

# CHAPTER 2

## Working with Media

starting out with >>> **APP INVENTOR**  
FOR ANDROID



TONY GADDIS · REBECCA HALSEY

# Topics

- Displaying images
- Duplicating Blocks and Using Drop Downs
- Sounds
- Color blocks
- Layout Components
- Commenting Blocks

# Displaying Images

## Displaying an Image as a Screen Background

- There are various ways to display an image in an App Inventor app.
- Images can be displayed as the background for a screen in an *Image Component* or on a *Button* component.
- An image must be uploaded to a project before it can be displayed.
- The media column in the Designer lets you manage the image files.

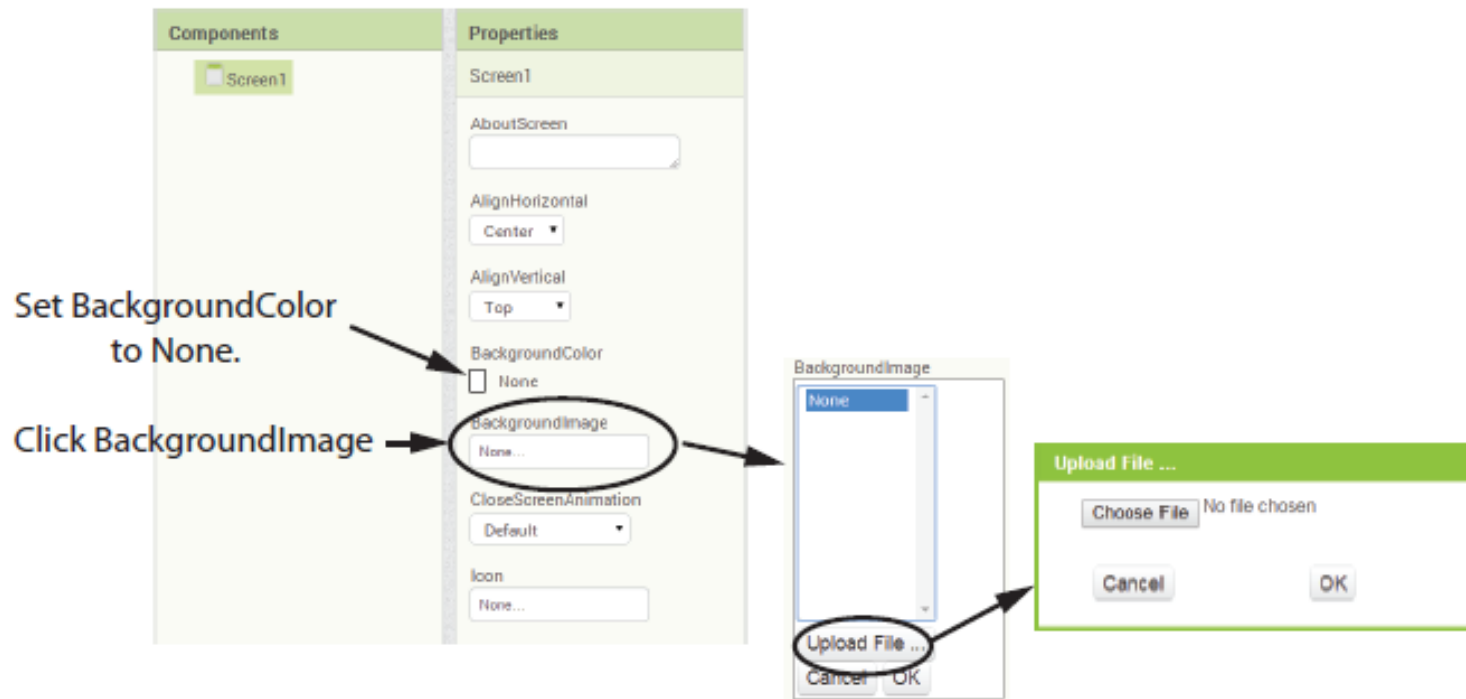
# Displaying Images

## Displaying an Image as a Screen Background

- Before you can display an image, it must be uploaded to your project on the App Inventor server.
- Recommended formats are *.png* and *.jpg*.
- To display an image as a screen's background image, select the *Screen1* component.
- In the properties column set the *BackgroundColor* property to *None*.
- Click the *BackgroundImage* property.
- Select a previously uploaded image, or upload a new image.

# Displaying Images

**Figure 2-1** Changing the BackgroundImage Property (Source: MIT App Inventor 2, Pearson Education, Inc.)

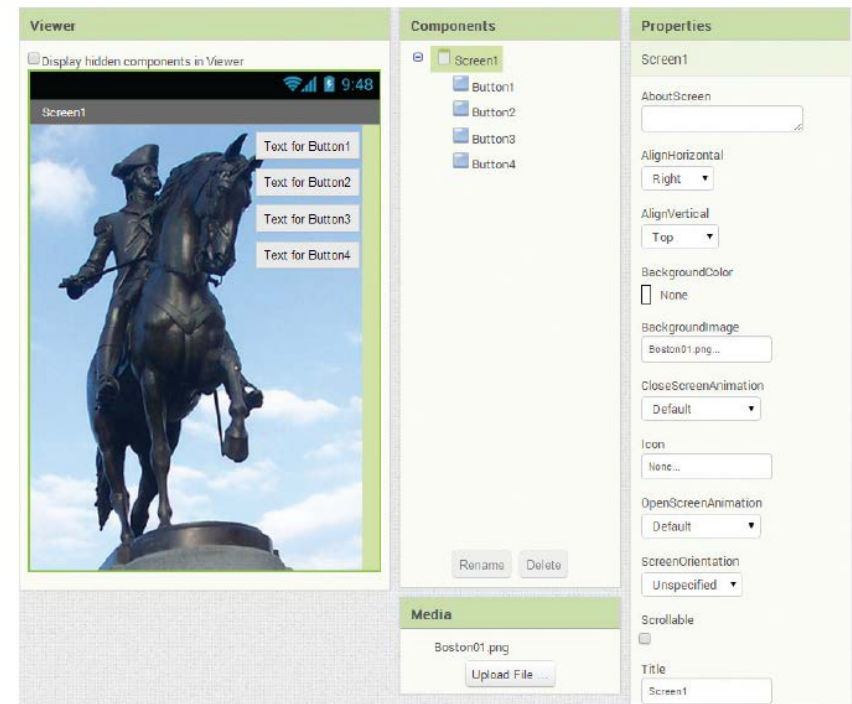


# Displaying Images

## Displaying an Image as a Screen Background

You can continue to place components on the screen after setting the screen's *BackgroundImage* property.

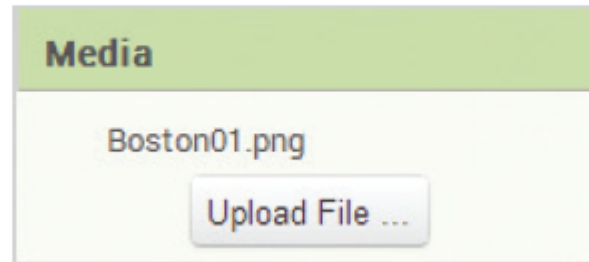
**Figure 2-3** A Screen with a Background Image and Four Button Components  
(Source: MIT App Inventor 2, Pearson Education, Inc.)



# Displaying Images

**Figure 2-4** The Media Column (Source: MIT App Inventor 2)

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## Using the Media Column to Upload Files

- As seen in Figure 2-4, when you upload an image to a project, the image file's name will appear in the media column.
- The media column has an *Upload File...* Button.
- You can select and upload media files to your project without assigning them to any specific property.

# Displaying Images

**Figure 2-11** Two .png Files Uploaded (Source: MIT App Inventor 2)



## Switching the Screens Background Image in Code

- The Blocks Editor sets the screen's background image property while the app is running.
- Suppose you have used the Media column to upload the two *.png* files.

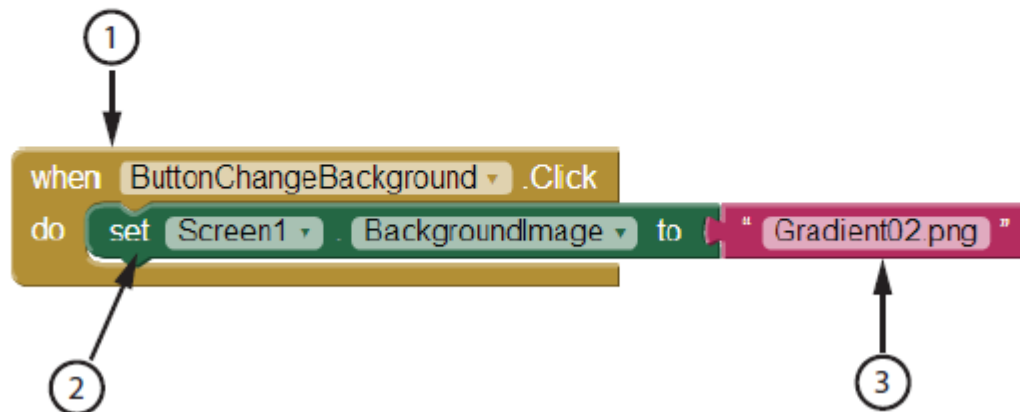


# Displaying Images

## Switching the Screens Background Image in Code

- Now you want the user to be able to click a button to change the background image to *Gradient02.png*.
- Add a *Button* component named *ButtonChangeBackground*.
- In the Blocks Editor you create the event handler shown in figure 2-12.

**Figure 2-12** The Click Event Handler for the ButtonChangeBackground Button (Source: MIT App Inventor 2)



# Displaying Images

## Switching the Screens Background Image in Code

A closer look at the blocks shown in figure 2-12

1. This is the *when ButtonChangeBackground.Click do* event handler.
2. This is the *set Screen1.BackgroundImage to* block. The purpose of this block is to set the *Screen1* component's *BackgroundImage* property to a value.
3. This is the text string block and its value is set to *Gradient02.png*.

When the *ButtonChangeBackground* button is clicked, set the *Screen1* component's *BackgroundImage* property to *Gradient02.png*.

# Displaying Images

## The Image Component

- Another way to display an image is with the *Image* component found in the *User Interface* section of the Designer's pallet.
- The *Image* component allows you to specify the image's size with its *Width* and *Height* properties.
- The Image component has the following properties:
  - Picture*** – Specifies the image file that the component displays.
  - Visible*** – Can be set to *showing* or *hidden*.
  - Width and Height*** – Specifies the images with on the screen. It can be set to Automatic, Fill parent, or a specific number of pixels.

# Displaying Images

## Making Clickable Images with *Button* components

- A *clickable image* is an image that the user can click to make an action happen.
- *Button* components have an *Image* property. The *Image* property causes an image to be displayed on the button.
- In Figure 2-28 notice the button named *ButtonSwitch* is selected.
- In the Properties column it's *Image* property is set to *SwitchUp.png*.
- Buttons can display both text and an image.

# Displaying Images

When the user clicks the *ButtonSwitch* component, the app performs two actions:

1. It changes the image displayed on the button to the switch in the down position and
2. It changes the text that is displayed in the *LabelOutput* component to the *The switch is down*.

The button's *Click* event handler is shown in Figure 2-29.

Figure 2-28 A Button Component Displaying an Image (Source: MIT App Inventor 2)

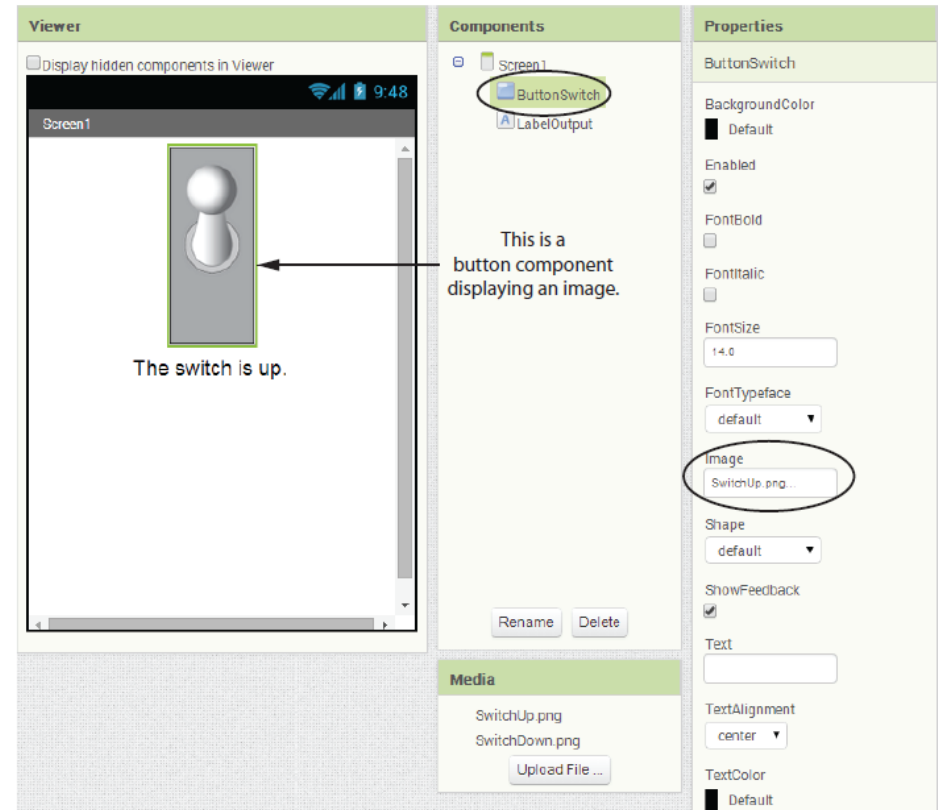


Figure 2-29 The ButtonSwitch Component's Click Event Handler (Source: MIT App Inventor 2)

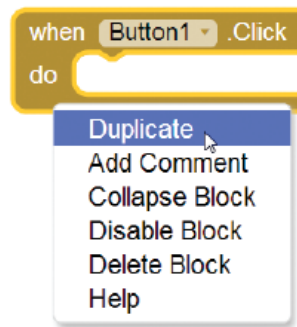


# Duplicating Blocks and Using Drop Downs

Sometimes the easiest way to create a block is to duplicate one that you already have.

- By right-clicking a block, the menu shown in Figure 2-41 appears.

**Figure 2-41** The Block Menu (Source: MIT App Inventor 2)



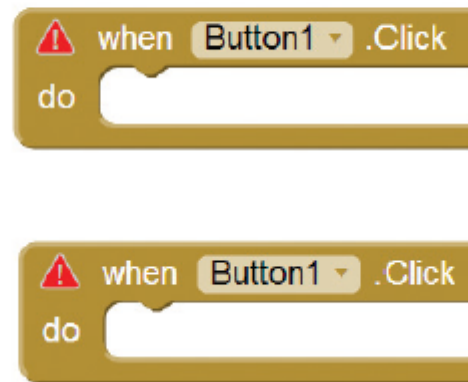
- Another way to duplicate a block is by copying and pasting it.
- Select the block, then click Ctrl + C to copy, then Ctrl + V to paste.

# Duplicating Blocks and Using Drop Downs

A red triangle with an exclamation mark (⚠) on both blocks.

**Figure 2-42** Duplicate Blocks (Source: MIT App Inventor 2)

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And error message will appear if you click the symbol (⚠).

# Duplicating Blocks and Using Drop Downs

- In Figure 2-43 notice the error message: *This is a duplicate event handler for this component.*
- Each component can only have one event handler.
- To fix the error change one of the blocks into a Click event handler for a component other than Button1.
- Click the down-arrow and a dropdown menu will appear.
- The error symbol is no longer shown.

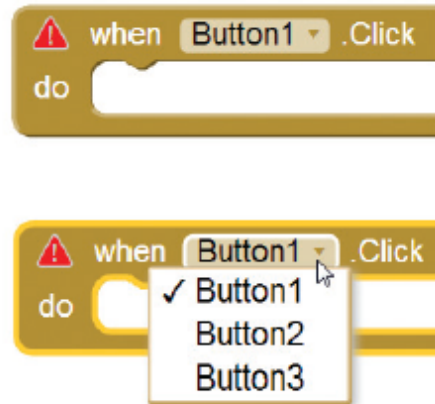
Figure 2-43 Error Message for Duplicate Blocks (Source: MIT App Inventor 2)





# Duplicating Blocks and Using Drop Downs

**Figure 2-44** Changing the Duplicate Block's Component (Source: MIT App Inventor 2)



**Figure 2-45** The Modified Block (Source: MIT App Inventor 2)



# Duplicating Blocks and Using Drop Downs

## Errors and Warnings

- At the bottom of the workspace in the Blocks Editor is a set of “counters” that report the number of warnings and errors.
- To see which blocks have warnings, you must click the *Show Warnings* buttons.
- When you click *Show Warnings*, it changes to *Hide Warnings*.

**Figure 2-47** Showing Warnings (Source: MIT App Inventor 2)

