
LEFT
UNSUPERVISED

## **Left Unsupervised** - **GitHub**

Collaborators:

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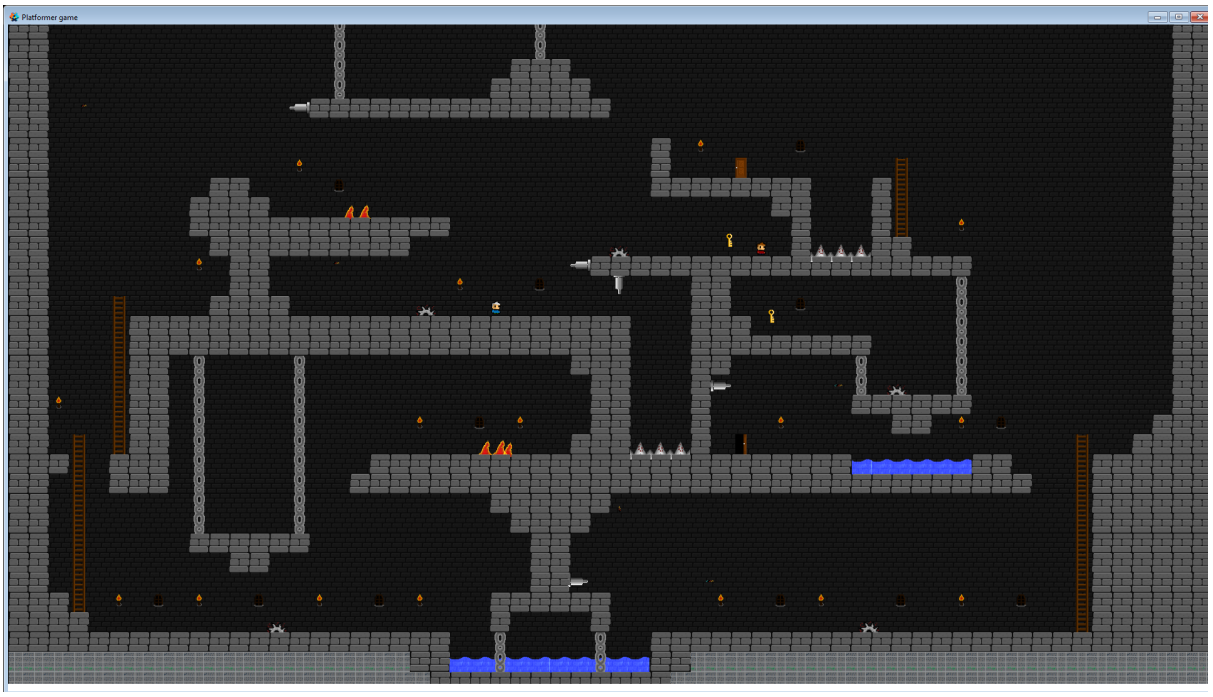
- Daniels Pikurs
- Eric O'Shea
- Ruaidhri Mulgrew

# General Overview

Once upon a time, there were two young boys named Redwin and Belvin. They were always up for an adventure, and loved to explore the forests near their home. One day, while they were out playing, they stumbled upon an old and abandoned house deep in the woods. An evil lair, they believed. The lair was in a state of disrepair, with vines and overgrown bushes covering the outside.

Redwin and Tom were curious and decided to explore the lair. They pushed open the creaky old door and stepped inside. The lair was dark and dusty, with cobwebs and broken furniture scattered throughout. As they made their way through the entrance to the lair, they found an old chest next to a locked door. They opened the chest and discovered a key inside. These keys are used to traverse through the lair, opening up to new different maps, accompanied by new respective challenges.

The boys must use teamwork to collect the keys from each room in order to progress to the next. But what awaits them within the final room?



## Idea Generation

Throughout the game's design process, the team met regularly. Initially, we met in person to discuss the game's intended topic. A brainstorming session was held in person, during which we determined which ideas were the most promising.
As soon as we had a general idea of what we wanted to accomplish, we began holding meetings remotely. This allowed us to begin development in an agile way, creating small amounts of content and meeting regularly to discuss them.

## Play Context

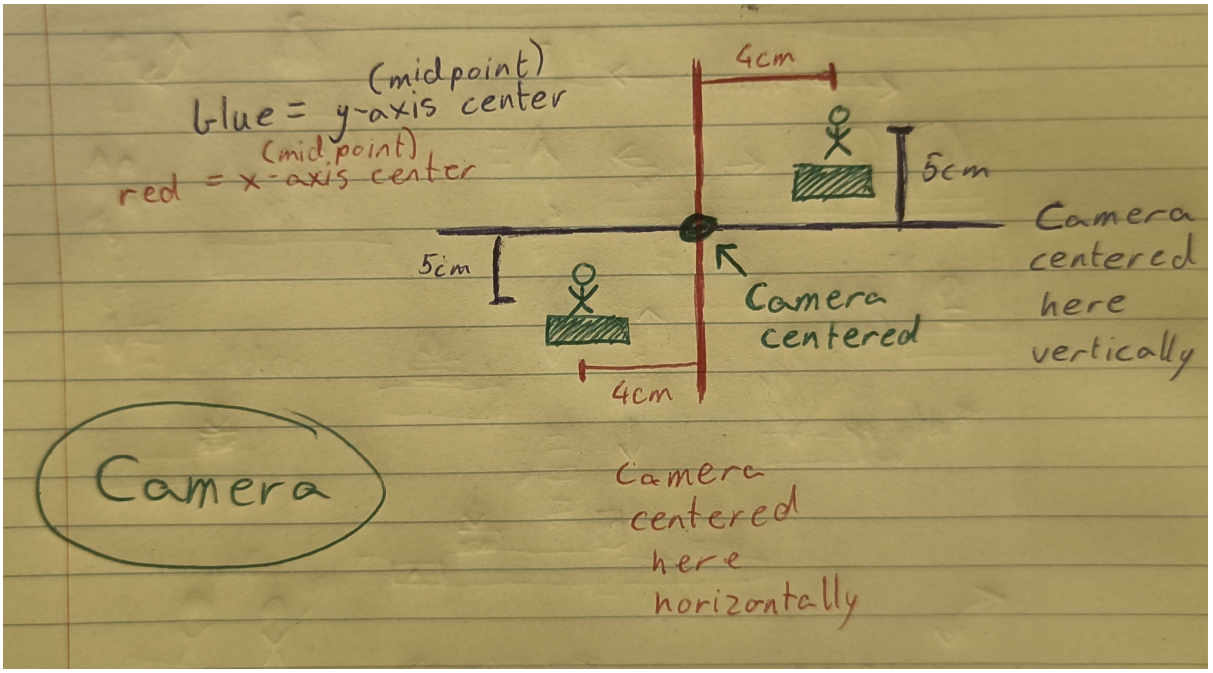
Context refers to the specific circumstances under which a game is intended to be played, as well as the motivations, expectations, and previous experiences the player has had with the game, or similar titles. Expectations and motivations determine the overall game experience.

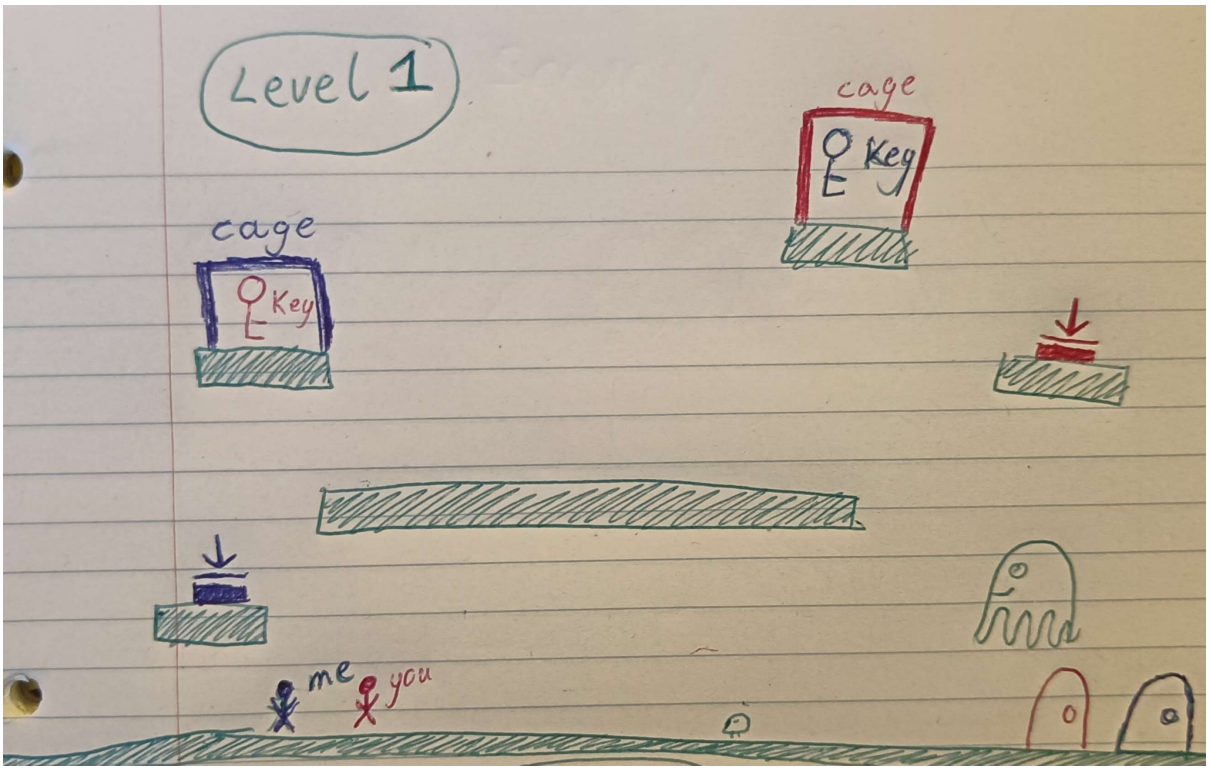
‘Left Unsupervised’ is a two-person multiplayer puzzle platformer, where both players are expected to overcome obstacles and progress through each game level. It is intended to be high-intensity with uninterrupted focus, not relaxed on the couch with other distractions. With traps and puzzles, there is constant danger for both players. They must time their actions accordingly, maintaining their focus at all times.

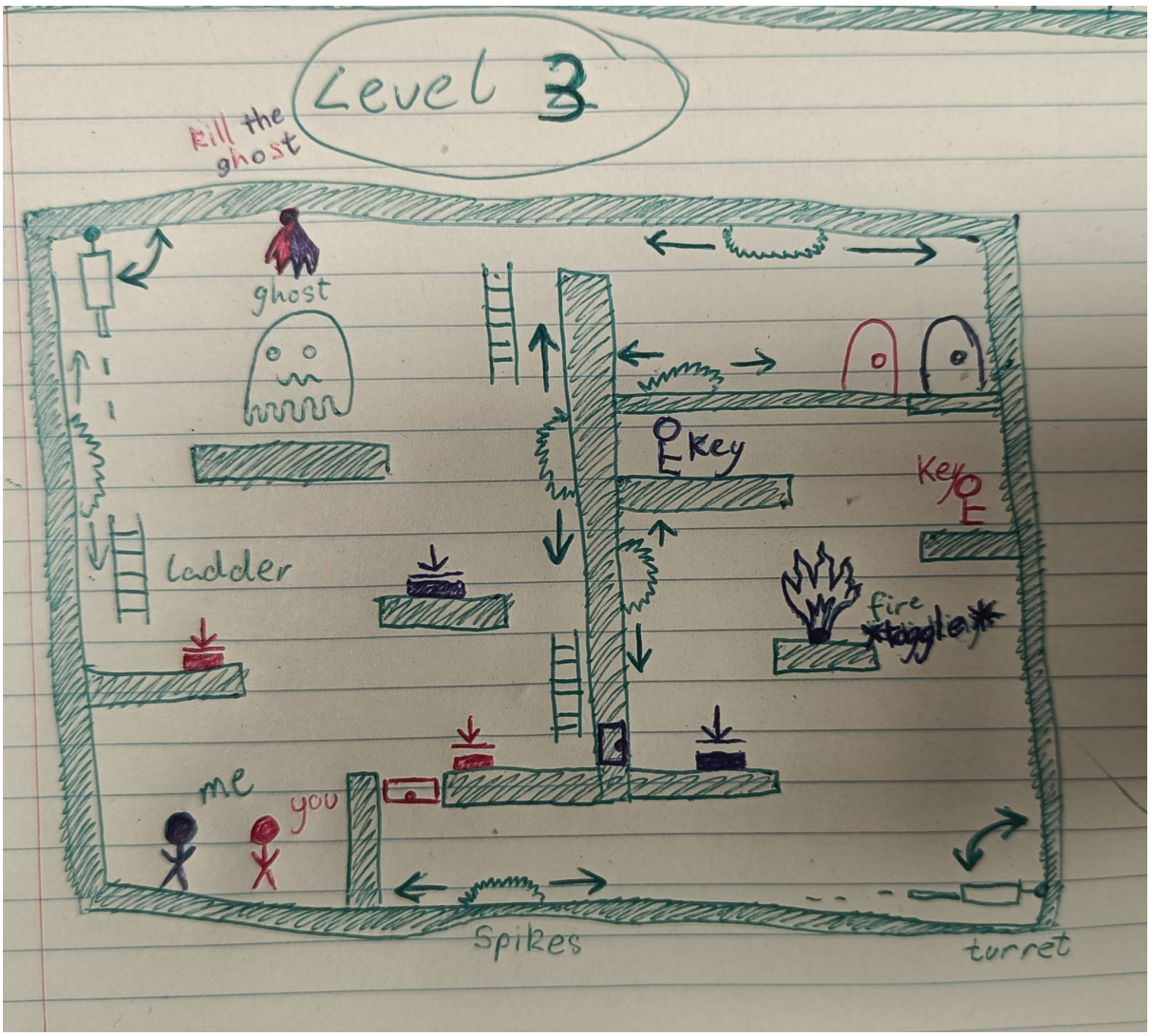
## Paper Prototyping

Prototyping provides the developer with a logical understanding of the presentation of conceptualized information, to the perspective of the end-user. Paper prototypes (low-fidelity) in particular offer a rough prototype of a game is constructed using paper and pencil, and then consulted with others to garner feedback and iterate on the conceptual design. Early in the design process, paper prototypes are often used prior to the development of any digital or high-fidelity prototypes. Using this approach, generalised concepts may be presented in an efficient and cost-effective manner.

With paper-prototyping I was able to quickly display to my team members how the control of the camera should work, something which may be hard to explain through words alone. I also showed how each level should be laid out, showcasing the basic game mechanics and dynamics.


blue = y-axis center (midpoint)
red = x-axis center (midpoint)
4cm
5cm
Camera centered here vertically
5cm
Camera centered
4cm
Camera
Camera centered here horizontally


Level 1
cage
Key
cage
Key
me
you




## Mechanics, Dynamic, Aesthetics (MDA) Framework

The MDA framework serves as the fundamental foundations from which serve as the implementation of the game's intended conceptual outcome, according to its respective play context. It disassembles games into three distinct categories; mechanics, dynamics and aesthetics, where each category  maintains close inter relational ties with its bidirectionally adjacent layer(s).

Playable actions are referred to as **mechanics**, which describe the specific components of the game:

- The player can move around
- The player can jump around
- The player can glide around the edges of blocks, a chainable action, to 'surf' between them.
- The player can collect keys
- The player can open doors

- The player can stand on pressure plates
- The player can climb up/down ladders
- Dangerous saw blades with linear and predictable movement
- Dangerous spikes will kill whoever stands on them
- Dangerous turrets shoot bullets
- Dangerous ghosts whoever comes in contact with them
- Pickup-able keys
- Key cages that require both players to open
- Locked doors that only one player can temporarily open to give access to the other player
- Water that makes the player move slower
- Time pressure to complete each level

**Dynamics** describes the run-time behaviour of mechanics in response to player input and each other's output:

- The camera is set at the midpoint between both characters at all times. The position of the camera is calculated as the midpoint between the two characters, on both the x and y axes.
- While a key is in the players' inventory, they may open a door
- When a player stands on a pressure plate, its assigned door/trapdoor is opened
- Turrets shoot the player at their current location, tracking them as they move
- A ghost will slowly move towards the location of the player. If it reaches the player, they will die and the level will restart.

When the player interacts with the game system, **aesthetics** describes the desired emotional responses they evoke:

- Adrenaline from the time pressure
- Thrill from obstacle avoidance
- Excitement while following the rules properly
- Achievement/satisfaction from level completion
- Frustration/disappointment from character death

## Rules

Having rules provides the structure, constraints, and challenges that define a game and make it enjoyable to play; a specific sort of immaterial support. A game's rules provide the framework within which players interact with the game and with one another. It is the rules that determine the boundaries and challenges that players must navigate and overcome in order to achieve success in a game, providing the game with meaning and purpose. Rules can also serve as an important component of the game's aesthetic. In addition to contributing to the overall enjoyment and satisfaction of the game for the player, the specific rules and constraints of the game can influence its style, tone, and atmosphere.

There are many traps and enemies situated around the map which the players must avoid at all times; turrets, spikes, etc. If one ot the players comes into contact with such object, their character dies and the level is restarted.

To progress to the next room, both players must collect the keys for each room. However, the players must make use of personal deductive reasoning in order to pick up the key. A different solution may be required for each encountered challenge. For example, this could require player 1 to step on a pressure plate in order to open a door to the key-room, allowing player 2 to enter.

## Perspective

Game perspective describes how the player perceives the game world and its elements. Changing the game perspective can significantly impact a player's experience of a game, since it can impact his or her ability to perceive, interact with, and comprehend the game world.

'Left Unsupervised' utilizes a top-down perspective. As a result, both players have a generalized overview of the in-game context to facilitate deductive reasoning. By keeping a large portion of the map in view at all times, players can determine the best approach to attacking a problem. At a closer perspective, some solutions may not be noticeable.

## Space

The game space in a refers to the virtual world in which the game takes place. It can include the environment, objects, characters, and other elements that make up the game world. The game space is the space within which the game's mechanics, dynamics and aesthetics (MDA) operate. A virtual space in which the player's avatar moves and interacts with other objects and characters. In general, it sets the stage for the player's experience and defines the boundaries within which the player can interact with the game world.

This game is a side-scroller, consisting of a vertically/horizontally scrolling screen on which the action takes place, a gradual unveiling of space. It is a more focussed space designed to be completed quickly.

## Flow

In the field of game design and psychology, "game flow" refers to a game's overall flow and pacing, as well as the player's experience of immersion and engagement. According to Jesper Juul, it is a state in which people are so involved in an activity that nothing else seems to matter. The narrow margin of challenge lies between

boredom and frustration. A game should be neither too challenging or too boring, as the progression of skill occurs.

Each sequence of play will become more difficult than the last, introducing new rules and concepts as the players progress through the game. Each character has to collect a key in each level to unlock their doors simultaneously in order to progress to the next level.

- Level 1 - Introducing the players to the general concept of the game. This level is not intended to be difficult. Each player simply has to jump on a pressure plate to open the cage to the opposite player's key. Once both keys are collected, they can progress to the next level.
- Level 2 - Now locked rooms are introduced. One player has to step on a pressure plate to temporarily open a door to allow the other player to enter the room.
- Level 3 - This level is intended to be difficult. It combines the previously learned concepts. There are locked doors, key cages, traps, turrets, saws, ghosts, etc.
- Level 4 - Boss level

## Controls

Controls are the primary means by which players interact with a game. It is possible that players will become frustrated or discouraged if the controls of a game are difficult to understand. A good game control system should be easy to understand and use, and provide a clear and intuitive mapping between the actions of the player and the actions of the game. It allows players to quickly learn how to play the game, as well as control the game's characters and objects easily and efficiently. Good game controls should not only be easy to understand and use, but also be responsive and accurate, which allows players to control the game accurately and reliably.

Both players use keys on the same keyboard to control their characters.

- Player 1 (Redwin) uses WASD to run/jump
- Player 2 (Belvin) use the arrow keys to run/jump

## Hazards/Enemies

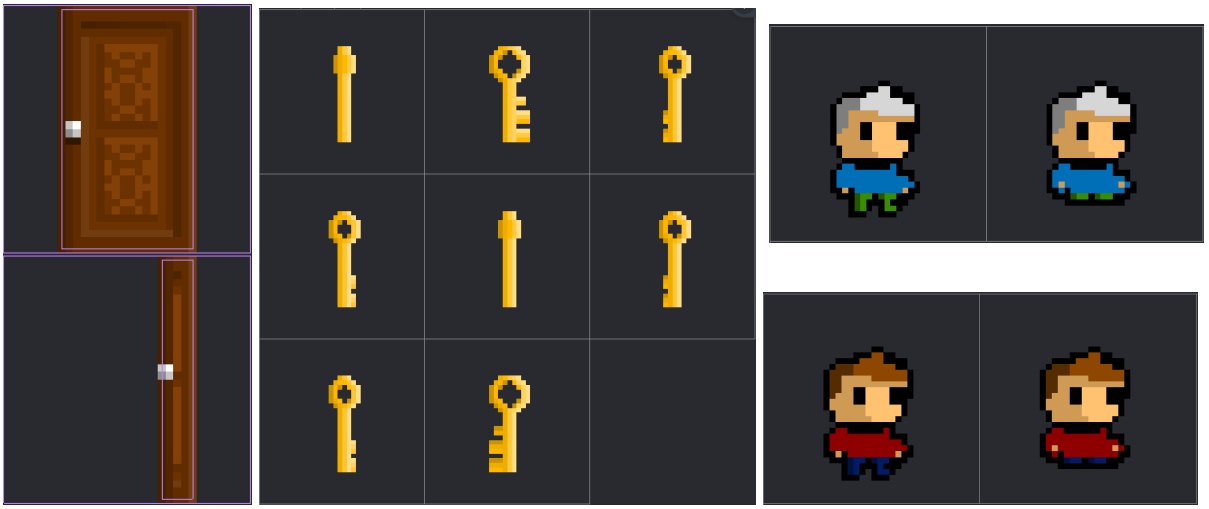
Enemies come in the form of environmental hazards in this game. The players will have to dodge multiple environmental hazards such as spike traps, rotating saws, acid pools and turrets that shoot in fixed/dynamic directions that aim to give a level of challenge in the game.

The hazardous obstacles will be used to impede the players progress through the levels, in doing this the players are presented with a problem to solve leading to a source of challenge and an opportunity for skill expression.

## Art (Piskel)

Using Piskel, you can create pixel art online for free. With its simple and intuitive interface, users can create their own pixel art images. The tool includes a variety of features, such as the ability to create multiple frames and animate them, add custom color palettes, and save and share their creations online. For digital projects and games, piskel is commonly used by game developers and graphic designers.

As the developers of our game, we developed all of the art within it. By combining our art together, were were able to create a single tileframe where all art could be accessed. Several examples of this artwork are shown below, where purple lines indicate collision detection:



## Interface

Upon booting the game, players are greeted with the main menu. They can choose whether to play or quit the game from here.
Players can see how much time they have left as soon as the game begins, via a UI component at the top of the screen.
Two keys' borders indicate that they have not yet been collected. The act of collecting the respective key will fill its assigned UI component.


## Music

It's important to have game music in order to make the gaming experience more immersive and engaging for the players. Game music can also help set the mood and atmosphere of a game, as well as convey a game's theme or story. Additionally, music can add tension and excitement to gameplay during intense moments, or provide a sense of accomplishment or victory when the player succeeds. A player can also use music to indicate a change in the game environment or situation, or to give direction or guidance.

We chose fast-paced music to be implemented within the menu, in honour of the gameplay style. It's important that the music keeps the player engaged and excited to begin the game.

The music abruptly changes once the first level loads, becoming a more eerie, sombre style. The purpose of this is to create a sense of unease in the player, referencing the fact that the boys are in an evil lair, according to the story.

## Animations (Responsivness)

Animation plays a crucial role in bringing the world and characters to life. It conveys information about the game's mechanics and controls by providing direct feedback based on the user's input. Characters can be animated to walk, run, jump, or perform other actions, for example. This helps the player to understand how the character moves and interacts with the game world, and can make the game more enjoyable to play.

Players are shown the consequences of their actions in 'Left Unsupervised' through animations. In situations such as picking up a key or dying from a hazard, an animation will be played.

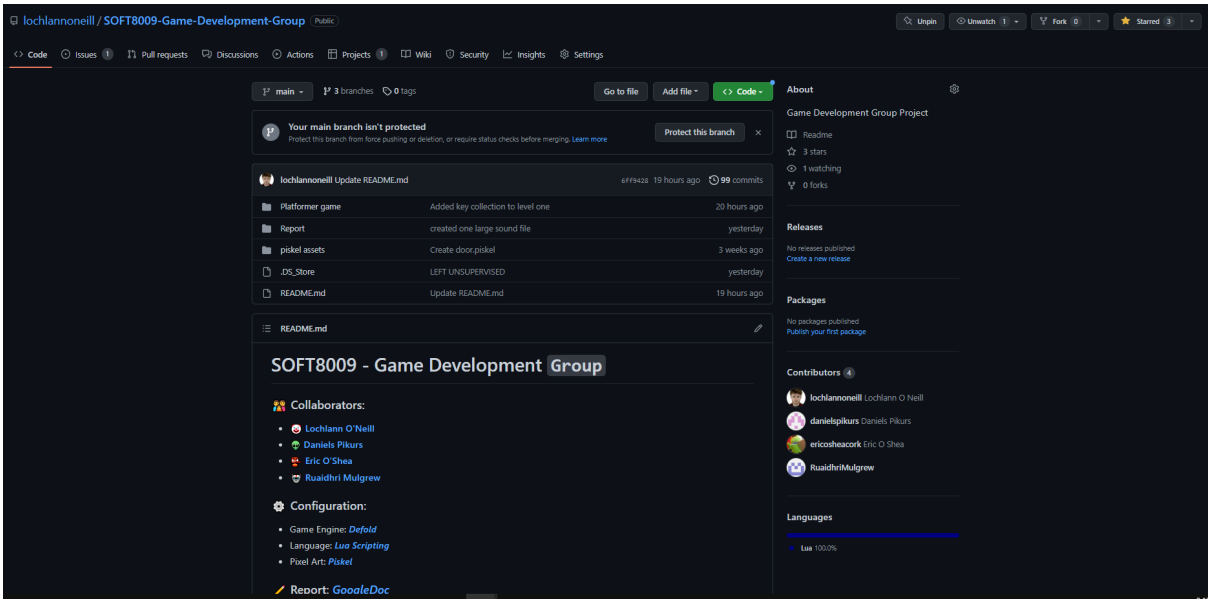
## Collaboration (GitHub)

A web-based version control and collaborative software development platform, GitHub is primarily used to control software versions. Code can be hosted, reviewed, projects can be managed, and software can be developed.

GitHub played and extremely important role in the continuous progression of our project:

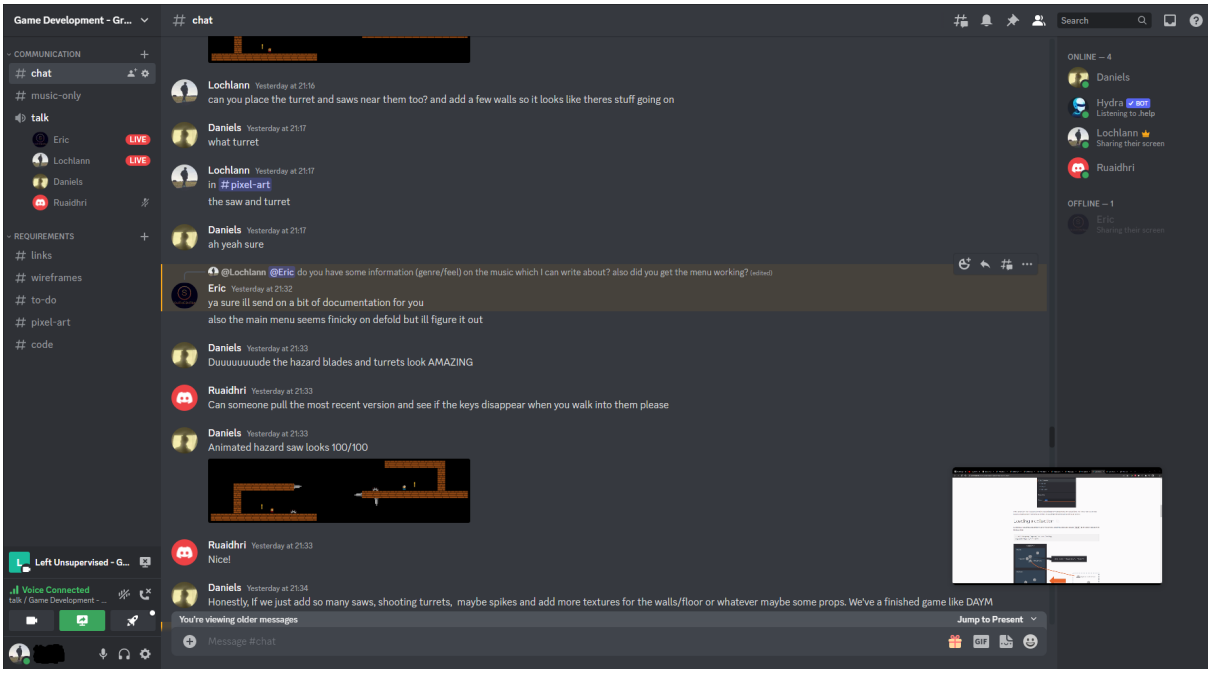
- Portfolio: We were able to keep track of all our work within a single centralised repository. The included README.md file highlights all of the components of the project in an easily accessible and user-friendly manner.
- Version control: Our codebase was easily tracked on GitHub and we could revert back if necessary. We reverted to a previous version when we encountered a bug when adding music. Having multiple developers work on a project together is especially helpful when working on large projects.
- Collaboration. As a remote team, GitHub helped us work cooperatively on our project, regardless of where we were. It provided us with tools for code

review, project management, and communication. This proved quintessential in our workflow.




## Communication (Discord)

Discord is a good tool for team communication because it is specifically designed for gaming communities. It allows users to communicate with each other in real-time, which is essential for effective team communication. Additionally, Discord includes features such as the ability to create custom channels and invite specific users to join, which can help teams to organize their communication and keep discussions focused. Furthermore, Discord is available on a variety of platforms, which makes it accessible to users regardless of their device or location. Overall, these features make Discord a useful tool for teams to communicate and collaborate effectively.

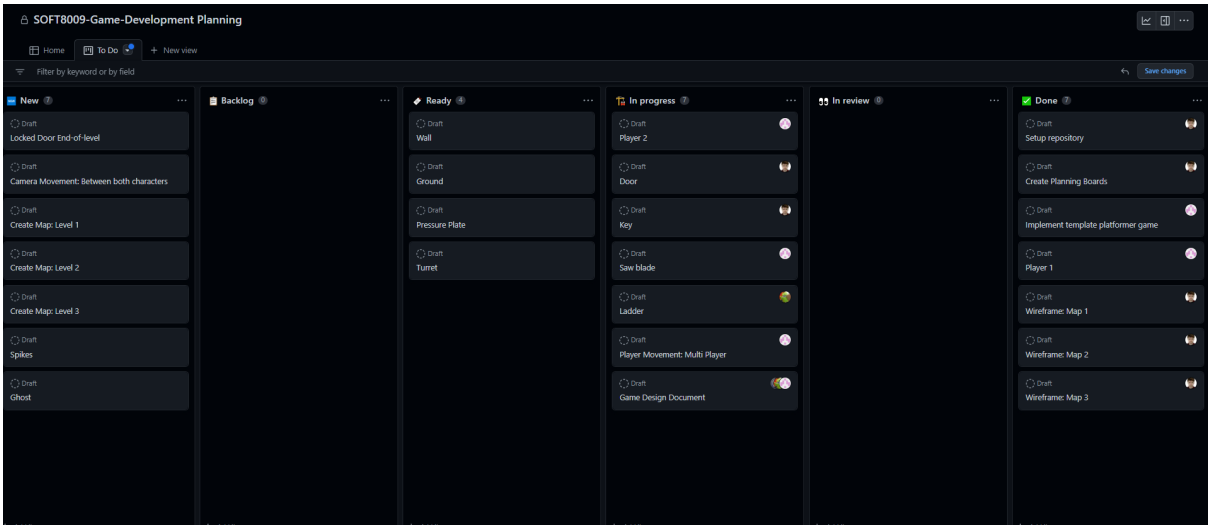


# Project Management (GitHub Pages)

The team in this project used the agile methodology to complete this project. The purpose of the agile methodology is to ensure that the product being developed meets the requirements of the intended audience, progressively throughout all phases of the development process. The development process can be streamlined with the intention of preventing costly mistakes and rework, and ensuring end users are satisfied with the finished product. Developing a clear plan for how to proceed can be achieved by gathering and documenting requirements early in the development process.

This allowed our team to better understand the goals and constraints of the project. By doing so, communication and collaboration between team members can be improved, and everyone can work towards the same goals. The use of effective requirements engineering can ultimately result in a reduction of both time and resource usage as well as an increase in system or product quality.

Our GitHub repository has a respective ‘GitHub Projects’ page, a page which facilitates the usage of a kanban board and scheduling table. Each team member clearly showed what they were working on, and at what stage, based on their currently ‘doing’ task within the kanban.




# Authorship

The following is a list of what each person has completed:
Lochlann:

- Game Design Document writeup
- Setup Discord server (communication)
- Setup GitHub repository (collaboration)
- Setup Kanban board (agile methodology)
- Wireframe: Level 1
- Wireframe: Level 2

- Wireframe: Camera Movement
- Art: Key (all frames for rotation animation)
- Art: Door (all frames for open animation)
- Art: Turret
- Art: Ladder
- Art: Wall (collision)
- Art: Background wall
- Art: Background torch
- Art: Background window

Daniels:

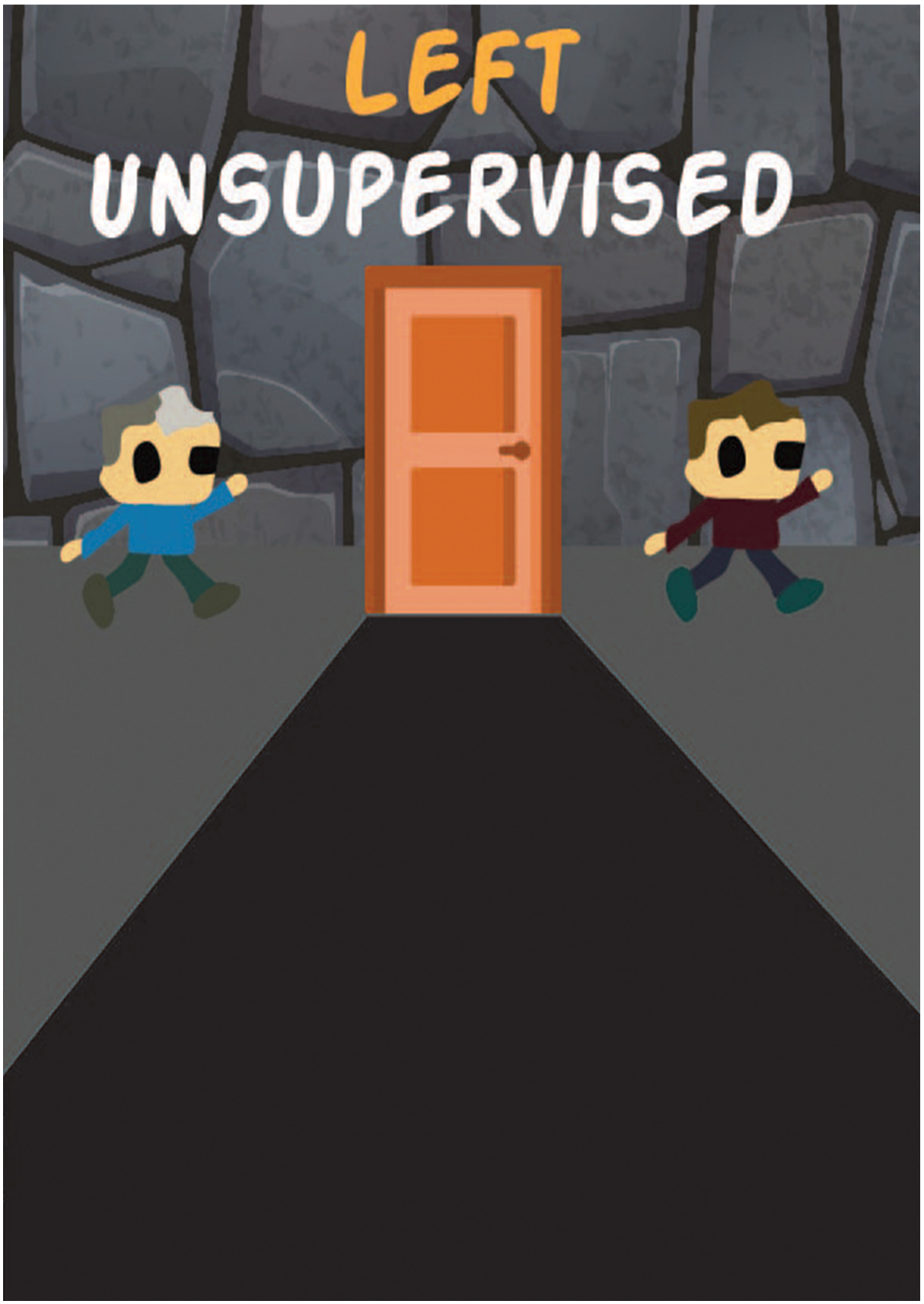
- Music: Created original ambient music in FLStudio
- Art: Player 1
- Art: Player 2
- Art: Sawblade (all frames for rotation animation)
- Art: Chain
- Art: Fire (all frames for animation)
- Art: Spikes
- Inititialise game build environment
- Implement game map using wireframes and piskel art
- Implement ambient music
- Implement player movement
- Implement moving saw blades on x axis (pingpong)
- Implement moving spikes on y axis (pingpong)

Eric:

- Box Art: Front cover
- Box Art: Back cover
- Music: Compilation of internet music for menu screen
- Implement: main menu
- Implement: menu music
- Demo video

Ruaidhri:

- Art: Foundation
- Art: Bullet
- Implement: key pickup
- Implement: Turrets firing
- Animation: Pickup key effect
- Animation: Collision with obstacles, deletes player
- Animation: Bullet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