



Arabic Board Package

Guide

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Contents

Create New Project	3
Import Package.....	5
Package is imported	6
Alphabet Board Events	7
Menu Page Letters	8
Music and General Object.....	11
Alphabet Writing Scene.....	13
How to Add/Edit New Letter	14
Step 1: create empty letter game object	15
Step 2: Rename and replace the letter in the hierarchy	16
Step 3: Add Rigid Body 2D to it	16
Step 4: Add and Assign the Sprite using spriterenderer for the letter.....	17
Step 5: Add Polygon collider for the letter.....	17
Step 6: Adding Empty TracingPoints Game Object inside the Letter	18
Step 7: Dividing the letter into parts	18
Step 8: Dividing the letter into points	19
Step 9: Adding the tracing points to the letter	20
Step 10: Adding Tracing Parts to the tracing Points.....	23
Step 11: Configure single touch points if any.....	24
Step 12: Adding Letter to Letters Array.....	24
Step 13: Adding Letter Sprite to the Winning Dialog Sprites	25
Step 14: Deactivate letter in edit mode	26
Step 15: Testing the Letter In Game Play	27
About The Author	28
Courses Published By Ahmad	29
ONE LAST THING.....	33

Create New Project

In order to import the Arabic Board Package we need to create a new unity project by opening unity, then choosing 2d game project as following:

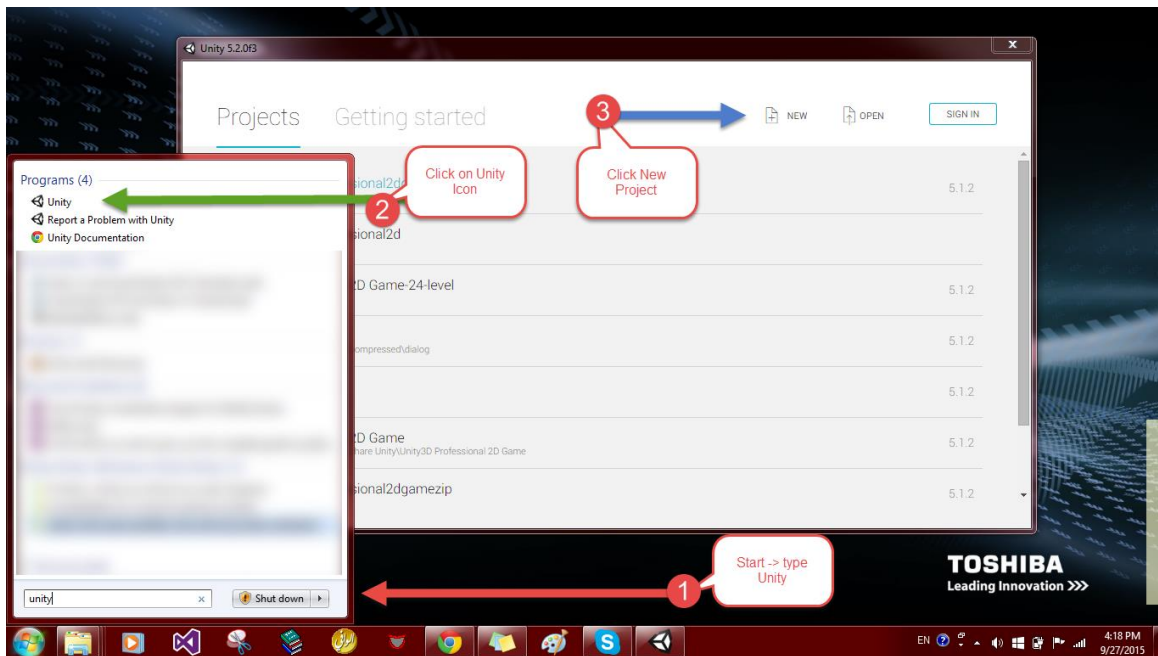


Figure 1- how to open unity

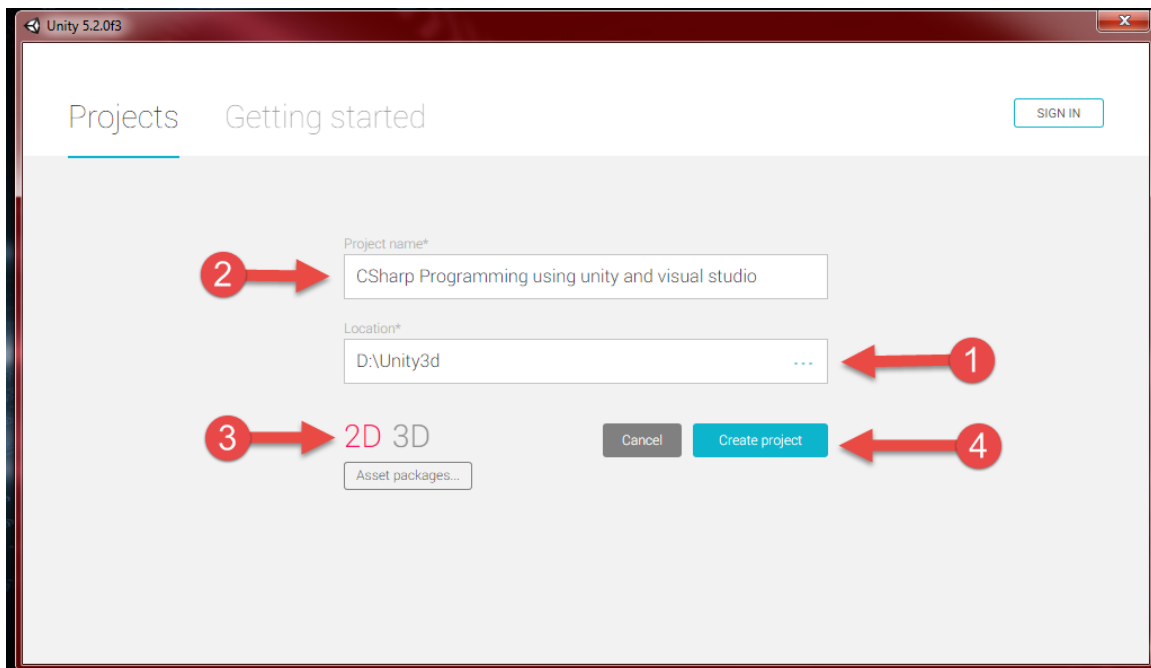


Figure 2- How to create new project

Import Package

The next step after you purchase Arabic Board package is to import it to the new created project or your existing project, by going to toolbar->Assets->Import->Custom Package.

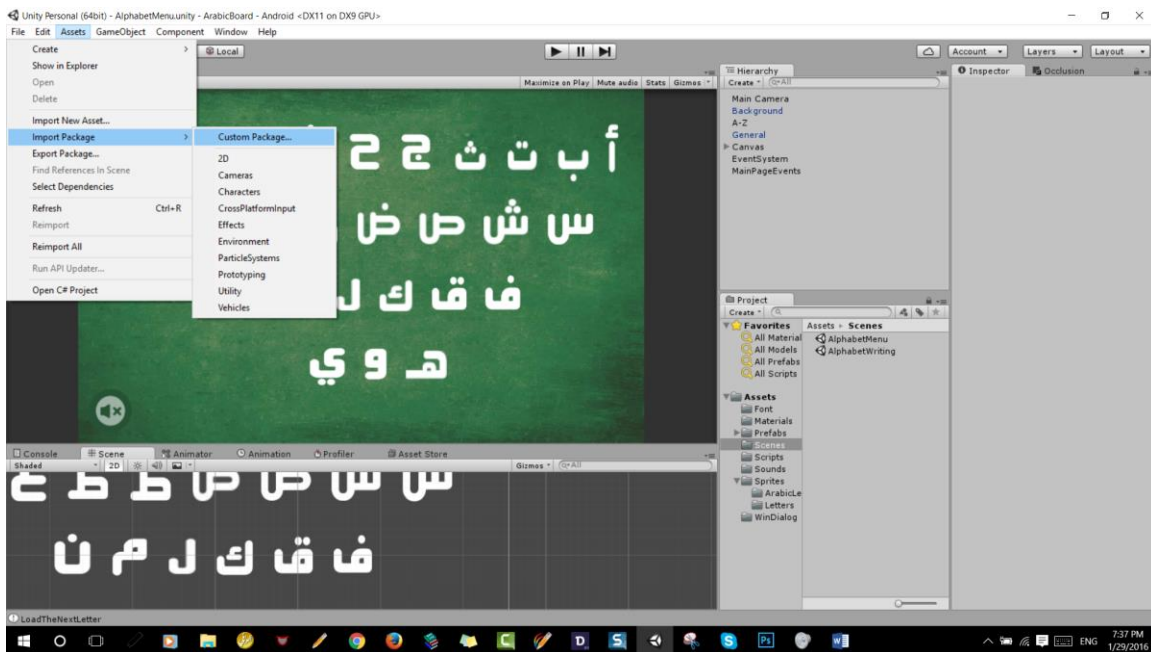


Figure 3- how to import the package

Then you select all and apply the import.

Package is imported

The package contains two scenes, the menu scene and the alphabet writing scene, first you need to open the menu scene as following:

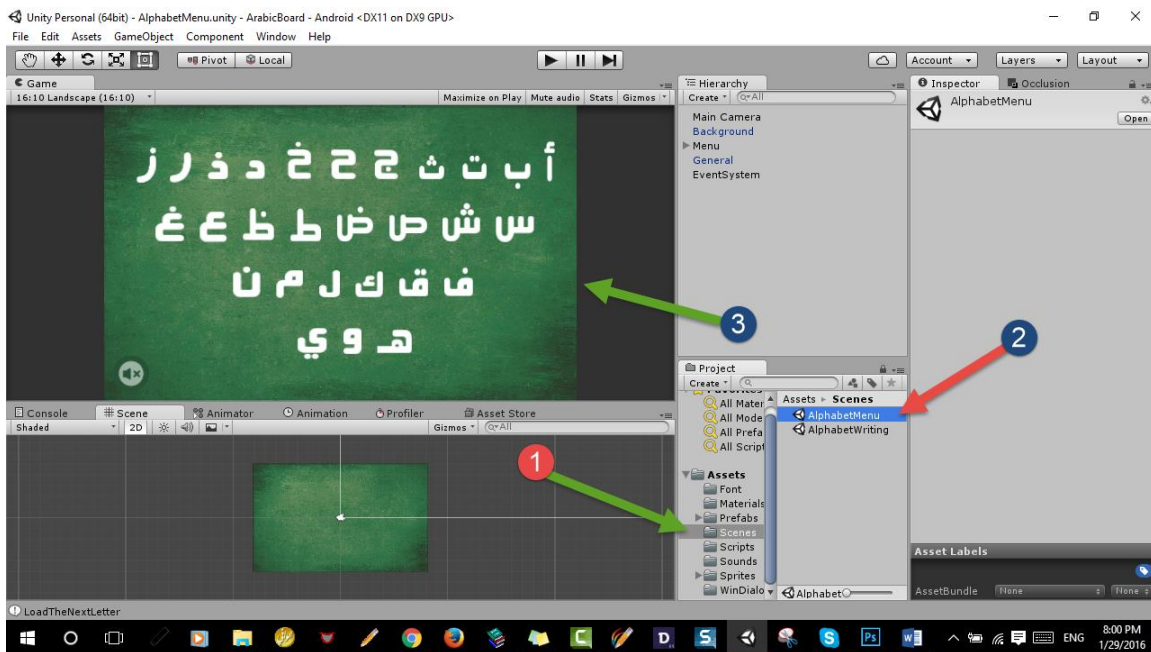


Figure 4 how open the main scene

Alphabet Board Events

We have implemented an Event script to let you handle the different events in the package such as when you click on the letter or when you want to load the next letter, previous letter or toggle the music..., this Events.cs script component is attached to main camera and got a few parameters which we are going to discuss in details the next scene once we talk about the alphabet writing, but for now keep the arguments as you see in the following figure:

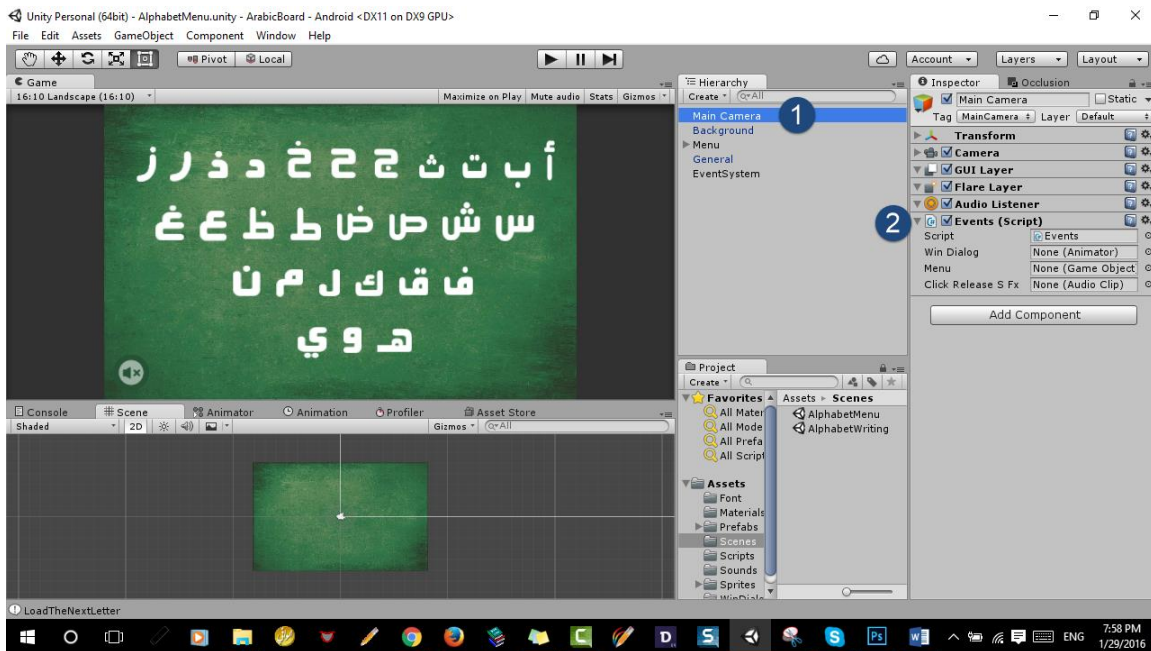


Figure 5 - main events of the game inside camera

Menu Page Letters

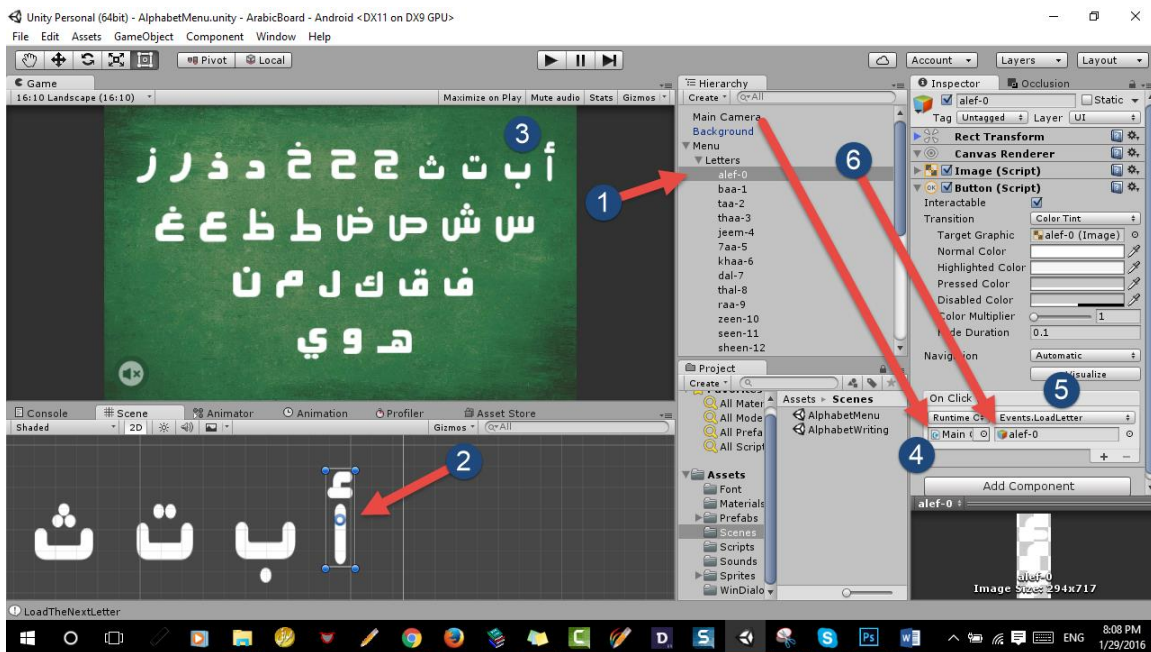


Figure 6 - How to load letters from button click action

We have implemented the new unity UI system using the canvas game object named as Menu as you can see in the hierarchy above, inside it we put a panel ui game object to contain all the letters, each letter is a button ui game object used with a sprite image. In the above example its alef-0.png, this button is responsive inside the screen because it's anchored to its border which will make it responsive to its parent in case the screen size changed, so the alphabet will be responsive as a ratio from its parent.

Each letter button must have a unique name, identified by the array index, such as the letter A which is alef in Arabic Alphabet's is concatenated with (-) and the array index (# Alphabetical order) starting from 0 to the (length -1) of the language alphabets count of letters, in case of Arabic we start from 0 to 27 because we have 28 letters, in English from 0-25 because we have 26 letters, so first

letter is a-0 to z-25 in the same sense in Arabic alef-0 to yaa-27, we used this concatenation method in order to load the letter inside the writing letter scene and that's why when you click alef we are going to load the letter alef inside the alphabet writing scene as you can see here:

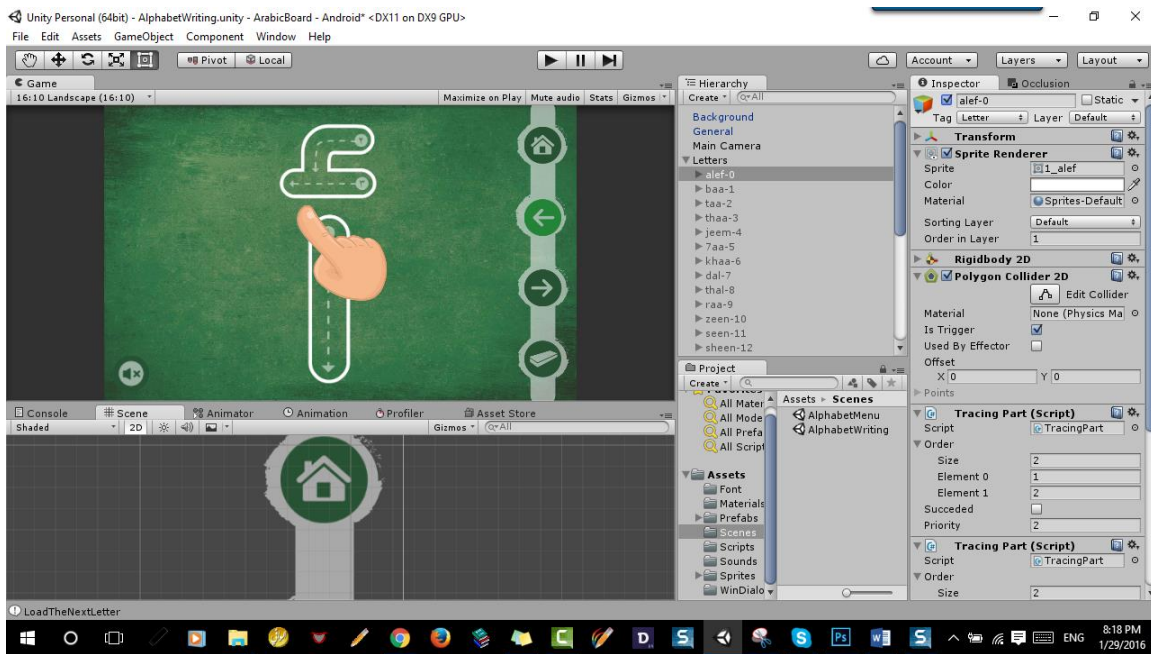


Figure 7 open the wirtingletter scene

To understand how alphabet loading works we are assuming that you are not familiar with unity ui system, so we are going to explain how we load each letter uniquely, first we have a function called LoadLetter inside the Events.cs, Events.cs is attached to main camera and it contains a method named as following:

```

Events.cs
No selection

54
55 //Load the current Letter
56 public void LoadLetter (Object ob)
57 {
58     if (ob == null) {
59         return;
60     }
61
62     WritingHandler.currentLetterIndex = int.Parse (ob.name.Split ('-') [1]);
63     Application.LoadLevel ("AlphabetWriting");
64 }
--

```

In this way we are getting the index of the letter which will be used with other game component called WritingHandler (we will talk about it in the next scene), in order to get the index of the letter we split the letter into two parts (alef-0) in our case:

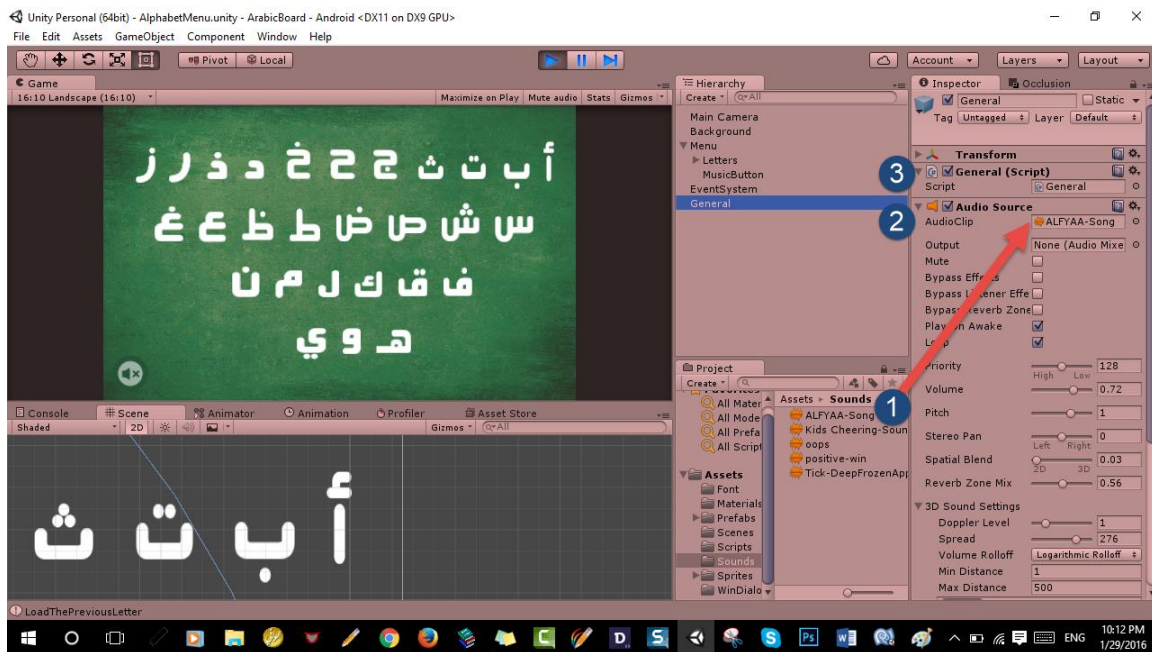
alef-0

to alef and 0 using the split function and then we parse the string “0” into integer format using int.Parse Method to store it inside the WritingHandler Component (CurrentLetterIndex) which will load the letter based on its index, inside this function we load the AlphabetWriting Scene using Application.LoadLevel as you might have noticed above.

Inside the letter onclick as in - Figure 6- How to load letters from button click action

You can notice that we used the standard ui onclick event inside the button component of the letter to let the user call the LoadLetter() Function in order to load the selected letter for writing, so you need to choose main camera as it contains the Events.cs containing the LoadLetter function and you need to select that method from the list of events inside the event chooser, also you need to drag and drop the selected letter game object to get its name inside the LoadLetter Function as explained in the same figure. You will need to do this step for all the language letters as well.

Music and General Object



General object is used to handle the initialization of the music inside the game, so from one scene to another we can keep the music or turn it off from the same instance using a singleton design pattern, all what you need here is to assign the music file to the audio source component attached to the general game object, you can control the volume and other settings of the audio here as well.

You can toggle the music on or off using the MusicButton :

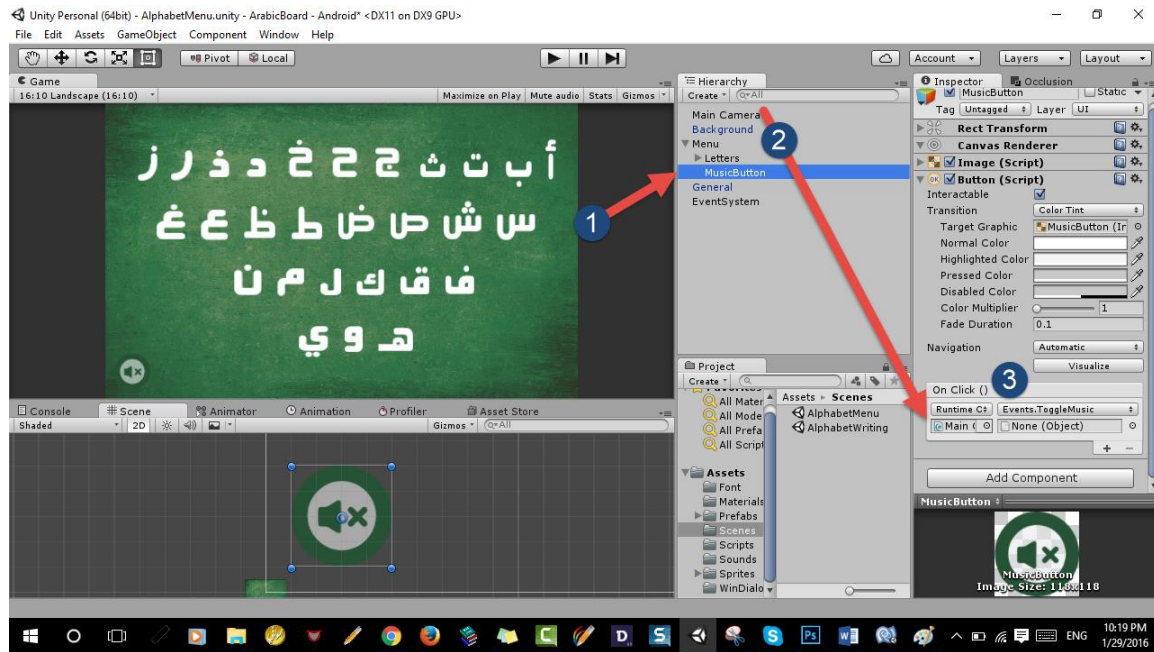


Figure 8- Associate Music Button with ToggleMusic Function

The MusicButton call the ToggleMusic method inside Events.cs, just to remind you that Main Camera is the object that contains the events.cs that's why you have to select the camera game object and the ToggleMusic from it as shown in the above figure.

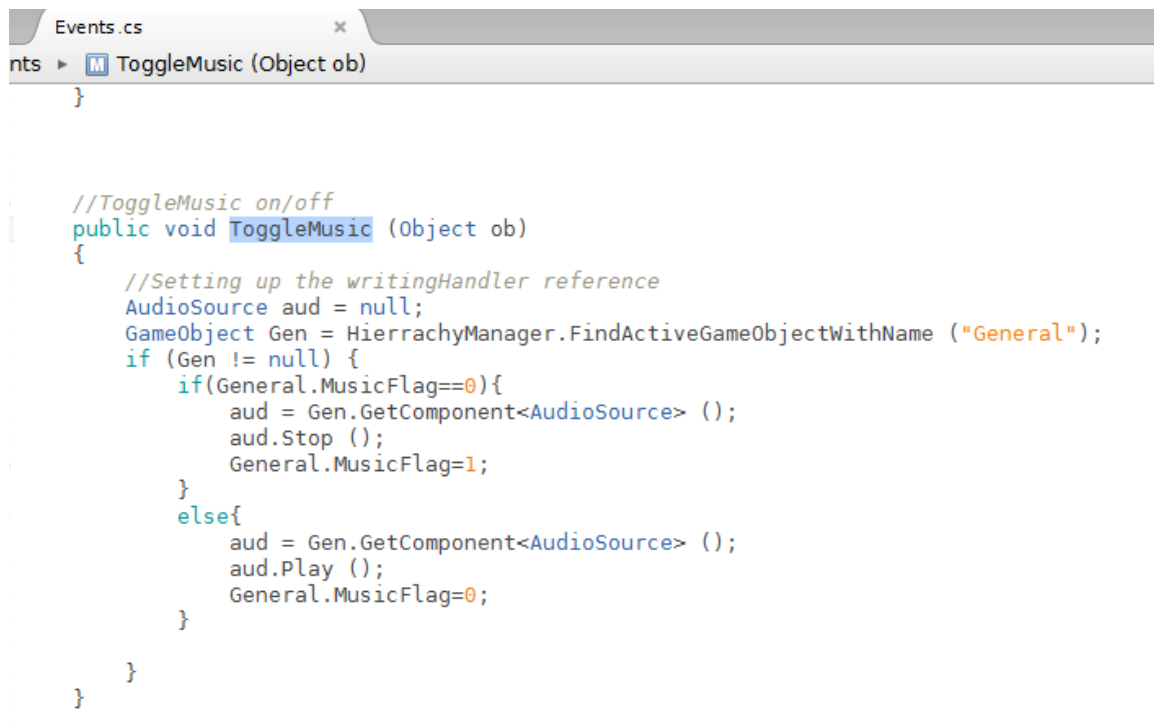


Figure 9 - Music on/off Method

Alphabet Writing Scene

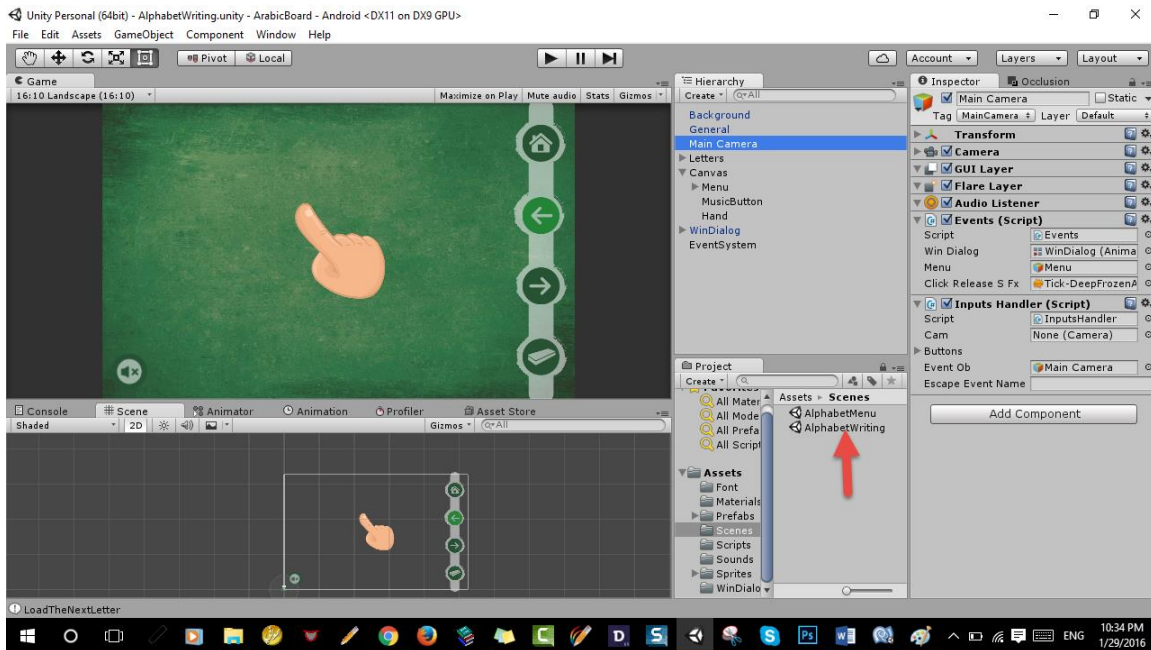


Figure 10 Alphabet Writing Scene

In this scene we handle the writing of the letters, but first let me explain the main parts in this scene which are:

- InputHandler : used to handle buttons clicks and screen touch.
- WritingHandler: used to handle the writing on the screen using linerenderer.
- Letters: contains the letters array, and ISprites of the letters and WritingHandler.
- Menu: contains the main four buttons for (next, previous, home, erase).
- clickReleaseSfx: sound clip used for buttons sounds.
- Hand: used to indicate the current location of the mouse or touch using ui element.
- WinDialog: the winning dialog to display the finished ISprites for the players.

How to Add/Edit New Letter

First you need to design two images for each of the letters, if you need to know more how to design a new letter you need to know Photoshop or illustrator to do that, I have two useful resources below:

- 1 . Free: [Unity3d Numbers Board Package Customization Course](#)
2. Paid: [Board Customization and Design Course](#)

Generally, you need two designs, one for the alphabet and the other for the traced alphabet as following letter:

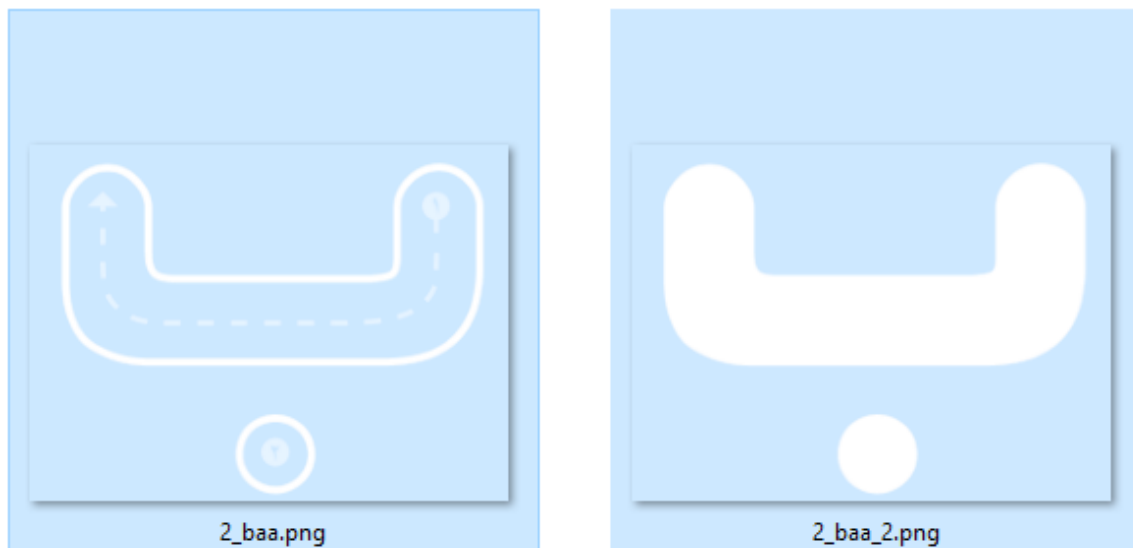


Figure 11 Letter's Images

This letter is Arabic letter baa which is equivalent to b in English, you need the 2_baa_2.png to represent the actual letter and to generate the polygon collider, and then you need 2_baa.png to replace the old png and to show the player what is the actual ordering of writing the letter.

After designing the letter that you want using a specific font or shape, you can export these two images and import them to unity, after that you can create a new letter as in the next step.

Step 1: create empty letter game object

Go to the letters Game object and create a new letter by creating empty game object as in the following image.

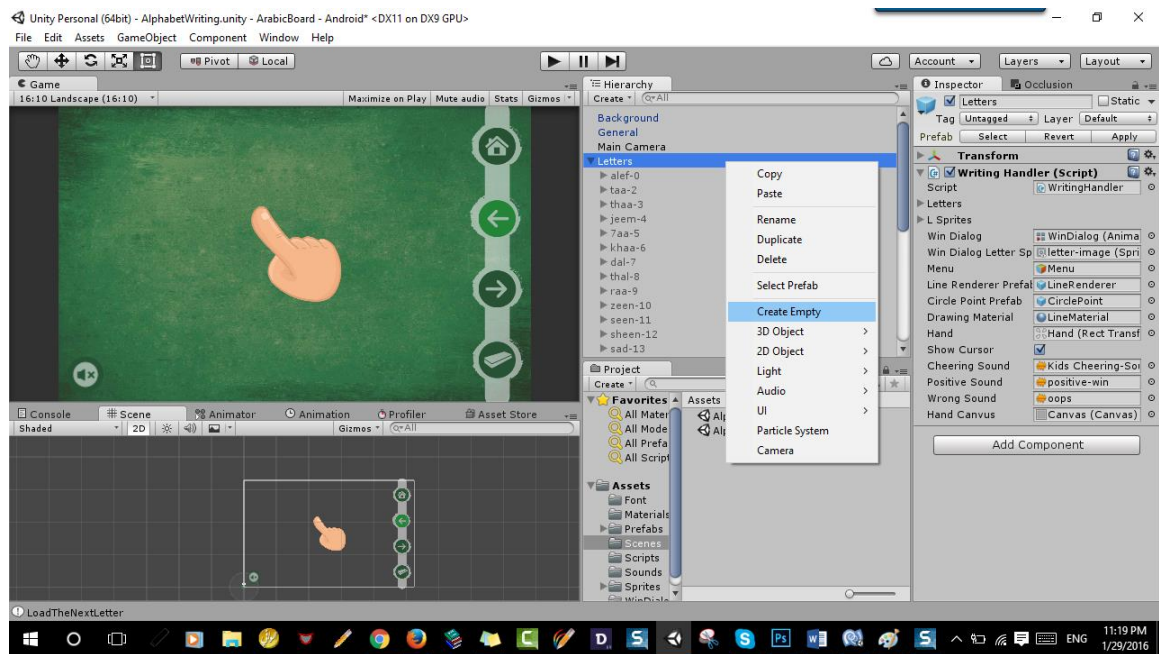
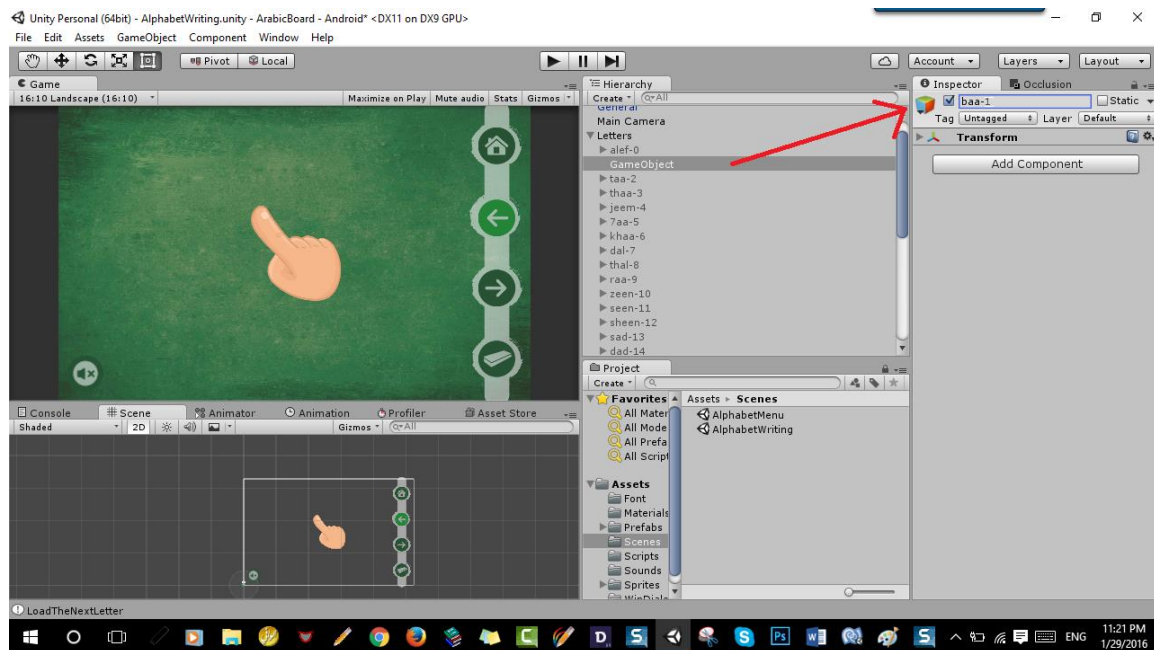


Figure 12- Create New Empty Letter

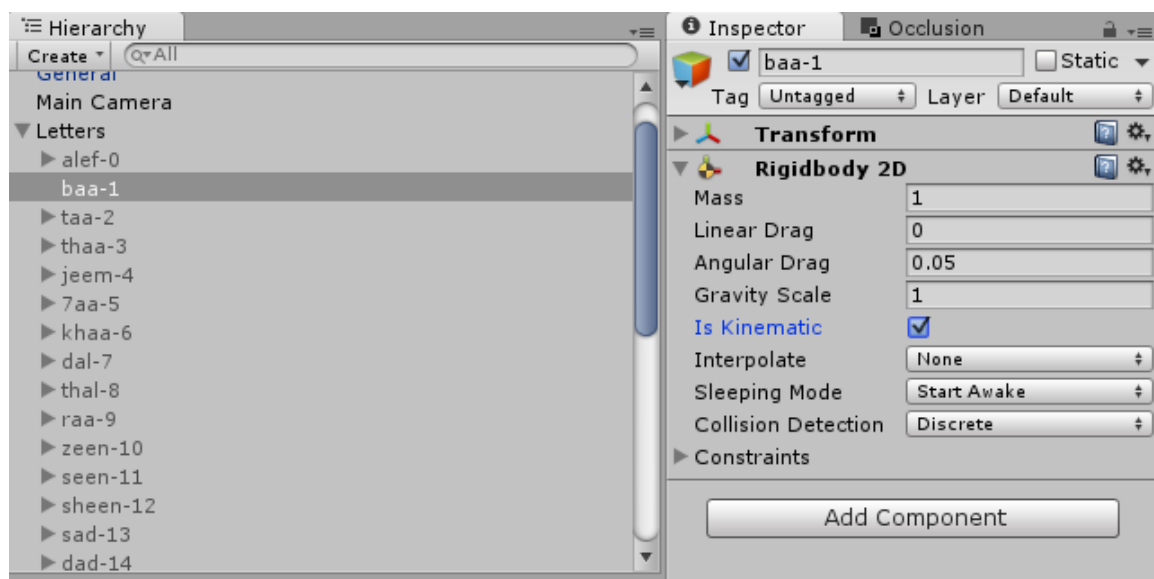
Step 2: Rename and replace the letter in the hierarchy

We renamed the GameObject to the letter that we want to design, in this case the letter is baa and its location is 2 and its index is 1 in the array so we recommend that you name it as baa-1.

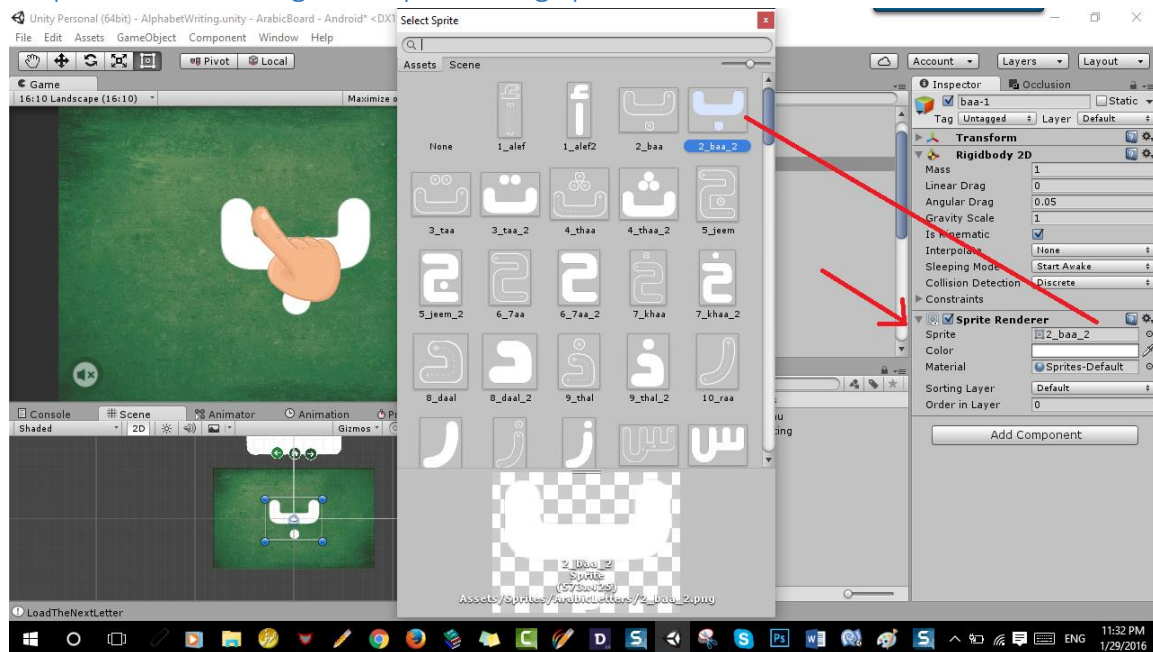


Step 3: Add Rigid Body 2D to it

After you add rigidbody 2d component we need to check the is kinematic to make this letter works as we desire in all the versions above unity4.6.

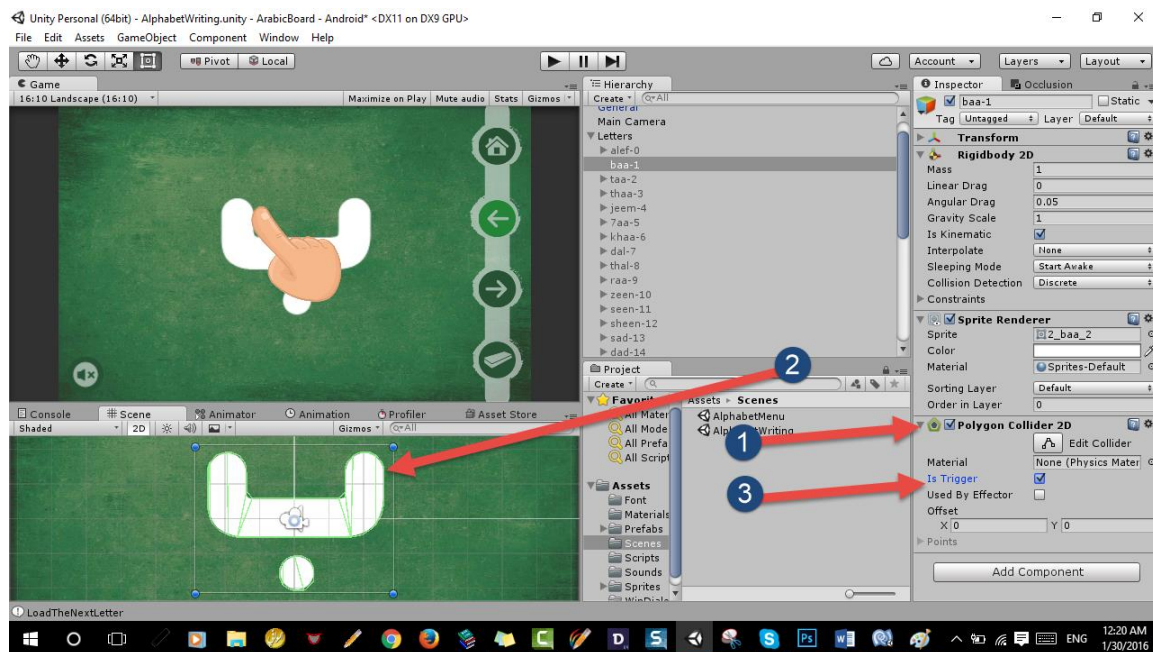


Step 4: Add and Assign the Sprite using spriterenderer for the letter.



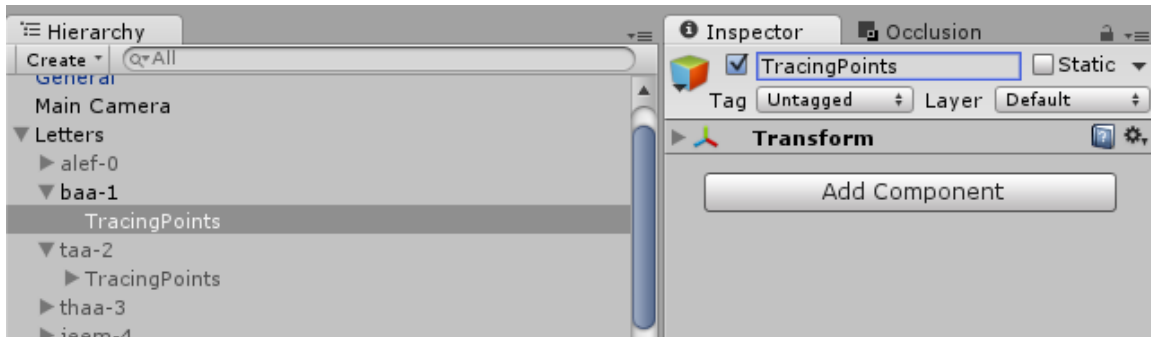
Step 5: Add Polygon collider for the letter

You need to check is trigger to let the letter be detected in the code of writing handler, after you do that you will notice a green shading layer attached to the letter game object.



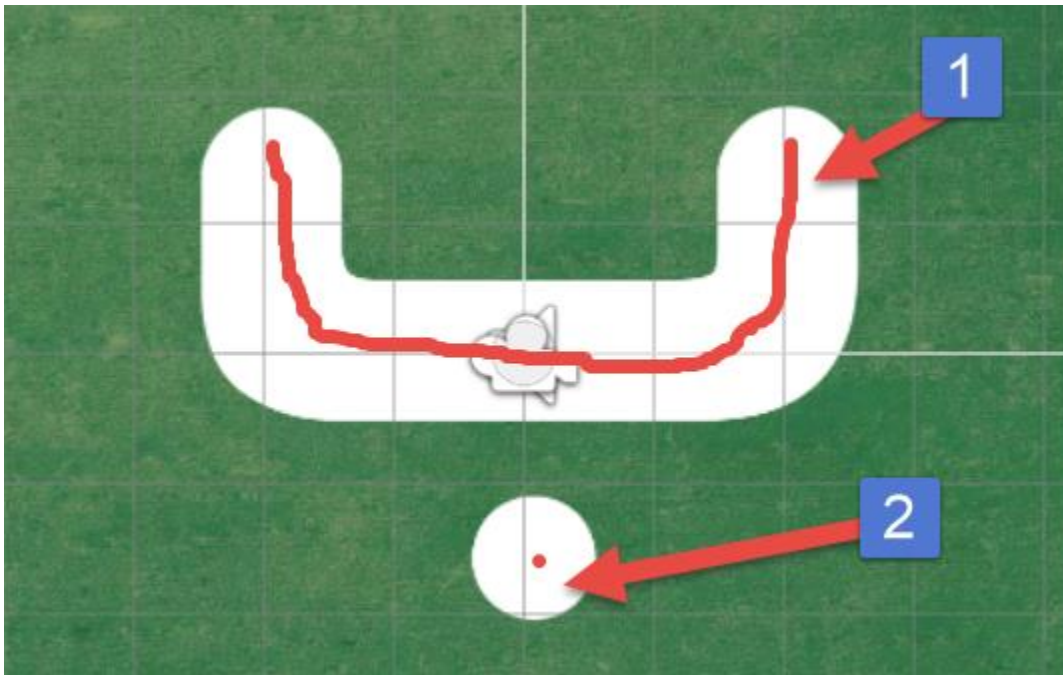
Step 6: Adding Empty TracingPoints Game Object inside the Letter

This object will have all the tracing points and parts of the alphabet



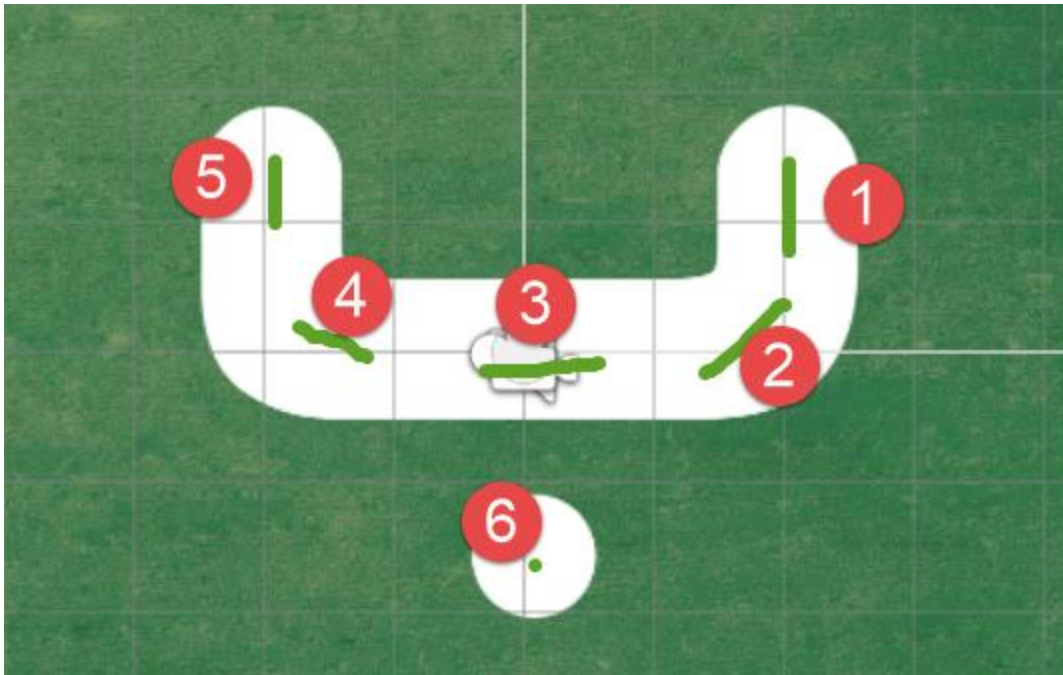
Step 7: Dividing the letter into parts

We need to divide the game object into different parts, these parts are known as tracing parts, this step is done logically, but later on will be used in the next steps, for example letter b in Arabic has two parts, the top part and the circular dot at the bottom.



Step 8: Dividing the letter into points

We need to make tracing points to measure the progress of the letter writing, these points are denoted by index such as 1,2,3...



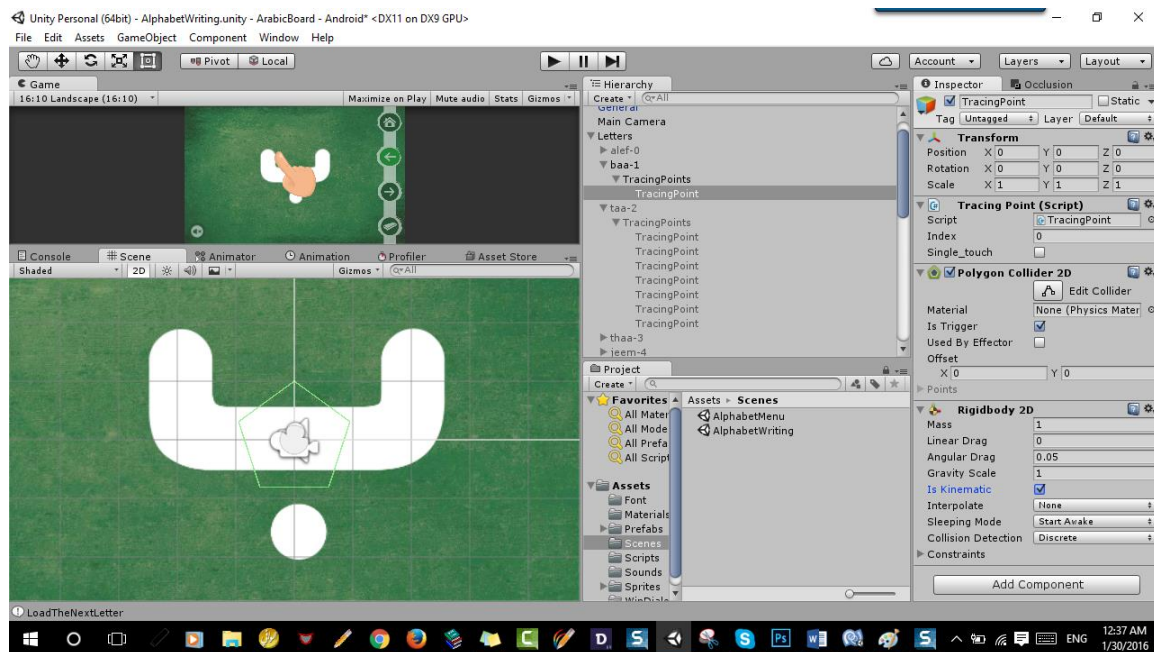
In order to make this using unity , we are going to add these points in the next step.

Step 9: Adding the tracing points to the letter

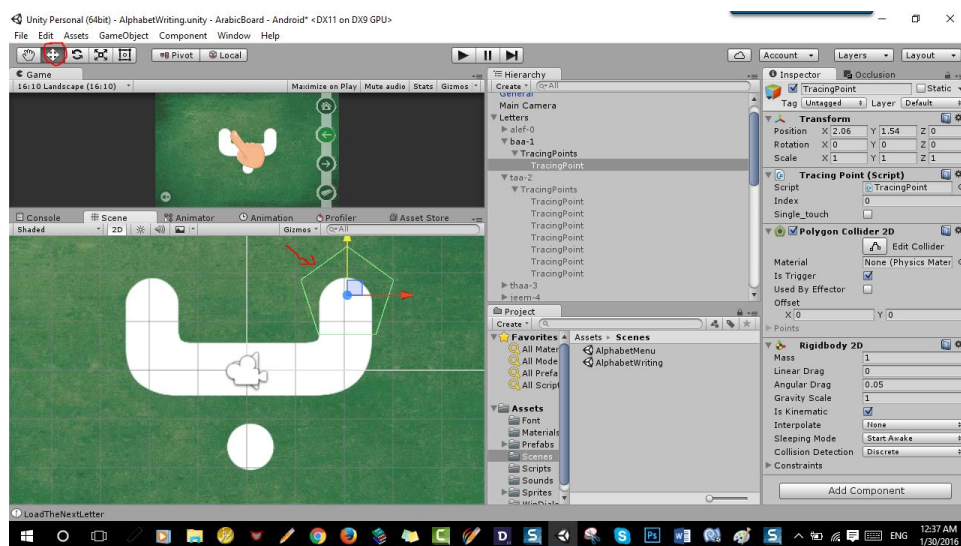
Select the TracingPoints Object inside the letter and create a new empty game object inside it by naming it as TracingPoint, add the following to the tracing point:

- Rigidbody 2d
- Polygon collider
- TracingPoint Script
- TracingPoint Tag

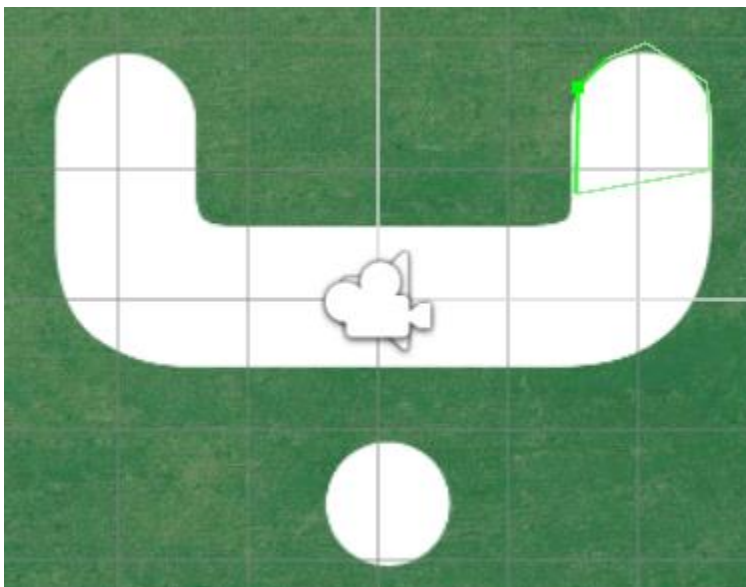
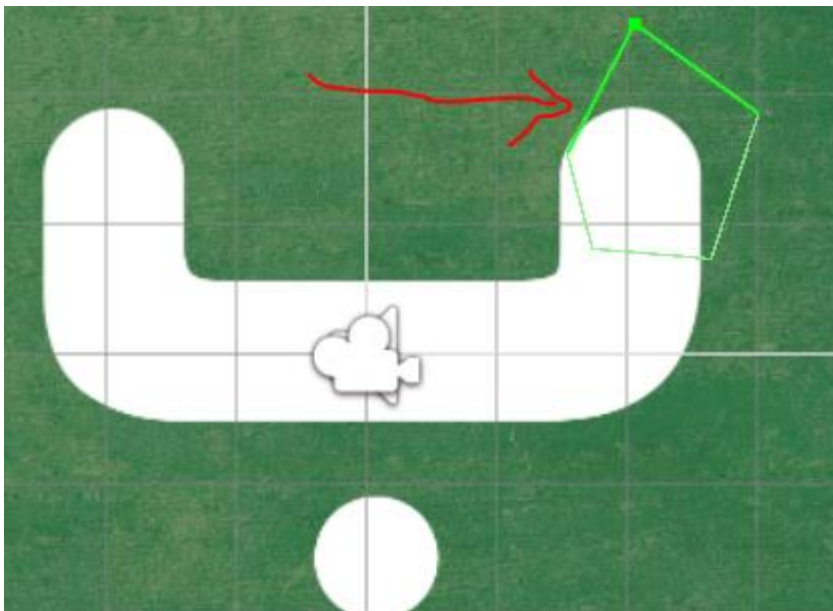
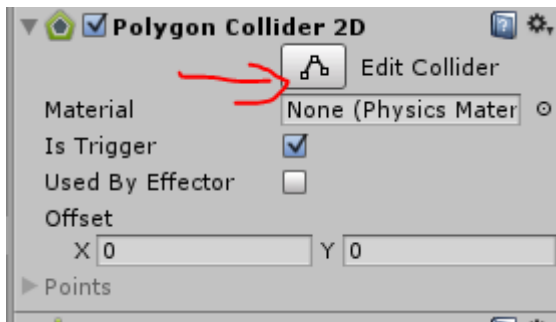
As in the following image:



After that make sure that you are selecting the 1st Tracing Point And Move it to the right and top for the first tracing point of the letter using the move tool.

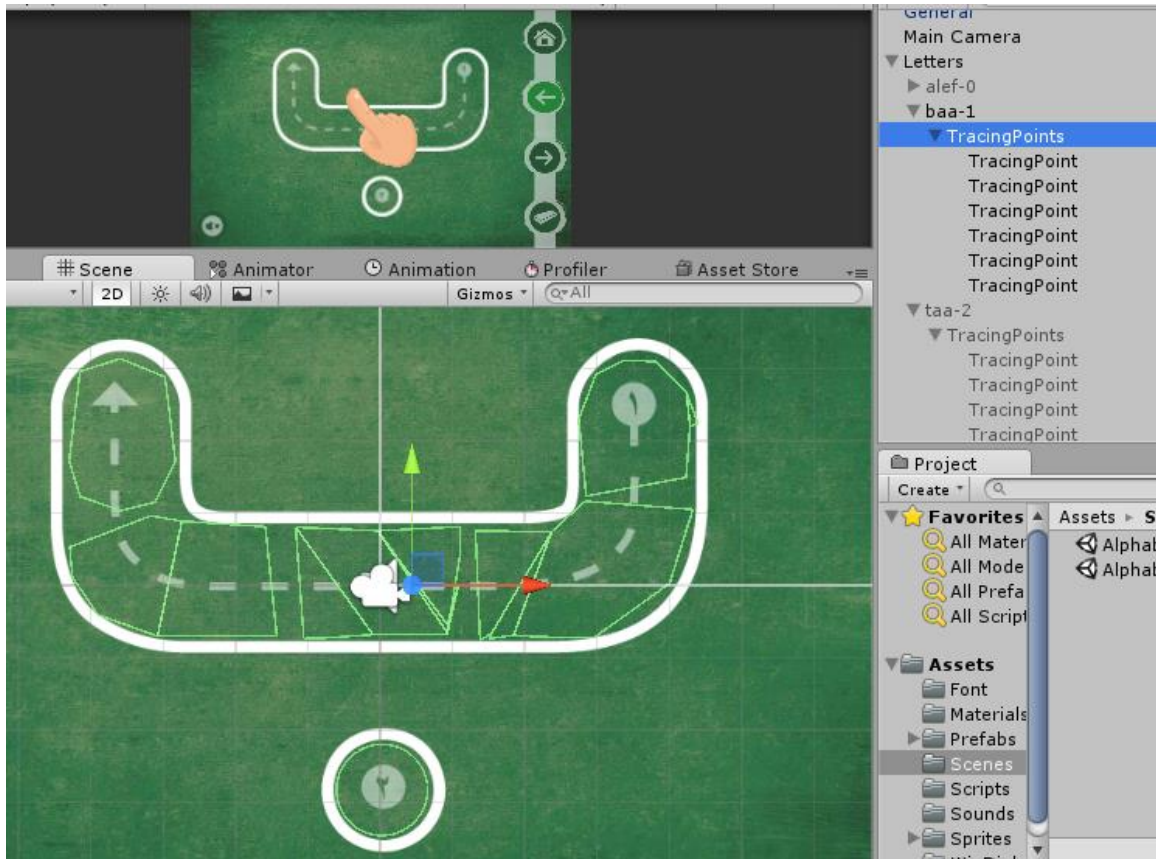


Now select The Edit collider to edit the collider of the first point as following:



- After making this step, give the tracing point Index to be 1 in the Tracing Point Index because it's the first point of the letter also make sure to assign TracingPoint Tag

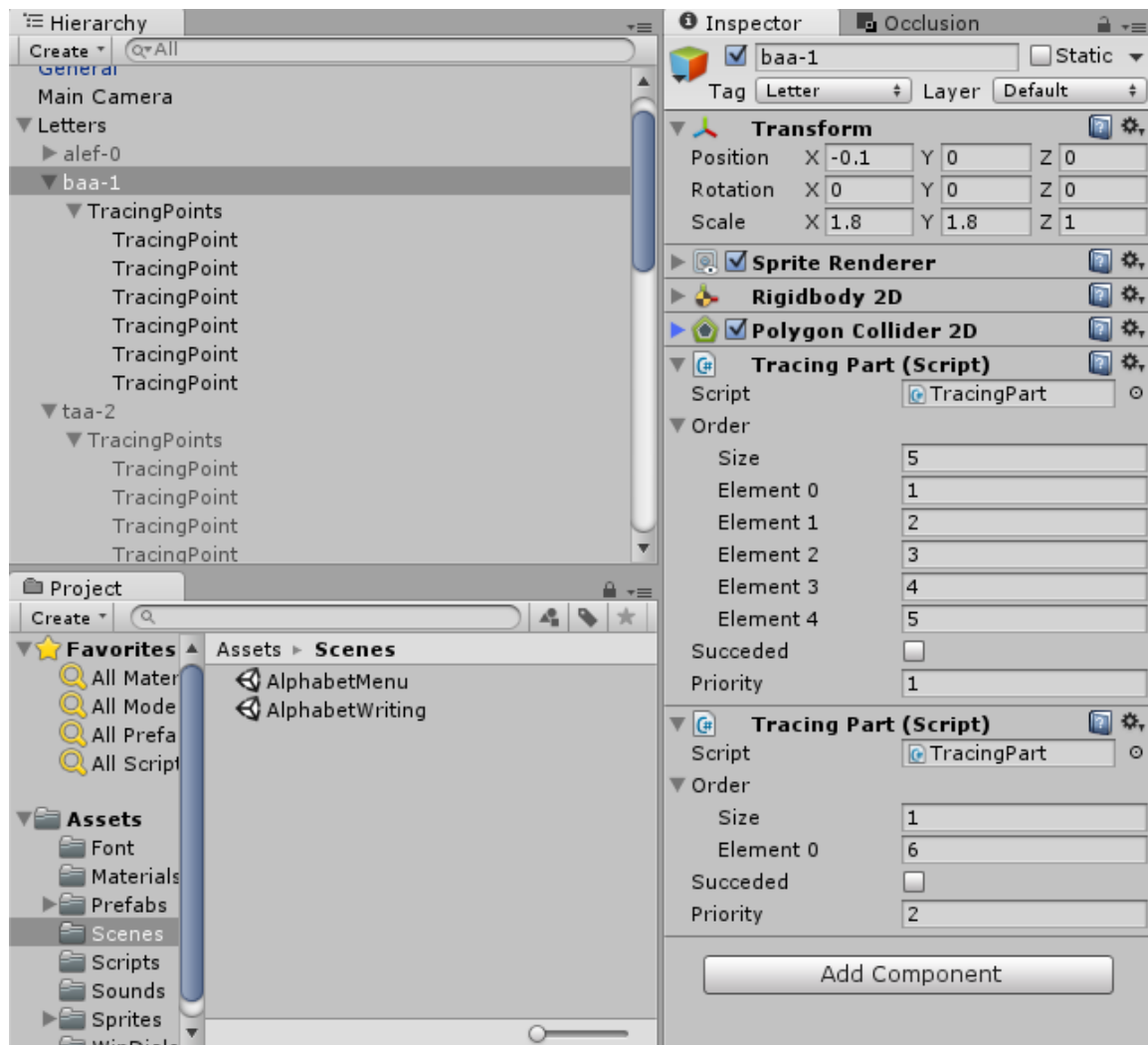
To this Tracing point Game Object, you have to repeat this step by adding more tracing points for the other points as following, each point you have to give it a unique index such as 1,2,3...



Note that we change the baa-1 sprite with the traced sprite from the sprite renderer that what is reflected in the above figure.

Step 10: Adding Tracing Parts to the tracing Points

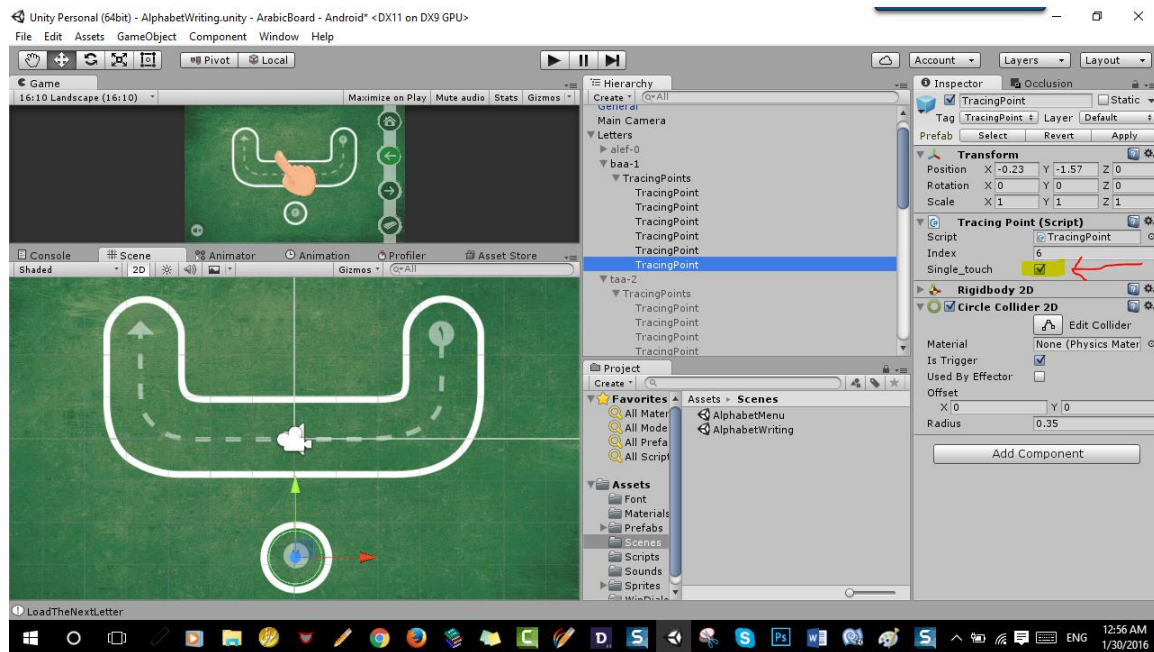
First you have to add the Letter Tag to the letter, next as our analysis suggested before, the letter b consists of two parts and 6 points, we have to add to two TracingPart Script component to it and configure the tracing points to each tracing part as following



The first tracing part consists of 5 points indicated from 1 to 5, and it's the first part so it takes priority of 1, the second part got only one point so it takes element 6 which is tracing point 6 and priority of 2, if you have in your case more parts you could add them as well with up to 20+ tracing parts.

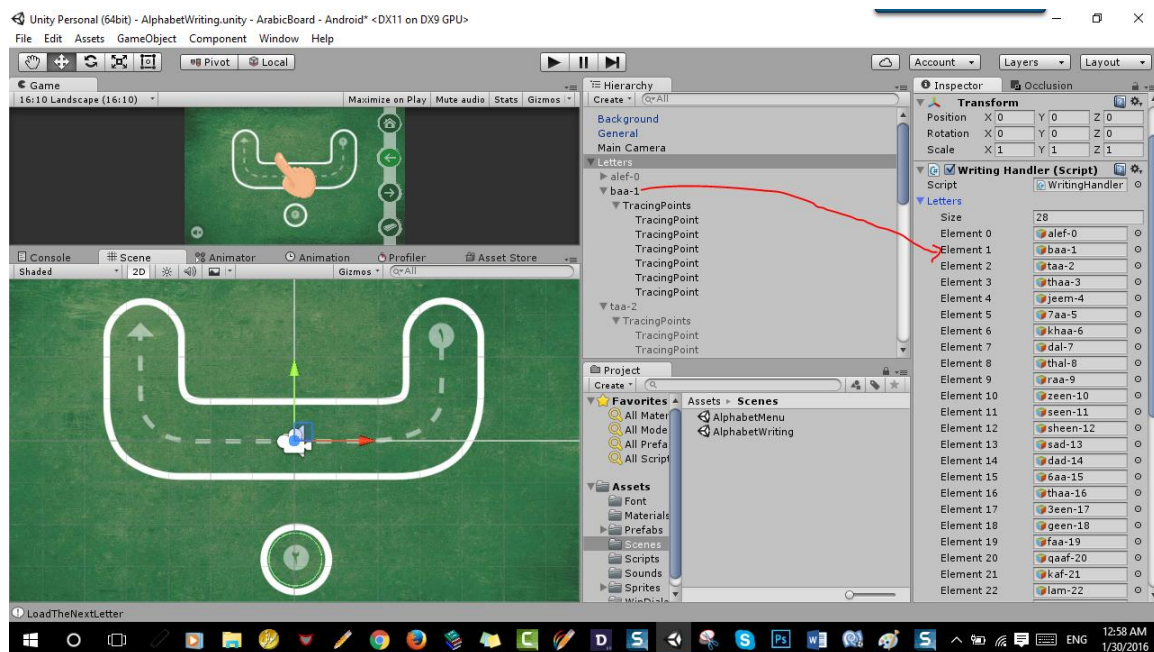
Step 11: Configure single touch points if any.

Its obvious that point 6 is a single touch point, so we have to check single touch for it



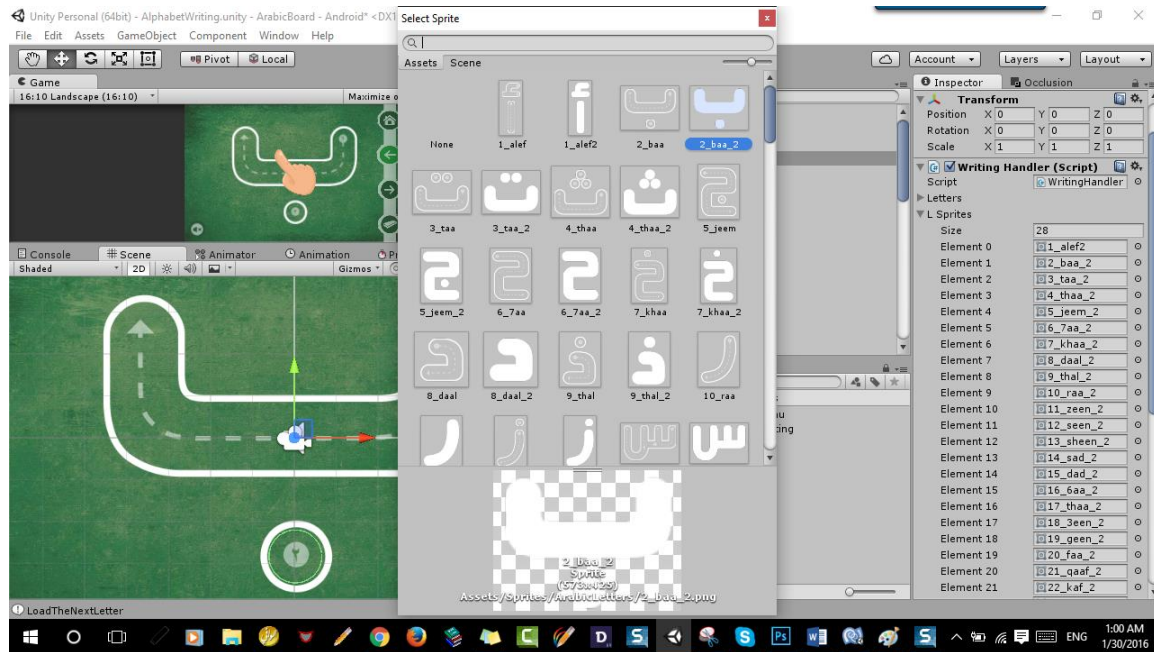
Step 12: Adding Letter to Letters Array

You have to select the letter and add it to the letters Array inside the Letters Game Object Writing Handler.



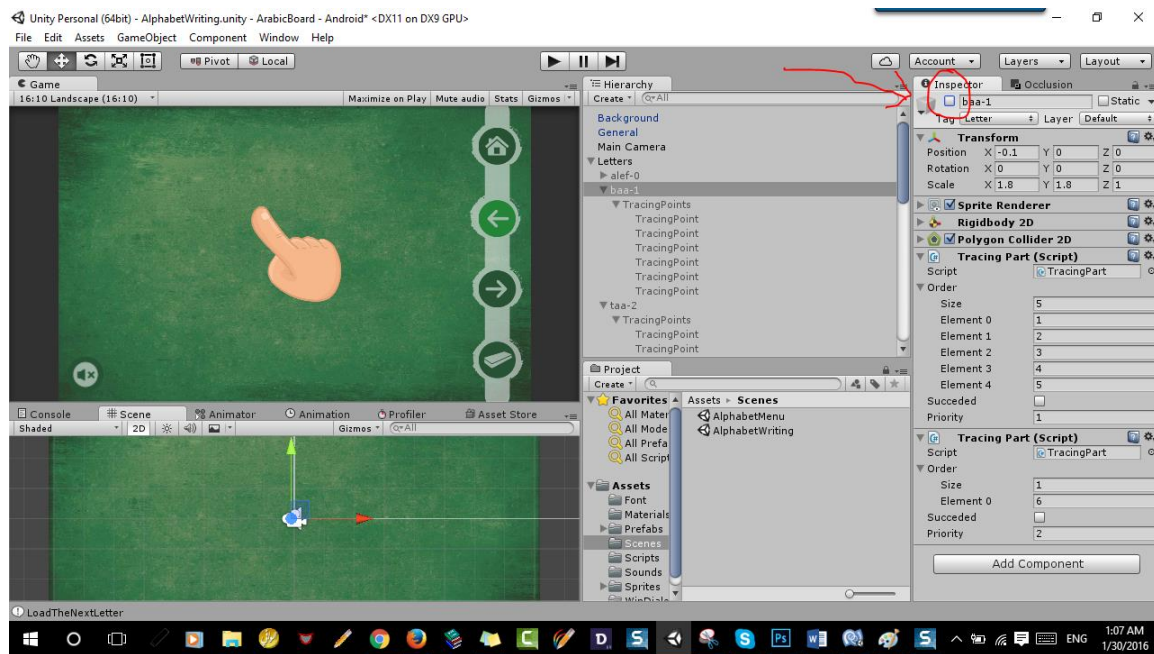
Step 13: Adding Letter Sprite to the Winning Dialog Sprites

Isprites inside the Writing Handler consist of an array of sprites per each letter, this sprite is used to display the letter inside the dialog once we finish the tracing of the letter, so you have to select the sprite in the appropriate index such as letter b as index 1 of the array.



Step 14: Deactivate letter in edit mode

Since the letters are displayed using the Writing Handler, we are going to display them using the script so its recommended to deactivate the letter after you finalize all the previous steps



Step 15: Testing the Letter In Game Play

Congratulations, You've finished the steps required to add any letter tracing to the game!



About The Author



Ahmad A.Naser is a one stop shop in web, mobile and 2d games development and design. He is a professional technical trainer at many institutions and organizations such as Pioneer, HRD, Galaxy, PITA and many others. He earned his Bachelor's degree in Computer Science from Birzeit University.

Ahmad loves educating and inspiring other entrepreneurs to succeed and live their dreams and build their own careers with his in-depth technical knowledge.

- 3+ Years' Experience in Mobile & Unity2d Development.
- 5+ Years' Experience in Web Development & Design.
- 3+ Years' Experience in online marketing and CRM systems.
- Designed his first educational game in 2005.
- Published 6 Online Courses on 2D Professional Games Development at Udemy.com

Learn more at <https://www.udemy.com/u/ahmadnaser>

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Courses Published By Ahmad

You can discover in "Unity + Unity5 Professional 2D Game Development Course" exactly how I give three years of experience in unity 2d development, publishing, monetization both for android and iOS with over \$400 free assets, Storyboard UI Kit and complete projects at <https://www.udemy.com/unity3d-professional-2d-game-development-from-a-to-z/?couponCode=UnityAZ29Deal>



You can see and learn how to build your clone of “Unity3d Alphabet Board Game Step by Step” one of my successful games both on apple store and playstore with over 200000+ download just within the first few months of release at <https://www.udemy.com/unity3d-alphabet-board-game-step-by-step/?couponCode=AhmadNaser19>



19 lectures
2 hours video

Unity3D Alphabet Board Game Step By Step

Ahmad Naser, Technical Manager,
Cloud & Web Specialist, Technica...

★★★★★ (4)

\$199

You can use the following two step by step courses in order to build your complete 2d game with a lot of inspiration in coding and design using adobe illustrator and unity4.5+ and unity5.

<https://www.udemy.com/unity3d-paint-book-2d-game-step-by-step/?couponCode=AhmadNaser19>



14 lectures
51 mins video

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Ahmad Naser, Technical Manager,
Cloud & Web Specialist, Technica...

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ONE LAST THING...

If you enjoyed this manual or found it useful I'd be very grateful if you contacted me and leave us a great review on the asset page. Your support really does make a difference and I read all the emails personally so I can get your feedback and make this asset and manual even better.