

1 Instructions for compiling and use

1.1 Description

1.1.1 Highlights

- Test your Indiana Jones -like wits against the evil in a dark mine as you fight various monsters and other treasure hunters alike.
- Team up with your mates in campaign mode to form invincible alliances as you cause havoc amidst your foes.
- Become the true king of gamers as you defeat your rivals in an immersive hotseat deathmatch experience.
- Procedurally generated levels guarantee that you will never run out of new maps to play. Generation options can also be tweaked to suit your desired difficulty.
- Take control of a vast arsenal of weaponry, ranging from dynamite to nuclear bombs, to inflict fiery death upon your enemies.

1.1.2 Features

- Competitive Deathmatch mode
- Co-operative Campaign mode
- Hotseat multiplayer with up to four players, in both game modes
- Invisible map until investigated by walking. Can be toggled on or off in map generation options.
- Several game rounds in one session
- A store where you can buy weapons with money between rounds
- Treasures that you can collect to get more money
- Ten different weapons
- Four different enemies with different AI
- Seven different terrains
- Random map generation for both game modes
- Configurable keys
- Cheats

1.2 Installing, compiling and running

In addition to our main development platform of Linux 64-bit (Ubuntu 12), our program supports also Windows 7 64-bit. Most likely also MAC, other Linux distributions and Windows versions are supported, maybe even those with 32-bit word length. (They are supported by both of the external libraries used, see References). These have not been used in the development, and are thus not guaranteed. Even the Windows 7 64-bit support is partial, i.e., the program has not been tested as thoroughly as Linux.

1.2.1 Compiling on Linux with GCC 4.6 - 64-bits

First, you will need to your hands on G++ version 4.6 (or later). Next, you need obtain SFML either by compiling it yourself (see SFML website for more info), or by downloading SFML 2.1 for 64-bit Linux GCC (see References), and extract it to the root directory of the project. Thus, the Folders SFML-2.1, plan, doc and src should all be visible at once. Next, one should navigate to `src/` and run the `Makefile` by typing `make clean` and `make` into terminal. After compiling the executable `mb` should appear.

1.2.2 Compiling on Windows 7 with GCC 4.7 TDM (SJLJ) - 64-bits using CodeBlocks

Just follow the tutorial given on the SFML website, remembering to copy the necessary settings (G++ flags and include paths) from the `Makefile`. After successful compiling, the `mb.exe` appears.

1.2.3 Other platforms and/or compilers:

You will need a C++11 compatible compiler, and SFML 2.1 SDK intended for your setup. Compiler settings can be found in the `Makefile`.

Now you are ready to run the application. The working directory of the program should be the folder in which there are subfolders `cfg/` and `resources/` directly visible. Failing to do so will result in a runtime exception.

1.3 Application

When the application is launched, the user will be taken to the main menu. Menus are navigated using [Up Arrow] and [Down Arrow] keys, and buttons may be activated using [Return]. Hitting [F12] takes a screenshot, and [Escape] functions as one might expect. The user is offered four choices: *Solo Campaign*, *Quick Duel*, *Custom Game*, *Options* and *Quit*. The first two options are for those who are in a hurry to get their hands dirty, while *Options* takes you to options and *Quit* to closes the application (Duh!). Different play styles are accessed using the *Custom Game* option (see below). The shortcut settings are as follows:

In the Options you may control music and sound volumes (Have no effect since audio is disabled by default, see Known Weaknesses). In addition, you may customize your Controls. A key is bound to an action when the corresponding key is activated. Pressing a key will bind it to corresponding player and action. A key may be mapped only to one action across all players, and only one key per action is allowed. [F12] may not be used, and [Escape] cancels the binding process. Remember to *Save* your changes before leaving the menu. Selecting *Defaults* will restore default settings.

In the Custom Game screen you may tune a multitude of settings to match the game to your liking. Choosing *Cancel* will take you back to the main menu, whereas *Continue* will take you to the Shop.

Each round is started in the shop, where you prepare for the coming round by buying items with your hard-earned cash. Multiple users browse the shop simultaneously, using

Shortcut	Solo Campaign	Quick Duel
Players	1	2
Mode	Campaign	Deathmatch
Map	Random	Random
Monsters	1	0
Tresures	20	20
Fog	Yes	Yes
Rounds	5	1
Length	5:00	5:00

Table 1: Quick Game short cut settings.

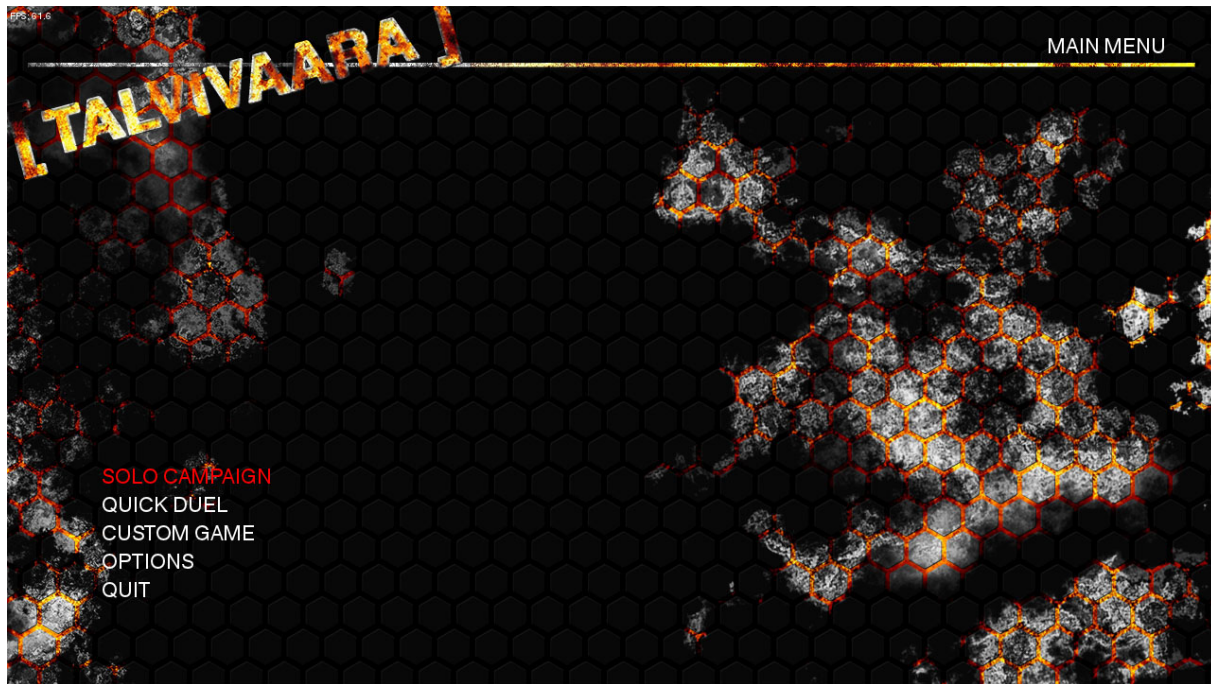


Figure 1: Main Menu

their own binds. Primary bind buys currently highlighted item while secondary bind sells one from your inventory for a reduced price. `[Escape]` is disabled for this screen, since all players need to agree on the course of action, whether we continue the game (*Ready*) or not (*Cancel*).

After the shop you will be taken to the battlefield. There you need to survive to the best of your abilities against monsters or other players. Actual gameplay mechanics are given in the next subsection. In the top of the screen you see the clock, some information of the world and players' healths, current item, item counts, and account balance.

Hitting `[Escape]` will pause the game. Game will also be paused should the window lose focus.

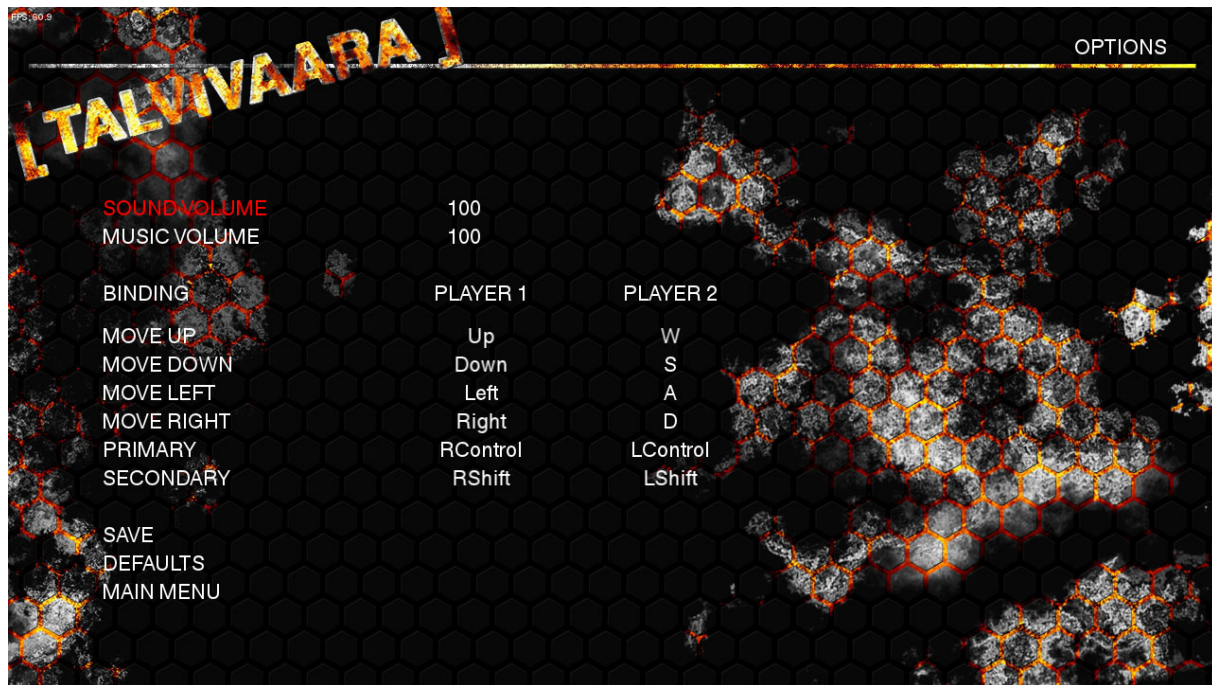


Figure 2: Options

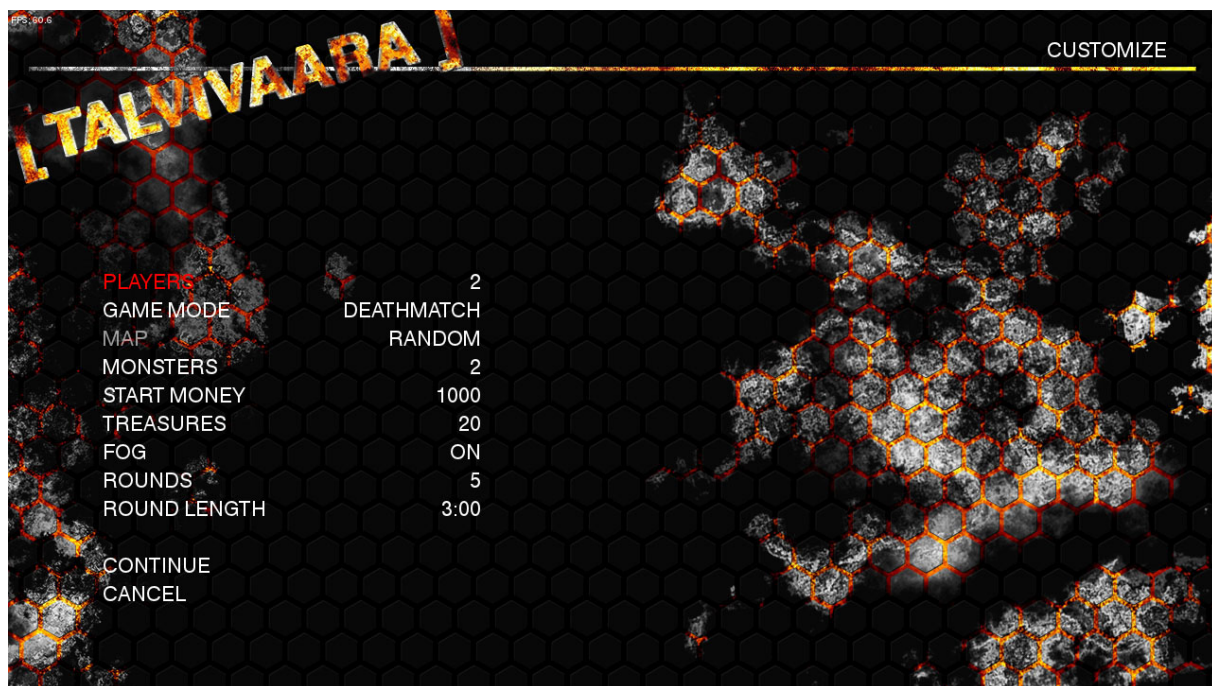


Figure 3: Custom Game

When the round is over you will be taken to the Scores screen, where you can see some of the key figures of your performance from the previous rounds. Players are also ranked based on their performance.

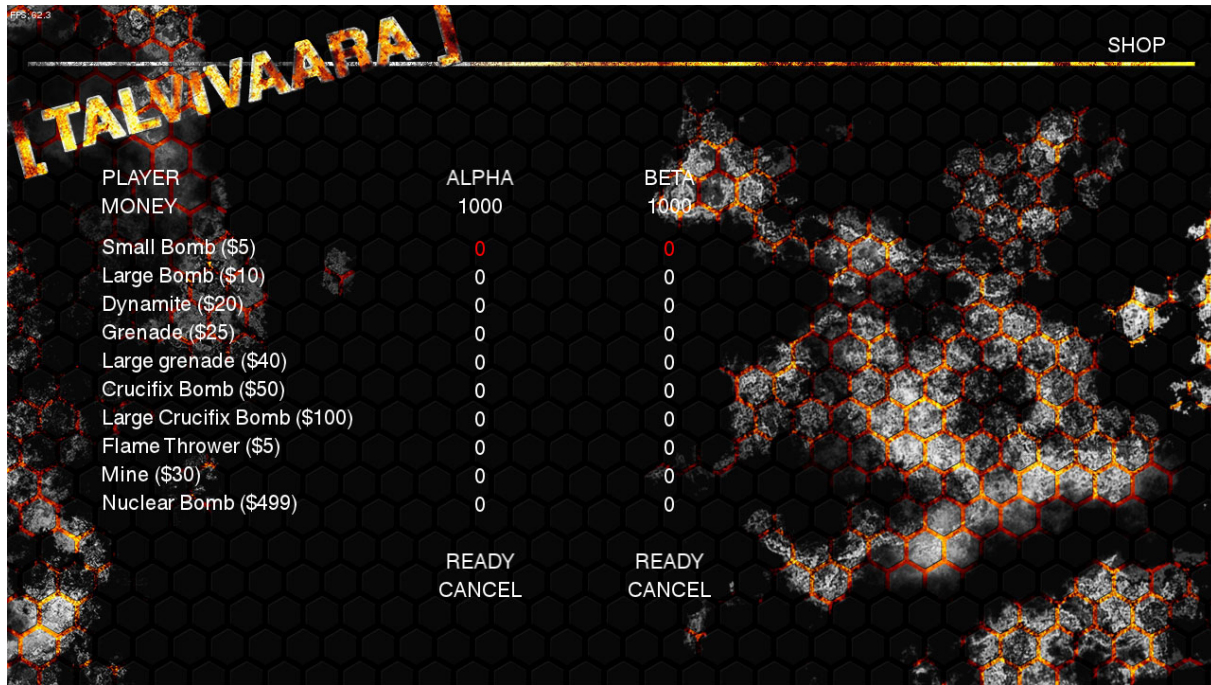


Figure 4: Shop

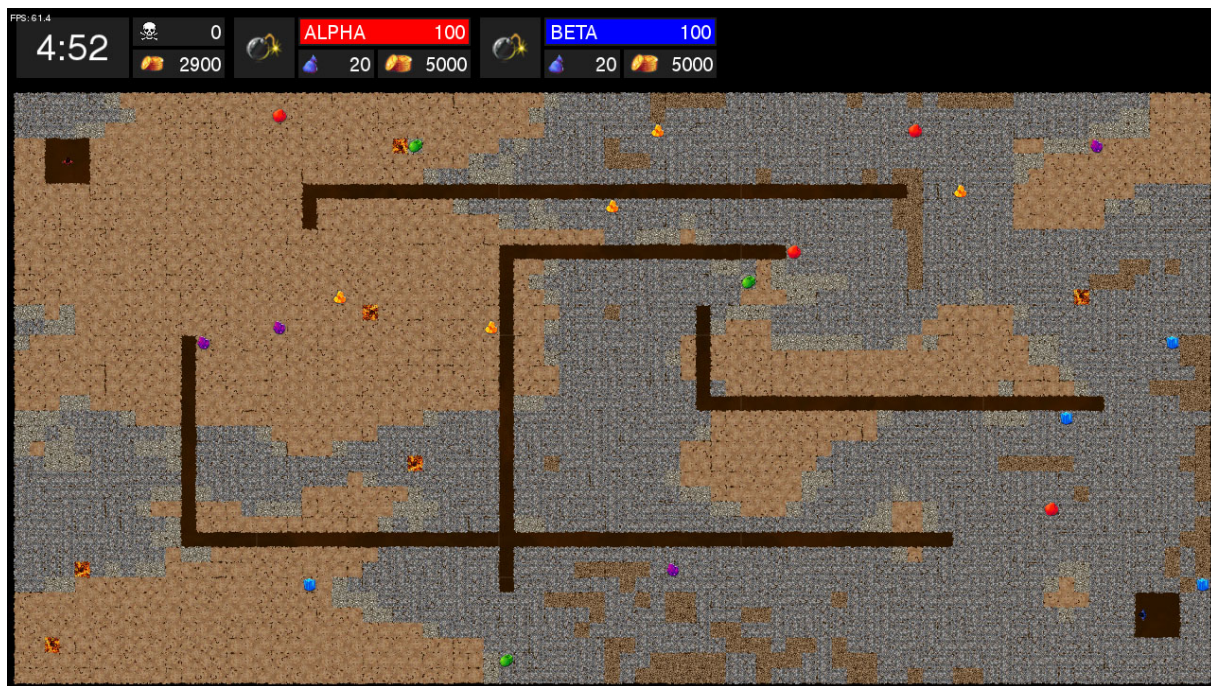


Figure 5: Hotseat deathmatch with the map revealed

1.4 The game itself

There are two game modes, the campaign and deathmatch, both of which are described in more detail in the following subsections. While these styles incorporate different goals,

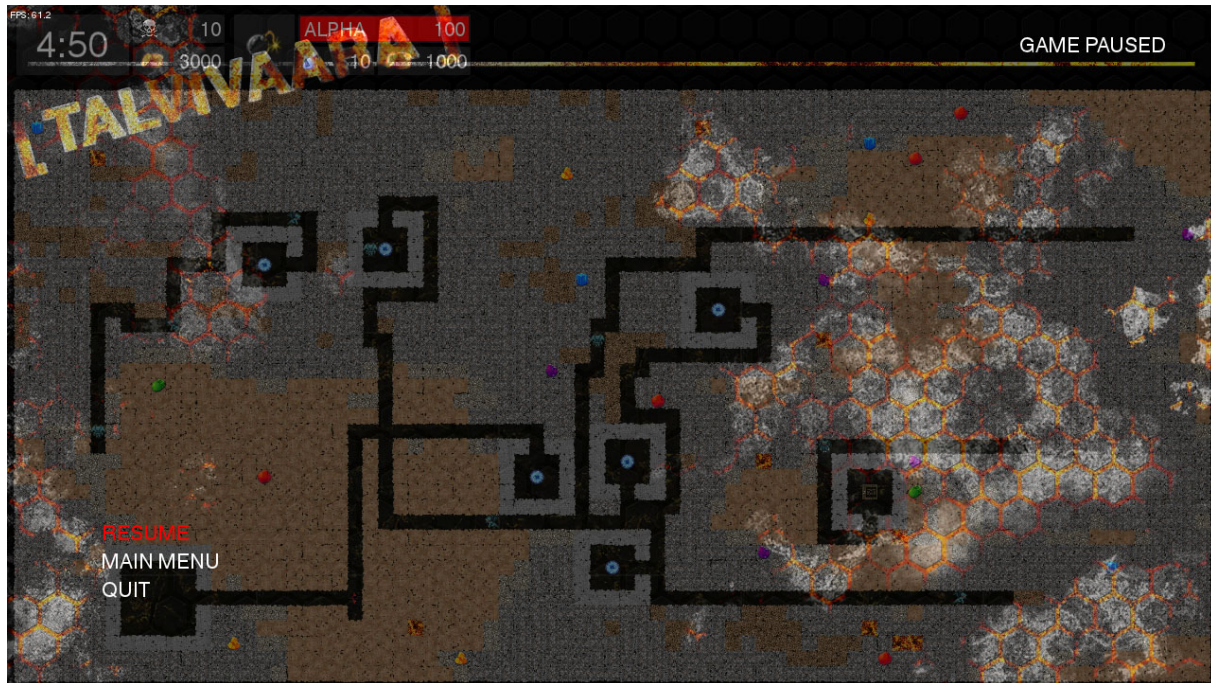


Figure 6: Campaign paused

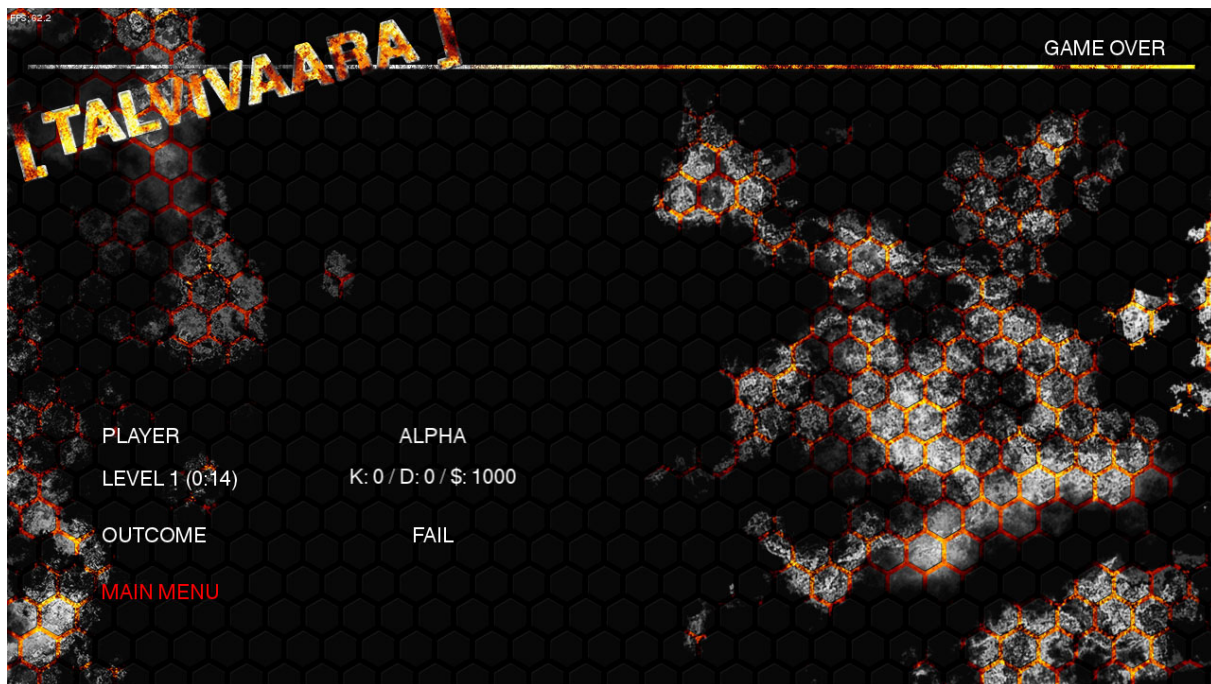


Figure 7: Scores for a failed solo campaign

both of them may be played either alone or in a hot seat configuration, with or without foes. The basic game mechanics, common to both modes, are described in detail in the next subsections.

1.4.1 Terrain

The final game features seven different terrains of five different terrain types. The different terrain types are listed in the table below.

TerrainType	Description
Empty	Represents empty tunnels.
Solid	Blocks movement, but can be dug or blown up to clear the way.
Indestructible	Cannot be moved into or destroyed. Also blocks explosions.
Hazard	Can be moved into, but will cause damage to characters.
Void	Used to represent null-terrain.

Table 2: Available **TerrainTypes**

For each terrain type there is at least one terrain entity using it within the game, with the exception of Void, which is only used as a return value when attempting to query a Tile's terrain type when its Terrain is null. The seven different Terrains are listed in the table below.

Name	TerrainType	Description
Empty	Empty	Represents empty tunnels.
Dirt	Solid	Easily cleared terrain.
Gravel	Solid	Sturdier than dirt, but manageable with a little effort.
Stone	Solid	Hard terrain. Has a high durability.
Bedrock	Indestructible	Naturally created indestructible terrain.
Steel	Indestructible	Only used as walls for rooms in Campaign mode.
Lava	Hazard	Spreads around the level and causes damage on touch.

Table 3: Different terrain

All Terrains have a certain durability value, which represents the amount of damage they can withstand before they are destroyed. However, this value is irrelevant to Terrains that have a **TerrainType** of **Indestructible** or **Empty**, as indestructible terrain naturally cannot be destroyed, and if a terrain is **Empty**, there is nothing to be destroyed in the first place.

Dirt and Gravel are destroyed when damaged enough, but Stone first turns into Gravel if it does not receive damage that greatly exceeds its durability. Lava is also destroyed when the damage exceeds its durability.

However, as Lava can spread from the tiles around it, clearing Lava is often only temporary, unless all nearby Lava is destroyed. It should also be noted that Lava cannot be dug away, so explosives are the only way to clear it. Lava also has other special properties, as bombs will explode if Lava spreads into the tiles they are in, and no bombs may be placed into tiles that contain Lava. Lava will also rapidly damage all players and monsters in the same tile.

1.4.2 Weapons

The following table lists the weapons that are currently available in the game:

Weapon	Description
Small Charge	Basic bomb, bit powerless
Large Bomb	Like Small Charge, but more powerful
Dynamite	Good for breaking rocks
Grenade	Good for accurate strikes
Frag Grenade	Like Grenade, but with extra punch
Crucifix Bomb	Interesting weapon with a cross-shaped blast pattern
Large Crucifix Bomb	Like Crucifix Bomb, but with added interest
Flame Thrower	Good for close quarter combat
Mine	Blasts when someone tries to move it
Nuclear Bomb	Causes massive damage

Table 4: Weapons currently available.

1.4.3 Monsters

There are four types of monsters in the game. Imps and Demons can “hear” the player through open corridors in the mine, and they will start hunting the player, if there is an open path with specified distances from the monster to the player. Imp is the weaker of the two, and resembles a bat. Demon is depicted by a white figure, and has more health, more hitting damage, and a better hearing distance, but is slower than imp.

The other two monster types are Wyrms and Djinni. These monsters act like imp and demon, except they can dig through walls. They will start digging through the mine towards the player, if the player comes at a close proximity, as they can “sense” the player. The player can hear these monsters digging, and they are visible on the map when they dig. In the software code, the monsters have their respective class names, with the exception of the Djinni being a BadAss.

All monsters attack the player by hitting (or biting) them. Any weapons, such as bombs, they consider as non-passable objects, and will dig their way around them, or simply consider the path to the player closed. When the monsters have not detected a player, they will move around aimlessly. The monsters can be damaged with either bombs or hitting them.

1.4.4 The Campaign

The Campaign is a co-op styled adventure where the goal is to find your way out of the mine through multiple levels of sand, rock, tunnels and hordes of monsters before the time runs out. In each level, there is an exit trap door that one player has to reach to complete the level. Along the way, there are multiple “portals” or “spawners”, which summon a

new monster every now and then. The portals that come on the way can and should be destroyed, or the player will easily become overrun by the monsters otherwise.



Figure 8: Campaign with only parts of the map revealed

As there is fog of view on the field, meaning (in this case) that there is no visibility on places that are not visited, the player or players must roam around the mine until the exit is found. Once it is found, the round ends, and dead players are resurrected for the next level. Should the time run out, or all players perish, the campaign is failed. As the players exit a level, they get the option to purchase more weapons for the next round. The weapons are purchased with the money from treasures that are found on the levels. The difficulty increases as the campaign progresses. In each new level, there are more monster portals, and they tend to spawn tougher monsters.

1.4.5 Deathmatch

Deathmatch is a free-for-all type of scheme, where the players have no allies. The goal is simply to rise above your competition by killing them and by collecting treasures buried deep within the mine. The round is over when either the time runs out, there's only one treasure hunter left (multi player) or all buried treasures have been claimed (single player). When the round is over, players are ranked amongst themselves.

1.4.6 Cheats

For the time being, the game features three cheats as follows:

Code	Effect
MAP	Reveal the map.
HEAL	Restore players' healths to 100.
WEAK	Set monsters' healths to 1 (only those currently active).

Table 5: Cheats currently available.