

## Phase 4: Report

For the unknown stuff, it is always full of fog. To be honest, to make a complete project is a brand-new concept for all members of the team. At the beginning of designing the game, we met frequently to discuss and finalize the theme of the game: the story of a small cell in the body fighting against bacteria. Then we carried out a series of background studies around this topic.

Our game model is quite easy to understand, even if people who have never played games before can easily get started. The purpose of this game is to get a high score and win the game by avoiding the attack of bacteria and picking up the drugs on the ground. We assume that users encounter traps on the ground and mobile bacteria will be deducted from the score, while drugs collected can also increase the score. If the total score is less than or equal to zero, the game will end. We created classes of different objects, and showed all classes together in board class.

Because we set the main goal of the game earlier, we have no big difference in the understanding of the game in the overall game development process, and no big deviation in the production process of the members. But as time goes on, we found that although it is easy to design the initial plan, it is difficult to achieve it all. We had to remove some features because of various reasons recorded in previous reports. For example, we wanted to make a small map to show the overall picture of the game. In the process of making the game, we did not make the game completely according to the original UML diagram. This is because at the beginning of our design, we did not consider deeply about the relationship between each class, what data they need to support, whether they will be called by other classes, whether they are public or private and so on. So, in a long time, our progress is stagnant, just like the child who just learned to walk, constantly falling and climbing. We always write down the code as we modify the previous design.

But at the same time, we have implemented some additional content we discussed in phase 1, while keeping all functions required by teachers. For example, our menu for entering the game. The so-called people rely on clothes, the game also needs to have a good coat, in order to give people a good impression at the first time. The menu is also a buffer before loading the game, so that users will not face the embarrassing situation of waiting for the game start. At the beginning, we set the user cases very succinctly, which enables us to retain the most important part in a very difficult situation later. Compared with the previous plan, the final product omits part of the content, but still

completes the work we want, and enables our ideas to be communicated to the game players.

In this very special semester, everyone is experiencing unimaginable difficulties, and in our group, there also have been unimaginable things happened.

Although our game story is very positive, it is not so for the difficulty of our production process. In this group work, the most important lesson we have learned is to cooperate with our teammates. Dealing with interpersonal relationship has always been a hot topic. Although there are only four members in our group, it is not easy to coordinate the relationship between each person. Unfortunately, one of our team members completely ignored the efforts of the rest of us, and he didn't make any contribution in our group. Even after entering phase 4, he didn't upload any correct code in Gitlab. This is the first group work of all of us. It can be said that we are totally inexperienced in such things and have no response measures at the beginning. So, we wasted a lot of time in waiting and trust, and we didn't do a good job in time management. The other three of us regretted that this happened, but we did our best to complete the part which we should be responsible for. Because we can't give up the pace of progress because of the irresponsibility of others. The occurrence of these things makes the remaining three members of us more united and work together for the project.

The second very important thing we learned is that before learning new knowledge, we should first make clear where our interests are, then carry out relevant learning, and make corresponding learning plans in the process of learning. When making a study plan, we should be realistic and strict with ourselves according to the study plan every day. We can't give up halfway. At the same time, we should make more use of the network to solve the problems we encounter. In real life, we have a lot of knowledge that can't be obtained from the course, so we need to use the external force to find the answers and self-study. Record and summarize the problems encountered every day, review and learn these records regularly to ensure that you master these knowledges. At the end of the study, corresponding programming should be carried out in order to further master the knowledge.

Overall, in this interesting course, although we met many difficulties, it makes the final result sweeter. We not only learned a lot of useful knowledge, whether in books or in life, but we have also made excellent partners, which is a meaningful memory for us.

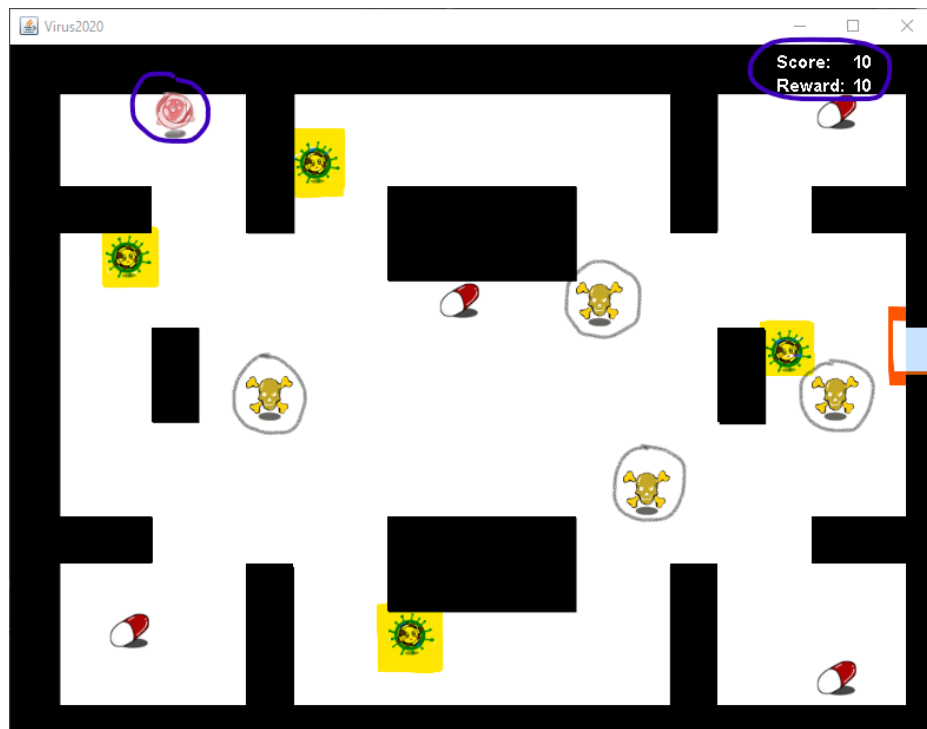
## Game Features



An interactive menu screen that includes a play button. When clicked, player's will be able to start the game and complete the objectives required by the game.



In-game map. Player moves a character one space using WASD hotkeys. They will not be able to move to a spot that is occupied by a black wall. Player must collect all reward(pill) labelled yellow to win the game.



Every reward(pill) on the map will increase a player's score and reward by 10 points. The player must avoid enemies that are circled and highlighted yellow on the map. Player's score will go down by minus ten points each time they are hit by an enemy. If the player's score goes below zero points, then the game will be over.

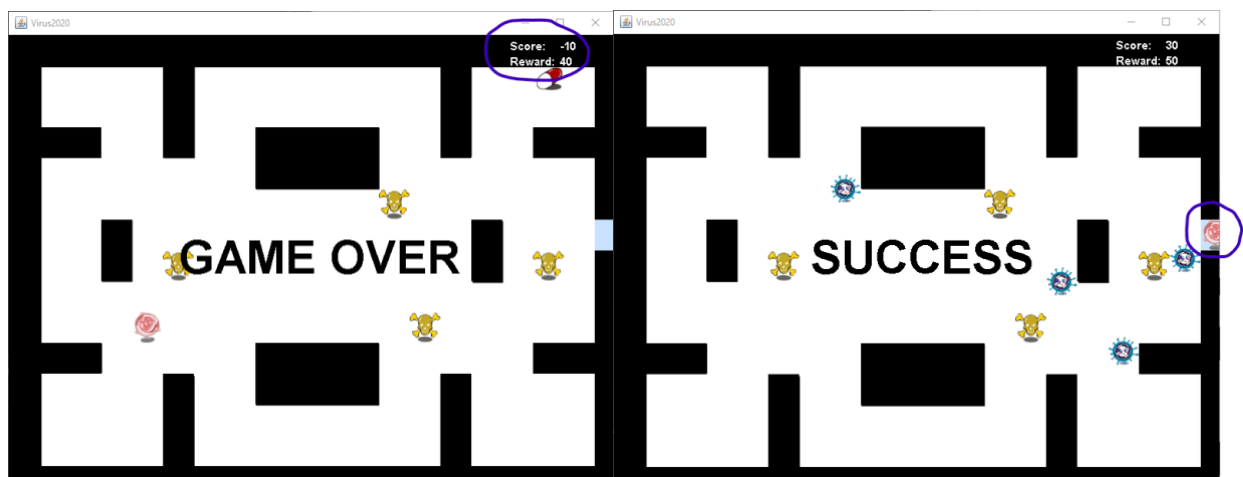


Image one showcases a scenario when a player's score is negative. The game ends with a GAME OVER message.

Image two showcases a scenario when a player collects all reward(pill) and then unlocks the exit that is circled blue on the map. The game ends with a SUCCESS message.