# WATER 2D LINE
# MANUAL

# 1. Changelog

v1.0 - Initial version

# 2. What's inside

First of all: Thanks for buying this package!

In this package you will find:
1. "Water2D.cs" : This will create the water visually
2. "Buoyancy2d.cs" : This will handle physics
3. "FloatingObject.cs": Needed for each GameObject that is going to be underwater
4. Two shaders: One for PC/Mac with distortion (Currently doesn't work on WebPlayer) and another cheap one for mobile
5. A sample scene with everything up and running

# 3. Creating water

For creating a water plane from scratch you should follow this steps:

6. Attach to an empty GameObject the script "Water2D.cs"
7. Set the with and height for the water plane
8. Choose the subdivision number. This will define the resolution of the water. No for having more subdivisions the simulation is going to feel better. Try some numbers to see whats fetes of with your scene
9. **Tension, Dampening, Spread, Object size dampening** and **Neighbors**, are the values that you should tweak if the water doesn't behave well in your scene
10. Choose your preferred water material
11. Setup the particles system for the splashes
12. "The height limit to splash particles" is the limit that a wave must overcome to emit a particle when moving back to its rest position
13. Add your custom splash sounds to the sound list. They will be chooses randomly
14. Tweak the idle water forces.  If you set this too high you will se a strange wave form left to right. Try lower values for the "**Idle factor**" and higher for "**Idle waves Speed**"
15. Choose the colors for the surface and the deep
16. Set the surface Line width. If is set to 0 the line will be disabled
17. Set the surface line material and color
18. If you like to auto create a collider change the "**Create Collider**" to true and set the Z depth for it
19. Now you have two options:
    1. Press "**Create Water**" button to create the water plane in the editor
    2. If there is no water plane, it will be created when the level is loaded

Following this steps you will have the water up an running. You just have to create a GameObject with a rigidbody and a collider and press play. You will see how the object interacts with the water without any physics.

# 3. Setting up water physics

**NOTE**:  This is not a package with incredible buoyancy physics. What is in here is just a really simple implementation

If you like you can add some simple water physics to the scene. The steps are:

1. Add to the water plane GameObject the script "Buoyancy2D"
2. From there you can tweak:
   1. Drag coefficient: Force that will oppose to the object movement
   2. Angular drag coefficient: Force that will go against the object rotation
   3. Buoyancy factor: Modifier of the upward force.

For an GameObject to work with this physics you need:
1. Add to the GameObject the script "FloatingObject.cs": This is used to calc the volume of the object. You can use the "Set bounds as floating area" button to automatically setup the floating area based in the bounding box of the object
2. Add a rigidbody

The object density will be calculated based on the rigidbody mass and the floating area.

# 4. Notes

There is a shader for pc and another for mobile (without the water distortion). The PC shader does not work on the Webplayer for now.