

Team Name: Marshmallow Elevation Co.

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Description of game genre, theme, setting, and mechanics:

- Genre: Single Player Text-Based Turn-Based Strategy
- Theme: Mild fantasy subterranean mountain mining game, dwarves and monsters (Maulwurfs)
- Setting: Subterranean tunnels (each tile is its own section of a cave) in a Northern region, completely underground, start in an underground Dwarven Village, escape to the Sky land
- Mechanics: 4-directional adjacent movement on a grid, mining, using items (dynamite and weaponry), viewing game map

Written definition of the core concept of game:

- Zwerg is a game of balancing greed and safety with limited information. The goal of the game is to leave your dwarven home of Zwergburg and escape the increasingly unstable mountains to the outside world, while collecting as much of the most valuable minerals as possible. You must consistently make decisions each turn based on the limited amount of data you are allowed. Where to mine to be most efficient with your actions, when you should move away from monster dens and cave-ins, what items you choose to keep, when is it the best time to use an item, and finally, whether to go for that one last diamond, or get out while you still can.

Written description of the scope of our game:

- Our philosophy in creating our game is to keep mechanics simplistic in nature while allowing it to be scaled up and down depending on playtesting. The game was initially designed under the constraints that it had to be board game adjacent, as in it could reasonably be created using game pieces and dice. It was then expanded to fit the more unlimited possibilities that arise from computer programming. The game's world is purposely limited to the mountains and its simplified gridded tiles, and this mysterious other that is outside of our Dwarven main character's knowledge. Below is a more comprehensive and brainstormed list of potential interactions and features. However, there are a few main features. Firstly, there are deadly events that increase in probability as turns go by that will eventually block off escape or

possibly kill the player. Secondly, each tile has a set mineral of varying score value randomly chosen at the beginning of the game, but will show up as 3 “possible” minerals. Thirdly, there is a set number of actions one gets per turn which will need to be divided strategically between the possible actions (move, mine, use items). Fourthly, there is an item limit of 3 and a limited number of single-use items that appear randomly around the board, these items must be used wisely to combat events.

Current brainstormed ideas more fleshed out:

Basic description: Single Player Text Based Mine exploration game.
5x5 or more tiles, likely at least 25 x 25.

Zork game: Current name of Game: Zwerg (German translation of dwarf)

Kind of monsters: Hordes of Maulwurf (German translation of mole)

Lore:

You are an aspiring dwarf native to the Great Northern Mountains, being born and raised in “Zwergberg”, the dwarven village located in the North most part of the mine. Recently coming of age, you are ready to put your pickaxe to use and strike it rich! But strange rumors have been beginning to surface that the mountain’s caverns and crevices, which have been safely mined for innumerable generations, are destined to COLLAPSE! Strange tremors have been occurring more frequently and the mine’s creatures have increasingly been active. You have decided to head South to escape the mine to the sky plane before it is too late! Of course stuffing your pockets full of valuable minerals on the way out.

Gameplay:

Every turn the player gets 3 actions, but use them wisely! Every turn there is a chance for a disastrous event to occur. These events are only becoming more and more likely, and numerous, as the days pass by.

Turn inputs: mine (m), move (n, s, w, e), use dynamite (d), view map (v)

Tile types:

- Basic types: Escape tile (always southmost, the tile that you have to reach to escape to the sky plane [out of the mountains] and win), start tile (always northmost, where the dwarven village supposedly is and where you start your adventure, will not have an icon, when the player

leaves instead showing as unminable), monster den (monsters spawn from tile if a monster event occurs, if there are already monsters on the tile they spread to adjacent tiles), Mineral tiles (more valuable minerals are rarer)

- Modified tiles: monster infested tile, caved in tiles, unminable (some tiles are naturally unminable, from generations of abuse most likely; this status is automatically put on a mineral tile if it goes to 0)
- Mineral tiles: Mineral tiles contain different types of minerals on paper, but only 1 in actuality. Once a mineral has been mined from a mineral tile the amount of minerals in a tile is reduced by 1, once a mineral tile is reduced to 0 and then becomes {unminable}. When on a mineral tile (0 cost) you may inspect the tile to get a rough estimate of what can be mined on the tile (refer to non-energy actions).

(From most valuable (1.), i.e., most points but least common, to least valuable)

{points are prospective, and would be scaled to per tile commonality/personal preference}

1. Diamond: 100,000 points
2. Ruby: 85,000 points
3. Emerald: 65,000 points
4. Sapphire: 35,000 points
5. Amethyst: 10,000 point
6. Platinum: 5,500 points
7. Gold: 3,500 points
8. Silver: 2,500 points
9. Iron: 1,750 points
10. Copper: 750 points
11. Coal: 250 points

Events (probability and scaling are adjustable, current formula is $y = ((x^2)/50 + 1)$): After all 3 actions are taken up there is always a 1/6 chance for an event to occur, however, the amount of events that may occur scales over time. On the first turn bracket this 1/6 chance only occurs for one event. While on the second turn bracket there is a 1/36 chance for 2 events to occur (1/3 chance for only 1 to occur). While on the third turn bracket there is a 1/216 chance for 3 events to occur (1/18 chance for 2, 1/2 chance for only 1).

- Event types (currently 2 main):
 - Cave-In: When a cave-in occurs a tile is randomly chosen out of a set of eligible tiles. Eligible tiles are tiles that are not currently under the modifier {caved-inned} or the escape/exit tile. When a tile becomes caved-in, the tile now becomes generally impassable. That is unless dynamite is used from an adjacent, non-caved-inned tile to make it passable. If the tile the player is currently on becomes caved-in, then the player is randomly forced to move to an adjacent, non-caved-inned tile and loses an energy

(-1) for their next turn. If no adjacent tiles are available, the player is dead, very dead, like dead as dead can be. If a Monster den is in a cave-in it becomes blocked and no more monsters come out from it (or maybe after some turns it becomes unblocked? [start with full block, revisit later])

- **Monsters on the Move:** Located throughout the mountains caverns and crevices are numerous monster dens which are connected to an even larger amount of monsters. When a Monsters on the Move event occurs the monsters' homelands have become increasingly unstable, causing overpopulation and forcing them to spill out into the rest of the mine. No tiles start out infested, instead there are several Monster Den tiles located which each have a 50% chance of activating. When a Monster Den tile activates, the Monster Den tile becomes infested. If a Monster Den tile is already infested and such a den activates, the tile stays infested and a random adjacent tile (that is eligible, i.e., not caved-in or the escape tile) also becomes infested. If the random tile chosen also happens to be infested, an adjacent tile to the chosen tile is randomly infested instead. If all adjacent tiles are ineligible, then increase the likelihood of all Monster Dens activating by 10%. [exponential decay to not reach 100%] (monsters infest certain tiles and/or spread to adjacent, monsters on tiles require a weapon to pass through)

Energy requiring actions:

- **Mine (m):** spend 1 action to mine for the resource on the tile you are on and store it in your bag of holding (a.k.a., there is no limit to how much resources you can hold).
- **Move(n, s, e, w):** spend 1 action to move to adjacent mine segments (tiles), unless prevented, automatically receiving information about those areas. The directions follow the 4 Cardinal Directions of North (Up), South (Down), West (Left), and East (Right).
- **Use item (d,b):** Spend the required energy based on the item to perform an action you would otherwise be prevented to [view items section for more information].

Items (item limit may be changed): May be collected sporadically throughout tiles. Only 3 items may be held onto in a single point in the game, so make sure to be strategic about what you hold onto.

Each item has different effects and costs a different amount of energy to use.

- **Dynamite (d):** Use up 1 dynamite and spend 2 actions to make an adjacent cave-in tile passable. 2 prompts, use d, then n,s,e,w

- **Battered {sword, battle axe, crossbow, etc., [could choose one for all or just randomly generate and mean the same]} (b {also stands for battle}):** Use up 1 battered {weapon} and spend 2 actions to un-monsterize an adjacent infested tile. You successfully clear the area of monsters after much blood and sweat, but your weapon breaks in the process. 2 prompts required, b and then either of n,s,e,w

Non-energy requiring actions (cost 0):

- Inspect Tile(+ take/switch item) (i): When you are on a non-monster-infested tile you may inspect the tile for its attributes and if there are any items. Items are rare and can only have 1 per tile (if any). If there is an item on the floor prompts whether you want to pick it up or leave it (if you have more than 3 items and you pick up another it automatically drops a non-duplicate, e.g., if you pick up dynamite you drop a weapon, if there are no weapons you drop dynamite). If you inspect a tile it will give you 3 different possible minerals that you will obtain when you mine (e.g., "I think I could find Platinum, Coal, and Diamonds here."), but in reality there will only be 1 mineral that could be obtained from the tile, i.e., the probability is set (cont. e.g., only coal could ever be mined from the tile) but the user won't know what it is until it is mined (look up the board game Mantis for clarity on this concept).
- Check compass and map (c),
 - Example map for 5x5 (scalable):
__ ? ? ? Legend: Compass:
? _ P ? ? ? : unexplored tile N
? # ? ? ? _ : unminable tile ^
? ? ? ? ? # : caved in tile W< O > E
? ? ? ? E P : player icon V
O: mineral tile S
E: exit/escape tile
M: monster here
D: monster den
- view menu (v)

Ending the Game: There are two outcomes to the game, either you win or you lose.

- Winning: You win the game if you successfully escape the mountain [1 or 2 mine actions at escape?]. Quite simple. However not all wins are equal. Depending on how much minerals you collect changes your future life outcome, this is determined by meeting a minimum score threshold (a higher score results from more minerals after surviving). So maybe don't rush to the end without collecting minerals or else you'll end up living in the slums for the rest of your life! [funny post game comments about life after]
- Losing: You die, plain and simple. Probably in an excruciatingly painful manner (getting slowly crushed by the gems and ores you coveted) befitting your tremendous greed... or horrible, horrible luck. Your final score is zero no matter how much minerals you have collected in your journey.

Possible additional features:

- Up down grid: make it so may go up and down within mine segments (tiles)
- Flooding: along with tiles becoming impassible due to cave-ins, tiles may also be flooded, necessitating a different item to pass (or maybe even being completely impassable)
- Cavernous tiles: impassable unless a cave-in has occurred or extra actions are spent to cross
- Pyrite (i.e., fools gold, as a Mineral (worth 1 point)- could show up in searches as gold, but then gold would be scaled up to be more common [ruins some strategy imo]
- Mineral Veins: same amount of range amount (0,10), but every mineral mined results in x3 the amount of minerals collected (triple the score)
- Correlation between Coal and Diamonds: make it more likely the next mineral is a diamond or coal if the last item mined was coal and/or a diamond.
- Dungeon/Vault: 1 room that requires monster kills then a jackpot score
- Different amounts of minerals per tile
- Monster Repellent (Formerly Kick*)- costs only 1 action and forces the monsters to an adjacent square
- Expand on the daily counter to create a day, month, year counting system

Balance factors: map size v.s. Actions, item limit, likelihood of event occurring/scaling of probability for event occurring