Modular Combat Platform

The Modular Combat Platform will be an all-in-one solution for creating modular combat oriented objects in Unreal Engine that need to literally be the sum of their parts. Developers will be equipped to specify the stats of their creation with modular pieces, whether it be a spaceship or a castle. It will support randomization and symmetry while being highly extensible for custom implementations.

Requirements

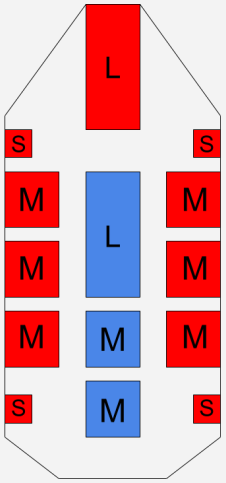
The Modular Combat Platform is written in Unreal Engine 4 and depends upon it to function. No other libraries are needed

How will it work?

The system will consist of two Actor Components to handle all of the heavy lifting: Hulls and Hardpoints.

- *A Hull is a platform upon which hardpoints are placed. It handles the collection and implementation of it's hardpoint's stats*
- *A Hardpoint is a modular piece placed upon a Hull to alter its stats or add functionality. External Hardpoints could be weapons, while internal Hardpoints might be ammo caches or extra systems to increase turn rate.*

S = Small Hardpoint
M = Medium Hardpoint
L = Large Hardpoint
= External Hardpoint
= Internal Hardpoint



Each hull will serve as a parent to keep track of its hardpoints as well as a central location from which to retrieve stats like:

- *Speed*
- *Maneuverability*
- *Weight*
- *Health*

These two Actor Components will be used as a springboard for developers in the creation of their own hulls and hardpoints, handling integration and framework so developers can focus on stats and gameplay.

Implementation

The system at its core will be implemented with two C++ classes named `MCPHull` and `MCPHardpoint`, both of which will inherit from Actor Component, and a Data Asset called `MCPStats` to store stats. Several example Hulls and Hardpoints will be provided as a starting point, but the real strength of this project is its extensibility.

Any new Hulls will inherit from `MCPHull`, just as any new Hardpoints will inherit from `MCPHardpoint`. To specify stats of a new Hull - Hardpoint system, developers will need to create a new Data Asset object of type `MCPStats` in their project that will be shared between a hull and its hardpoints. As each stat block is represented by a different DataAsset, an infinite number of Mobile Combat Platforms may be used in a single game with different stats for each.