

# Documentation-Jan: WeaponHandling System

## General:

- Currently there are for different Weapon Types (Range Weapons)
  - ,Handcannon.cs‘
  - ,Submachinegun.cs‘
  - ,Shotgun.cs‘
  - ,Energy Launcher.cs‘
  - all derive from ,BaseWeapon.cs‘ which provides the basic variables and functionality (compare Fig. 1-3)

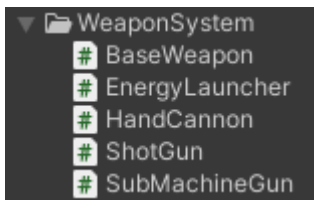


Fig. 1:  
WeaponType  
Classes in the  
Project Folder  
(currently to be  
found under  
Testing/Jan/Scripts/WeaponSystem)

Weapon Classes Architecture Example

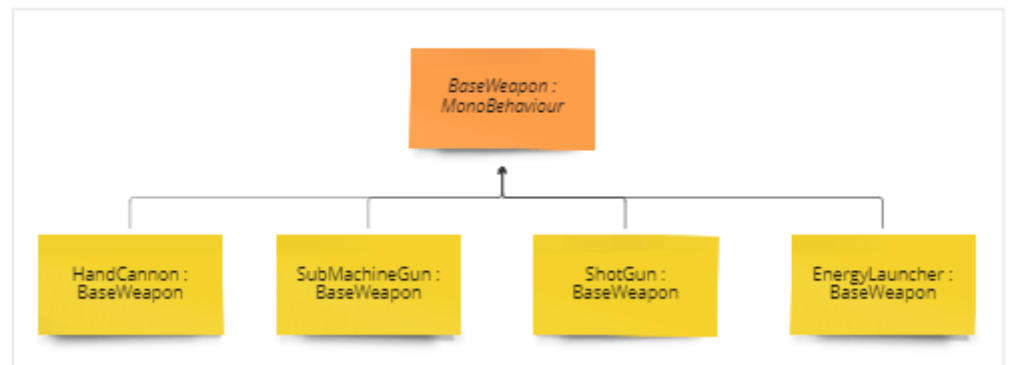


Fig. 2: Inheritance Architecture of Weapon Types



Fig. 3: Class Diagram of the Weapon Types

- Also there currently are two more Classes:
  - **PlayerWeaponHandling.cs**
    - Handles all Weapon and Attack related logic regarding the Player, like Input operations, Shooting, Weapon Swapping and Holstering, Bullet Instantiation on shooting etc. (Compare Fig. 4)
  - **PlayerEquipmentSO.cs**
    - Is a Scriptable Object and handles the deeper Logic behind Weapon Pickup and Swapping for now.
    - It also contains a Struct **WeaponTypeValues**
      - this Struct is basically used and necessary for the Inspectorvisualization and permanently saving of the changes made in the Inspector of the **PlayerEquipment**-Asset (compare Fig. 4-6)

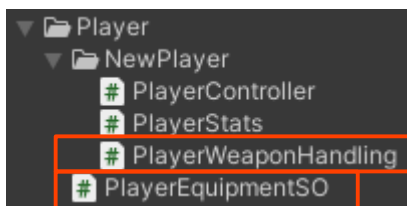


Fig. 4: The *PlayerWeaponHandling.cs* and *PlayerEquipmentSO.cs* in the Project folder (currently still under *Testing/Jan/Scripts/Player*)

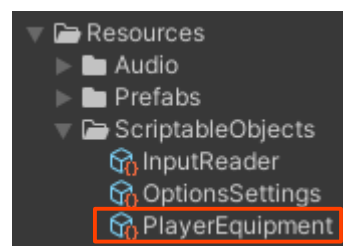


Fig. 5: The *PlayerEquipment-Asset* (found currently in the Project Folder under *Resources/ScriptableObjects*)

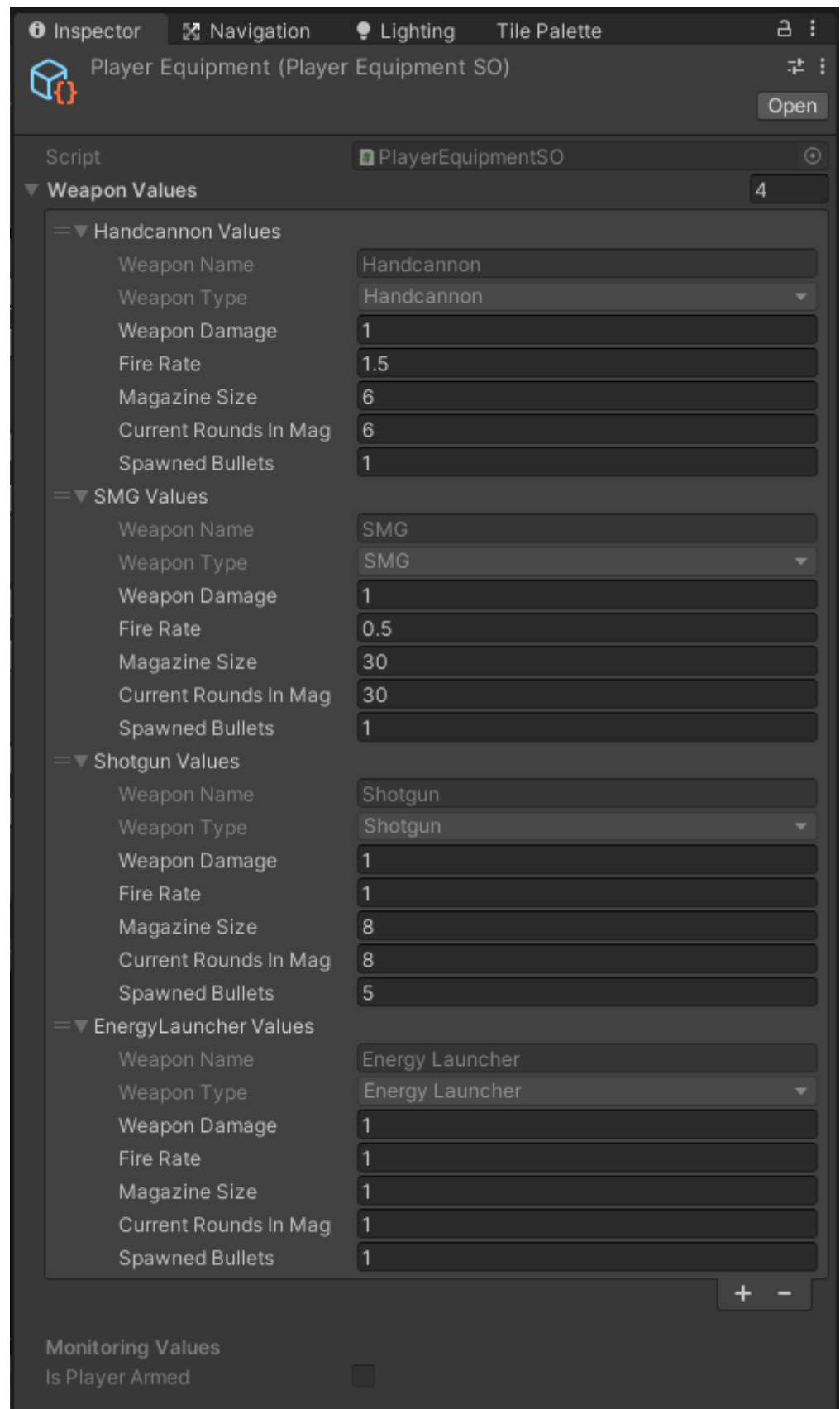


Fig. 6: The Inspector view of the PlayerEquipment-Asset. Here the Values for the specific Weapon Types can be set. Currently they are set to the Standard Values.

- For the Weapon Pickup system to work an Weapon-GameObject would need to be set in the Scene and needs to implement a ,BaseWeapon'-component where the Weapon Type would need to be specified (compare Fig 7-8)

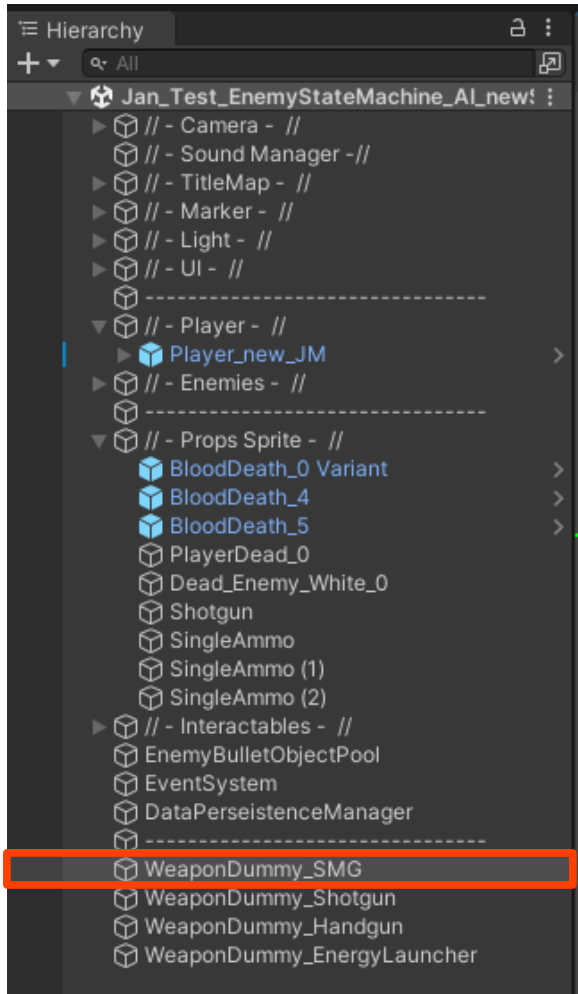


Fig. 7: The Hierarchy with a Weapon Dummy Objec highlighted.

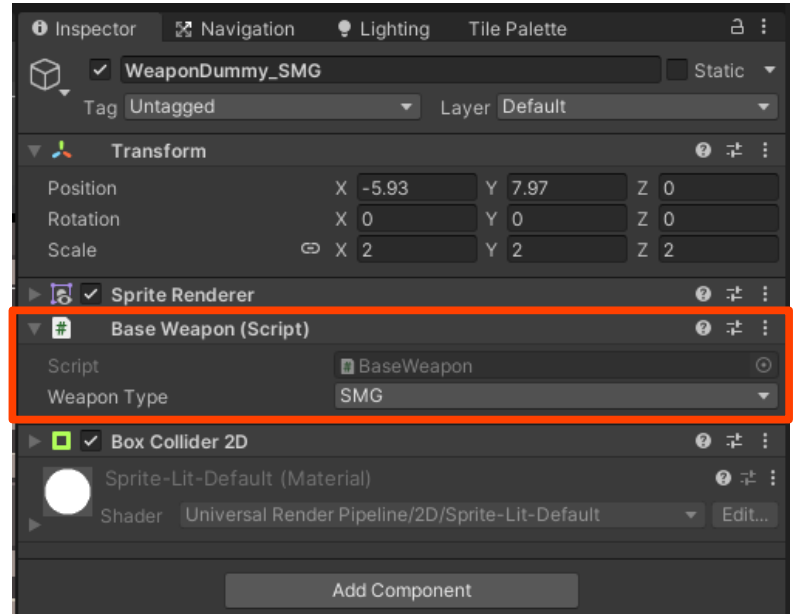
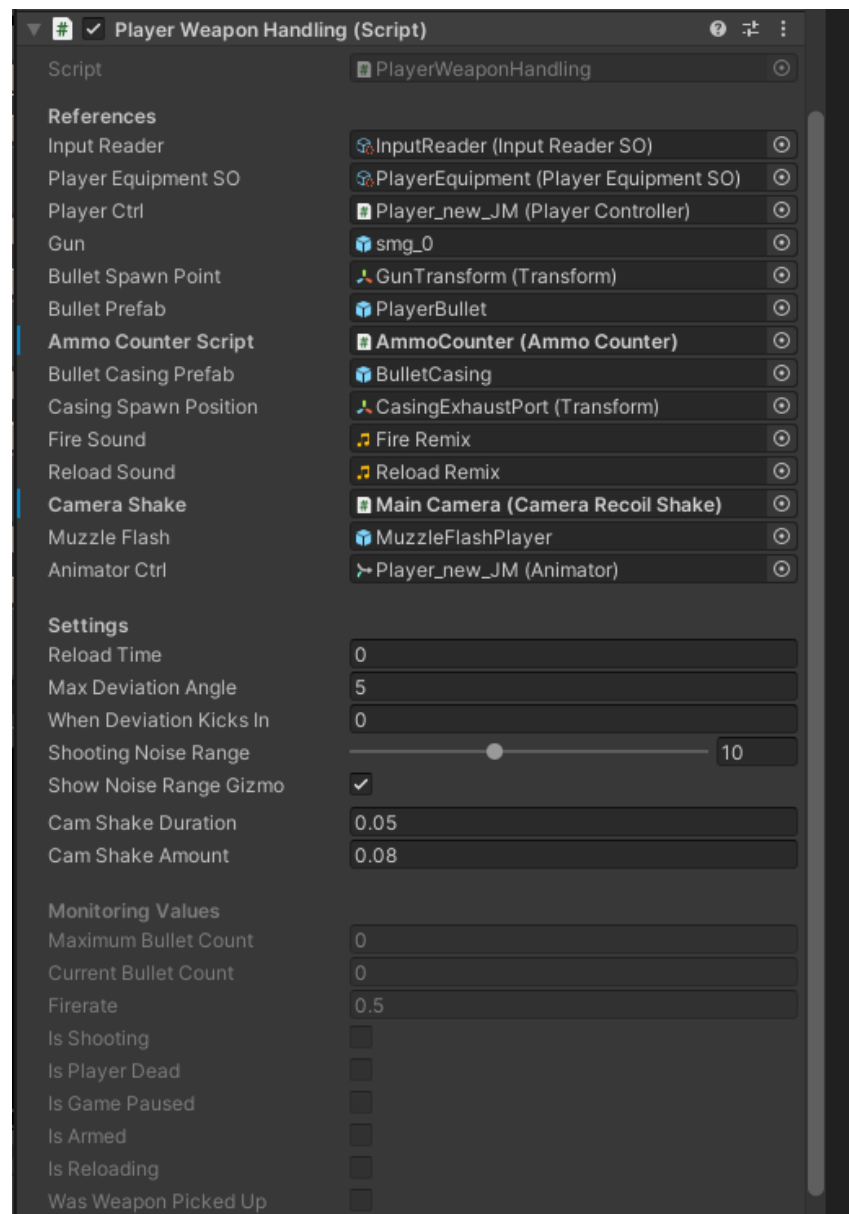


Fig. 8: The Inspector View of the Weapon Dummy Object. Note in this Case the Weapon Type 'SMG' is selected for this Object.

- Also the Player Object needs to implement the ,PlayerWeaponHandling' for a working Weapon/Attack Behaviour (compare Fig. 9)
  - Note for the Weapon-Pickupsystem to work the Player and the WeaponObject in the Scene also needs to implement a Collider2D-Component(!)



*Fig. 9: The Inspector view of the PlayerWeaponHandling.cs when applied on the PlayerObject. With a example Setup (probably might change during further development)*



