



TECHNOLOGY CAMP

DAY 2 : MOBILE APP DEVELOPMENT

Building Mobile Kitty App

Session 2



YELLOW CIRCLE INC
PO Box 2383
Elk Grove, CA 95759-2383

Teacher Lesson Plan

Building Mobile Kitty App

Session Name:

Building Mobile Kitty App

Summary:

This course teaches the basics of mobile app development using the App Inventor development tool.

Time Allotment:

65 minutes

Learning Objectives:

- *Utilize the App Inventor Designer to create a mobile app user interface*
- *Utilize the App Inventor Blocks Editor to program the behaviors for a mobile app*
- *Test the application using either an Android phone*
- *Modify the created app to change the user interface and/or programmed behavior*

Supplies:

- *Scrap paper / notepad to take notes*
- *Android tablet*
- *Laptop / computer with Internet access*

Learning Activities:

- **(5 minutes) - Session overview**

During this lesson, we will become familiar with the App Inventor development tool. We will build a mobile app together and then you will use what you have learned to modify and customize the app.

- *App Inventor Tool*
- *Building Apps In App Inventor*
- *Introduction to App Inventor Designer & Blocks Editor*



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- App Development
- App Testing

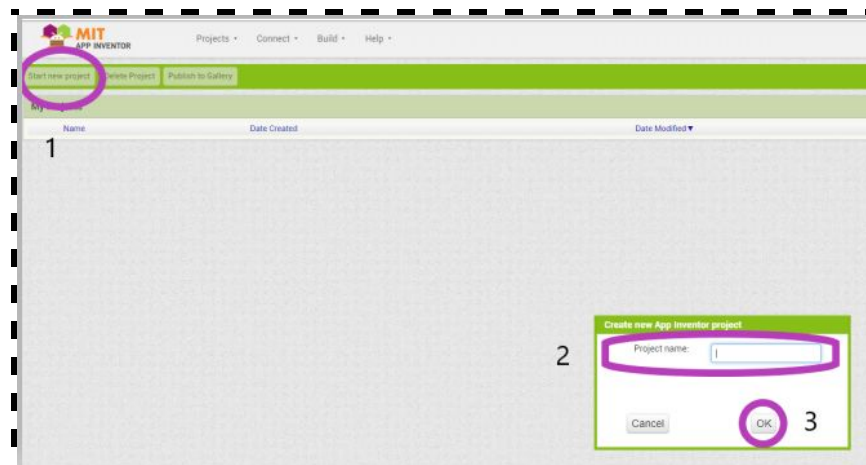
- **(10 minutes) - Group Activity : Build Mobile Kitty App**

Introduce materials

- “Assets Folder” - contains images and sounds for use in activities
- Login <http://appinventor.mit.edu/explore/ai2/hellopurrr.html>
- We are going to begin by building and testing an app in App Inventor together (Login <http://appinventor.mit.edu/explore/ai2/hellopurrr.html>)
- Later, you will use what you have learned to modify and customize the application

Switch from slide show to Instructor screen share ***

- Start New Project Build Mobile Kitty App
- Login to App Inventor
 - ai2.appinventor.mit.edu
- Select “Start new project” (1)
- Enter Project name (2) and click OK (3)

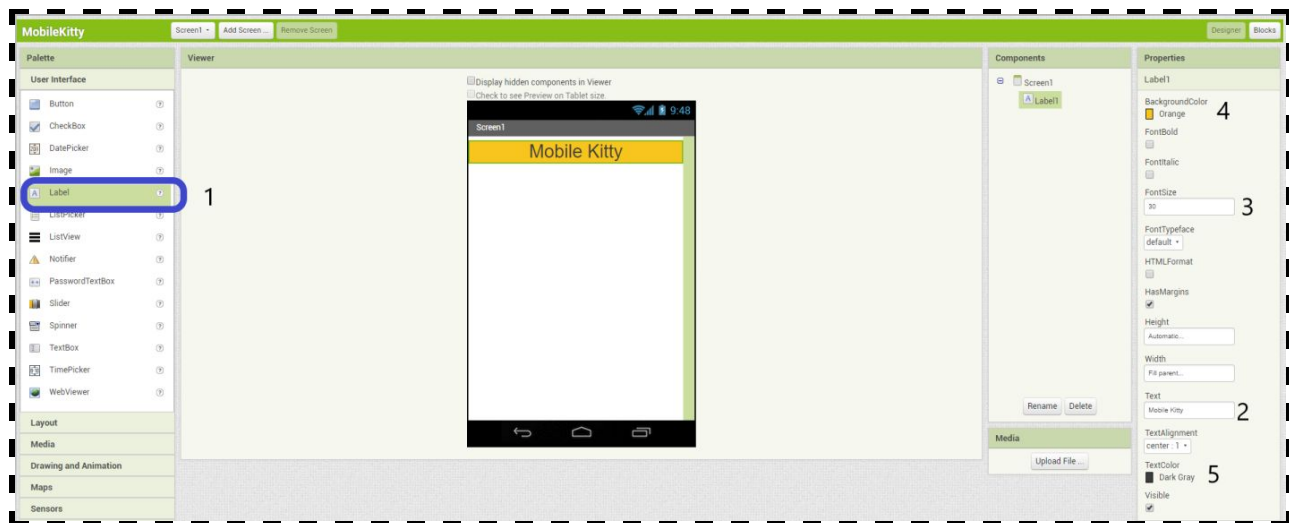


- **(10 minutes) - Group Activity : Build Mobile Kitty App User Interface**

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Select **Label** from Palette and Drag to Screen1 in Viewer (1)

- Enter Title for App in Text Box (2)
- Set Font Size (3)
- Set Background Color (4)
- Set Text Color (5)
- Optional - Set Width to "100%" to set to full screen width
- Optional - Set Alignment to Center

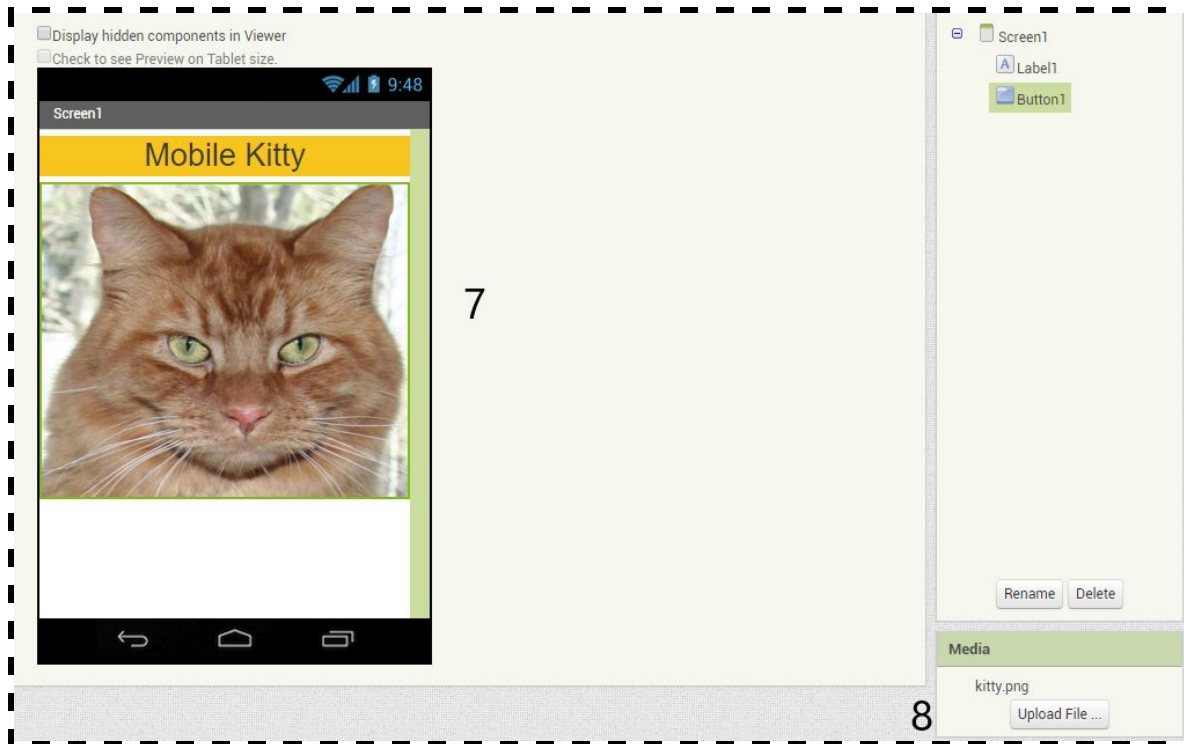


Select **Button** from Palette and Drag to Screen1 in Viewer (1)

- Clear Text box (2)
- This will prevent any text from displaying over the image
- Click into Image box to open upload window (3)

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- *Image populates Button element (7)*
- *Image file name is listed in Media block (8)*

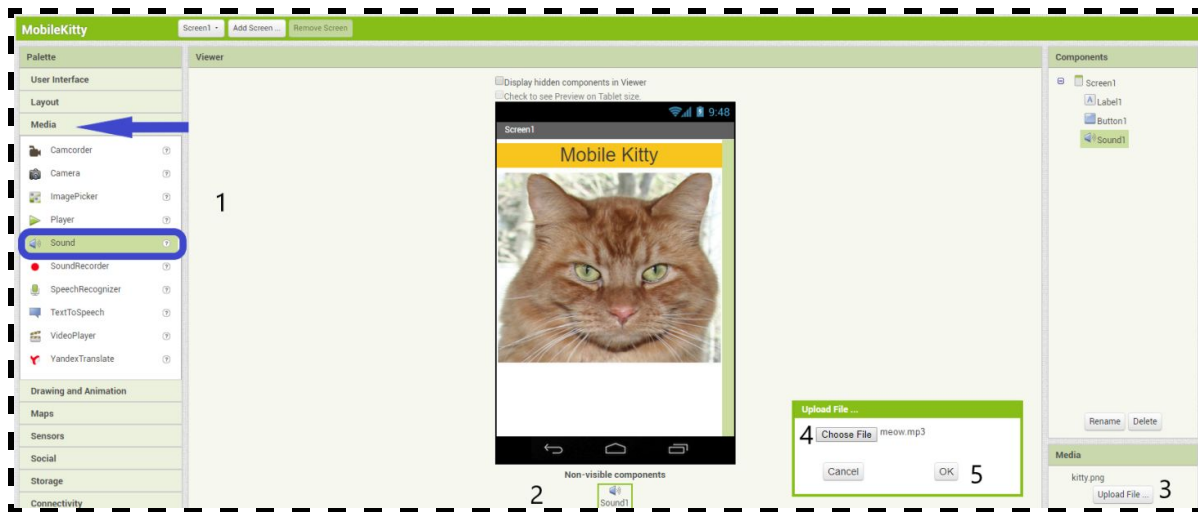


- *Optional - Set Width to "100%" to set to full screen width*

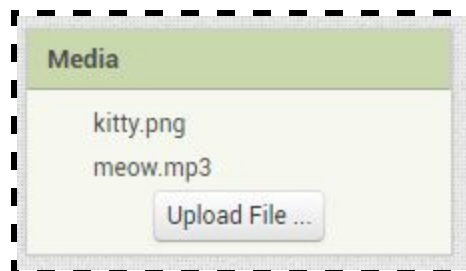
Select **Media>Sound** from Palette and Drag to Screen1 in Viewer (1)

- *Tool will create Non-visible components element below Screen (2)*
- *Click Upload File in Media block to open Upload File Window (3)*
- *Click Choose File button and select image file from ProjectFiles Folder (4)*
- *Click OK to upload media (5)*

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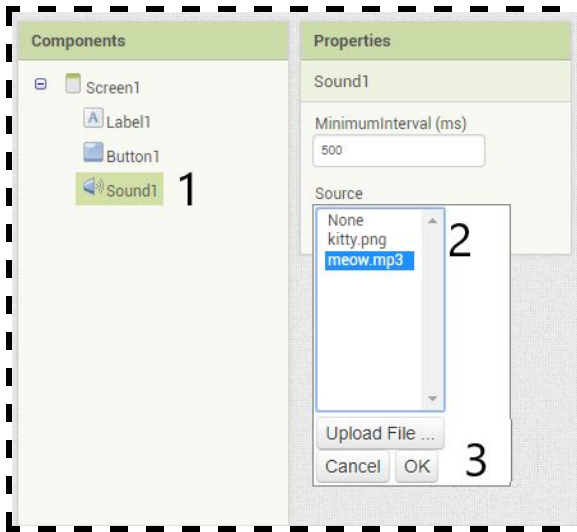


- Sound file name is listed in Media block



- Select Sound1 in Components (1)
- Click in the source box & Select the sound file name (2)
- Click OK (3)

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- **(15 minutes) - Group Activity : Build Mobile Kitty App Behavior Programming**

Select **Blocks Designer** button from Title Bar



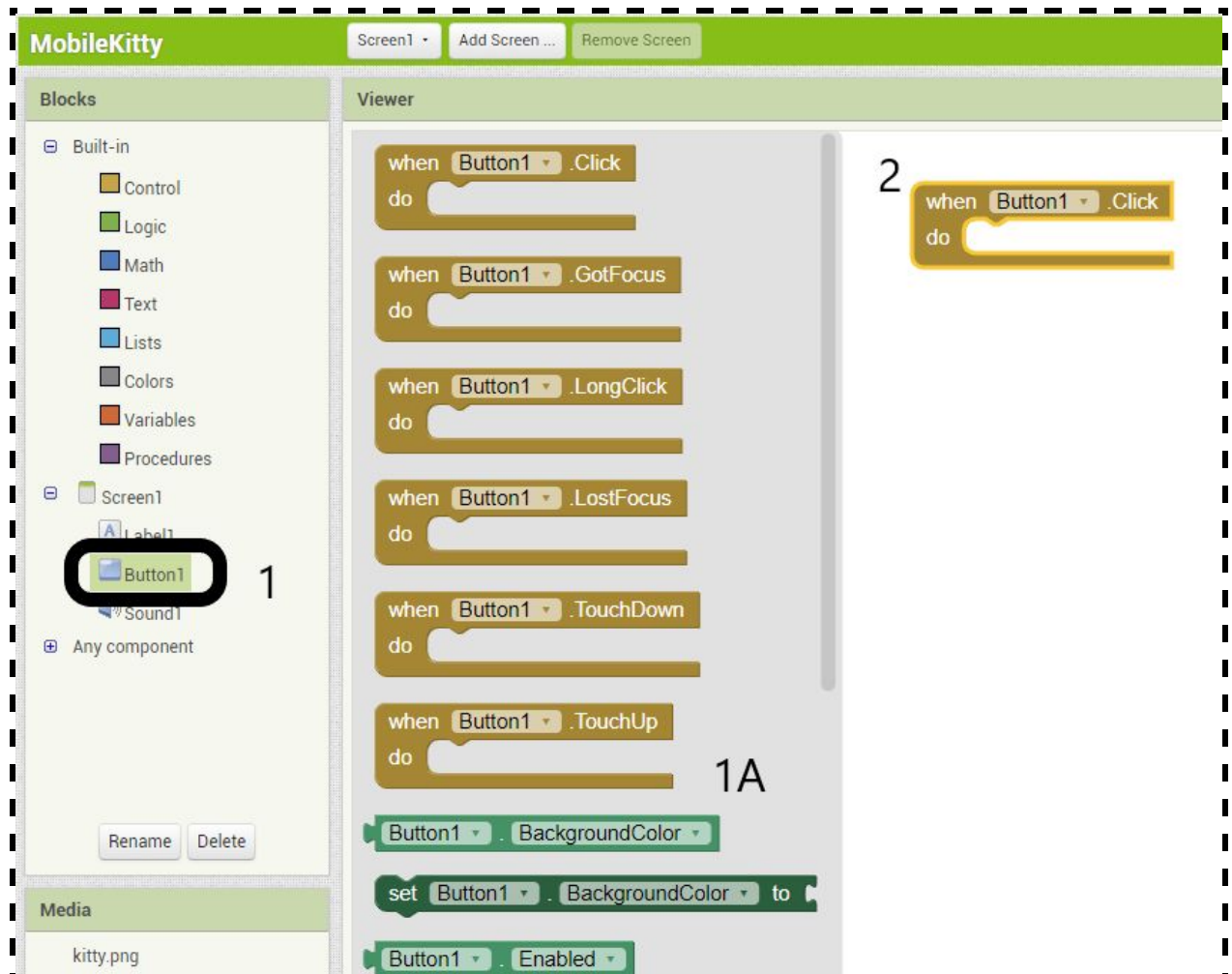
Select **Button1** from Blocks (1)

- A Window will pop open with a different coding block options(1A)

Select the “when Button1.Click” block and drag to workspace (2)

- The brown blocks are “event handlers” that are used to determine how the phone responds to user input (e.g. click, shake)
 - In App Inventor, “event handler” blocks begin with the word “when”

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Select **Sound1** from Blocks (3)

- A Window will pop open with a different coding block options(3A)

Select the “call Sound1.Play” block and drag it into the “when Button1.Click” block (4)

- The purple blocks are “command” blocks that fit within “event handlers”. The “command” blocks indicate the action that happens in response to the user input.
- When fit together, the blocks can be read to describe the user and phone action
 - When Button1.click do call Sound1.Play (i.e. when button 1 is clicked play sound 1)

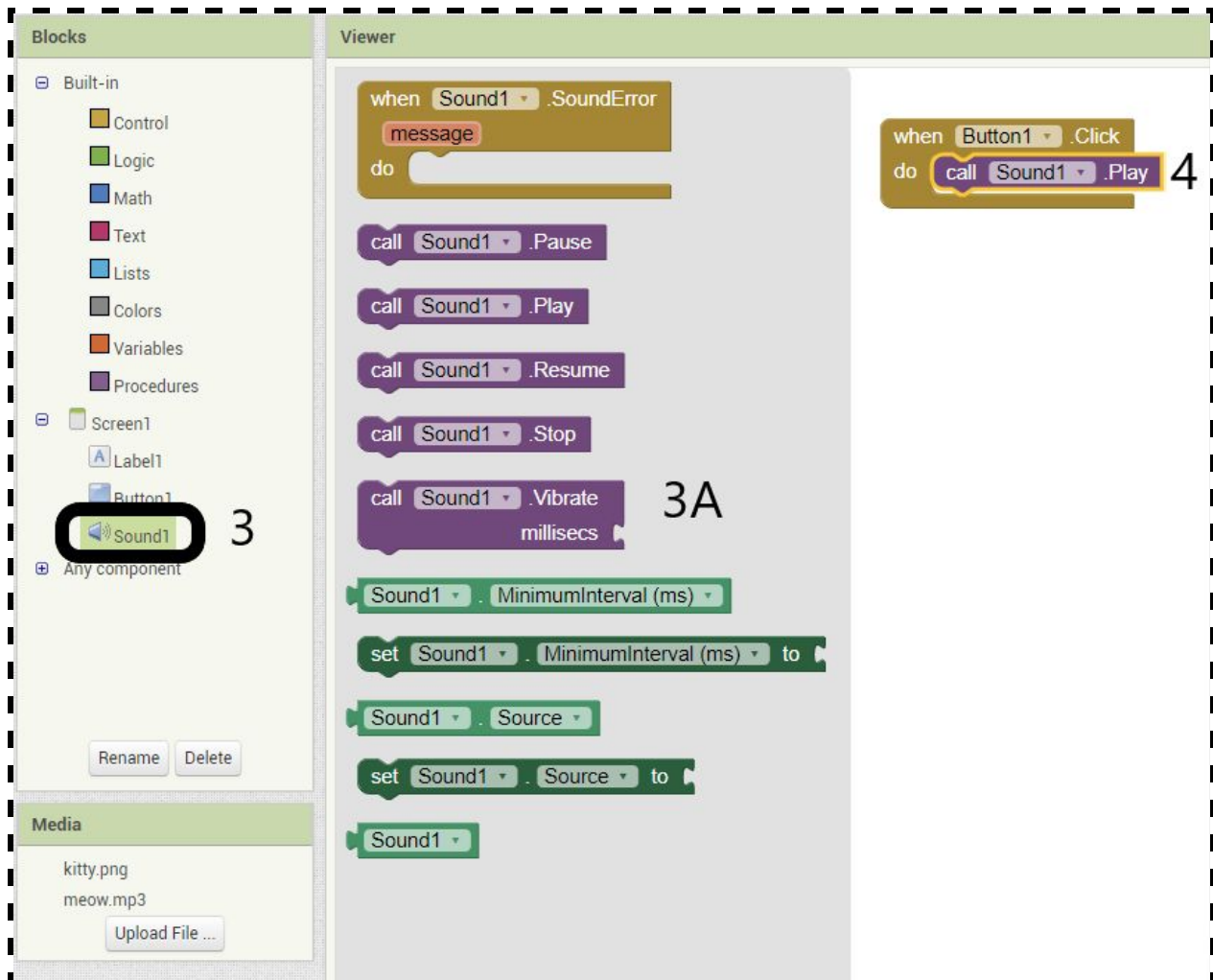


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*** Switch from Instructor screen share to slide show ***

- (5 minutes) - Group Activity : Test Mobile Kitty App

Introduce materials

- App Inventor App
- Android phone with testing set up complete
- Test using QR code
 - **On your phone/tablet:** Open the MIT AI2 Companion App



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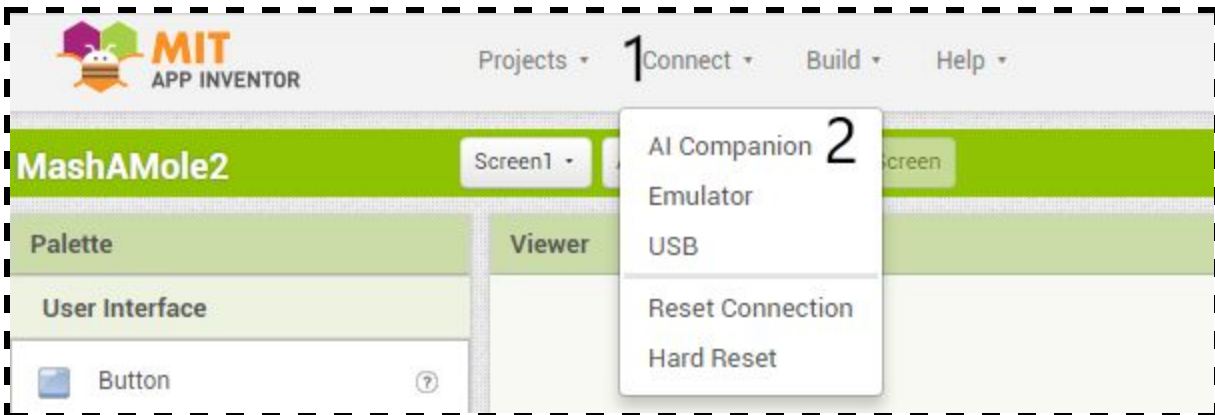
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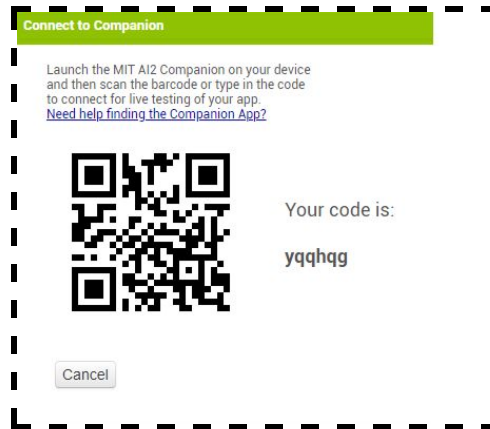


- **On your computer:** Select **Connect** (1) dropdown
- Select **AI Companion** (2) wait while system compiles and packages the code (progress bar may be displayed)



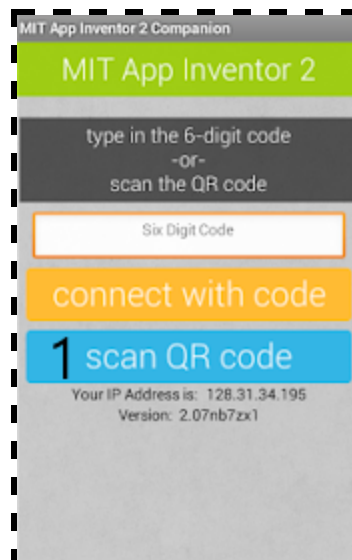
- When packaging is complete, QR code will be displayed.

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On your phone/tablet: Select scan QR code (1) and scan.

- *Note: If you do not want to use the QR scanner, you may select the connect with code button (orange) and enter the six character code (below "Your code is:" from the Connect to Companion window) in the app text box*



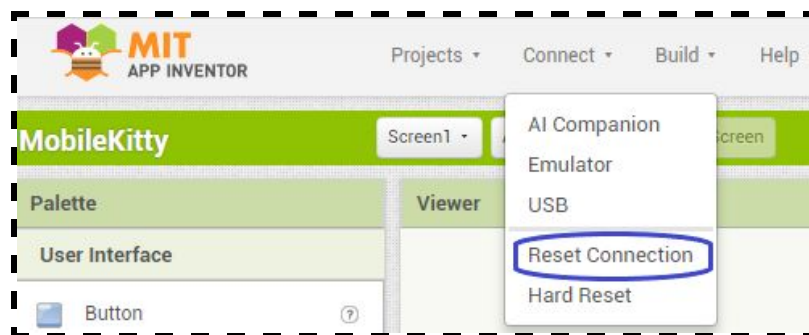
- **On your phone/tablet:** The app you created will run. Test all functions and when done, use the back arrow to exit.
- **On your computer:** Click cancel to clear QR code window popup.

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- *Make any necessary changes and continue the process until you are satisfied with your results.*

Note: If re-packaging and re-testing, causes the the AI Companion dropdown to stop responding (grey out) complete the following steps to reset:

- **On your phone/tablet:** Stop the app from the “3dot” menu in the upper right corner and select Stop and Exit from the pop-up window
- **On your computer:** From the Connect dropdown select Reset Connection



- **(40 minutes) - Student Activity : Modify & Test Mobile Kitty App**

Introduce materials

- *App Inventor App*
- *Android phone*
- *Mobile Kitty App created previously*

This is student time to use App Inventor to make the Mobile Kitty app their own.

- *Encourage students to change the appearance & behaviors of the app*
 - *Modify colors, text, images*
 - *Change the title from “Screen 1”*
 - *Add buttons to enable additional features*
 - *Add vibration to sound*
 - *Add additional behaviors based on different user inputs*
 - *Change Icon Image*

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- *Change App Name*
 - *Change Sizing*
 - *Have students test their new apps for functionality & share with class if time allows*
- **(2 minutes) - What's next?**
Inform students to head back to the cafeteria for a 30 minute lunch break, and remind them to use the restroom before next session starts.



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