MIT APP INVENTOR

DAY 1

INSTRUCTIONS

Welcome to the course on MIT App Inventor. We will be using Zoom Application for delivering this course. Please adhere to the following instructions during the presentation.

- All of the participates other than the host are requested to mute (Alt+A) their microphone unless otherwise specified.
- Please use the chat window to type in your doubts and response to questions/tasks.

OVERVIEW

DAY 1

- ❑ Introduction to MIT App Inventor.
- ❑ Familiarizing with the app components.

  Two main editors: the design editor and the blocks editor.
- ❑ Build four apps :
  - Talk To Me 1
  - Talk To Me 2
  - Ball Bounce
  - Digital Doodle

Introduction

- MIT App Inventor is a web application integrated development environment originally provided by Google, and now maintained by the Massachusetts Institute of Technology.
- It provides a web-based “What you see is what you get” editor for building mobile phone applications targeting the Android and iOS operating systems.
- It uses a block-based programming language built on Google Blockly.
- Inspired by languages such as StarLogo TNG and Scratch .

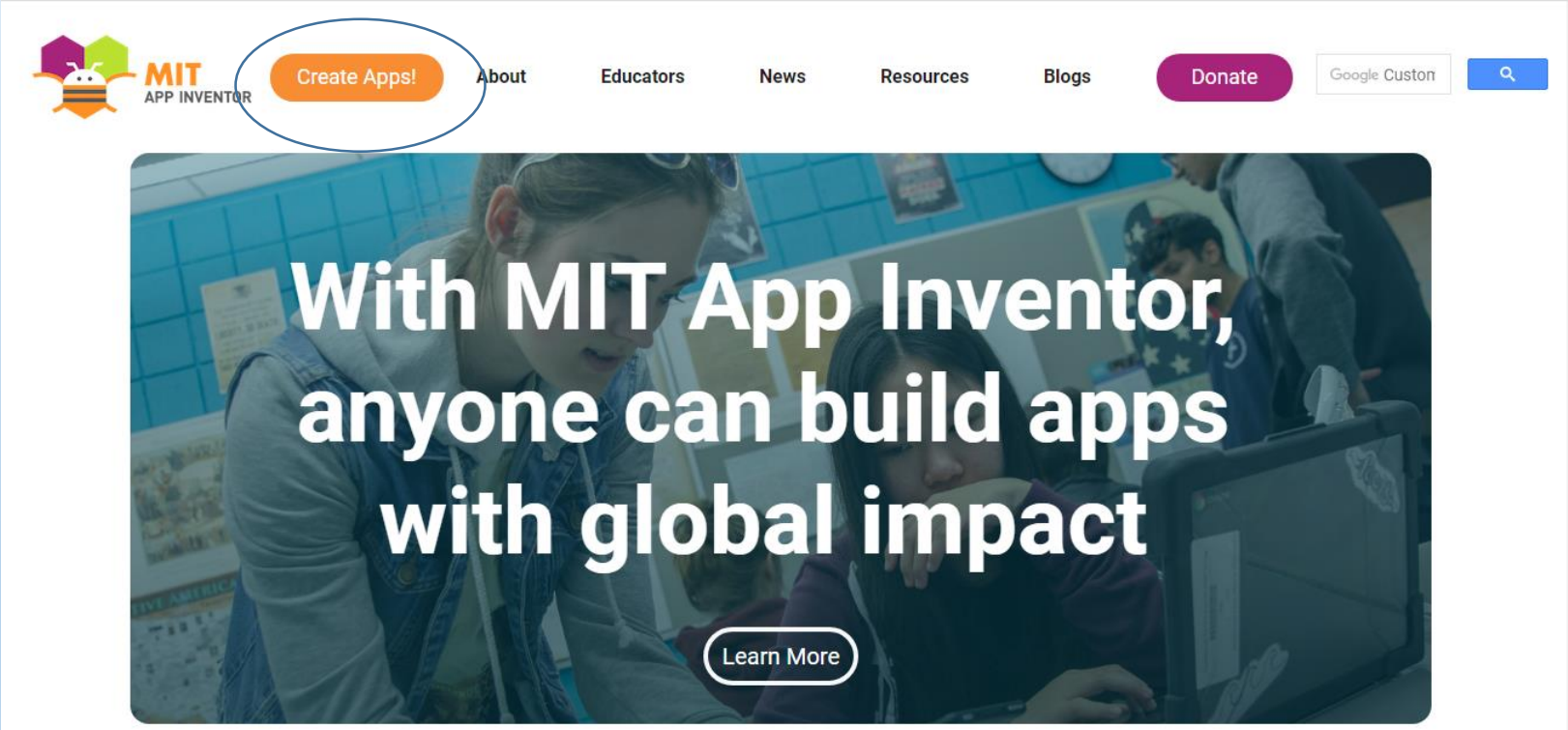
- People around the world use App Inventor to provide mobile solutions to real problems in their families, communities, and the world.
- MIT App Inventor is an online development platform that anyone can leverage to solve real-world problems.
- The smartphone is an information nexus in today's digital age, with access to a nearly infinite supply of content on the web, coupled with rich sensors and personal data.

Key Features

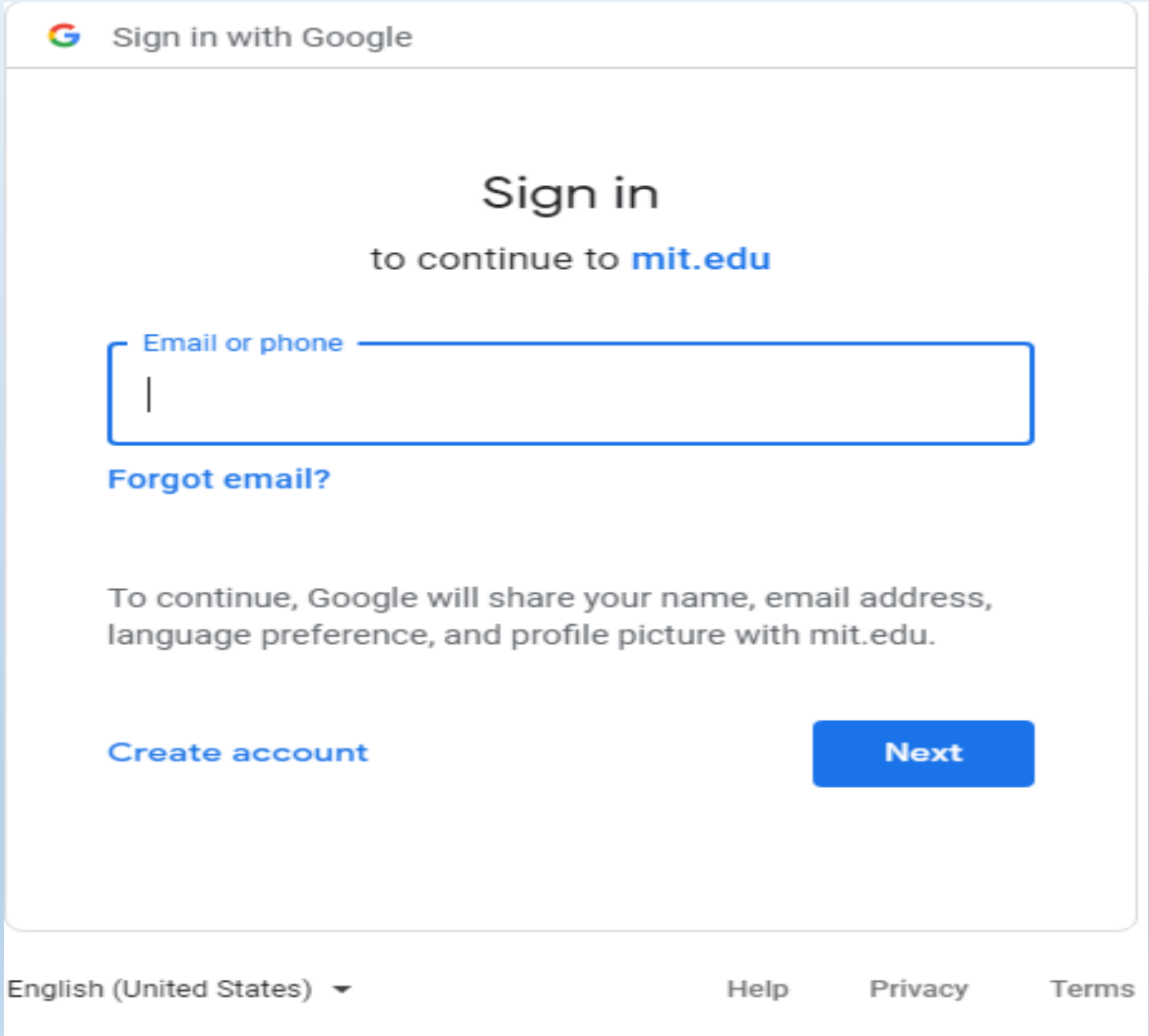
- MIT is a drag and drop interface to lay out the elements of the application's user interface (UI).
- It allows users to drag and drop visual objects to create an application that can run on mobile devices.
- MIT empowering anyone to build a mobile phone app to meet their need.

MIT App Inventor

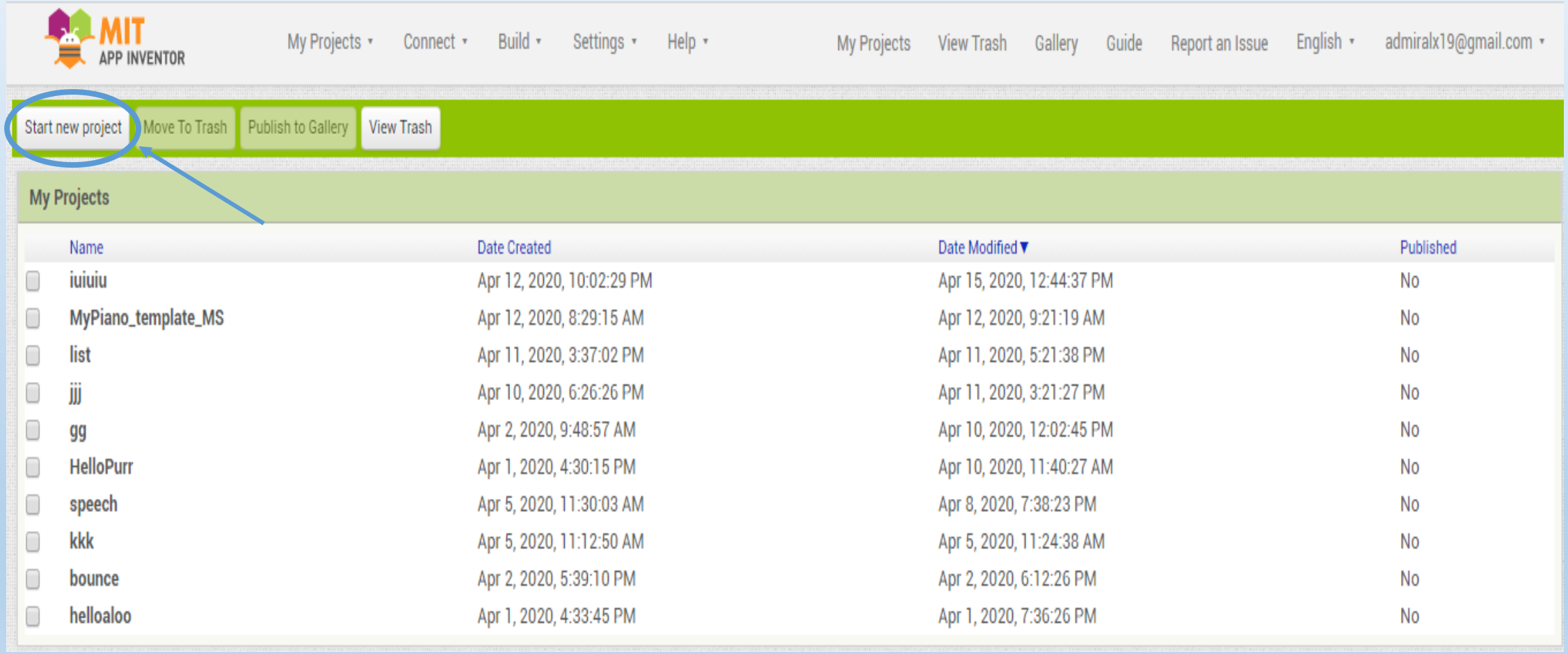
- Go directly to https://appinventor.mit.edu/ , and click the orange "Create" button from the App Inventor website.



- Use an existing gmail account or school-based google account to log in to ai2.appinventor.mit.edu To set up a brand new gmail account, go to accounts.google.com/SignUp

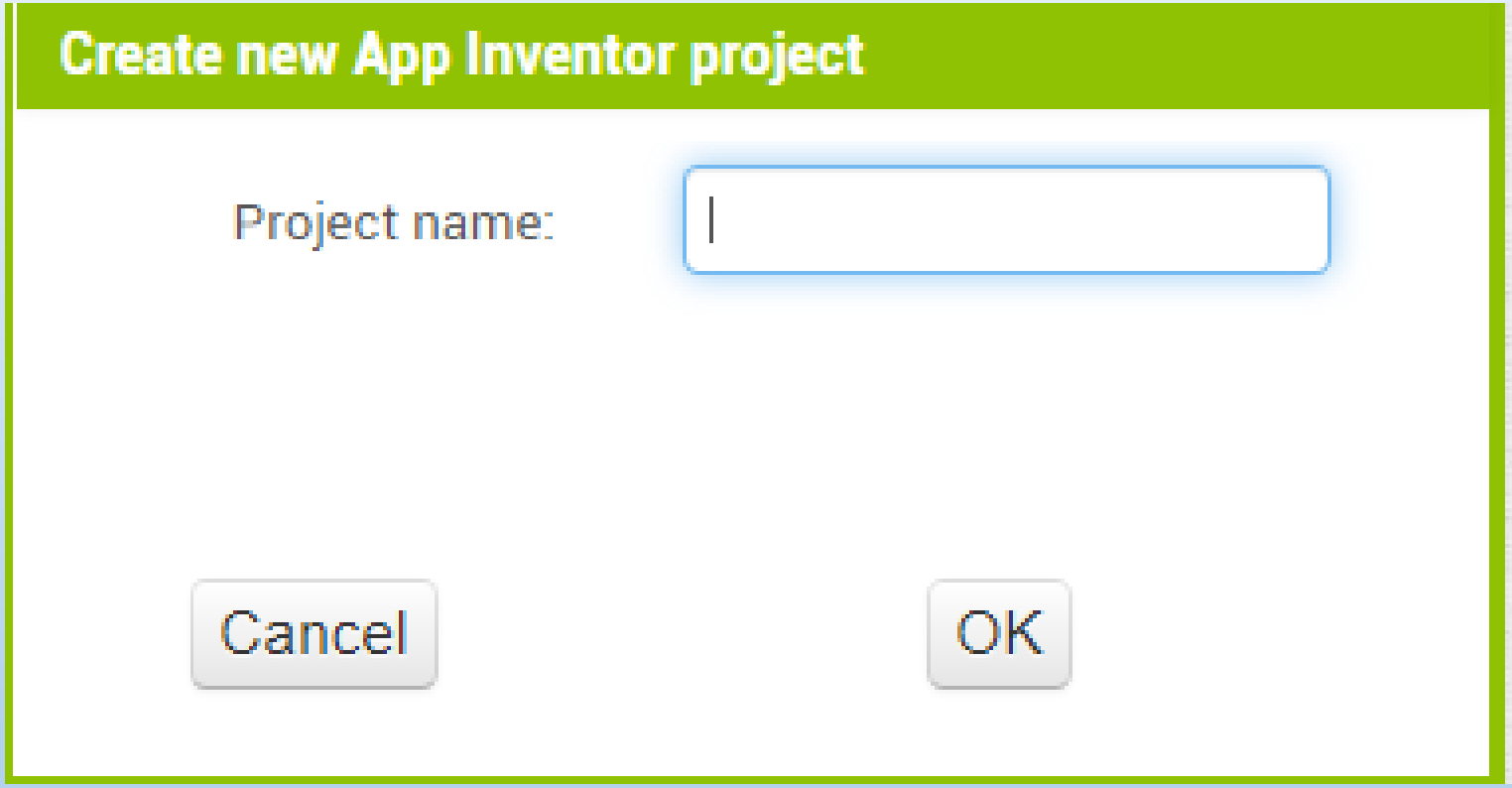


❑ Start a new project.



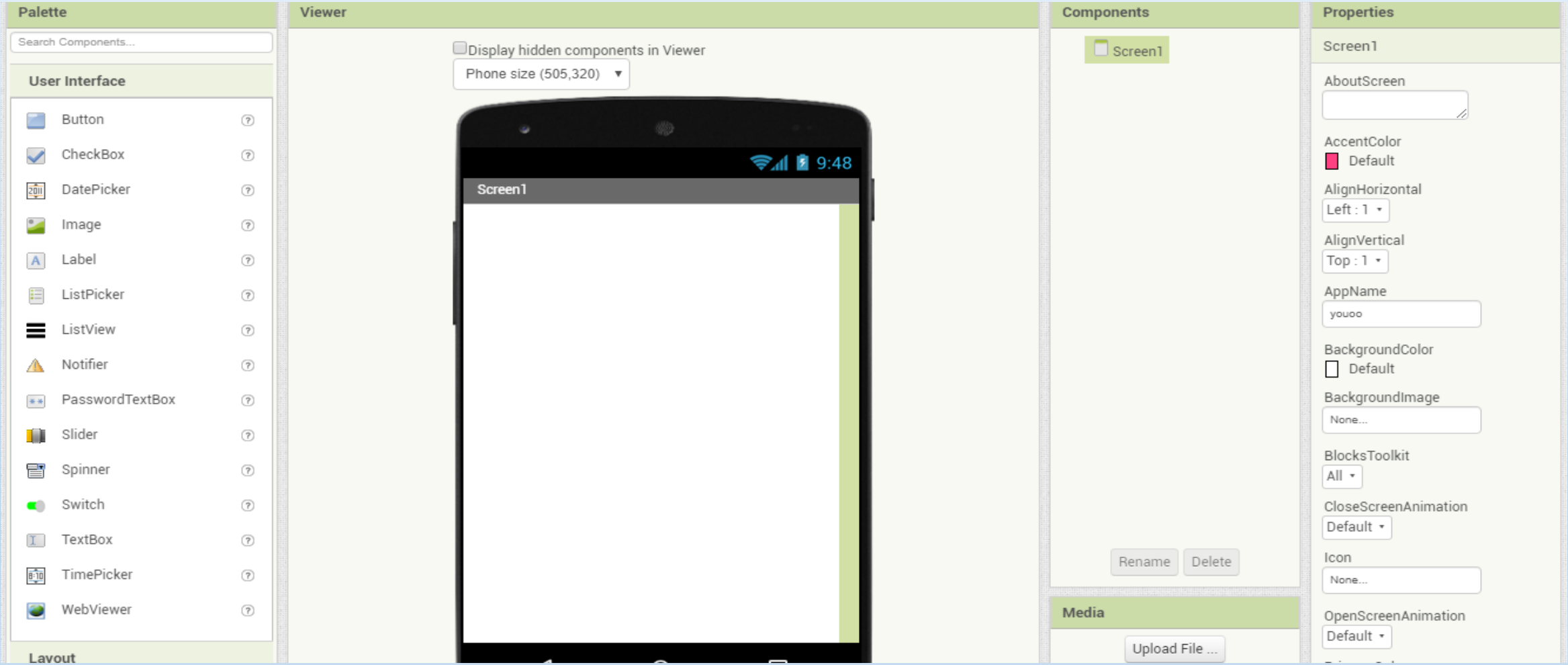
❑ Name the project.

First app we'll call it “ Talk to me”



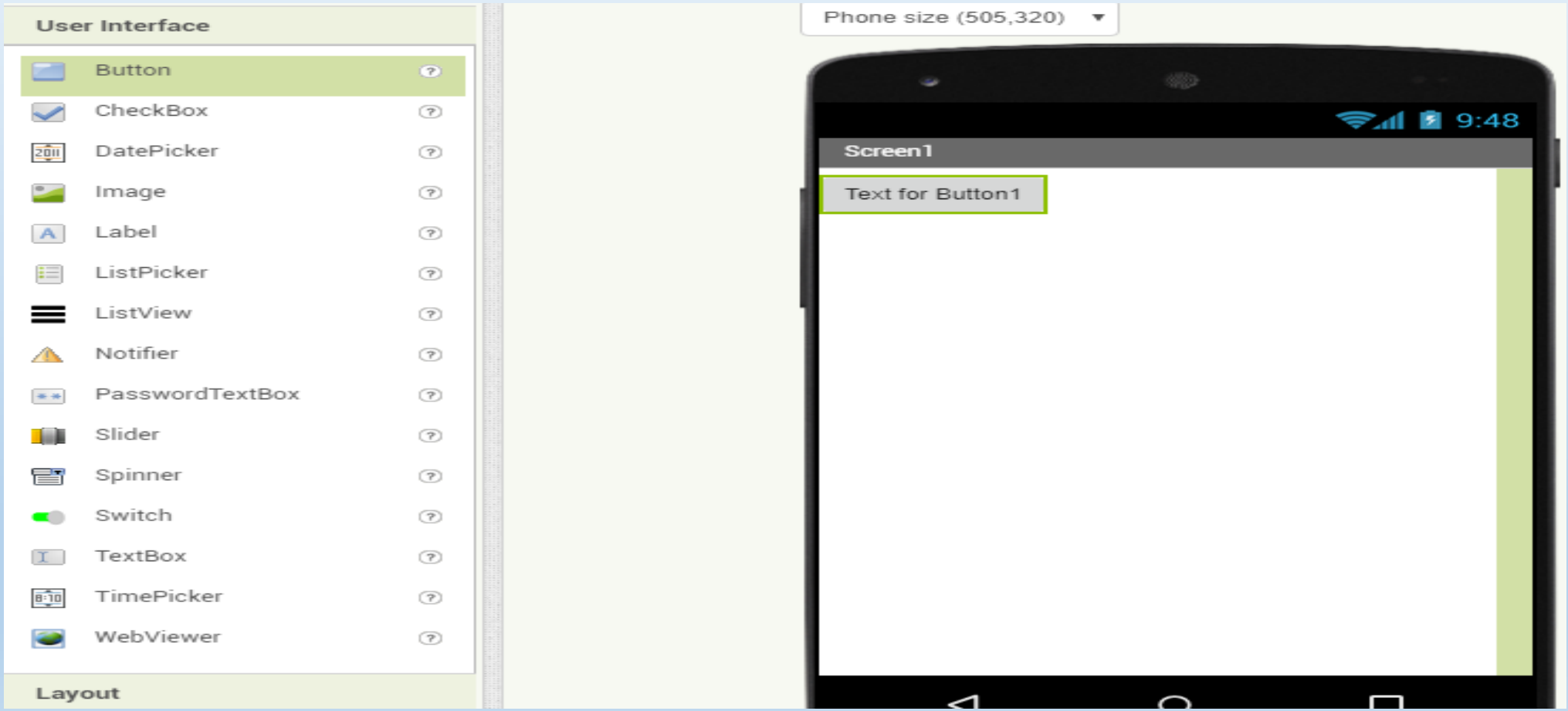
❑The Design Window

The Design Window, or simply "Designer" is where you lay out the look and feel of your app, and specify what functionalities it should have.



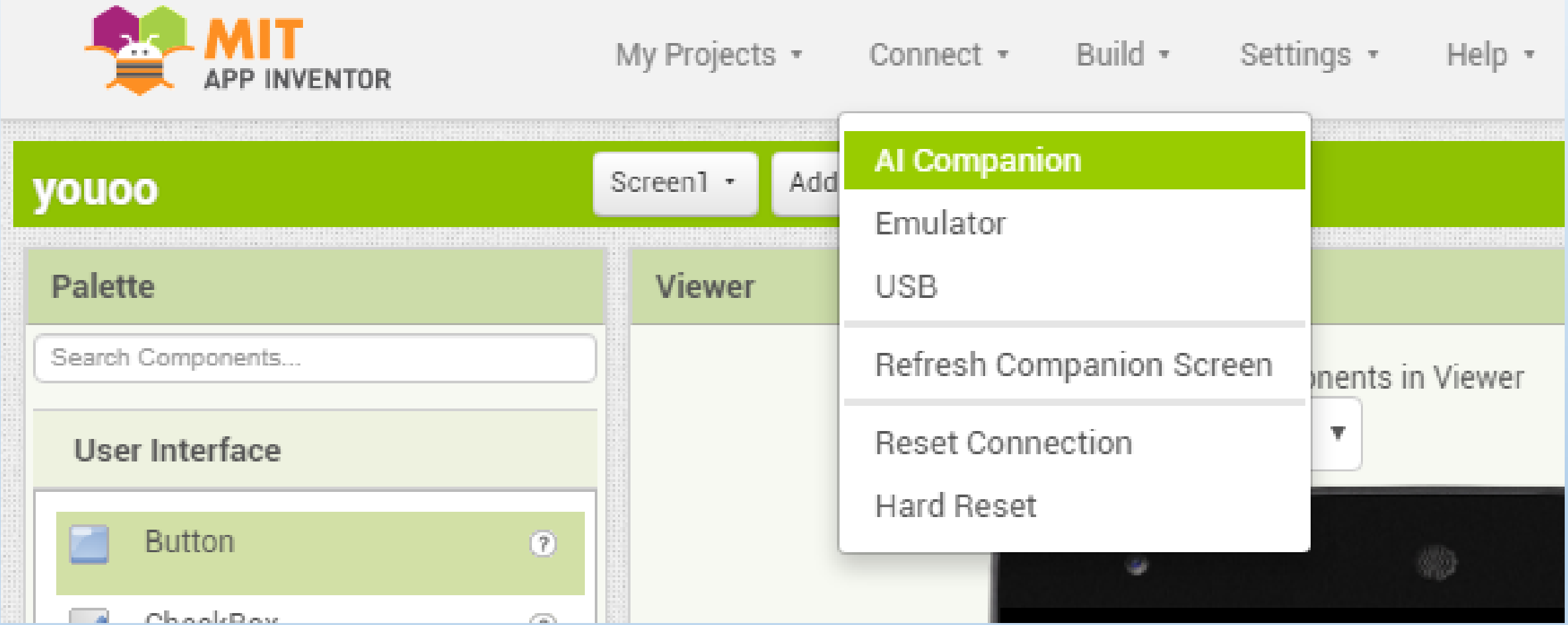
❑ Add a Button

Our project needs a button. Click and hold on the word "Button" in the palette. Drag your mouse over to the Viewer. Drop the button and a new button will appear on the Viewer.

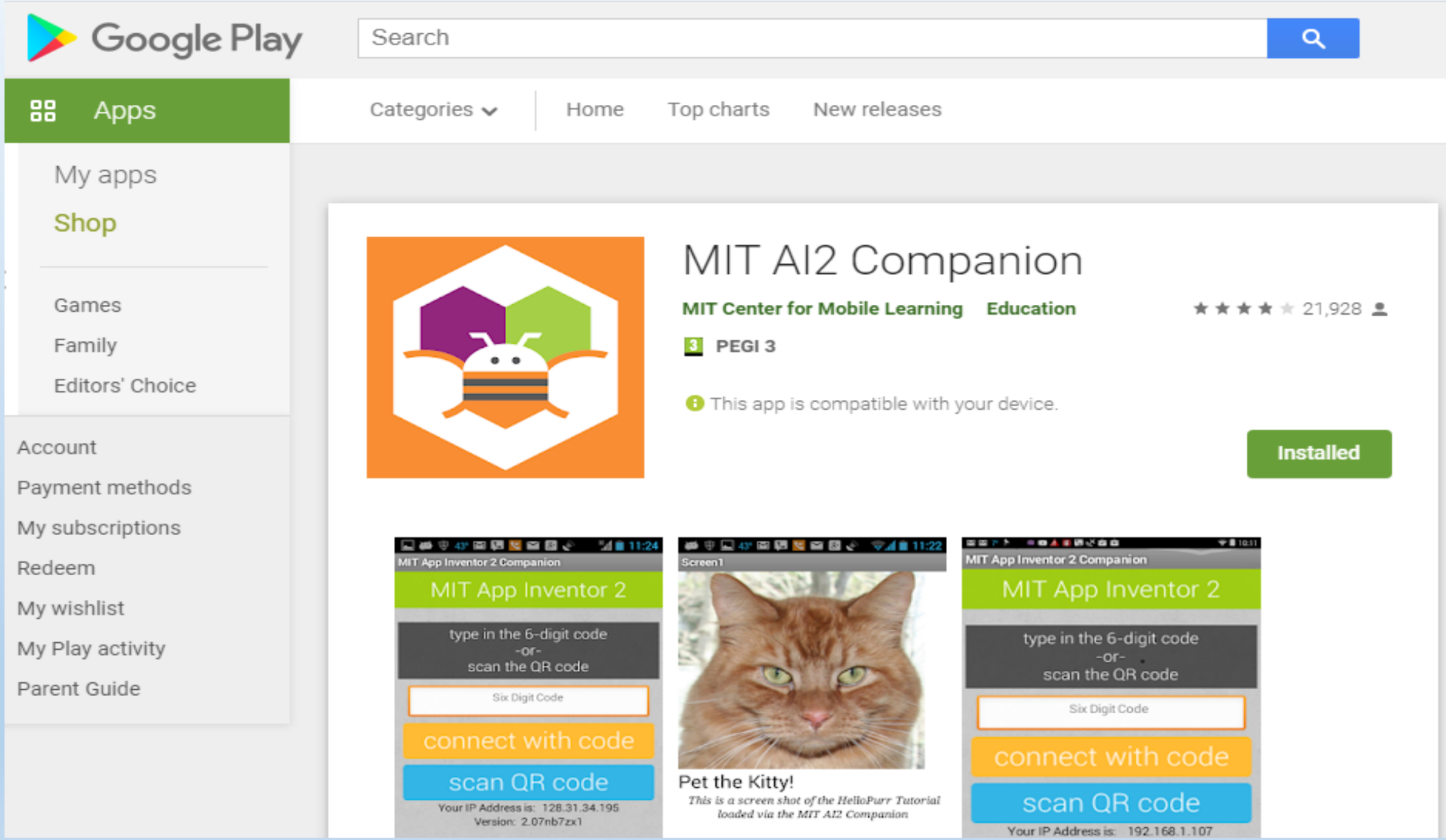


❑ Connect App Inventor to your phone for live testing

Test your app after each by connecting to your phone.

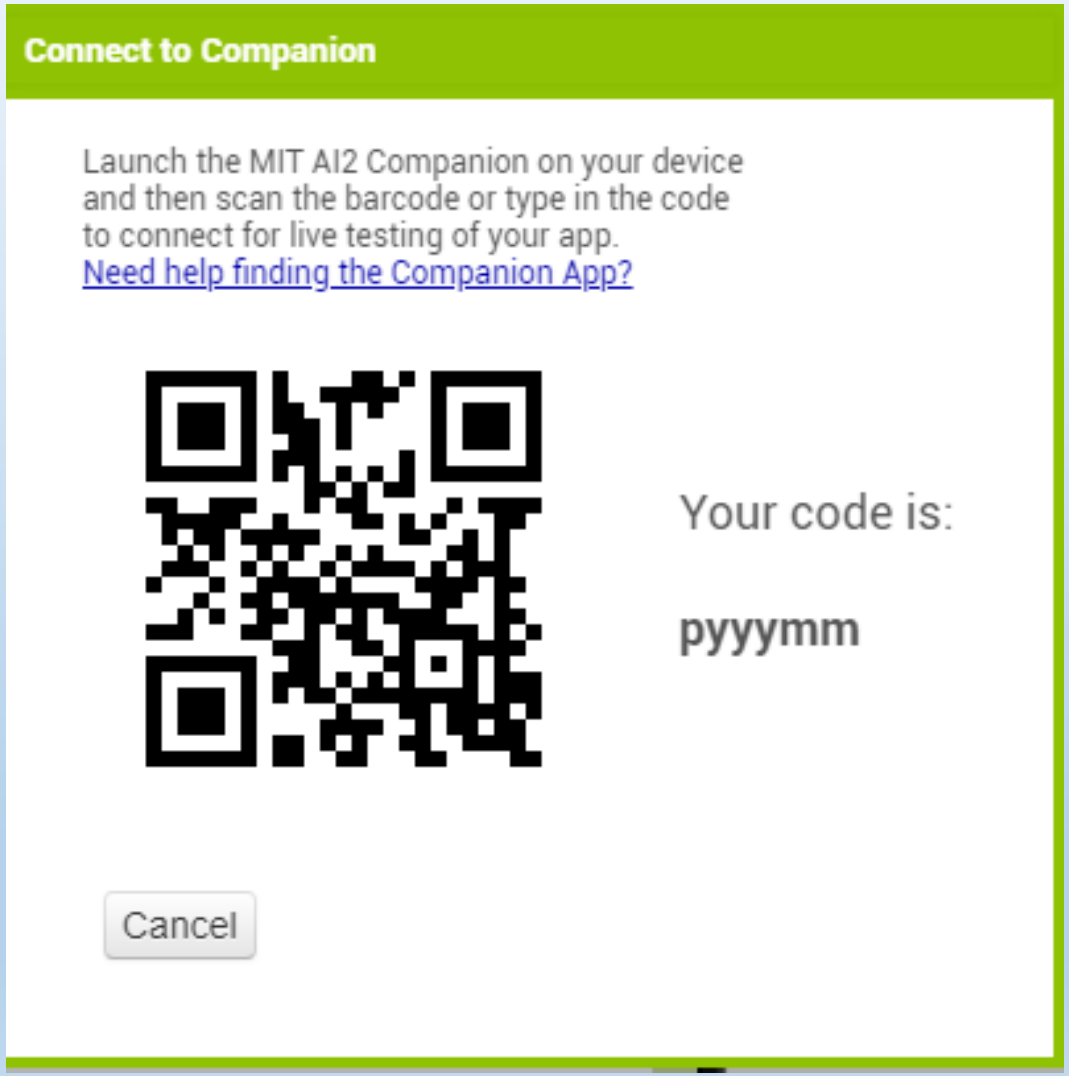


❑ Install MIT AI2 Companion from the Play Store

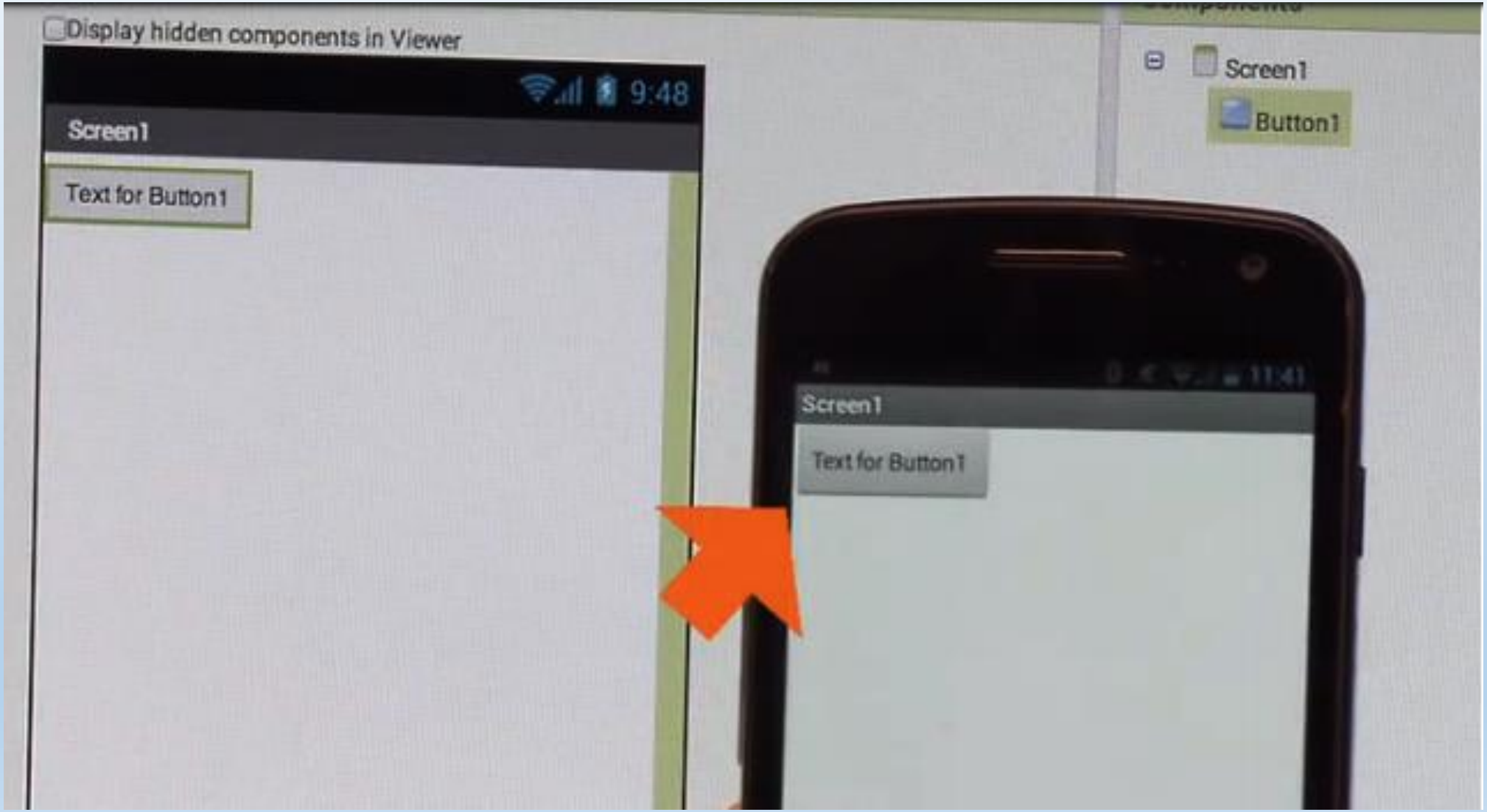


- Open AI2 Companion on your device

- Scan or type the QR code it into your Companion app

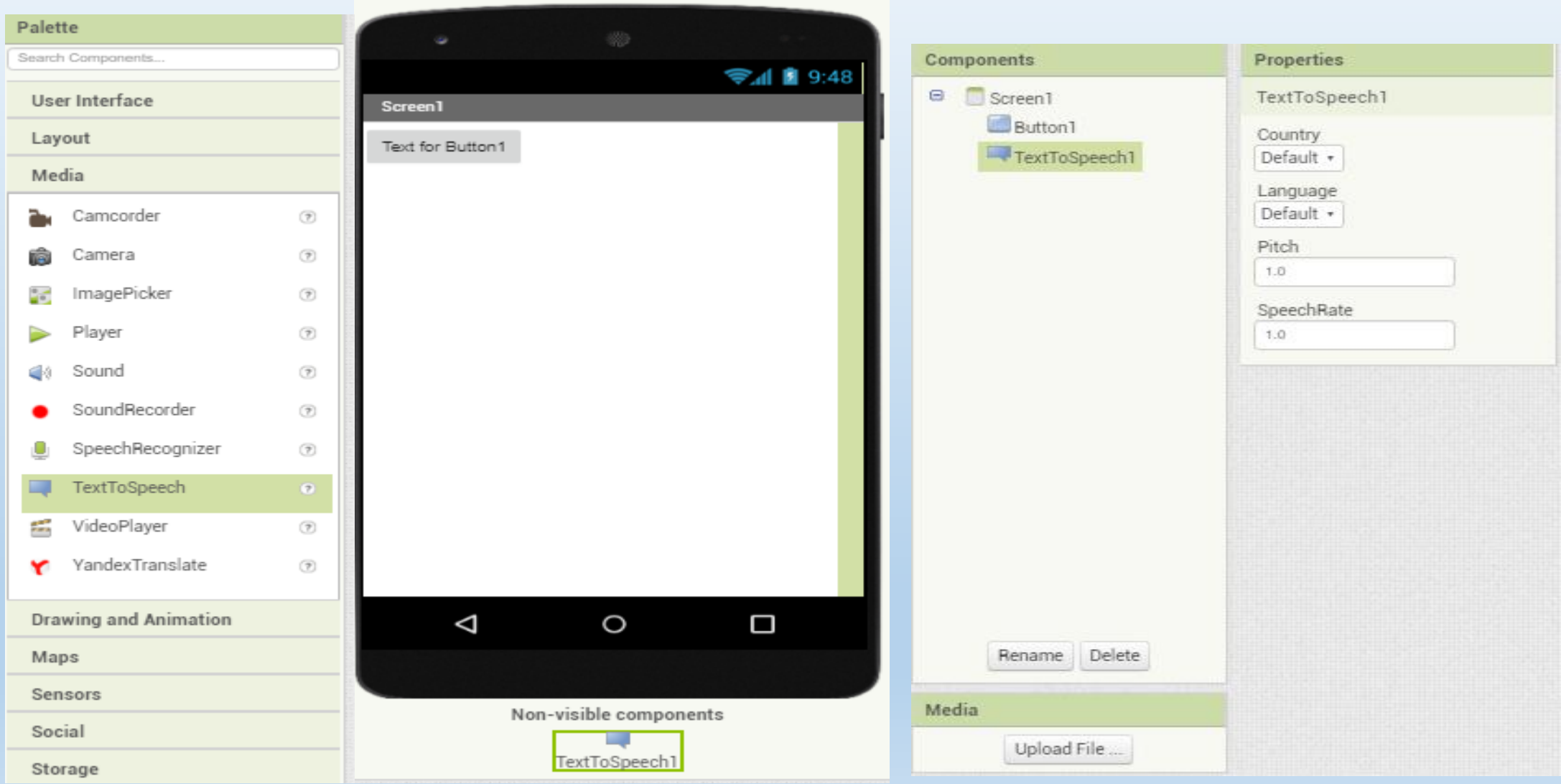


- See your app on your device.



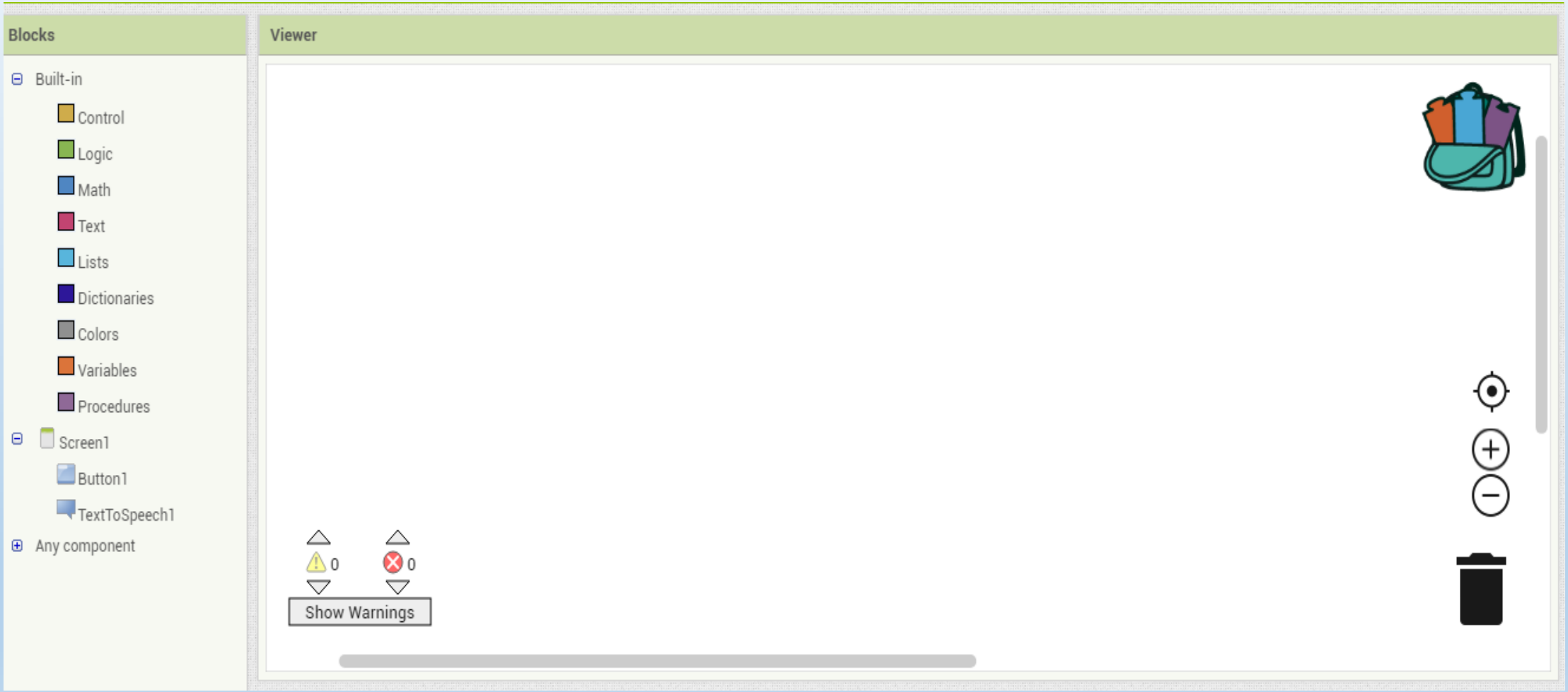
❑ Add a Text-to-Speech

Go to the Media drawer and drag out a TextToSpeech component. Drop it onto the Viewer.

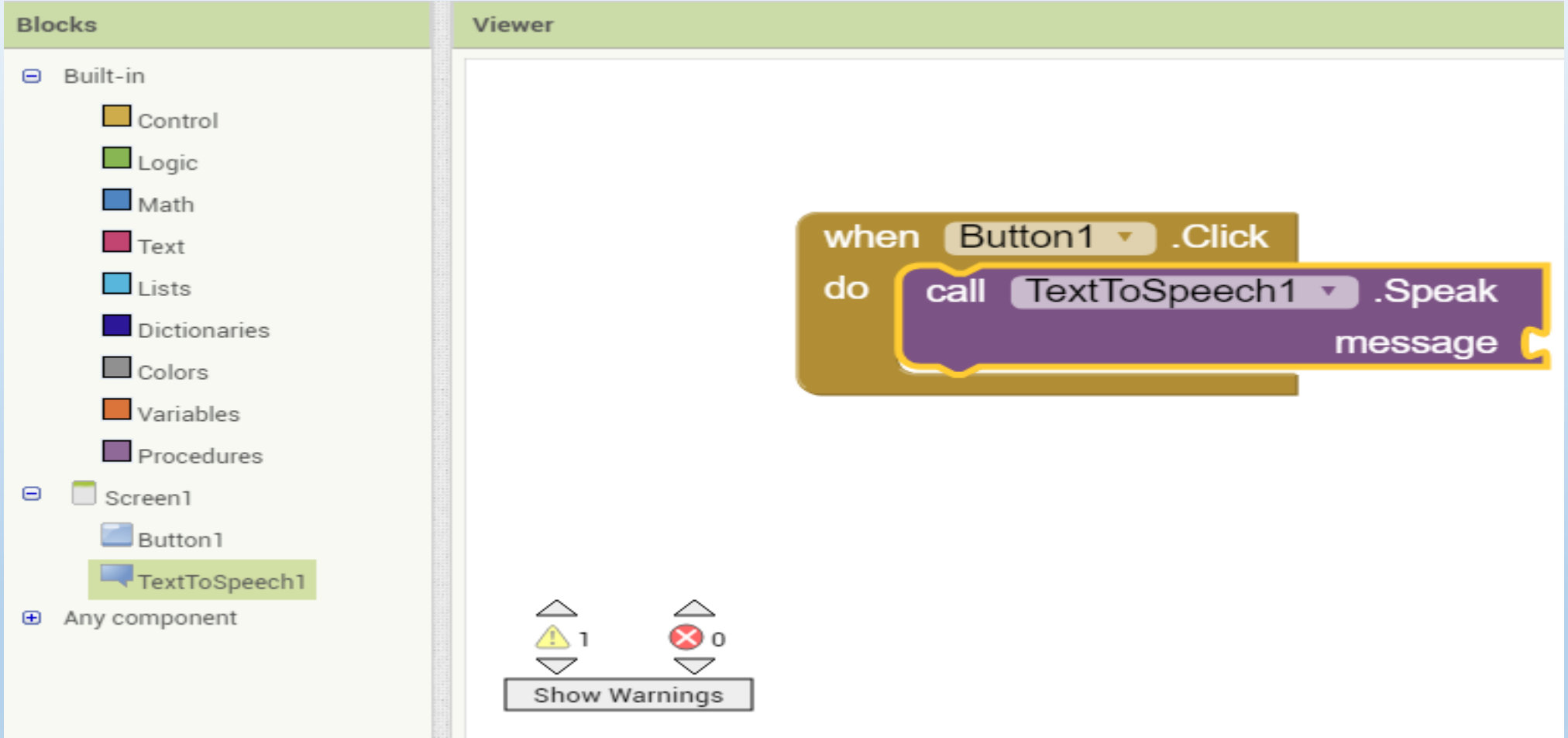


❑ The Blocks Editor

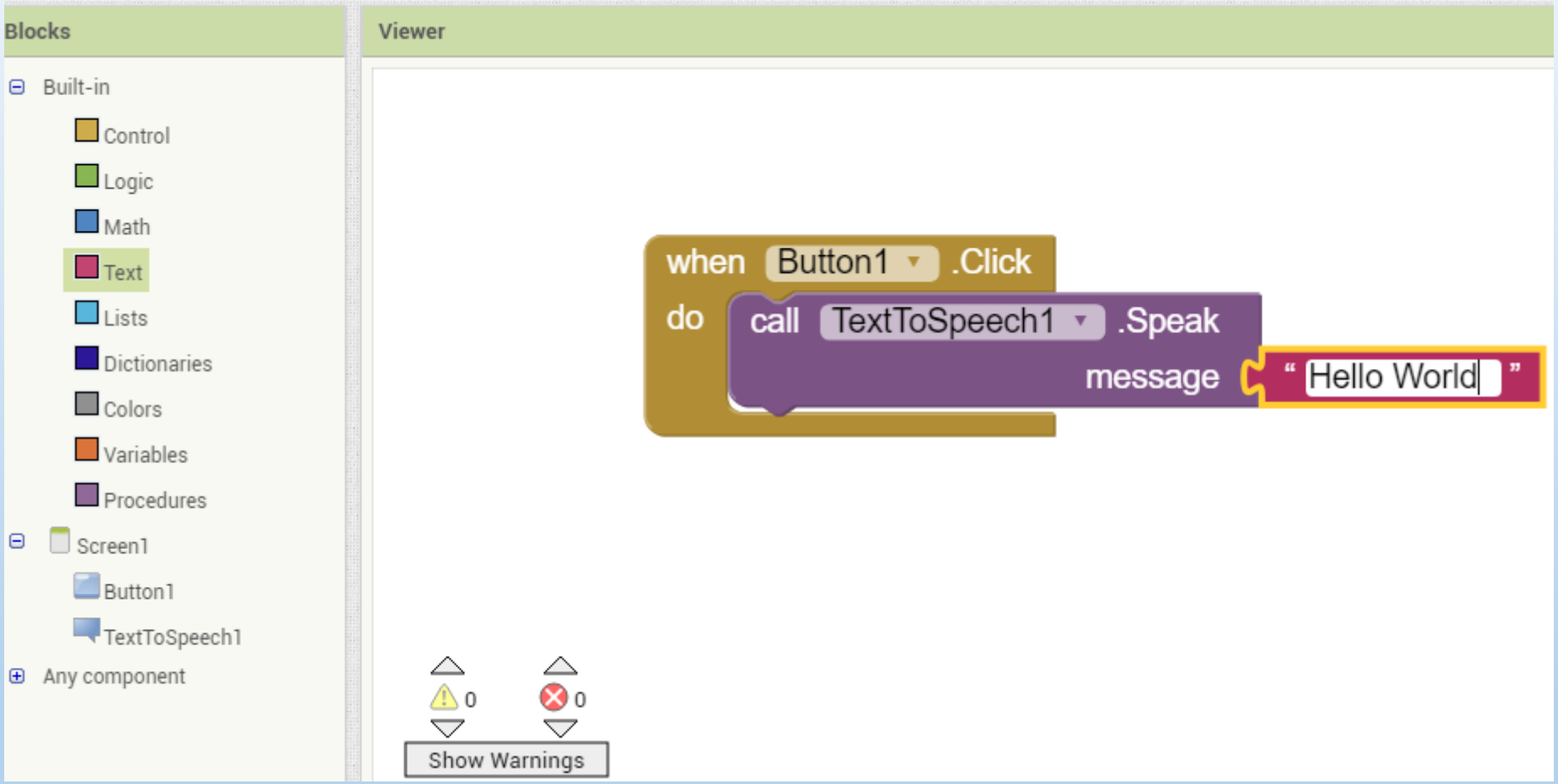
The Blocks Editor is where we specify how our program should behave.



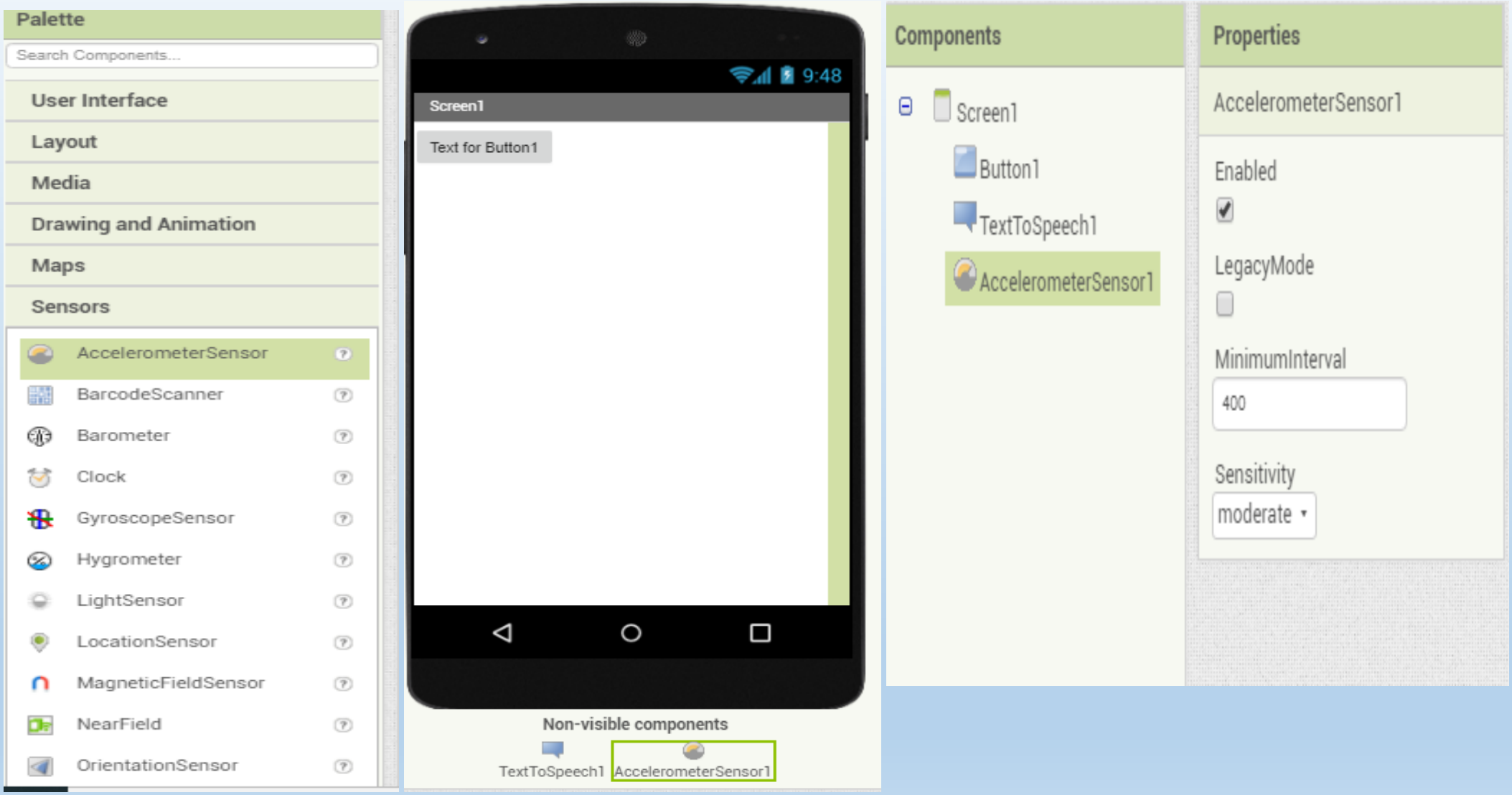
1- Click on the Button1 drawer. Click and hold the when Button1.Click do block.
2- Click on the TextToSpeech drawer. Click and hold the call TextToSpeech1.Speak block.



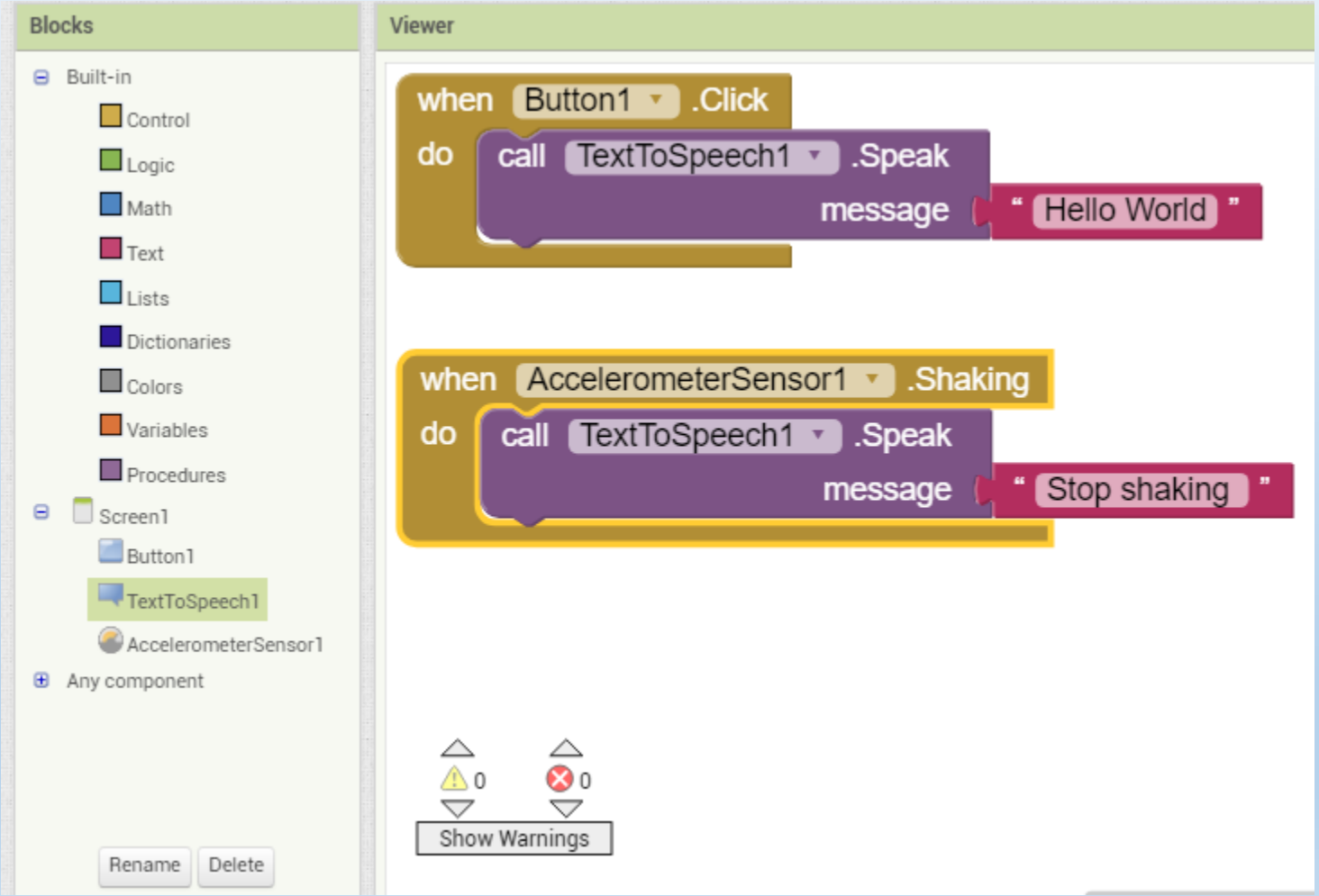
❑ Specify what the app should say



❑ Accelerometer Sensor

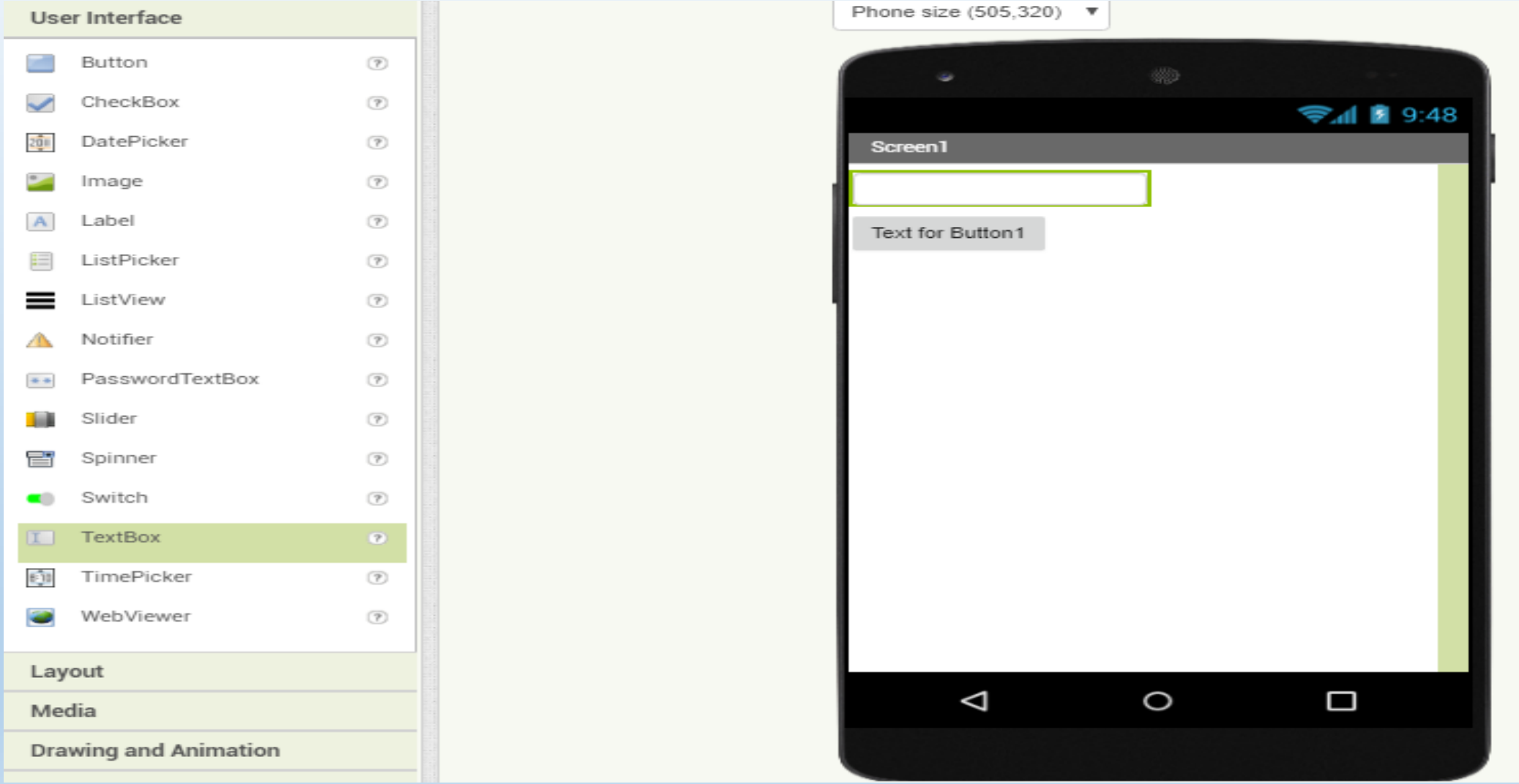


1- Click the AccelerometerSensor1 and Drag out the when accelerometerSensor1.Shaking do block.
2- Copy and paste the blocks that are currently inside the when Button1 then change the text to whatever you want.



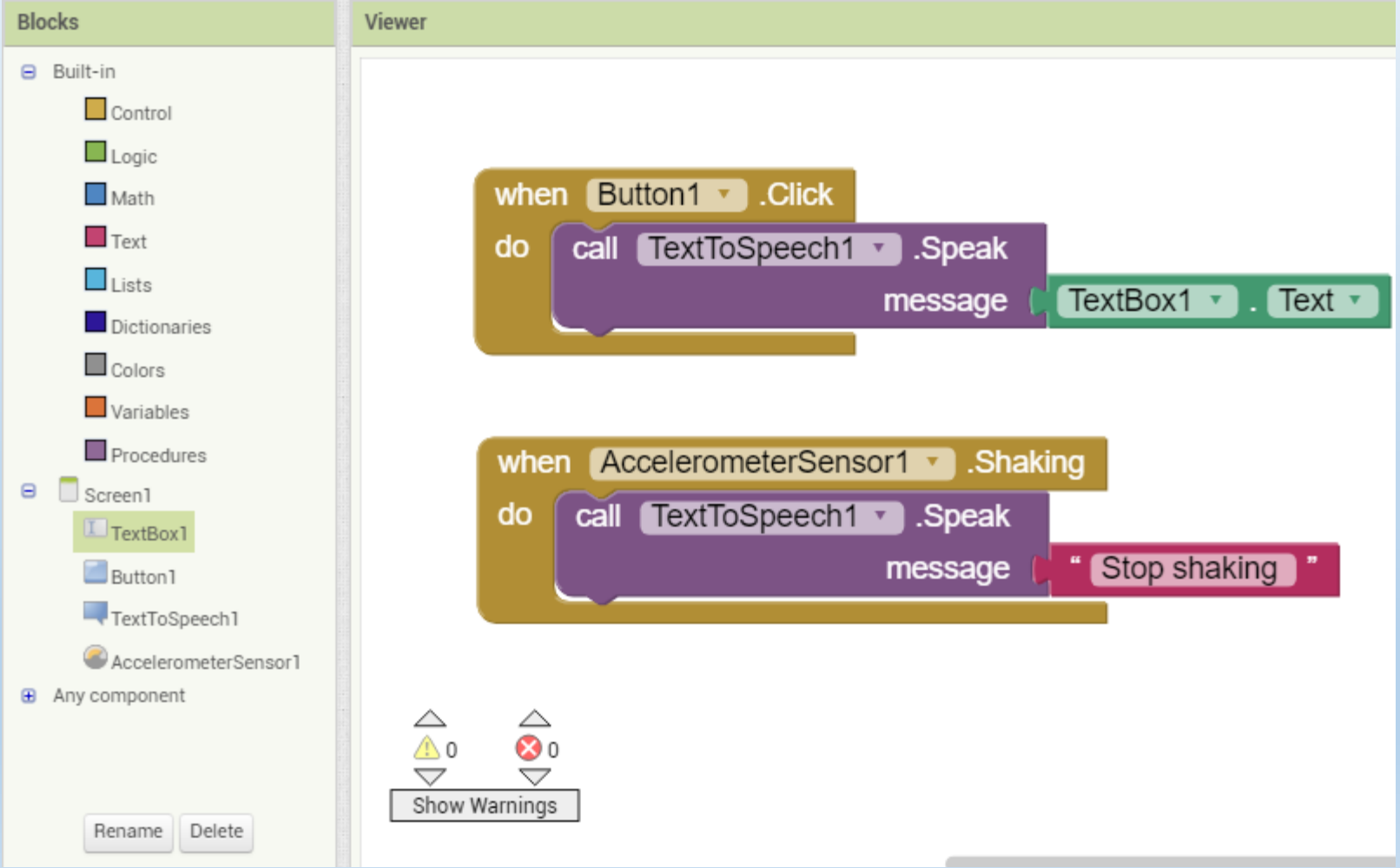
Text Box

Drag the text then click on Blocks



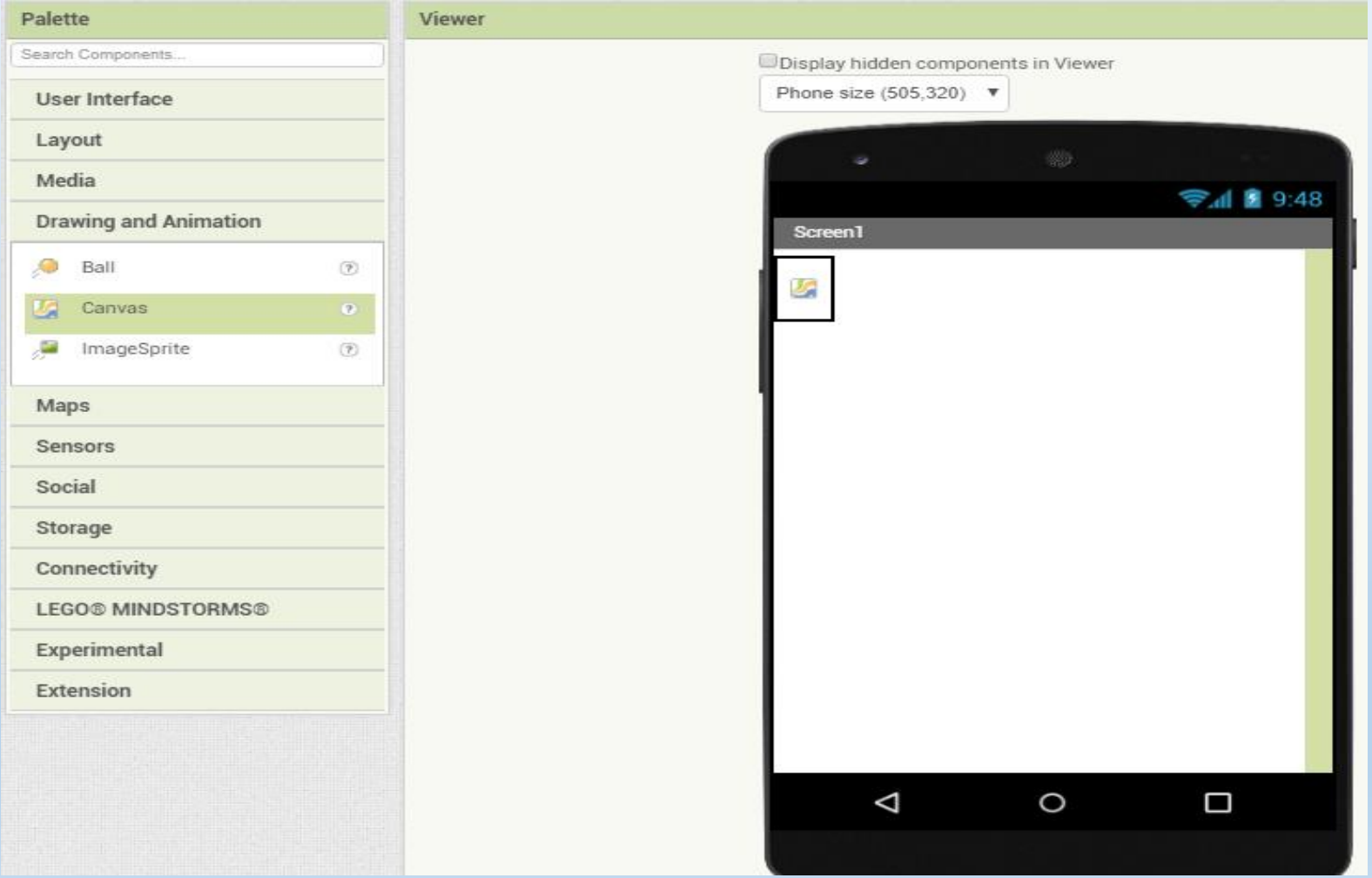
❑ Get the text property of the TextBox1.

The green blocks in the TextBox1 drawer are the "getters" and "setters" for the TextBox1 component. Replace the getter box with the text message.

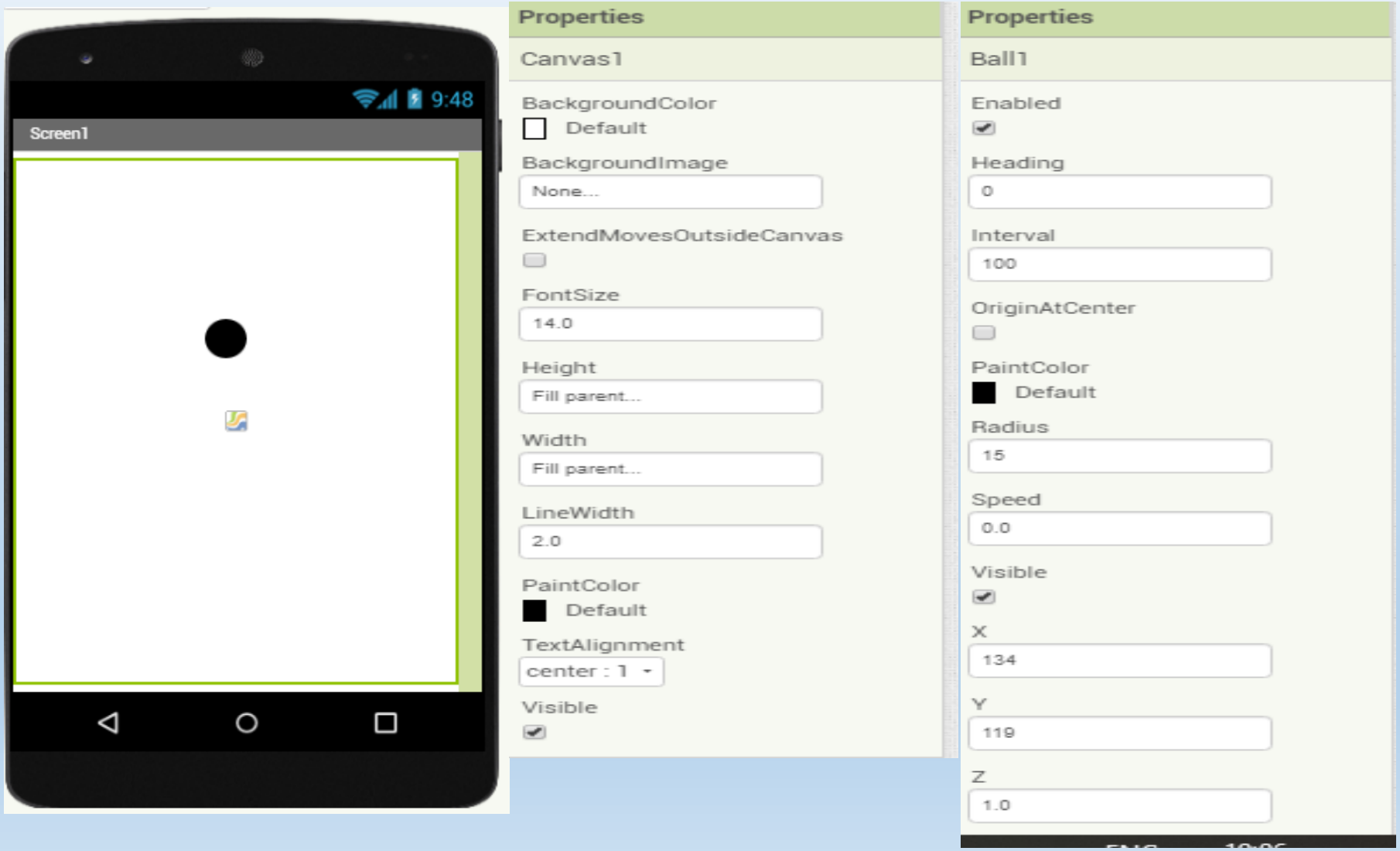


App2:Ball Bounce

From the Drawing and Animation drawer, drag out a Canvas component and drop it onto the viewer. Also uncheck scrollable so the screen doesn't scroll.

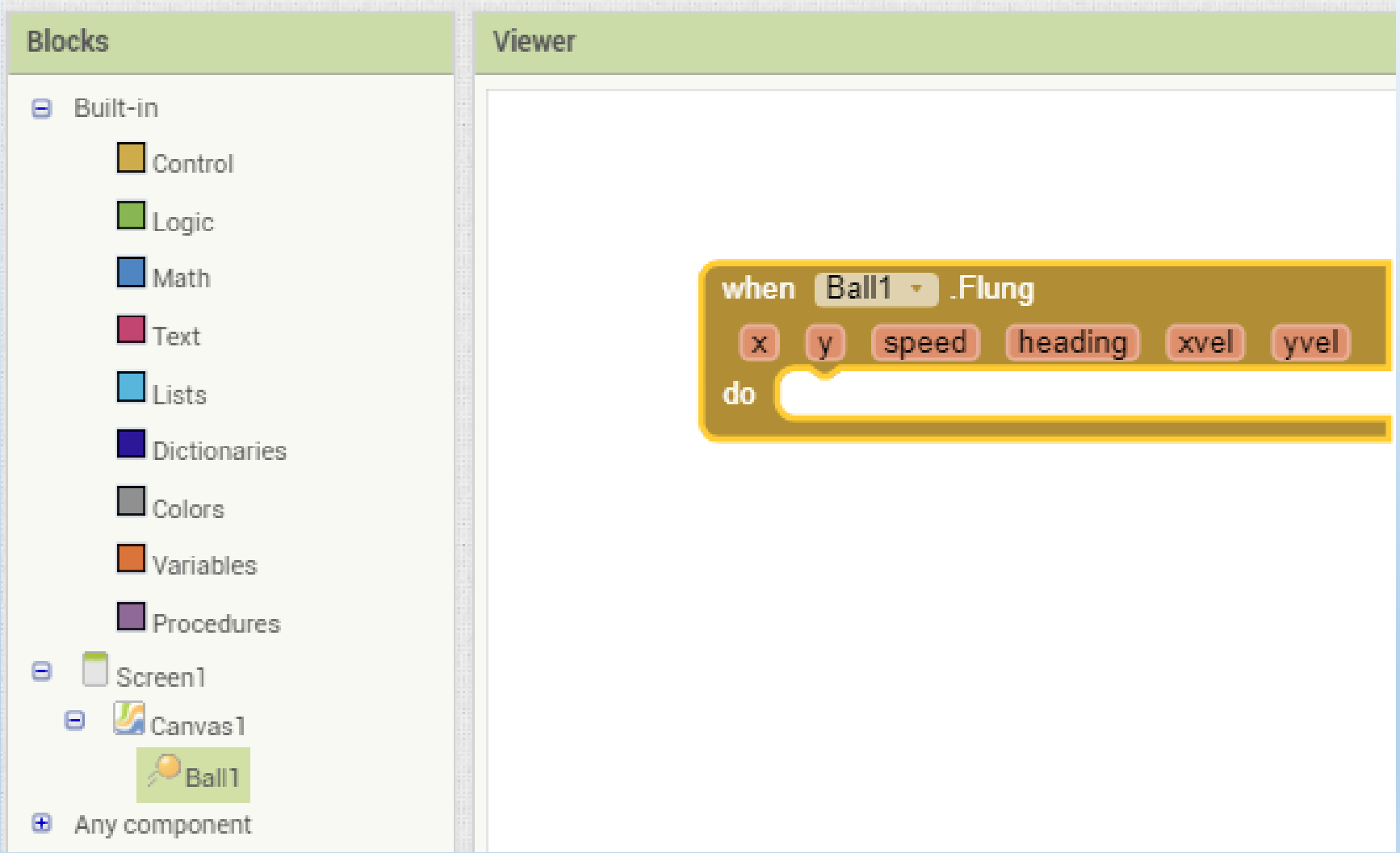


1- Set the Height property to "Fill Parent". Do the same with the Width property.
2- Drag out a Ball component and change its Radius property in the Properties pane.



❑ Open the Ball1 Drawer.

Drag out the Flung Event Handler



❑ Set the ball speed and heading :

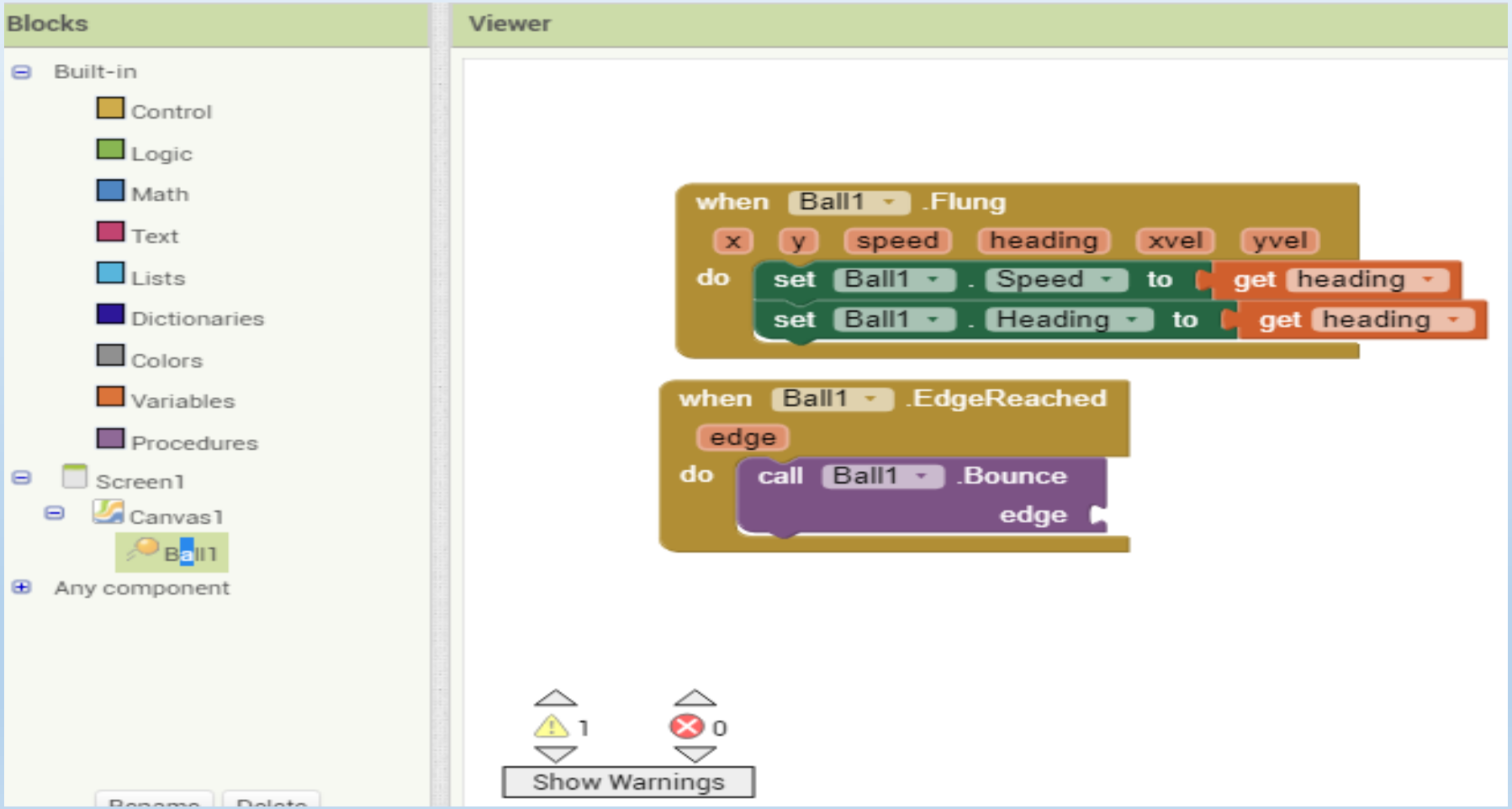
1- Click the ball blocks drag out set Ball1.Heading and set Ball1.Speed blocks.

2- Mouse over the "speed" parameter and get speed block and plug to ball1.Speed.

3-Mouse over the heading parameter and get heading block and plug it to ball1.Heading.

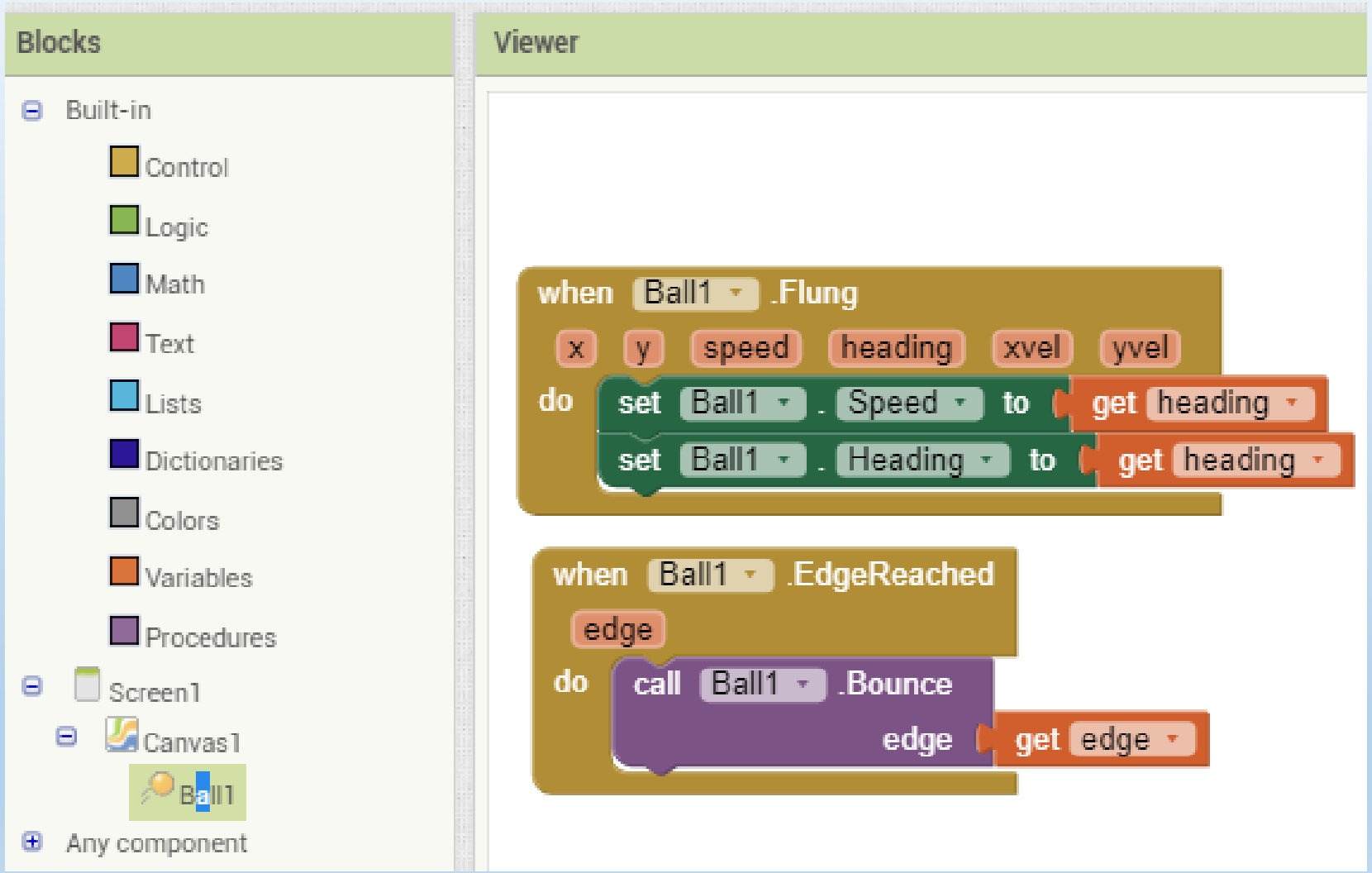
❑ Add an Edge

1-Drag out a when Ball1.EdgeReached do event
2- Scroll down Drag out Ball.Bounce block
3- Mouse over the heading parameter and drag get edge



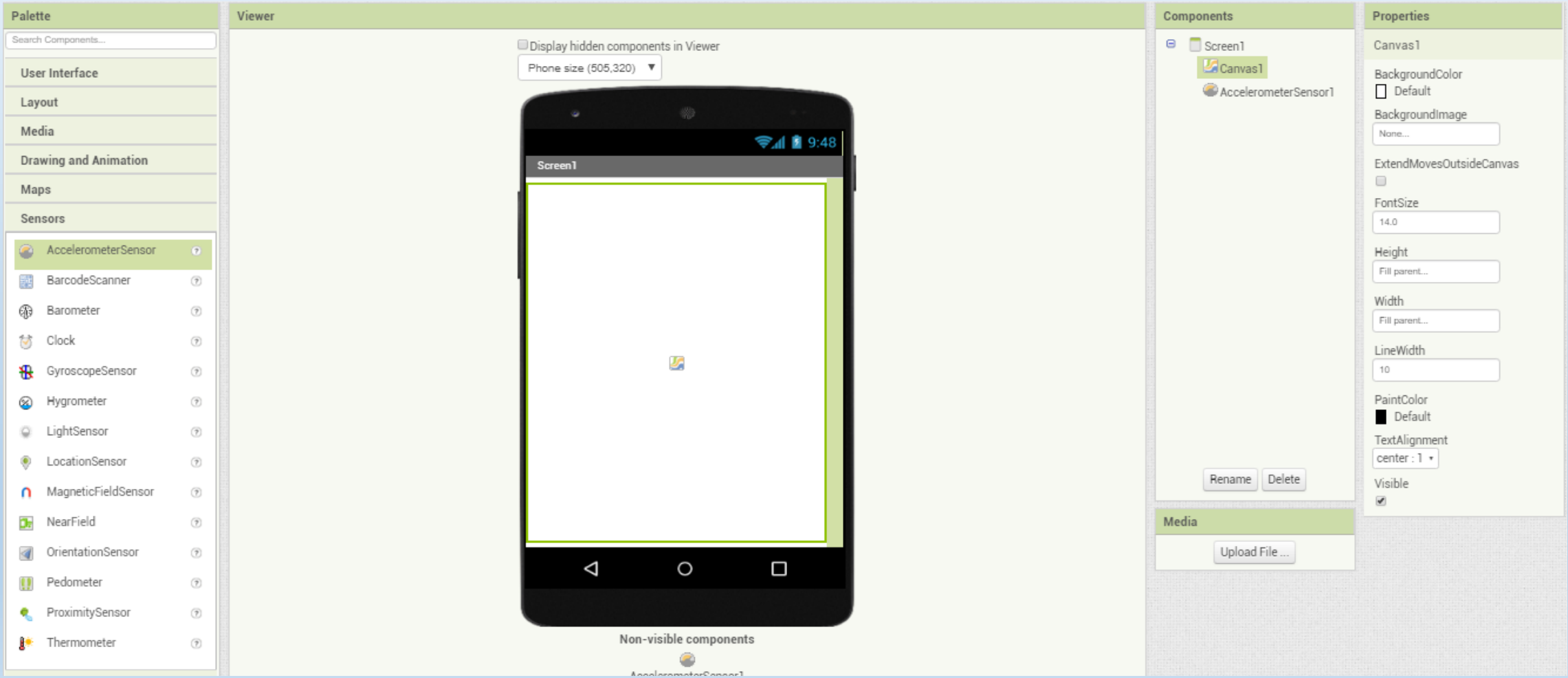
❑ Final step.

The blocks should look like this thee blocks below



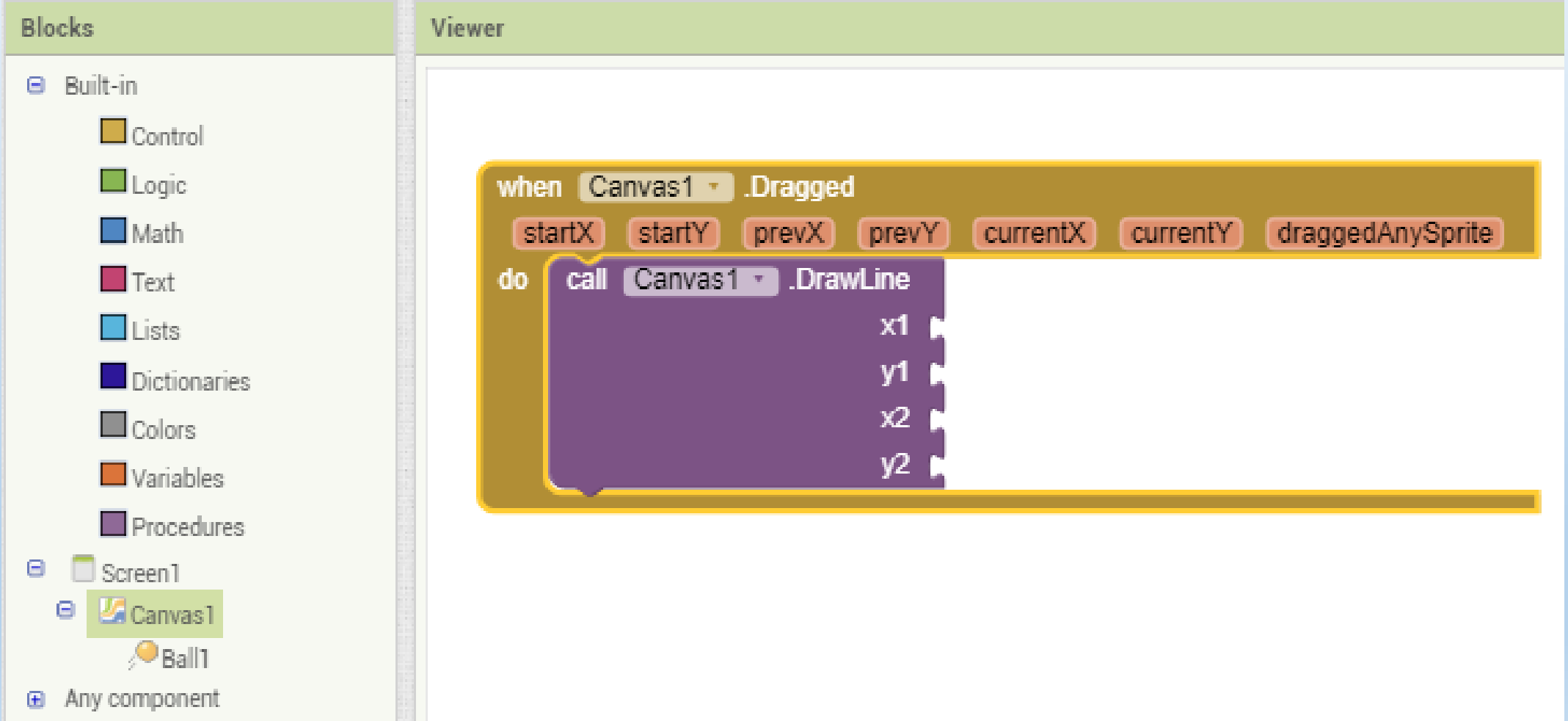
App3: Drawing App

1 - Drag out a Canvas and uncheck scrollable so the screen doesn't scroll
2 - Set the Height property to "Fill Parent". Do the same with the Width.
3 - Change LineWidth if you like. Also drag Accelerometer Sensor.



❑ Get a Canvas.Dragged event block

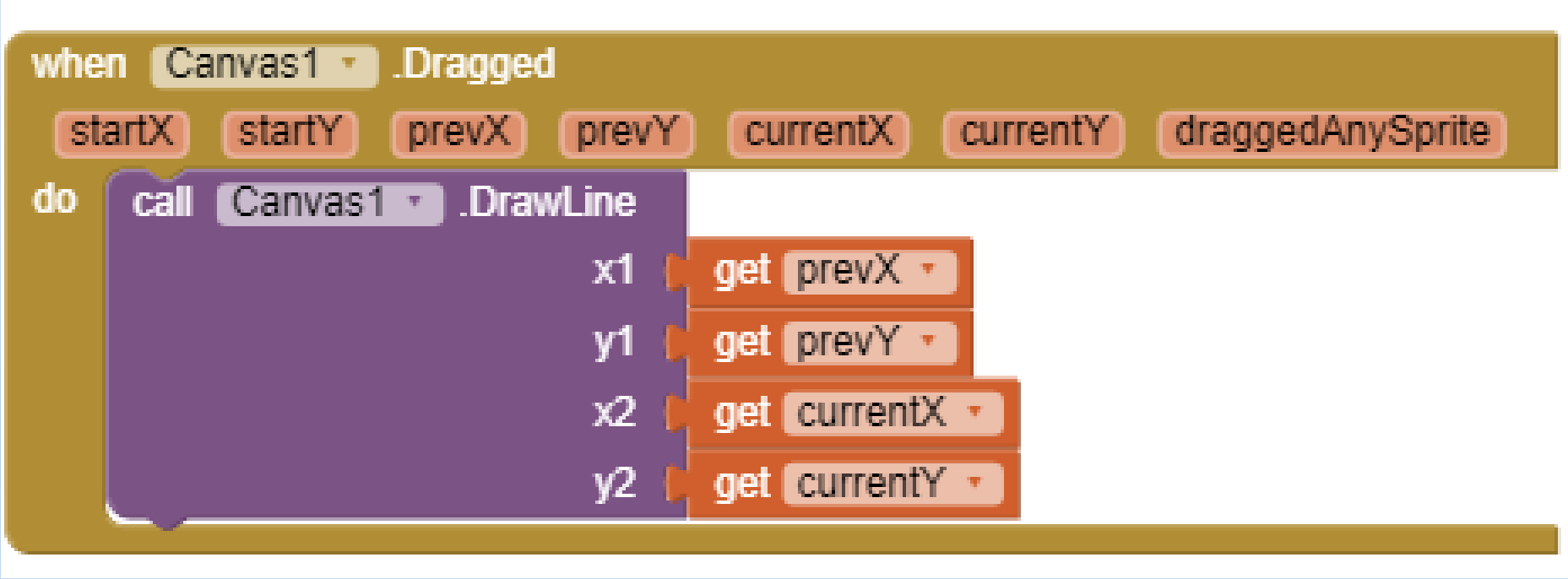
1- Pull out the when Canvas1.Dragged event
2- Scroll and pull out Call Canvas1.DrawLine



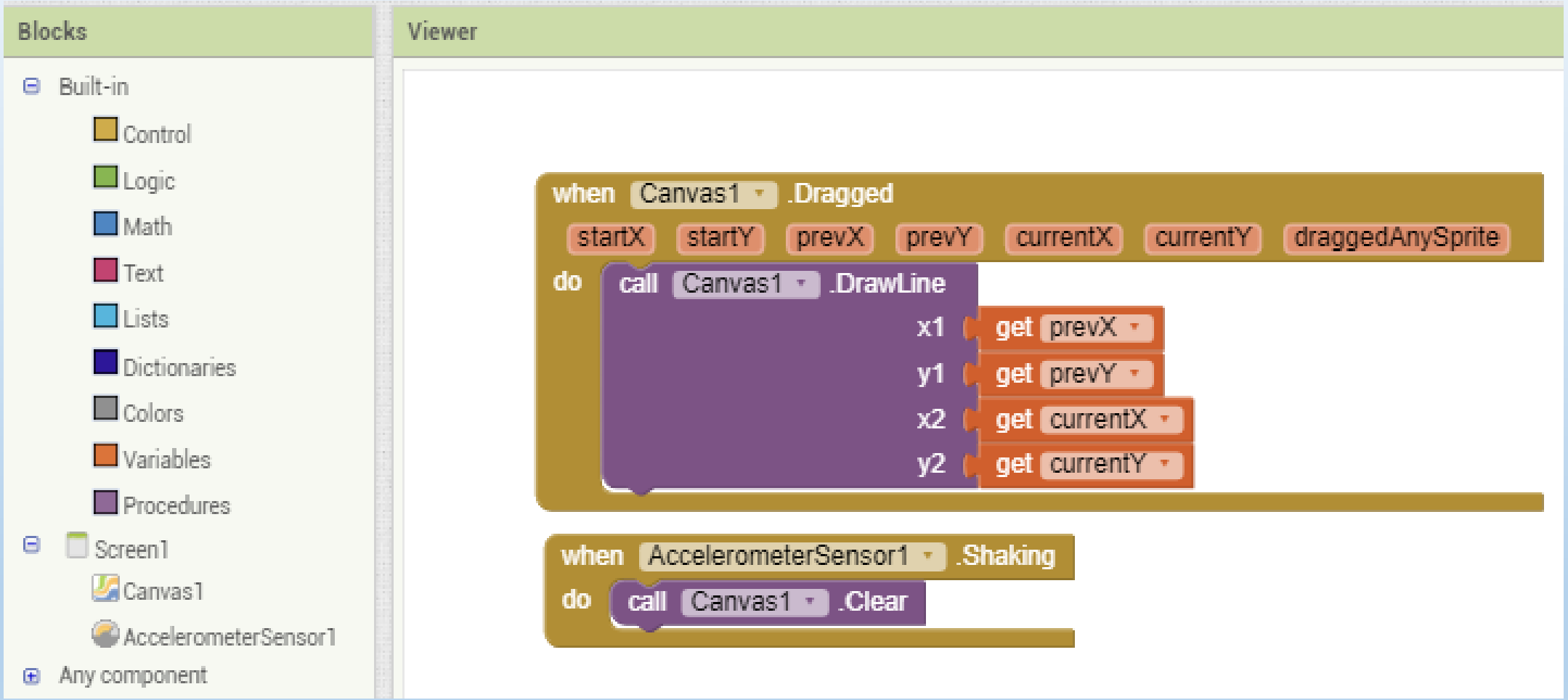
- **Use the get and set blocks to fill in the values for the Draw Line block.**

1- Each time that Dragged event block is called, it will draw a small line between the previous location (prevX, prevY) of the finger to the new location (currentX, currentY).

2- . Mouse over the parameters of the Canvas1.Dragged block to pull out the get blocks that you need.



❑ Clear the screen.



NEXT DAY

❖**Build Speech Recognition App:**

- Speech recognition.
- Get the Gold.

THANK YOU!