

UML Class Diagram

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0.1 Scenario

The scenario is based on a game. In this game, we have enemy and player. The player can gather score by killing the enemy.

The enemy has two types-1) Regular Enemy, 2)Boss Enemy. Both the Boss enemy and player can have weapons. Enemy and player can attack each-other and they have limited amount of health.

Also We have to keep in mind that we must use the following Six things:

- 1) Inheritance,
- 2)Association,
- 3)Aggregation,
- 4)Composition,
- 5)Implementation,
- 6)Dependency.

Now I've created a Class diagram for a game system. Here the symbols represents their actual meaning.

Class Diagram for a game system

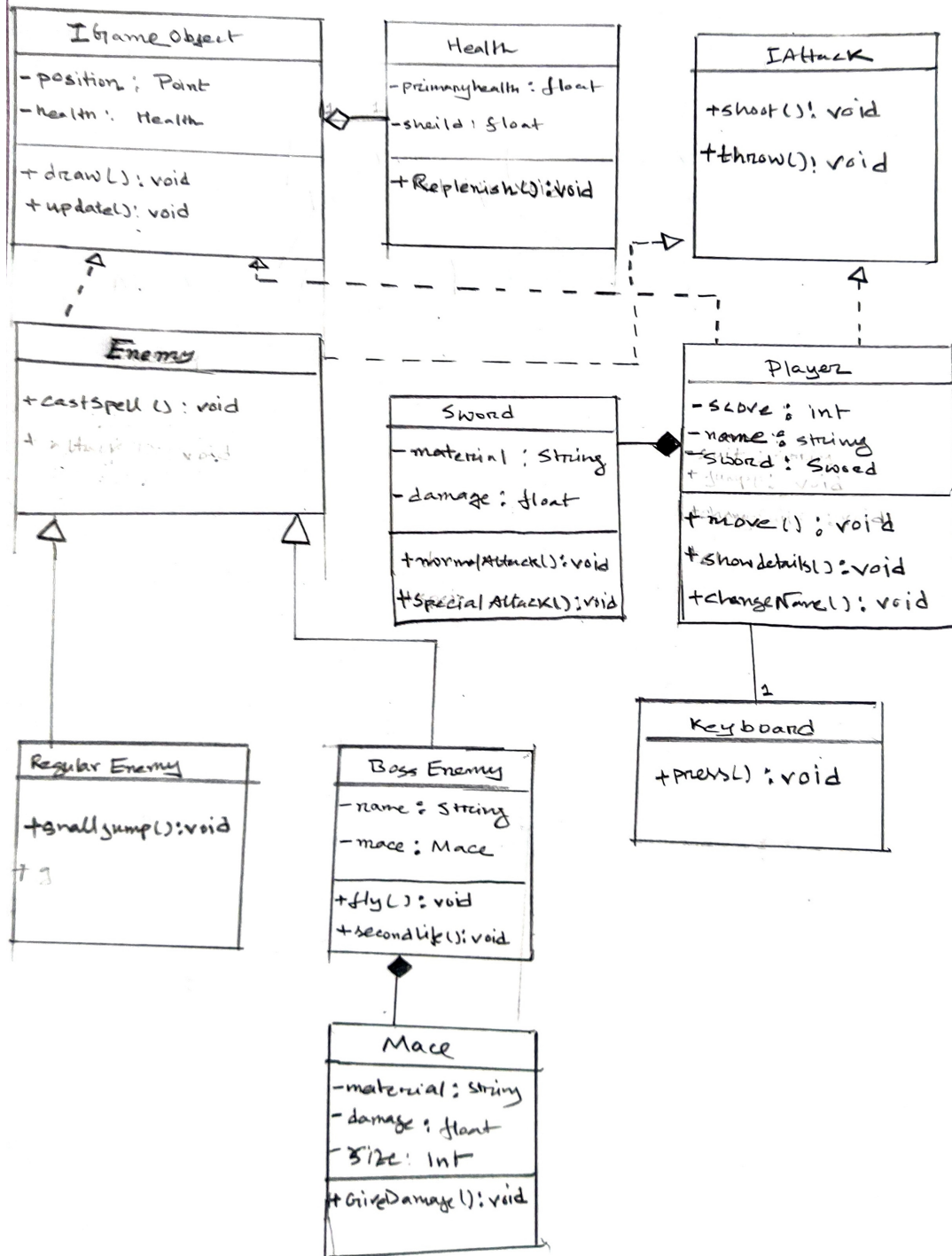


Figure 1: Class Diagram For A Game System

0.2 Description of the diagram

- **Implementation:** Here the **Enemy Class** and **Player Class** are inheriting both the **Interface IGameObject, IAttack**.
- **Aggregation:** The interface **IGameObject** has an object of the class **Health**.
- **Association:** The **Player Class** has a method `move()`, which uses the class **Keyboard**.
- **Composition:** Here the **Player Class** has a class **Sword** in it, its because I want every player to have sword and only the players can have sword. Also, the **Boss Enemy Class** has a class **Mace** within it, and only the boss can carry mace and no one else.
- **Inheritance:** The **Regular Enemy** and **Boss Enemy** are inheriting the class **Enemy class**.
- **Dependency:** The **Player Class** has a method `move()`, which uses the class **Keyboard**, So the class player is dependent on the class keyboard.