

# Character Systems

20/03/2021

## 1. Movement

Character's object presents a capsule collider as a hitbox.

- The character has a **circle trigger** (defined **detectability**) with an **x** radius in **units** that can be identified by other game systems(enemies, security systems).
- The player can move (up, right, left, down) according to the direction the camera is facing.

The movement modes that can be used by players are the following:

### 1.1 Walk

The normal walking behaviour, it has a defined speed in m/s (**walkingSpeed**). multiplied to **walkingSpeedMod IF active**

### 1.2 Sprint

- When sprinting the character moves at a faster rate speed in m/s (**sprintSpeed**).
- When sprinting the player consumes **Energy** in **units per second** (**sprintEnergyCost**).
- When the character is out of energy it can't sprint anymore.
- When sprinting, the character **increases** his (**detectability**) by an **X%**.

### 1.3 Jump

- The player has two Jump animations: the stationary and the inMovement ones.
- If the player jumps while *Walking* or *Sprinting*, the character jumps in the direction it's facing, maintaining its cinematic status.
- Jump consumes an **X** amount of **Energy per every use** (**jumpEnergyCost**).
- When the player is out of energy it can't Jump anymore.

### 1.4 Crouch

- When crouched, the character has its collider reduced in size.
- The character can **Walk** while crouched at a defined **speed in m/s** (**CrouchedSpeed**) which it has to be less than the (**walkingSpeed**).
- Moving while crouched consumes energy in **units per second** (**CrouchedEnergyCost**).
- When the character is out of energy it cannot crouch anymore.
- When crouched, the character **decreases** his (**detectability**) to an **X%**

## 2. Player stats

### 2.1 Lifetime

Lifetime is the character's most important value, it works as an “health bar” and a currency, the player objective is to keep increasing it.

- It's a 6 digits timer divided into **Hours/Minutes/Seconds**.
- Lifetime continues to decrease until it reaches **zero (00:00:00)**.
- When the timer reaches zero in the Hub, the character **dies** and it's game over.
- When the timer reaches zero in the Raid, the character **dies** and it's going to be teleported back to the Hub.
- In the **passage from the Hub to the Raid**, the player can only transport with them 00:20:00 Lifetime maximum to play.
- Lifetime **can be increased** by consuming certain objects.
- Lifetime **can be decreased** by based upon defined game events, such as crafting or being damaged by enemies or traps.

Lifetime has a value called **Lifetime Descension Rate (lifeTimeDescensionRate)** which modifies the normal speed decrease ratio.

### 2.2 BioRAM

BioRAM is a float value that goes from **0 to 100**.

- It can be recharged with some objects.
- It decreases upon the distance traveled by the player in **X unit per meter (bioRamRate)**, multiplied by (bioRamRateMod).
- It has 10 discrete levels, once a level is reached (LifeTimeDescensionRate) has to be modified to a **x percentage** until the next discrete level is reached.

BR	0	10	20	30	40	50	60	70	80	90	100
LDR %	200 %	190 %	180 %	170 %	160 %	150 %	140 %	130 %	120 %	110 %	100 %

### 2.3 Energy

Energy it's a statistic that regulates certain character's movement capabilities.

- Energy is consumed when the character executes specific actions (movement related)
- (Energy) is a float, and its maximum amount is maxEnergy\*maxEnergyMod

### 2.4 Detectability

It quantifies how easily the character can be spotted by the Security System.

- **(detectability)** is a sphere **trigger** that is modified by the character movement state.
- **(detectability)** assume different **radius** for Walking, Crouching and Sprinting states.
- The trigger affects the [IA Drone Agents](#) perception of the player in the raid.

### 2.5 Strength

It's a **float** value that indicates the maximum amount of weight that the character can carry in **units (maxStrength)**. The amount of weight the character is carrying is the sum of the weights of all the objects in his inventory, in **units (currentStrenght)**.

### 2.6 Alert bar

Alert Bar description can be found in the DungeonSystem Design:  
[04 BigOne\\_03 StaticObstacles\\_TimedOut](#)

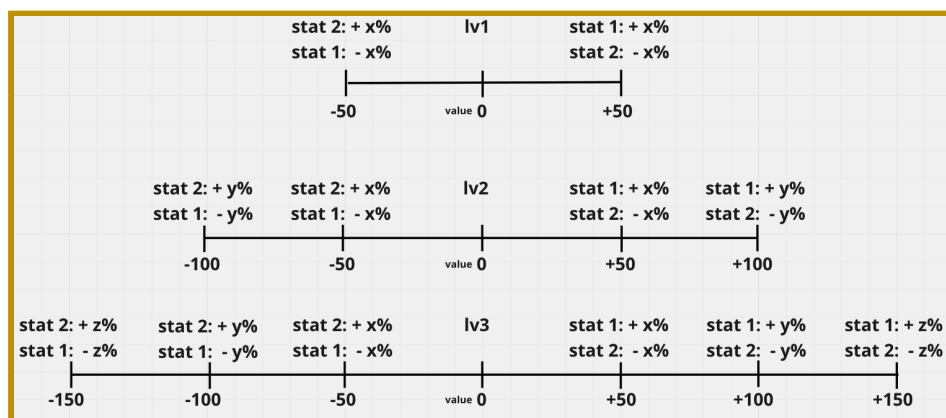
## 3.3 Programs

*Programs* are characteristics that influence **Player and Movement Stats** via a system which provides simultaneous buff to some stats while debuffing others.

- There are 3 different programs.
- A program has 3 ProgramLevel which defines the range of the programs themself.
- ProgramLevels can be permanently unlocked by upgrading determined structures at the base.
- Upgrading the designated structure to the next level extends the range of the programs.
- Each ProgramLevel garant a buff/debuff status.

The Program modifiers are presented as a line with **values** that goes **from a certain negative one to it's positive opposite [(programName)Value]**.

- Program value can be increased or decreased by consuming items.
- When the value reaches a certain discrete value (es. +-50, +-100, +-150), the player will receive the correspondent bonus.
- The bonuses are kept by the players until the value reaches a different discrete level.



### 3.1 BPM:

Bpm is a program that affects Character (**WalkingSpeedMod**) and (**DetectabilityMod**)

#### Lvl1

Bonus	WalkingSpeedMod: -x% DetectabilityMod: -x%	WalkingSpeedMod: +x% DetectabilityMod: +x%
Activation Value	-50	+50

#### Lvl 2

Bonus	WSM: -y% Det: -y%	WSM: -x% Det: -x%	WSM: +x% Det: +x%	WSM: +y% Det: +y%
Activation Value	-100	-50	+50	+100

#### Lvl 3

Bonus	WSM: -z% DetM: -z%	WSM: -y% DetM: -x%	WSM: -x% DetM: -x%	WSM: +x% DetM: +x%	WSM: +y% DetM: +y%	WSM: +z% DetM: +z%
Activation Value	-150	-100	-50	+50	+100	+150

### 3.2 Metal Gear box:

Metal Gear Box is a program that affects Character (**DamageMod**) and (**AlertMod**)

#### Lvl1

Bonus	DM AM	DM AM
Activation Value	-50	+50

#### Lvl 2

Bonus	DM AM	DM AM	AM DM	AM DM
Activation Value	-100	-50	+50	+100

#### Lvl 3

Bonus	DM AM	DM AM	DM AM	AM DM	AM DM	AM DM
Activation Value	-150	-100	-50	+50	+100	+150

### 3.3 Efficiency:

Efficiency is a program that affects Character (**BioRamRateMod**) and (**MaxEnergyMod**)

#### Lvl1

Bonus	BRRM MEM	MEM BRRM
Activation Value	-50	+50

#### Lvl 2

Bonus	BRRM MEM	BRRM MEM	MEM BRRM	MEM BRRM
Activation Value	-100	-50	+50	+100

#### Lvl 3

Bonus	BRRM MEM	BRRM MEM	BRRM MEM	MEM BRRM	MEM BRRM	MEM BRRM
Activation Value	-150	-100	-50	+50	+100	+150