Group 10: Final Report – Phase 4

Game Description:

Dungeons and Treasures is a very fun, simple, enjoyable, and challenging survival-based 2D maze game where the player controls the protagonist who must avoid the enemies and get all four rewards before the score goes negative.

For our game's graphical user interface, we have used Java AWT and Java Swing. We have worked through different phases to create this game. During the initial phase, we worked on what our overall plan would be to create this game, we went through the overall design, and requirements for our game. This phase gave us a good start to our project.

Learnings from the Project this semester:

The whole project has taught us several aspects of Software development and Teamwork. We have gained skills that will stay with us throughout our careers.

The soft skills/ non-technical skills are working within a team, managing tasks, helping each other and being supportive, communicating effectively, working efficiently, managing time, leading a team, setting up meetings, and so much more.

We have gained technical skills like becoming fluent in Java programming, learned how to work with GUI in Java, learned to work with Git and GitLab as our version control systems, learned and worked with Maven for our project management.

There were tonnes of trial and error areas in our project. This gave us a huge amount of experience and now we understand what paths to take and which ones to avoid in a software development project. Another area was the testing of our program where we covered the different kinds of tests and identified and isolated all the functionality of our software.

We also presented our game to the class which teaches us how to sell our idea. It was an amazing and delightful experience looking at all the different software, games, narratives of the games, and awesome ideas from all the groups. That was some fabulous work by everyone! We are very thankful to Professor Saba and the TAs for all your teachings, help and support throughout the semester.

Our game has been very similar since the beginning except for the animations that we used. There are only some small interface changes here and there, but otherwise we have tried to stay faithful to our initial plan.

Game Tutorial:

Here we have a start screen, so the user will press the 's' key on the keyboard to start the game. The game starts and we have the main character placed onto a 15 x 15 cell dungeon. Upon rendering all images, the main character can be controlled by the arrow keys on the keyboard.

The objective of the character is to escape the dungeon. The player can do so by collecting 4 golden keys that unlock a hidden escape door. While doing so, the player must avoid 3 reapers that will chase the player.

Besides keys, the player can also try to collect gold coins, which are valuable items that boost the player's points. At the same time, the player should also avoid collecting bombs, which can cause the player to lose the points they have accumulated.

The winning condition is reached by collecting all the golden keys and reaching the hidden escape door.

The losing condition is reached through 2 ways:

1. By being caught by a reaper
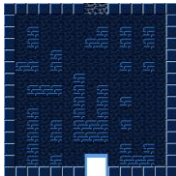2. By reaching a negative points total through collecting a bomb

The game's pace is controlled by the player's every move. At each move the player takes, enemies will also make a move towards the player. While there is no time limit to how long a player move can take, if the player moves carelessly, the player can easily have their movement options denied by the enemy.

The strategy involved in beating the game is anticipating where the enemy will move in response to the player's option and evade using the barriers between the player and enemies.

Screens:

In-game Screen	Win Screen	Lose Screen	Menu Screen

Characters:

Name	Image	Description
Main Character		Main character. His objective is to collect keys in a maze in order to unlock the exit door.
Moving Enemy (Reapers)		There are 3 moving enemies who will chase the main character. If caught by the enemies, the main character dies.
Penalty (Bombs)		There are 5 penalties each placed on an individual cell. If the main character interacts with the punishment, the game deducts 4 points. If the score falls below 0, the main character dies.
Regular Reward (Golden keys)		There are 4 regular rewards the main character needs to collect. Collecting the regular reward adds 1 point to the total score.
Bonus Reward (Gold coins)		The bonus reward appears and disappears at a set time interval. The bonus will be at a cell for the main character to collect for 5 ticks before disappearing. Collecting the bonus reward adds 5 points to the total score.
Barrier		The barrier blocks movement for the main character and the enemies.

Reference

Menu: https://www.artstation.com/artwork/yB15O

Player Sprite: https://www.spriters-resource.com/pc_computer/omori/sheet/148304/