



# Game Design Document

Prepared for: Doug Rattmann, Chief Programmer

Prepared by: Mark Smullen, Spenser Bray, and Alejandro Ramirez

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# TREMOR JR.!

## Story

Straight from Majordomo Digging College for the Geologically Gifted, Tremor Jr. has managed to nab an internship for Erudite Inc. to work on the largest underground colony project ever to be constructed! But, in a strange turn of events, an unearthed artifact leads to a massive quake which collapses the entire compound with Jr. still inside! Later, after recovering on an off-world hospital, a representative from Erudite Inc. asks Jr. to help the company continue the colonization project despite the tremors that regularly wrack the planet. After accepting the offer (either by volition or by blackmail), Jr. is sent to the site to see the entire landscape has been destroyed by the quakes. Can Jr. still build the greatest underground colony ever with just his trusty drill against impossible odds? Fighting against time and the environment, Tremor Jr. will have to overcome the waves of tremors, underground monsters, nigh-impenetrable bedrock, oozing lava, underground floods, and much more. But who knows? Maybe Jr. will have what it takes to go to depths no one has ever gone to before... And the lure of unearthing the truth behind the artifacts deep underground is tempting...


## Audience

 **Kids to Young Adults:** People who wish to play a simple but addictive game will find Tremor Jr.! to easily fit that niche. People who love the quick action will love the Quick Mode which will allow them to start the typical high-paced run from the start. In order to cater to those who like a more continual game, there will be a Story Mode in which the player can save progress and try to see how far and long they can go before the quakes finally destroy their underground masterpiece.


## Player Experience

Players will experience varying levels of stress and relief and frustration as they struggle to make their base as vast and secure as possible between the periodic quakes that hit. The peak of emotion will coincide with the quake hits, as people who forgot to secure a section that collapses will howl while individuals who secured their entire base and had barely a shake will jump for joy.

## Visual Style

 **2D Tile-based Graphics:** This game will feature bright and attractive 2D graphics with even more colorful characters and adversaries to boot! Engaging graphics and an Eastern-inspired art style will attract audiences of all ages and sizes. From the rich dirt blocks and ore-laden rocks to the chrome textures of a fully upgraded bunker, everywhere the player turns will be a new visual experience that will leave them gasping in awe! The Underground has never looked so good!


## Familiarity


 **Similar Digging/Colonization/Survival Games:** Players will find this similar to Dig-Dug in style, yet with a Dwarf Fortress style of community leadership—without the absurd difficulty and annoyance of ACII graphics, mind you...





# Game Elements


## Game Mechanics


 **One Level/Random Seed:** The game will not have levels as it is a survival and colonization game. The world will be instantiated with a seed and will be procedurally generated.

 **Dynamic Environment:** Many blocks and objects will be able to be interacted with, usually by digging. Dirt can be “destroyed” by digging through it and rocks can be drilled away. Water and lava will flow, and unsupported ground may break or fall. Tremors will be the main cause of upheavals in the underground.


 **Support/Quake Physics:** Every filled block will have a stability rating which will affect how easily the block will either fall or break when stress is applied to it. Digging around blocks will lower their stability, so any overenthusiastic player might find themselves causing cave-ins left and right if they drill without support. Supports and creating structures will add stability depending on the quality of the support and the materials used. The game will use quakes to lower the stability of blocks in wide areas, the magnitude of each affecting how big the number drop will be.


 **Hazards:** Within the earth will be other dangers outside of simple quakes. Natural gas pockets, Mongolian death worms, water tables, floods and even lava! There are plenty of natural hazards which could potentially end the player’s digging career if not taken care of promptly. Cave-ins, broken structures, air blasts (from cave-ins), and pits will all be hazards that are introduced by the process of digging.


 **A.I.:** Both the colonists and certain enemies will have to be given behavioral A.I.s to function well. Enemies must try to avoid hazards while hunting down colonists, Tremor Jr., or even natural prey.

 **Economy:** The player cannot simply build and dig willy-nilly. There is a cost/reward for everything. Digging can provide for minerals and materials for building or even gems for cash. Higher quality buildings and upgrades require more materials and/or cash, so keeping an eye on your economy will be vital for expansion and survival.

## Play Mechanics

 **Digging and Building:** The player will be digging deep into the earth and will have the responsibility of securing the passages to avoid cave-ins and other dangers. Creating a well supported colony will require both growth and reinforcement. These supports and even the player’s drill will be upgradable in order to continue the journey down into the depths of the earth.

 **Command Colonists:** As the colony grows, colonists will ask to join the player as he builds, providing anything from digging services to structural integrity. Different colonists will have different skills and these colonists may be given orders to dig, repair structures or supports, fight off death worms, etc.: Colonists will be vulnerable to hazards and will spread news of the current status of the compound, so the player must try to keep them alive and well if possible.

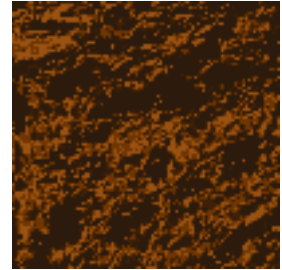
 **Upgrades:** In order to drill harder, build better, dig faster, and be stronger overall, Tremor Jr. will need upgrades. From the amount of damage he can receive to the speed and power of his drill, there will be a way to increase Jr.’s efficiency in practically every aspect. Upgrading facilities and the tensile strength will also be included. Promoting colonists and introducing new job types to help around in the facility will also bring in another level of depth to the gameplay. Certain upgrades may even allow for Jr. to enter into new domains of the subterranean. Upgrades will have to be used in order to ensure that building and improvement can continue.



# List of Game Features

## **Tiles: (With Moh's scale of hardness)**

- Dirt: Moh's: 1; Location: Top layers; Support Rating: 1
- Pith Stone: Moh's: 2-3; Location: Top layers (underground); Support Rating: 1.5
- Shale: Moh's: 3; Location: Upper layers; Support Rating: 2; Special: Oil found here.
- Limestone: Moh's: 3-4; Location: Upper-mid layers; Support Rating: 3; Special: Oil found here. Caves.
- Soft Sandstone: Moh's: 5; Location: Upper-mid layers; Support Rating: 3.5; Special: Oil and water tables found here. Caves.
- Banded Stone: Moh's: 6-6.5; Location: Middle layers; Support Rating: 5
- Hard Sandstone: Moh's: 6.5-7; Location: Middle layers; Support Rating: 6; Special: Oil found here.
- Granite: Moh's: 7; Location: Middle-lower layers; Support Rating: 8
- Diorite: Moh's: 7; Location: Middle-lower layers; Support Rating: 8.5
- Osmium: Moh's: 8; Location: Lower layers; Support Rating: 10
- Pure Boron: 9; Location: Lowest layers; Support Rating: 12
- Pure Diamond: 10; Location: Dispersed in lower layers; Support Rating: 15
- Graphene Layer: Moh's :20; Location: Bottom layer; Support Rating: 30



## **Special Materials:**

- Water: Can cause player and monsters to drown.
- Lava: Causes damage to the player and monsters on contact.



## Enemies:

- Green Dirt Slime: HP: 2; Damage: 1; Location: Top levels
- Red Worm: HP: 3; Damage: 1; Location: Top/Top-mid/Middle levels
- Yellow Dirt Slime: HP: 6; Damage 1; Location Top/Top-mid levels
- Green Worm: HP: 5; Damage: 2; Location: Top-mid/Mid levels
- Mole: HP 8; Damage 2; Location: Top-mid levels
- Maggot: HP 12; Damage 1; Location: Top levels
- Beetle: HP 24; Damage 3; Location: Middle levels (Rare)
- Red Dirt Slime: HP: 18; Damage 3; Location: Middle/Lower levels
- Dire Mole: HP: 20; Damage 5; Location: Middle/Lower levels
- Dire Maggot: HP: 40; Damage: 4; Location: Lower levels
- Radioactive Worm: HP: 50; Damage: 10; Location: Lower levels
- Radioactive Slime: HP: 80; Damage 8; Location: Lower levels



## Upgrades:

- Drill: Cost: Staggered; Use: Allows for Jr. to buy new drills to dig faster and deeper.
- Clothes/Gear: Cost: Staggered; Use: Increases the health of Jr. to protect from enemies and those little mining accidents.
- Seismograph: Cost: 50  $\diamond$ ; Use: Gives a bar which predicts tremors. Can be upgraded to give additional information per quake.
- I.C.U.: Cost: 100 $\diamond$ ; Heals anyone inside it over time. Can be upgraded.
- Lava Catcher: Cost 2,500 $\diamond$ ; Allows for Tremor Jr. to “catch” lava and dig in lava-filled areas.

## Allies:

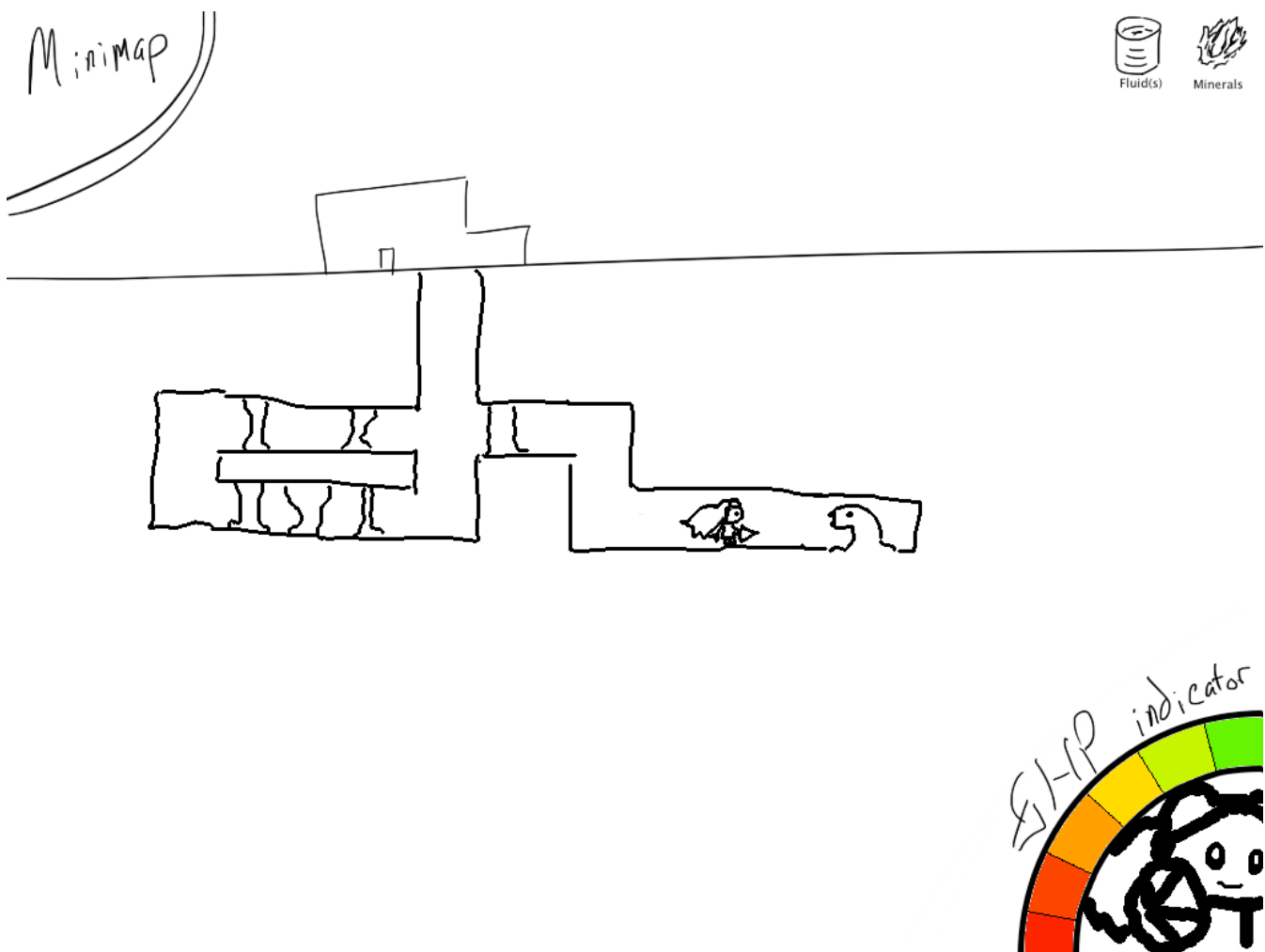
- Digger: Cost: (20 $\diamond$ ); Purpose: Can be given directives to dig out certain areas. Can be upgraded.
- Supporter: Cost: (30 $\diamond$ ); Purpose: Don't have time to make columns everywhere you dig? Leave it to the Supporter! He will seek out areas of high stress and build columns there if possible. Can be upgraded.
- Combatant: Cost: (70 $\diamond$ ); Purpose: Need protection? Don't worry about it! I gotcha covered. They go and fight monsters and have an aggressive, passive, and defense AI which can be set. Can be upgraded.





## H.U.D.:

- The in-game HUD displays four key pieces of information: firstly, as quickly visible, the player's health, likely in a circular display, as shown in the bottom-right. Inside the said display is a visualization of the player's current "level" (in particular, since this game is not level-based but progression-based, the player's current drill - potentially moods that also reflect the player's health.) In the upper right-hand corner, the player's primary resources are shown. (In this sketch, fluids shown in a tank - which are not necessarily a final product of the game, but, rather, a conceptual visualization - and minerals or dirt, stone, etc. are pictured.) In the upper left-hand corner of the screen is the player's minimap, which highlights dangers and key aspects to the game - NPCs, buildings, monsters - and gives the player a smaller and more encompassing view of what is happening in the game.





### **U.I.:**

- A main menu that has a splash background with a created world and NPCs running around will be the front end of the user interface. Our pause splash screen will grey out the current level and display a similarly shaped menu with different options such as resume, save, save and quit, or quit.

### **Levels:**

- Because of the fact that the entire game will take place in one world, there will only be one procedurally generated level per game run. It will be 128 tiles wide by 256 tiles deep. (if time and memory permits, we may add more tiles)