

Combat System

The combat system in Down Deep We Sleep will be based on few games that are in line with the Pillars of the game and will deliver a highly enjoyable strategic/fast experience:

- Darkest Dungeon – Psychology meter that will dictate player reactions. This meter will increase and decrease based on the principle of dealing damage considered as a buff and reviving damage as debuff.
- Warhammer (tabletop) – Psychology structure dependant on leader of the group and flee mechanic.
- World of Warcraft – Defined roles within a self-sustainable team capable of defeating a much stronger enemy (Boss) by having assigned roles and ways to interact among other team members.

To fully understand the combat in Down Deep We Sleep, we will start by considering 4 variables with an assigned numerical value: Attack Power (ATP), Defense (DEF), Damage (DMG) and Hit Points (HP). Each individual conflict will be resolved as follow:

$(ATP - DEF = DMG)$ then $(DMG = - HP)$

We will have low numerical values assigned to each variable for a practical reason, which is the representation of the HP for each unit:

Each unit will have a set amount of HP where 1 HP = 1 Skull (UI). The total value of HP will be displayed as transparent skulls on top of the unit and after receiving damage, the correspondent amount of skull will turn into a solid color.

For example, as a result of a conflict, a unit will receive 1 DMG and loose 1 HP as per follow:

$ATP 4 - DEF 3 = 1 DMG$ then $1 DMG = 1 Skull$



This will provide an immediate and highly effective visual feedback during combat.

Additionally, we have 2 more variables called Attack Rate (ATR) and Critical Chance (CRT):

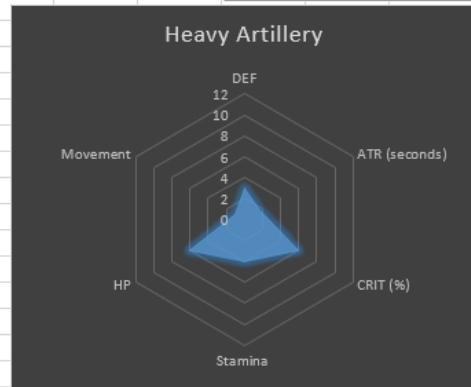
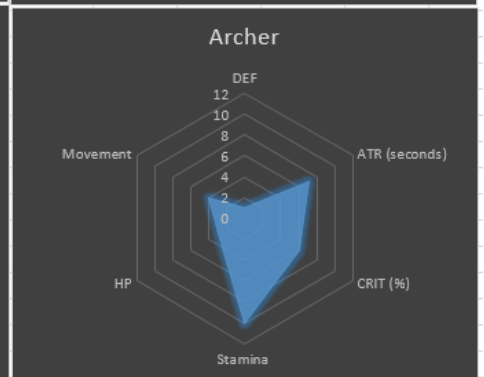
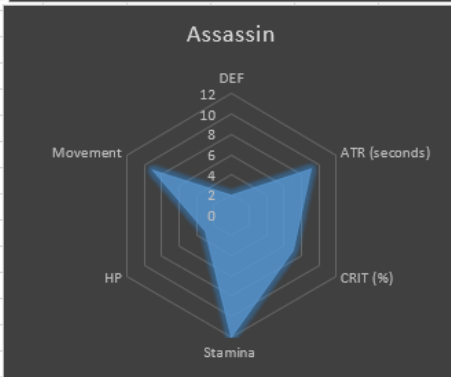
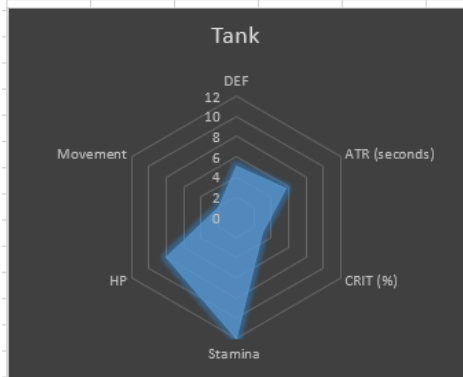
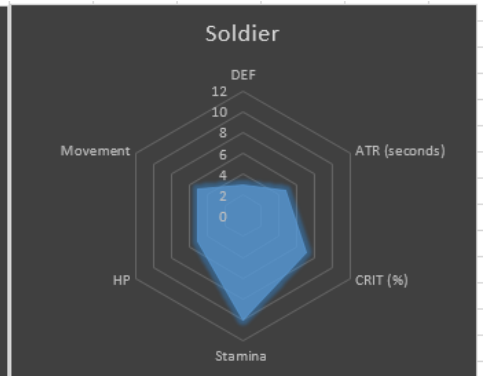
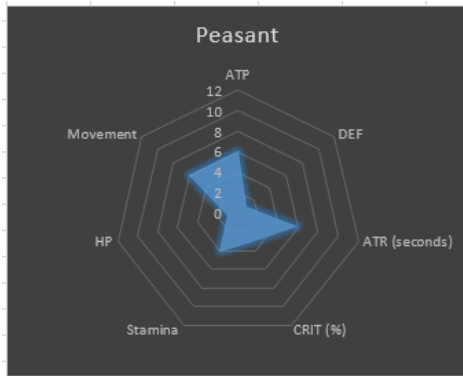
- ATR will dictate the rate of attack for each unit measured in seconds. This variable will have a dynamic value range assigned. For example, an ATR value of 3, 4 means that that unit can initiate an attack between 3 and 4 seconds.
- CRT will dictate the possibility of adding additional DMG (when successful, add 1 DMG) on every attack. This value will have a dynamic percentage value assigned.

	ATP	DEF	ATR (seconds)	CRIT (%)	Stamina	HP	Movement
Peasant	6	1	5.7	3	4	1	6
Healer	6	2	5.7	NA	10	2	4
Tank	6	5	5.7	3	12	8	2
Assassin	7	2	9.1	7	12	3	9
Soldier	8	3	4.8	7	10	5	5
Archer	7	1	7.1	6	10	3	4
Wizard	7	1	5.7	4	10	2	5
Heavy Artillery	9	3	1.7	6	4	6	1

** Please note that the ATR value is quantified in a single number due to visualization reason. Also, for the unit Healer, this value determines the frequency with which healing spells are casted. **

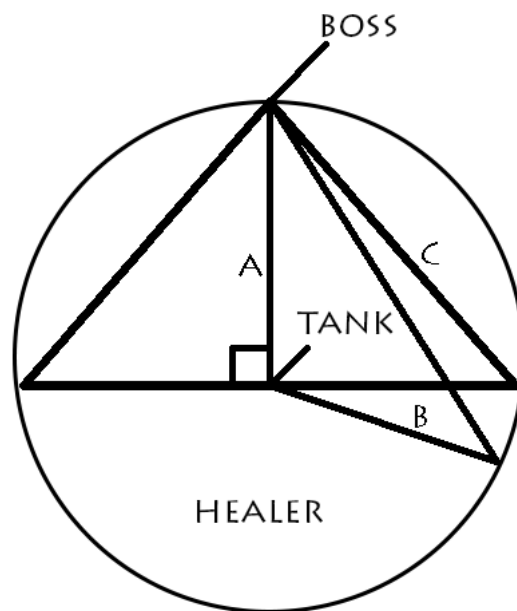
The ATR value has a range displayed in the following table:

	ATR (Seconds)
Peasant	3, 4
Healer	3, 4
Tank	3, 4
Assassin	2, 2.6
Soldier	3.5, 4.5
Archer	2.5, 3.2
Wizard	3, 4
Heavy Artillery	10, 14



Tactical formation

All the units (except the Peasant) will be fighting maintaining a tactical formation that grants a safe range of interaction among them as well as an ideal position to fight the boss according to each individual unit role. The basic rule of the triangle can provide an important guideline for how the units will be positioning during the fight. The following example will explain how a Tank and Healer will be positioning during the fight. The same principle can be applied to all the units (except the Peasant).



A = Distance between Boss and Tank.

B = Distance between Tank and Healer ($15 \geq B \geq 0$). The healer will move facing the back of the tank within the semicircle area.

The triangle ABC is a dynamic triangle that will always have one obtuse angle (greater than 90°) and will follow this rule: $B^2 \leq C^2 - A^2$.

To summarize the overall positioning of the team, we can say that the Healer will always be in the back. The Tank, Rogue, Peasant and Melee DPS (melee group) will be near the boss and on the opposite side of the Healer. The Ranged DPS will be in between the melee group and the Healer. The Off Tank will be in between Healer and Ranged DPS.

Health Points, Stamina and Movement (AI)

Each unit will have a set numerical value assigned for HP, Stamina and Movement.

- HP is an attribute assigned to units that indicates their ability to function in game. When the value of HP of a unit reaches zero, that unit is considered dead.
- Stamina is an attribute assigned to units that indicates their ability to perform any generic action such as casting a spell, block an attack, dodge an attack or simply run away. When the value of Stamina of a unit reaches zero and the Boss is within 5 m of distance, the unit will enter in a state of panic and be incapacitated until the value will reach again a minimum of 30%. The value of stamina regenerates over time (1 stamina every 3 seconds). Attacking/casting actions have a set cost of 4 stamina points. Evasive actions have a set cost of 6 stamina points.
- Movement is an attribute assigned to units that determines their movement per second.

Psychology (AI)

Each unit will have a set numerical value assigned for Morale. When the value of Morale of a unit reaches zero, that unit will flee. The Morale value is influenced by inbound and outbound damage dealt: dealing damage will regenerate a percentage (up to maximum assigned value) of the lost Morale value vs receiving damage will decrease a percentage of the Morale value. For example: 1 damage dealt will regenerate 2% of Morale and vice versa. When a Tank unit inflicts any damage, the value of Morale is boosted for the Tank (1 dmg = 2% Morale) and all the units covered by the protected bubble for a lower percentage (1 dmg = 1%).

The death of a unit (except Peasants) will also decrease the Morale value of all the units within 5m radius by 30%. The same rule applies among Peasants.

When a unit is a successful target of the eating mechanic, all the units within 10 m radius will lose 40% of their Morale value.

A fleeing unit with zero Morale value is subjected to regeneration of this value over time (2% x second) and if the value reaches 30%, that unit will stop from fleeing and go back to the fight. There are some exceptions to keep in consideration though: a unit that is chased by the boss, can't regenerate Morale. A unit that enters a defensive bubble will immediately stop fleeing (units inside a defensive bubble can't flee but can still lose a percentage of their Morale value). A unit that was inside a defensive bubble with a Morale value equal to zero, will immediately flee if the bubble is destroyed or if the area of effect of the bubble no longer covers the area, they are currently standing in.

If a fleeing unit reaches the entrance of the lair and the Morale value is below 30%, that unit will permanently leave the fight.