2.1 The Game

Include a brief overall description of your game in your report. Discuss how much you have been faithful to your original plan and design, and how the final product varies from that plan. Justify what has changed, and what are the most important lessons you have learned.

Dungeon Crawler is a 2D tile based game where the player's goal is to complete the level by collecting all 5 coins scattered throughout the map while running away from a trailing ghost that when on the same tile causes the game to be over.

Compared to our current game and our original plan and design, in terms of overall gameplay, it has remained throughout the development of the game. We stuck to the overall plan of having traps and rewards scattered throughout the map and an enemy chasing the Main Character, although there are some elements that have changed from our initial plan of the game to our final product.

<u>The changes made are:</u>

- Did not implement in game pause button, although with the use of state design pattern used to create our game, creating a pause state should not be too hard and can be implemented later if we want
- Did not implement multiple levels into the final product, due to time constraints, we had to focus on polishing the game and getting its core mechanics correct before creating multiple levels. However, since our levels are created with the design pattern state in mind, implemented a new level would not be too time consuming and does not require changing our entire code
- Traps disappearing after a certain amount of time after game starts, we decided to remove this due to the confusion that it can cause to players as it seems like the traps just seem like they were there at a limited time instead of it being a hidden trap that players should remember, so we removed it and made traps stay throughout the game for a more clear gameplay.
- The absence of tutorial implementation in game, this is something our team thinks is something that should be implemented in order to allow players to understand how our game works. However, due to time constraints we have delayed the tutorial and have not added it into our final product yet, however, if we had more time we would have implemented the tutorial into our game, but for now, we hope that the documentation explaining how our game works can partake the job of the tutorial for now.

Our team has gone through many hardships trying to create a game that provides the best player experience. But, due to the lack of experience our team members have with game creation and overall designing a polished product, one major lesson we have learned is that we should have put more care into our planning phase, for example the UML diagram. Our overall development of the code as time passes strays away from our UML diagram's design. Since the concept of UML and everything is new to all of our team members, and now we have learnt how important things like UML diagrams can help us. We know that next time if we designed another project, we would put in more work into them since a good initial design can allow the later developments of the game easier.

Another important lesson we have learned from this project is how to manage our time effectively. Since all of our team members had different commitments and courses during this semester, it was difficult to find meeting times that worked for all of us. However, we had made lots of effort to have at least 2 meetings per week before any deadline to work together and help whoever was having troubles with their assigned parts. By working as a team and having weekly meetings has helped us to be capable of delivering good quality of work on time. We believe that if there were more time and we had less commitments, we could add all of the planned features from Phase 1 into our game. After all, with proper time management, we, as a team, were more productive, less stressed and could submit our good work before the deadlines.

2.2.1 Tutorial

This game runs in ticks (per second). This means that only 1 movement across 1 cell is allowed per second. Players can only walk up, down, left, and right.

The main character. Press WASD to control her. Game over when her score drops down to below 0. *(The last pressed key before a tick will be registered for movement.)*

The enemy. The enemy will make an attempt to catch the player. When the enemy catches you, it's an instant game over.

The entrance. The player starts from here.

A barrier cell. Player and the ghost cannot walk into a barrier cell.

A regular floor. A normal, walkable floor tile.

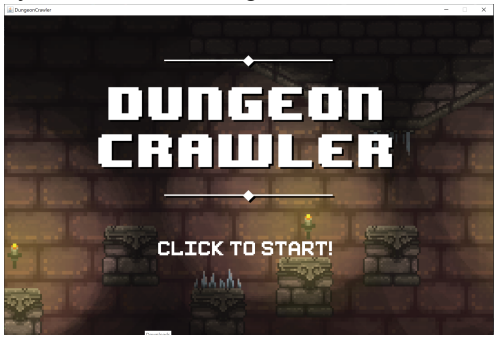
The exit. The player must collect all 5 regular rewards before attempting to leave the dungeon. If the player tries to leave with less than 5 rewards, stepping on the exit tile will not bring the player to victory.

A lava cell. Walking over this cell will result in -100 points. After it's stepped on, the trap will disappear.

A regular reward. There are 5 of them across the map. The player must collect all of them to leave the dungeon. Each coin gives 100 points

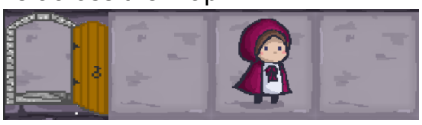
A special reward. There are 2 of them across the map. It spawns at a specific location in randomized time. Each diamond gives 200 points.

This is the menu screen. Click anywhere to start the game.



This is the game. (Top left: score display, Top right: regular reward counter, Bottom left: timer.)

The player presses W-A-S-D to move across the map.



The player should aim to collect all the coins, but at the same time, they need to avoid the ghost.

As the player collects all 5 coins, they can leave the dungeon. However, the ghost is really smart, so plan your escape route wisely to avoid running into him! Sometimes, stalling at a cell is not a bad idea.

Once you collect all 5 coins, you can walk toward the exit and win! Congratulations!

If you run into the ghost or walk into a lava cell with 0 health, you will lose the game. Try again!

To play it again, one will need to close the window and launch the game again.