

Objective:

To walk through a brainstorming session for creating a mechanic of a game. This will include several phases that will help cement the requirements for the game.

Phase 1: The Game Mechanic

Looking at the first exercise in the power point write down a basic description of your mechanic in you game design journal. You should NOT have any setting, characters, or story involved at this point. Also define what would the minimal viable product be.

My game will be a Roguelike. Specifically, a 2D roguelike. The mechanic involves shooting enemies and traversing the setting to then defeat a boss to win. Roguelikes are defined as a dungeon crawl through procedurally generated levels and permanent death of the Player Character. I envision a player character with health and gold indicators, enemies, breakable objects that have either pickups or coins inside, level objects to hinder player movement, passive upgrades to the player either picked off of challenge rooms or bought in a shop, player shooting and rolling/dodging, player ability (if time allows, will make multiple character for different abilities), and a Boss that has set patterns to challenge the player's skills.

My minimum viable product would be a player character dungeon crawling through procedural levels that have enemies, breakables, pickups, and a final Boss. If the player dies, they restart completely with a new character. The player wins upon beating the boss.

Phase2: Game States

In you game design journal, write down all of the variables that will define your game state. Remember there are many other state variables besides location and score. Also keep in mind if you want to keep track of any statistics, it is not a bad idea to include them. (Even if they are not necessarily imperative to the mechanic).

- Location of player - room / floor
- Powerups
- Health
- Gold
- Enemies in the room
- Player Stats
- Player Ability

Phase 3: Game Features

In your game design journal please enter a list of features that describe your game. They do not have to be quite as formal as software engineering requirements, but they should fully describe your game. (Minus the story, setting and characters). The difference in this phase and the first is this phase should be more organized. From the brainstorming of the first phase you should be able to setup a set of features necessary.

Player Character	<ul style="list-style-type: none"> • Health • Gold • Dodge • Shoot • Basic movement (Keyboard WSAD-directional) • Ability (Initial thought of time stop) • Upgradeable (either through leveling or pickups/shop items) • Perma-death
Enemies	<ul style="list-style-type: none"> • Health • Gold • Drops (gold, items, health, etc.) • Shoot • Movement patterns (different based on enemy type to add variety) • Placement in rooms • Tracking player
Breakables	<ul style="list-style-type: none"> • Models depend on available assets (boxes, crates, vases, etc.) • Drops (similar to enemies but different %s) • Placement determined in Level Design
Level Objects	<ul style="list-style-type: none"> • Block player (wall or rubble) • Hurt player (spikes) • Slow / speed up player (sludge/mud, magical speed juice) • Traps (step on to trigger trap)
Level design	<ul style="list-style-type: none"> • Procedurally generated (Rooms will have different components found from a list of predetermined fillings) • Doors to room will be shut if any enemy is alive, will open if no enemies are present • Floor layout randomized to follow procedural generation • Mini-Map to track rooms visited

Boss	<ul style="list-style-type: none"> • Challenge for player • Possibly larger Room • Large health pool • Rewards guarantee player improvement/upgrade • Phases based on health (health inversely related to difficulty)
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Phase 4: Board game

You will need to make a board game that mimics the mechanics of your game (excluding skill-based components). You then need to find a few people and play the game for about 15 minutes. Determine if there are any strategies that break your mechanic or if there are any features that should be added or removed. Adjust your feature list appropriately.

As this game is single player, this will be a single player board game.

The boardgame will consist of decks of cards for the floors (5 rooms/cards), enemies (of different types, for now it's 4 types) and breakables (holding different drops like health and gold); and Dice rolls for actions. The player will have a stats sheet, like D&D that will keep track of the health, gold, and stats of the player. To start, the player will shuffle the rooms deck and then draw 5 cards from the top to act as the floor they must go through. Each room card will have variations of level objects, like spikes that will harm the player if they roll low on a d8 or mud that will make the player roll with disadvantage on actions. The room card will also specify how many enemy cards to draw. These enemies will have health and damage values assigned as well as certain dice to their attacks. The room will also specify the number of breakables in the room. Each breakable will have a dice and its corresponding items->numbers table.

Once the floor is set up, the player will flip one of the room cards over and inspect its specifications. After collecting the indicated number of enemy, breakable, and object cards, the player will then have the option to choose how to proceed. In a sort of turn-like pattern, the player will choose to either attack/shoot a breakable or enemy. If the player chooses a breakable, the player will roll the indicated dice and get the rolled number's item (if it even has an item, since there are blank numbers as well). If the player chooses to attack an enemy, they first must check the level objects to see what possible disadvantages they will have in the upcoming rolls. Once checked, the player will roll a d20 to see if they can attack the selected enemy. Each enemy will have a base number that will indicate if the player hits it or not (identical to Armor class from D&D). For example, if the player rolls the d20 and lands a 15 when attacking a goblin that has an Armor Class (AC) of 14, the player will deal 1 damage to them. If the player hits, they can roll again and again until they miss (getting a number that is < AC of enemy) or kill the enemy. After the player has finished their turn, one enemy (selected in the order of being drawn) will attack like the player does (rolling a d20) to inflict damage. No matter the outcome, hit or miss, the enemy ends their turn and it goes back to the player. The exchange of turns also happens if

the player attacks a breakable, but instead of the chance to miss a breakable, it is guaranteed that you will be able to roll for a drop. For example:

Player attacks -> Enemy,

Enemy attacks -> Player,

(player low on health decides to gamble for a health drop) Player attacks -> breakable (gets health),

Enemy attacks -> Player, Player attacks -> Enemy...

After going through each room, you enter the boss room. The boss has a large health pool and over the course of the encounter, will put level objects in the way of the player to make the fight more difficult as the boss loses HP. Once defeated, the game is won.

Also, one room will be a dedicated shop room. This is where the player will spend the gold earned to buy either damage, AC, or health upgrades. This room will be shuffled into the floor with the other 5 rooms. There will be more than 1 shop card to increase variety of items and their amount. Each shop card will have 3 items max and their prices are predetermined as well. The player can return to the shop at any time before the boss encounter unless they have purchased something from it, in which case, it will be discarded upon exiting. At any point, if the player Dies, the player must restart entirely with a new character sheet starting from square one.

What was learned from playing?

First, it became almost immediately obvious that the game was sheer dice rolls and almost no ability for the player to have real choices. I think this came down to the transfer of videogame to boardgame and not the mechanic the game is based on, since the real game will allow the player to choose the direction of travel. With the game being based on luck, health was a problem and needed to be increased a little to allow for the start. Another problem with the randomness was the length of the game, it could either last 15 minutes or 30 depending on how long you took during exploration and encounters. The boss was initially too hard with lots of health, so that was lowered to keep it reasonable. As a boardgame, this wasn't exactly the most fun, but it showed the elements of randomness needing to be closely monitored before the game becomes a finished product.