MIT App Inventor

English to Spanish translate!

An MIT App Inventor tutorial

Feat. Tim the beaver

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App overview: English to Spanish translate!

When you are done you and your friends will be able to use this app to:

- Type a word or phrase in English and translate it to written Spanish
- Have your phone read the translated text out loud in Spanish!

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Step 1: Signing in to App Inventor

Click the “Create apps!” button in the menu bar at the top of the MIT App Inventor Hour of Code page.

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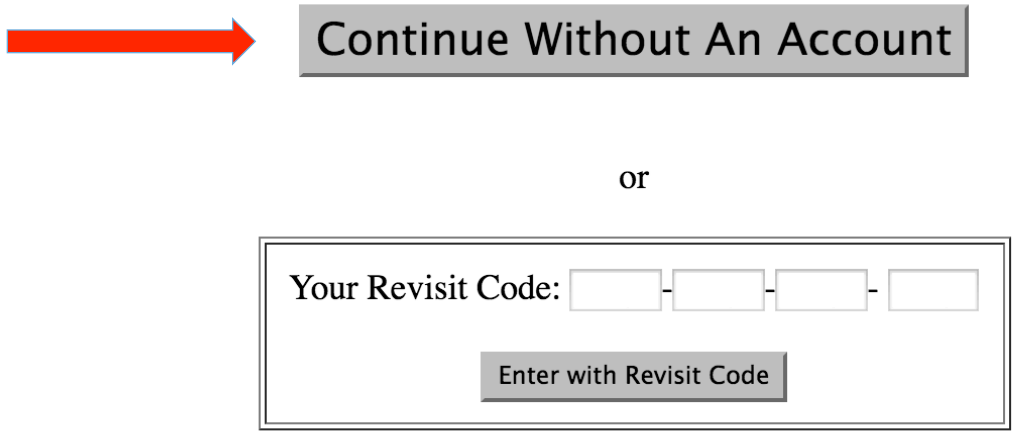
Step 1 continued

You can either Continue with an Account, and you will be given a Revisit Code to return to the site if you wish.



Or you can sign in if you have a Google account. Your projects will be saved with your account id.

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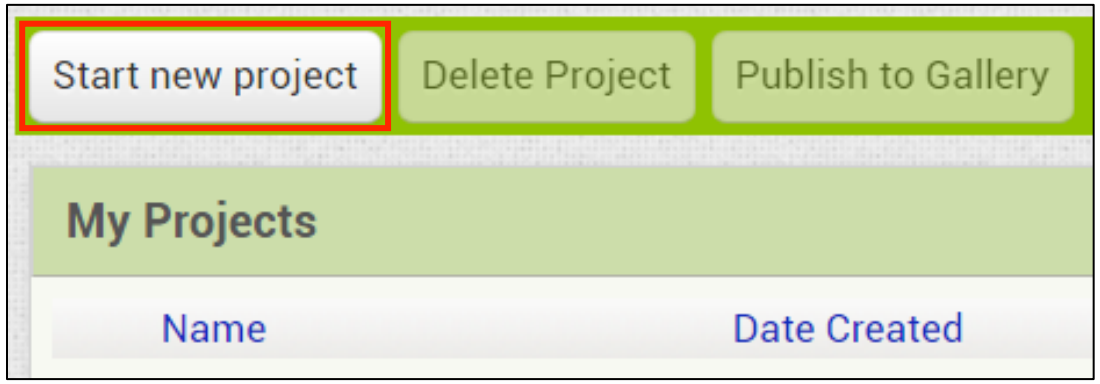
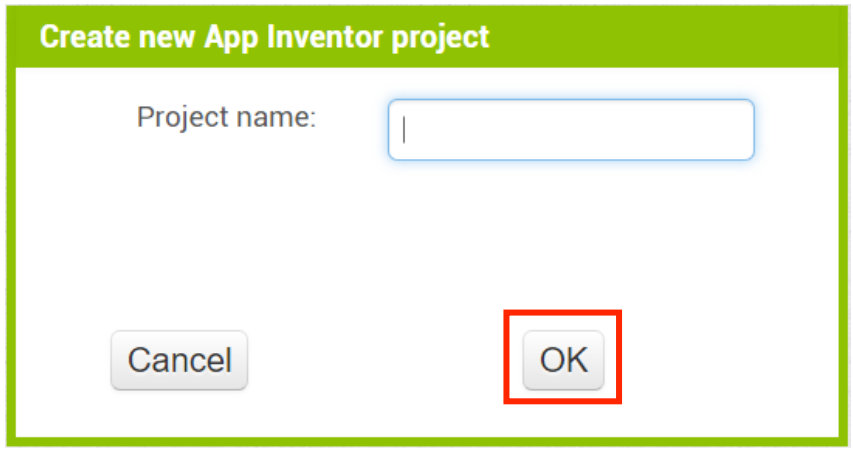
Step 2: Creating a new project

Click “Start a new project” in the upper left corner…



For this tutorial you can call your app “EnglishSpanish Translate”

…give it a name and click “OK” to get started!



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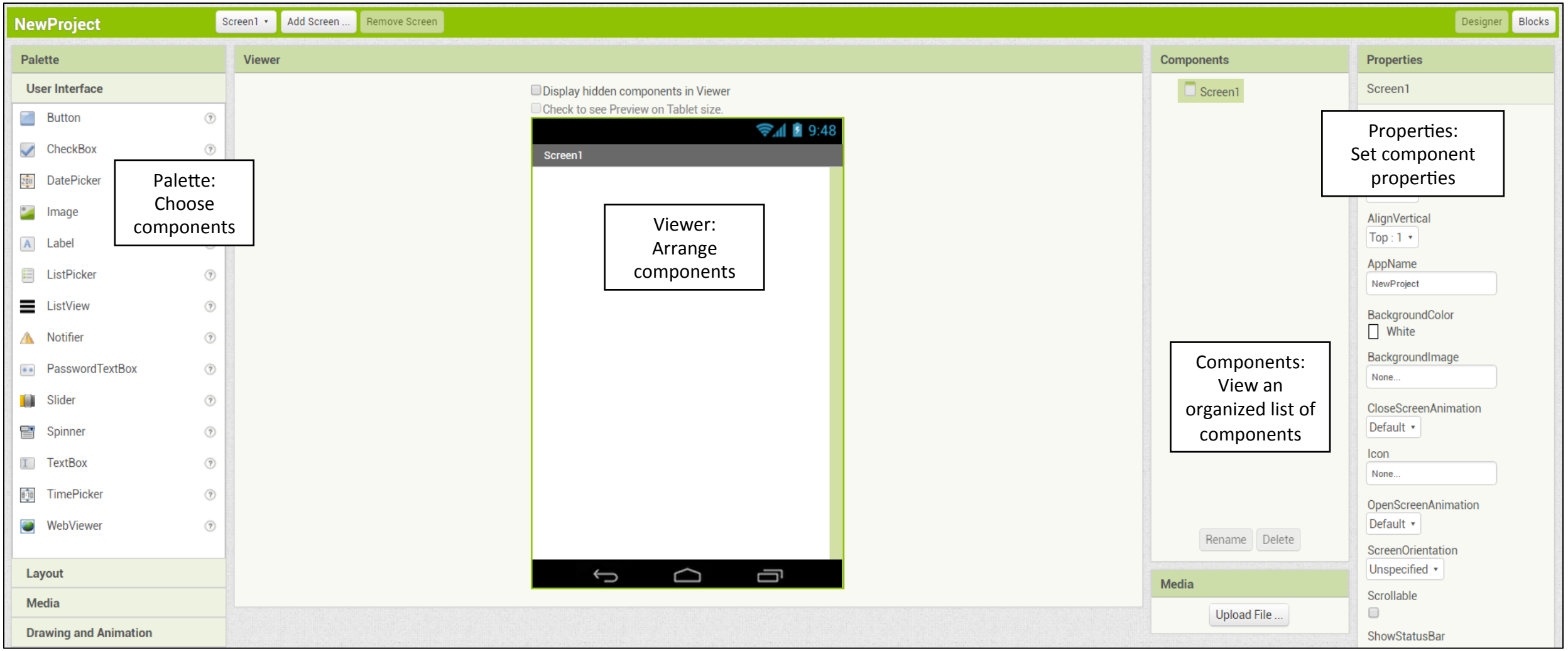
Step 3: Familiarize yourself with the designer window



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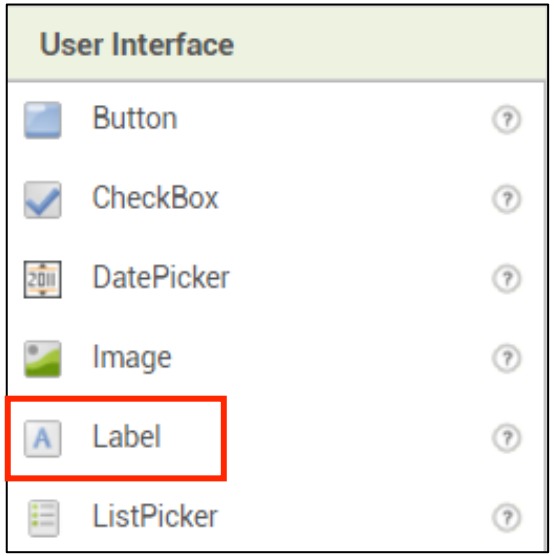
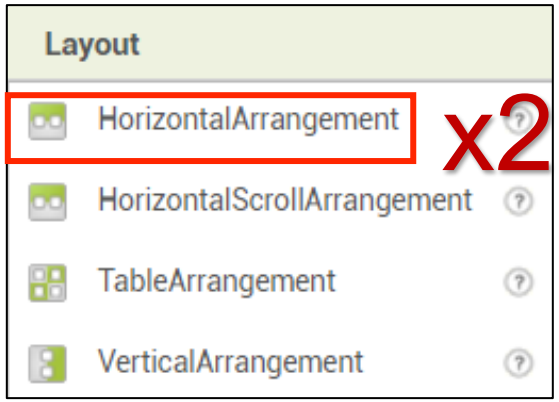
Step 4: Add components!

First, we will build the app's layout by adding three components—a Label, and two HorizontalArrangements. Find these components in the Palette and drag and drop them onto the Viewer.





Components are the building blocks of App Inventor apps!

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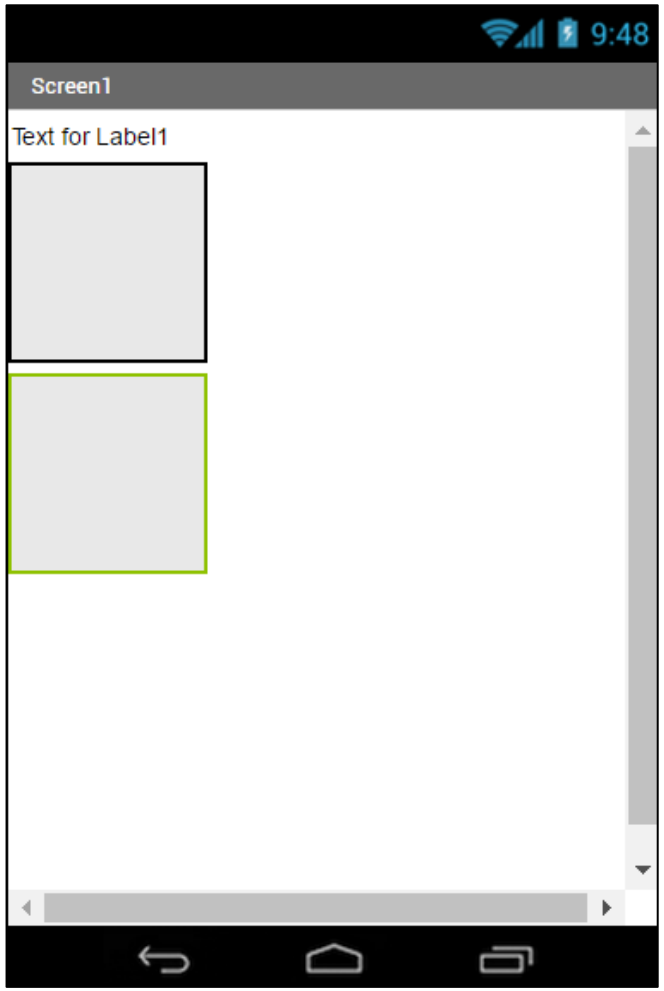
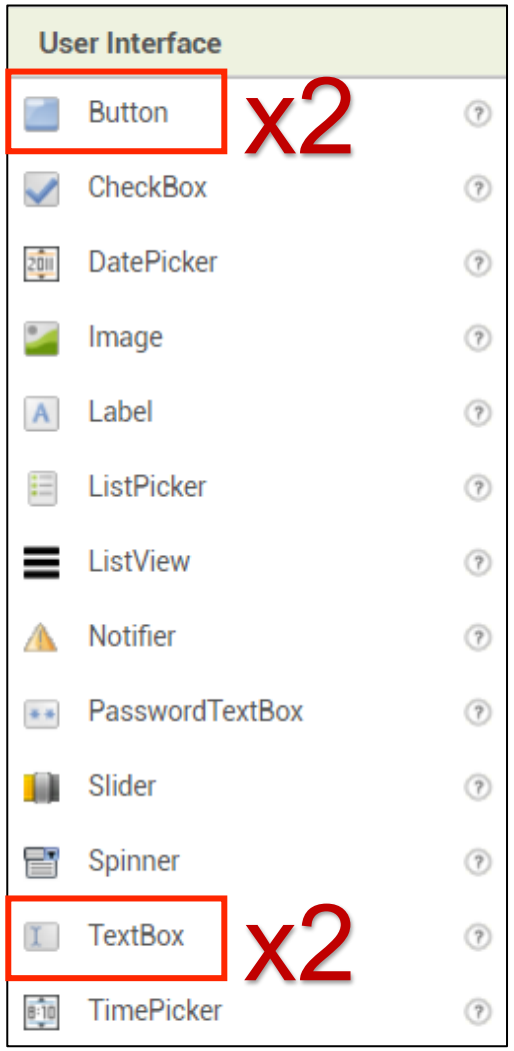
Your screen should now look like this:

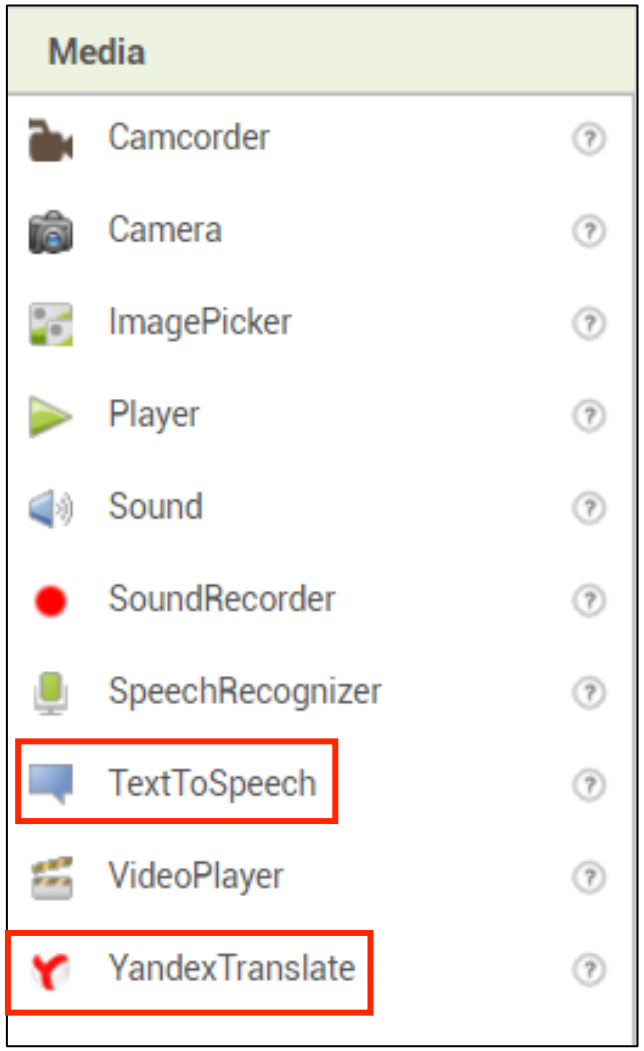


Make sure to arrange the components so that the Label is on top of the HorizontalArrangements!

Step 4 continued

Now we will add the rest of the components. We will need six more in total—two TextBoxes, two Buttons, one YandexTranslate, and one TextToSpeech. Find these components in the Palette and place them in the viewer—don't worry about where you put them for now!





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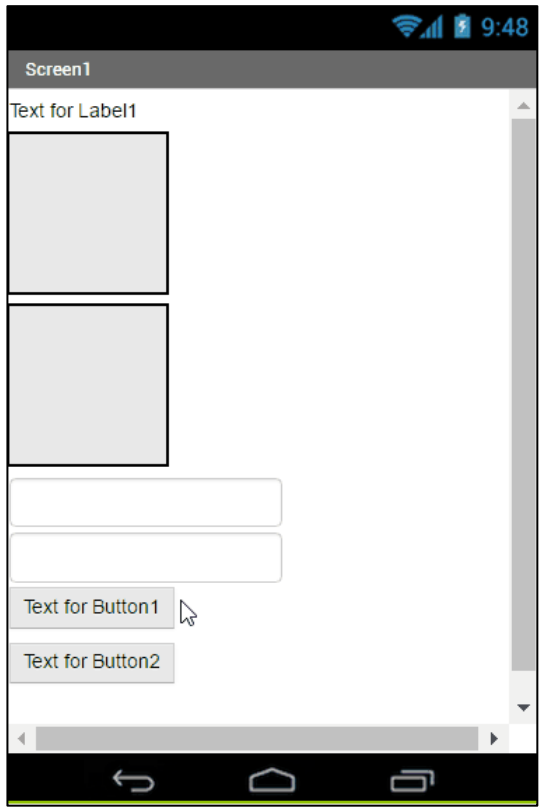
Step 4 continued: Layout

Place the two TextBox components side by side in the uppermost HorizontalArrangement. Do this by dragging and dropping in the Viewer.



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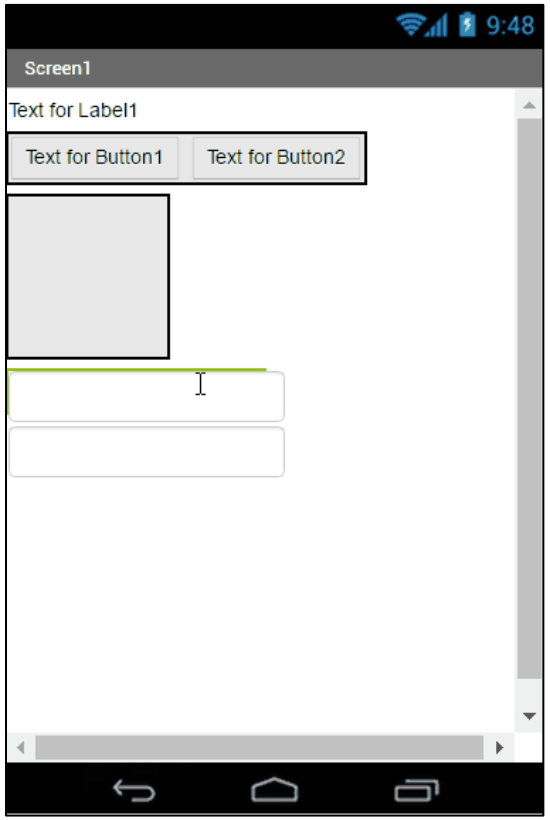
Step 4 continued: Layout

Place the two Button components side by side in the lower HorizontalArrangement in the same way you placed the Buttons.



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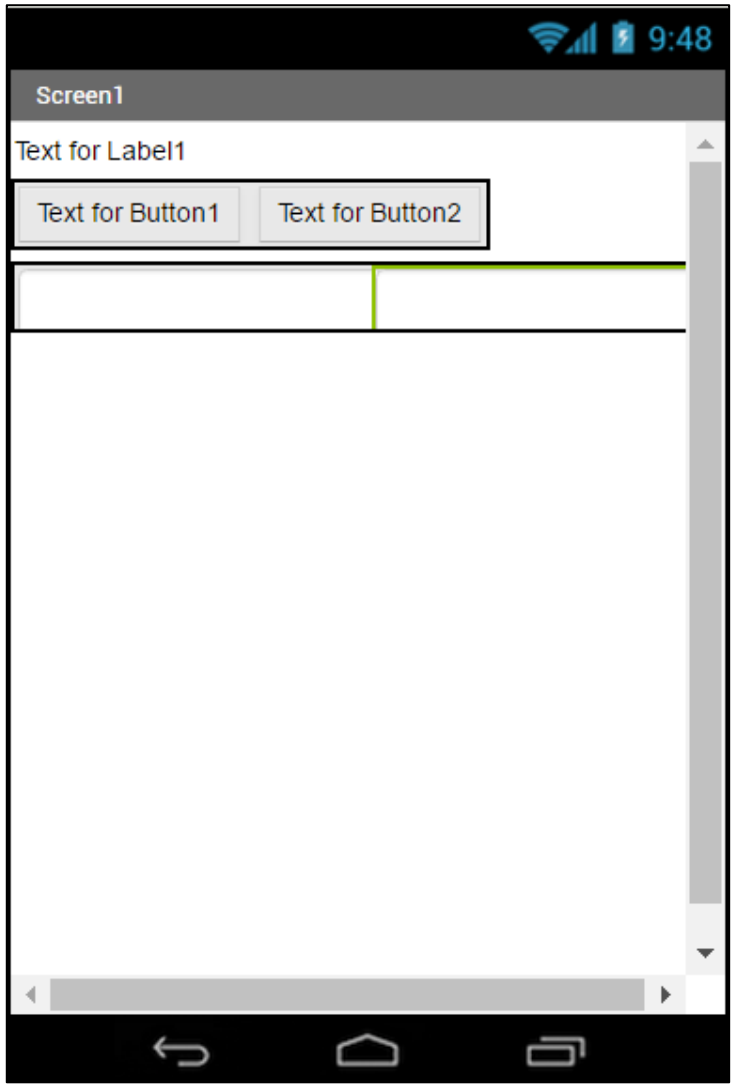
Your screen should now look like this:



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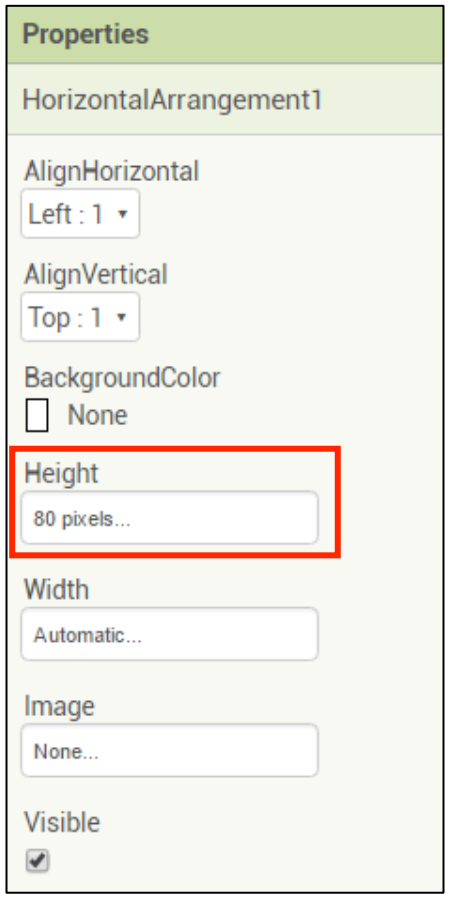
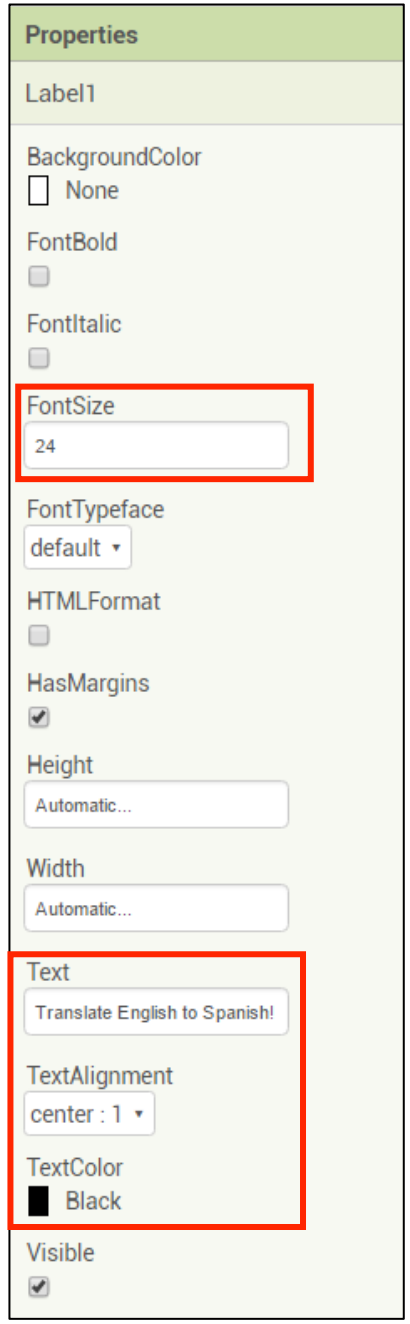
Step 5: Set properties

Now we will change some component properties to start truly building our app! To view and change a component's properties, find it in the "Components" list and click on it.



First, select the uppermost HorizontalArrangement and set its height to 80 pixels

Then select "Label1" and set "FontSize" to 24.
Also set "Text" to "Translate English to Spanish!" and "TextAlignment" to center.
If you'd like, you can also change "TextColor" to a color of your choosing!



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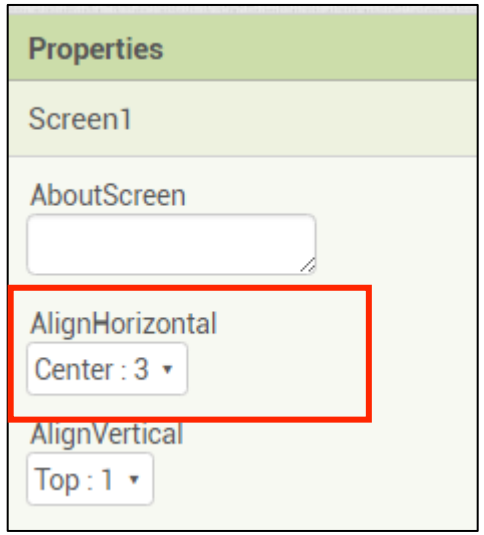
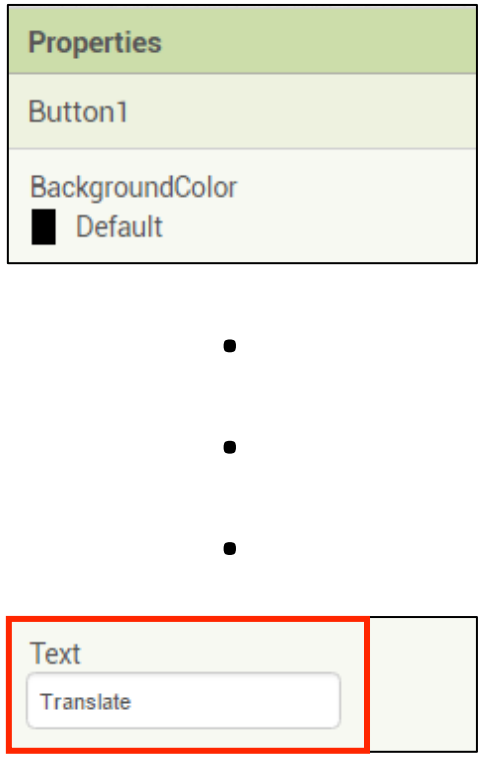
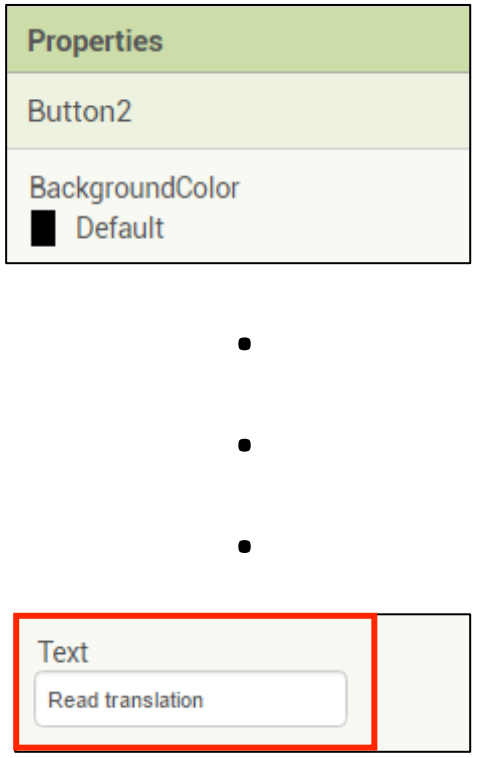
Step 5: continued

Now we just a few more properties to set—centering the screen and adding text to both of our buttons! First, set “Text” of Button1 to “Translate” and “Text” of Button2 to “Read translation.” Then click on “Screen1” and set “AlignHorizontal” to “Center”







Double-check your properties to make sure you don’t miss anything!

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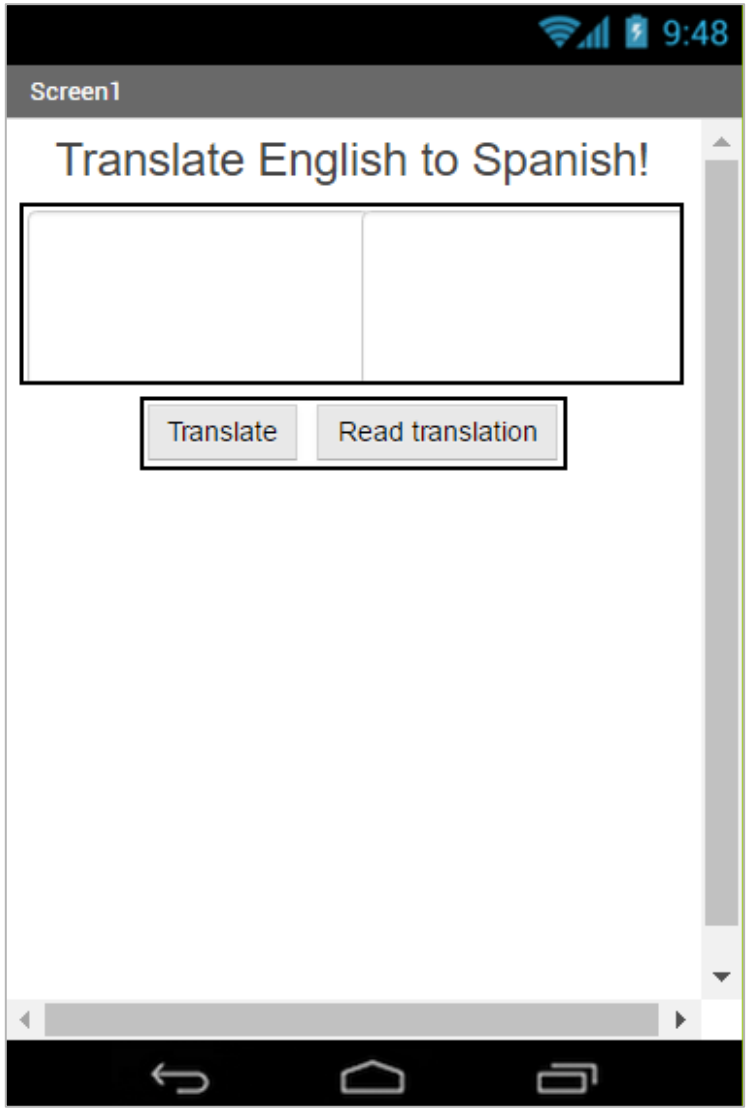
Your screen should now look like this:



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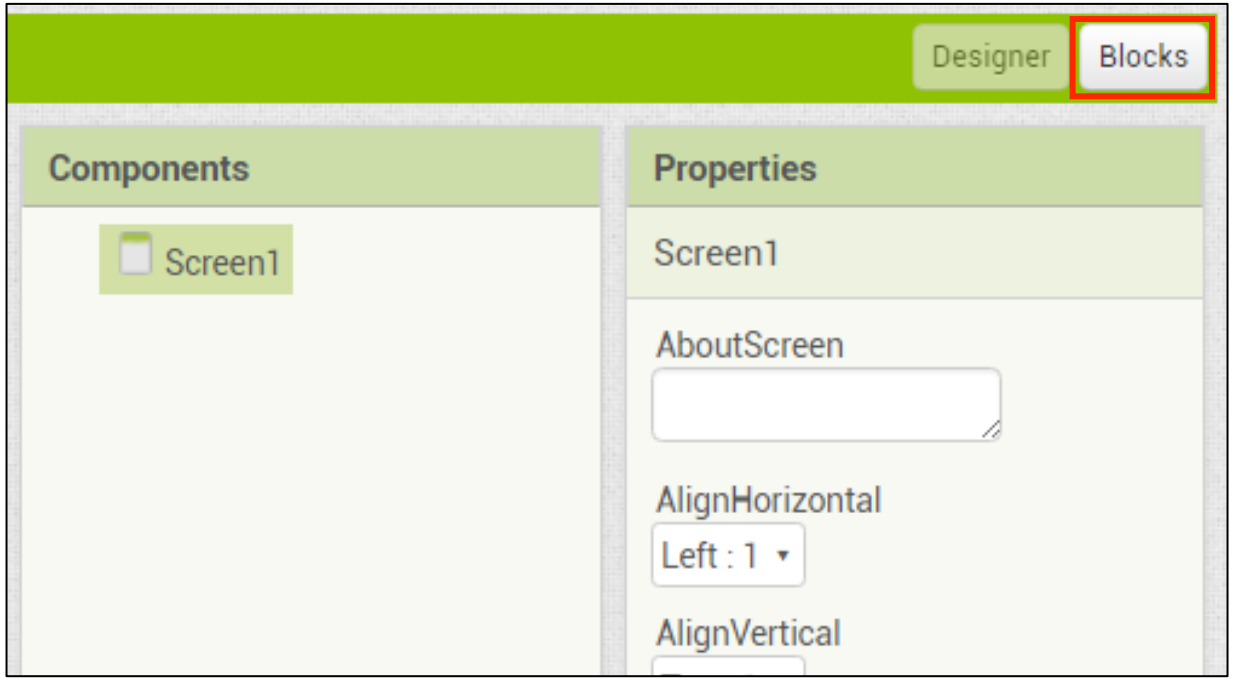
Step 7: Switch to the blocks window to write code!

Now that all components have been added to the app, we will write code to tell the app what to do with them! To do so, switch to the Blocks Editor window by clicking the “Blocks” button in the upper right corner.



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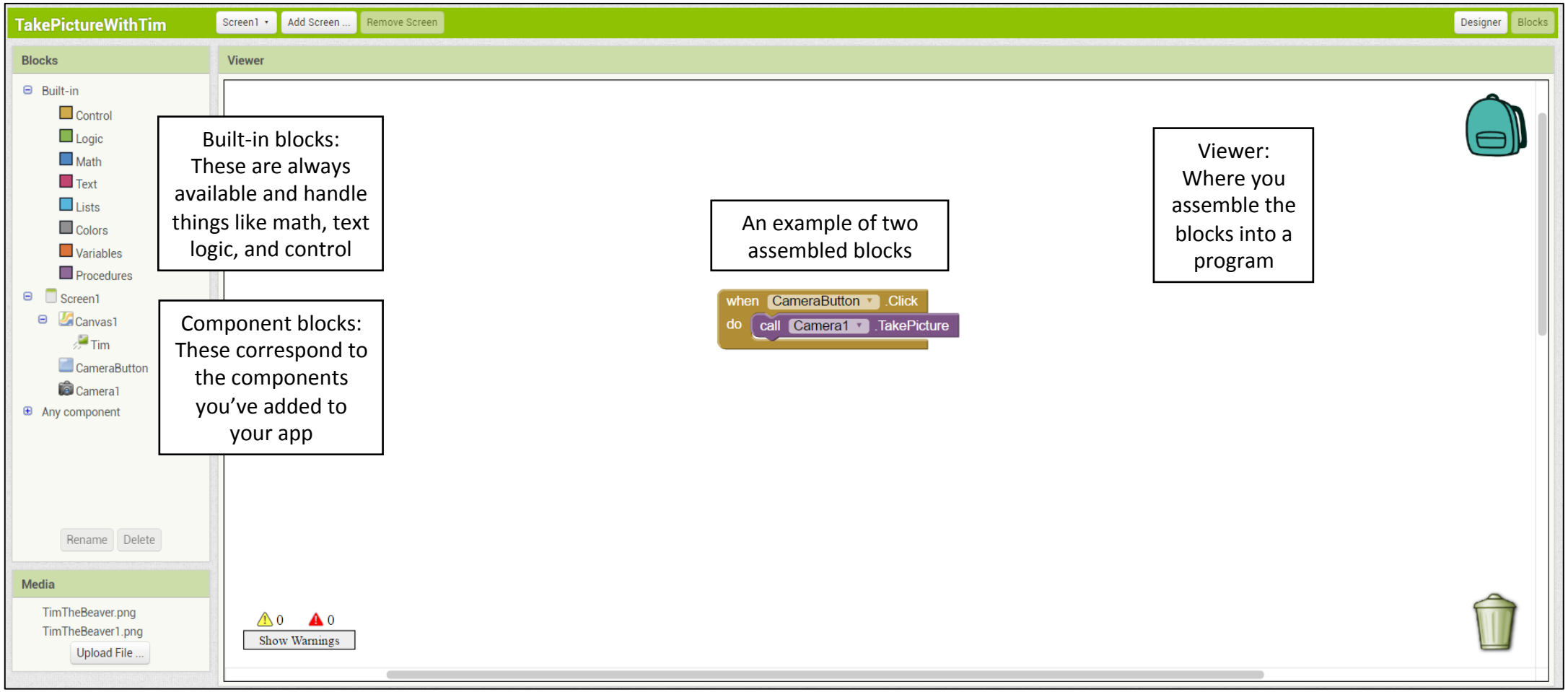
Step 7 continued: Get to know the Blocks Editor window



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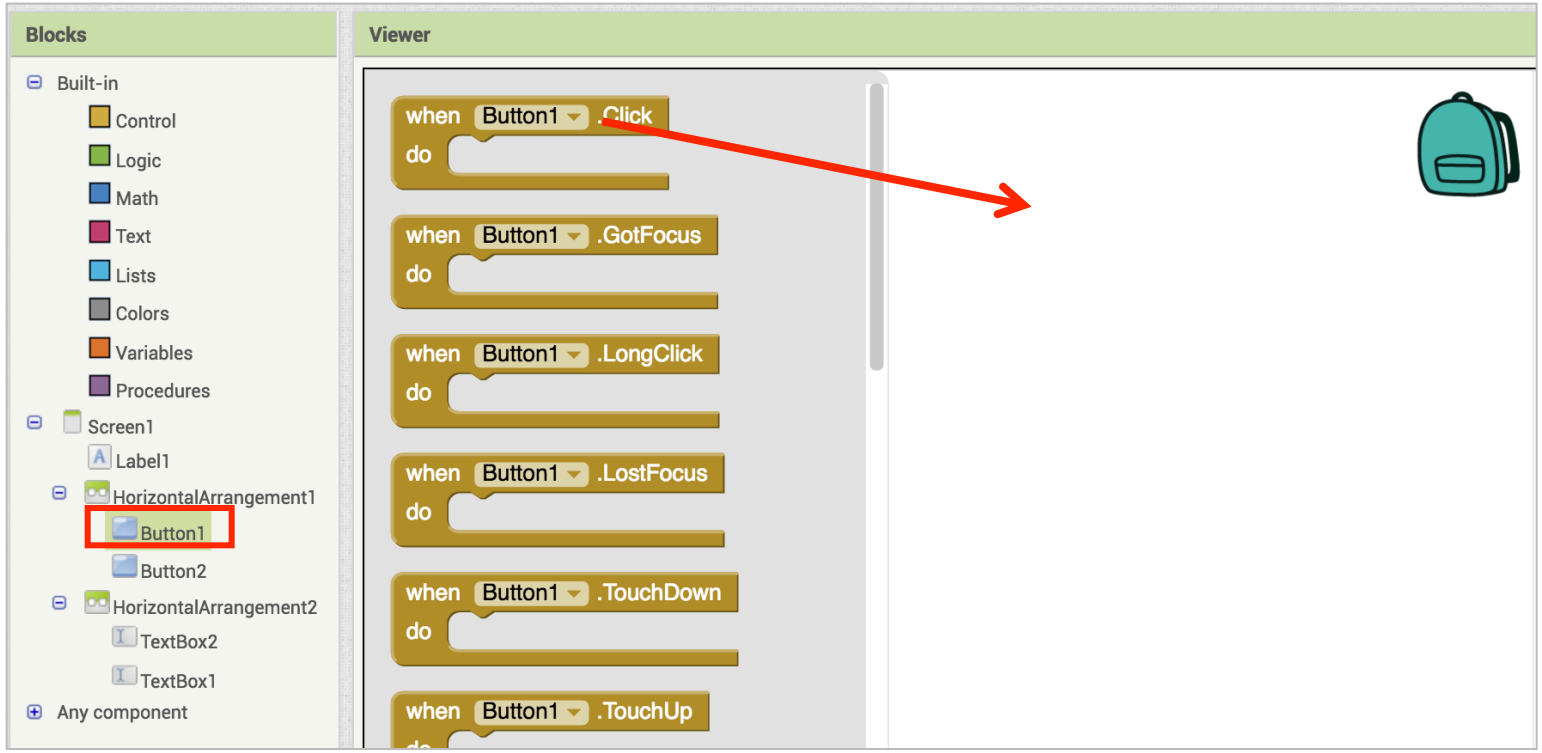
Step 8: Start coding!

When Button1 is clicked—the English input text should be translated into Spanish. We write code to do that now.



First, find Button1 under Screen1, click on it, and drag out a "when Button1.Click" block

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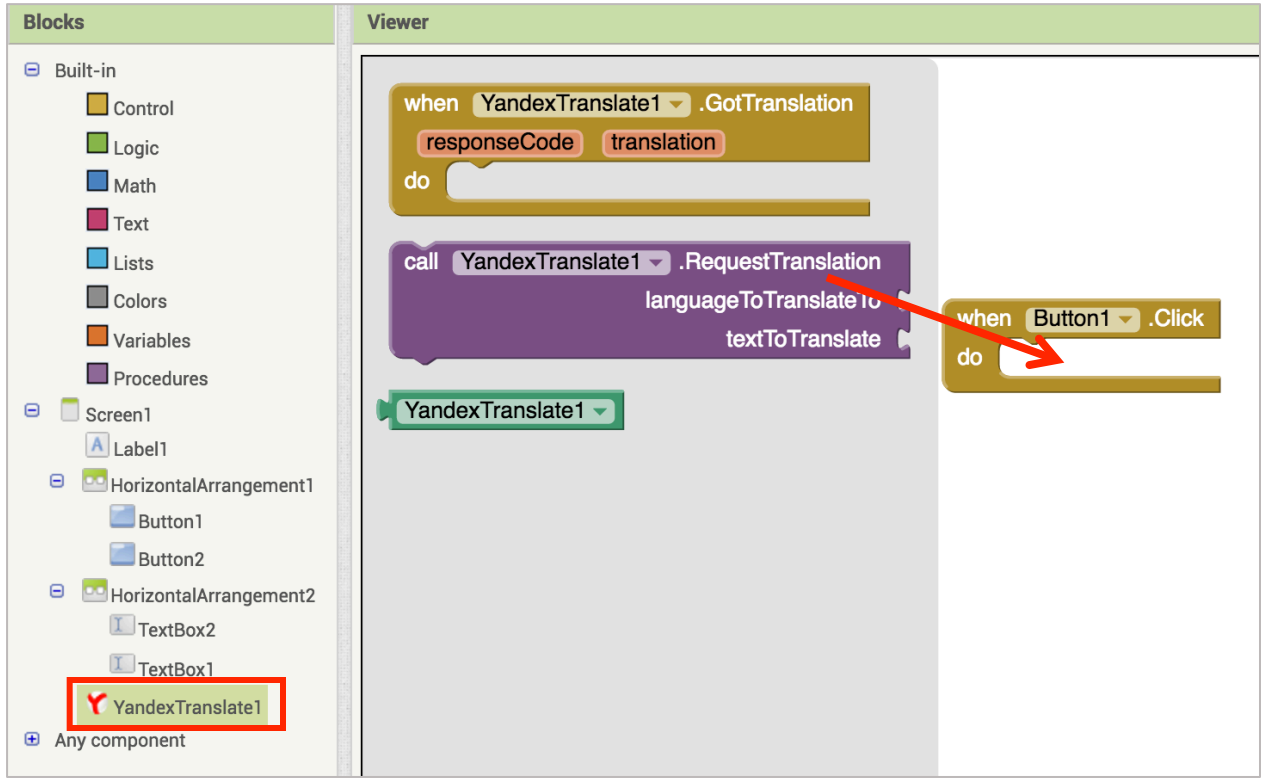
Step 8 continued

Now we need to add a block to call YandexTranslate and tell it to translate the text in Textbox1 to Spanish, which has the language code “es”



Find YandexTranslate under Screen1 and grab a “call YandexTranslate1.RequestTranslation” block. Snap it into place in the “when” block.

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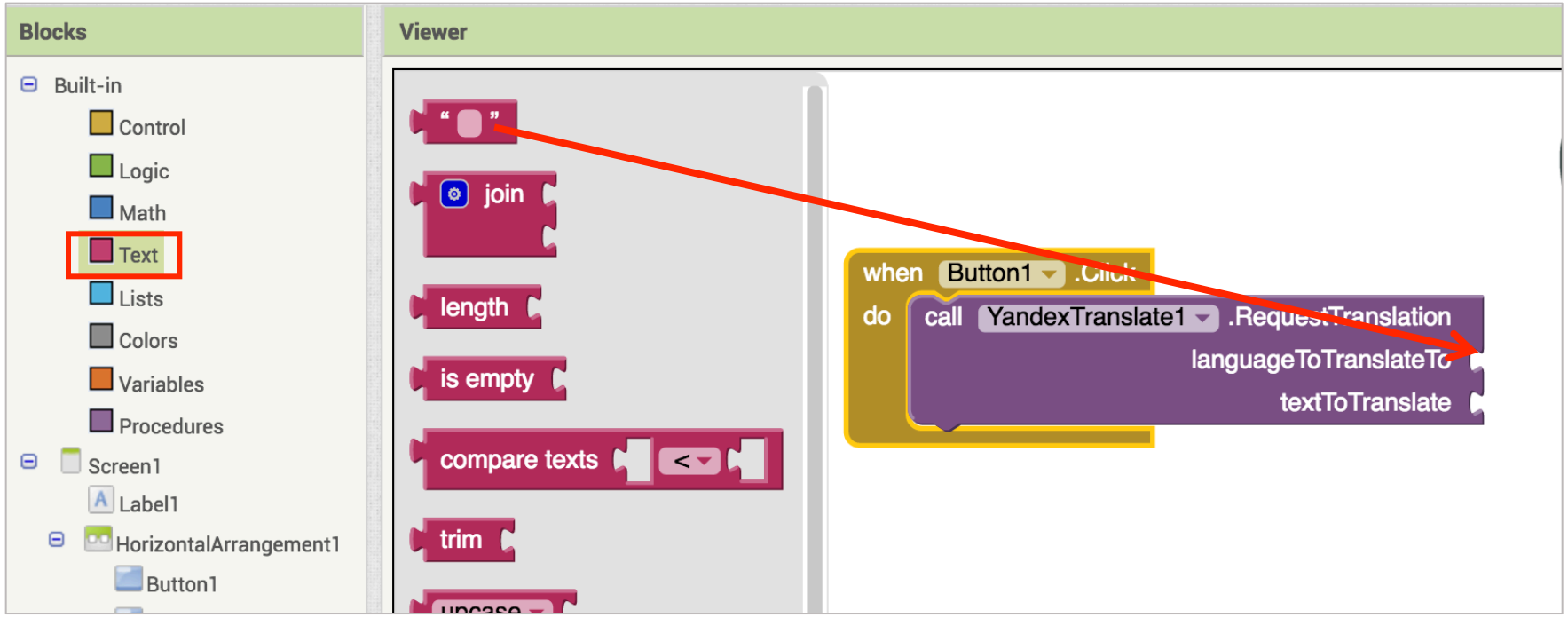
Step 8 continued

Click on Text and grab an empty text block.
Click on it and type “es” then lock it into place.



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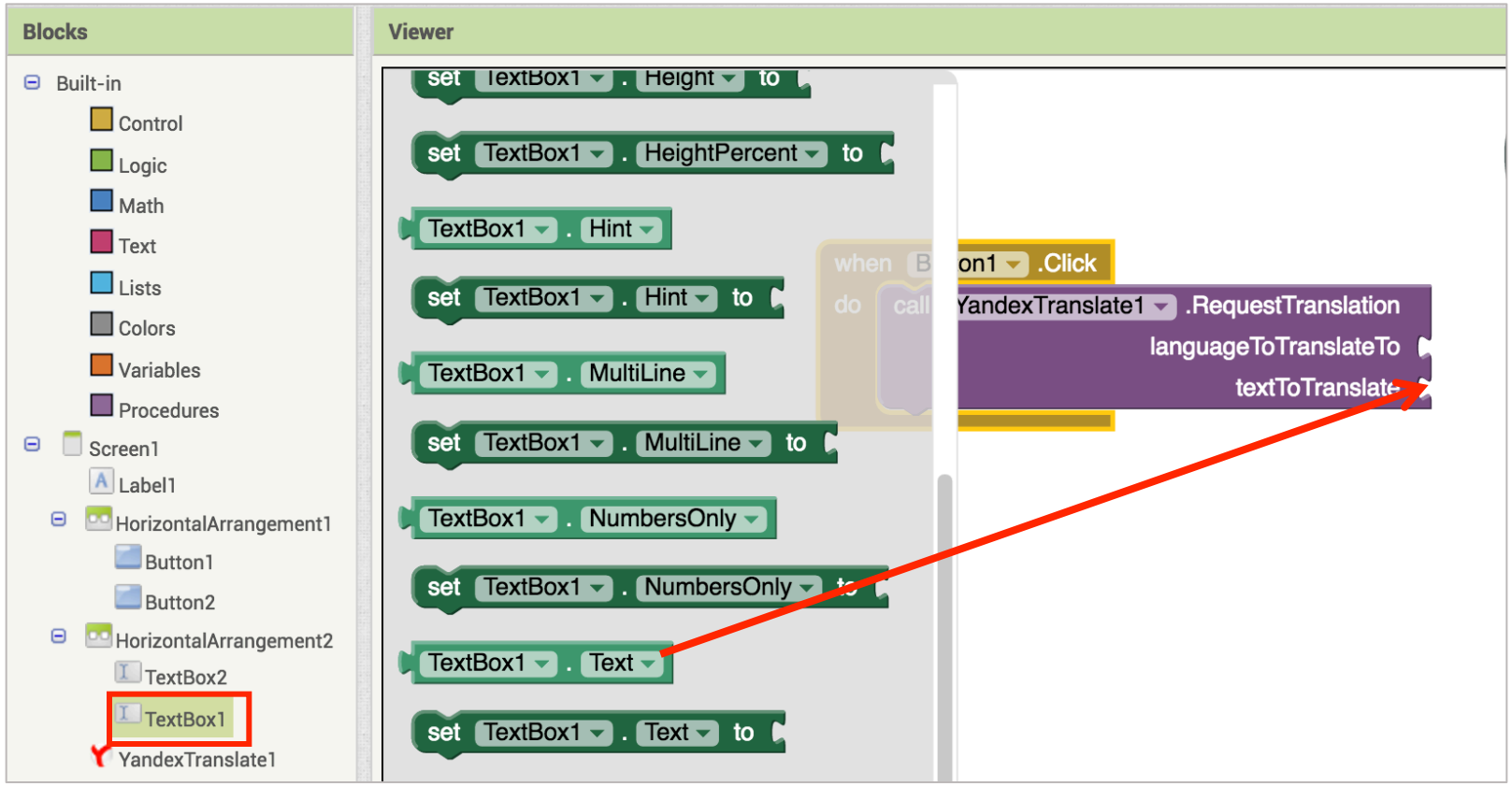
Step 8 continued

Then click on TextBox1 and pull out a “Textbox1.Text” block.
Snap it into place below the “es” block for the textToTranslate!



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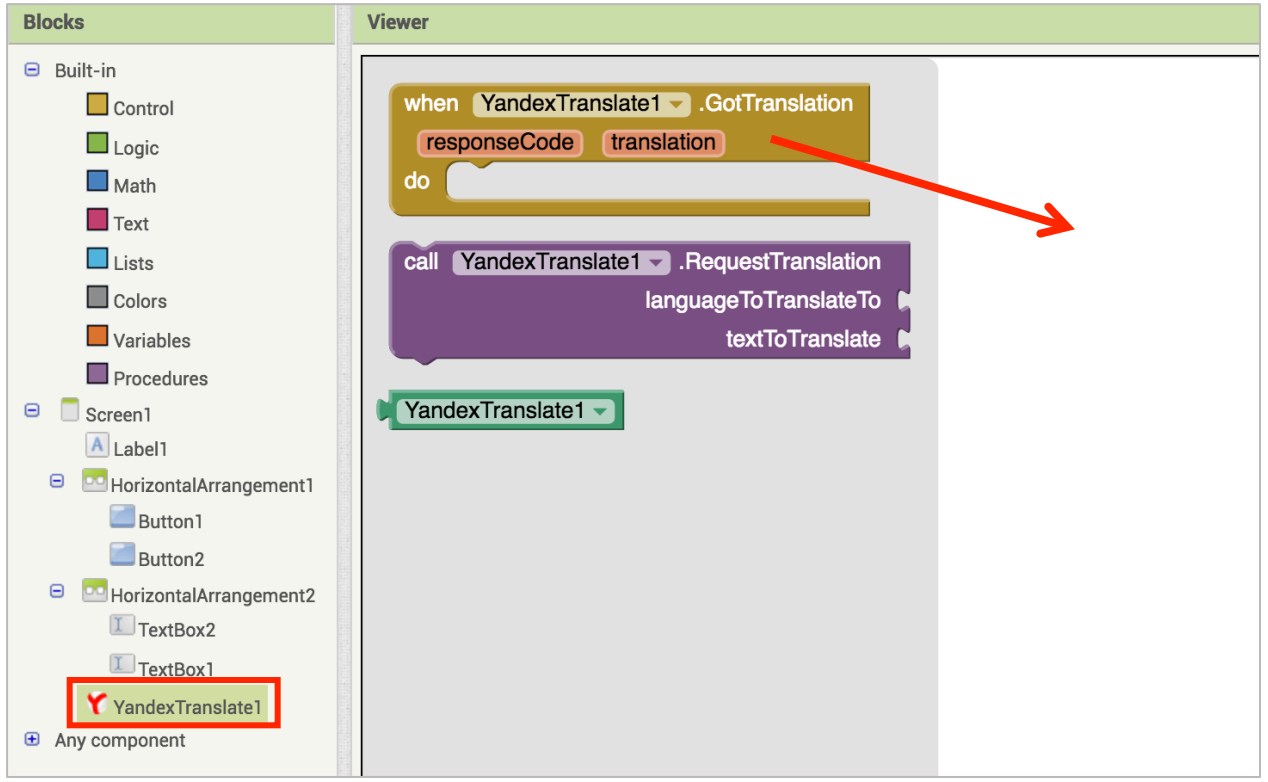
Step 8 continued

After the text has been translated, we would like to write the translation in TextBox2!



Find YandexTranslate under Screen1 and grab a “when YandexTranslate1.GotTranslation” block.

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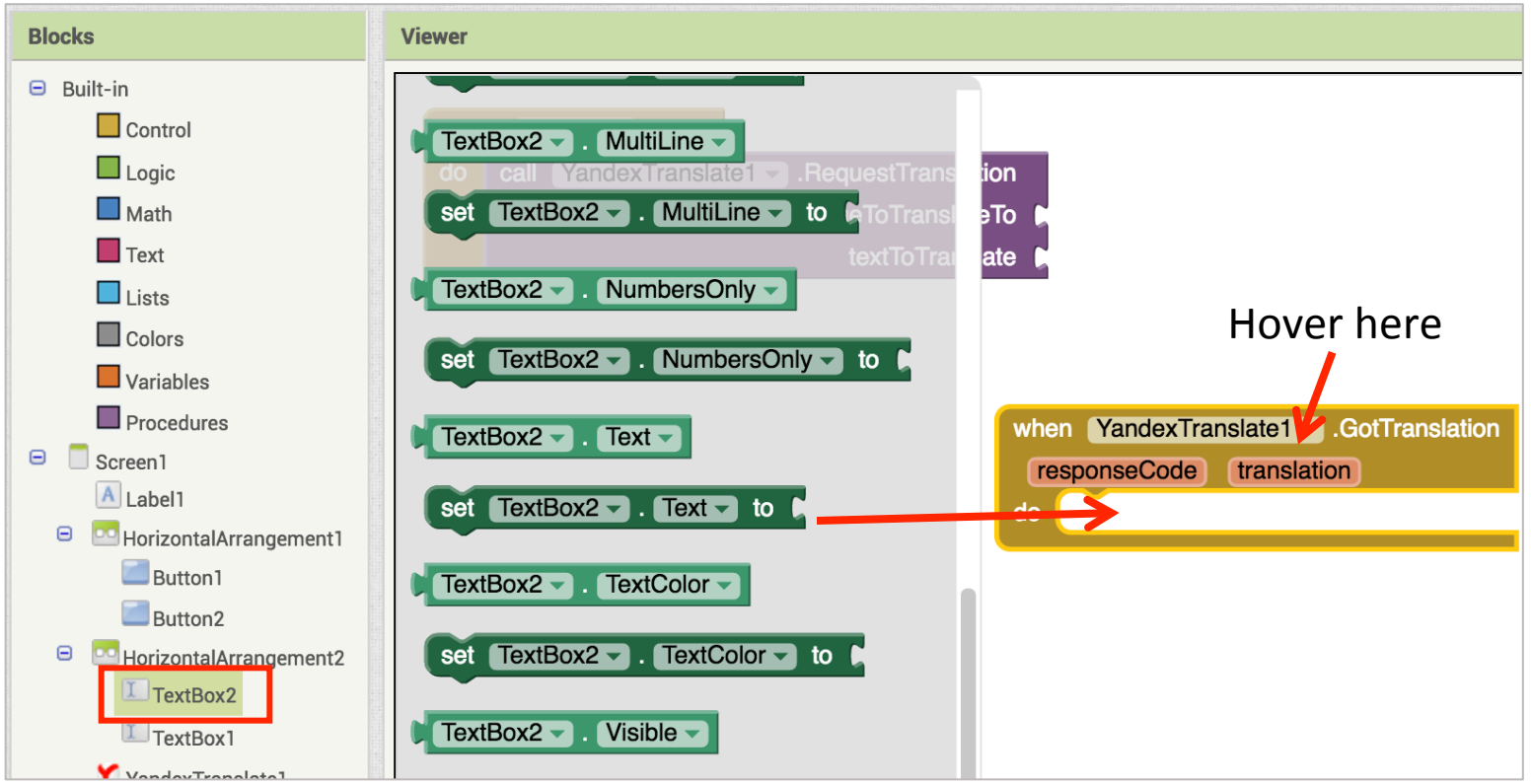
Step 8 continued



Find TextBox2 under Screen1 and grab a “set TextBox2.Text to” block. Snap it into place in the “when” block. Then hover over the orange box in the “when” block labeled “translation.” Grab a “get translation” block and snap it into place!

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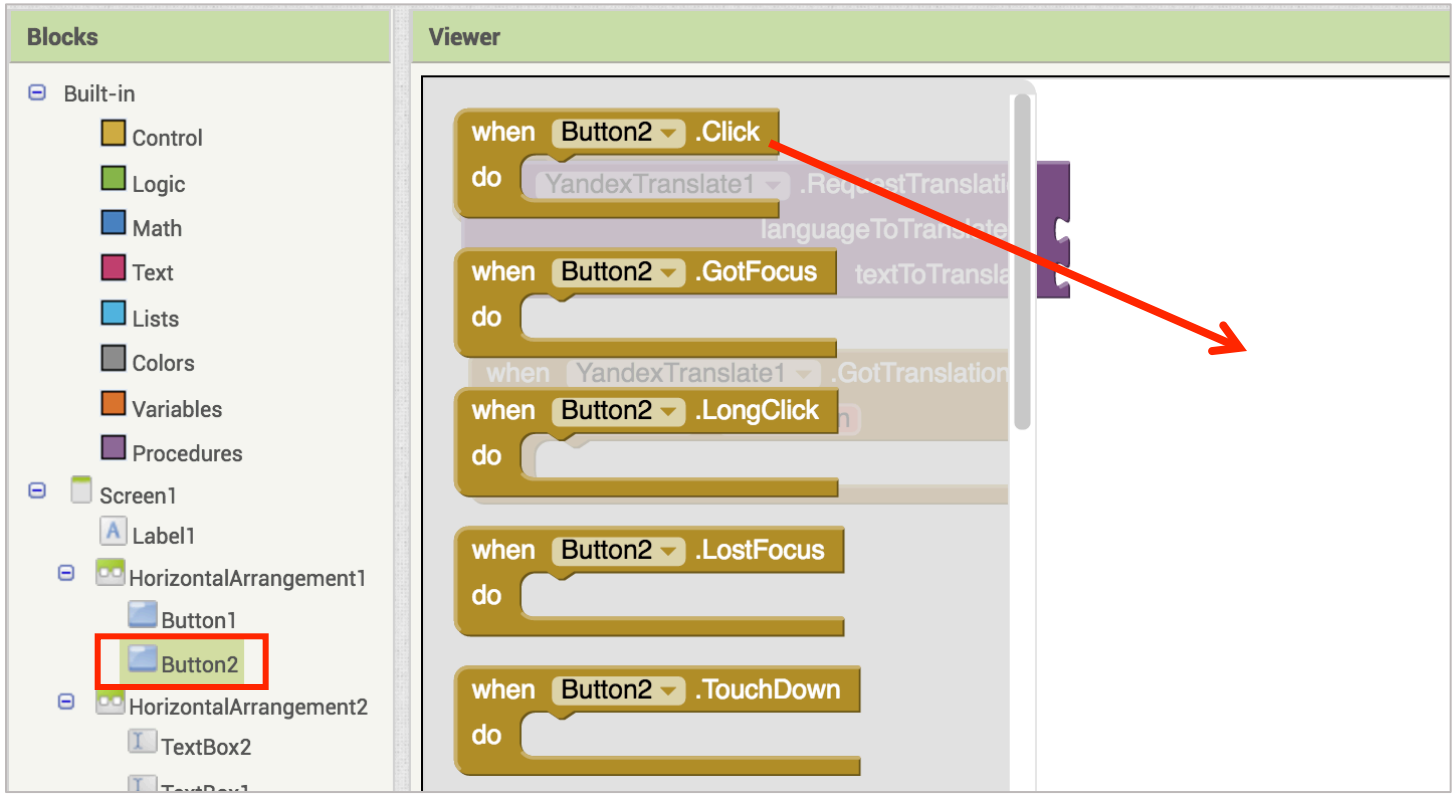
Step 8 continued

Now let's write the code to read the translation out loud using Button2.



Click on Button2 and drag out a "when Button2.Click" block

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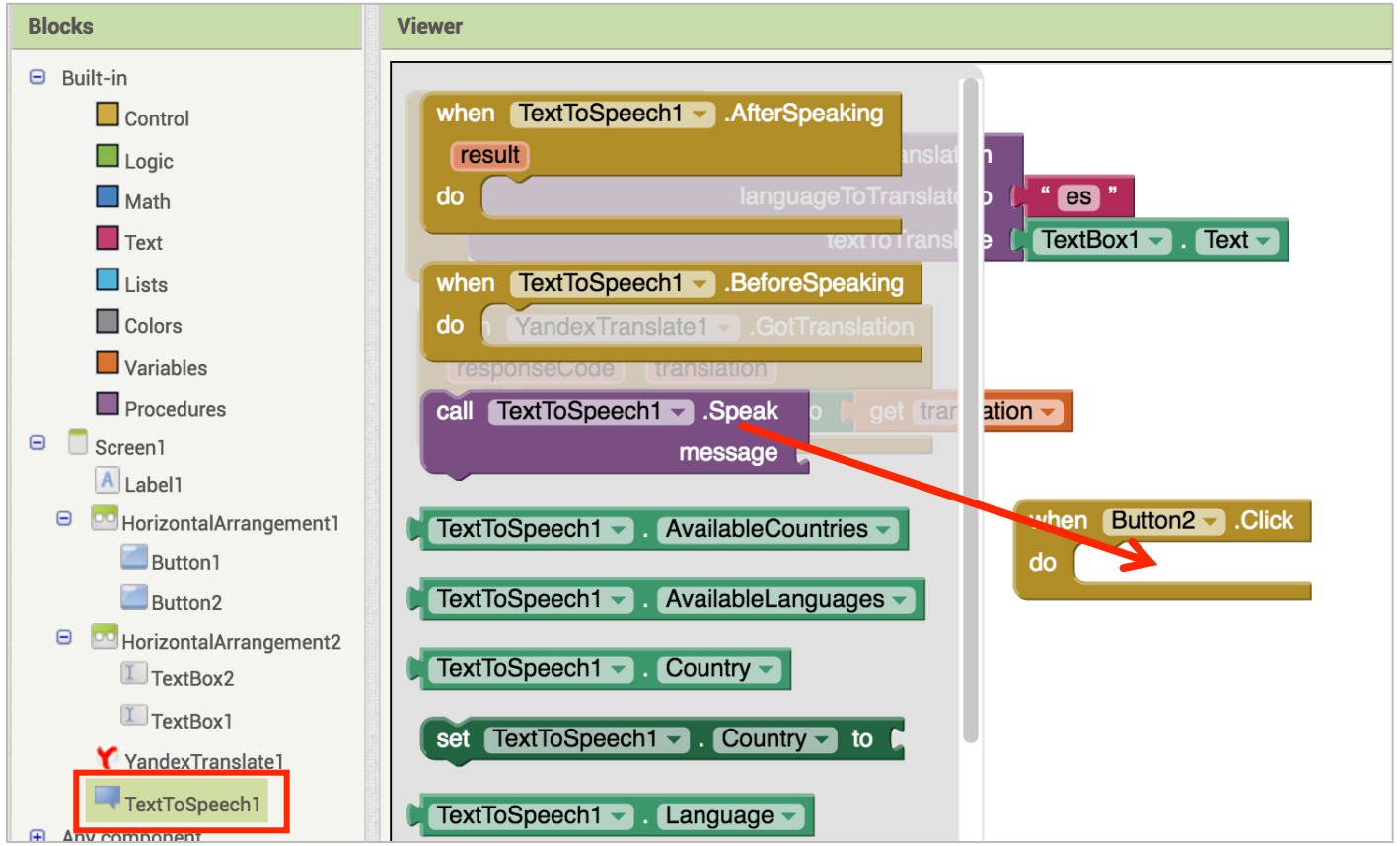
Step 8 continued



Click on TextToSpeech1 and drag out a “call TextToSpeech1.Speak” block.
Drag it into place under the “Button2.Click” block.

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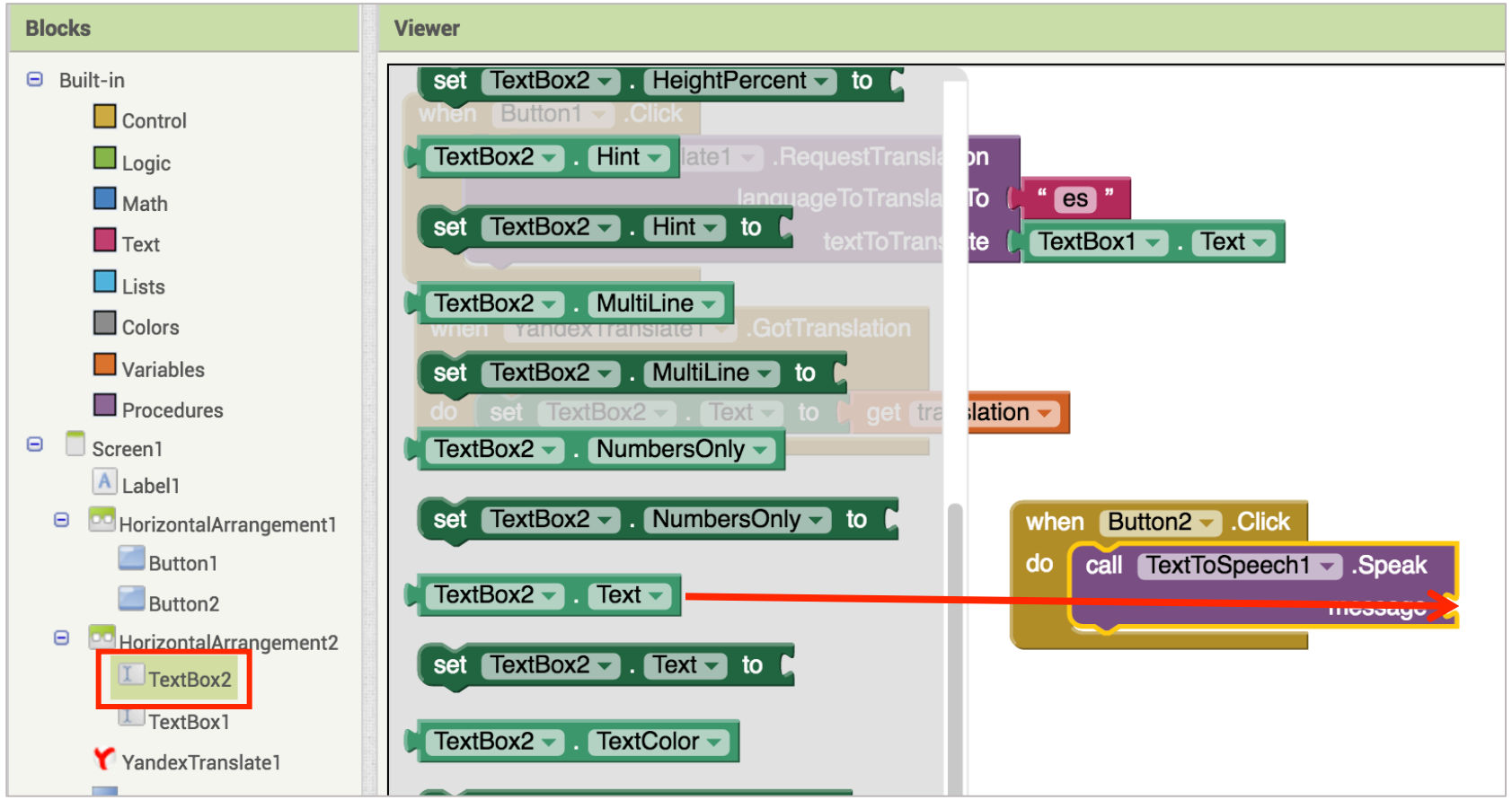
Step 8 continued



Then click on “TextBox2” and drag out a “TextBox2.Text” block.
Snap it into place!

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Step 9: Testing!

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Step 9 continued: Connect to your phone

In order to test your app, you will need an Android phone with the MIT AI2 Companion app installed. To download the Companion from the app store, scan the QR code below or search directly for “MIT AI2 Companion” on the Google Play Store, https://play.google.com/store.

NOTE: If you do not have an android phone, or if you are unable to download the Companion app, you can still use App Inventor using an emulator. Visit: http://appinventor.mit.edu/explore/ai2/setup.html and follow the instructions under Option 2.

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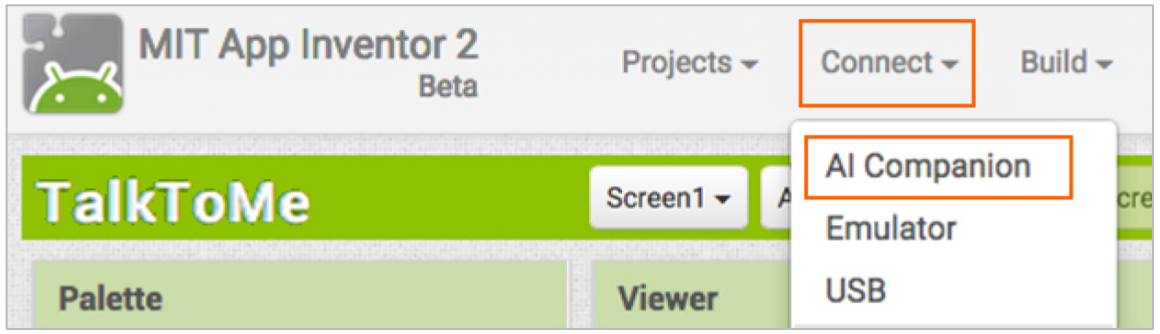
Step 9 continued

To connect to the AI2 Companion app, first choose “AI Companion” from the “Connect” drop down menu in the App Inventor site.



A QR code and 6-letter code will pop up.

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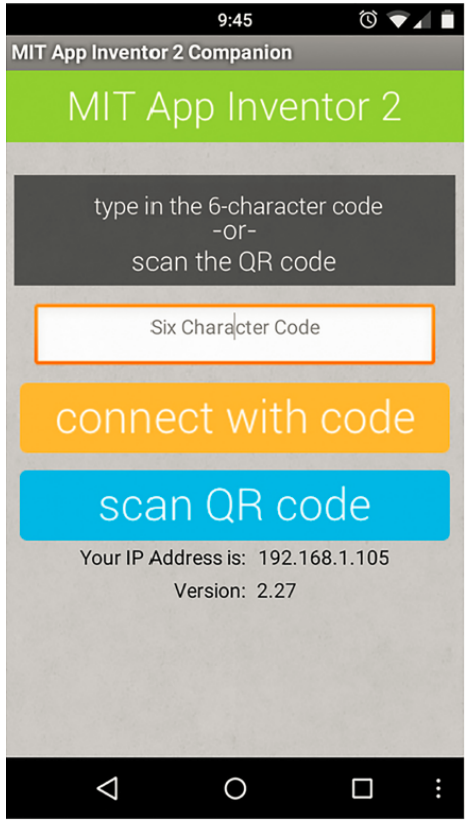
Step 9 continued: Open the companion app

Open the companion app. You can then either input the 6-letter code or scan the QR code to connect.



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Step 10: Testing and debugging!

Awesome! You're all done programming this app. Now connect to the App Inventor companion app to make sure everything is working properly. Remember, your app should:

- Let the user type a word or phrase in English and translate it to written Spanish by clicking the button labeled "Translate"
- Have the phone read the translated text out loud in Spanish when the button labeled "Read translation" is clicked