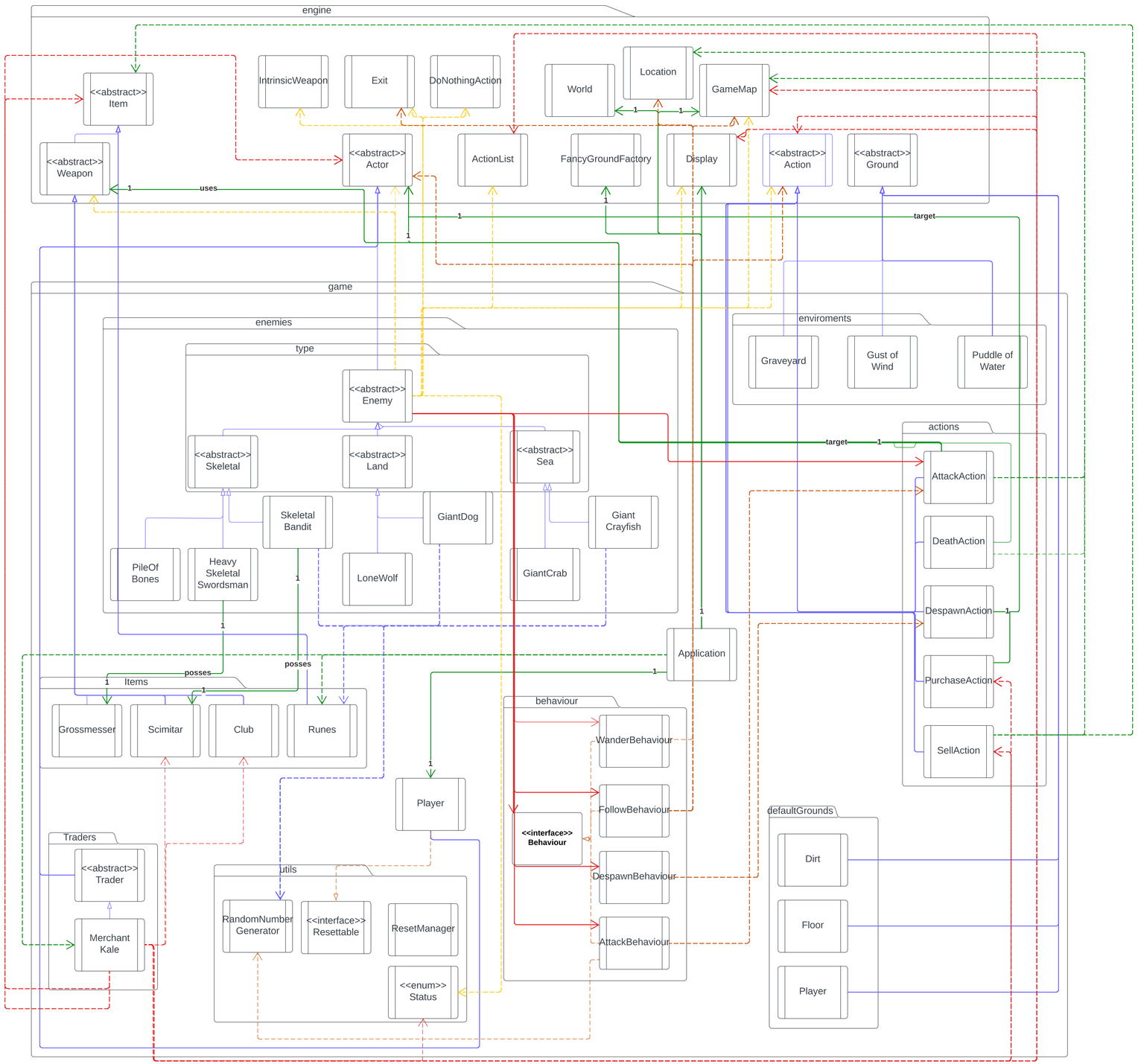
REQ1: Environments & Enemies REQ5: More Enemies (HD requirement)



Design Rationale for REQ1 and 5

During the designing of req1 and 5, serveral concept and theorties is taken into account to ensure a good OOP design, and does not change anything in engine package. I decided to combine both uml into one because req5 is very similiar to req1 with a few new feature added.

classes are designed to follow single resposibility princible, for example:
In enemy package, Enemy classe is reponsible for enemies general attributes. HeavySkeletalSwordsman, LoneWolf, and GiantCrab classes are responsible for their type of enemy attributes. same goes with other classes.

Also designed to follow interface segregation principle, for example:
Interface is implemented for Behaviour because those class have similarities. this improve modularity and maintainability, and easier for creating new child class by implementing interfaces.

designed to follow Dependency Inversion Principle, for example:
enemy(HeavySkeletalSwordsman, LoneWolf, and GiantCrab classes) is depending on IBehaviour interface instead of a concrete class, which reduces coupling between enemies and other concrete class and making it more flexible and adaptable to changes, extends. same goes with actions.

designed to follow open and close Principle, for example:
WeaponItem class attack a single actor, while Grossmesser are overided by changing target to surronding, attackaction will detect this target and loop through all exit to attack, which makes WeaponItem class open for extension but closed for modification. this way the code is easier to maintain and test.

Inheritance is used in enemies, enviroments, weapons and more, which reduce code duplication and improve reusablitity of the code base. Making it easier to add new enemies, enviroments, actions and weapons in the future.

Multiple package is created to improve cohesion and coupling, making it easier to manage, update and understand.

PileOfBones is implemented as a class for other skeletal class to change to when die.

In conclusion, the design ensure the program to be well structured, easyy to maintain, scalable and a good OOP design.