УДК 004.4

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CHOOSING OF COMPUTER GAME MECHANICS FOR THE MOBA GAME

Before starting the development of any software, you need to select the functionality of the developed application. Computer games are no exception. Different MOBA games have different game mechanics, which is why there is a wide variety of games within the same genre. Therefore, you need to carefully choose game mechanics in order to create a unique game.

First of all, I will design the map. In the MOBA genre, a map is a battlefield where matches takes place. Three Lanes are present on the map, and lead into each team's base. In between the lanes are wooded areas known as the Jungle. There are three Towers on each line. Towers are the main line of defense for both teams, attacking any enemy that gets within their range. Also, two Towers will be located near the Main Building. In total, each team will have eleven Towers. Main Building are massive structures found inside each faction's base and are the main objective. In order to win, the enemy team's Main Building must be destroyed, while the own one must be kept alive. In the Jungle will be located neutral creeps. There isa type of creep that are not controlled by any player. They are aligned to neither of the teams, and offer an alternative source of gold and experience. Neutral creeps appear in small camps scattered in the jungle on both sides of the map.

Now let's choose the mechanics for the initial stage of the game. The main mechanic at this stage is Last Hit. Last Hit gives you gold for killing a creep. Creeps are basic units in MOBA games, that automatically moves down the three lanes towards the enemy Main Building. Unlike heroes, creeps do not gain experience and cannot level up. All of their stats are set values. At the initial stage, Heroes will need to last hit creeps in order to gain experience and gold. Heroes are the main characters controlled by players. They capable of leveling up through the means of experience, gai-ning additional attribute points, and ability points which can be spent to level up abilities or gain even more attributes. Heroes are also able to spend gold to purchase items.

One of the most important mechanics in MOBA games is the mecha-nics of the Heroes abilities. All heroes have at least three basic abilities and one ultimate ability. Hero abilities are acquired upon leveling up with experience. Most abilities need to be activated, while others are passive or augment a hero's basic attacks. Active abilities have a cooldown period between uses. The Hero's abilities can have a different effect on the enemy Hero. Some of them just deal damage, others stun, silence, slow. Stun is effect when enemy Hero is unable to move or perform any actions. The silence effect prevents the Hero from using abilities, but he can move and attack freely. Slow just reduce Hero movement speed. Some Hero abilities can heal allies. Moreover, Heroes can have passive abilities. These are abilities that are constantly active, without cooldown, which constantly increase some of the Hero stats.

Also, a unique talent system was invented for the developed game. The game will have 12 talents common to all Heroes. They will increase the indicators of health, damage, speed, attack speed or other stats of the Hero. The player, before the start of the match, after choosing the Hero, will be asked to twice choose one of the three offered talents. The talents to be offered will be randomly selected from the general list of talents. Such a system can increase diversity. These talents can set different vectors of the Hero's development in different matches.

Another important feature is the position of the player's camera. They are different in various MOBA games. For example, in Dota 2 [1] and League of Legends [2], the camera is above the player, respectively, in the game there is a top view. And in games like Predecessor [3] and Smite [4], a third-person view, behind the back of the Hero.Due to the fact that MOBA games are a subgenre of real-time strategy, which is characterized by a top view, I decided to use a top view in the developed game.

In conclusion, although MOBA games have much in common, the chosen game mechanics make them unique and dissimilar.

References

1. https://store.steampowered.com/app/570/Dota_2/
2. https://www.leagueoflegends.com

3. https://store.steampowered.com/app/961200/Predecessor/
4. https://www.smitegame.com