

Dice Wars

Build up an army of dice to defeat your opponent in a series of battles!

Creators:

Eli Kan

Samuel Tang

Leanne Lu

Jiaqi Ruan

Class: Spring 2024 Intro to Game Design (GAMES-UT 150)

Summary: You and your opponent are the leaders of armies, trying to build up your respective forces in order to defeat each other in a series of battles. Roll and reroll your dice to attack your opponent, defend from attacks, revive dice, and add bonus dice with special abilities to your dice pool.

Rules:

Materials

- Dice
 - 20 white troop dice
 - 45 bonus dice (5 of each type)
- 1 Divider
- 2 Health counters
- 2 Dice trays
- 1 Graveyard/Resting Area board
- 1 Bonus Dice board
- 2 Game boards

Setup

- Each player takes a set of 10 troop (white) dice, a health counter, a game board, and a dice tray.
- Place the Graveyard/Resting Area board to the left side in reach of both players.
- Place all bonus dice on the bonus dice board to the right side in reach of both players, according to what type of dice they are.

Game Structure

- Players start out with 10 health points in the first round, with the starting number of health points going up by 5 every subsequent round.
- Each game has three rounds.
- A player wins the round if they reduce their opponent's health to 0.

- A player wins the game if they win two rounds in total. (Best of 3)
- If both players' hit points are reduced to 0 during the same turn, the players tie and move onto the next round with increased health.

Turn Overview

1. Put Up Divider
2. Roll Dice (This includes rerolls and bonus dice rolling if relevant)
3. Remove Divider
4. Resolve Dice
5. Repeat

1. Put Up Divider

Place the divider between the two players so that each other's board and dice tray are hidden. When both players are ready, move on to the Roll Dice step.

2. Roll Dice

Note: If at any time a die you roll lands on a Skull, even if it is a bonus die, you may not roll that die again until it is healed.

Defensive Dice:

If you have any defensive dice that have finished resting for a turn, return them to your dice pool from the Resting Area of the Graveyard/Resting board.

Bonus Dice:

If you have any bonus dice in your dice pool, roll all of them into your dice tray. Move any skulls to the "Skull" section of your game board. Repeat this whenever relevant for subsequent rolls. After seeing the results, you can pick one bonus die to roll again. If you have no bonus dice, move straight to rolling troop dice.

Troop Dice:

You can roll your troop dice into your dice tray up to three times. You can stop rolling any time after the first roll. On the first roll, roll all your troop dice. For your second roll, if you like some of your results, you can set them aside and only roll the ones you don't like again. For your third roll, if you change your mind, you can roll any dice you set aside earlier, along with any you still don't like.

After you finish all your rolls (or you decide to stop), place each die in its corresponding category on your board (*see Resolve Dice section*), and move on to the Remove Divider step.

3. Remove Divider

When both players are ready, move the divider between the two players to the side, reveal your results to each other, and move on to the Resolve Dice step.

4. Resolve Dice

Attack:

Two sides on the troop die add to your total attack.



- **Sword Attack:** Add 1 to your total attack.



- **Axe Attack:** Add 1 to your total attack.

Defense:

Two sides on the troop die add to your total defense.



- **Single Shield:** Add 1 to your total defense.



- **Double Shield:** Add 2 to your total defense.

Special:

Two sides on the troop die have special actions.



- **Skull:** A die that lands on a skull can not be rolled again and goes to your graveyard after results are revealed if you do not have any heals. Dead dice remain in your graveyard and can not be rolled again until revived.



- **+2 Heal:** Revive 2 dice from your graveyard or the current skulls on your game board. You can roll them again starting on the next turn.

Calculate your total attack and defense based on the results of your dice. The amount of defense you have reduces the amount of damage dealt by the enemy player's attack. Adjust your health counter to reflect how much damage you take.

Note: Make damage calculation simpler by comparing one player's total attack against the opponent's total defense and vice versa. And by keeping the person announcing their attack first the same each turn.

Defending dice are active for the turn they are rolled, after which they are put into the Resting Area. Dice in the Resting Area do not add to your defense and cannot be rolled for one turn, after which they may be used again. Bonus dice never rest even if they are defensive bonus dice and can always be rolled again in the next turn.

Apply any heals you have to skulls. The heals can be applied to both skulls received this round, as well as those in the Graveyard. You can choose which dice to heal.

Place your defense dice in the Resting Area and your unhealed skulls in the Graveyard.

Bonus Dice:

At the end of the turn, you can gain up to two bonus dice to permanently add to your dice pool if you meet certain conditions. There are 3 categories of bonus dice.

- If you rolled **4 Swords** or **4 Axes**, choose a bonus **Attack** die to add.
- If you rolled **4 Shields (any)**, choose a bonus **Defense** die to add.
- If you rolled **4 Heals** or **4 Skulls**, choose a bonus **Special** die to add.

Note: 4 Shields refers to 4 separate dice, not 4 defense in total. And this can be any combination of single and double shields. It does not need to be 4 single shields or 4 double shields.

5. Repeat

After the dice results of both players have been resolved, repeat all steps again until a player's health reaches zero, at which point the round ends, and the next round begins (*see Game Structure section*).

Bonus Dice

Attack:

- Attack Soldier - High chance for regular attack, but could also deal extra damage.
Mercenary - Has a chance for a strong attack, but also has a chance to betray and damage you instead.
Captain - Has a chance to buff all your attacks or cause betrayals to damage the opponent.

Defense:

- Defense Soldier - High chance for regular defense.
Sacrifice - Has a chance for a strong defense, but also has a chance to betray and damage you instead.
Tank - Has a chance to buff single shields or double shields.

Special:

Healer - Will always revive dice.

Necromancer - Has a chance to add attack based on the amount of skulls you rolled this turn.

Paladin - Has a chance to add attack based on the amount of skulls the opponent rolled this turn or allow all your heals to also defend.

Note: For more information on each dice, refer to Bonus Dice (Extended).

Additional Bonus Dice Rules

- Bonus dice added to your pool carry over into the next round.
- All buffs from bonus dice can potentially stack.

E.g. if you have two Captain dice and both roll a Sword Buff, where every sword rolled does 1 extra damage, each sword will do an extra 2 damage because both Sword Buffs are applied.

- The results of bonus dice do not count towards getting another bonus die.

E.g. if you have a Mercenary die and roll a Skull, it would not count towards the four Skulls needed to get a Special bonus die.

- If both players can take the same category of bonus dice, any type of bonus dice within that category that only has one left may not be taken.

E.g. if both players can take an Attack bonus die and there is only one Captain left, no one can take it this turn, but players can still choose to take Mercenary or Attack Soldier bonus dice if they have more than one left.

Bonus Dice (Extended)

Attack Bonus Dice:

Attack Soldier (Orange)



- (2x) Sword Attack - Add 1 to your total attack.



- (2x) Axe Attack - Add 1 to your total attack.



- (1x) Sword and Axe Attack - Add 2 to your total attack.



- (1x) Skull - Dead.

Mercenary (Purple)

-  (3x) Triple Attack - Add 3 to your total attack.
-  (2x) Betrayal - Your opponent gains 1 attack.
-  (1x) Skull - Dead.

Captain (Blue)

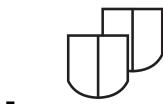
-  (1x) Sword Buff - Each sword attack does 1 extra damage.
-  (1x) Axe Buff - Each axe attack does 1 extra damage.
-  (1x) Sword Attack - Add 1 to your total attack.
-  (1x) Axe Attack - Add 1 to your total attack.
-  (1x) Enforcer - Betrayals add 1 to your total attack instead.
-  (1x) Skull - Dead.

Note: All attacks including those on bonus dice (besides Mercenary) are potentially buffed by Captain

Defense Bonus Dice:

Defense Soldier (Pink)

-  (3x) Single Shield - Add 1 to your total defense.

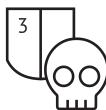


- (2x) Double Shield - Add 2 to your total defense.



- (1x) Skull - Dead.

Sacrifice (Red)



- (3x) Sacrificial Defense - Add 3 to your total defense, but is also a skull.



- (2x) Betrayal - Your opponent gains 1 attack.



- (1x) Skull - Dead.

Tank (Brown)



- (2x) Single Shield Buff - Single shields add 1 extra defense.



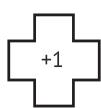
- (1x) Double Shield Buff - Double shields add 1 extra defense.



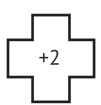
- (3x) Single Shield - Add 1 to your total defense.

Special Bonus Dice:

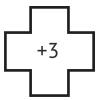
Healer (Green)



- (1x) +1 Heal - Revive 1 die from the player's graveyard. They are back in play on their next turn.



- (3x) +2 Heal - Revive 2 dice from the player's graveyard. They are back in play on their next turn.



- (2x) +3 Heal - Revive 3 dice from the player's graveyard. They are back in play on their next turn.

Necromancer (Black)



- (3x) Scythe and Bones - Add the amount of skulls you rolled this turn to your total attack.



- (3x) Skulls - Dead.

Note: If a player has two or more necromancer dice and two Sickle and Bones are rolled, each dead die counts twice and so on for additional combinations of Sickle and Bones rolls

Paladin (Yellow)



- (2x) Purify - Add the amount of skulls the enemy rolled this turn to your total attack.



- (2x) Curse - Whichever side has more skulls this turn takes 2 damage. If tie, then nothing happens.



- (1x) Skull - Dead.



- (1x) Defensive Heal - All heals also add 1 to your total defense.

Process Summary:

At the start of the project we wanted to work on the game Signal Break. We wanted to refine it, distilling it to its core essence and cutting aspects that we felt overcomplicated the game, like the different missions and characters, as well as improving the visual design and materials. However, we realized early on that we had cut too much and made the game too bland, and if we wanted to add more, it would take much more time than we realistically had. The game only really worked at a large scale, with lots of different cards and parts, and we knew we just wouldn't have the time to make it the best it could be, so we decided to switch gears and work on Spartan Yahtzee instead.

We initially had difficulties deciding what we could change and improve about the game. We wanted to make the rerolling more interesting, so that players would think more about what to reroll, so we decided to add dice combos. Initially, the idea was that rolling a combo on the attack faces of the dice, like multiple 3s, would increase your attack. We also wanted to add a "Hail Mary" desperation mechanic, where rolling a combo of 4 skulls would give you the benefit of added attack. We also made changes to the mercenary die, so that each number would do something more interesting than just adding attack, such as allowing you to steal dice or reroll your opponent's dice. However, as we playtested, we realized that we had complicated the core mechanic of the game too much without really adding much interesting choice for the player. The player would have to do too many calculations to understand how much damage they were dealing, and would have to constantly cross-reference the rules, which slowed the game down too much.

At this point we had switched from using normal, 6-sided number dice to blank dice with custom faces drawn on them, so that we had icons for attack, defense, dying, and healing. We realized that with the custom dice, we could do a lot more with the types of dice we had by changing what was on each face. We decided that instead of gaining attack from getting a combo, the player would be able to gain a special bonus die, which would have different faces than the normal dice and would have special effects. These bonus dice included a necromancer, which would heal and could potentially do damage based on the number of skulls you had, a risky mercenary die that could do strong attack but could also easily die or betray you by self-inflicting damage, and an attack die that would give you consistent attack. We also modified the game structure to make it best of 3 rounds, with bonus dice rolling over to next rounds, so that players could feel like they were building up an army.

We also experimented with a "Roll of Fate" die that would be rolled every other round and affect both players with a certain effect, such as reviving all dice or adding rerolls, but we found that this just complicated the game too much and interrupted its flow. We also realized that as rounds progressed players could kill each other too quickly with their many bonus dice, resulting in too many first round kills and ties, so we decided to increase the health players would start with each round by 5.

As we playtested, we found that these bonus dice could be added upon, with many different types of bonus dice instead of just 3. We also wanted to give the player more choice with the bonus dice they could obtain, and create more interactions between different dice so that players could play with different strategies. We brainstormed many ideas for different dice, and ended up at 9 bonus dice, split up into three categories: attack dice, such as the mercenary and stable attack dice from our previous version as well as captain dice to boost attacks and potentially stop a mercenary's betrayals, defense dice, such as stable defense, boosting defense, and risky defense, and special dice, such as necromancers which could deal damage based on number of dead dice, a paladin to combat the necromancer by dealing damage based on an opponent's dead dice, and a healer. The player could choose which bonus die they wanted in each category, depending on if they rolled an attack, defense, or special combo.

From there, we switched to focusing mainly on balancing, materials, and filming our video. We made many small adjustments to the number of faces each type of bonus die would have to attempt to balance them more, so that one die wouldn't be too strong or too weak. For materials, we designed icons, laser cut, and then inked over the engravings of all 65 dice in our game, as well as getting dice trays for rolling dice more easily, and health counters to better keep track of health. We also created a wooden divider to hide rolls from opponents, with a design engraved on it that would remind players of the rules on combos and special dice, so they could easily reference it as they played without having to constantly check the rules.

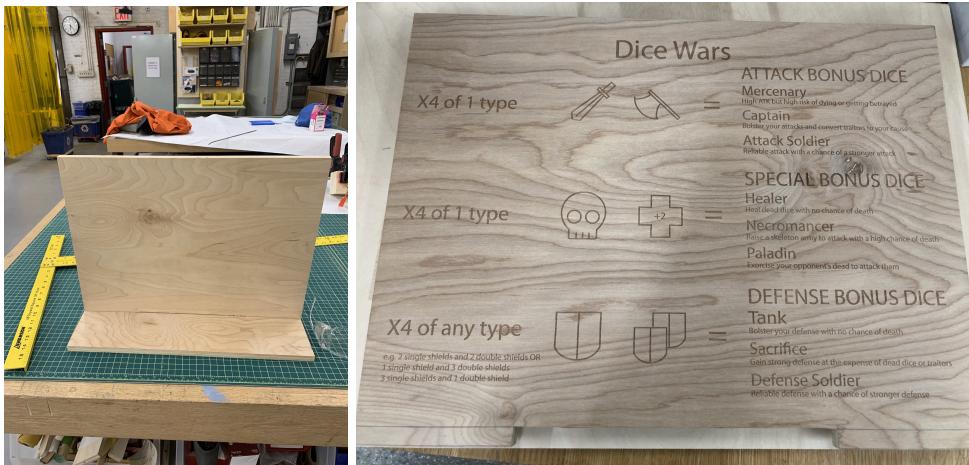
The process of filming the video helped to solidify the way we explained the rules as it gave us better structure for what to go through first. It was difficult to make sure the length of each clip corresponded with the voiceover, but it ended up being shorter than we originally estimated. It also gave us the opportunity to look at the project with new eyes and check what needed to be explained in detail vs what could be easily referenced from a photograph. However, it took disproportionately longer to film and edit the video compared to its importance in the final project.

Images:

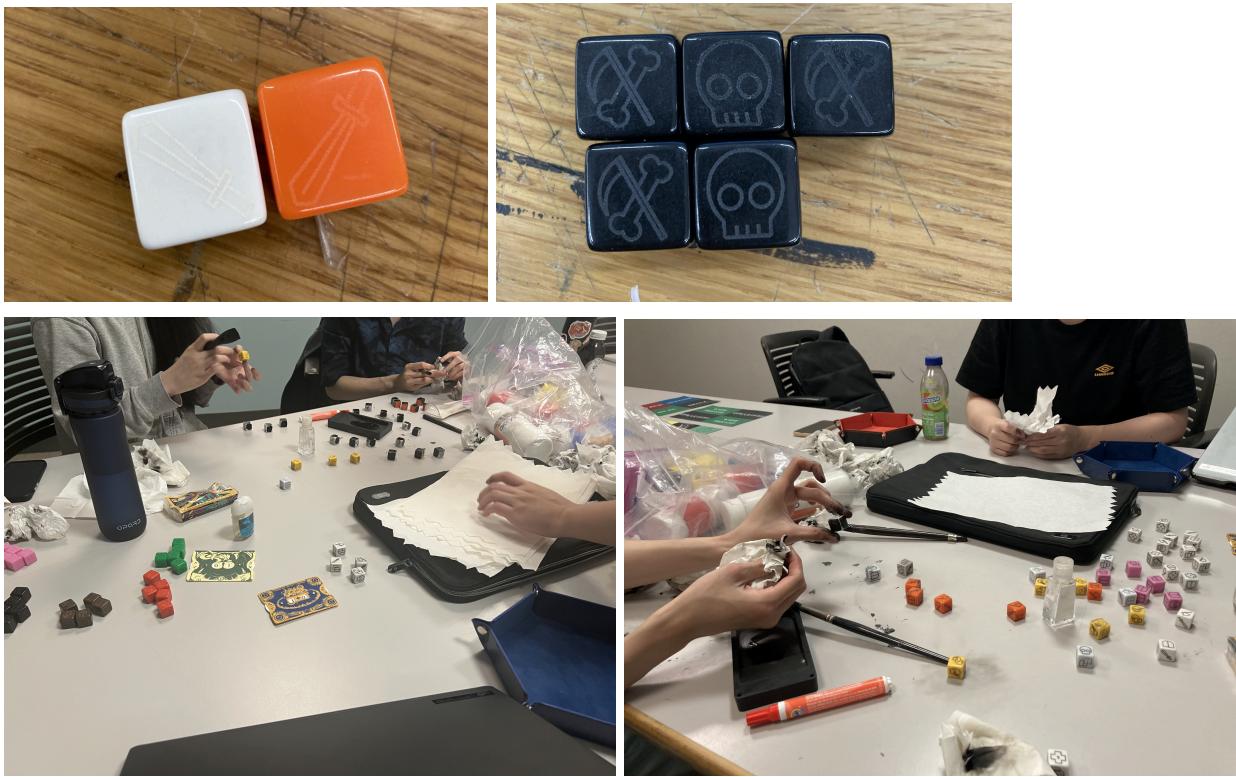
Early version:



Making the divider:



Making the dice:



Final Version:

