Nuclear Throne - the board game

What is the game about?

Nuclear Throne - the board game is a board game adaptation of a roguelike top-down shooter.

The Heart - The thrill of character building and getting stronger and stronger, as well as skill-based bullet hell gameplay.

The Theme - Surviving in an unforgiving environment for as long as you can, and trying to destroy all the enemies before they kill you. Enemy difficulty and player abilities both increase as the game progresses.

Systems - Movement, space, and combat are all interwoven as survival relies a lot on dodging bullets but at the same time getting your attacks in. Killing enemies gives you back health and ammo, and also gives you weapons which get better the farther you are in the game, and rads, which let you get mutations that make you stronger so you can kill more enemies. This is the main positive feedback loop in the game.

We wanted to capture the feeling of taking on waves of enemies, getting new stronger guns and getting to choose mutations that also make you stronger. We removed movement and aiming as those are skill-based inputs that rely on hand-eye coordination. Space is represented in a limited way, just shown through the multiple rows of enemies and how the row affects their level of threat. This aspect of gameplay wouldn't work quite well with the turn-based nature of board games. We also removed ammo as a drop, because having to count how many times you had shot and keep track of that number throughout the whole game would become tedious.

ANALYTIC WRITEUP (Design Story)

First our idea was a players vs enemies co-op card game, which at first had dice as combat resolution which was a bad design decision which we changed to instead have those numbers be based on the character and weapons with no random element. This design abstracted away from the movement, combat, and ammo systems in Nuclear Throne.

Then we also had an idea to make a pvp board game, which would simulate a bullet hell and include mutations and different weapons. Players would gain mutations as they damaged other players, eventually could get a super mutation. This design abstracted away from the co-op player versus system element in Nuclear Throne.

We weren't able to decide which game to choose. One didn't capture the essence of player movement and bullet hell, and the other didn't capture the essence of co-op and the feeling of being overwhelmed by swarms of enemies. We asked the TA, Joe, and were advised to integrate our two ideas.

We thought some more and decided to turn the pvp bullet model into a co-op game that would pit the players against the monsters that would generate on the field. Each player had to: 1) update their old bullets, 2) move their player character, and 3) shoot new bullets. After all players have gone, they would have to implement the combat behavior of all the enemies on the map by referring to a comprehensive rulesheet that detailed direction, movement, aiming, shooting, and bullet pattern. This we felt ended up exacerbating the point of being on the board game medium. It felt like we were setting up the game tick of the source game, and we wondered if we were adapting anything if so much of the game is translated over.

The gameplay turned out to be more tedious than fun so we reverted back to the original idea, with some additional changes based on playtesting and feedback (The main one is no more dice, smaller changes include a space system where there are 2 rows of enemies that move similarly to the Space Invader aliens, and also special abilities that each player has depending on what character they're playing).

Most of our troubles after that came from designing enemies. At first, All surviving enemies at the end of a round could damage players and we made damage depend on the enemy's row position. This was easy for players to learn but didn't represent how enemies become increasingly dangerous when there are lots of them. Then, we made enemies have 6 stats (2 optional) with 2 ways for enemies to damage players: one used a timer and the other one used a "swarm" value that rose and fell as enemies appeared and died. This was a more accurate representation of the way different enemies act in the game, but playtesting revealed this to be too complicated, so we decided to remove the swarm mechanic and used a turn-counting system that rewarded the player with rads if enemies were killed the sooner they died before they could attack players. This entails that large groups of enemies have a large inevitable threat of damage and are

harder to tackle than smaller groups of enemies because the player needs to take out each one in a way that they take the least amount of damage but don't wait too long.

NOTES TO GRADERS:

The game was playtested mostly with players playing Fish, Crystal, and Robot. The game is decently balanced for them, however the other characters have not been tested as extensively and may be a bit more imbalanced.

~~Game Rules~~ Proposed Rules for testing

Current Version: **PVE Co-op card game**

Removed Systems:

Movement is represented only by the enemy cards starting in the further row but moving into the closer row over time. Has a much smaller role here than in the original digital game.

Ammo is an important drop/resource in the game but we don't include it as a drop, instead it is represented by how many times each gun can shoot (specified by its card)

~Aesthetic goal~ Feeling like you're getting stronger, by upgrading your character, and having waves of enemies come at you that you can kill or that could kill you. Mounting threat of many enemies to overcome - or die.

~~Components:~~

- ~~Health 'spinner'~~
- ~~Drop Deck~~
- ~~Enemy Deck~~
- ~~Player Cards~~
- ~~Mutations~~
- ~~Rads (cubes)~~

Combat Mechanical Setting: PvE Co-op
Enemy Deck:

There are 3 sets of enemy cards, for 3 stages, that go from easy to hard. At the beginning of the game shuffle all 3 of these decks separately, then place them on top of each other, hardest on the bottom and easiest on top. When you clear a wave of enemies, instead of getting reshuffled they get discarded and you continue through the enemy deck.

Enemy Cards:

Have a Health number and Damage number, and indication of whether or not they will drop something. They might have a short description of the enemy to make it more interesting.

Example: This bandit has 3 health, 2 attack, and it drops something when killed (indicated by the star). ALSO they will have a number indicating how many rads they drop, which I didn't put in the picture. Enemy Groups: One card that represents a group of enemies. It represents how in the game, when enemies are in a group they are stronger individually as well. There could be 1 Enemy Group card per level, ensuring that you encounter it but making sure you don't accidentally draw 3 in a row which would be impossible to deal with.

Enemy Cards - stats

(u don't have to strictly stick to these, they're just recommendations)

Enemy cards have the attack bar and the name on top, a picture of the enemy in the middle (can be the in-game art if you want, but it would be cool to at least have some more detailed art for the special enemies, could use the promo art. Bordered or borderless images - depending on what ends up looking better & fits the theme. Example: http://i.imgur.com/lgXvrat.jpg The attack bar on top is a bar on which we place cubes that are 1cm x 1cm, in a row, that says "ATTACKS!" on it so that's the word you see when you remove the cubes. Has a heart with the # HP inside it, and the damage # in a diamond. Has an easily noticeable star next to (maybe on both sides of) the name if it's a card with a drop. Under the name could be a flavor text description of the character. Under the picture could be the special info/behavior if applicable.
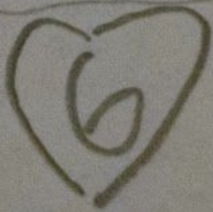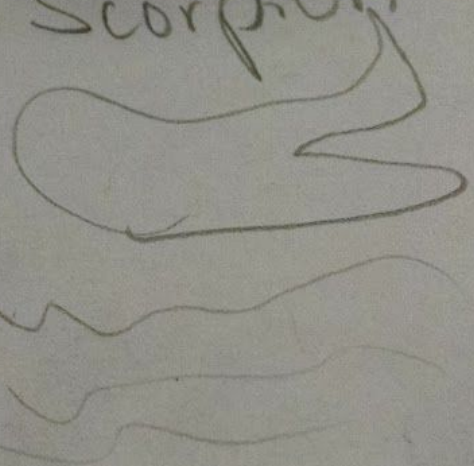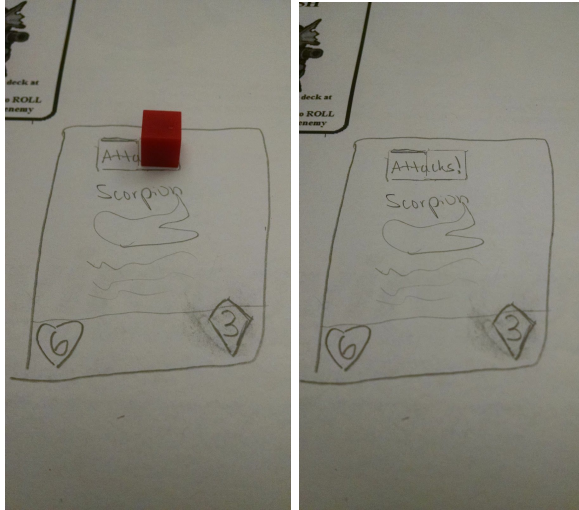
Scorpion

♡ 6

◇ 3

- ❖ Bandit: (x4) (2 with drops) A common desert enemy that speaks a simplified dialect of Trashtalk
  - ➢ Hp: 2
  - ➢ Attack bar:1
  - ➢ Damage: 2
- ❖ Giant Maggot: (x1) A large desert grub that burrows into the ground and resurfaces near it's next meal - special enemy
  - ➢ Flip over this card after it is killed, on back of card is Group of Maggots
  - ➢ Hp: 5
  - ➢ Attack Bar: 2
  - ➢ Damage: 3
- ❖ Group of Maggots: Very small, very squirmy. (1 on the back of Giant Maggot, 1 by itself) (Giant Maggot one drops)
  - ➢ Spawn the other side up
  - ➢ Hp: 5
  - ➢ Attack Bar: 2
  - ➢ Damage: 3
- ❖ Scorpion: (x3) (1 with drop) A feisty arachnid that can shoot venom and should be approached with caution
  - ➢ Hp: 6
  - ➢ Attack Bar: 2
  - ➢ Damage: 3
- ❖ Assassin: (x2) (1 with drop) A sneaky fellow with a deadly rusty pipe
  - ➢ Spawns in close row
  - ➢ Hp: 2
  - ➢ Attack Bar: 2
  - ➢ Damage: 5
- ❖ Sniper: (x2) (1 with drop) A robot cowboy with really good aim.
  - ➢ Stays in the back row. When killed, damages adjacent enemies 1
  - ➢ Hp: 3

> ➢ Attack Bar: 2
> ➢ Damage: 4
❖ Explosive Barrel: (x2) Who left this here?
> ➢ When destroyed, deal 2 damage to adjacent enemies. If destroyed in close row, deal 2 damage to players
> ➢ Hp: 2
❖ Big Bandit (x1)
> ➢ HP: 25
> ➢ Attack Bar: 5
> ➢ Damage: 5
> ➢ Doesn't heal at end of battle phase unless under 10HP, He will heal back up to 10HP

- ~~Orion's idea for enemy card format (Not tested yet):~~
  - ~~Top right: The rads aka XP~~
  - ~~Bottom right: Damage~~
  - ~~Bottom left: HP~~
    - ~~For tougher enemies: use lives to divide up the HP so they don't regenerate everything after one turn~~
      - ~~Rarely occurring mechanic giving too much to keep track of?~~
  - ~~Top left: Swarm level: If the sum of the swarm level of all enemies exceeds a certain limit, the player takes damage from one (random?) enemy~~
    - ~~Star: does the enemy drop something?~~
    - ~~For adapting enemies that restrict you by forcing you to behave a specific way (ex: croc and sniper): Threat Timer: if the enemy is in the combat space for this number of turns, take damage from this enemy~~

~~Orion's Enemy stats:~~
  - ~~Bandit: (x4) (2 with drops) A common desert enemy that speaks a simplified dialect of Trashtalk~~
    - ~~Hp: 2~~
    - ~~Rads: 2~~
    - ~~Swarm Level: 2~~
    - ~~Damage: 3~~
  - ~~Giant Maggot: (x1) A large desert grub that burrows into the ground and resurfaces near it's next meal~~
    - ~~Starts in the back row, moves directly up to the close row in the next turn.~~
      - ~~Swarm level increases to 3 after going to the close row~~
      - ~~Can only cause damage while in close row~~
    - ~~Flip over this card after it is killed, on back of card is Group of Maggots~~
    - ~~Hp: 5~~
    - ~~Rads: 3~~
    - ~~Swarm Level: 0~~
    - ~~Damage: 3~~

- Group of Maggots: (x1) (drops)
    - Hp: 2
        - Lives 2
    - Rads: 2
    - Swarm Level: 3
        - Threat Timer: 1
    - Damage: 2
- Maggot: (x2) (1 with drop) Very small, very squirmy
    - Hp: 1
    - Rads: 1
    - Swarm Level: 1
        - Threat Timer: 1
    - Damage: 1
- Scorpion: (x3) (1 with drop) A dangerous and feisty insect that can shoot venom and should be approached with caution
    - Hp: 6
    - Rads: 3
    - Swarm Level: 3
    - Close Damage: 3
- Assassin: (x2) (1 with drop) A sneaky fellow with a deadly rusty pipe
    - Spawns in front row
    - Hp: 2
    - Rads: 3
    - Swarm Level: 2
        - Threat Timer: 2
    - Damage: 5
- Sniper: (x2) (1 with drop)
    - Stays in the back row. When killed, damages adjacent enemies 2
    - Hp: 3
    - Rads: 3
    - Swarm Level: 3
        - Threat Timer: 5
    - Damage: 4
- Big Bandit: (x1) (with 2 drops)
    - Hp: 5
        - Lives: 4
    - Rads: 15
    - Swarm Level: 5
        - Threat Timer: 5
    - Damage: 5
- Croc: (x2) (1 with drop)
    - Hp: 2
    - Rads: 3

Drop Deck:

The drop deck is drawn from when an enemy with a star is killed. It contains: HP, Weapons, Rads. Each health drop is applied to ONE player, then shuffled back into the drop deck. If a gun is dropped, a player can keep the card or shuffle it back in if they chose not to take it.

Drops:

- ❖ Weapons (x11)
- ❖ +2 Hp (x4)
- ❖ +1 Hp (x4)
- ❖ +2 Rads (x4)
- ❖ +3 Rads (x4)

Weapon Cards:

The weapon cards have a Damage number and a Shot number. The Damage number is the amount of damage that each shot does, and the shot number is how many times you can shoot. You can have a maximum of 2 weapons, and when you draw one from the drop deck and want to get rid of a weapon you have, put it at the bottom of the drop deck. Some weapons have splash damage, and also damage enemies adjacent to the targeted enemy, which would be specified in the gun's description.

Weapons:

- ❖ Revolver: (x2) A basic starting weapon
  - ➢ DPS: 1
  - ➢ Shots: 4
- ❖ Machine gun:
  - ➢ DPS: 1
  - ➢ Shots: 5
- ❖ Shovel: melee
  - ➢ Hits target and 1 adjacent enemy. Only damages enemies in the close row.
  - ➢ DPS: 3
  - ➢ Swings: 1
- ❖ Screwdriver: melee
  - ➢ Only damages enemies in the close row
  - ➢ DPS: 1

- ➢ Swings: 3
- ❖ Assault Rifle:
    - ➢ DPS: 3
    - ➢ Shots: 3
- ❖ Shotgun
    - ➢ Also damages enemies adjacent to target
    - ➢ DPS: 2
    - ➢ Shots: 2
- ❖ Double Shotgun:
    - ➢ Also damages enemies adjacent to target
    - ➢ DPS: 3
    - ➢ Shots: 2
- ❖ Slugger:
    - ➢ +1 damage to enemies close row
    - ➢ DPS: 7
    - ➢ Shots: 1
- ❖ Crossbow:
    - ➢ Also hits the enemy behind the target
    - ➢ DPS: 6
    - ➢ Shots: 1
- ❖ Grenade Launcher: explosive
    - ➢ Also damages enemies adjacent to target (2 damage). If the target is in the closer row, players lose 2 hp.
    - ➢ DPS: 6
    - ➢ Shots:1

Combat:

Enemies come in waves, and the amount of enemies with each wave gets larger each round. Players each get a turn to use any weapons(can only shoot one of your 2 guns each turn), and then the damage from enemies ~~gets split up among the players (round down if it's an odd number).~~ When an enemy with a drop gets killed, players draw 1 card from the drop deck. Players take the number of rads that the enemy drops. At the end of the round, if players have enough rads they can get a perk by drawing 4 cards from the perk deck and choosing 1 to keep. Unchosen cards get shuffled back in. Enemies who are still alive at this time regain their health.

Perks:
~~1st one costs 10 rads, second one costs 11, third costs 12. Ultra mutation available?~~
Mutations cost 5 rads.

Boss Battle? There could be a boss battle at the end to see who gets the throne (is this how the game goes?) This would have to have different mechanics than the normal combat And maybe the winner would be determined by the last player left alive after the boss battle or whoever has the most upgrades or something at the end.

Characters - recommendation: cards have a Heart with the # of hp inside it. Pictures of the character that are more detailed than the in-game pixel art. 215 x 330 pixels seemed like a really nice card size

Different Characters have different Perks - each can be used ones per wave

-Fish: 8 HP. 1. Gets to draw from the drop deck at the end of each wave. 2. Gets a D6. Can roll 4-6 for each enemy to ROLL and evade their damage

-Crystal: 10 HP. 1. can shield herself from 1 enemy and reflect that damage to 1 targetable enemy.

-Robot: 1. Can eat weapons, healing 3 HP each, put eaten weapons into discard pile.

-Eyes: Swap 2 enemies or push/pull enemies or barrels into a closer/farther row

~Melting and YV haven't been tested, and here are their proposed abilities. If you wanna make these characters and add to/change the abilities feel free to, we can test them out because the seem fun~

-Melting: 2. if he kills an enemy, deal 2 damage to adjacent enemies. Has 3 hp
-YV: Can fire a weapon twice but in the next turn can't fire. Gets 2 extra shots.
-    Evasion mechanics

Mutations - when a player acquires 5 rad tokens, mutate at the end of the battle phase.

- ❖ Rhino Skin: +4 max HP
- ❖ Boiling veins: Take no damage from explosions
- ❖ Impact Wrists: When you kill an enemy in the close row, their corpse flies, dealing 2 damage to the enemy directly behind them
- ❖ Long Arms: With a melee weapon, player can chose to hit enemies in the close OR far row each swing
- ❖ Bloodlust: Roll the Bloody die (D20). rolling 13-20 heals the player for 1HP
- ❖ Gamma Guts: At the start of your turn, all enemies in the close row take 1 damage.
- ❖ Sharp Teeth: Taking damage deals 2 damage to all enemies
- ❖ Last Wish: Fully heal yourself
- ❖ Stress: When below 50% health, all your weapons do +2 damage
- ❖ Bolt Marrow: Crossbow bolts can now hit any enemy behind the target.
- ❖ Second Stomach: Whenever you heal in any way, heal twice the amount

Playtest Notes:

Orion's idea for enemies

1. Starting swarm limit: 10

      a. Should be lowered, too easy

      b. Maybe replace entire swarm mechanic with timer

2. Enemies should be more dangerous
3. Positive feedback suggestion: quicker enemy death -> more rads
4. Remove lives: rarely occurring mechanic giving too much to keep track of?
5. Threat timer: broaden mechanic: if timer runs out, enact a specific effect

Yuvi's idea: merge rads and Threat timer into one system: quicker enemy death -> more rads

1. Worked out well. Minor fixes are left

Card Game

1. Combat took a while, dice roll based
      a. Pretty much : rolling dice for enemy, rolling dice for player, repeat
         Mutation helped (scarier face)
      b. Player had a very small amount of agency except for deciding who to
         target
      c. A lot of tallying, pretty tedious
2. Player did not realise how the space works at first
      a. "Ohh it's like space invaders, now I see what you mean"
      b. Explosive Barrels are interesting
      c. Player didn't realise that you are in front of the enemies, shooting at them
         i. general orientation of space
      d. Made a bad decision
         i. left scorpion alive, while killing bandits
         ii. "I wish I had more options than just shooting"
         iii. Tallying health took away from the flow
         iv. Died after first few rounds
         v. "I like the simplicity and systems of space. I thought the player
           agency was a bit limited."
3. Gameplay is smoother, no tallying
      a. Too many drops?
      b. Multiple times, killed bandits which lead to damage from scorpion that
         could have been avoided
      c. Character perks affected gameplay, made the game easier
      d. More weapons cards - Fish got new weapons each wave - we reduced
      e. Fish's drop amount to 1 extra each round instead of 2
      f. Spinner is easy to keep track of health with
      g. Barrels helped take out enemies
      h. Assassin's damage got reflected by crystal
      i. Gameplay is easier than before - add harder enemies?

      j.   Ended game before any mutations were 'bought' - both players were still at comfortable health

- PVP board game
- All players shot at the other players
- Bullets easy to dodge, just move out of that row
- Player 1 attacked first, with a more aggressive strategy
- Shot at player 2, moving in their direction
- Player 2 takes 2 damage
- Player 3 was staying near top of the map, more conservative with ammo
- Player 2 went straight up to player 1, only needs 4 or higher to kill that player
- Rolls 6
  - Player 1 is dead, player 2 Mutates twice in 1 turn - chooses +4 HP and +25 extra
  - ammo in pool
  - Player 3 is hiding from player 2
  - Player 2 advances and shoots a few bullets
  - Player 3 realises he can 1 shot player 2, advances to only a few units away and
  - kills player 2 with a high roll of the dice, many bullets
- End of game
  - -Players 1 and 3 never mutated
  - -player 2 mutated twice and lost
  - -overall pretty short game
- Things to fix - no stacking bullets when you shoot them - this means if a player is one space away, there's only room for 1 bullet
- "I felt like the systems were a bit complicated, but I liked the idea of a PVP Nuclear Throne. Too many systems?"

PVE Board game - the combo
1. Moving away from dice was a good idea
Players chose where enemies spawn but this didn't make the game predictable, enemies still moved unpredictably
Confusion about the bullets and collision, and if you can move faster than the bullet
Ended playtest early

2. Smaller hex grid
Tedious to keep track of little bullets, enemies, RNG movement

3. Players shouldn't be able to get spawned on top of

      If a player is on a spawn tile, during spawn phase there may be an enemy that spawns on top of the player, thus damaging the player perhaps without warning.
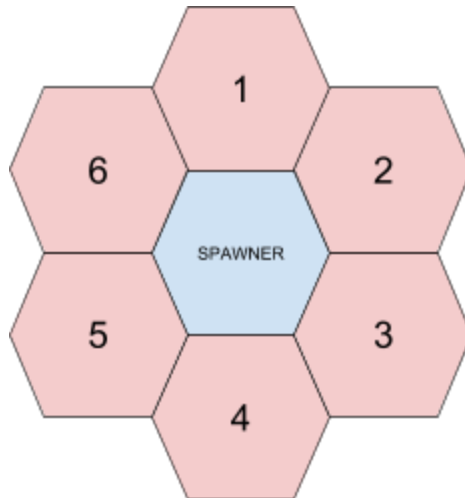
4. No clear sense of direction in hex tile grid

When devising enemy behavior, it is hard to devise a system that recognizes direction on a hex grid. We considered a true north and an adjacency system that allowed players to roll a number that decided ultimately which direction enemy projectiles would fly.

Iterations:

IDEA 03: **PVP -> PVE BULLET HELL BOARD GAME**
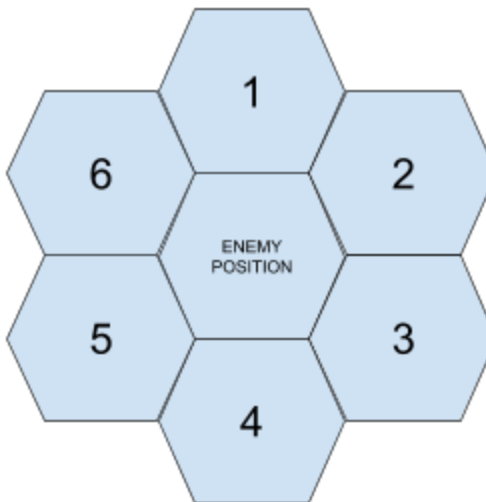
Components:

- D6 dice
- Enemies
    - Tiles for different enemies, that when you kill them flip them over to show which drop they drop, if any
- Coin
- Character Sheet
    - Unique characters for each player - even if we don't implement abilities, we can make them look different
    - Kill Count
    - Mutations
    - Life
- Life (x8)
    - I have colored cubes we could use for this, or spinner-type things where you move a paper clip around a circle with numbers 0-15 like a clock but its your health
- Bullets (x24)
- Cover Obstacles (stage building, can take cover behind)
    - Can print/draw on paper and tape to blocks?
- Drops Deck (draw card upon killing someone)
    - Ammo replenishment
    - Health replenishment
    - Weapon drops
- Mutation Deck (draw card every 3 kills)
    - Movement speed (+1 SPACE on top of dice roll)
    - Ammo
        - Increase max (+24 BULLET)
        - Chance to replenish ammo on a kill (+1 BULLET) (flip coin heads)
    - Health
        - Increase max (+4 HP)
        - Chance to replenish health on a kill (+1 HP) (flip coin heads)
    - Gamma Guts (walk over enemy = kill)
    - Hammerhead (can push cover obstacles)
    - Strong spirit (if last health, save once)
- Ultra Mutation Deck (draw if acquired 3 Mutations)
    - Gun Warrant (ammo returns from graveyard every other turn)
    - Fortress (+6 HP)
    - Back 2 Bizniz (each bullet does double damage)
    - Harder to Kill (Can survive 3 turns after death)
    -

Set Up:
- Place players anywhere on the map
- Place cover obstacles anywhere on the map
- Choose any player to go first and proceed in counter-clockwise order and reverse at the end of each round

Play by Play:

1. Movement (depends on character and mutationsroll and move the number of spaces from the roll)
2. Combat
    a. Weapons have 3 parameters:
        i. Number of shots/swings: players roll for how many projectiles they can shoot
        ii. Damage: this is how much damage a player takes when hit with the projectile from the weapon
        iii. Distance: this is how far the projectile travels beyond the player
    b. these 3 numbers are decided by what weapon card the player is holding
    c. Leave shots until everyone moves and shoots
    d. Players can choose to discard their shots into the graveyard or keep them on the playing field

       e.   Players are free to keep track of their projectiles on each following turn
            i.   Exception: wrench attacks do not stay on the field
       f.   If shots hit cover obstacles move to graveyard

3.   When you hit a player
       a.   Collect bullet that hit the player and send to the ammo graveyard
       b.   Take player heart and add it to your hit count
       c.   Draw from the drop deck
       d.   If you have made 3 new hits, pick a mutation (only pick a mutation every 3 hits made)

4.   Picking a Mutation/Ultra-Mutation
       a.   Draw the top 3 cards
       b.   Pick one
       c.   Put back the 2 into the deck and reshuffle

5.   Winning:
       a.   Last one standing
       b.   Most mutations

Draft Rules: **PVE CO-OP CARD GAME**
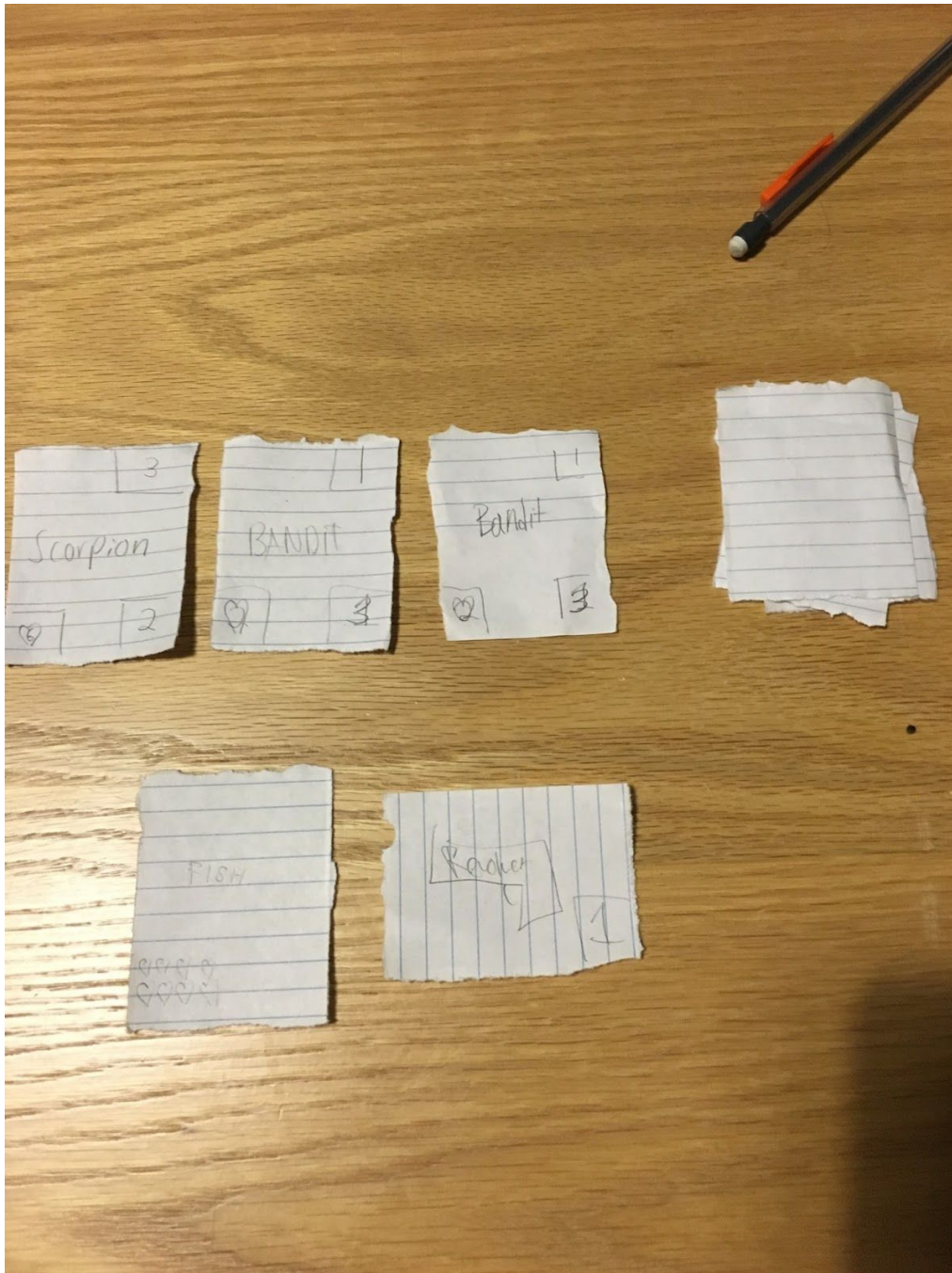
Game components - decks of cards, dice or any RNG, coins or RNG.

Deck of Enemy cards	Enemy cards have health and damage and rads(maybe?)
Boss cards(maybe?)	fight a certain boss when you get to a certain turn in the game.
Deck of Gun cards	Gun cards have damage

Deck of Mutation cards   Power Ups

Player Card(maybe?)   that tells you your base HP and abilities

None of these decks need to be very big, especially for a friday prototype.

1:

Flip over cards from a shuffled enemy deck. It will have bandits, scorpions, etc. with weaker enemies being much more common. On earlier turns, only flip a few cards(3?), flip more and more cards as you progress into later turns. example : Turn 1: 3 enemies Turn 2: 4 enemies Turn 3: 5...

You start with basic revolver weapon card, which does 1 damage per shot.

Weapons

1. Multiple types of dice for different fire rates
2. Fire rate = how many enemies can get targeted. If fire rate is greater than number of enemies, attack is dealt by fire rate modulo number of enemies times damage per shot.

Combat Phase

1. Roll a die to determine how many times you can shoot. You can then choose which enemies you want to damage. For example, bandits can have 1 HP, if you roll a 3 you can kill 3 bandits.
2. After everybody rolls to kill, begin enemy phase

Enemy Phase

1. Last player to roll rolls again. Result % (number of players) = number of players to move to deal damage to. For example, if you roll 6. 6 % 3 = 0. So you yourself get dealt the damage that is on one enemy card
2. Repeat for all players
3. Return to combat phase until all enemies have been removed

Reviving Fainted Teammates

If one player is fainted another living player may give up half of the health they have to give to the fallen player. If the number of health is odd, player must round up their sacrifice.

Drops

There is going to be a separate drop deck that the player can draw from for each enemy they take down.

Ammo

There is an ammo pool. Players may acquire ammo tokens to their allotted space on their character sheet.

Mutation

Mutation deck is going to be upside down and when a player fills up the radiation canister, the player can draw a card and add that to their character sheet.

Battles will be split into phases of you killing stuff, then stuff killing(hurting) you.

At the end of each 2 part phase, flip 2 coins, one to see if any enemies dropped health for you to collect, the other to check if they dropped a gun.

If they dropped a gun, pick a card from the gun deck, you can chose to equip it or leave it.

 2:

After you kill all enemy cards, (if you collected enough rads) flip over 4(?) cards from the shuffled Mutations deck and take one.

These Mutation cards will buff your damage or health or make you more likely to get high rolls, redo a coin flip, etc.

STUFF:

Important stuff my idea lacks - Skill Based theme, procedurally generated levels, many playable characters, ammo resource system, fast action, multiplayer, crowns. Maybe These could be added to my idea somehow?

Stuff my idea attempts to adapt - fighting random enemies, collecting random guns, building a set of perks to customize your character, picking which enemies to kill first.

Stuff my idea adds - Turn based, chance based

1. These are Nathan's comments.
2. We are going to plug in all the holes he found.
3. In each of the following remarks, please provide a unique possible idea for a solution by your name.
   Comments:
1. In your writeup, you haven't clearly identified NT's core systems in general terms, nor their constituent mechanics. For instance, 'Health and ammo deterministically and randomly drop off fallen enemies'—yes, but what kind of system is this? Resource? Economy? What entities are involved? How do they interact?
   a. Yuvi:
      i. Health and ammo are part of the resource system, and can be determined by a dice roll or some other simple mechanic.
   b. Urian:
      i. Resource mechanic that involves player health, ammo, and perks. When players have low health or ammo, the system increases the likeliness that health or ammo will drop from a fallen enemy.
      ii. Perks also play around with ammo and health availability.
         1. Health max can be increased +4 HP with Rhino Skin.
         2. Ammo max can be increased to 555 bullet, 99 shell, 99 bolt, 99 energy, 99 explosive with Back Muscle
         3. Health and ammo drop availability can be increased with Rabbit Paw
         4. Health can be regenerated when killing enemies with Bloodlust
         5. Ammo can be regenerated when killing enemies with Lucky Shot
         6. Bullet ammo can be regenerated on hit with Recycle Gland
         7. Ammo for both guns can be regenerated when dual wielding with Throne Butt for Steroids
         8. Ammo can be consumed by eating guns

Certain characters are able to pull more ammo resources
- 1. Unlimited ammo for 7 seconds is Fish's Ultra Mutation

iv. Certain characters are able to pull more health resources
- 1. Crystal can get 20 HP total with Rhino Skin and her Ultra Mutation

v. They also loosely involve killing enemies, because drops can only be generated on fallen enemies. So, perks and weapons that make it easier to kill enemies may increase the output of certain drops
- 1. Sharp Teeth (enemies take damage when you take damage) + Scary Face (weaker enemies) increase chances of enemies dying and therefore generating drops

c. Orion:
- i. Resource mechanics: Random drops of ammo, health, XP, and weapons
  - 1. Different types of ammo for different weapons
  - 2. Even weapons of the same type have significant variation in combat abilities
    - a. Flamethrower and grenade launcher both use explosives
  - 3. These drops expire after a time limit: interaction with combat+movement
- ii. Progression:
  - 1. At the end of each level:
    - a. Depending on the amount of XP the player has, they may permanently gain a perk that modifies the effects and conditions present in any system component.
    - b. Challenges also get harder.
  - 2. During the level:
    - a. You may gain or replace a crown for additional effects
    - b. You can switch weapons
- iii. Customization: Various **special effects** (This or something like this will be a key term when formally analysing the game) can interact with all the components listed in this whole outline
  - 1. Different characters have different stats and abilities
    - a. Stats and passive **special effect** calibrated for balance
    - b. Abilities provide a relatively powerful **special effect**
  - 2. Perks gained from XP at the end of each level are the main source of **special effects**
  - 3. Crowns also provide a **special effect**
  - 4. Weapons:
    - a. They don't provide special effects, but they interact with many of them. Some special effects apply to a specific set of weapons
    - b. Provide a huge variety of combat effects considering the simple point-and-attack controls for using them
    - c. Players can at most hold two
- iv. Combat is merged with the space to form one combined system
  - 1. Various enemies
    - a. All enemy abilities focus on creating threats in space
      - i. Moving closer to the player
      - ii. Creating more enemies
      - iii. Just shooting dodgeable bullets
      - iv. Melee
      - v. Not much, if not none, in the way of **special effects** like damage-over-time, locking abilities, or lowering stats
    - b. Delicate, but Dangerous and Numerous
      - i. Most are killed after a few player actions
      - ii. Player can die after being hit by a few of enemy actions
      - iii. I once lost to an enemy I killed many times before because I didn't know they would shotgun-blast me if I let them
  - 2. Walk-and-attack: Simple movement combined with simple attacks
    - a. Movement
      - i. Combat
        - 1. Dodging bullets or other attacks
        - 2. Positioning for an attack
      - ii. Non-Combat
        - 1. Gathering resources
        - 2. Traversing the space to find enemies and new resources

iii.   Both: Gather resources while fighting enemies
              b.   Player attacks enemies and other objects
                        i.   Point-and-click: clicking…
                                1.   Shoots bullets or other threatening objects that travel and hurt enemies. Requires consuming ammo.
                                2.   Or does melee attacks that hurts some enemies close to the player. No need for ammo
                        ii.   Swapping weapons...
                                1.   Changes...
                                        a.   resources used
                                        b.   form of attack when clicking
                                2.   With...
                                        a.   Different weapon in environment
                                        b.   Player's other weapon
                        3.   Ability: perform an action unique to a character

2. Likewise, 'We want to capture the fun of stacking the perks' is not an analytic assessment of the game's systems. What does 'capture the fun' mean from a systems standpoint? Multiple resource types interacting? Be specific.
    a. Yuvi: The perk mechanics interacts with the economy and resource systems, by affecting what is available to the player which affects the game's dynamics. The perk system adds replay value by creating many different paths a player can take, leading to most games being unique to an extent. The goal would be to have character building have significance in the progression of the game and have something that the player is building up and trying to improve
    b. Ryan: Mutations will affect all the systems in the game in different ways. It will affect the Progression system since many mutations directly improve the player's combat capabilities. It will affect the Economy systems of health and ammo.
    c. Urian: Perks that play with player stats target specific elements such as health, ammo, fire rate, and movement. These perks are conditional and generally stand isolated unless players can connect them to improve the effectiveness of their stack. So we want to capture the strategic element of character building from perks that interact with player stats.
        i. Other aspects I want the player to experience
            1. Dodging a bullet hell
            2. Equipping awesome guns
            3. The existential crisis of permadeath
    d. Orion: The Appeals of the Source Game
        i. Simplicity
            1. Combat focuses on space
            2. Simple controls: move, attack, switch guns (plus an ability sometimes)
            3. Simple resources: Mainly, more = better
        ii. Fast progression
            1. Players and challenges become more powerful at a fast rate
            2. Fast-paced combat
            3. How to represent this in a card game: have a player be able to cause various effects in one turn, with challenges matching this
        iii. Customization: a good variety of:
            1. Characters
            2. Crowns
            3. Enemies
            4. Perks
            5. Weapons

3. Machinations: Performed several hundred runs and always achieved 'Win.' Obviously there's a balance issue to work out…
    a. Urian: Well, in NT and in roguelikes in general there's only permadeath. I guess the machinations just needs to be harder.
4. Draft rules setup information is unclear. A character sheet is mentioned but not shown or explained. At heart, you've reduced NT to a battle of opposed dice rolls. Is the only strategy mutation selection (which is still chance-reliant)?
    a. Yuvi: combat could be not chance/based (except maybe whether or not something was dropped by an enemy). It should be **based on the weapons and perks** that people have and be **fast paced** because having slow turns will detract from the theme.
    b. Ryan: Mutation is not totally chance reliant, as you get to **choose** from one of four offered options. The game is not reduced to dice rolls because better players will use **weapons** that work best for a given battle so the outcome of battles will be more based on player knowledge than random rolls.
    c. Urian: https://boardgamegeek.com/blogpost/31689/designer-diary-battle-kembles-cascade-or-long-live
    d. Orion: ...Remember poker, where you can replace some cards in your hand before matching competing hands the end of the round?
        i. We can:
            1. do the replacement mechanic with weapons…
            2. Handle combat by calculating results at the end of the round and focusing the time beforehand on preparation
        ii. Questions:
            1. Competitive, Co-op, or both?
            2. PvP, PvE, or both?
        iii. Three phases (Simplicity and Fast Progression)
            1. Setup phase (Resource and Customization)
                a. Gather resources like ammo, health, and XP
                    i. Resources can be in threatened sources
                        1. Middle of combat
                        2. Encounters with new enemies
                        3. Note: this affects the other (two) phase(s)
                    ii. Notes:
                        1. Simplicity: resource mechanics must be simple ex: generally more is better
                        2. Fast Progression: Gain benefits from resources at a fast rate
                b. Swap weapons with a random selection
                    i. Simplicity: Standard structure for weapons
                        1. Ammo values
                        2. Damage value
                        3. Rate of Fire a.k.a How many shots in one turn?
                            a. Customization: different from Damage: how to distribute shots?
                        4. Cooldown: how many turns in Combat Phase until this can be used again?
                        5. Special effects (Customization: very powerful for differentiating weapons and adding variety)
                        6. Accuracy **(This stat is only for PvP, it determines what I call "threat levels" in the combat phase)**
                    ii. Fast Progression: Weapon must provide set of benefits to player that achieves many distinct results in short time
                    iii. Customization:
                        1. Weapons must be significantly different from each other
                        2. Random selection must have a good amount in it
                c. With enough XP, gain perks from a random selection
                    i. Fast Progression

1. Each Perk must significantly empower the player
            ii. Customization
                1. Perks must be significantly different from each other
                2. Random selection must have a good amount in it
    d. New enemies appear! **(Optional mechanic)**
        i. Simplicity:
            1. Standard structure for enemies
            2. Random but simple structure for bringing in enemies
        ii. Fast Progression: As player capabilities grow fast, so do Challenges
        iii. Customization: Good variation in enemy threats
2. Combat Phase (Combat, Resources, and Customization)
    a. Setup of "Threats":
        i. Threat Structure:
            1. Threatening group: Set of enemies
                a. Requirement if PvE
                b. We could design something with this if PvP
            2. Threat difficulty: minimum evasion needed to avoid Basic Damage
            3. Basic Damage: Damage player will take if threat is not evaded
            4. Critical stats **(Mainly PvE, PvP requires adding features)**
                a. Critical level: Destroy at least this level of enemy danger to avoid critical damage (I don't say "destroy this many enemies" because some are more dangerous than others)
                b. Critical Damage: Damage player will take if critical level not satisfied
        ii. If PvE: Threats formed at beginning of this phase
        iii. If PvP: Threats formed while players take actions
    b. Players take turns taking actions
        i. Players can take multiple actions in one turn; share the same limit on how many actions they can take in a turn
        ii. Scores: Combat resources that reset to nothing right after End Phase
            1. Evasion: Achieve enough to avoid damage from threats
            2. Damage:
                a. PvE: How much health does each enemy lose?
                b. PvP: What threats have players set up against each other?
        iii. Choices:
            1. Caution: Gain Evasion
            2. Use Weapon: Inflict damage (PvE) or set up threat (PvP)
                a. Aim where?
                b. Which weapon?
            3. Use Ability
    c. Notes
        i. Simplicity: Aim in combat is to have big enough numbers
        ii. Fast Progression: The changes each turn makes to the state of combat should average out to a relatively significant scale
        iii. Customization: A lot of different resources and **special effects** are at work here
3. End Phase (Combat and Resources)
    a. Results calculated and enacted
    b. Combat Scores reset

5. How does ammo factor in—it's not mentioned in the weapons or combat sections. You already have a lot of resource types (guns, mutations, HP, ammo, rads) but no clear sense of how these interact to make a **SYSTEM**. Using a modulo to determine damage is fiddly and will confuse many players.
    a. Yuvi: A way ammo could factor in is by having each gun have a limit on how much damage it can do per turn. There could also be a number on how many enemies the damage can be split up between, which signifies limited ammo and can be useful in balancing a lot of unique weapons. (pop gun could have 10 damage among up to 10 characters, grenade launcher could have 8 among 1 character etc). Instead of a modulo we could determine damage dealt by enemies by splitting it up among all players or going to the player with most/least rads? Depending on wether we want positive or negative feedback