

User Manual for Dungeons and **Crawlers**

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1. Introduction

Dungeons and Crawlers is a web-based voxel game that features procedural generation. Enjoy multiplayer with friends and dynamic interactions with NPCs alongside given quests and many different biomes to explore.

This manual provides a step-by-step guide to installing, running and playing the game. See the table of contents.

2. System Requirements

Hardware Requirements

- **Operating System:** Windows 10/11, MacOS, or Linux.
- **Processor:** Intel I5 (or equivalent)
- **RAM:** 4-8GB (or higher)
- **Graphics:** Nvidia GeForce 400 Series or equivalent, preferably a dedicated GPU to have the ability to run the LLM locally

Software Requirements

- Node.js must be installed. To download Node.js, go to <https://nodejs.org/en/download> and follow the instructions. V16 or higher is recommended to prevent any possible issues.
- Python (v3.8 or higher) is recommended to be installed for LLM integration.
- PostgreSQL: v13 or higher. Download at: <https://www.postgresql.org/download/>
- DeepSeek API, if you wish to run the LLM locally

Other Requirements

- Must have a DCU School of Computing GitLab account.

3. Installation and Setup

Step 1

- Make sure that Node.js is installed, as instructed above, as well as any other dependencies.

Step 2

- Clone the git repository at <https://gitlab.computing.dcu.ie/cochrac2/2025-csc1049-ccochrane-dnc>.
- This can be done through:
 - SSH: git clone [git@gitlab.computing.dcu.ie:cochrac2/2025-csc1049-ccochrane-dnc.git](https://gitlab.computing.dcu.ie/cochrac2/2025-csc1049-ccochrane-dnc.git)
 - HTTPS: git clone <https://gitlab.computing.dcu.ie/cochrac2/2025-csc1049-ccochrane-dnc.git>
- Click on the code drop down menu for more information and alternatives, either opening the project repo in your IDE (like Visual Studio Code) or downloading the source code directly.

Step 3

- We're using **Vite** as our frontend development tool for fast builds and live reloading. It's currently set up for local development but can be swapped out if needed
- If you're new to Node.js, take a look at the `package.json` file in the source code or in the gitlab repository. There, you will find a `"scripts"` section that contains the following code:

```
"scripts": {  
  "front-dev": "vite"  
}
```

- This allows you to quickly start Vite by running:

```
npm run front-dev
```

Step 4

- Make sure to install all dependencies by running:

```
npm install
```

- This will install everything listed in package.json that Vite and Express need.

Step 5

- The main entry point for the application is src/main.js. This is where we set up the Express server and can build out API routes as needed.

4. Start the Game

- You can start the frontend by running **npm run frontend**.
- You can start the backend using **npm run start**.
- It will output the port it's listening on, go to localhost:your_port as a url in a web browser to visit the page.
- You will be given the option to enter in a username. Enter in a username and click submit. You are now in the game!

5. Gameplay Overview

Exploration:

- Explore a wide variety of biomes that are generated by perlin noise and our AI api.
- Navigate the voxel world with robust controls.

Physics:

- Physics & interactions: Objects obey physics through a strict and accurate physics engine implemented manually.

Quests:

- Interact with NPCs for a chance to be given a quest. Quests are usually just simple fetch quests for now!

6. Controls

Movement:

- W: Move forward
- A: Move left
- S: Move backwards
- D: Move right
- Space bar: Jump up

Camera:

- You can rotate the camera around the player by using the arrow keys.

Talking:

- Open the chat box by pressing enter.

7. Connecting to Another Session

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8. Troubleshooting

Game Won't Start

- Make sure Node.js and all other dependencies are installed.
- Try cloning through SSH instead of HTTPS if you have performed the latter.
- Restart your computer.

Lag / FPS Drops

- Close background applications.
- Close the console.
- Check your internet connection.