

BOOM - App 3 README

The project repository is on GitHub at <https://github.com/a-duffy12/4482-app-3>

Starting the Game

Run the BOOM.exe file. This will open the game to the main menu. Note that all game progress and settings are saved on your local machine, so feel free to close the game at any point.

Goal

The goal of BOOM is to complete all the levels, of which there are 8. Each level puts the player on a map against a variety of enemies. The player has a variety of weapons and abilities at their disposal. Levels are completed by eliminating all the enemies in the level. Dying in a level will gracefully restart it. Dying in a level after eliminating all enemies but before the next level begins will restart the level, however, the next level will still be accessible from the main menu Play button.

Menu

The main menu has 4 buttons. Play will take you to whichever level you are currently on, from 1 to 8. Levels will open a menu to allow you to manually select whichever level you want to play, even if you have not yet completed the previous ones. (This is in case any particular level is too long or difficult, you can still play all the levels). Options will open a settings menu. Quit will quit the game, closing the application.

Options

This is where you can change your settings. It is recommended to take a look at these options before starting the game. Note that this menu is also accessible during gameplay via the pause menu. The basic options are as follows:

- The game difficulty has four settings of increasing difficulty (Easy, Normal, Hard, and Fun). The difference between these difficulties is simply the amount of damage enemies do to you, so the overall gameplay experience is unchanged.
- FOV is your player's field of view, controlling how much you see around you.
- Sensitivity is how quickly your crosshair moves, based on your mouse's movement.
- Crosshair color can be switched between red, green, light blue, and light purple.
- Gore can be toggled on and off. This affects whether dead enemies explode into guts or not.
- Show FPS can be toggled on and off. This controls the display of a framerate counter in the top left corner of the screen.

Below these options are the keybinds, These are the controls for the game, and can be rebound to whatever buttons you desire.

Controls

- WASD controls forward, left, backward and right movement respectively.
- Mouse movement controls your crosshair and player camera.
- Space is for jumping.
- Shift is for dashing, a short burst of speed in whichever direction the player is moving.
- C is for crouching, slows movement speed but also prevents enemies from engaging the player from as far away.
- Left click shoots whichever gun you have equipped.
- Right click zooms in with the scope on the sniper.
- Q uses the rewind ability to teleport to your position 3 seconds prior.
- E uses your knife.
- F throws a grenade.
- 1 switches to your assault rifle.
- 2 switches to your shotgun.
- 3 switches to your sniper.
- 4 switches to your flamethrower.
- Escape pauses the game.
- Tab toggles the HUD on and off.

And all of these can be changed from the options menu or the pause menu.

Weapons

There are 4 primary weapons, which are guns, and 2 cooldown-based weapons. The 4 guns are used to kill enemies. Killing enemies with guns will return health to the player. Guns do not need to be reloaded. The cooldown-based weapons provide additional utility beyond just damage.

- Assault Rifle
 - The Assault Rifle is your trustiest weapon for general combat.
 - Packs a forgiving magazine size and fair range.
- Shotgun
 - The Shotgun deals massive damage up close.
 - But be careful, its pellet spread makes it useless at distance.
 - Returns more health upon kills than the Assault Rifle.
- Sniper
 - The Sniper is a slow-firing, high-damage weapon.
 - Comes equipped with a scope for long-range combat.
 - Deals reduced damage when unscoped.
- Flamethrower
 - The Flamethrower set targets ablaze.
 - Most enemies will continue to take fire damage over time.
 - Enemies killed by fire return the most health.
- Knife
 - The Knife is an ability that only works at melee ranges.
 - It does incredible damage to enemies and refills your ammunition.

- Grenade
 - Use Grenades for crowd control against groups of enemies.
 - Explode after a short fuse, dealing area damage, knockback, and stuns.

Abilities

- Dash
 - Your Dash ability grants you a large boost of speed in any direction.
- Rewind
 - The Rewind ability teleports you to where you were 3 seconds ago.

Enemies

Enemies must all be killed to complete the level. They can be damaged by any of the guns, the knife, and grenades. Each one has a range from which they will engage the player. You can engage from beyond this distance without sparking their aggression, although you will not get much health back, particularly if using the sniper. Enemy damage dealt to the player is affected by the game's difficulty setting.

- Soul
 - Pumpkin-looking enemy with eyes that glow in the dark
 - Very weak but deal moderate damage
 - Can see through walls and continually hop toward the player
- Ogre
 - Horned cyclops with a quick movement speed
 - Charge towards the player once aggravated
 - Perform a close-range bite attack dealing high damage
- Demon
 - A red devil that tries to maintain a distance advantage
 - Shoots fireballs at the player from range and is itself immune to fire damage
 - Getting up in its face startles it for a short period, preventing it from attacking
- Rat
 - Gopher looking enemy that rapidly throws mudballs
 - Tunnels underground periodically, or if you get too close
 - Reappears behind the player to surprise attack them
- Beetle
 - Giant beetle with immense health and is immune to stuns
 - Invulnerable while it is not aggravated
 - Shoots webs to blind the player and lunges for massive damage if you get too close

Level Walkthroughs

1: Halloween Assault

- Turn around
- Walk forward and use the assault rifle to kill the 3 souls

2: A Shot in the Dark

- Go through the graveyard using the assault rifle or shotgun to kill all the souls
- If your health is running low, prioritize killing souls with the shotgun

3: Ogre Run

- The level is a maze filled with many souls and few ogres
- Go right first, and each time there is a path, take the right turn
- Whenever you reach a dead end, turn back and continue taking right turns
- Use the assault rifle and shotgun to kill any souls or ogres you encounter
- Use your dash to back up from the ogres if they rush you (walk backward then dash)

4: On a Knife's Edge

- Kill the 2 souls on the first floating island
- Jump to the second floating island
- Angle yourself towards the fourth floating island (skip the third altogether) then run forward and jump to the fourth island (keep holding forward button while in air)
- Repeat the same running jump to get to the final floating island
- Kill the 2 souls
- Kill the 2 ogres on the bridge
- Go up the stairs and kill the ogre that rushes you from the temple
- Kill the demon in the temple
- If you are running low on ammo at any point, use the knife at close range. If the hit lands all your gun ammo counts will increase by half of the max capacity

5: High Noon

- Immediately use either the assault rifle or sniper to kill the demon on the opposing pillar
- Try to remain on your pillar and shoot down at the 2 ogres and the rat
- If you do fall, simply strafe around the ogres while shooting them. The dash comes in handy here
- Do not try to knife the rat, as it will tunnel behind you, you need to kill it from a little ways away

6: Blast Gauntlet

- Turn around but do not move, then use the sniper to kill each of the souls on the floating steps
- Perform a running jump past the rings onto the first floating step
- For each of the next steps, do a running jump but do not hold forward in the air so you do not travel as far in the air

- Reach the final arena, and kill the demons and the ogre
- You can use the grenade to knock back the ogre as it rushes you

7: Infestation Station

- This is a large open map in an abandoned train station
- Filled with 4 souls, 4 ogres, 2 demons and 3 rats
- Progressively kill each enemy until they are all dead
- Remember to make sure your health and ammo always remain fairly full by killing enemies and using your knife
- This level has some odd geometry, if you get stuck, try quickly rewinding out of that position. If it has been more than a few seconds, try dashing or jumping

8: Hell or High Water

- This final level is an ocean volcano swarming with enemies (4 souls, 6 ogres, 2 demons, 3 rats, and a beetle)
- Start by turning around and killing the rats. If any of them go underground, ignore them
- Go around the top edge of the volcano killing the ogres and demons
- Finally, go engage the beetle and souls. Be aware that up until this point the beetle will be periodically blinding you with a spit attack. The beetle is invulnerable unless you are within range of its spit attack, so you will need to approach it to hurt it. However, do not get too close as it deals a lot of melee damage with its lunge
- Remember to make sure your health and ammo always remain fairly full by killing enemies and using your knife
- This level has some odd geometry, if you get stuck, try quickly rewinding out of that position. If it has been more than a few seconds, try dashing or jumping. However, be careful not to launch yourself off into the water, as you will die

Asset Usage

- Used the muzzle flash particle system and a sound effect from BigRookGames for muzzle flash and assault rifle sound respectively
- Used the FPSFont font for the font on all buttons and text elements
- Used free models and animations from Meshtint for the soul, ogre, demon, rat, and beetle enemy models and animations
- Used PyroParticles for fire sprites, fire sounds, and explosion sounds
- Used SCI-FI Weapon Pack for models for all the guns, the knife, and the grenade
- Used Freesound.org for all other sound effects
- Used Zapsplat.com for background music in the main menu and all 8 levels
- Used google search to find icons for the inventory
- Used Minecraft Java Edition 1.18.2 to build the maps for each of the levels. Imported the world data into Mineways, which allows me to export sections of the world as obj files which were then imported into Unity as prefabs and used as the maps