

Torque Game Builder – Checkers Tutorial - Part 2

2. Establishing a Connection

2.1 Creating a new GUI

Since our checkers multiplayer gameplay is completely dependent around networking, our first goal will be to establish a connection. Fortunately this should be very easy since most of the components and functions needed for this are already done for you.

We will start by creating a gui that will have three buttons on it, one will be titled “Start Server” another will be titled “Join Server” and the final button will be titled “Disconnect.”

To do this fire up TGB and click on the Project menu in the top menu bar, then click on the “GUI Builder...” option (shown in Figure 2.1.1).

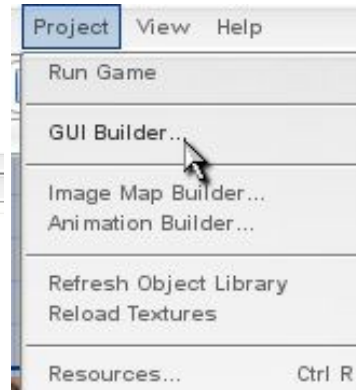


Figure 2.1.1

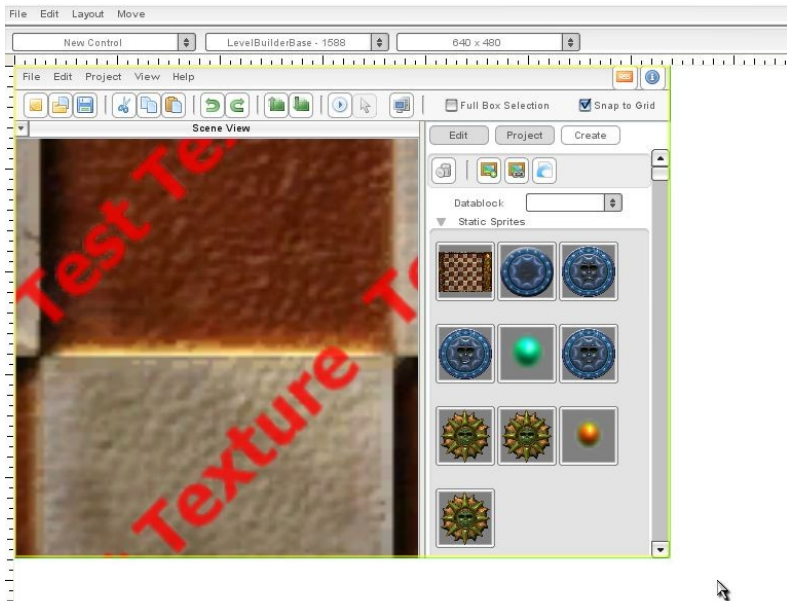


Figure 2.1.2

Now you should see something like this (shown in Figure 2.1.2).

With the GUI Editor open we will click the “File” menu and then select the “New Gui...” option. You will then be prompted with a dialog to set the name and type of GUI you want to create, set the name to “CheckersScreen” and change the class to “GuiBitmapCtrl” (shown in Figure 2.1.3).



Figure 2.1.3

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Now you should be presented with a green box in the top left (shown in Figure 2.1.4).

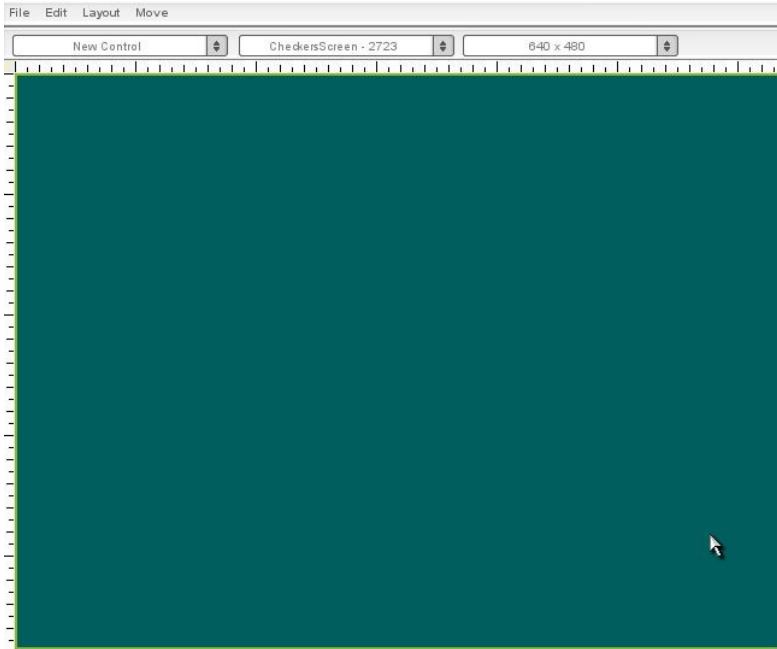


Figure 2.1.4

2.2 Setting up our buttons

If you remember we created our GuiControl as a GuiBitmapCtrl. This means that we can turn that ugly green mess into an image, to do this select the GuiBitmapCtrl in the top right tree view. Properties should then pop in the bottom right property menu. The one we're looking for is the "bitmap" property. Once you find the bitmap property click on the three dots "...". and you should be prompted with a file browser. Browse to "MyCheckersDemo/data/images" and you should see a list of images show up in the right list. Choose the logoblack.png file and then click the Open button.

Your ugly green mess should now be turned into a nice TGB logo with a black background. Now we need to create a container GUI control that will hold our three buttons. To do this we click on the top left "New Control" button and scroll down and select "GuiControl."

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Now you can move and resize a transparent outline on the screen. Place it roughly around the center and drag it to about this size (*shown in Figure 2.2.1*).

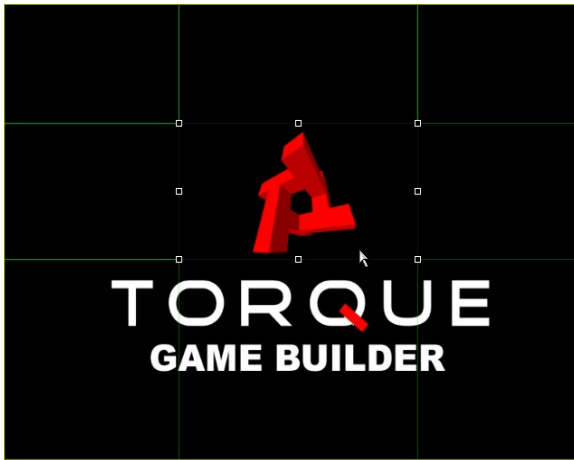


Figure 2.2.1

Now with it selected we're going to manipulate its properties in the bottom right property menu. We don't want the background to be transparent so we are going to change the profile to something that will gray out the background. Select the profile that should be defaulted at "GuiDefaultProfile". You should then be prompted with a drop down list. Scroll down until you find "GuiWindowProfile" and select it, then press the APPLY button. You should now see your GuiControl go from transparent to a gray background (*shown in Figure 2.2.2*).

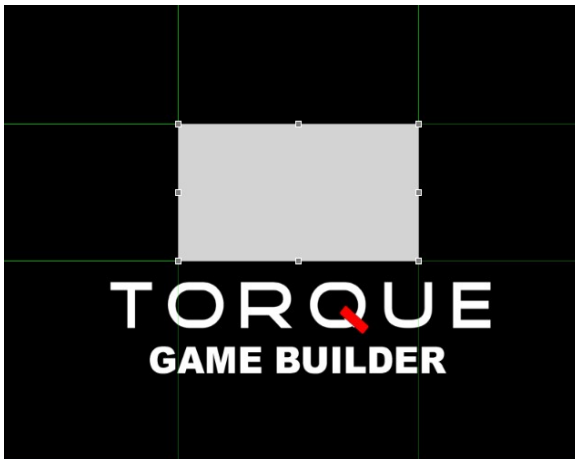


Figure 2.2.2

That's a much better background for some buttons. Before we move on we need to give this control a name, that way we can control it from script. In the properties box for this control you should see a name field at the top, right next to the Apply button. Set the name to "ConnectionGui" and click Apply (*shown in Figure 2.2.3*).



Figure 2.2.3

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Right now if we create a button control it will be placed in the entire GUI, but the Torque GUI system has a much more efficient way of creating sub-controls. Right click your GuiControl that now has a gray background. You should see a yellow and green outline surround it (*shown in Figure 2.2.4*).



Figure 2.2.4

This means if you continue and create another control it will be placed as a child of this control. What this means is that the child control can only exist within this control as well as being dependent upon it. Its position will be *relative* to the parent GUIs position, and when you move this parent control, all of the children are moved with it. As you could imagine this can be immensely useful, especially for our situation.

Now we are going to create the three buttons. Since we have this selected to be the parent, they should be placed within this control, so click New Control again and this time choose `guiButtonCtrl`. A large button should appear, do three of them and position them to make them match this (*shown in Figure 2.2.5*). You can also just copy and paste the first button using the edit menu or `Cntrl-C/Cntrl-V`.



Figure 2.2.5

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Now that we have our buttons we need to set the text on the button's to represent their purpose. You can do this by selecting a button and setting its “text” property. Set the text of the buttons in this order, “Start Server,” “Join Server,” and “Disconnect” (shown in Figure 2.2.6)

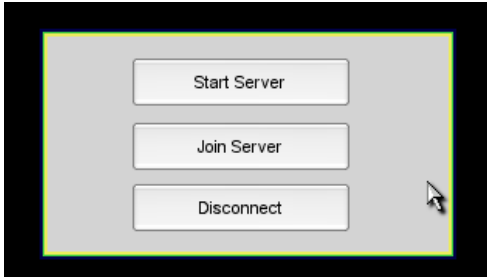


Figure 2.2.6

Now that we have the visuals for our button set, we need to set the functionality. As we all know, what we need to control is what happens when we click a button, what action is triggered. We can control this through a simple property field of the button called “command.” We can set a script function in command. Set your command properties according to this.

Start Server - “canvas.pushDialog(startServerGui);”

Join Server - “canvas.pushDialog(joinServerGui);”

Disconnect - “disconnect();”

Be sure to click apply or press the enter key after typing in each command for it to set properly.

The first two bring up a new GUI, ones that already exist in the common directory under your “games” folder. The files in the common directory are script and gui files shared by all of your TGB games. The GUIs called will handle all of the connecting and joining aspects. Feel free to find those GUIs in your common directory and modify their appearance. The disconnect() function is also in the common directory and will simply disconnect from a server. This includes disconnecting from a server you have started yourself.

2.3 Sizing our GUI elements

Another step we need to do has to do with the sizing. The Torque GUI system supports numerous sizing types, and in this case we want everything to be relative. That way, the way we see it now will be the same at any resolution. To do this set the “horizSizing” and “vertSizing” of each GuiControl to “relative” (be sure to click apply)... this includes the parent GuiControl we had. An easy way to select the GUI controls without having to visually separate them is the tree view in the top right.

Ok now that we have our GUI set up properly we need to save it out. To do this we simply go to the File menu on the menu bar on top, then select “Save GUI...” from that dropdown menu. You will want to save it to “MyCheckersDemo/gui” and slightly change the default name to “CheckersScreen.gui” then simply click save to finish the saving process.

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2.4 Final steps in setting up our connection GUI

Now that we have our GUI, we need to do two things. First we need to exec() it, which is what a nice and friendly exec.cs file is for, and then we need to call it to be displayed.

First, let's add this line to our exec.cs

```
exec("~/gui/CheckersScreen.gui");
```

Code Sample 2.4.1

Now open up your onStartUp.cs and add this to the end of your onStartUp() function.

```
Canvas.setContent(CheckersScreen);
```

Code Sample 2.4.2

This will set our screen to our newly created "CheckersScreen" on start up... Time to test it.

Bring up your TGB application (remember since we need to test network connectivity you need to run the TGB instances using two separate computers). You should be presented with the Level Builder screen and from there we simply need to click the Project menu and the "Run Game" dropdown option to move onto testing our game. You should now see the CheckersScreen you created. From here in this first TGB instance we will click "Start Server" and you should see a start server dialog appear. Feel free to change the server and/or player name and then click the "Create Server" button (you can just leave everything as default if you choose also).

Shortly after clicking the "Create Server" button you should be prompted with a "Connection Established with the server" OK box. Simply click OK to remove the box... now we have created a server properly! Our next step is to load up another TGB instance (on the second computer) and connect to it, so fire up TGB again and get to the same menu, this time click the "Join Server" button. This time you should be prompted with the Join Server Gui. You can set your name, though the important button we're looking for is "Query LAN." Click that and it should populate the one server you just created. Now you can select that server and click the "Join Server" button. You should shortly be prompted with an identical "Connection Established with the server" OK box. Click OK and you have just connected to your server! Excited yet? OK, maybe not, we haven't really done anything yet, but at least we've established a connection. Time to do something upon connecting.