Cozy Caves

A D&D Dungeon Generator

Abdulrahman Asfari
Carlo Cigaral
Diana Batoon
Gavin Lim
Gideon Wilkins
Naomi Parte

Initial Plan

Project Goals

We decided to split our goals into three sections that represent the priority of the goal and how feasible it is to accomplish within the given timeframe. The first section is the MVP, which will have the core systems of our deliverable. The second section is stretch goals, which contain ideas that we would like to be part of the product's identity but can't commit to at this stage. The final section is unformatted ideas that we thought would be out of scope, and so this section will not be shown in this document.

MVP

Our product will be presented as a progressive web app. We will generate dungeons using a tileset rather than room presets. This means that room will have to be generated tile-by-tile, allowing for a more robust and scalable system. The dungeon generation will have three primary layers: A logical layer that creates the map layout, a room layer that generates rooms tile-by-tile for the top layer, and a layer that will randomly populate the map with items and props. Viewing the generated map will be an interactive experience, and the user can hover over tiles, items, and props to show additional information about them.

Stretch Goals

This takes the MVP and adds DM/Player compatibility to it. The idea is that the DM will be able to generate a dungeon, then host a session and share a code/link with the players who will be able to join. The DM and player views will be different, as the DM will be able to restrict players from seeing either specific items/props, or even adding a fog of war. This version will also include a basic character system just so players have a representation on the map.

Project Process

Requirements

- Dungeon map generation algorithm
- Tiled room generations and integration with generation algorithm
- Interactive map viewing functionality
- Random item and prop placement logic
- User-friendly interface for generating dungeons

Tools

We have decided that our web app will be built using ReactJS for the frontend, with plain JS for the modules that will be programmatically generating the map. If we finish the MVP and begin working on our stretch goals, the system will likely be using a serverless AWS solution. Throughout the project, we will use GitLab for source control and general project management using issues and milestones. For our communication, we will primarily be using discord.

Methods

We plan to adopt an iterative development process with regular reviews of what we are working on. For user experience oriented sections, we will perform market research to see what similar services offer in terms of usability and customizability. For the generation-related sections of the project, we will perform research to see what algorithms other similar services use and adapt our algorithm from there.

Philosophy

- Prioritise user experience and ease of use
- Ensure scalability and performance in order to support larger dungeons
- Encourage creativity in the dungeon designs

Meetings

We decided that we would meet every Wednesday at 3pm, with smaller gatherings throughout the week if people need to work on a specific task together.

Work Breakdown

For our work breakdown, we split up the MVP into 9 different modules. For each module, we highlighted what modules it would depend on, and what modules would depend on it. We also assigned 1-2 people to work on the module, as well as a peer system. Essentially, people assigned to a task are actively focused on it, while peers are only there when the person needs it, e.g to discuss a solution to a problem. When they are not acting as a peer, they will be working on their own module. This system allows us to divide the work in a more efficient manner but still get help from each other, from people with “neighbouring” modules that work within a similar domain.

No.	Module	Uses	Used By	Size	Assigned	Peers
1	Design & Art		2	S	Naomi	Diana
2	Website UI & Wireframing	1	3	S	Gideon	Naomi & Diana
3	Rendering Map Canvas	2, 4, 7	7	M	Gideon	Carlo
4	Dungeon Generation	5	3	XL	Gavin & Carlo	Abdulrahman
5	Room Generation	6, 9	4	L	Abdulrahman	Gideon & Gavin
6	Item & Prop Generation	8	5	L	Naomi & Diana	Abdulrahman
7	Tile & Item Information Viewer	3, 8	3	M	Diana	Naomi
8	Item & Props Metadata Creation		6, 7	M	Naomi	Diana
9	Room Shape Layout Creation		5	S	Abdulrahman	Naomi

Mid Point Design Review

Once we are at the midpoint of the project, we will evaluate our progress and discuss any adjustments or improvements needed in terms of the MVP, as well as planning for our stretch goals implementation, or tracking the progress if we have started it already.