Description of Game:

How much game is same to our original plan and design:

- Game elements: knight, goblin, tree, house, …
- Game rule: game winning and losing logic.
- Game states: start, pause and exit.
- Movement Methods: player (keyboard) and enemy (AI movement: A*).
- UI and map design.
- Animation of objects.

How final product varies from original:

While the final design of our project largely adhered to the initial UML Diagram provided during Phase 1, we deviated in some places notably. The first deviation was that we eliminated the Abstract Barrier class to help streamline the player's experience in the game. We found that the Barrier class was redundant when the Cell class could itself whether it was obstructed or not, enabling each cell to render and integrate different Game Entities while providing a uniform interface to help with Game Entity movement. Another notable deviation was the introduction of a uniform interaction method via the Interactable interface, allowing entities to interact more seamlessly with the player. This change simplified the internal logic by making Non-Knight Entities responsible for engaging with the Knight through an increment score method, streamlining entity interactions.

Furthermore, we restructured the Game class into a state manager to avoid the pitfalls of it becoming a 'God class.' It ended up doing too many different tasks, which were present within our initial diagram, which included the game logic and level generation. To change this, we divided the game class into several different Game States such as Playing, Pause, and so on. Likewise, level generation was pushed to the GameBoard class. Additionally, concepts like unit collision, rendering, and animations, which were not fully represented in the initial UML Diagram, were fully integrated into the actual design. This involved modifications to the Game Entity class, its subclasses, and the creation of new classes like Animation and CollisionBox to support these functionalities. Lastly, a delayed start to phase 2 due to scheduling conflicts and project management challenges led us to omit some planned features from the design. These included player attack capabilities, enemy respawn mechanisms, and various

damage/status effects, which could not be accommodated within the second phase's time frame.

Lessons Learned:

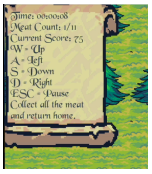
During our team project focused on developing games in Java, several valuable lessons were learned that encompassed not only technical aspects but also project management and collaboration. Firstly, the importance of adhering to object-oriented principles became evident as we structured our code using classes and objects, facilitating better organisation and scalability. Additionally, maintaining a clear and consistent design from the outset proved crucial in avoiding confusion and streamlining development. Effective communication and collaboration were fostered through the use of platforms like GitHub, enabling seamless version control and collaboration among team members. We also discovered the pitfalls of making last-minute changes, as they often introduced unexpected bugs and disruptions to our workflow. Furthermore, managing time efficiently and setting realistic milestones helped ensure steady progress and timely completion of tasks. Overall, the project underscored the significance of proper planning, teamwork, and adherence to best practices in Java development for successful project outcomes.

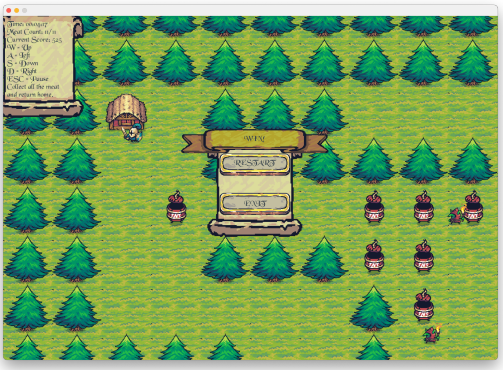
Link of video:

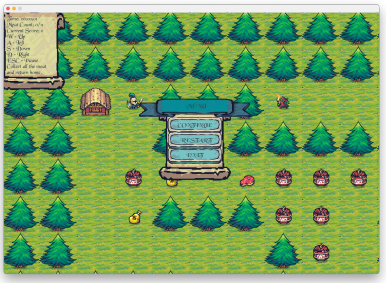
276Video

Tutorial:

In our game, the player's objective is to gather 11 meat tokens strategically positioned across our meticulously designed game board. However, the challenge doesn't end there. Optional gold pouches are scattered throughout the map, tempting players with extra rewards. Yet, amidst the pursuit of treasure, peril lurks in the form of TNT obstacles strategically placed to subtract from your score. Beware, for if your score reaches zero and you encounter TNT, it spells instant demise. Adding to the tension is a cunning Goblin, equipped with artificial intelligence, relentlessly tracking your every move. One wrong step, one misjudged encounter with the Goblin, and it's game over. So, tread carefully, collect wisely, and navigate the dangers lurking at every turn.


Time: 00:00:08
Meat Count: 1/11
Current Score: 75
W - Up
A - Left
S - Down
D - Right
ESC - Pause
Collect all the meat
and return home.


WIN
RESTART
EXIT


CONTINUE
RESTART
EXIT