Manual

Fast Introduction

Physics Workshop is a small game created for a science project. Its goal when creating was to get students interested in simple machines, physics, the lot! The goal is to get a ball from one side of the screen, to the other, using inclined planes, and screws to hold some things in place. Students are to have fun while learning.

How to Play

Installation

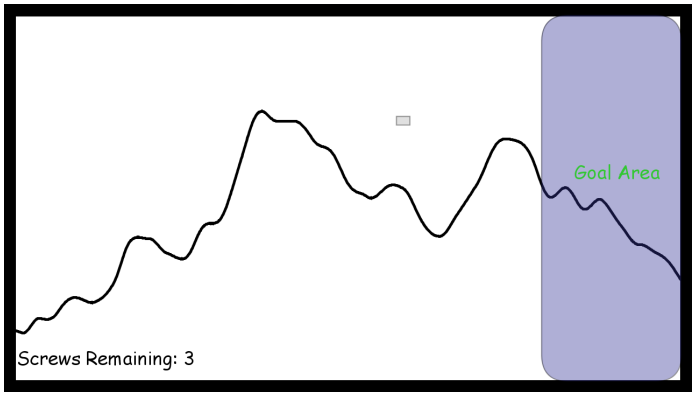
If you are on a PC download the 64-bit or 32-bit version of the game, extract into a folder somewhere, and run the *.bat or *.exe file

If you are on a MAC download the MacOSX version. Extract the *.app file to your desktop. In terminal, navigate to your desktop and type “chmod +x PhysicsWorkshop.app/Contents/MacOS/JavaApplicationStub” without the quotes. This will allow you to double-click the file and play the game

If you are on Linux download the 64-bit or 32-bit version. Run the file in the zip and play.

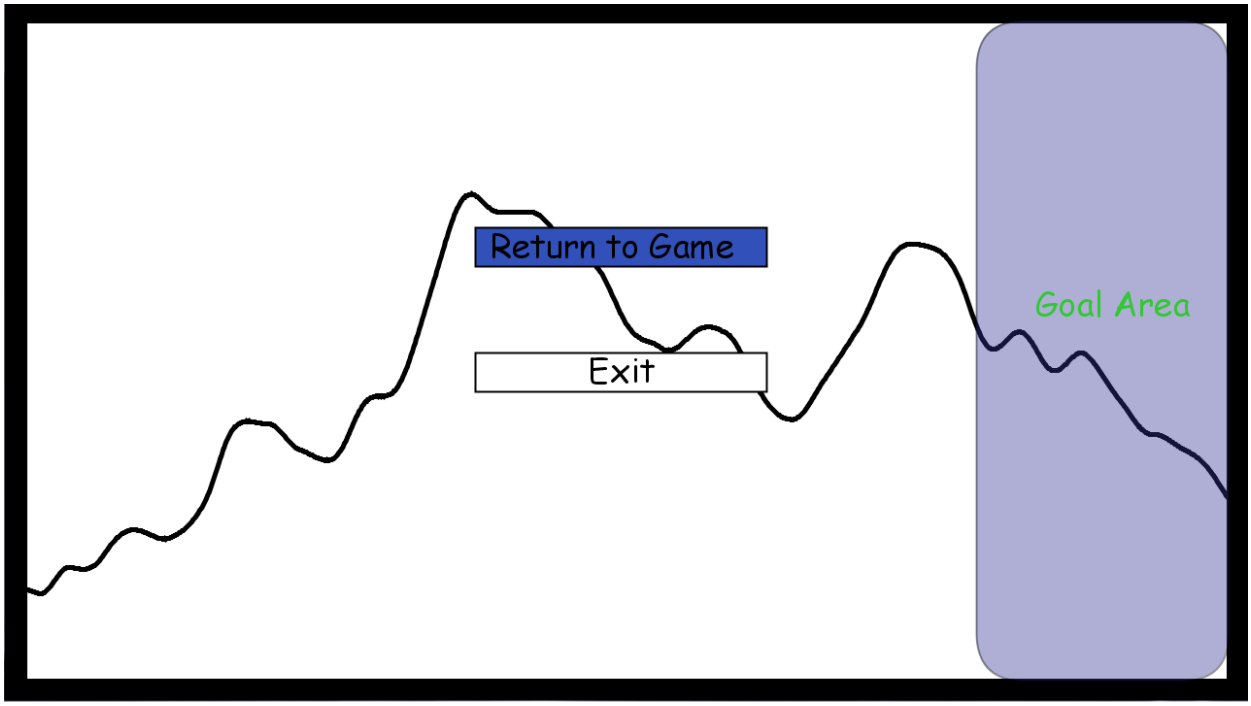
Gameplay

When you first startup the game, you will be presented with a screen with your mouse as a box and some hills/mountains. It will look something like this:



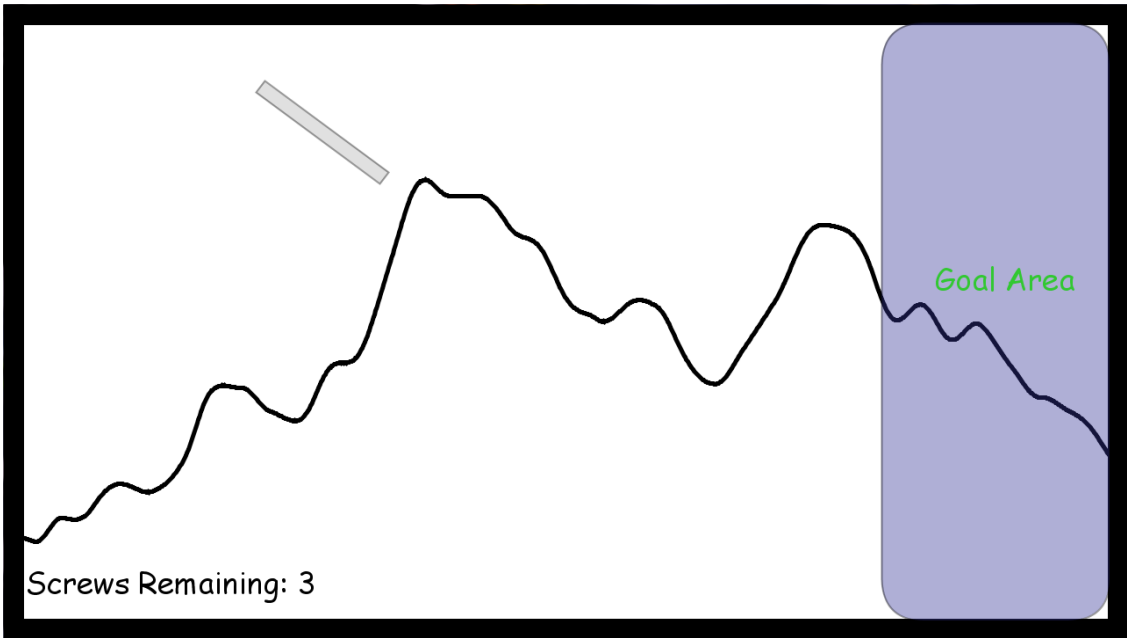
This is the typical game screen, where you will be playing. The terrain is randomly

generated, so you will be able to play something different every time! If you press the escape key on your keyboard, it will bring up the pause menu:



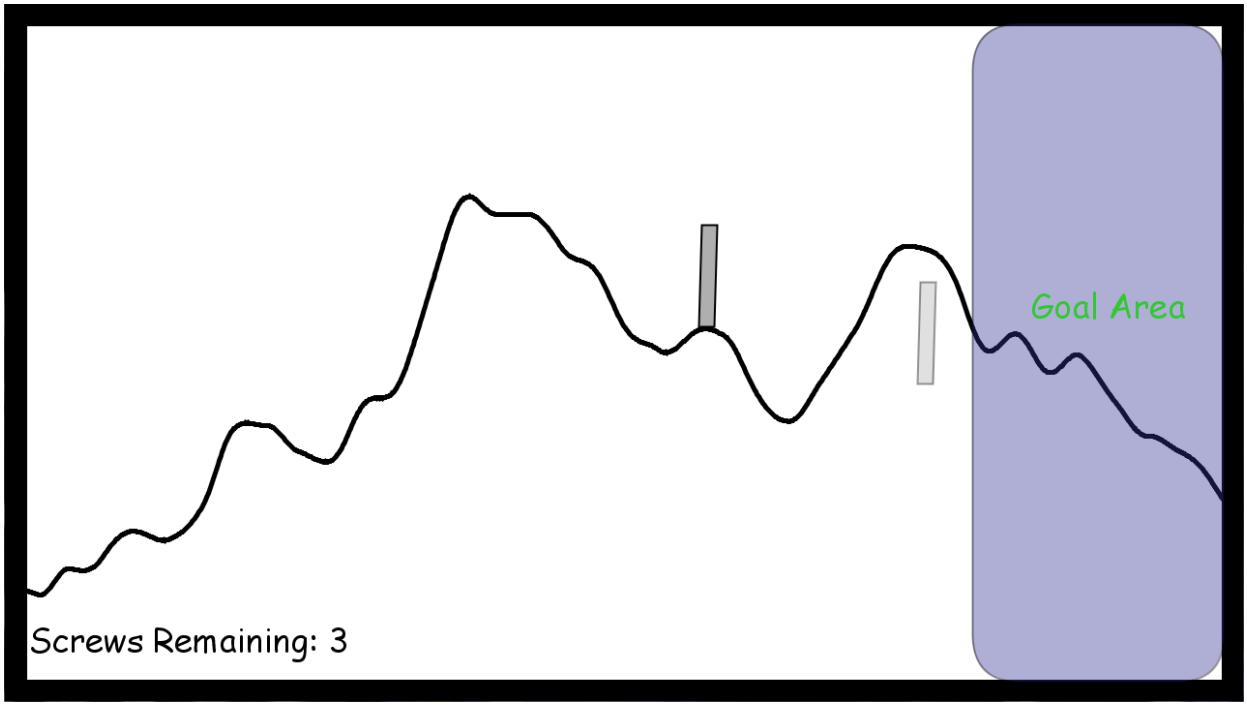
From here you can return to the game, by clicking “Return to Game” or by pressing escape again, or you can exit, by clicking “Exit”. Click return.

That little ghost of a block is what you will be using to construct your solution. You can rotate it with ‘Q’ and ‘E’ on your keyboard, and resize it with ‘A’ and ‘D’.

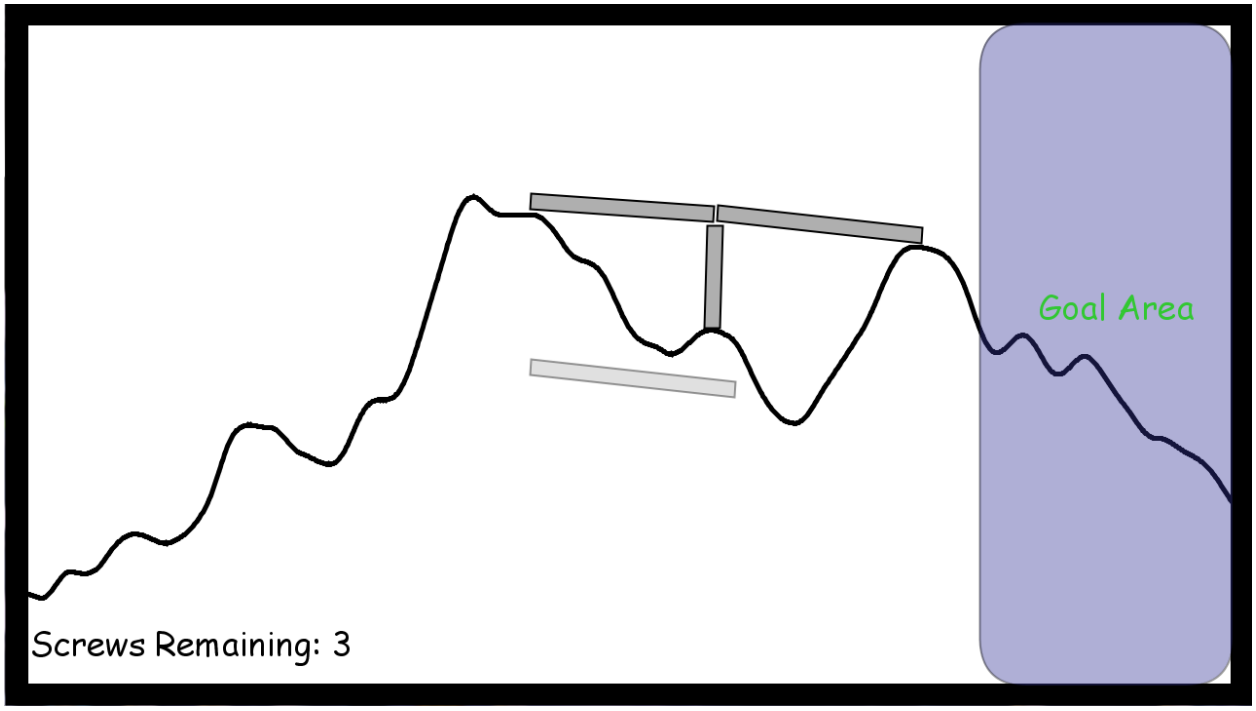


To place it, move it to a suitable location, rotate, and resize it, then click to place it as I have

done here to create a support for my bridge/ramp:

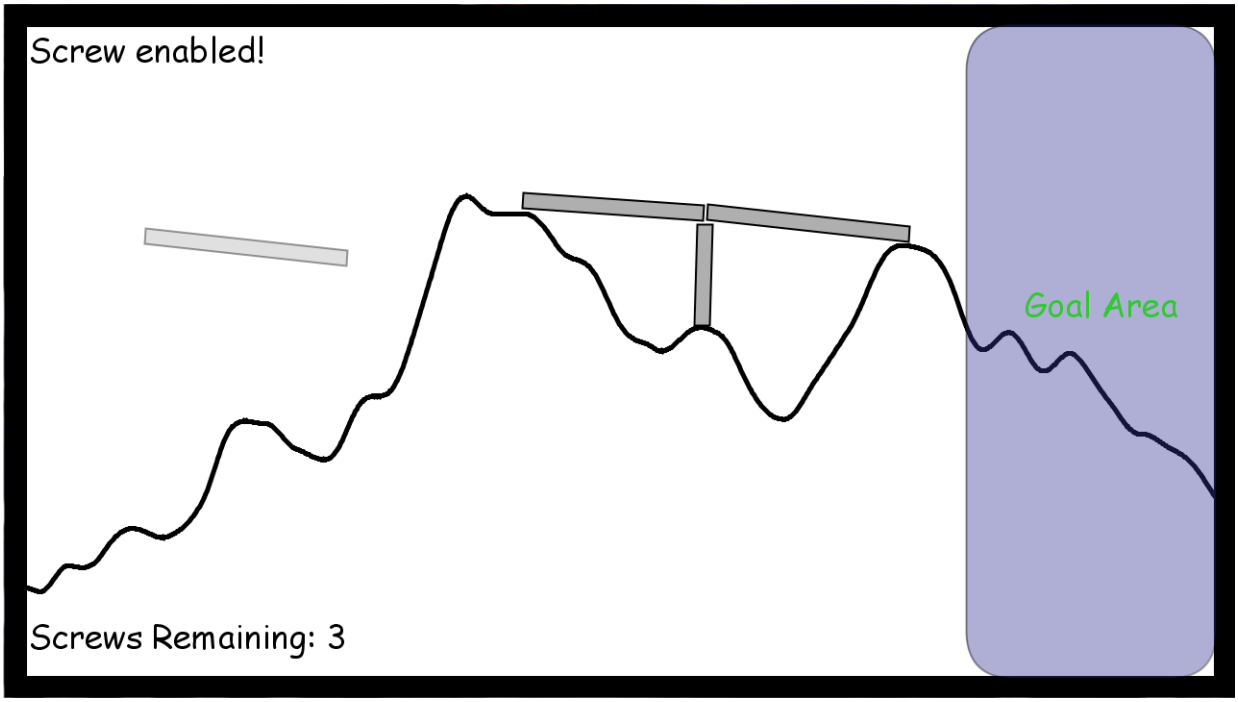


I then proceeded to build the surface of my bridge:

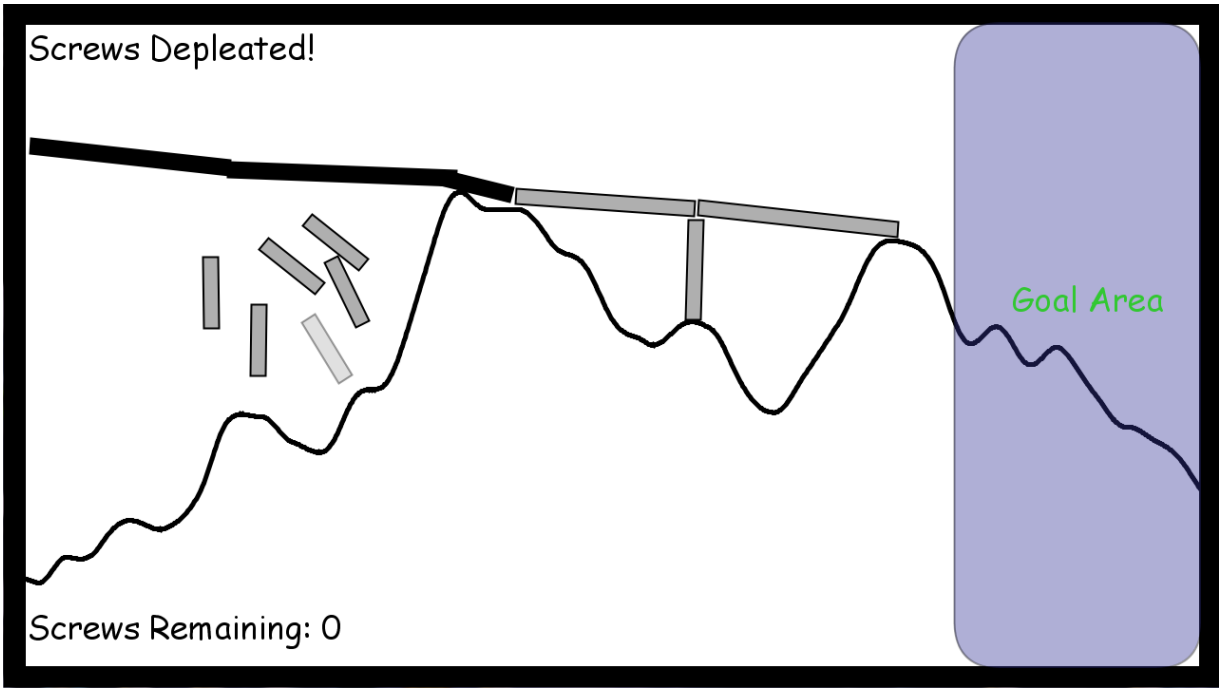


Building a ‘Normal’ bridge over that really low area on the left would be a long tedious

process. This is why screws exist. Press ‘B’ to activate screw mode:



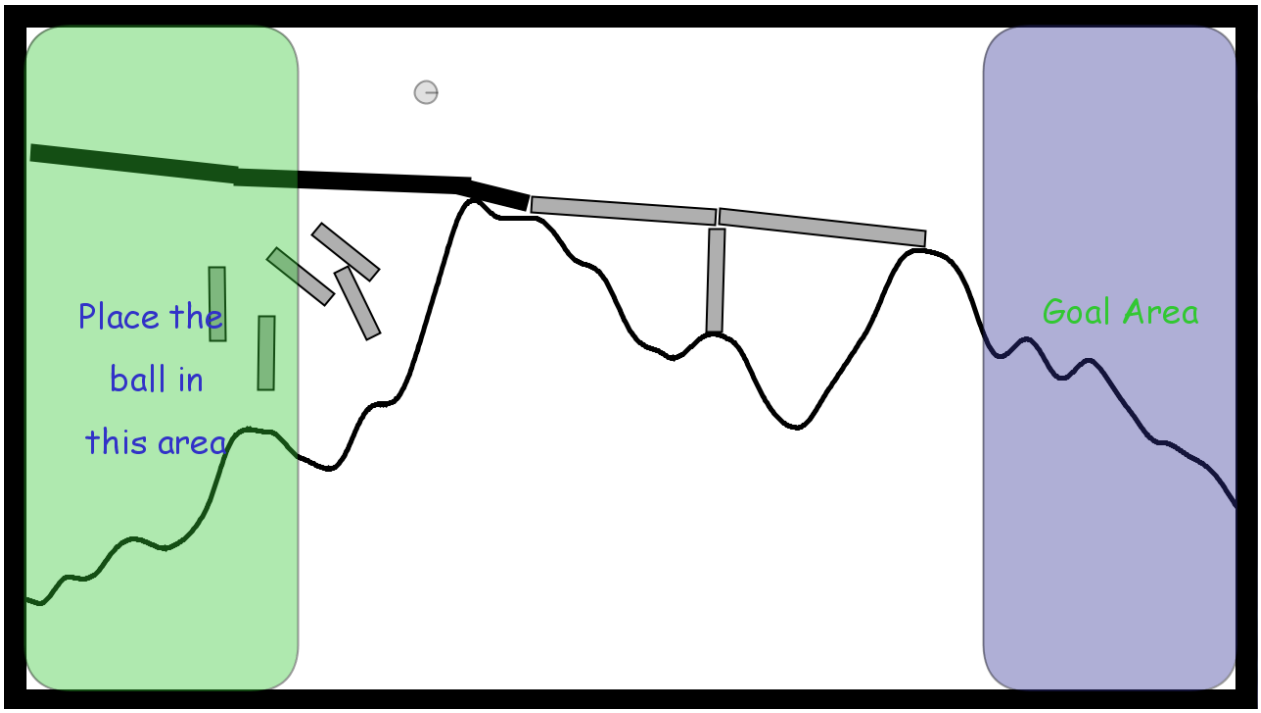
In the top left you will notice a small notification, letting you know the things you next place down will be screwed in. I began building a bridge from the left edge of the level:



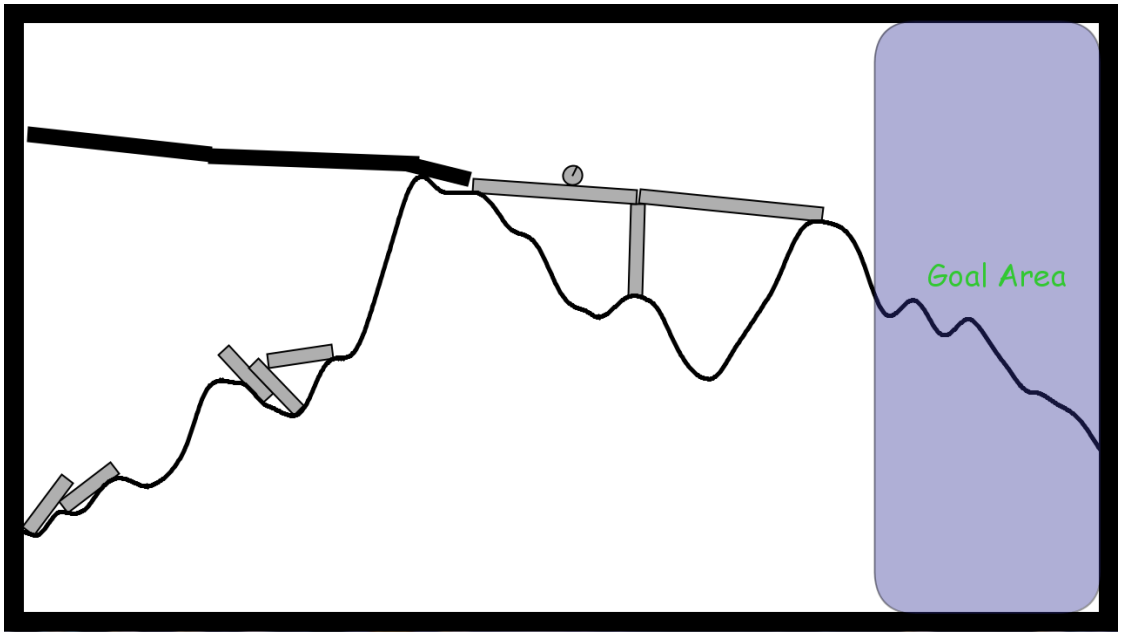
As you will notice, as you place the screwed in objects, your screws remaining will drop

and when you run out, you will get the message: “Screws Depleted” if you try to place any more they will just be normal blocks. Screwed in blocks are also black.

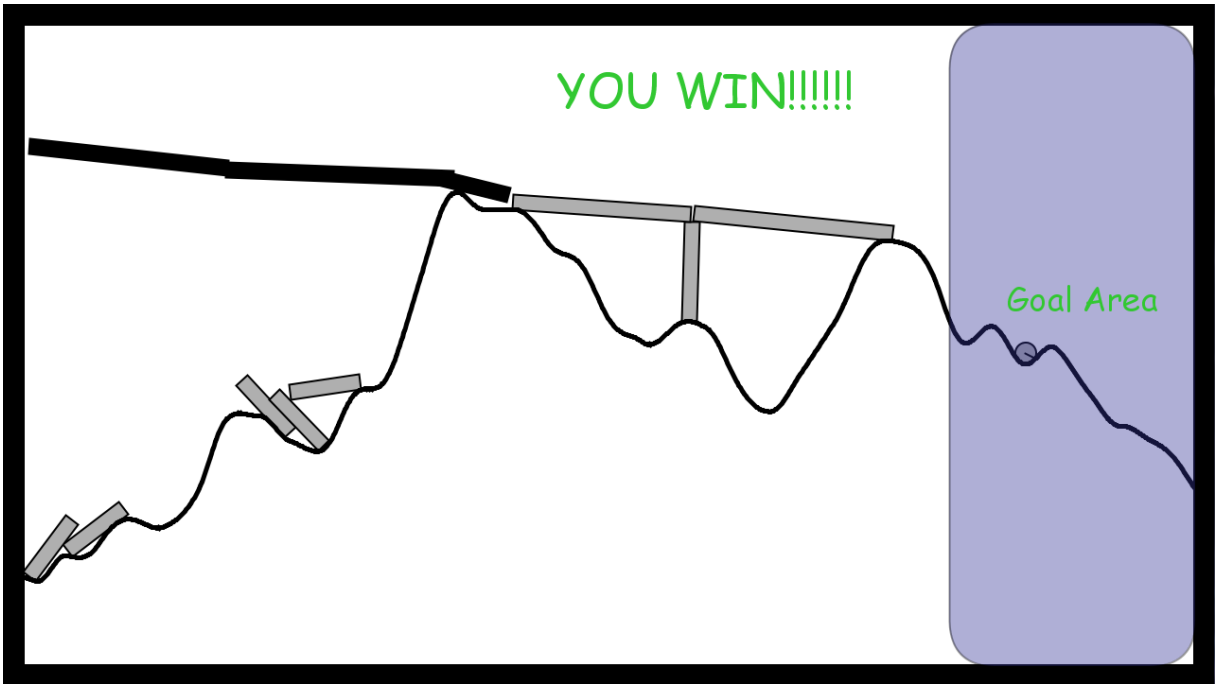
When you think you are ready to run the level, press the spacebar.



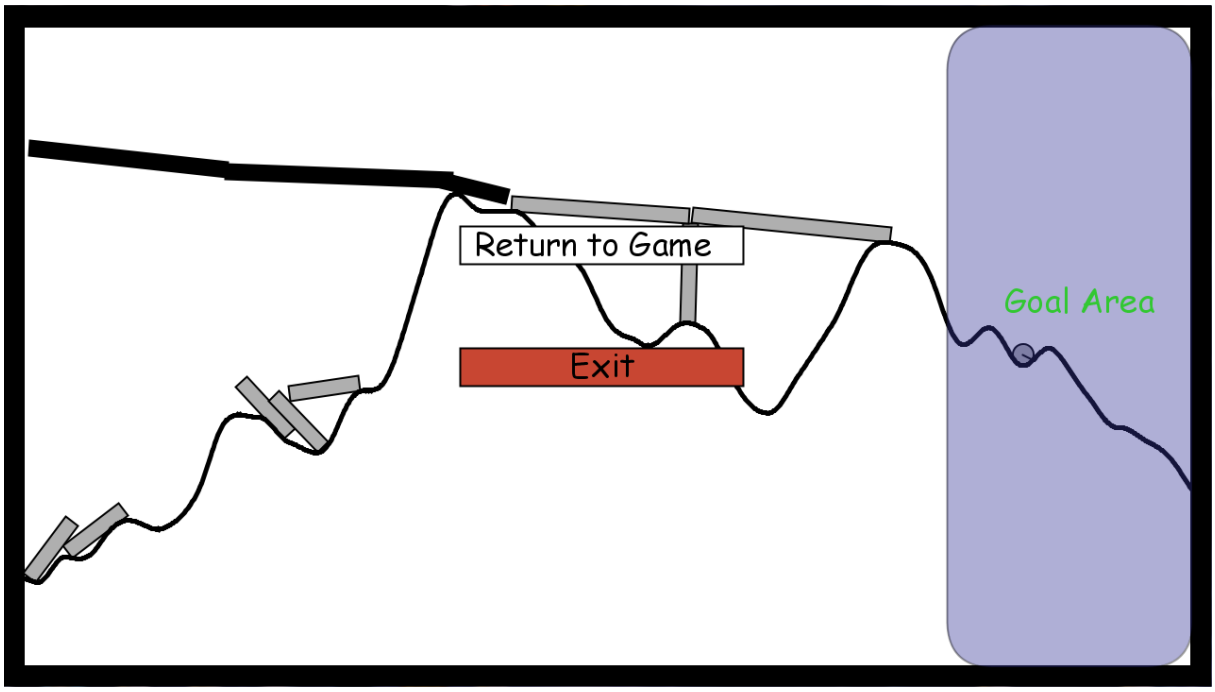
In this mode, you will be placing the bass at the left edge of the screen. At this point you will not be able to place any more blocks, so make sure you are ready. As soon as you place the ball in the area, the simulation will begin:



If the ball gets to the end, then you will get a nice congratulations message:



At this point you can bring up the escape menu to quit or stick around and admire your handiwork.



Have fun playing physics workshop!