Creating and spawning the AI Classes

When creating the AI for Nebula Knights I had to find a way of ensuring we could spawn a lot of enemies at once. I found the easiest way of doing this was spawning new enemies from a prototype AI class. Or Rather spawning different kinds of AI from own prototype classes. So the all the slimes in the map derived from the same slime prototype class and all the Grunts had their own prototype class too.

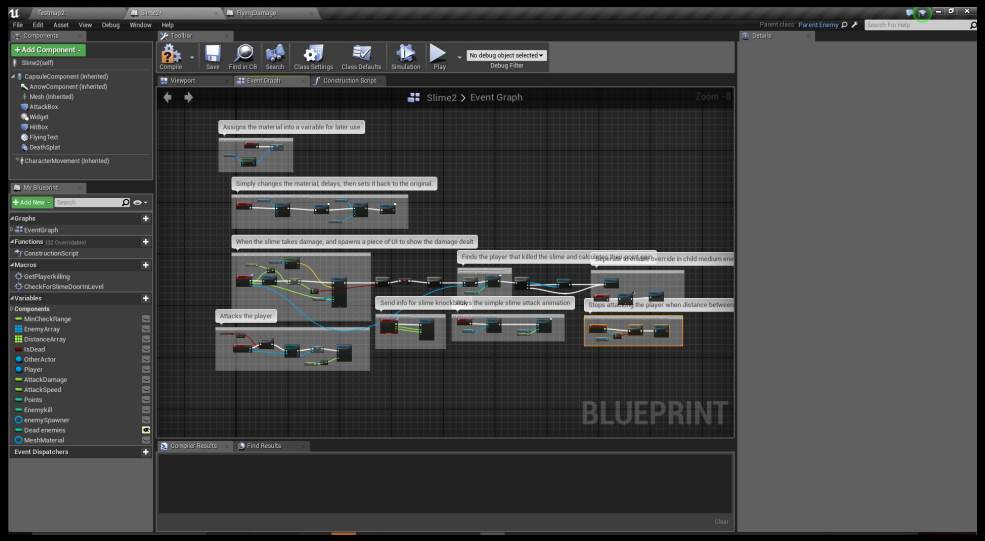

Fig 1. Slime Prototype class

Having all slimes as a clone of the above class not only made the game run better it allowed us to create a way for lots of enemies to appear on the map at any one time with comparatively little programming. This also decrease the likelihood of inconsistencies between each slime, allowing them to behave in the same way.

Other Types of AI work ina similar way, but coming from diffferent prototype classes, which I personnaly found to be the best way to spawn our AI enemies into the game.

The way I achieved the cloning was through the various spawner objects that can be placed throughout the world. These allowed a simple spawning function that would clone the AI class and spawn it in the world. These could be done for many different kinds of enemy. To ensure that the enemies didn't all look identical I added some code to the construction script that would choose between two different materials on spawn.

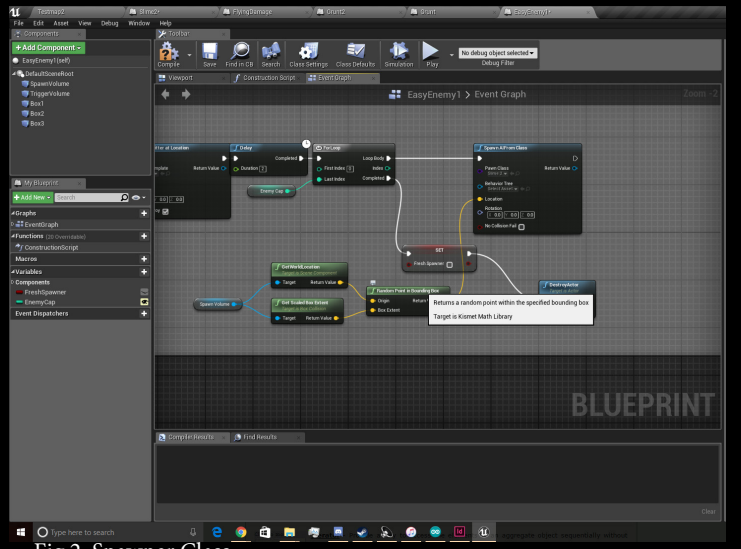

Fig 2. Spawner Class

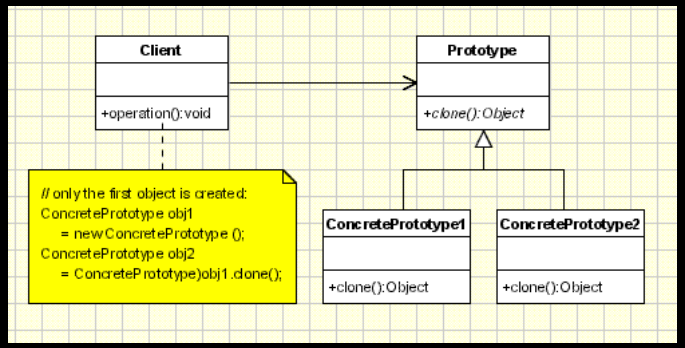

Fig 3. UML Prototype diagram.
http://www.oodesign.com/prototype-pattern.html

I belive using a prototype is the most effective way of spawning things into a world en-masse. It means that relatively little work needs to be done to spawn large amounts of things into the world that requires two pieces of code. It also means if they don't work, you only need to fix the one prototype script.