What is Gesture Recognizer?

Gesture Recognizer is a very simple tool for handling and recognizing user input. Users can draw on the screen and Gesture Recognizer can recognize the sketch.

How do I use Gesture Recognizer?

Gesture Recognizer is very easy to use:

1- Put `gestures.xml` in Resources folder in Assets folder. The name of this XML file ("gestures") will be your library name.

2- Define a new GestureLibrary variable (Do NOT construct your instance here, you need to do it in Start()):

```
private GestureLibrary gl;
```

3- Construct it in `Start()` method with your library name (as stated above, it is "gestures"):

```
void Start() {
   gl = new GestureLibrary("gestures");
}
```

4- Capture mouse (or touch) position `in Update()` method:

```
List<Vector2> points = new List<Vector2>();

if (Input.GetMouseButtonDown(0))
{
   points.Clear();
}

if (Input.GetMouseButton(0)) {
   points.Add(
      new Vector2(Input.mousePosition.x, -Input.mousePosition.y)
   );
}
```

5- Create a Gesture from captured points and recognize it:

```
if (Input.GetMouseButtonUp(0))
{
   Gesture g = new Gesture(points);
   Result result = g.Recognize(gl);
}
```

6- At this point, the result variable would hold the name of the recognized gesture and its score:

```
Debug.Log("Recognized gesture: " + result.Name + "; score: " +
result.Score);
```

Problem: It does not recognize accurately! I drew a triangle but it says "it is recognized as rectangle". What gives?

Solution: Open up the demo scene, draw whatever you want to draw, if it doesn't recognize accurately, just enter the correct name in "Add as" field and click "Add". The more you teach, the better GestureRecognizer recognizes. But beware, GestureRecognizer uses strings as keys for gestures. That means, you need to write the correct name while adding a new gesture. If you draw a rectangle and name it as a triangle you might get confusing results.

Problem: I just added a new gesture with wrong name!

Solution: Open up `gestures.xml` in your favorite text editor (mine is Notepad++), and delete the last gesture you added. It should be something like this:

```xml
<gesture name="wrong-name" usergenerated="true">
    <point x="307" y="216" />
    <point x="333" y="186" />
    <point x="356" y="215" />
    <point x="375" y="186" />
    <point x="399" y="216" />
    <point x="418" y="186" />
  </gesture>
```

Problem: I have added new gestures, but it doesn't seem to be included in my build!

Solution: GestureRecognizer copies the XML files from Resources folder to persistent data path if <u>it is not already there</u>. It saves new gestures to the XML file in persistent data path, <u>not the one in the Resources folder</u>. This ensures that you can save your new gestures to the XML file on all platforms (except web player). If you want to include your latest XML file, go to the persistent data path, you will find your XML file there. Copy it to your Resources folder. Now it will be included in the build.

Problem: I can't save new gestures!

Solution: Is `gestures.xml` in Resources folder, directly under Assets?

Problem: I don't want your gestures, I want to define a whole new set!

Solution: Open up `gestures.xml` in your favorite text editor (remember Notepad++?), remove everything between `<gestures>` and `</gestures>`. File should look like this:

```
<?xml version="1.0" encoding="utf-8"?>
<gestures>
</gestures>
```

Start the demo scene and start adding your new gestures.

Problem: I have cleared gestures.xml, now it gives me this error:

XmlException: Text node cannot appear in this state. Line 1, position 1.

Solution: Be sure `gestures.xml` file starts with
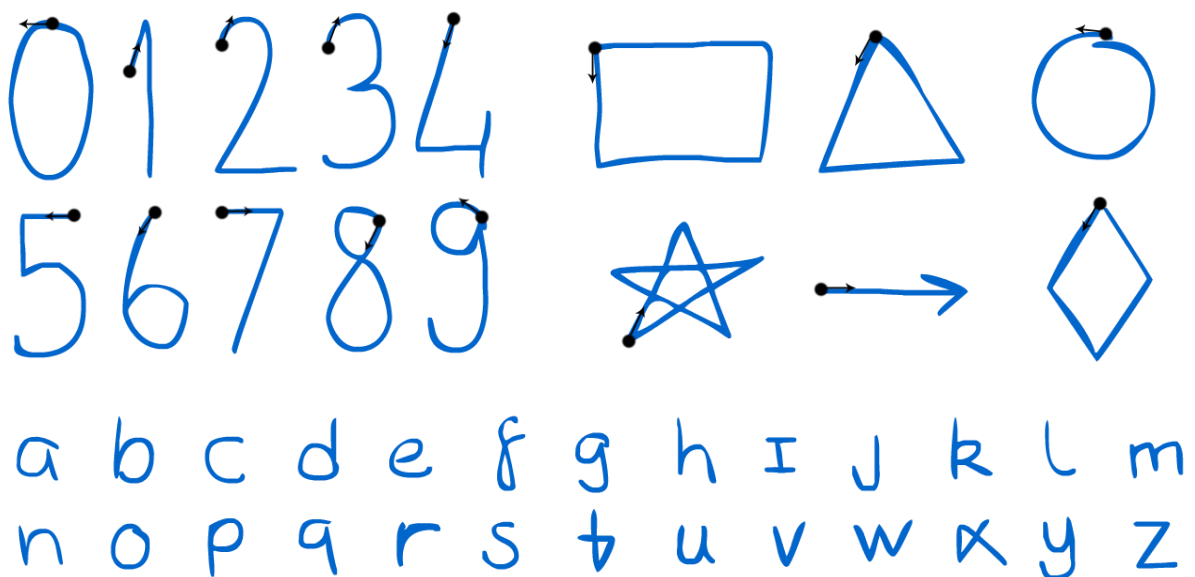
```
<?xml version="1.0" encoding="utf-8"?>
```

and the encoding is set as UTF-8 without BOM.

Problem: You talk about gestures.xml but there isn't a gestures.xml file!

Solution: With the new release I have included 3 gestures libraries and they are named appropriately to reflect their contents: `alphabet.xml, shapes.xml, numbers.xml`

Problem: But what gestures are in them?

Solution:

Problem: Are there two methods for recognition or is Visual Studio playing games with me?

Solution: Yes, there are two different methods for recognition. In the fifth step above, instead of using;

```
Result result = g.Recognize(gl);
```

You can use;

```
Result result = g.Recognize(gl, true);
```

to use the second method. They use different scoring algorithms, and second method seems to be a little faster. Experiment with both methods to see which one is best suited to your project.

Problem: I followed the document exactly but I cannot see anything on the screen?

Solution: You need to add your own code to see the gesture on the screen. You can use the code in `CapturePoints.cs` as a base for your own script. Hell, you can even use it as it is.

Problem: Who are you again?

Solution: My name is Oguz Konya. I am a software developer located in Ankara, TURKEY. I mainly develop games and simulations for customers only.

Problem: How can I contact you?

Solution: Just email me at oguz@oguzkonya.com or oguzkonya34@gmail.com. Please use a clear subject related to product such as "GestureRecognizer can't seem to overthrow the world".