

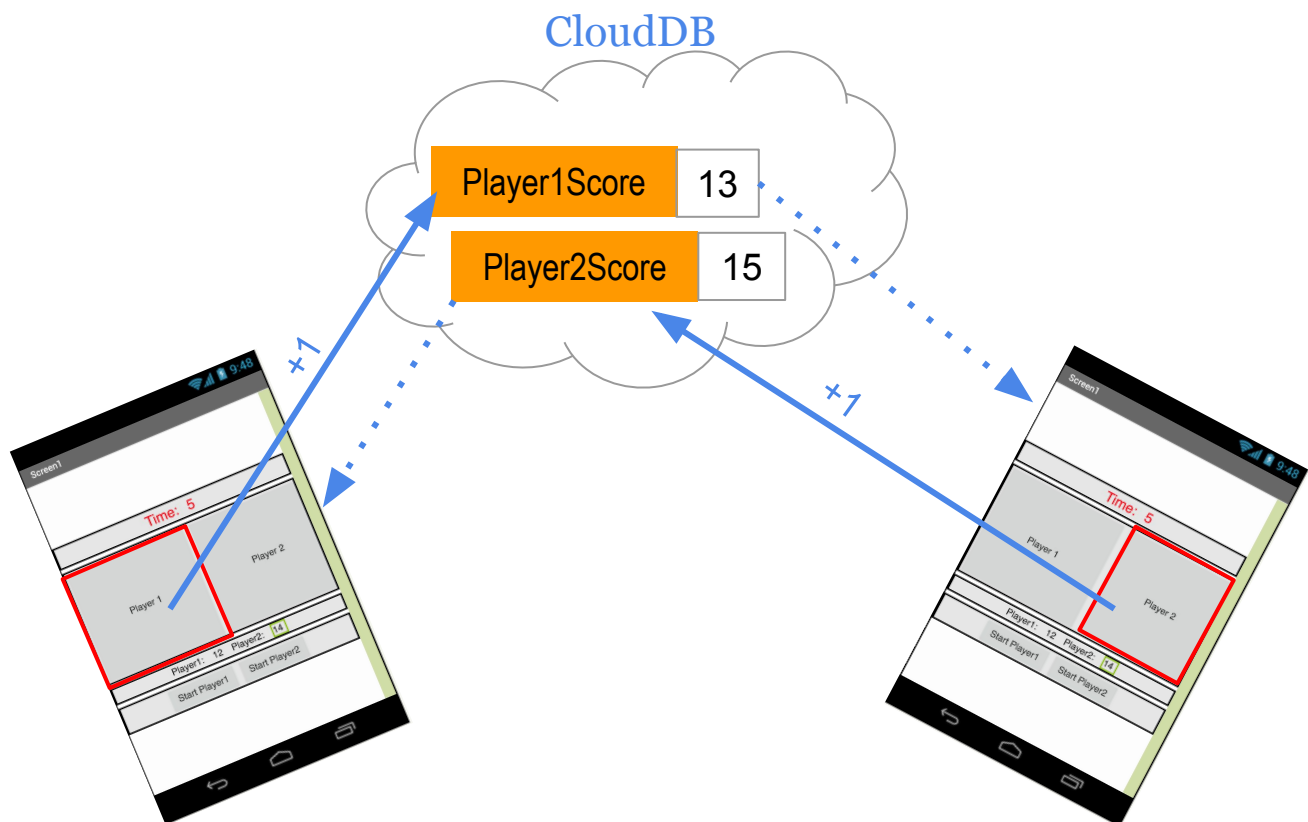
# TWO-BUTTON GAME: PART 3



In this lesson, you will be adding functionality to make this a two player game over two devices.

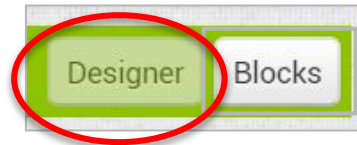
## HOW CLOUDDB WORKS

You will use CloudDB in the app to update each player's score on the other player's tablet by adding code to do the following. When a player clicks on their button, they'll store their new score in CloudDB. The DataChanged event will be triggered every time that happens, and that will signal the other player to update the score on their tablet.



## START HERE

- 1 Open your TwoButtonGame app, and switch to the Designer. ----->



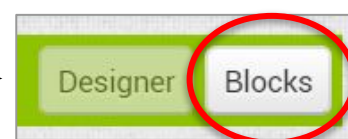
- 2 Add the components in the table below. **StartButton2** should be added to **ButtonArrangement**, to the right of **StartButton1**.

Drawer	Component	Name	Property	Setting
User Interface	Button	StartButton2	Text	"Start Player2"
Experimental	CloudDB	CloudDB1		

- 3 Change the *Text* property for **StartButton1** to "**Start Player1**". -----↓



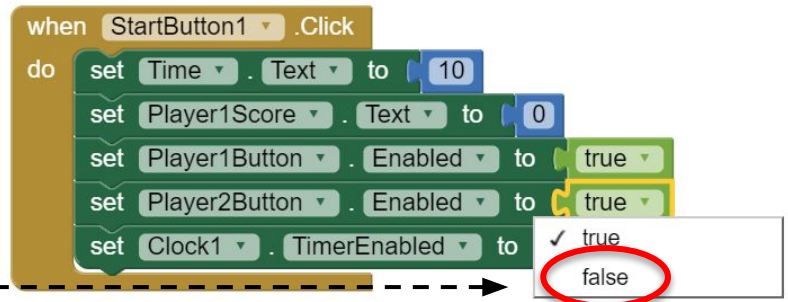
- 4 Switch back to the Blocks Editor. ----->



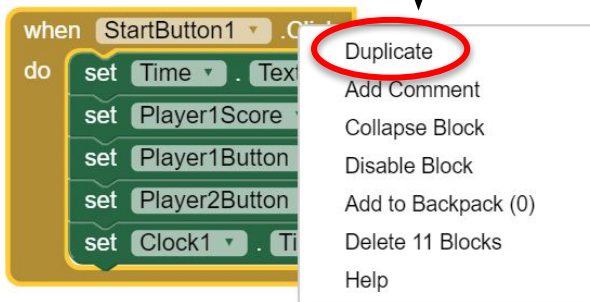
## UPDATING BUTTON.CLICK EVENTS

The first thing to do is update the Start buttons. **StartButton1** should be mostly correct already.

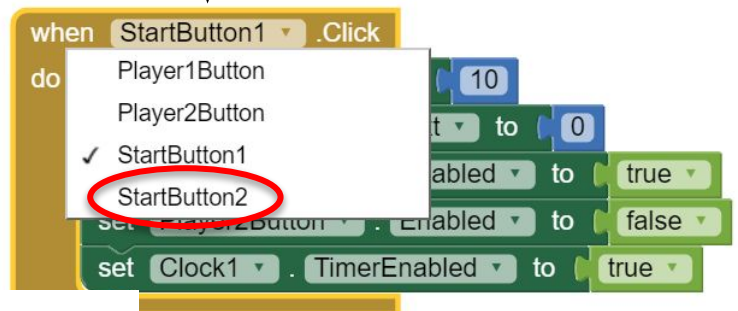
- 5 **Player2Button** should **not** be enabled for Player 1. Change **Player2Button.Enabled** to **false** by clicking on **true** and selecting **false**.



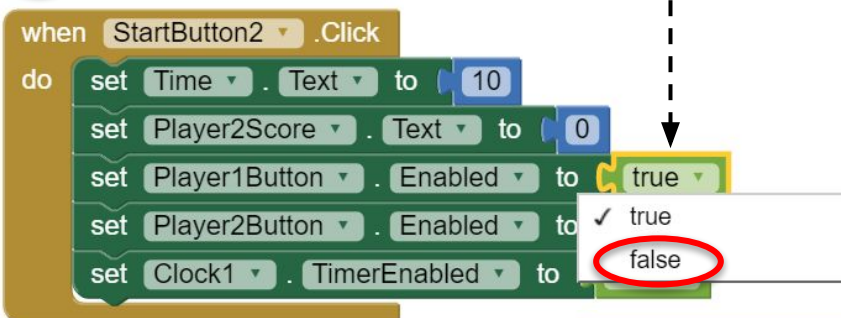
- 6 Rather than rewrite all the code for **StartButton2**, you can *Duplicate* **StartButton1.Click** and change it. Right click on **StartButton1.Click**, and select **Duplicate**.



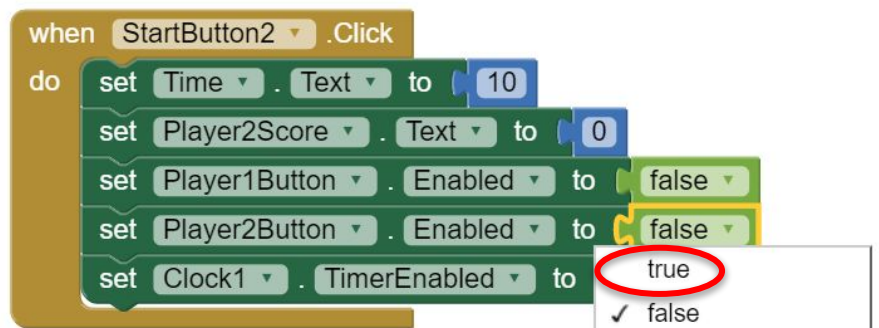
- 7 Click the drop down menu of **StartButton1** and change it to **StartButton2**.



- 8 Change **set Player1.Enabled** to **false**.



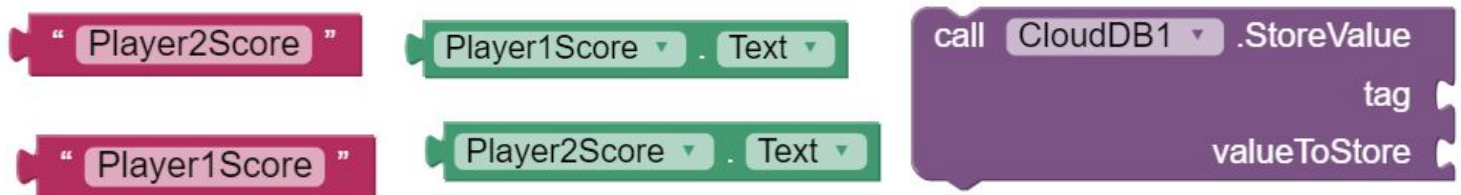
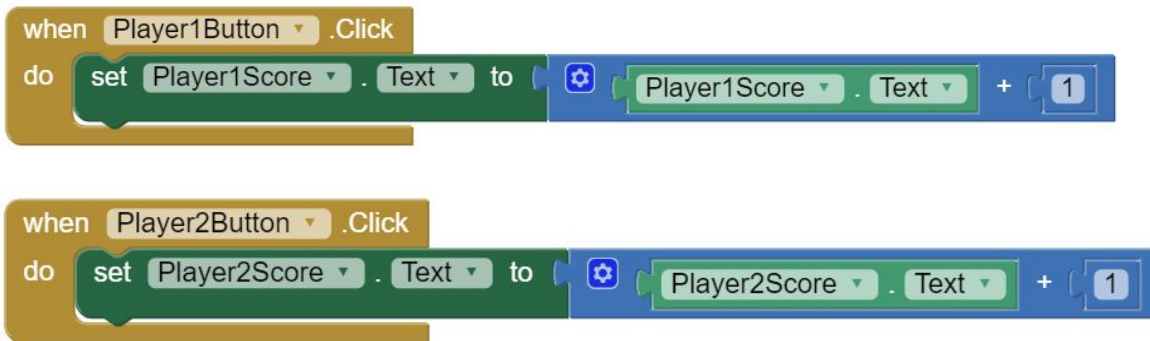
- 9 And change **set Player2.Enabled** to **true**.



## CLOUDDB STORE VALUE

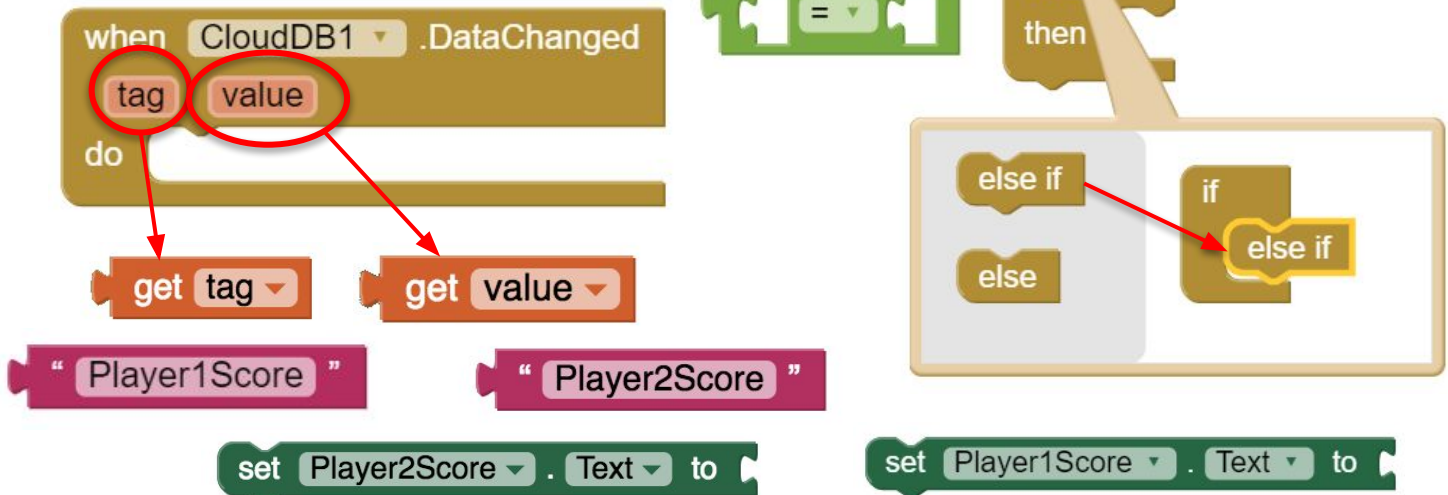
Every time a player scores a point, save the new score in CloudDB.

- 10 Update **Player1Button.Click** and **Player2Button.Click** to include a **CloudDB1.StoreValue** block. Make sure you include the corresponding tag and value for the given Player.



Every time a player's score is updated in CloudDB, that generates a **CloudDB1.DataChanged** event that gets triggered on every mobile device running the app.

- 11 Code the CloudDB1.DataChanged event block. Test which tag has changed, and set the corresponding Player Score with the value.

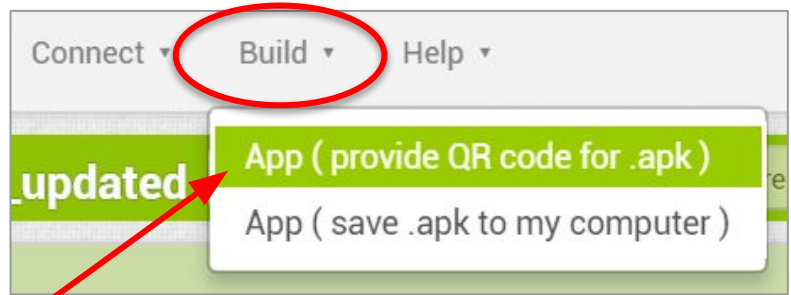


## TESTING

Time to test! Because this game app sends scores to the cloud, you will need to test using two devices. You can only test with one AI2 Companion, so you'll make your project an apk file and install the app on two separate tablets.

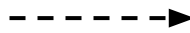
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Go to the “Build” menu at the top of the screen, and click on “App (provide QR code for .apk)”. This will start the process of building the app so that it can be installed on any tablet.



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A QR code will appear in a pop-up window once the app is built. When it appears, both you and your partner should scan it using your tablets. Follow the prompts to download and install the .apk on your tablets.



OK

Note: this barcode is only valid for 2 hours. See [the FAQ](#) for info on how to share your app with others.

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Play the game against your partner on your own tablets. Does it work correctly? Do the scores update correctly?

## Choose Ways to Extend Your App

Here are a  
few features you  
could add if you  
want to expand  
your app



Add sounds! One  
for Player1 and  
one for Player2!

Add a label to  
display who is  
currently  
leading

Add a High Score  
that is saved in  
CloudDB

What other ideas  
do you have?



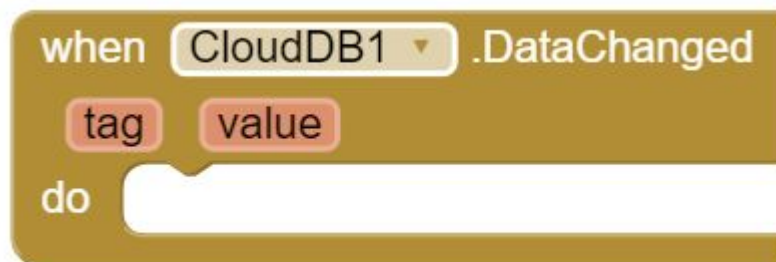
# TWO-BUTTON GAME: PART 3

## COMPUTATIONAL THINKING CONCEPTS

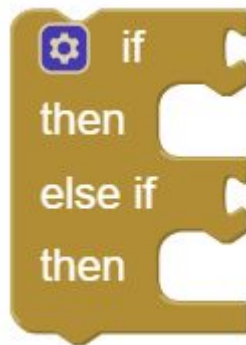
The following are the Computational Thinking Concepts learned in this lesson.

### Two-Button Game

#### 1. Events:



#### 2. Conditionals:



#### 3. Data Manipulation:

