
2D Procedural Dungeon

Description

Create 2D top-down procedurally generated dungeon level.



Basic Requirements

- 2D single player, top down procedurally generated level.
- About 5 minutes long for a single run.
- Your character should include the following mechanics
 - Move (WASD)
 - Aim / Rotate (Mouse Movement)
 - Shoot (Left Mouse Button)
 - You may include additional mechanics. Avoid adding too many.
 - F1 Should allow the player to restart the level.
 - F2 Allows the camera to zoom back showing the whole level.
 - F3 Toggles “God Mode” allowing the player to trivially bypass challenges.
- Minimal use of text.
- Your game should avoid bugs, crashes, soft-locks or geometry that allows the player to bypass significant amounts of content or go out of bounds.
- **DO NOT** spend a large amount of time writing code, making models or procuring art / audio assets. Your time should be spent iterating on the level design. An abstract style is encouraged.

Project Requirements (70% Base)

Base Layout

Your base level layout must include the following:

1. A set of rooms (at least 7) and corridors that are procedurally generated.
2. At least one enemy that can attack and be attacked by the player.
3. Clearly delineated phases: Setup, Hook, Development, Turn, Resolution.
4. A key and door pair, both procedurally placed that must be used to complete the level.
5. Must have a reachable "exit" tile. When touched, generate a new level.

Level Variety

Your level must include enough variety in the following categories:

6. Non-linear interesting paths through the dungeon. Include at least one instance of each:
 - Hub
 - Branch
 - Fork
 - Loop
 - Dead End
7. Varied room shapes / layouts (at least 7)

Component Variety

Your level must feature the enough variety in its components in the following ways:

8. Enemy Variety, each enemy type should be visually and mechanically distinct.
 - At least one "Trivial" enemy.
 - At least two "Easy" enemies.
 - At least two "Medium" enemies.
 - At least two "Hard" enemies.
 - At least one "Boss" enemy.
9. At least one type of common and constant reward.
10. At least three types of significant permanent rewards.
11. At least 3 instances of interactive props, hazards or traps.

Balance & Rewards

Your level must be balanced to include the following.

12. Overall increasing difficulty throughout the level.
13. Distinct intensity peaks and valleys.
14. Proportional rewards to challenges faced, risks taken, or time spent.

Playtesting

You must playtest your level at least 3 times after you've met the previous requirements.

15. Three completed playtest reports including the following:

- Each tester must be a first-time user.
- Playtests must be timed.
- Include observations made.
- Include direct feedback given by the tester.
- Include reflections made about the playtest.

Extras (+30% max, 5% per star)

Choose and implement any of the suggested following features.

- Include a "Stars.txt" file in your submission folder outlining which features have been implemented.

| Extra | Description | Max Stars |
|-------------------------|--|--------------|
| Strong Phase | Your dungeon features a really strong phase that expertly fullfills its role and supports the overall level structure. | 5 ★ <i>—</i> |
| Super Varied Layout | Each dungeon layout generated feels meaningfully distinct. | 1 ★ <i>?</i> |
| Super Varied Rooms | Your dungeon features tons of variety of different rooms that are meaningfully distinct (at least 12). | 1 ★ <i>✓</i> |
| Super Varied Enemies | Enemies are really distinct from one another beyond just different stat spreads. | 1 ★ <i>✓</i> |
| Excellent Rewards | Rewards are really exciting and meaningfully change how the player approaches challenges. | 1 ★ |
| Polished Combat | Player is forced to adapt their tactics for different combat encounters. | 1 ★ <i>✓</i> |
| Special Rooms or Events | Your dungeon features occasional special rooms or events that meaningfully impact the run. | 2 ★ |
| Lots of Playtests | At least 3 additional playtests. These don't have to be first time users necessarily. | 1 ★ |
| Insightful Playtests | Each playtest is really well conducted and contain great insights along with a well crafted survey. | 1 ★ |
| Custom Extra | Come up with your own idea of feature to implement. Include a detailed explanation of the feature in the "Stars.txt" file and justify how many stars it should be worth based on its implementation. | 2 ★ |

Got Change

Submitting the Assignment

Your assignment submission should contain the following folders & Files:

- Project (containing the assets you used to build the level)
- Game (exported game executable and the necessary files and folders to run it)
- Playtests (folder containing all playtests reports completed for the project)
- Stars.txt (Text file outlining all the Stars you believe to have completed)

1. Include all the above into a folder with the following naming convention:

DES214'Section'_'DigiPenLogin'_2DProceduralDungeon

2. Replace 'Section' and 'DigiPenLogin' with your own information; yours should look like this:

DES214A_john.doe_ 2DProceduralDungeon

3. Right click the submission folder and select SendTo -> Compressed (Zip) Folder
4. Upload the file to the appropriate link on the Moodle course page.
5. Once the upload is complete, download it from Moodle to verify it contains all appropriate files.

Submission Folder Structure

- DES214A_john.doe_2DProceduralDungeon.zip
 - Project
 - Assets
 - Project Settings
 - (Other files aren't necessary, don't include them)
 - Game
 - GameName.exe
 - GameName_Data
 - Mono
 - UnityPlayer.dll
 - Playtests
 - Playtest1.pdf
 - Playtest2.pdf
 - Playtest3.pdf
 - Stars.txt