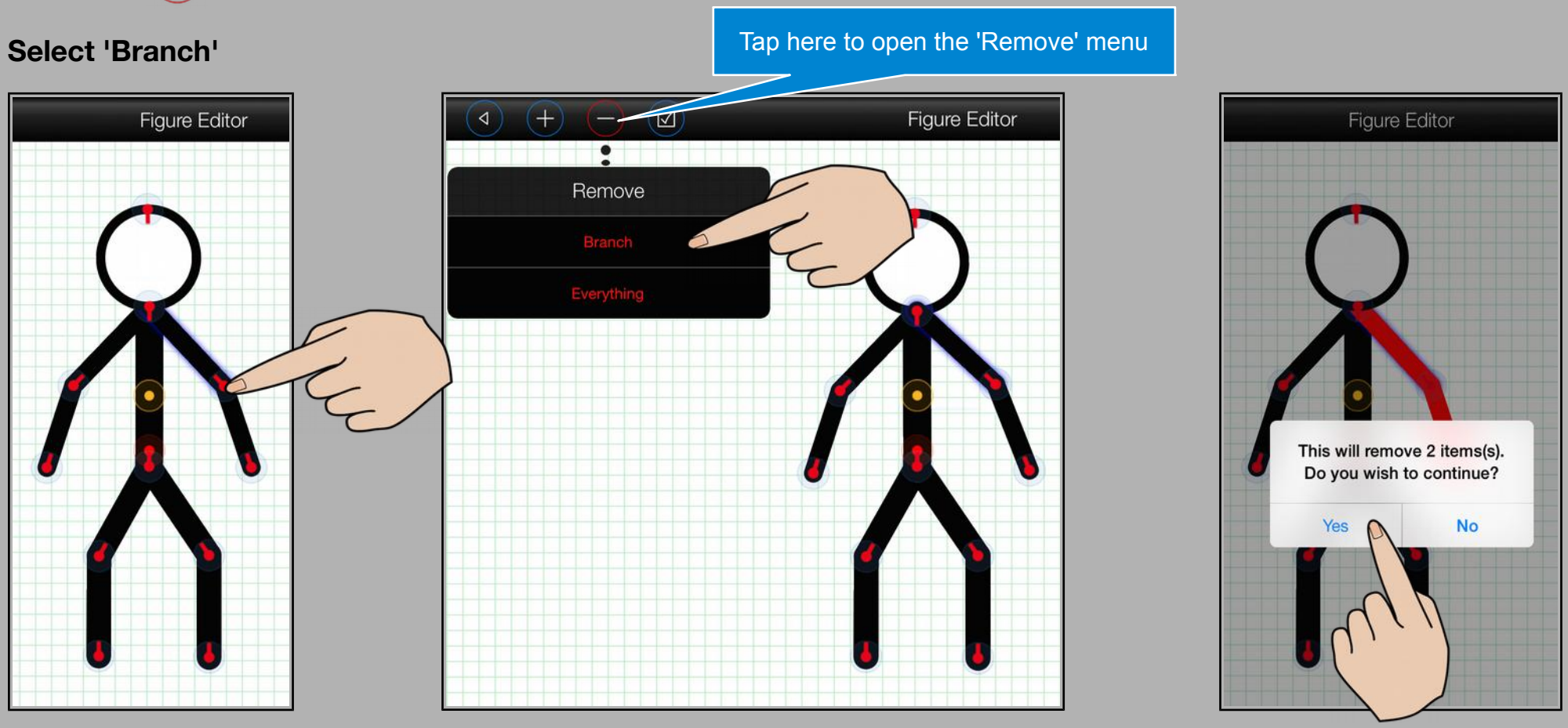
You may toggle between 'build mode' and 'modify mode' by either:

- Tapping on the hub or an item handle, or by
- Pressing the (build mode) button or the (modify mode) button (selected buttons will be white).

2. Tap on an item handle

3. Press the button to open the 'Remove' menu

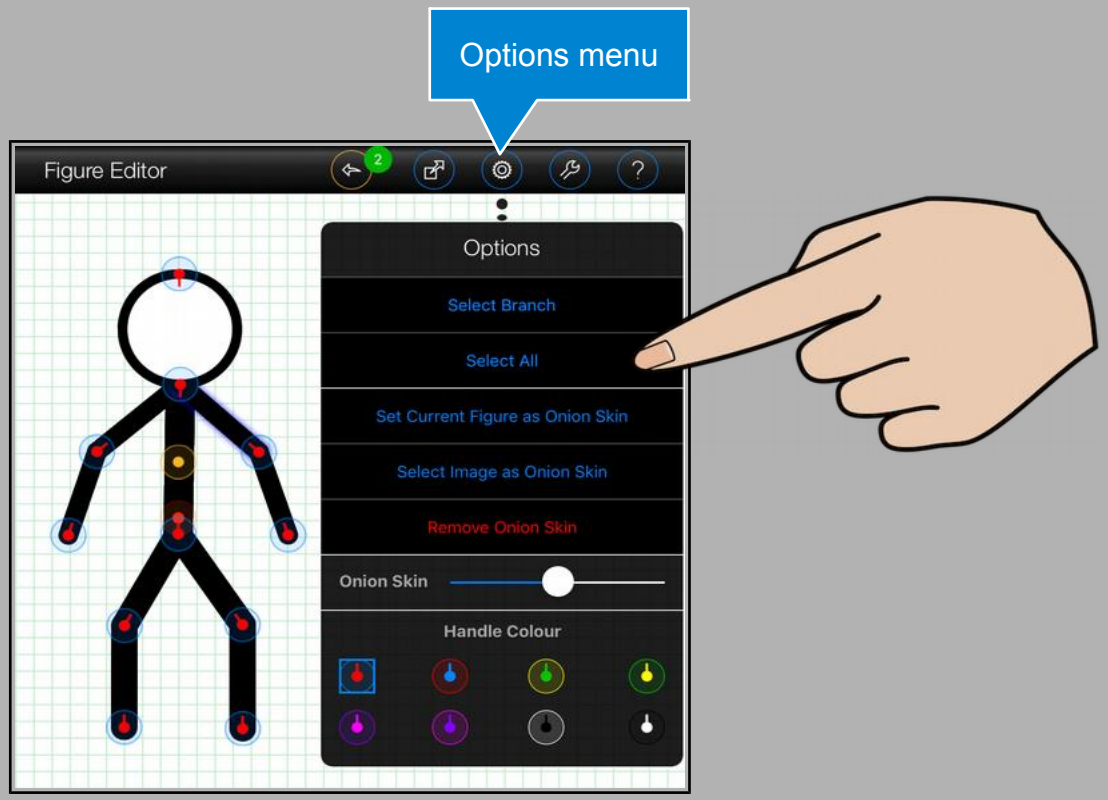
4. Select 'Branch'

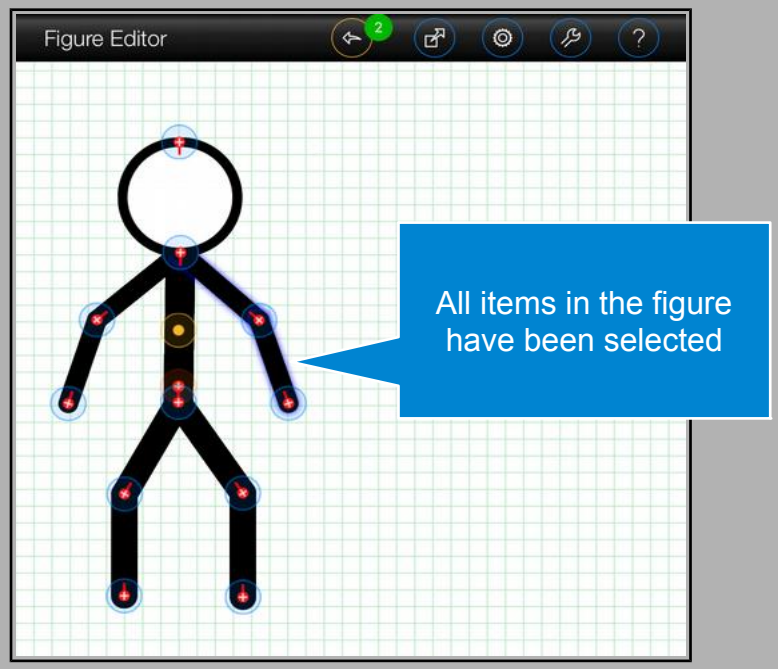


Selecting All Items

If you are greedy and you wish to select all of the items in a figure then:

Choose 'Select All' from the 'Options' menu:





Removing All Items

Similarly, if you wish to remove all items from a figure then:

Press the button to open the 'Remove' menu and then select 'Everything'.

Of course, this will leave you with nothing but a little red hub and a little orange Anchor Point, so where's the fun in that!

Flexible Items and Static Items

This is important, so please don't go to sleep just yet. Items, regardless of whether they are lines, circles, images, mouths or text can be either:

Flexible

When animating, these items can be moved and thus animated

Or

Static

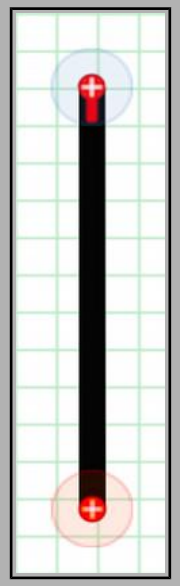
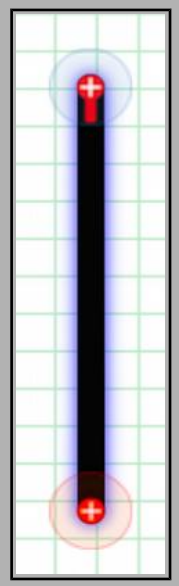
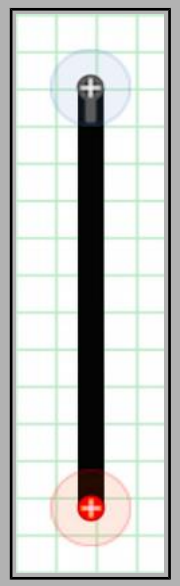
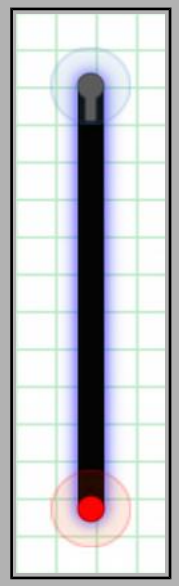
When animating, these items will not have a handle and cannot be moved

Consider the situation where you are creating a car. The wheels would be flexible items, allowing them to rotate. The head-lights, however, would be static i.e. fixed. In other words, it is good practise to make any items that never need to be animated, static. That way, you won't have a lot of unnecessary handles getting in the way whilst animating.

You may toggle between Flexible and Static items by:

Pressing the (flexible) button or the (static) button (selected buttons will be white).

If you already have one or more items selected, pressing these buttons will make them either flexible or static (depending upon your selection); otherwise, the next item you create will be flexible or static based upon your selection.

Flexible items will have a red Handle when unselected 	Flexible items will have a red Handle and will 'glow' blue when selected 
Static items will have a grey Handle when unselected 	Static items will have a grey Handle and will 'glow' blue when selected 

Changing Items

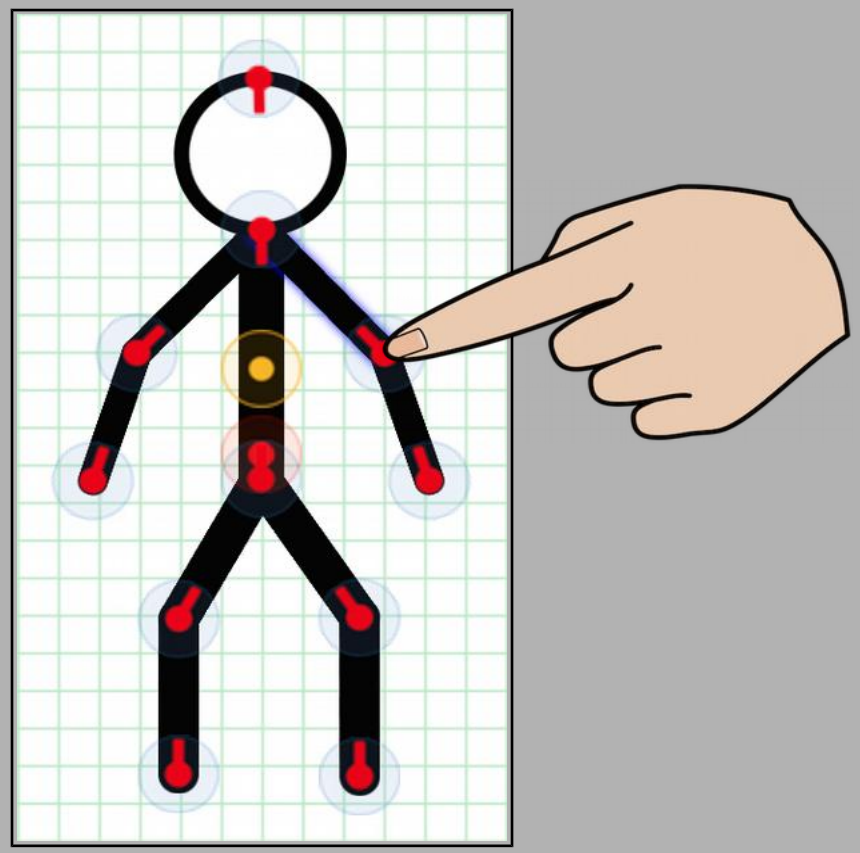
To change a line into a circle:

1. Make sure that you are in 'modify mode'

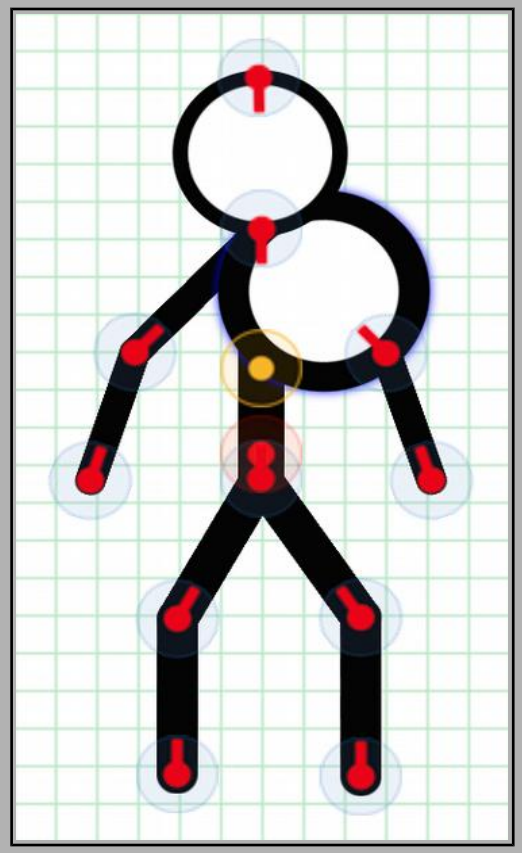
You may toggle between 'build mode' and 'modify mode' by either:

- Tapping on the hub or an item handle, or by
- Pressing the (build mode) button or the (modify mode) button (selected buttons will be white).

2. Tap on the handle for a given line



3. Press the button



To change a circle into a line:

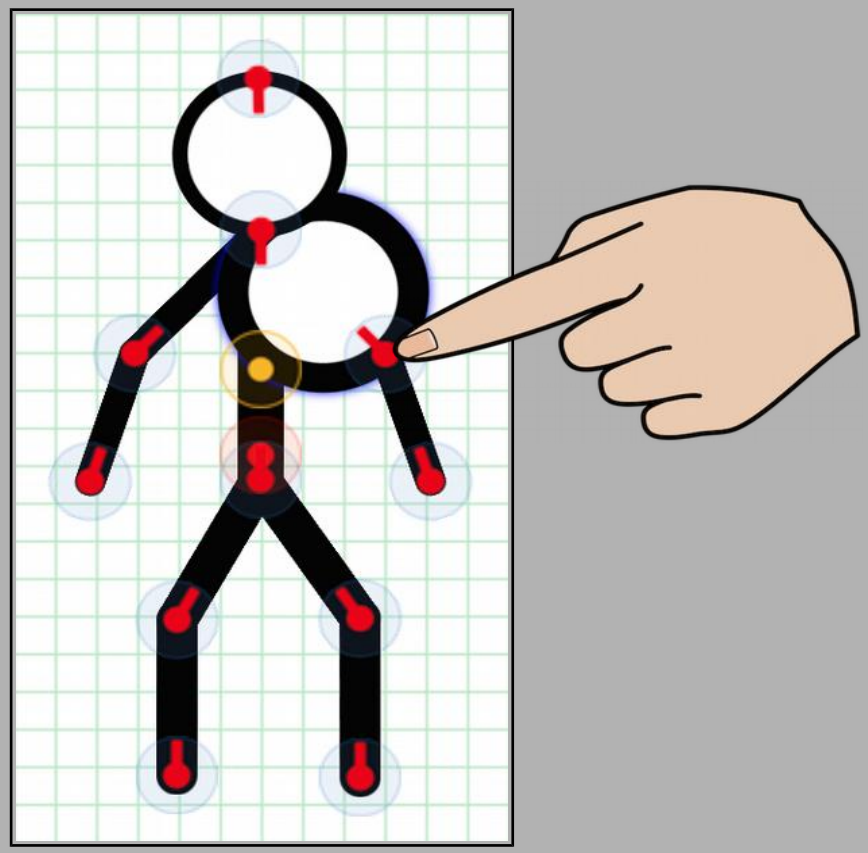
1. Make sure that you are in 'modify mode'

You may toggle between 'build mode' and 'modify mode' by either:

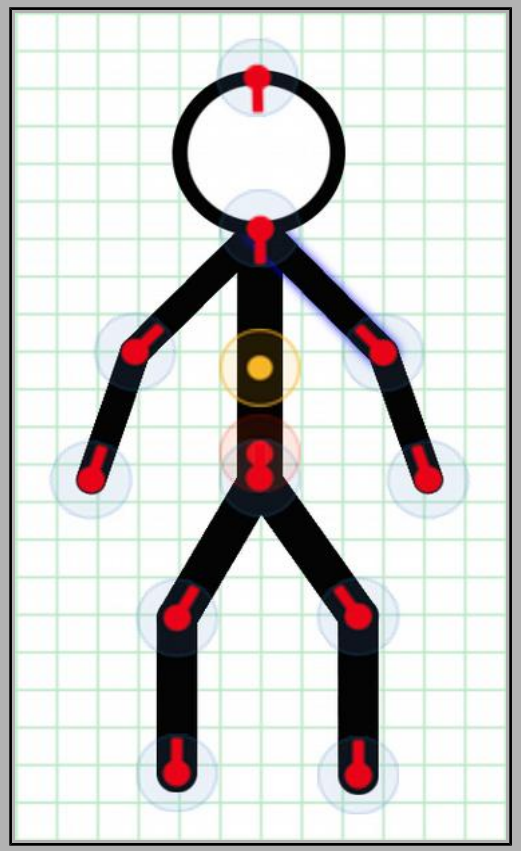
• Tapping on the hub or an item handle, or by

• Pressing the (build mode) button or the (modify mode) button (selected buttons will be white).

2. Tap on the Handle for a given circle



3. Press the button



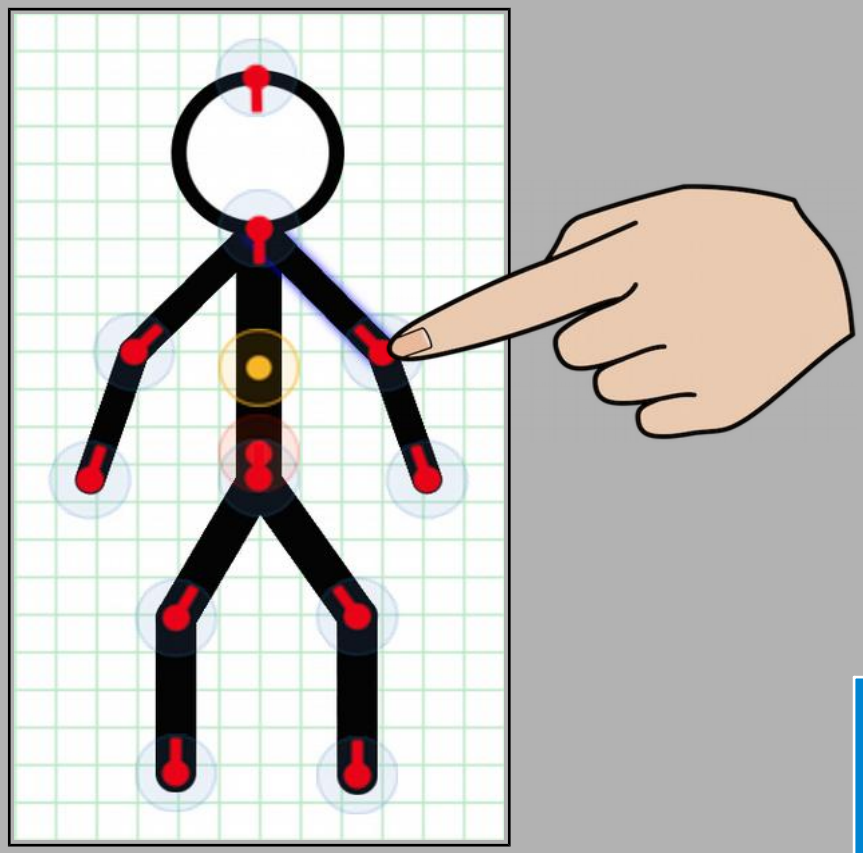
To change the thickness of a line or circle item:

1. Make sure that you are in 'modify mode'

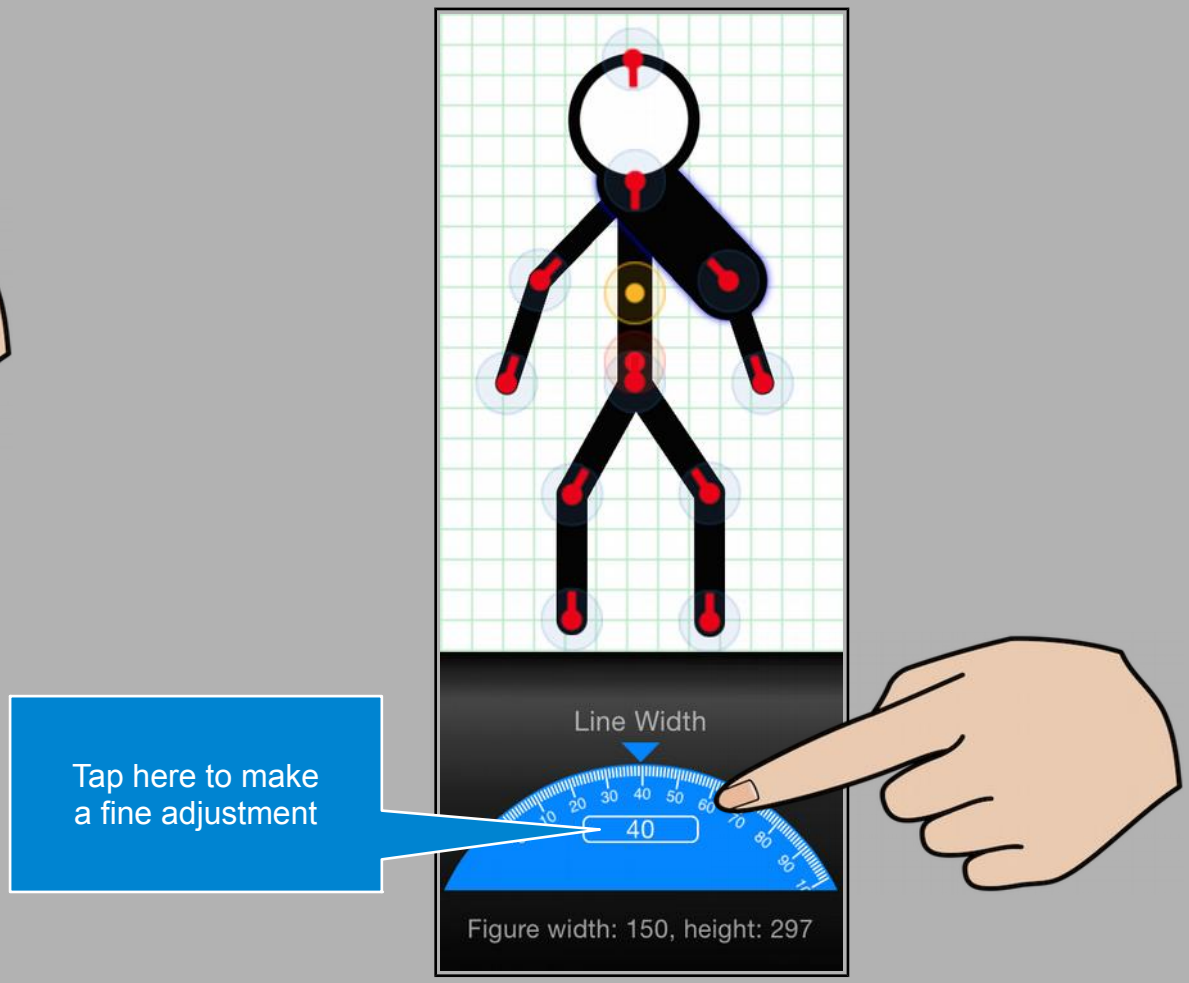
You may toggle between 'build mode' and 'modify mode' by either:

- Tapping on the hub or an item handle, or by
- Pressing the (build mode) button or the (modify mode) button (selected buttons will be white).

2. Tap on the handle for a given item



3. Rotate the 'Line Width' dial at the bottom of the screen



To change the colour or opacity of a line or circle item:

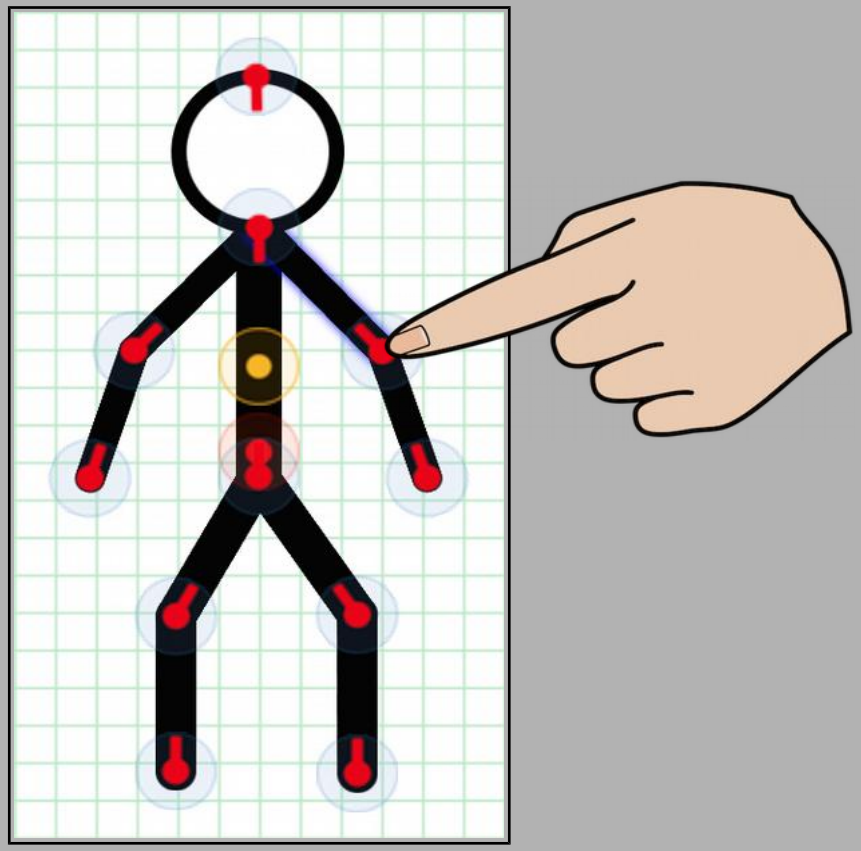
1. Make sure that you are in 'modify mode'

You may toggle between 'build mode' and 'modify mode' by either:

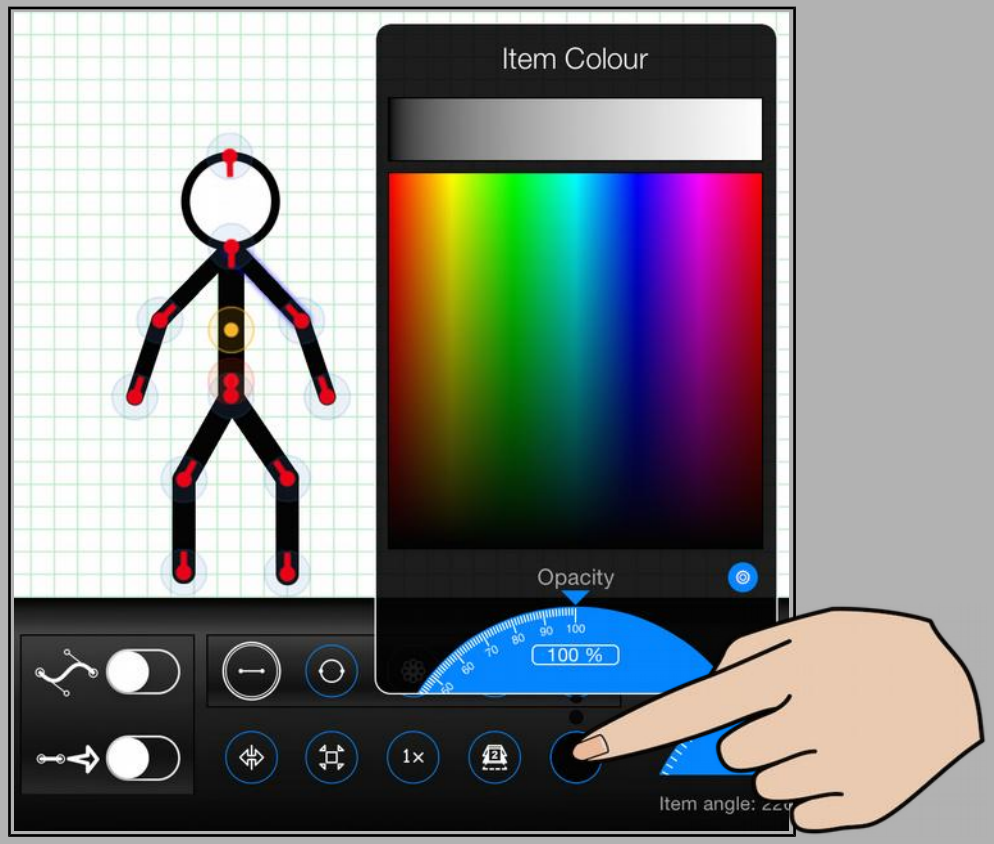
• Tapping on the hub or an item handle, or by

• Pressing the (build mode) button or the (modify mode) button (selected buttons will be white).

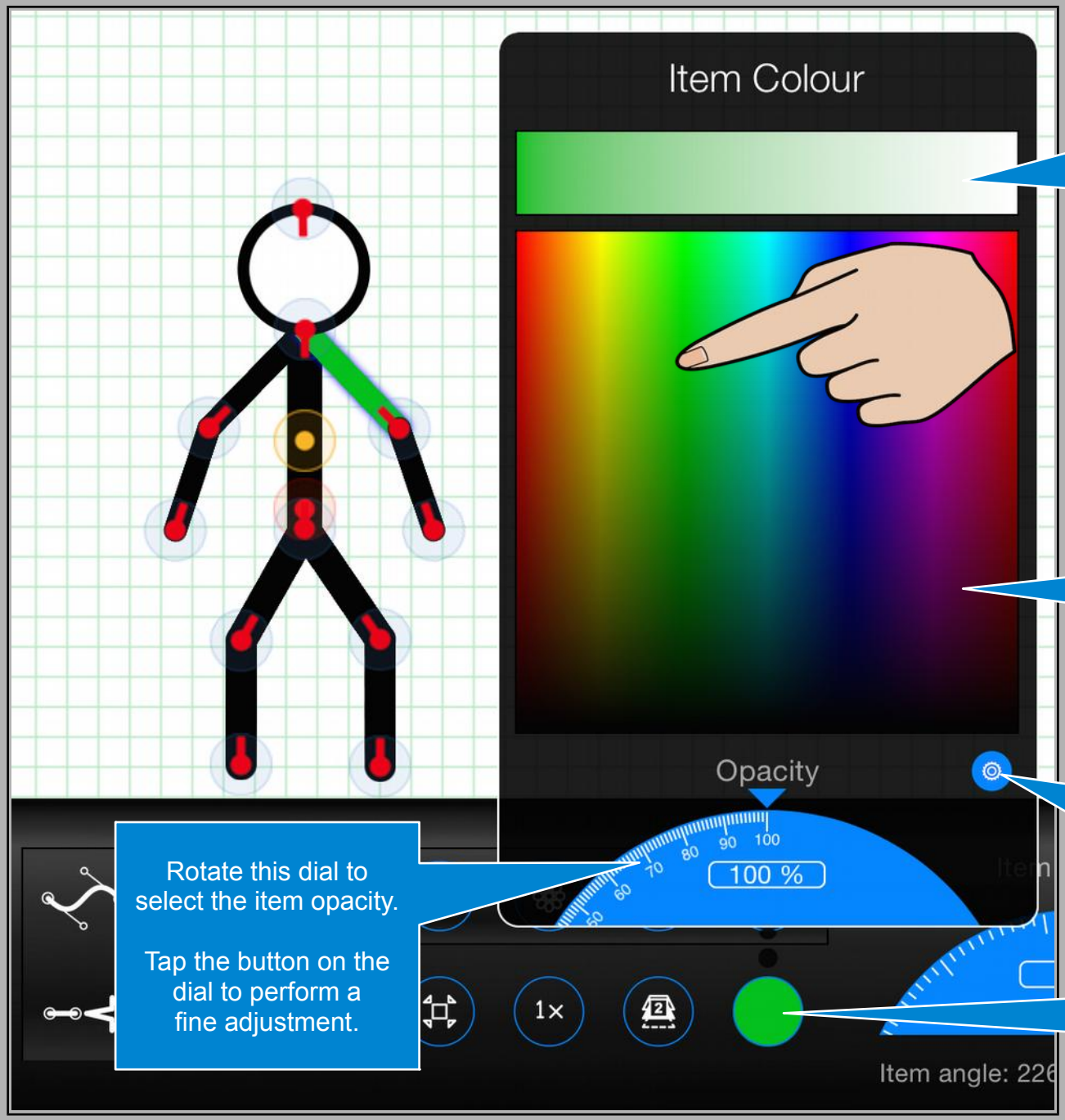
2. Tap on the handle for a given item



3. Press the button



3. Select the colour and opacity



Touch any point on the colour gradient to select a lighter version of the currently selected colour

Touch any point on the colour swatch to select a colour

Tap here to display RGB (red, green and blue) colour dials for precise colour selection

Rotate this dial to select the item opacity.

Tap the button on the dial to perform a fine adjustment.

The button will change to display the currently selected colour

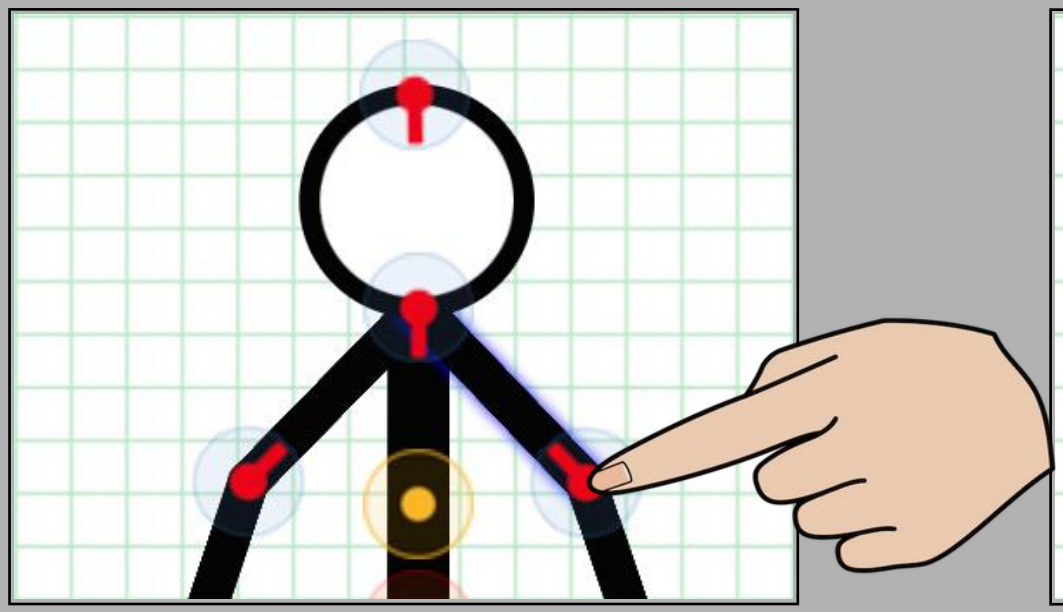
Bendable and Stretchable Items

But wait, there's more! Items can also be:

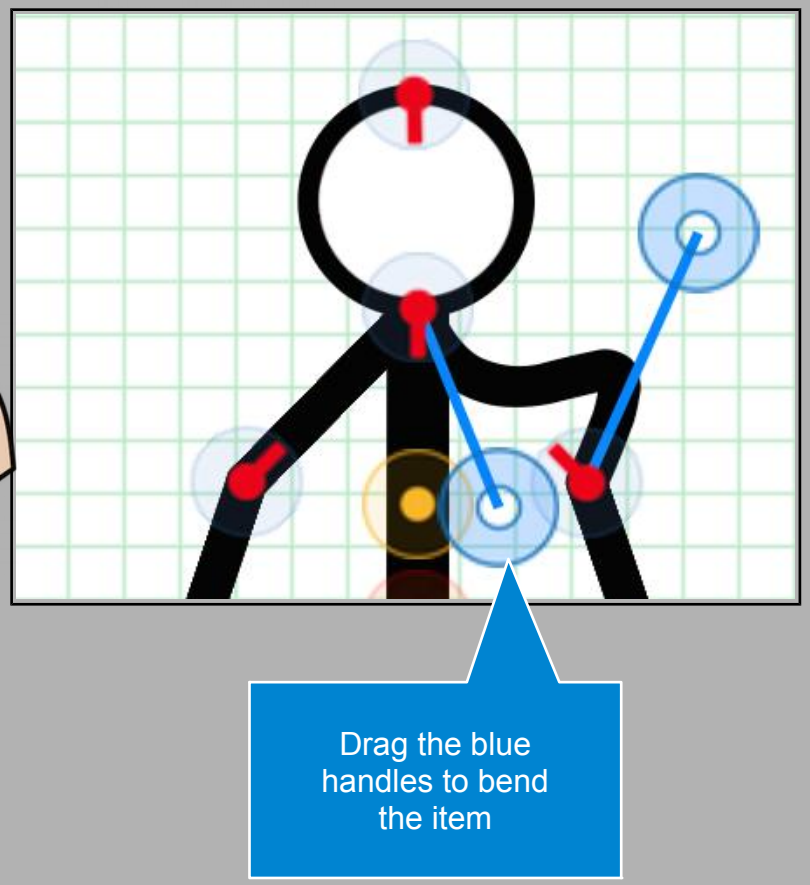
Bendable

As the name implies, these items can be bent whilst animating. To make an item 'bendable':

1. Tap on the handle for a given item



2. Turn the switch on

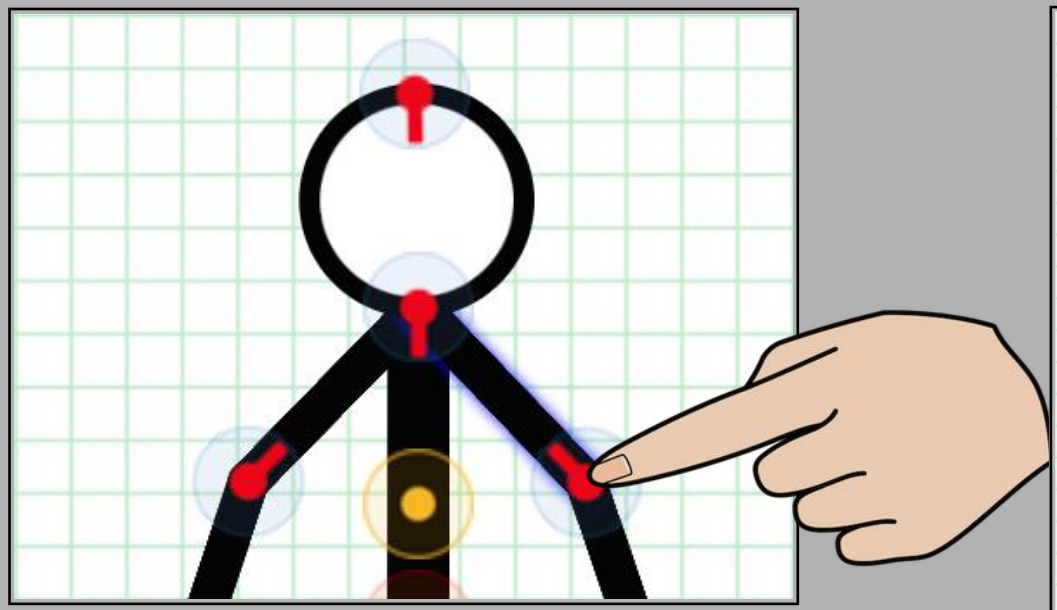


Please note: Circle items may not be made bendable.

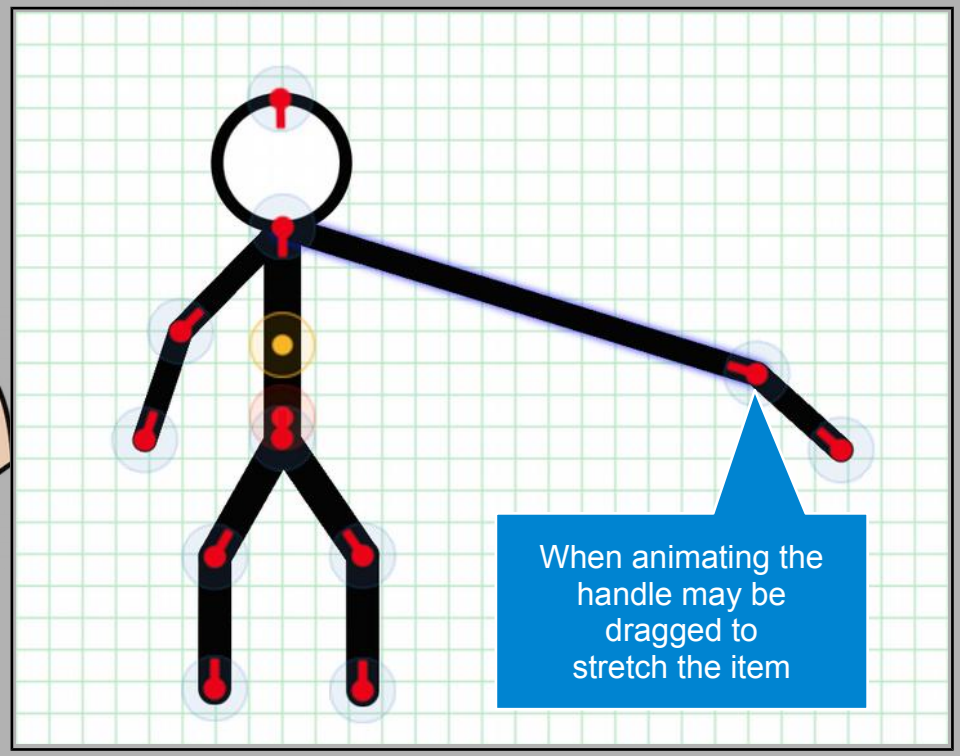
Stretchable

These items may be stretched whilst animating. To make an item 'stretchable':

1. Tap on the handle for a given item



2. Turn the switch on



Working with Images

All figures in Animation Pro are essentially created from stick figure skeletons. So hopefully, by now, you have a pretty good understanding of how to create a basic stick figure in Animation Pro. If not, then please take a moment to re-read the information above. It'll do you good, if not cure your insomnia!

Once you've created a basic stick figure skeleton, you can start replacing the lines and/or circles it contains with images to produce much more interesting figures.

To add an image:

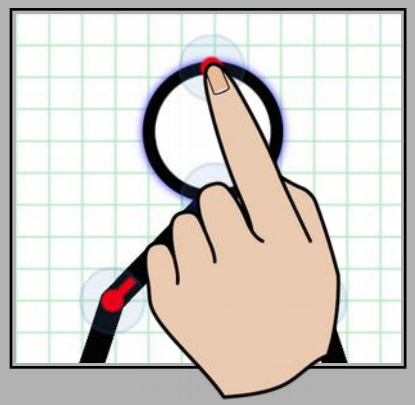
1. Make sure that you are in 'modify mode'

You may toggle between 'build mode' and 'modify mode' by either:

• Tapping on the hub or an item handle, or by

• Pressing the 'build mode' button or the 'modify mode' button (selected buttons will be white).

2. Tap on the handle for a given item



3. Press the button

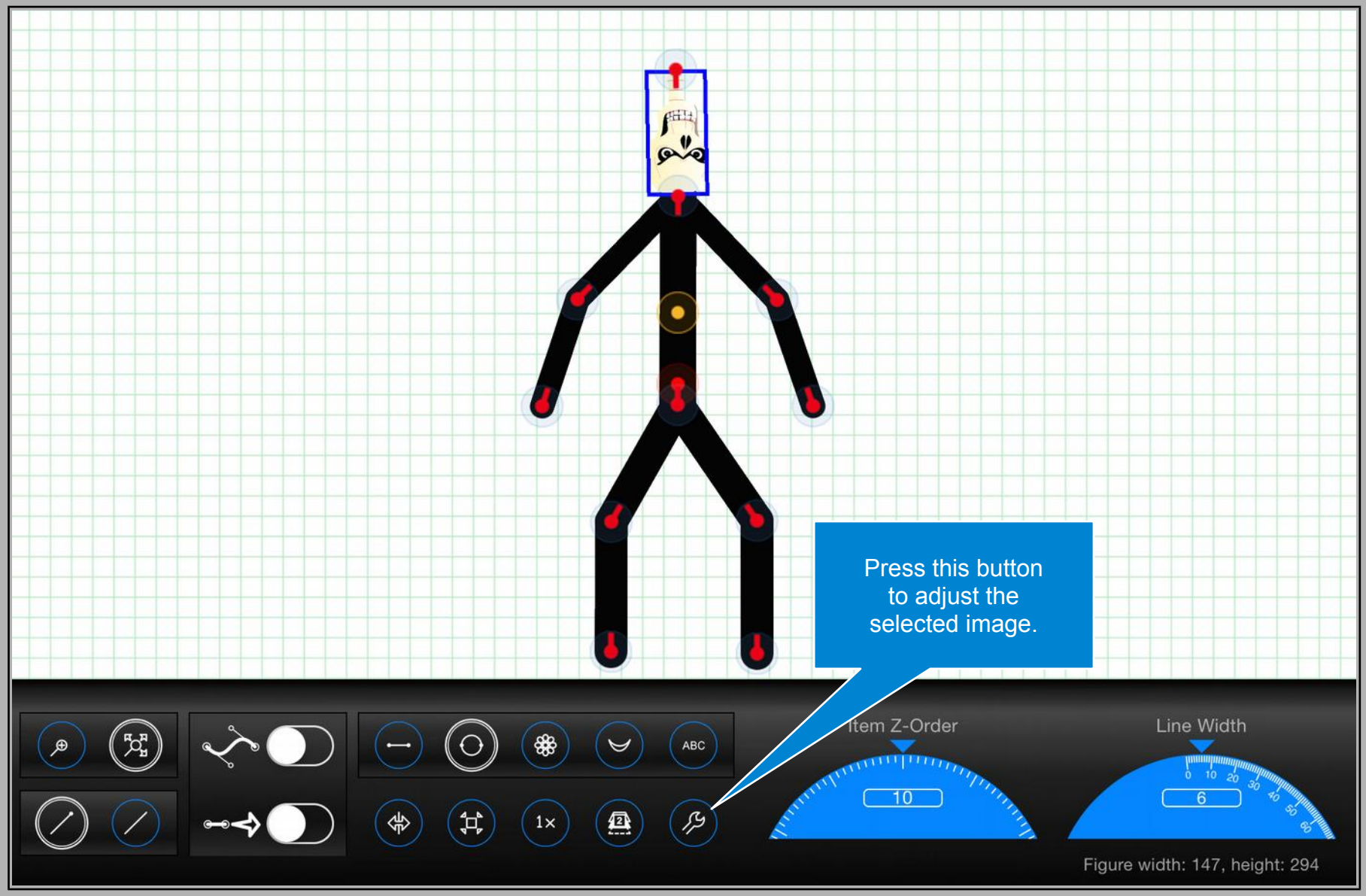
4. Select an image

Animation Pro will display an 'Image Selection' file manager. This contains a number of included images, arranged into a series of different categories. You may also access the images in your photo library/camera role, as shown below:

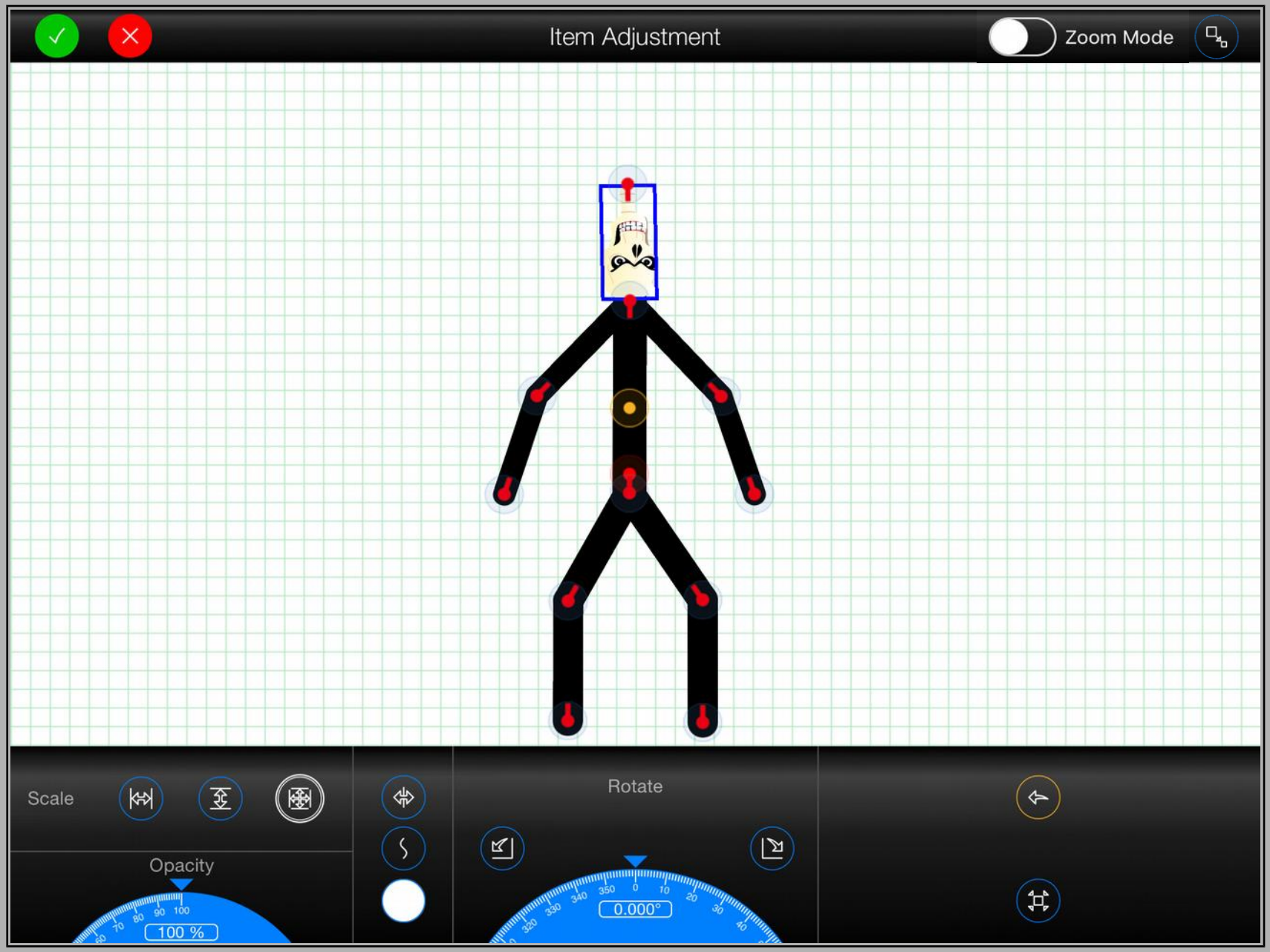
For more information regarding the 'Image Selection' file manager, please refer to the 'File Manager' topic (left).

5. Adjust the image

Animation Pro will display a button at the bottom of the screen whenever an image is selected. Press this button to open the 'Item Adjustment' screen. From the 'Item Adjustment' screen, the image can be manipulated in a variety of ways.

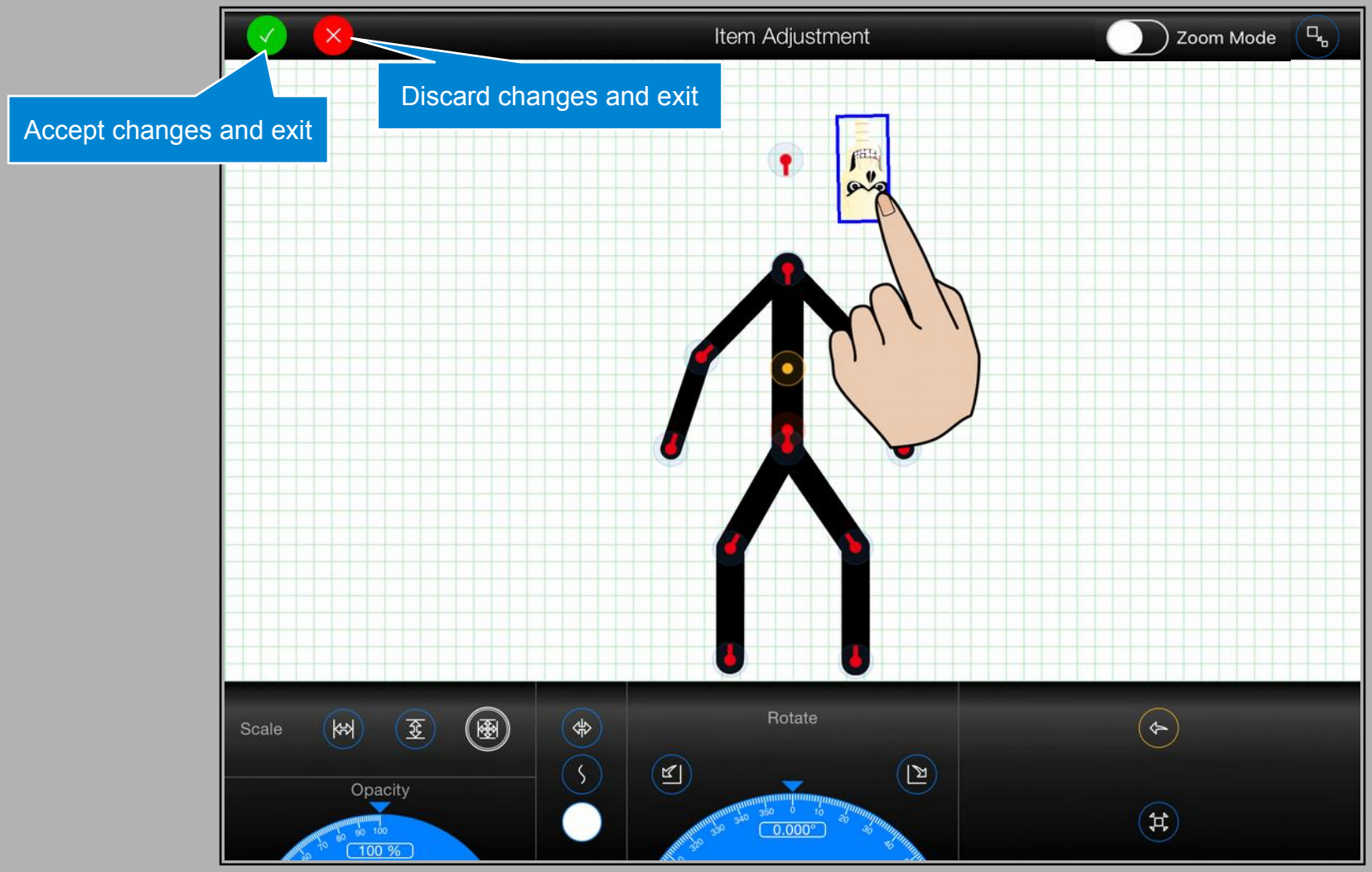


The 'Item Adjustment' screen:



Moving an Item

Use one finger to drag the selected item around:

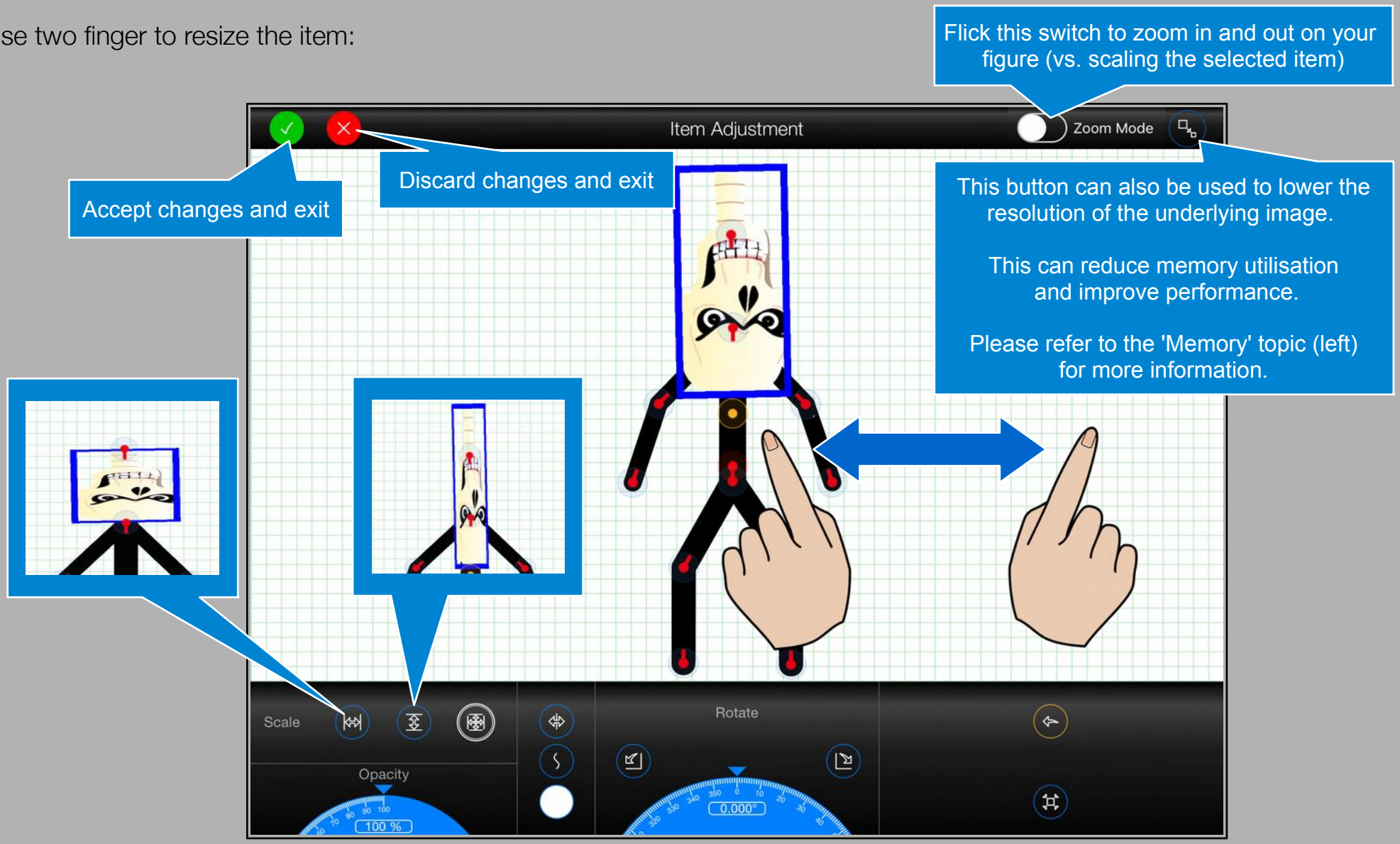


Please note: Item handles will always remain in their original positions. Line and circle items may not be moved.

Scaling an Item

1. Select to change the width, to change the height or to change both the width and height

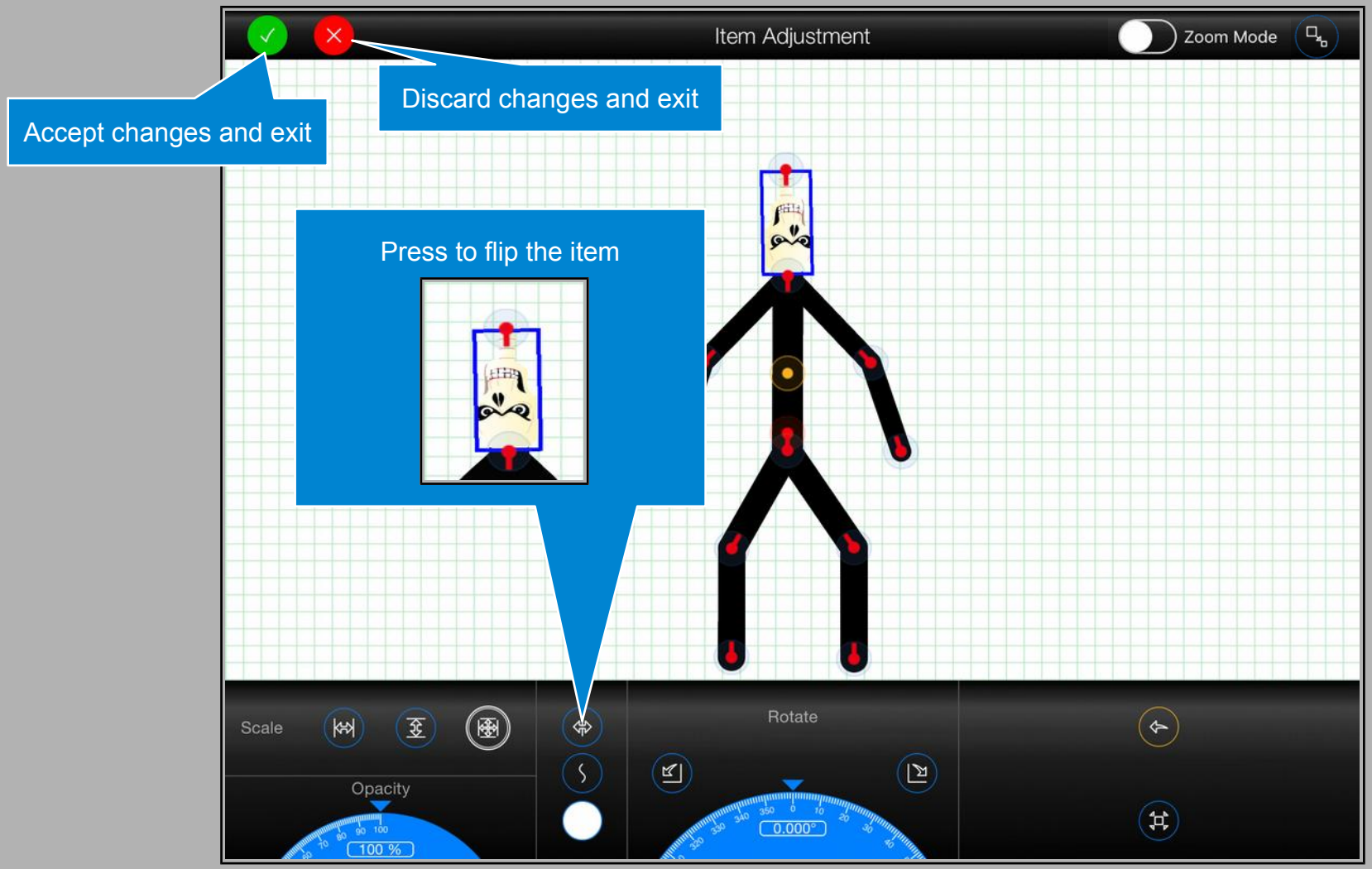
2. Use two finger to resize the item:



Please note: Item handles will always remain in their original positions. Line and circle items may not be scaled.

Flipping an Item

Press the button to flip the item:



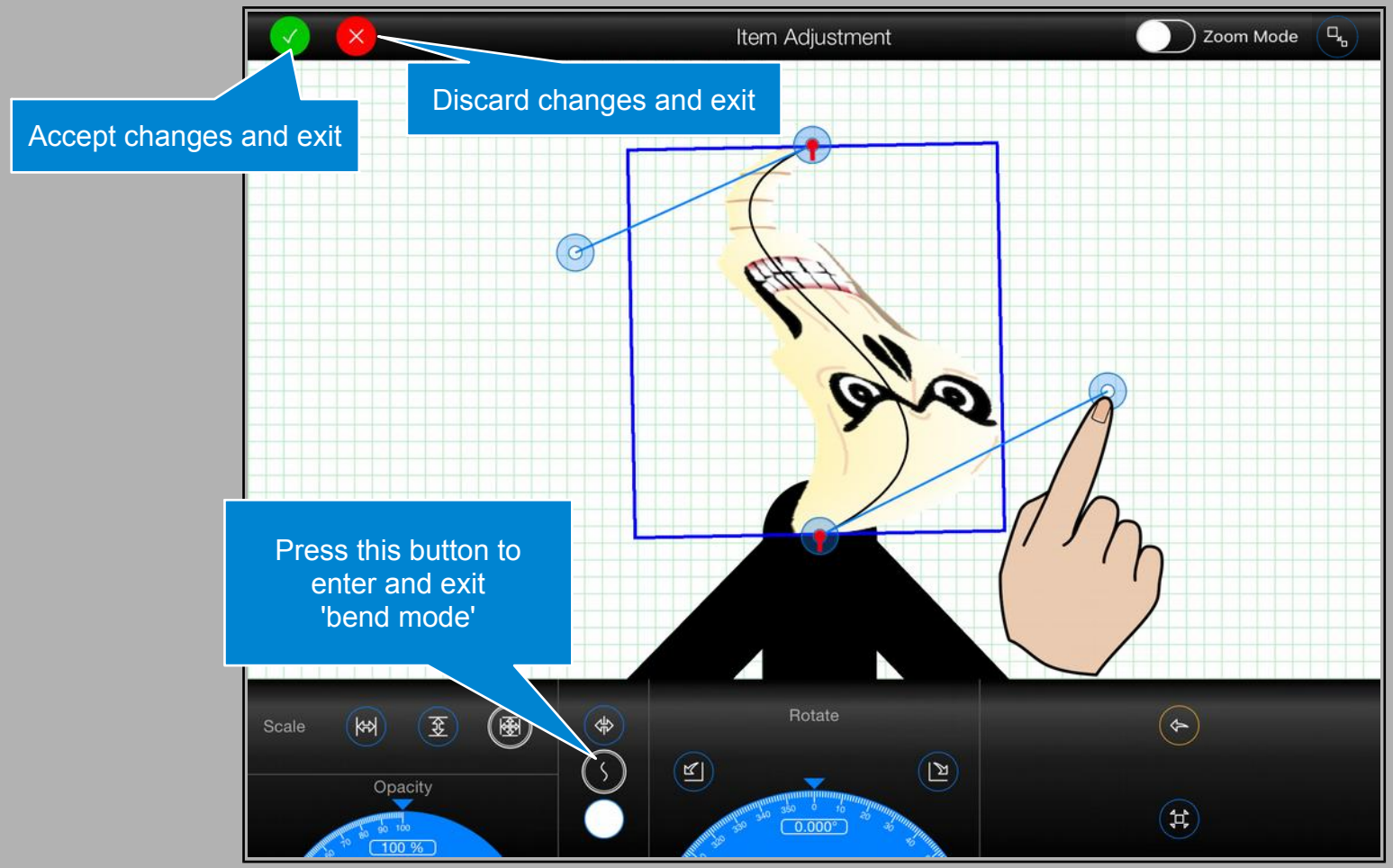
Please note: Line and circle items may not be flipped.

Bending an Item

1. Press the button to enter 'bend mode'. Blue bend handles, , will be displayed.

2. Drag the bend handles to bend the item.

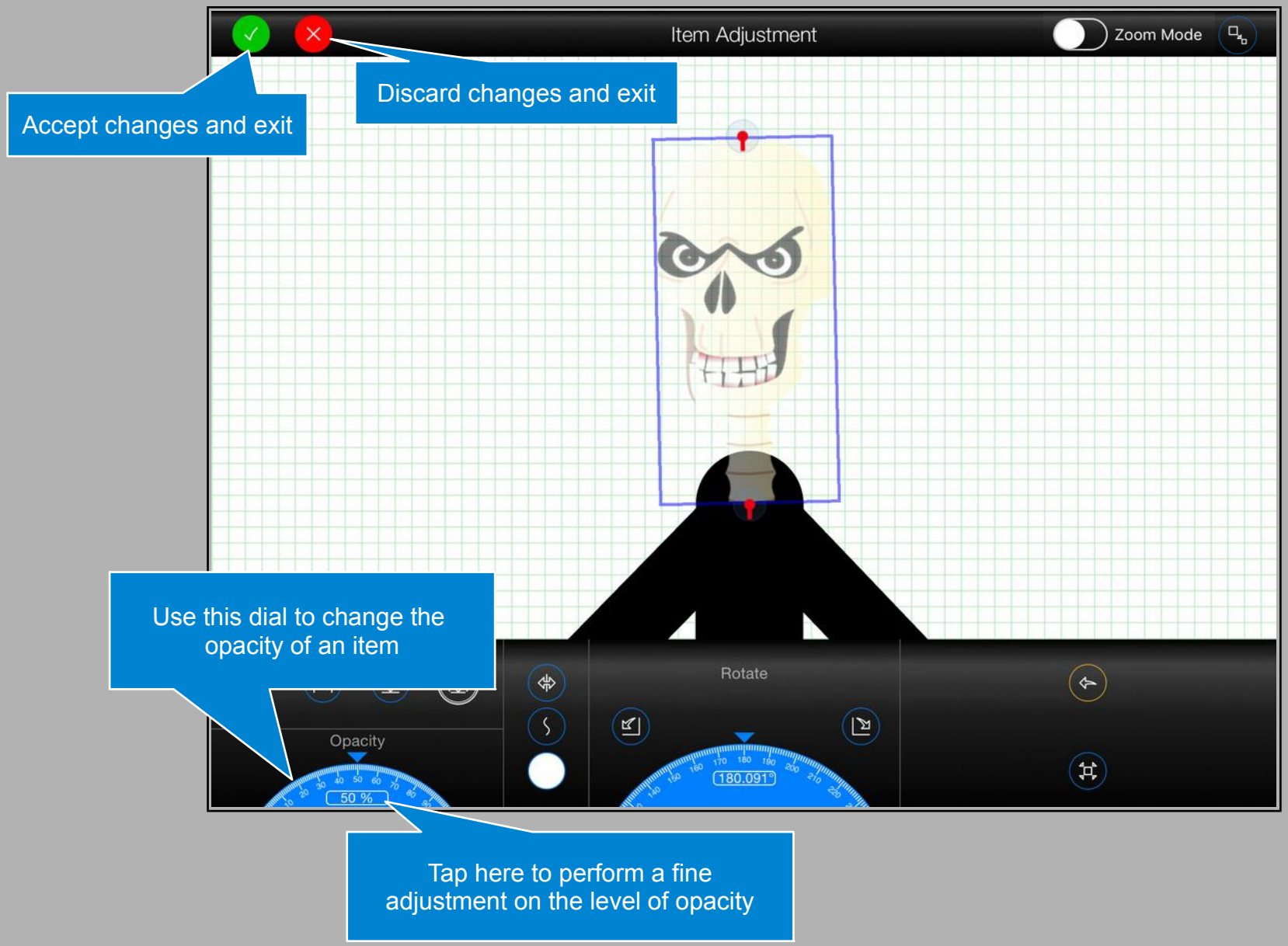
3. Press the button again to exit 'bend mode'.



Please note: Lines, circles and bendable items may not be bent via the 'Item Adjustment' screen. You cannot bend an already 'bendable' item via the 'Item Adjustment' screen.

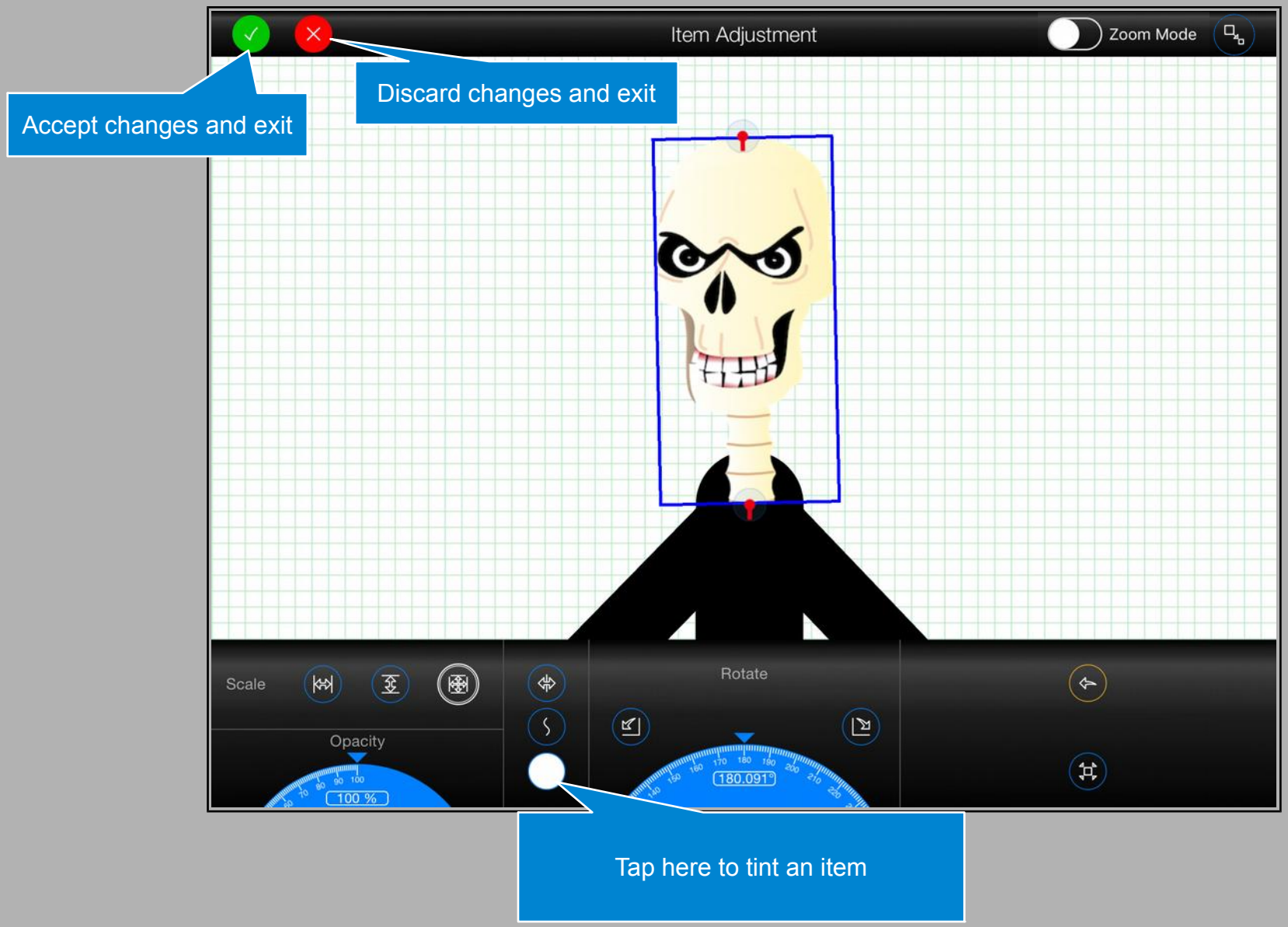
Changing the Opacity of an Item

Use the 'Opacity' dial to change the opacity of an item:

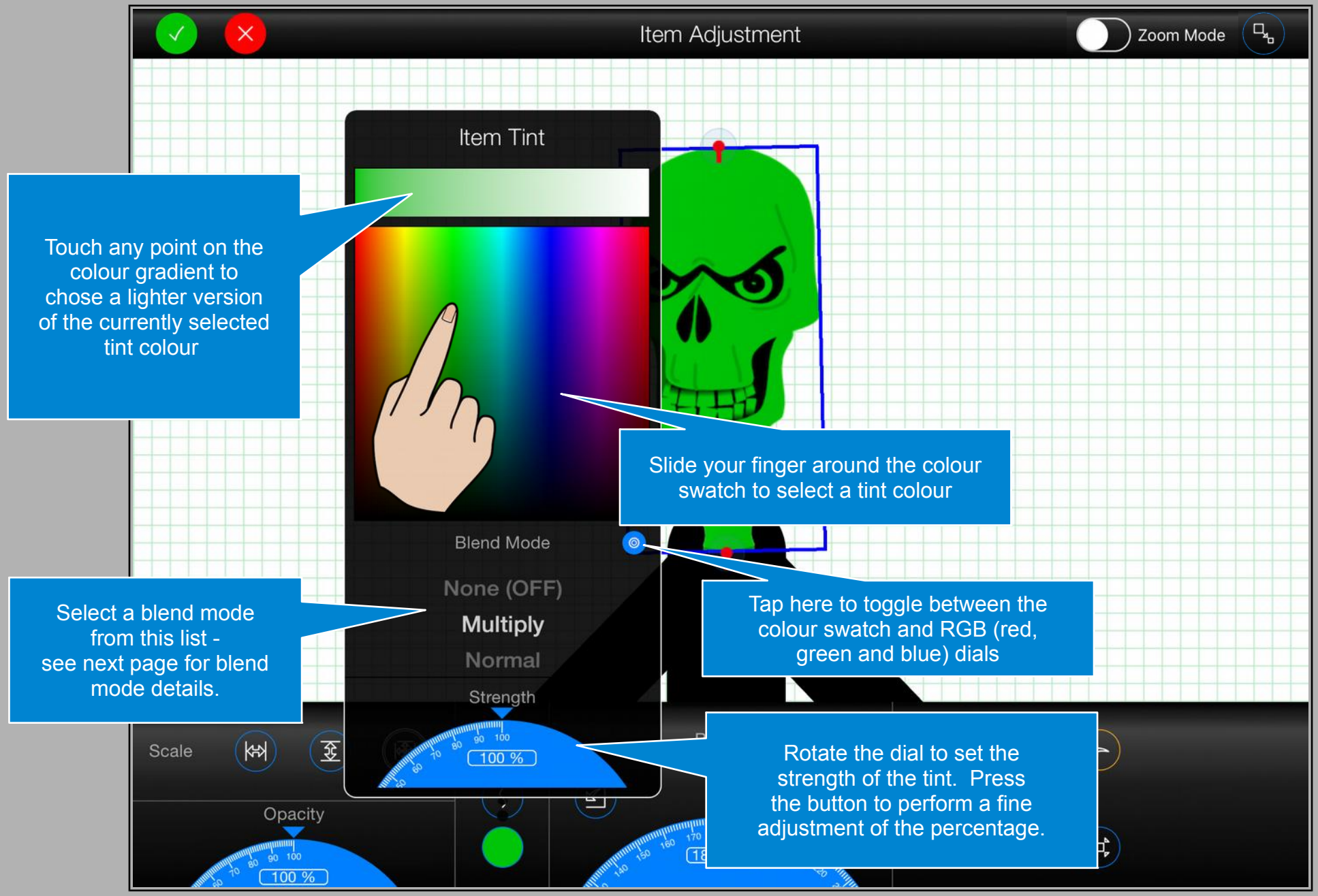


Tinting an Item

Press the button to tint an item:



Animation Pro will display an 'Item Tint' popover:

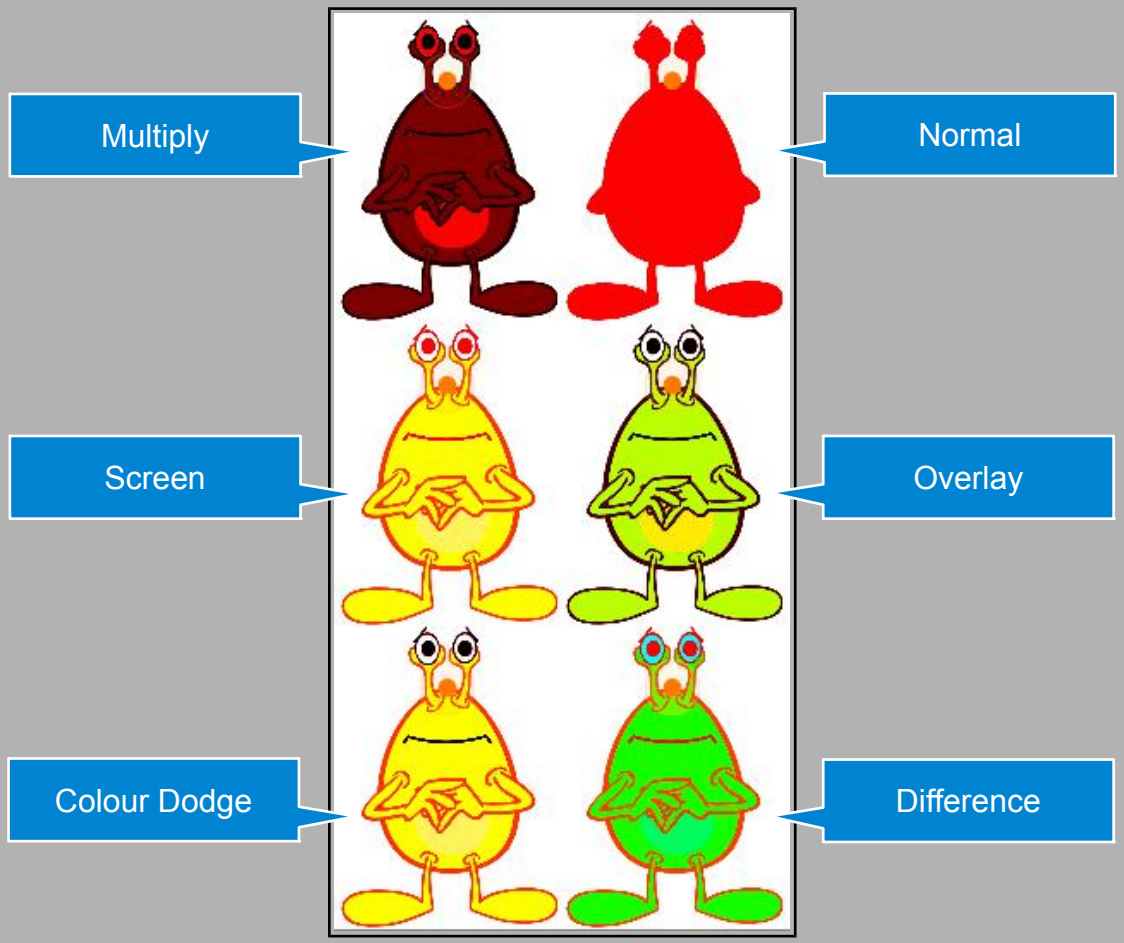


Blend Modes

When tinting an item, the selected tint colour is blended with the existing colours in the item. The way in which the tint colour is blended is based upon a 'Blend Mode'.

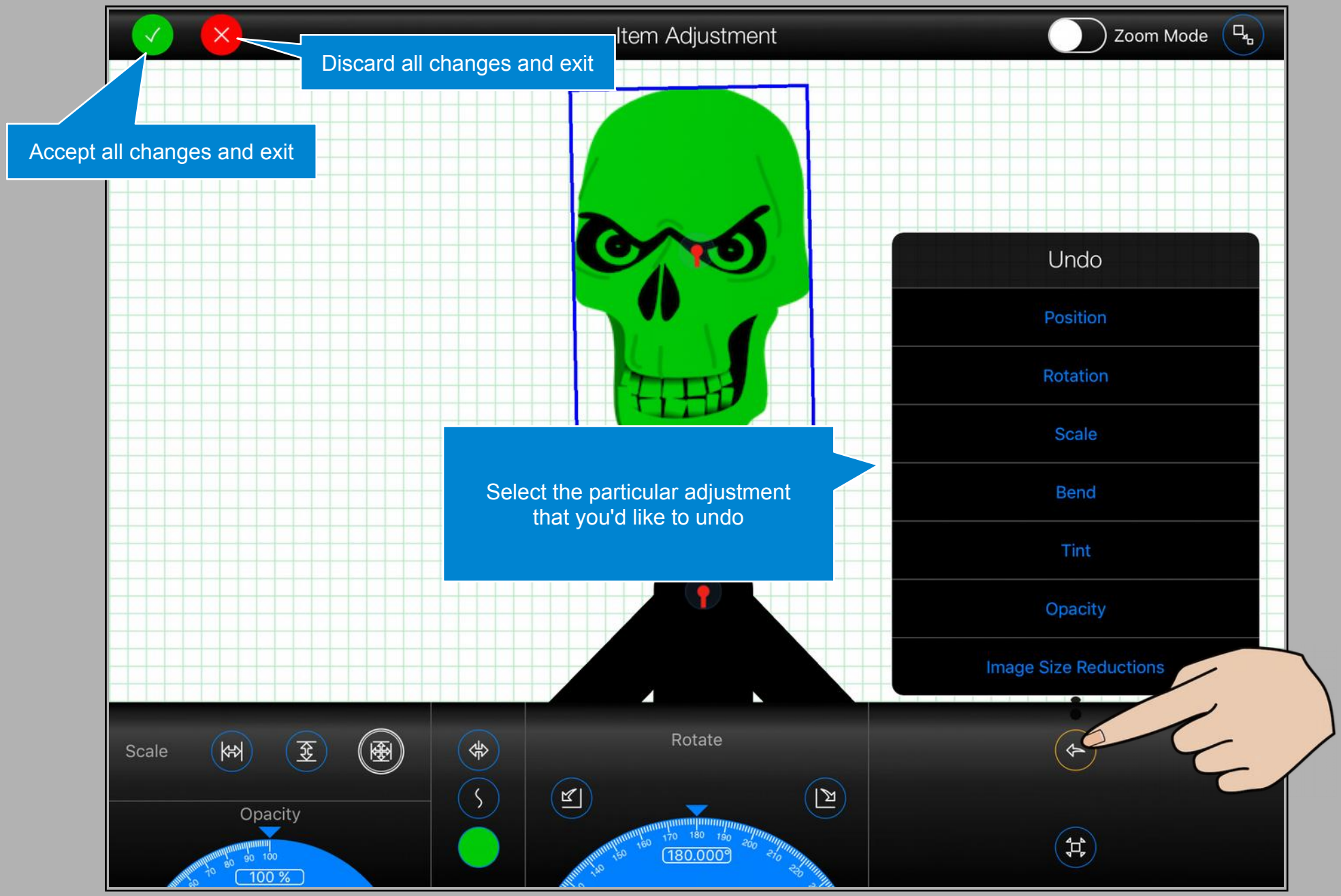
Here are few different blend mode examples (where red has been applied as a tint colour):

Original Image



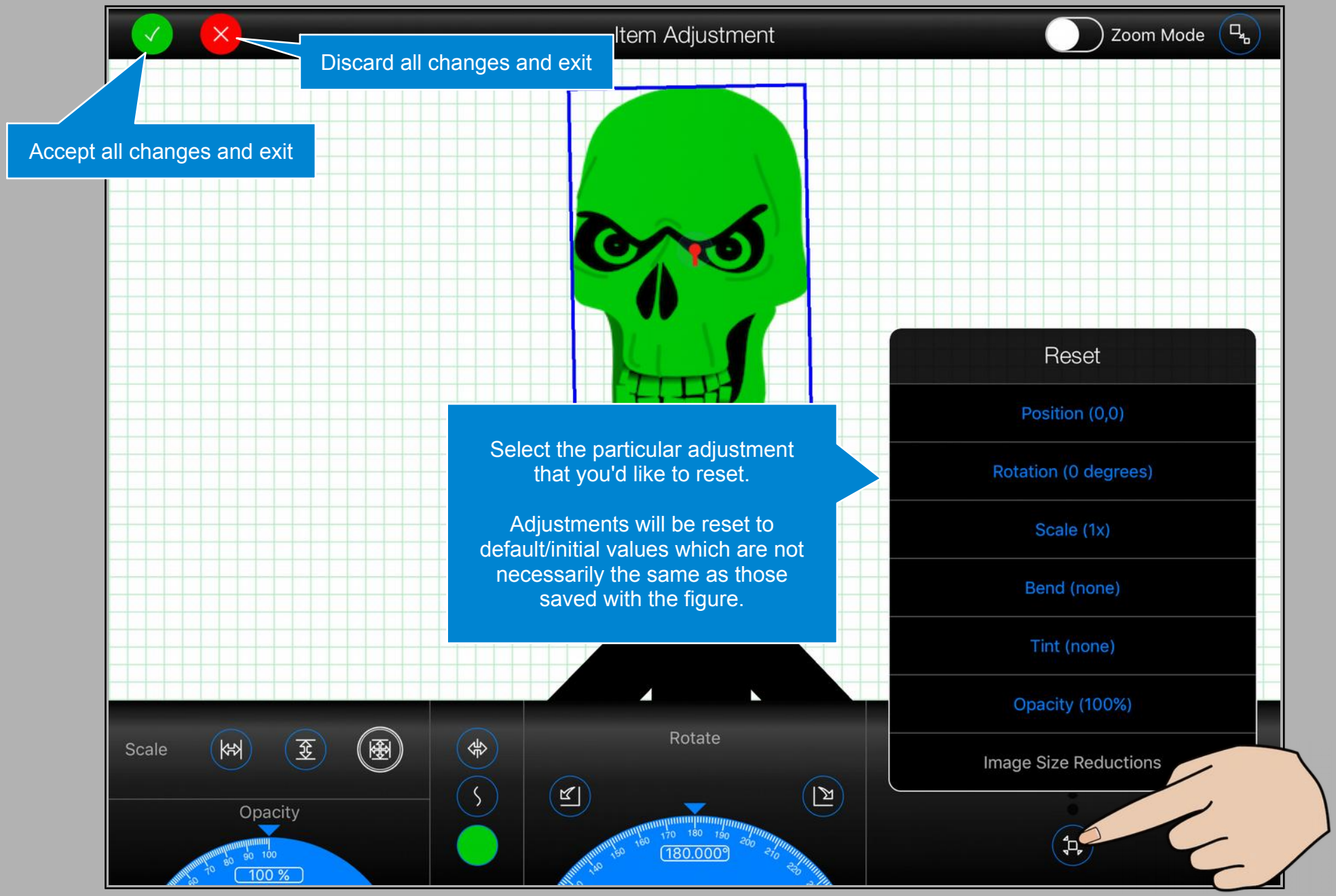
Undoing Item Adjustments

Press the button to undo an item adjustment. Animation Pro will display an 'Undo' menu:



Resetting Item Adjustments

Press the button to reset an item adjustment. Animation Pro will display an 'Reset' menu:



Working with Text

It is possible to include text within the figures that you create. Perhaps you'd like to put some writing on the side of a truck or on the front of a character's shirt. If you happen to have an Emoji keyboard installed then this can be a great way to gain access to a whole bunch of images!

To add text to a figure:

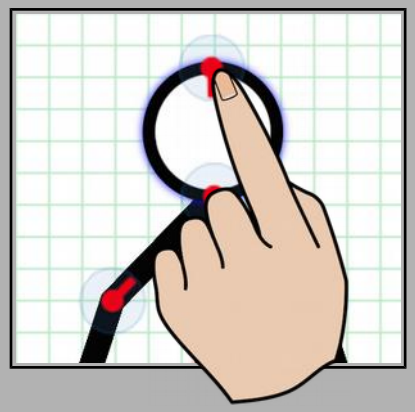
1. Make sure that you are in 'modify mode'

You may toggle between 'build mode' and 'modify mode' by either:

• Tapping on the hub or an item handle, or by

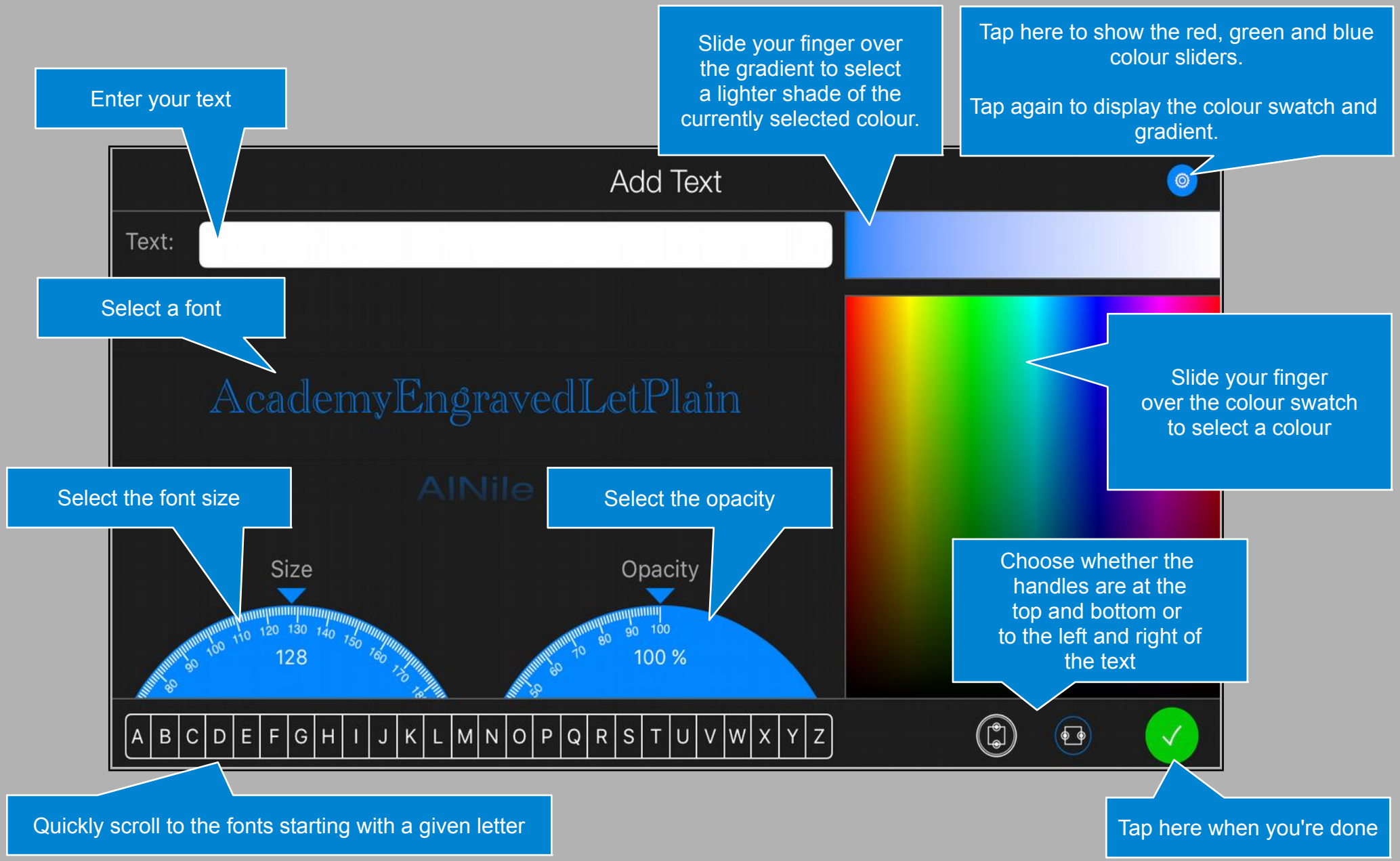
• Pressing the 'build mode button or the 'modify mode' button (selected buttons will be white).

2. Tap on the handle for a given item



3. Press the (Text) button

4. When the 'Add Text' popover is displayed, select a font, size, colour, opacity and enter your text:



Animation Pro converts the text into an image and adds it to your figure. This means that it can be adjusted (moved, scaled, rotated, flipped etc.) just like any other image.

Working with Mouths

Animating speech, or lip-synching, has traditionally been a difficult and time consuming task, requiring a lot of different mouth shapes to be drawn and precisely timed with audio. Animation Pro makes this process much easier by providing a large collection of pre-drawn mouths that may be added to any figure. You can even create your own using the built in 'Mouth Creator'. These mouths contain a series of images, representing a variety of different mouth shapes. During the export process, Animation Pro will precisely match these images with your audio to give the illusion of speech. This is much more than mouths simply opening and closing with volume changes. Believe me, I had to write the code!

To add a mouth to a figure:

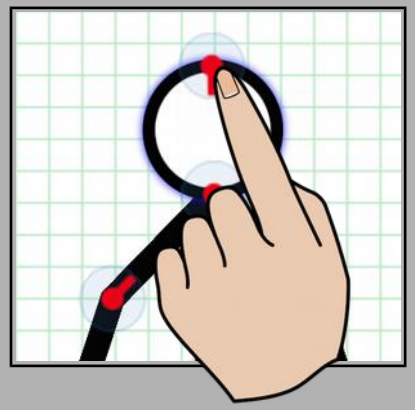
1. Make sure that you are in 'modify mode'

You may toggle between 'build mode' and 'modify mode' by either:

• Tapping on the hub or an item handle, or by

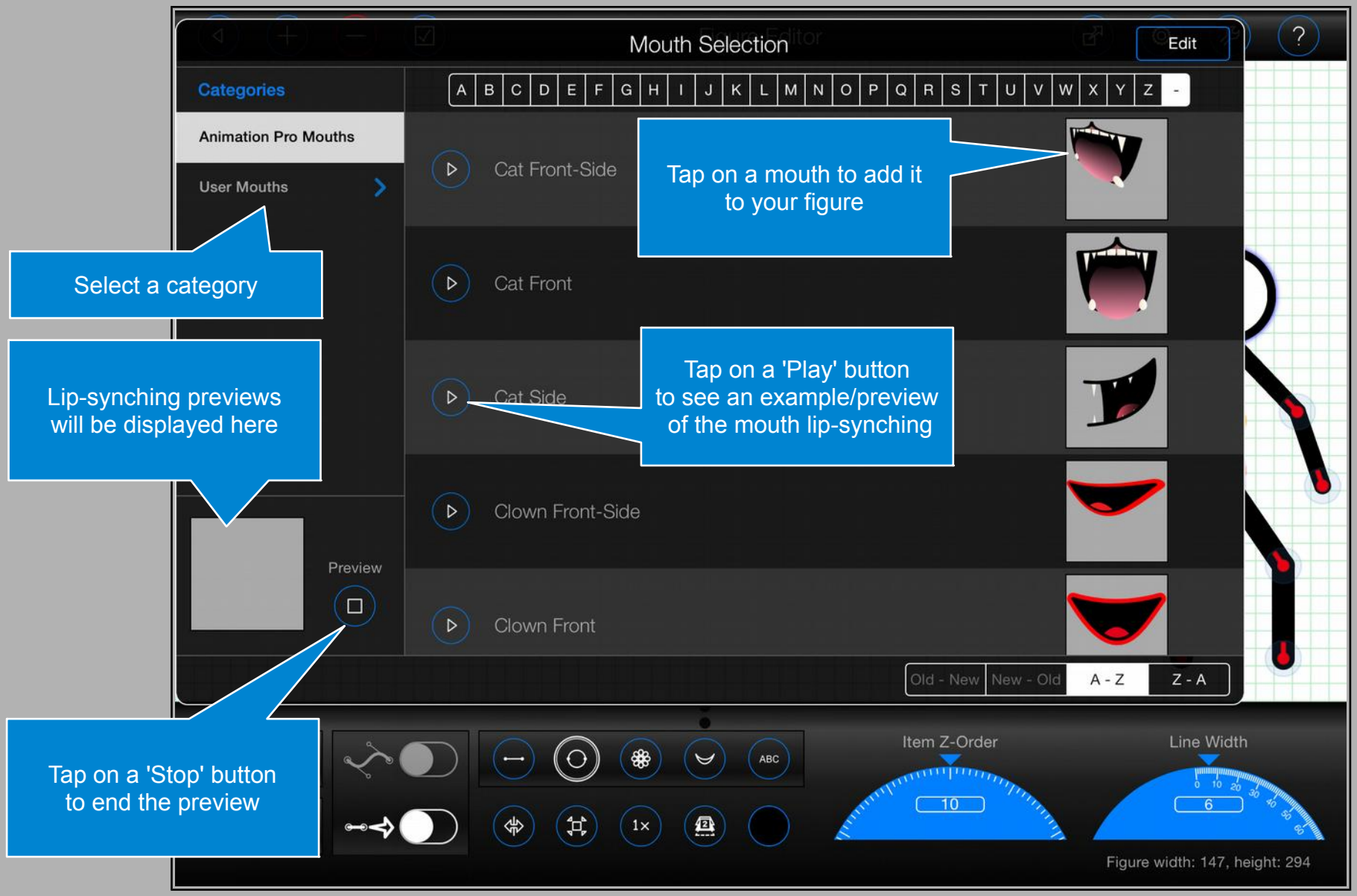
• Pressing the 'build mode' button or the 'modify mode' button (selected buttons will be white).

2. Tap on the handle for a given item



3. Press the button

4. When the 'Mouth Selection' file manager is displayed, select a mouth:



For more information about the 'Mouth Selection' file manager, please refer to the 'File Manager' topic (left).

Mouths can be adjusted (moved, scaled, rotated and flipped) just like any other image.

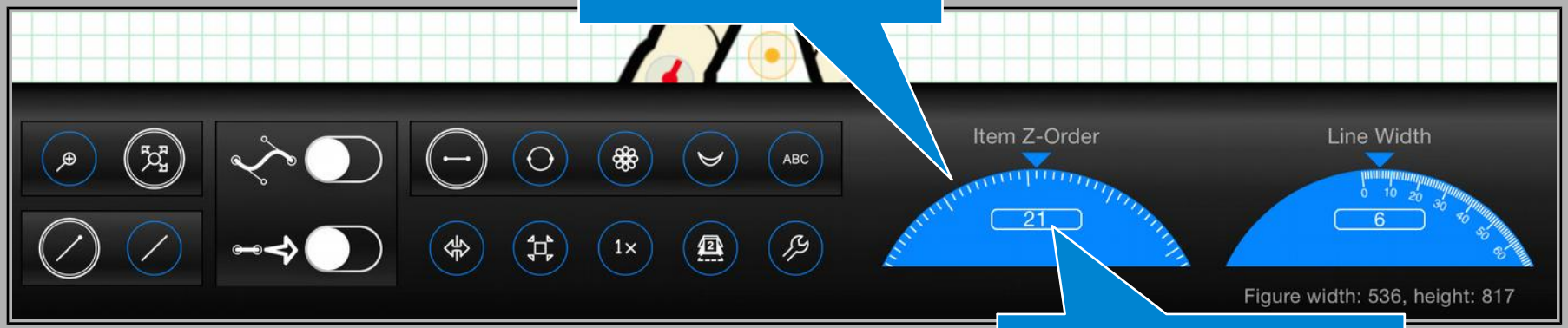
Adjusting the Order of Items

So you've created your figure but the layers are all wrong. The figure's head, for example, is behind its body! Fortunately, that's quite easy to fix. Each item in a Animation Pro figure has its own layer and those layers can be moved from the foreground to the background and anywhere in-between.

Whenever there are two or more items in a figure, and an item has been selected, the following tools will be available at the bottom of the screen:

Use this dial to move the selected item from the background to the foreground and vice-versa.

Tap the button on the dial to make a fine adjustment.



This number represents the relative position of the item.

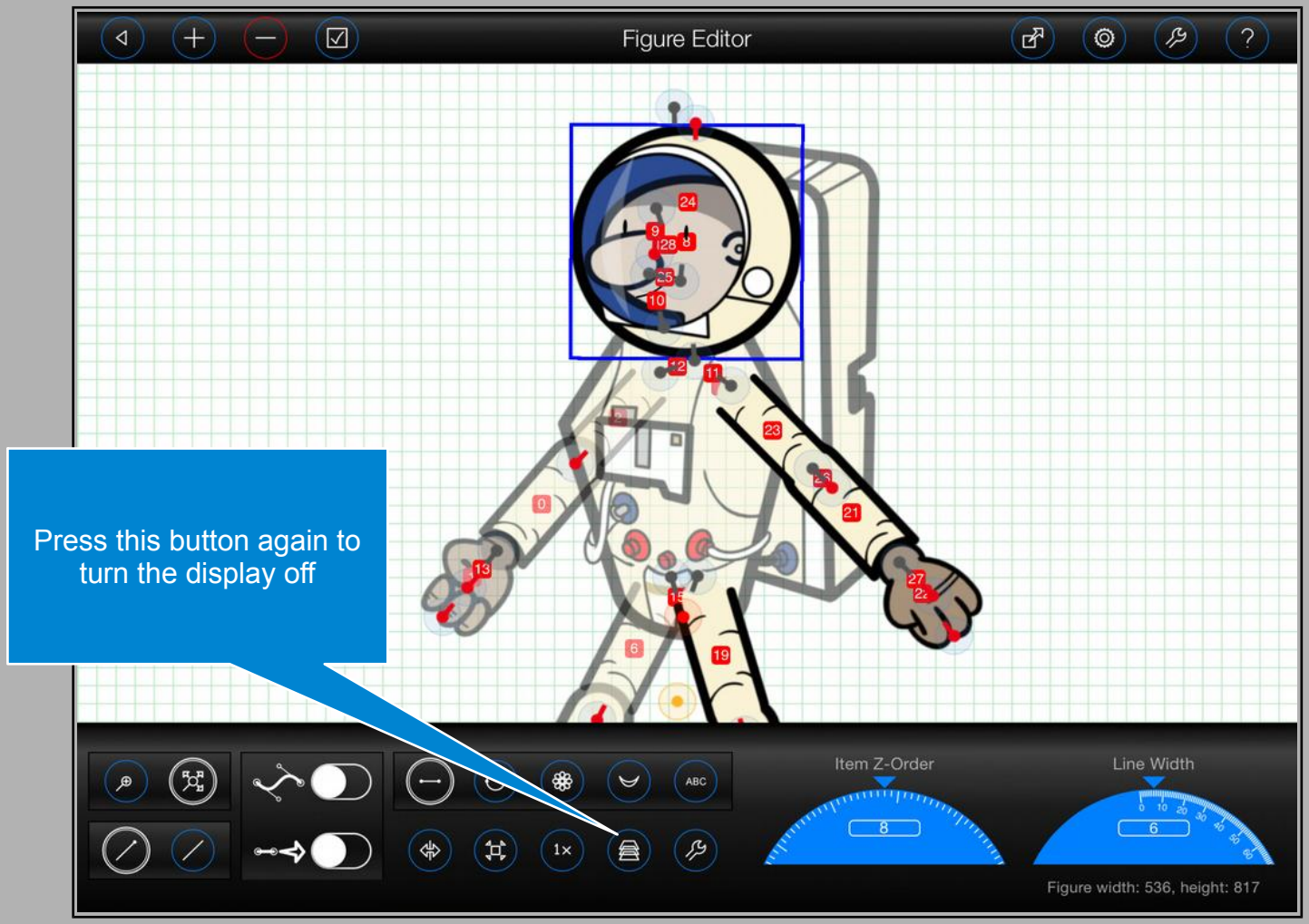
A value of zero means that the item is behind all of the other items..

Displaying the Order of Items

Press the button at the bottom of the screen to display the item order.

Each item will display its relative position within the layer hierarchy (where an item with a value of zero is at the back).

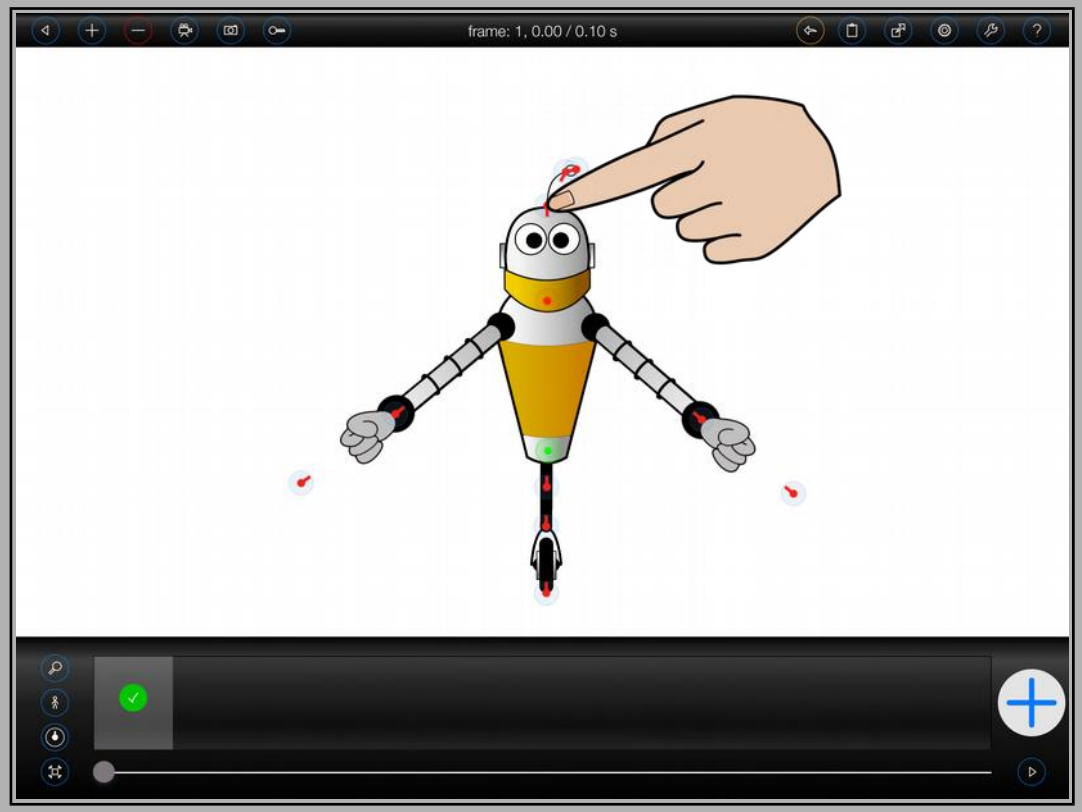
- Items beneath the selected item will be transparent.
- Items above the selected item will be opaque.

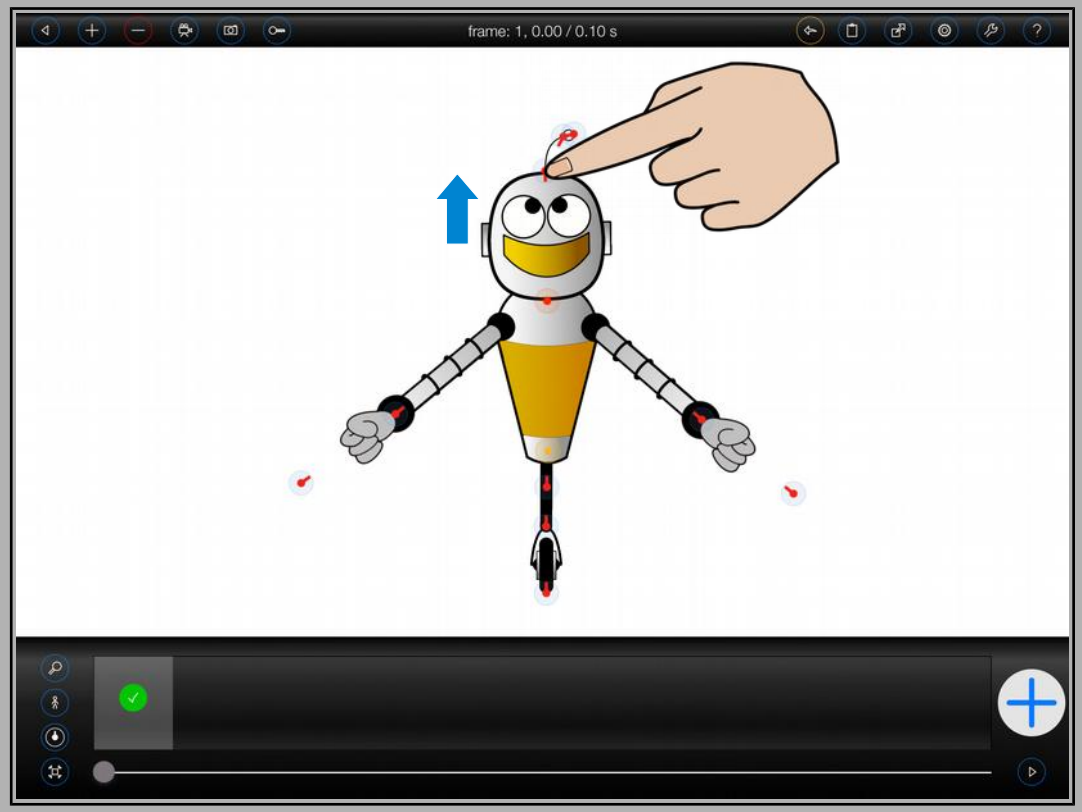


Bending or Stretching Images, Mouths or Text

Images, mouths and text items behave a little differently when they are stretched and/or bent.

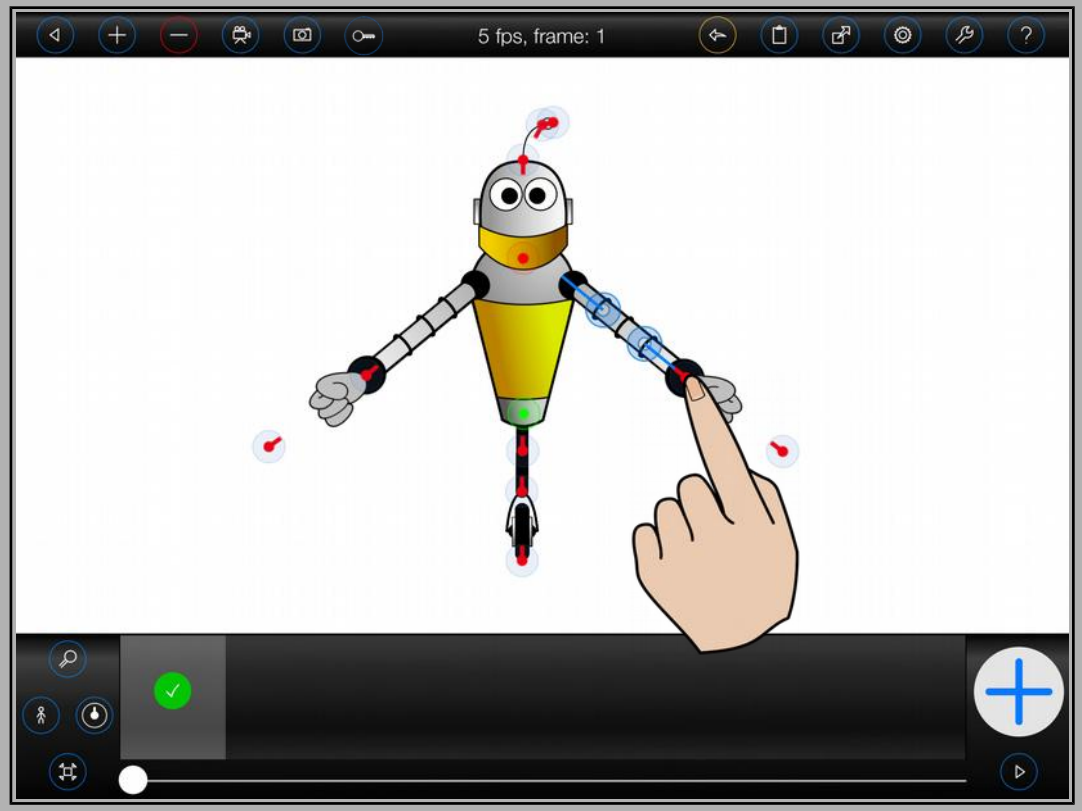
When the handle of a 'stretchable' (only) image, mouth or text item is dragged, it becomes larger or smaller:

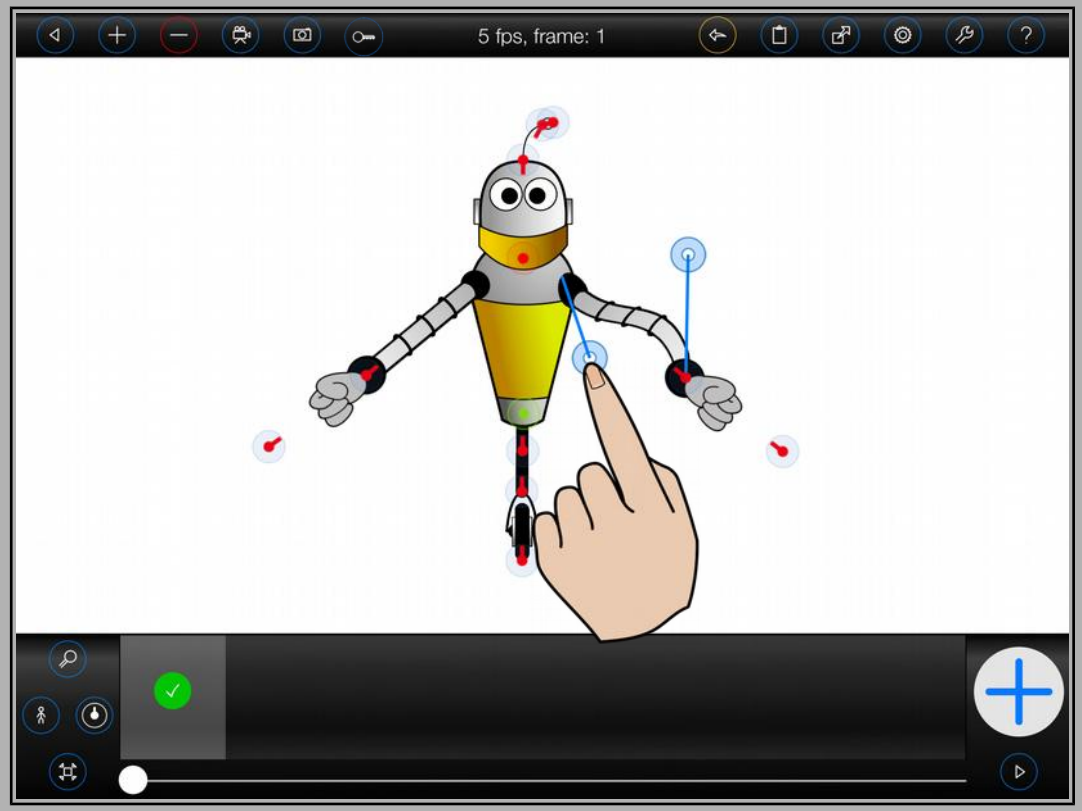




When a 'bendable' (only) image, mouth or text item is selected, two blue bend handles will be displayed:

You can drag these handles to bend the item:





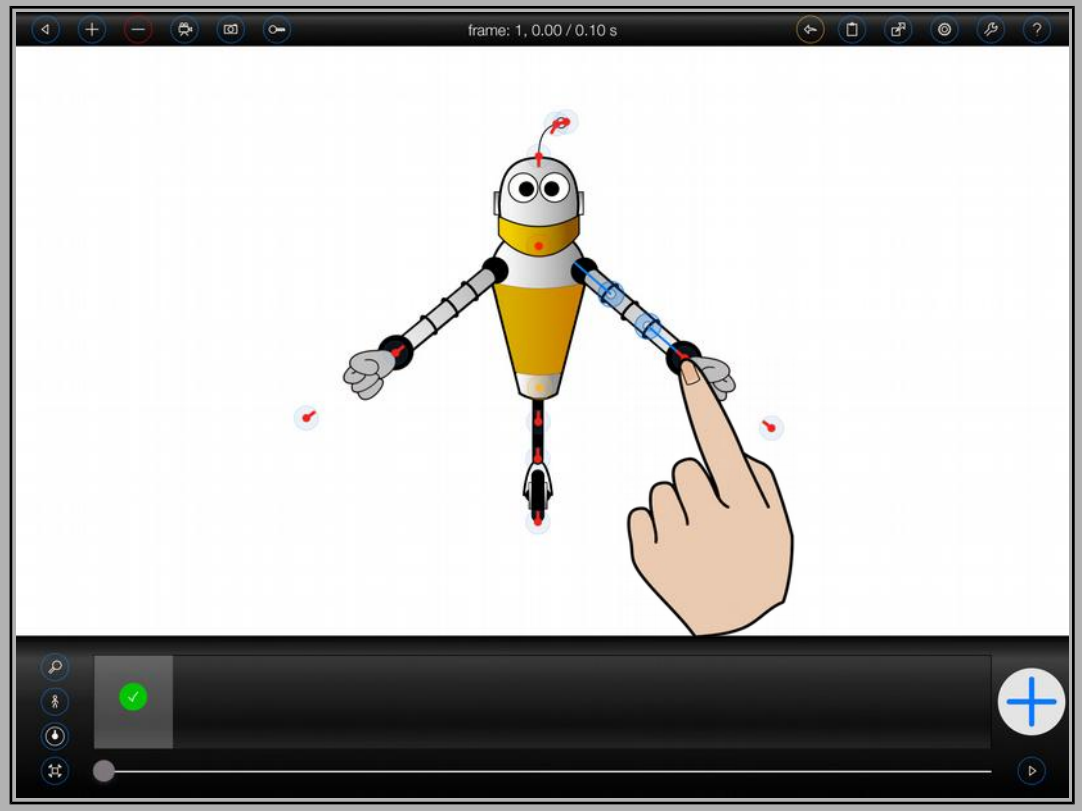
Please note:

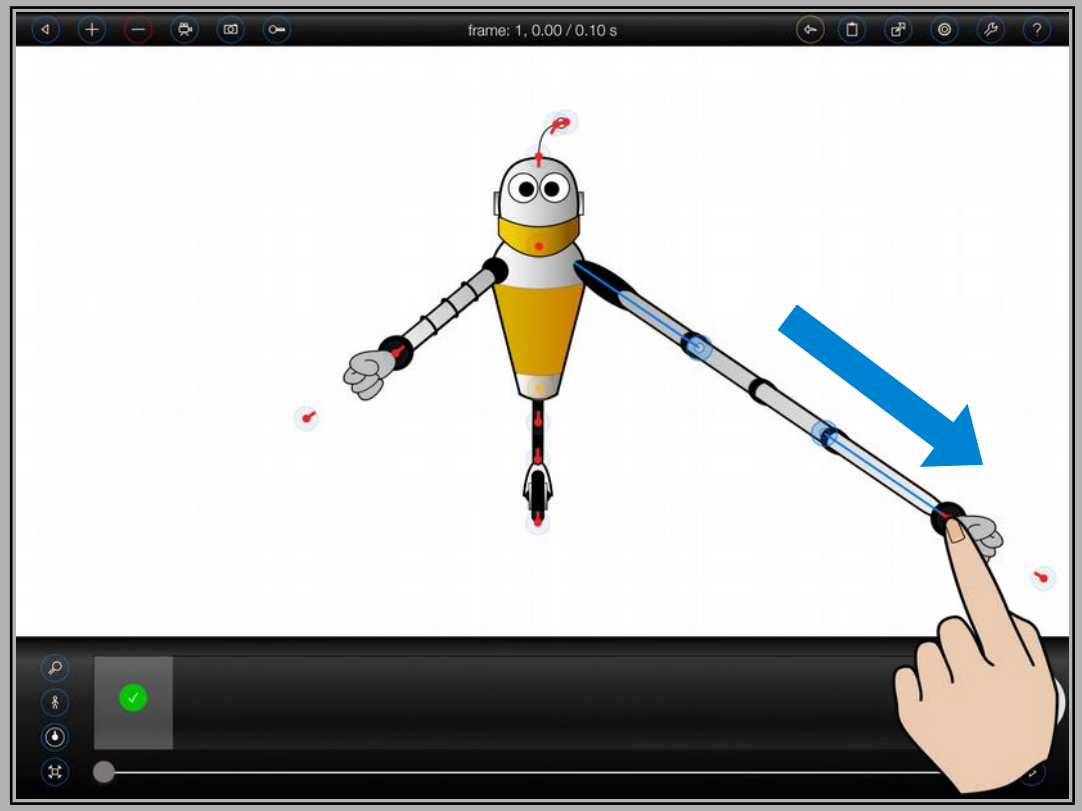
Bent images may have 'jagged' edges whilst animating. Don't worry, the images will appear nice and smooth (anti-aliased) when the frame(s) are exported.

When a 'bendable' **<u>and</u>** 'stretchable' image, mouth or text item is selected, two blue bend handles will be displayed:

You can drag these handles to bend the item.

When the handle, , of a 'stretchable' and 'bendable' image, mouth or text item is dragged, the item is stretched along its Y-Axis:

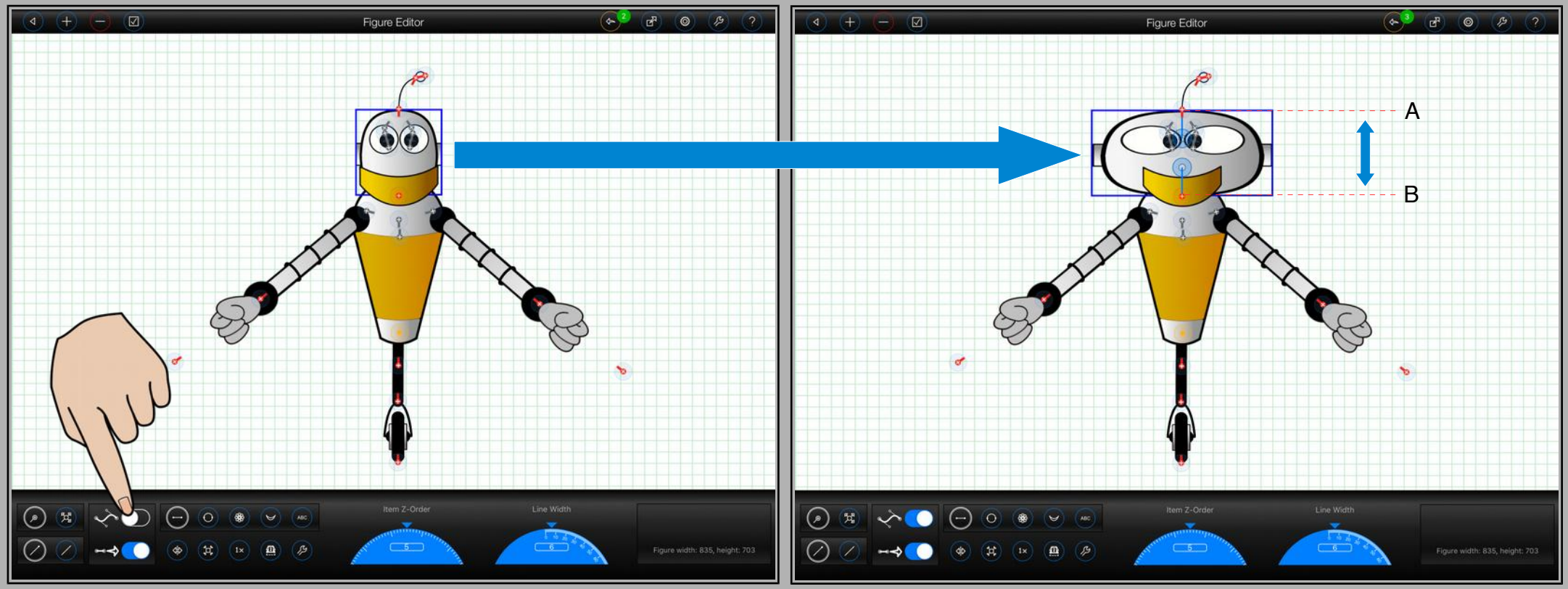




Please note:

Bent images may have 'jagged' edges whilst animating. Don't worry, the images will appear nice and smooth (anti-aliased) when the frame(s) are exported.

Finally, you may notice that images, mouths and text items become 'distorted' when they're made bendable:



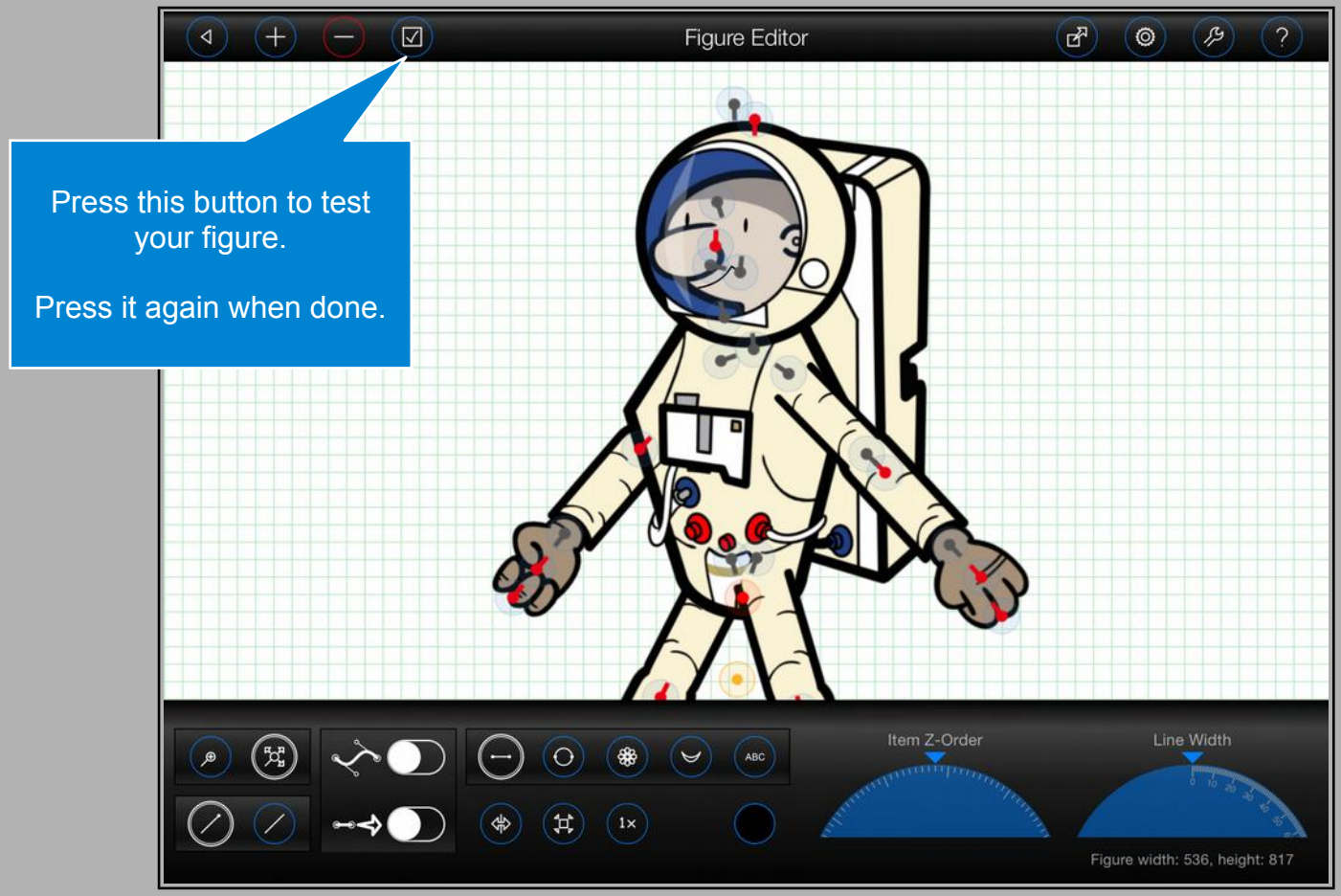
This occurs because bendable items need to assume their actual size in pixels. Thus, if the distance between points A and B (the length of the item's Y-Axis) is less than the actual height of the item (in pixels) then the item will appear to be stretched along its X-Axis (as shown above).

You can fix this by using scaling the item along its X-Axis (see '[Scaling an Item]' in '[Item Adjustments]'). Please note, however, that this may actually make it harder to bend the item whilst animating i.e. bend handles will need to be moved further to adjust a compressed item.

In other words, if an image becomes really distorted when it is made bendable, it is a good indication that the image is **too large**. You should thus consider reducing the size of the image before adding it to your figure.

Testing Your Figure

You may test your figure at any time (even at 3:00 am in the morning, if you feel that way inclined) by pressing the button.

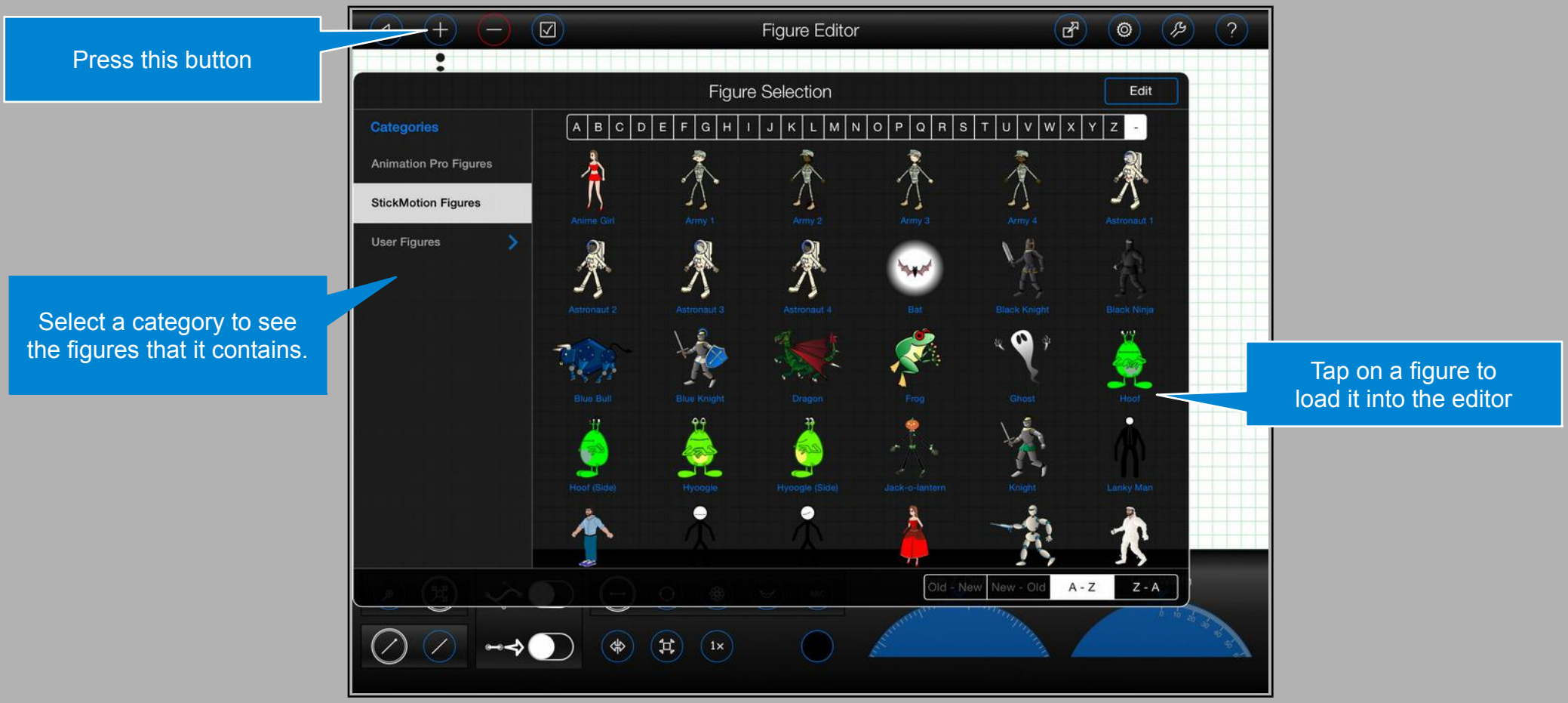


TIP: When you've finished testing your figure, Animation Pro will ask whether you wish to retain its new position. So you can use this feature to move the items in your figure without the risk of accidentally changing their size.

Loading and Saving Figures

Loading a Figure:

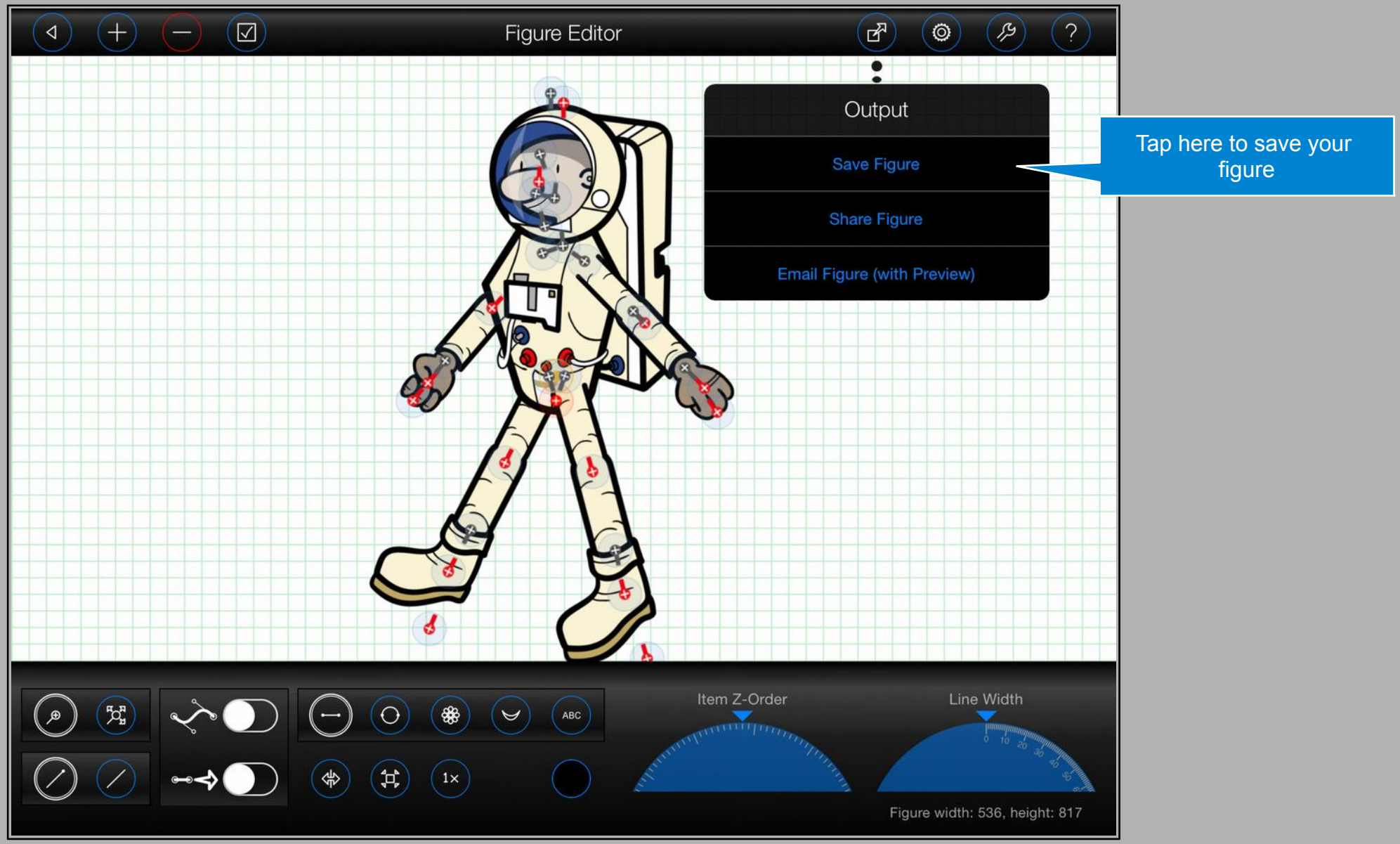
Press the button at the top of the screen. This will open the 'Figure Selection' file manager:



For more information regarding the 'Figure Selection' file manager, please refer to the 'File Manager' topic (left).

Saving a Figure:

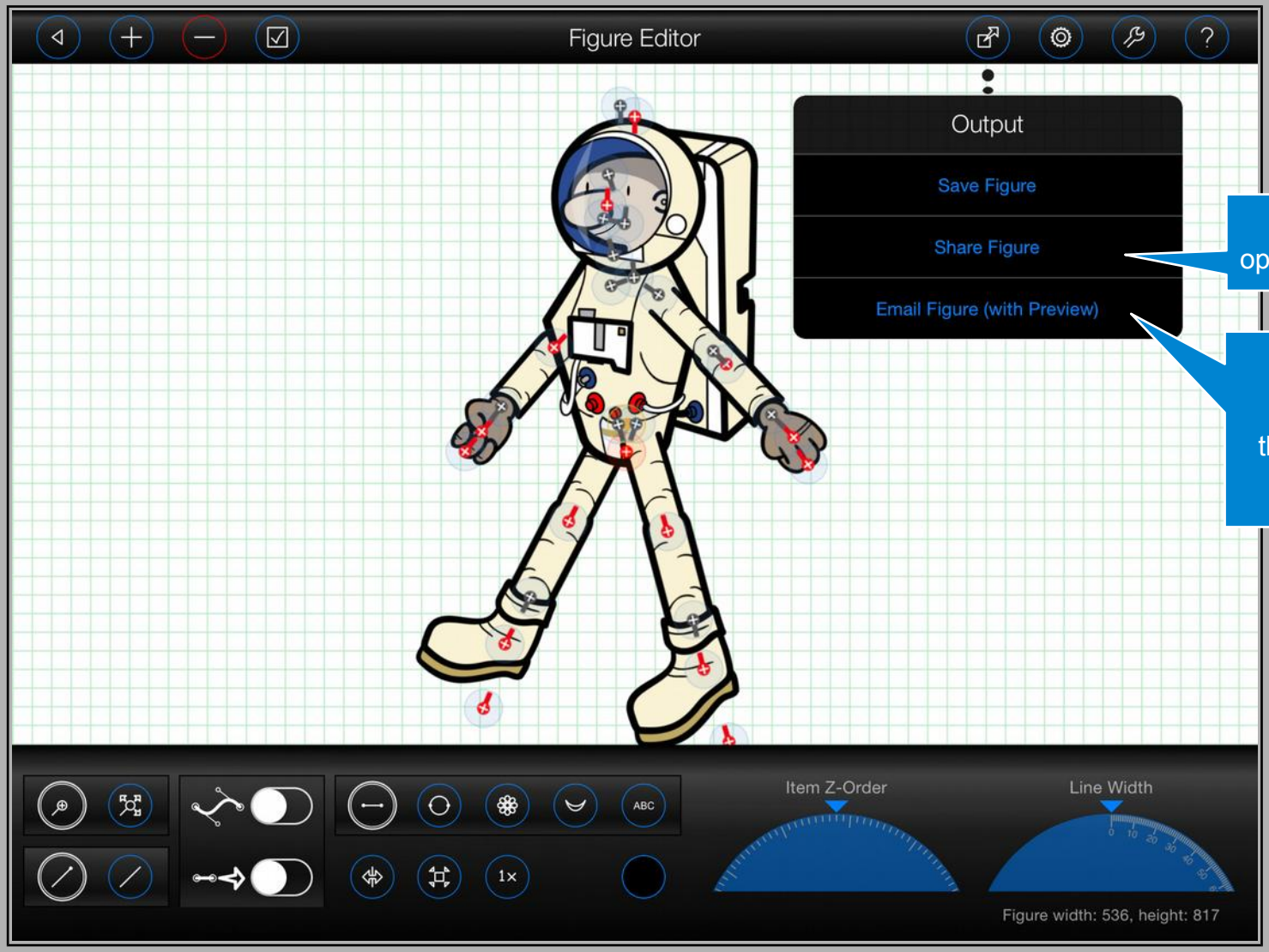
Press the button at the top of the screen:



The figure will be saved under the 'User Figures' category within the file manager (see 'File Manager', left, for more information).

Sharing Your Figures

So you've created the coolest figure ever and now wan't to share it with your friends? Well, that's easy. Just press the button at the top of the screen and Animation Pro will give the the following two options to choose from:

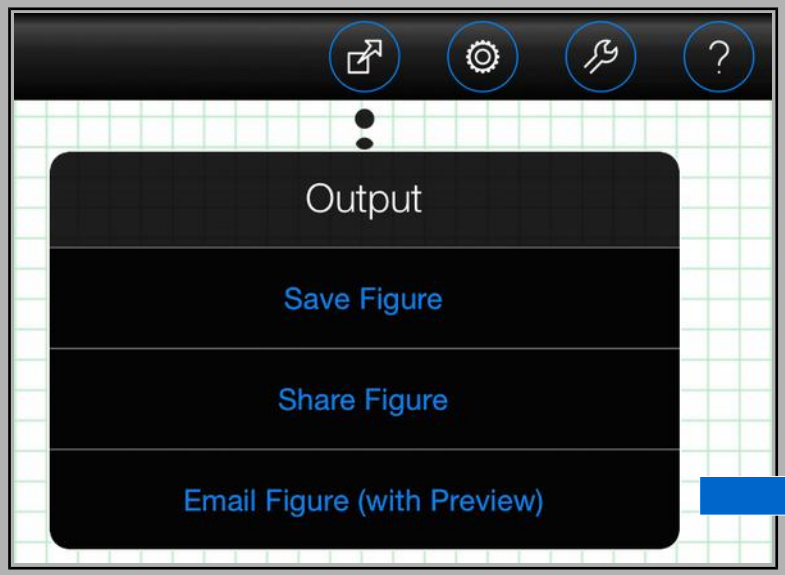


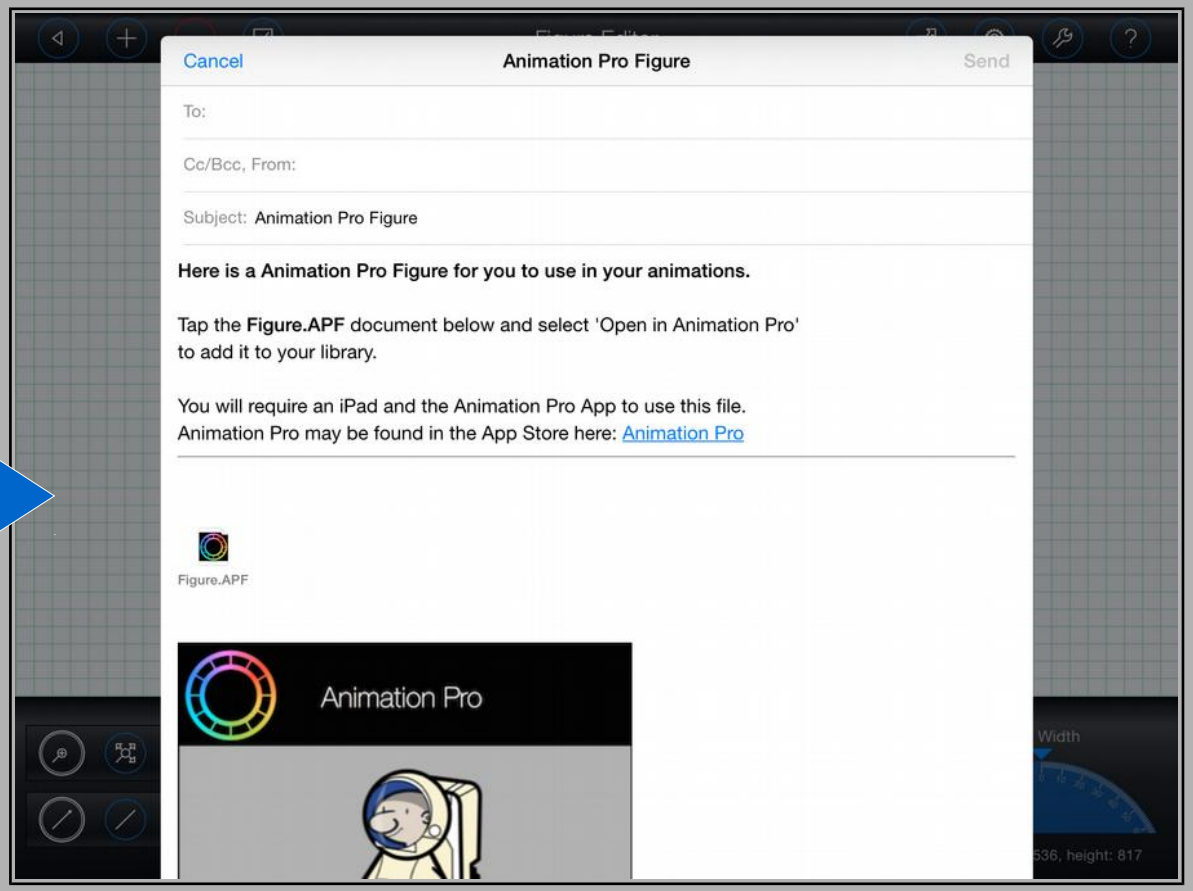
Select this option to open the iOS share options

Select this option to create an email with the figure and a preview image (see next page)

Emailing a Figure with a Preview Image

Select 'Email Figure (with preview)' from the 'Share and Email' menu:

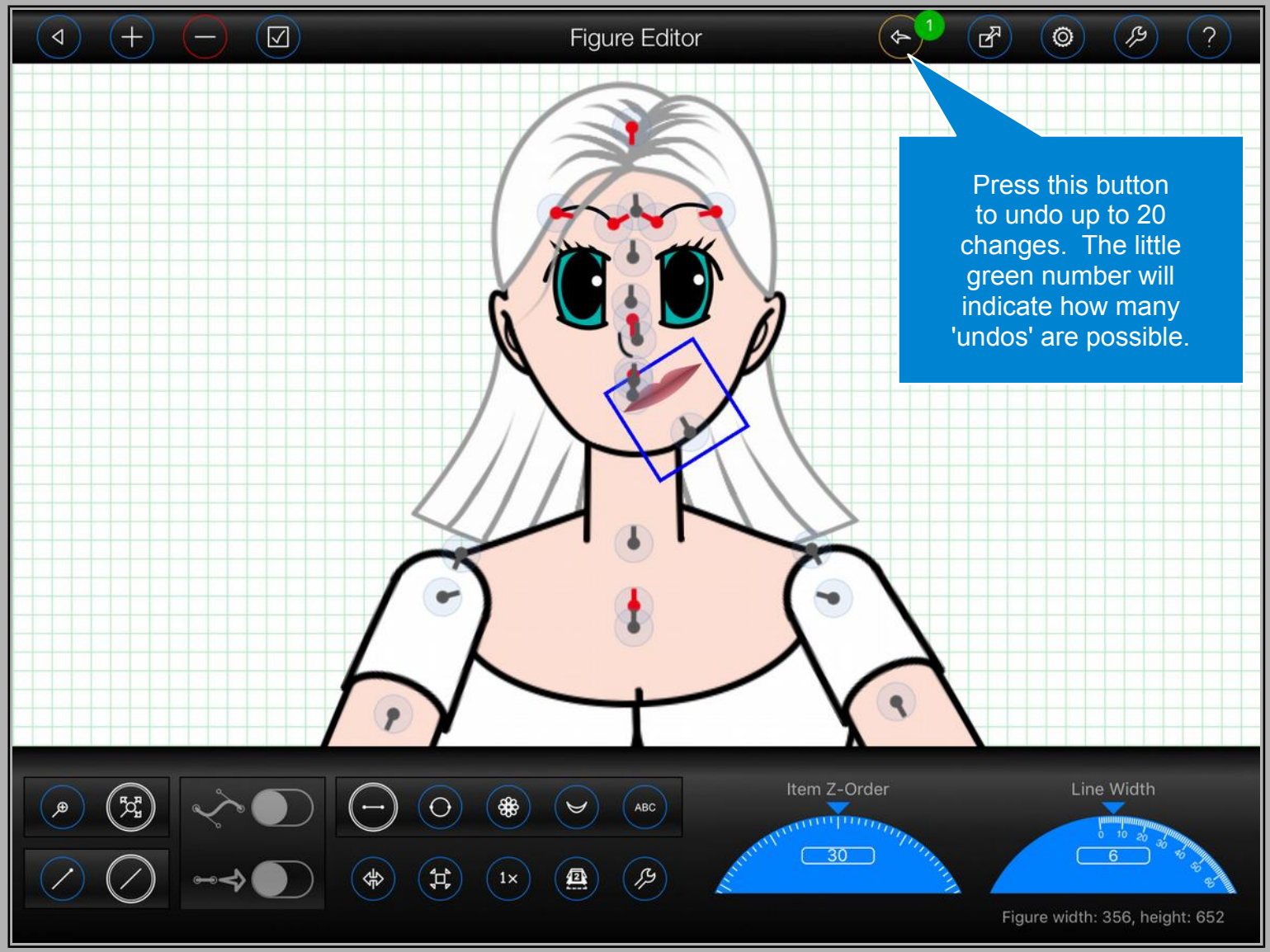




You will, of course, need an Apple Mail account set up on your iPad for this to work.

Undo

Invariably you are going to do something wrong – move an item that you shouldn't have, erase something by mistake or walk out the front door wearing nothing but a smile. Well, with the exception of that last example, the 'Figure Editor' does give you some scope for rectifying your mistakes:

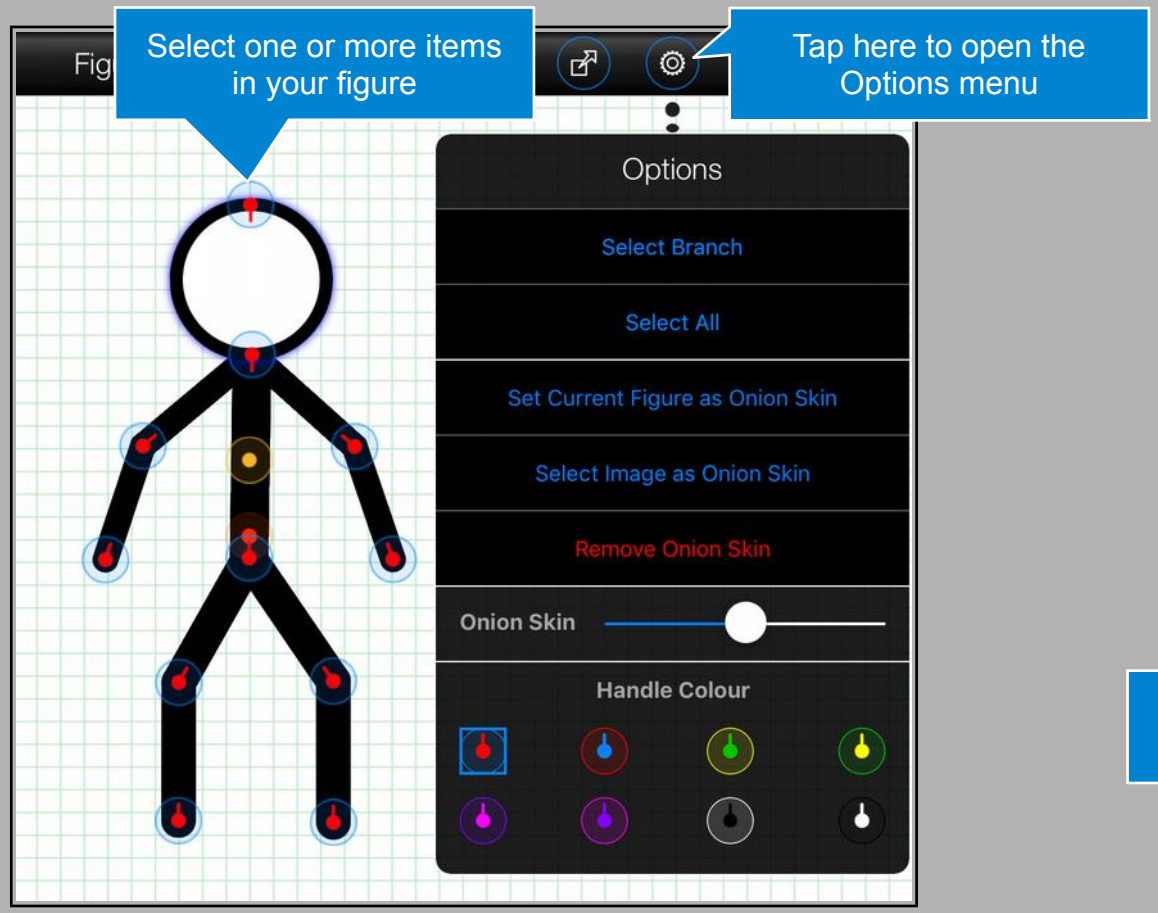


Additional Options

Changing Handle Colours

By default, the item handles in your figures will look like this:

But you may wish to colour-code different parts of your figure so that it is easier to distinguish one item from another whilst animating. Animation Pro thus allows alternate handle colours to be selected from the 'Options' menu:



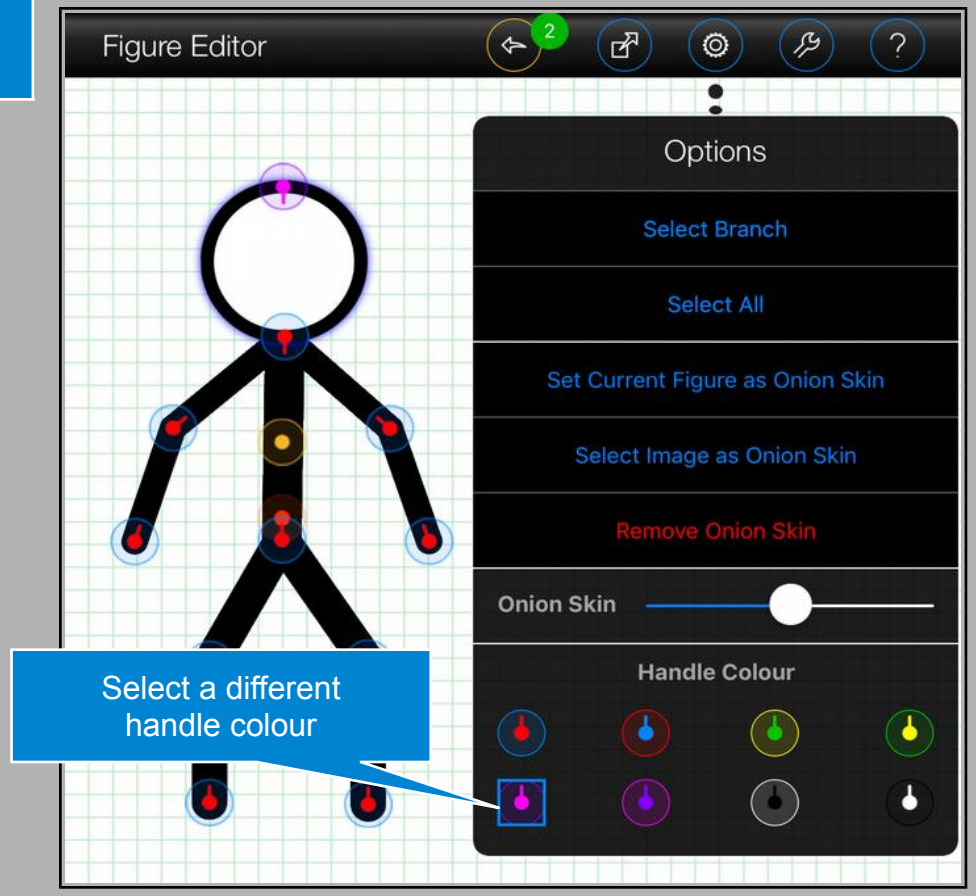


Image Onion Skins

It is possible to display an image as an onion skin in the Figure Editor. This can serve as reference image, making it easier to get a figure's proportions correct.

Choose 'Select Image as Onion Skin' from the Option menu:

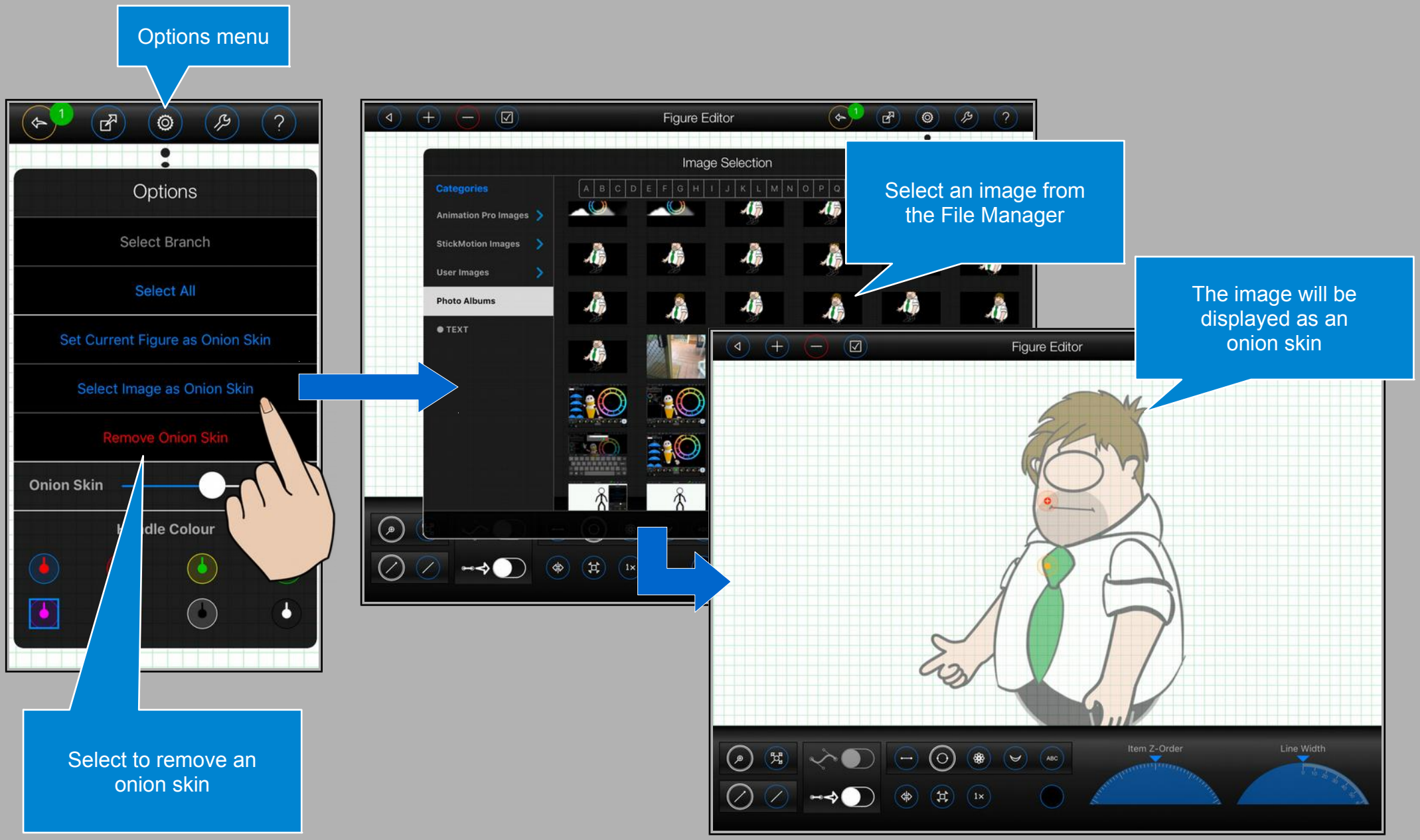
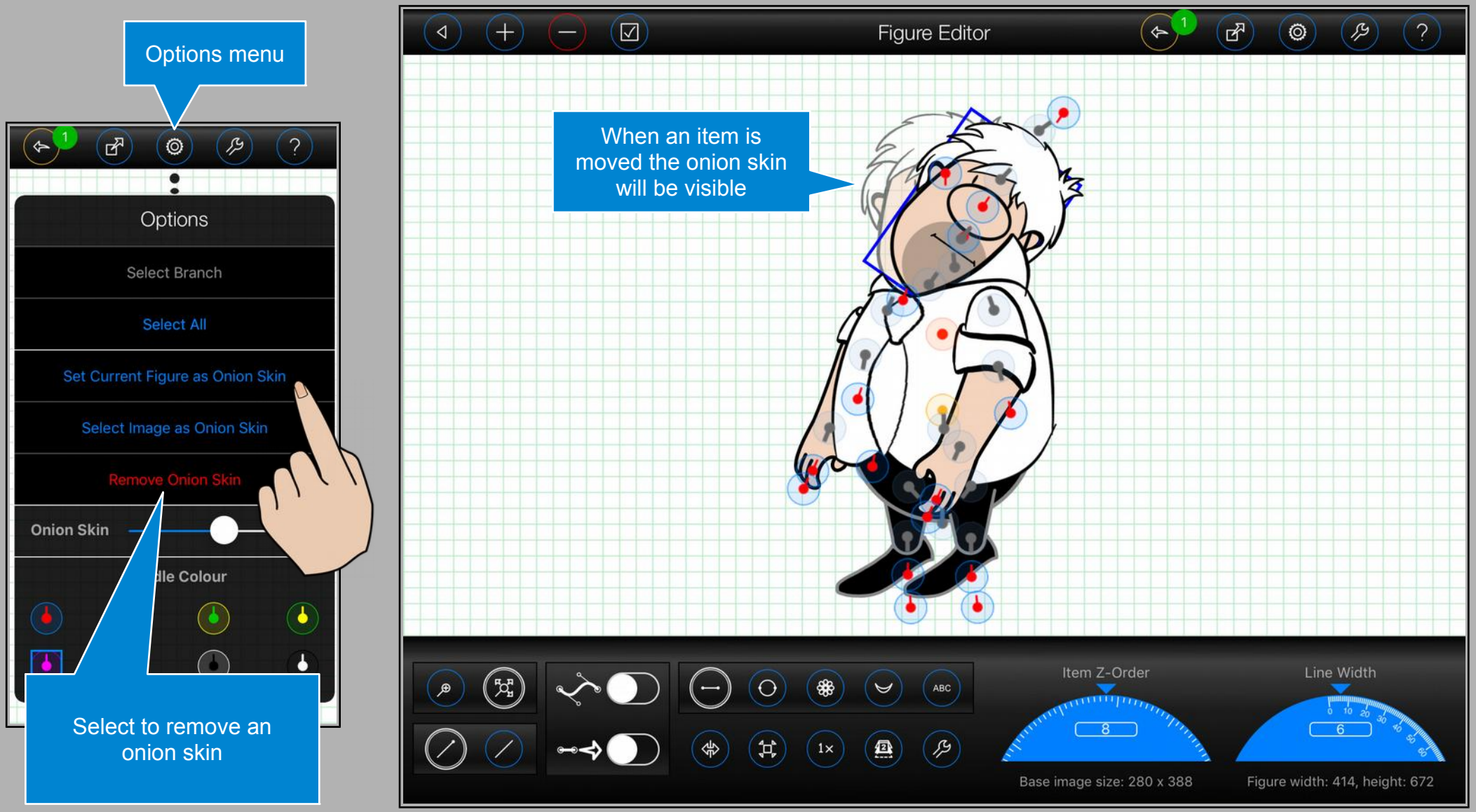


Figure Onion Skins

It is possible to take a snapshot of the current figure in the Editor and use that as an onion skin.

Choose 'Set Current Figure as Onion Skin' from the Options menu: