RAT GAME!

GAME DESIGN DOCUMENT

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GENERAL DESCRIPTION

Rat Game is a fast-paced turn-based competitive board game for two players where players take turns simultaneously, relying on quick decisions, luck, and mild strategy. The game is about fighting the opposing player over a series of quick matches (lasting from 1 minute to 5 minutes) on multiple levels, all with their unique themes and mechanics, using a varied array of weapons and items.

This game's story is set in a universe where a mutated species of humanoid rats, that look like a cross between a man and a rat, take over the world in a huge tide of vermin after aeons of planning for its conquest below ground. However, after having achieved their ultimate goal, the rats fragmented and started fighting each other over who would control this new world. Each player will take control of a rat trying to prove himself as a worthy leader. Thus, this game is called Rat Game.

The main objective of this project was to create a very fast-paced and chaotic game that relied mostly on quick decisions, luck, and mild strategy, and that is played over a course of many different levels with unique mechanics and twists that force the players to adapt their playstyle and improvise on the go. I also aimed to have the rules be as simplified as possible and for the players to only need to keep track of a single variable (their weapon's ammo) throughout the game, in order to make it easy to understand the game, for it to appeal to a wide-age range (from kids to adults), and for the game to be easy and quick to set-up and start playing.

The game is played on maps made up of a 13x13 square grid. Each map is designed symmetrically, has a spawn point for each player, has unique obstacles and elements, and has item boxes where players can acquire either items specific to the map or random items. To keep the game fast paced, chaotic, and with as few variables to keep track of, there are no health points. Every weapon (that does damage) kills the player in a single hit.

MARKET STUDY

Games that are similar to my project include Duck Game, Escape: The Curse of the Temple, and Space Cadets: Dice Duel.

Duck Game was unsurprisingly the main inspiration for Rat Game. It's a 2D competitive multiplayer video game with platforming elements about ducks killing each other. The only narrative that the game is the store page's description, which simply states "Enter the futuristic year of 1984, an age where ducks run wild in a frantic battle for glory". Inside the game, there is no narrative of any kind, only gameplay. Just like I tried to do in Rat Game, Duck Game has a huge range of weapons, from simple and generic ones like pistols and shotguns, to more interesting and gameplay-changing ones like netguns that trap players and even bibles that converts enemy players to your own team. Additionally, the level selection is also extremely varied, with each level making use of either very specific weapons to achieve a certain time to playstyle, or having random and weird weapons to let the players run wild.

Duck Game was released on the 4^{th} of June 2015, and is available on PC for €12,99 on Steam and Humble, and is available for PlayStation 4 also for €12,99. According to SteamSpy¹, it has sold between half a million and a million copies.



Another similar game is *Escape*: *The Curse of the Temple*. This is a very fast-paced cooperative board game about escaping from a temple with your friends before the soundtrack ends. This is similar to my project in a few ways. It's a very fast-paced and quick game where players all play at the same time, it's very reliant on rolling dice, and there's also a timer in the game, because if you don't escape the temple by the time the soundtrack ends, you lose the game. However, it's also a bit different from my game in a few ways, because players work together and not against each other, and it's real-time and not turn based.

Escape: The Curse of the Temple was released in 2012. According to BoardGameGeek², at least 18,000 people own this game. However, it's no longer available for sale first-hand from the original publisher.



Space Cadets: Dice Duel is a fast-paced real-time competitive board game about two spaceships fighting each other, and each player controls the crew of a spaceship.

This game is similar to Rat Game because it also relies heavily on dice rolling for the gameplay, though *Space Cadets'* gameplay is made up entirely of dice rolling unlike my game. It's also a very fast-paced and chaotic game, where you have to act as quickly as possible, but it's real-time unlike my game, which is turn-based.

Space Cadets was released in 2013 and is available for €29,99 on Amazon. According to BoardGameGeek³, at least 4,500 people own this game.



GAME DESIGN!

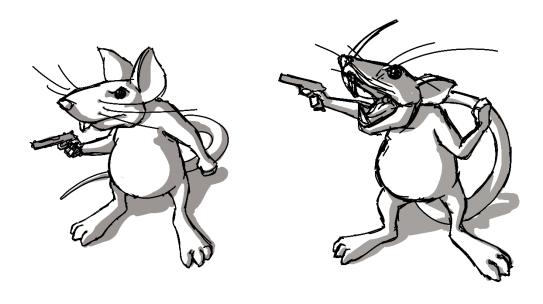
NARRATNE

Rat Game is set in a near-future universe where the entire world was taken over by rats. For millennia, a race of mutated rats, that walk on their hind legs like a person and are as big as a 10 year old human, have been living beneath the earth, developing their own tribal societies, away from the unsuspecting eyes of the people above. When the first rats of this mutated species tried to make contact with people and establish friendly relations, they were looked upon with horror and disgust, and were immediately killed on sight by the humans that saw them. Having had their shot at peaceful coexistence denied, these mutated rats had to hide wherever they knew the humans would not find them. At first, it was in burrows and tunnels beneath the earth, in deep dark caves in the mountains, and in forsaken forests. However, as the humans grew in technology and knowledge, they began to expand exponentially and discover every hiding hole in the world, forcing the rats to abandon their derelict homes once more. They were forced to dig deeper into the ground, or to live in the sewers of the developing new cities, where they knew men would never go. In these private lairs, the rats brooded and plotted to take their revenge upon the world of men, and to conquer the overworld for themselves, to finally have the home that they deserve. After centuries upon centuries of planning, of studying humans and their weaknesses, of developing their own technology based on the scraps that they could salvage from what humans threw away, they finally crawled from below and emerged to conquer their promised land. After years of fighting, the rats proved victorious over the puny humans. However, once their common enemy had been vanquished and their perennial goal achieved, the rats became fragmented. Leadership broke down, with clans forming up all over the place, claiming to be the true leaders of this new world. It wasn't long before the rats all turned on each other, willing to kill their former brothers, just for a chance at being the leader of a clan and to fight for the world's overlordship.

Rat Game is a fast-paced competitive board game for two players, where players will take control of a single rat, and will guide him in battles against the other player over multiple levels with plenty of weapons and items, to become the leader of the local rat clan. The main objective of this game is to kill the enemy more times than the enemy kills you.

CHARACTERS

The characters of this game are all rats from the mutated species of humanoid rats that can walk on their hind legs, have thumbs on their hands, and are on average the size of a 10 year old boy. These rats are extremely volatile and irritable, and have an insatiable desire to prove themselves as the strongest of their clan, regardless of the cost. They have no aversion against killing their former brothers and comrades for the slightest advantage imaginable, and will not hesitate to kill a potential enemy.



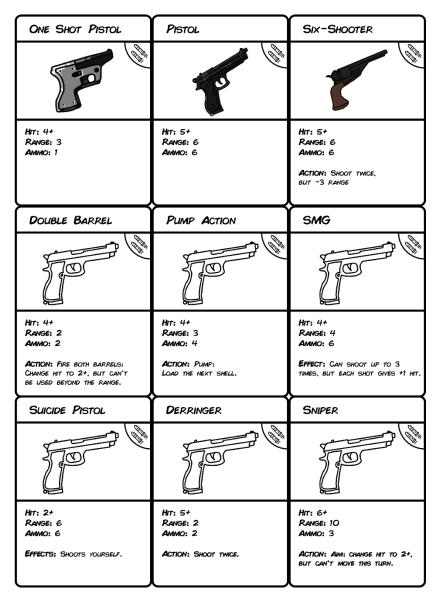
Sketches of the Rat characters

Humans aren't a part of this game, because the vast majority have died in the war, and the few survivors have hidden from the rats in deep underground tunnels and bunkers.

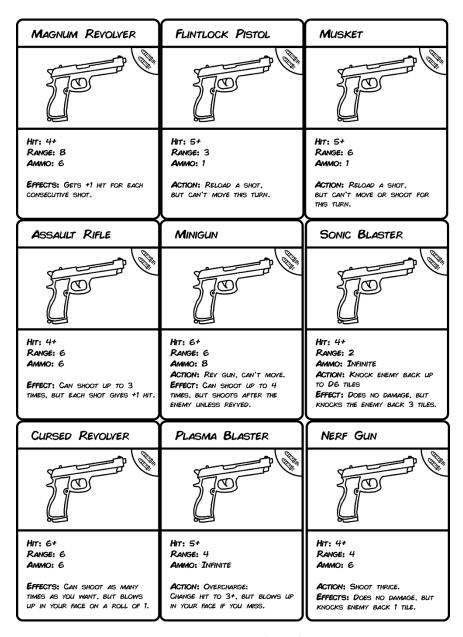
ITEMS

The items present in this game are guns, grenades, and wearable gear. These are all represented by cards.

The guns range from generic realistic weapons, such as pistols and shotguns, to more unique and exotic weapons such as the Sonic Blaster, Plasma Blaster, and Cursed Revolver, to some silly and jokey guns such as the Suicide Gun and the Nerf Gun. These are able to be picked up from the levels, and depending on the level, they are either random guns or specific guns.

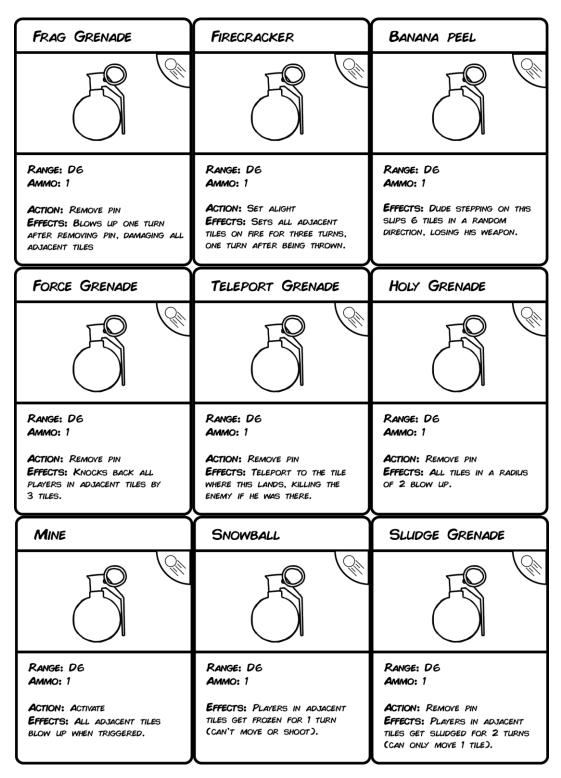


List of the guns created for the game



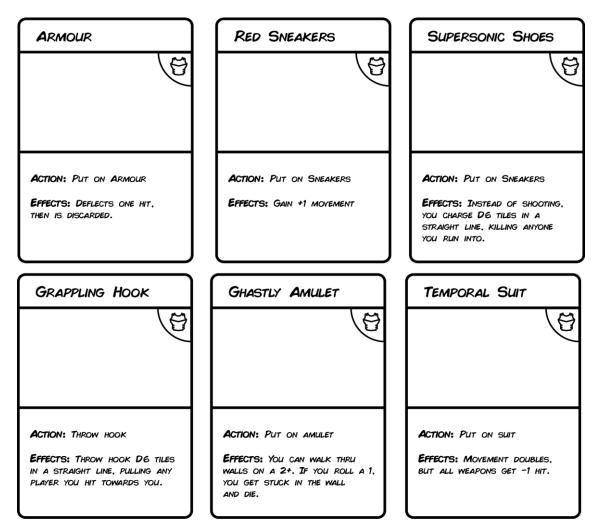
List of the guns created for the game (cont.)

Similarly, the grenade items designed for this game also range from realistic ones, such as frag grenades and minds, to more unique and interesting items like the Teleportation Grenade or the Force Grenade, to some silly and jokey grenades like the Banana Peel.



List of the grenades created for the game

Lastly, there are the gear items. These are wearable items that the players can equip and use alongside their weapons. Again, they vary from standard items such as the Armour and the Red Sneakers with simple effects, to items more interesting effects, such as the Supersonic Shoes and the Temporal Suit.



List of the gear created for the game

CONTROLS

Rat Game is a turn-based game where players take turns simultaneously, meaning that players are moving and shooting their characters all at the same time. This choice was made in order to keep the game as fast-paced as a board game can be, and to make the game more chaotic. Additionally, each turn is made up of two phases: the Movement Phase, and the Action Phase.

The Movement Phase is, as the name suggests, when players move their characters on the board. This is done tile by tile, in any direction the players want. By default, players are only allowed to move up to 2 tiles per turn, but they can choose to move only 1 tile or not even move at all. Additionally, a player may choose to roll a D6 die. If they do, and they roll 4 or higher, then they are allowed to move an extra tile. However, the Movement Phase is timed! Players are only given 5 seconds to make their moves. When the timer runs out, they're no longer allowed to move their character until the next turn.

During the Movement Phase, if a player lands on a tile with an item box, then they get that item, and they discard any items they might have previously had. Depending on the item box, this item will either be specifically defined, or will be drawn at random from the item deck.

The Action Phase is when players shoot their guns, throw their grenades, or equip their gear, and activate any actions that their items might have. If players have a line of sight to each other, then they can shoot their guns once (unless specified otherwise); grenades don't require a line of sight to be thrown. Grenades though have the extra step that they need to the activated, and will only blow up one turn after being activated. Like the Movement Phase, this is also done simultaneously, meaning that it's possible for players to kill each other at the same time and end the match in a draw. Also like with moving, players don't have to shoot unless they want to.



As shown on the example to the right, guns have three main attributes: Hit, Range, and Ammo.

The Hit value is the roll needed on a D6 in order to hit and kill the enemy player. In this example, the player would need a roll of 5 or higher to hit the enemy.

The Range value is how many tiles away the enemy can be before the gun becomes inaccurate. This is to say, for every tile that the enemy is beyond the range, the roll needed to hit is increased by 1. For example, Player A had the Six-Shooter with a Range of 6 and a Hit of 5+, and Player B was 7 tiles away. Player A can still shoot B, but since B is 1 tile beyond the Range, the Hit is increased by 1, meaning that Player A would need to roll a 6 in order to hit Player B.

The Ammo value is how many times a player can shoot a gun before it runs out of ammo and is discarded. After every single shot, the ammo value is lowered by 1. This is the only variable that players need to keep track of, which can be easily done by placing a D6 die on top of the weapon card to represent its current ammo value.

Additionally, players can also activate their item's Action. This is simply done by saying that you use your action, as there is no timer in the Action Phase. Actions vary wildly, but they all have their effects detailed on the card, as shown in the example.

Some guns also have permanent effects that are always active, such as the Sonic Blaster.

Grenades work slightly differently. Instead of having a Hit value and aiming directly at the enemy, grenades can be throw anywhere. When throwing a grenade, the player chooses which direction they want to throw it in (vertically, horizontally, or diagonally). Then, they roll a D6 to see how far the grenade travels in that direction. For example, on a roll of 1 the grenade lands 1 tile away from the player, and on a roll of 4 it lands 4 tiles away from the player in the chosen direction. Their specific effect then depends on the item.



Following the end of the Action Phase, if no player has died, the game continues to the next turn, and the new Movement Phase begins.

MECHANICS

The main verbs are moving, shooting, and rolling. This is what the game is all about, moving your character, shooting the enemy, and rolling dice. The only components that are required to play this game are character pawns, dice, the item deck, the level boards, and a timer.

Other mechanics include firstly the extra movement mechanic, where players can choose to roll a D6, and get to move an extra tile on a roll of 4 or higher. If they fail this roll, there is no other penalty other than the time they spent rolling the die. However, time is very valuable, because you only have 5 seconds on the Movement Phase, after which you can longer move your character. The extra movement mechanic was added in order to add a slight gambling element, a risk vs reward element, where you can gamble with your time and hope you get lucky, but if you take too long and fail then you might miss the chance to even move your character, or will have to make a quick and unplanned movement before the timer ends. This makes the game feel more fast-paced and chaotic.

The timer mechanic was added to keep the matches short and fast-paced, and to prevent players from spending too long planning their moves. Additionally, since the turns are taken simultaneously, Player A might choose to observe where Player B chooses to go, and then move his character accordingly. Without a timer, nobody would want to move first because the second player would have the advantage of predicting their move. However, with a timer, it's a very big risk to wait for the opposing player to finish moving his character, and only then think about where to move yours. This adds another element of risk vs reward, and also forces players to try and anticipate their enemy's moves beforehand.

The mechanic of simultaneous turns is also very useful at keeping the matches short and fast-paced, creating an atmosphere of chaos, and makes for a more balanced game overall.

The one-hit-death mechanic similarly helps to make the game fast-paced by only requiring you to hit the enemy once, but it also makes the game easier to play, as there are no health points of any kind to keep track. Additionally, it makes shooting a lot more meaningful and exciting, since any die roll at any moment could spell your victory or your doom, which keeps players on their toes and eager to see what they roll.

Being able to shoot a gun outside of its range, but with a smaller chance to hit also makes the game interesting because it allows for near impossible shots to happen.

Having many weapons with an action that can be activated which gives a bonus but also a penalty at the same time gives players more options when using their items, and allows them to create their own playstyle and try risky strategies and may or may not pay off.

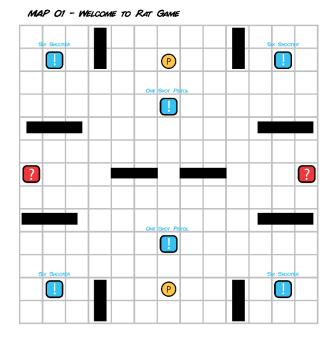
LEYEL DESIGN

As mentioned previously, every level in Rat Game is played on a 13x13 square grid that is filled with unique obstacles and elements. Every map was designed around a certain obstacle or element, and every map has different items and a completely different layout. This helps to keep the game fresh and not become repetitive, and also forces players to change their strategy and adapt to every new map, as no single strategy will work on them all. Additionally, all maps are symmetrical so that they're balanced and fair for both players.

P PLAYER SPAWN POINT CONTAINS A SPECIFIC ITEM RESPAWNS AFTER 3 TURNS CONTAINS A RANDOM ITEM RESPAWNS AFTER 3 TURNS WALL BLOCKS MOVEMENT AND LINE OF SIGHT DOOR CAN MOVE THRU, BUT NOT SHOOT THRU WINDOW CAN SHOOT THRU, BUT NOT MOVE THRU HOLE YOU DIE IF YOU END UP HERE TELEPORTER TELEPORTER TELEPORTS PLAYER TO OPPOSITE TELEPORT

MAP LEGEND

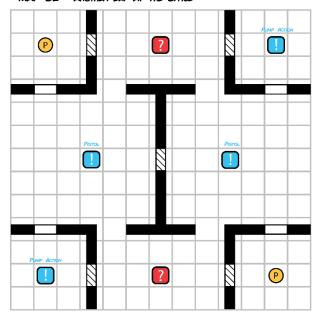
A legend of all the elements present in the maps



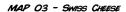
The first map is a very simple one, with only item boxes and walls, the most basic elements of Rat Game's levels. This was designed to introduce players to basic mechanics of the game (moving, shooting, getting items). It features item boxes with the most basic weapon so players can get used to the shooting, and it features item boxes with the Six-Shooter, a gun that has an action, which was designed to introduce players to the fact that some guns have actions. There's also a random item box so that later, when players have mastered the basics, they can experiment with new random items, to keep the game new and

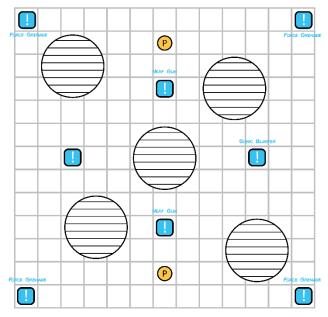
interesting. There is a risk vs reward element when using the random item boxes, because you never know if you'll get a really powerful item like the Minigun, or something very weak like the One-Shot Pistol, or something even worse like the Suicide Gun.

MAP 02 - ANOTHER DAY AT THE OFFICE



The second map introduces Doors and Windows, which have intuitive opposite effects, as well as new weapons. To leave their spawn area, players have to walk through a door, which will teach them how the doors work. There are two pistols placed right in front of a window, so that players are enticed to grab them and shoot the opponent through the window, learning what the window does. Again, the random item box is present to ensure that each match is different and unique.



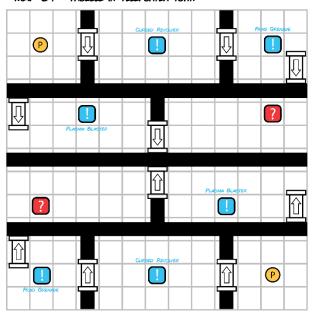


The third map introduces holes, which kill any player who lands on them, and also the most unique items in the game: the Nerf Gun, the Sonic Blaster, and the Force Grenade. These items function differently from most others, because they do no damage. Instead, they knock the player back a certain number of tiles. This means that this map is not just about hitting the enemy, but about pushing them into a hole, while positioning yourself to avoid the same fate. Additionally, players can be knocked out of the edge of the game board, which also kills them.

Unlike all previous maps, this one

does not have a random item box, because I designed this map to be all about using the knockback weapons. Moreover, this map introduces players to the use of grenades for the first time.

MAP 04 - TROUBLE IN TELEPORTER TOWN



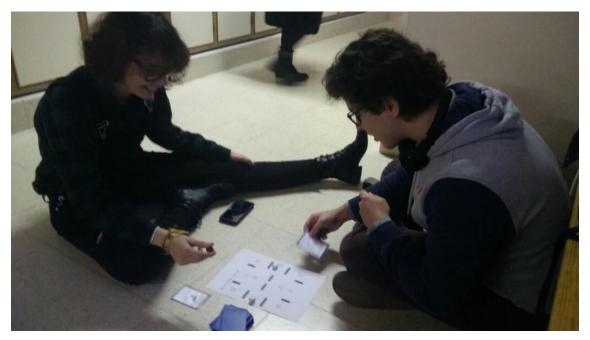
The final map that I made for this project introduces teleporters. When a player enters a teleporter, they come out the opposite teleporter (the one that the teleporter's arrow is pointing to). Not only that, but players can also shoot their guns and throw grenades through teleporters. It also introduces more exotic and interesting weapons, and this time the random item boxes return. This is the most chaotic map, so I saved it for last, for when the players are more comfortable and experienced with all the game's mechanics.

USER INTERFACE

Like previously mentioned, Rat Game is a board game, so there is no HUD. All the information that players need is what's written on the item cards. The only variable that players need to keep track of is the ammo amount of their guns, which is done simply by placing a D6 on top or next to the card, to represent the amount of ammo left. There are no other UI elements needed.

TESTING SESSIONS

I tested my game at university with my two classmates, because I wanted to know what people my age would think of the game. I wanted to make sure that everything was as easy to understand and as quick to play as I thought it would be. Most importantly though, I wanted to see if they would have fun with the game!



Leonor Cristovão and Miguel Alves

LEONOR CRISTOVÃO, 18, FEMALE

Leonor overall liked the game and thought it was fun. She thought that the levels were very unique and distinct from each other, while still all relying on the same mechanics, which made the game never become repetitive, allowed for many different playstyles and strategy options, and ensured that every match was different and exciting in some way. She particularly mentioned the second and third maps as being the most fun to play because of how they changed the game around. Leonor also liked the fact that both players took turns simultaneously, and especially that both players would shoot each other at the same time. She mentioned that it was always exciting to roll your die to see if you hit, but also scary because you never know if the enemy was gonna hit you too.

However, Leonor stated that perhaps there was too much reliance on dice, as dice are used to shoot, to throw grenades, to roll for extra movement, and some items like the Sonic Blaster have actions that also used dice. Additionally, she felt that some of the item cards had confusing text that wasn't really clear at explaining what the item did, and I had to explain myself what the item was supposed to do. She also thought the timer wasn't all at that necessary, because she always managed to roll a die and mover her character before the timer ran out.

MIGUEL ALYES, 19, MALE

Miguel also thought that overall Rat Game was quite fun to play. Like Leonor, he agreed that the layout of the maps made sense, and that they were all unique and different from each other, requiring players to adapt their strategies, which broke the repetitiveness. He particularly mentioned how he liked the fact that the Door and Window have intuitive opposite effects, and also that the third map was his favourite, because it almost completely changed the game without changing any mechanics. Additionally, Miguel thought that the items mostly made sense, and that there was a lot of variation in the item pool and a lot of weapons with interesting actions, which all helped to make the game never become stale and always have something new to offer.

However, he also felt that some of the cards had ill-explained effects or actions, and that some actions just didn't make much sense. He specifically mentioned that the actions of the Firecracker and the Pump-Action should be improved in order to have a downside alongside their positive effect. Miguel added that the Nerf Gun was very fun to use, but it felt too underpowered, and that its chance to hit should to be increased to at least a 3+ to make it more useful as a weapon. He also suggested that when rolling for the extra movement, a roll of 6 should grant 2 extra tiles of movement and not just one, for those extra lucky moments.

CONCLUSION

Overall, I am very happy with the outcome of the game and the feedback I got from the players who tested it. My main aims were to make a fast-paced competitive board game that was easy to learn and set-up, that relied on a mixture of strategy and luck, to have plenty of unique items with strategic and gameplay changing effects and actions, and to have unique maps that all felt very distinct from each other and that are all played differently, forcing the players to adapt in real time.

The fast-paced aspect was certainly achieved, as each turn was less than a minute long, and most matches weren't longer than 5 minutes, with matches taking place on the third map proving to be the longest of all due to that map's unique design and the more tactical approach needed gameplaywise. In a testing session that was about 40 minutes long, the players managed to play multiple rounds on every map, and ended up with a pretty close score, which is exactly what I intended.

I could also see in the players' faces that they were always excited and somewhat apprehensive when rolling the shooting dice and that the tension ramped up as the game went on and multiple shots were taken that missed. I also saw that it was always very satisfying to hit the enemy player, be it at the very first shot taken, or after a minute or two of missing shots. Additionally, it was gratifying when the enemy kept shooting at you but kept missing, especially when the roll was very close, as it made players feel like they were just narrowly dodging bullet in mid-air.

The item selection is, I feel, also very good overall, as there are many different generic and simple to learn/use items, but there's also a good amount of more advanced weapons with more complex and gameplay-changing effects focusing on risk vs reward, and there's also a few silly items in the mix. This means that the players have plenty of playstyles and strategies to use, that the game doesn't get very repetitive, and makes the matches unpredictable because you never know what items you might get in the random boxes. However, based on player feedback, I realised that some of the weapons had confusing and not very well-explain effects or actions, that they wouldn't have understood without my explanation. There were also some items that needed more balancing, because they were either underwhelming and felt weak to use, or too powerful with not enough disadvantages. In the future, I'd like to add a lot more items, especially exotic items with simple effects that radically alter the gameplay, like the Sonic Blaster, and some more silly items like the Banana Peel and the Suicide Gun, because I want this game to have a not so serious tone and be fun.

Lastly, I think I also succeeded in making each level unique from all the previous ones, by always adding new elements, and changing up the weapon selection every time. The people who played Rat Game all said that they really liked the maps and how they forced them to play differently, which was exactly what I was aiming for.

To improve this game, I'd have to rebalance some items, and make their text a lot clearer and more understandable in some cases. I'd say that in terms of mechanics and controls, the basics work really well and are very fun, and that, overall, I'd just like to add more interesting items and maps to the game, rather than changing existing things.

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