

Intention:

The intention of this project was to create a turn-based combat prototype for a game which encapsulates the excitement of chance-based mechanics as found in role playing games and their digital counterparts. Not only does this mechanic add emotional tension to the player's interaction with the game as they do not know if their attacks will succeed or not, but it also makes sure that there is some variance in the potential outcome of a game.

Process:

This turn-based combat prototype is based on the roll-to-hit mechanic. The player and enemy are each given 10 health, and their basic attacks do 2 damage each. The player and the enemy are each given a turn where they must utilise the roll-to-hit mechanic to do damage. This decision was made to add the excitement of unpredictability to the combat as described in the intention. Without this, the turn-based system would be predictable and therefore boring as the player would defeat the enemy every game, as it is the player's turn first. Before the start of each turn a number is rolled out of 6 which is then compared to the enemy or player's defence number, which is 2 in both cases. If a 2 or lower is rolled, the enemy or player will miss, and the turn will pass to the opposing entity. The roll-to-hit mechanic adds excitement to the game as it creates moments of tension where, for example, the player may only just survive as the enemy misses. A modifier was added to the rolled number when the player misses so that the player will receive a value between 2 and 7 (as this is a D6 the number 7 would be returned as a 6). The chance that the roll will miss decreases to 1/6. When the player hits the enemy, this modifier is removed. This is a subtle way of controlling the roll-to-hit mechanic so that it is far less likely to become frustrating. This will also control the variance of the outcome of a game, as it becomes less likely that a situation will occur where the player will miss every attack and lose. The health, defence and attack statistics were kept the same for the enemy and player so that the effects of the roll-to-hit mechanic and the chance-based fireball spell be clearly understood while still providing an engaging experience to the player. If the number rolled by the enemy's AI is higher than the player's defence number, 2 damage is dealt to the player. If the player rolls higher than the enemy's defence number, the player is given the opportunity to choose between two attacks: a melee attack or a fireball spell. Two types of attacks were added to give the player more options, thereby increasing player agency. The melee attack will do 2 damage. Initially, there was a 3/6 chance that the fireball spell will do 4 damage to the enemy and a 3/6 chance that the player will receive 2 damage. However, this meant that the difference

in health between the player and enemy would be 3 on average, as calculated here $(4 * 3/6) + (2 * 3/6) = 3$. Therefore, this would always be more effective than the melee attack, where the change of health is 2. To rectify this, the fireball spell was given a 3/6 chance that it would do 4 damage to the enemy, and a 3/6 chance that it would do 1 damage to the enemy and 3 damage to the player. This can be expressed using this calculation: $(4 * 3/6) + (-2 * 3/6) = 1$. Therefore, the average difference in health for this ability is smaller than that of the melee attack. As a result, the player will be discouraged from using it continuously. This mechanic adds an element of strategy which the player can engage in. Furthermore, if the player has missed too many rolls, the higher damage of this attack could allow the player to win. Originally the enemy defence was set to 1 instead of 2, and after some playtesting it was decided that this 1/6 chance did not occur often enough and therefore made it too easy for the player to win.

Reflection:

Currently the enemy and player in this prototype have the same statistics such as their health, defence and basic attacks. In the future it would be valuable to explore how these values could be changed. This would require more engagement from the player to understand how the interactions work and would thus complicate the strategy of the game. This would make each entity in the game feel different, whereas the fact that one is supposed to represent a frost giant while the other the player is currently not mechanically represented. To give a specific example, one could consider making the defence of the enemy higher at 3 instead of 2. This would make sense thematically as one might expect a giant to be more resistant to human attacks. To balance this, as this would make it harder for the player to hit the enemy, the player's attack value could be increased from 2 to 3. It could also be considered that the 3/6 defence value, which is a 50% hit chance, is low, and may cause player frustration. To correct this the D6 roll would be changed to a D10 roll. This would give the option to make the hit rate 4/10, or 40%, which would be larger than the current 33.33% hit rate, but lower than 50%. A differing defence value in response to different player attacks could also be explored, such as a higher defence for melee attacks, whereas the defence for ranged attacks could remain at 2.

Overall, the intention has been met as the roll-to-hit mechanic has been explored and highlighted in this prototype. Furthermore, steps have been taken to retain the excitement of the roll-to-hit mechanic, while removing some potential for frustration. However, as discussed above, there are areas which this prototype could be improved and these concepts further explored in the future.