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**CMPT 276 Project Phase 4  
Report**

Group 16  
Find the Queen Bee

[Video Demo](#)

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## 2.1 The Game

### 1) Summary of the game and how to play

Our game is a maze to the Queen Bee where the main character (bee) controlled by the user will be flying through the maze with the goal of getting to the Queen Bee, collecting all the honey drop rewards, avoiding collision with the traps and the enemies who are trying to catch the bee.

The player must then try to get to the Queen bee with all the honey drop rewards. There will be two types of rewards that the player can gain by going through the maze. One being the honey droplets and the other is honey pots which can be collected by the user for extra points. The honeypots spawn randomly through the game. Once every honey droplet is collected, the user can get to the Queen bee and win the game. If all honey droplets are not collected by the player, the user can not win the game.

The objective of the game is for the player to take a path in the maze that ensures that the player collects all the rewards without being caught by the enemies and also gains/collects as many of the randomly placed honey pots as possible. Furthermore, the player will lose points every time there is a collision with one of the traptiles. If the score goes below 0 or the enemy catches the bee, the player loses.

### 2) Modifications made to the original plan and changes made

One of the modifications we made to our original plan was the change made to our map. Although we initially thought we had a good understanding of what we wanted to do and how we needed to do it, as we actually started developing the project, it became apparent that the map needed to change. We ended up changing the honeycomb shape of our map to square shape. We also reduced the total number of enemies, and slowed down their speed. We used to have 3-5 enemies in the map, but we decided to reduce the number to 2.

### 3) Lessons learned

The biggest lesson that we learned while working on this project was, to get comfortable with teamwork and how to split the work among ourselves and work effectively in a group in a productive way. It sure was one of the most important things we learned. The coding and creating of classes took a lot of effort as well. We needed to communicate with each other while working on the project, sharing ideas and keeping up to date is important in teamwork. We also gained a deeper understanding of the process of program development. Using Java as a development language gave us a good understanding of the logical relationships between each part of the program when designing it.

## 2.2 Tutorial

### 1) How to run the game?

The commands given below should be typed in the terminal without the quotation marks.

To start off, ensure Java, Maven and Git are downloaded onto your system. Once that is confirmed, you can clone the game repository through Gitlab or inputting the command, “git clone [https://csil-git1.cs.surrey.sfu.ca/cmpt276f22\\_group16/project.git](https://csil-git1.cs.surrey.sfu.ca/cmpt276f22_group16/project.git)” in to your terminal in the correct directory.

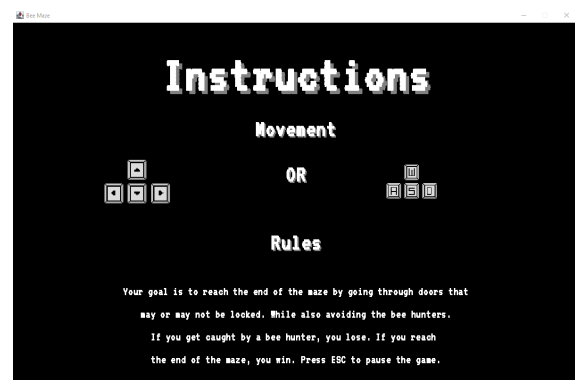
Once that is cloned, go into the downloaded folder using the command, “cd project” for Windows and Mac. To build the project using Maven, run the following command, “mvn package” this will create a target folder that has the built classes as well as the jar file for the project.

After you have built the game, run “mvn exec:java” or “java -jar BeeMaze.jar” to run the game. This will pop-up a window which is our Bee Maze game. Additionally, to run the tests for the game, you can also run “mvn test” in the project directory, which will run and show all the tests and whether they failed or passed.

These instructions will allow you to run the game from top to bottom, the instructions on how to play can be found in the “Instructions” option on the Title or Pause screen and also above in the “Summary of the Game” section.

## 2) Features/Important Aspects

Following are screenshots of some of the aspects of the game along with a couple sentences explaining the game. The video in the following link is a demo/trailer of our game: [Video Demo](#).



### Title and Control Screen:

This is our title screen which consists of three buttons with different functions, which are self-explanatory from their name. To start, you may use the arrow-keys or the WASD keys to move the pointer up or down and the Enter key to click on a button. As for the control screen, it can be accessed from the title screen as well as the pause screen. To exit the screen, you can use the Esc key to go back to the previous page.

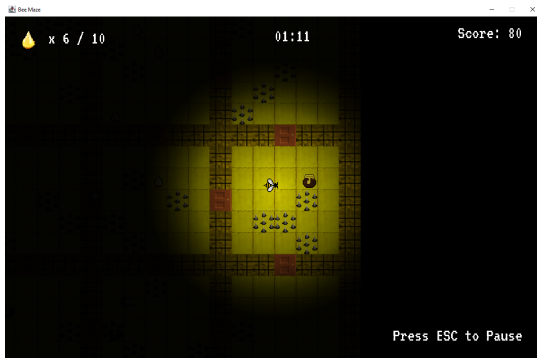
### Play Screen:



This is the game screen consisting of all the UI, time and scores. Here, as mentioned before, the player can move using the arrow-keys and the WASD keys, with the objective of collecting ten honey drops spread throughout the map, whilst dodging the chasing enemies and the randomly-placed spike tiles. The UI also shows the time

left (in the middle top), the current score (top right) and the left honey drops. The black filter is an important feature in our game as it increases a certain level of fear/excitement in the game as the location of the enemies and the rewards are unknown. Because of it, many users have experienced fear by the enemies as they, in essence, pop out of the darkness, while also feeling joy when they find the last remaining honey drop at the edge of the darkness filter. Moreover, in terms of controls, the ESC key can be pressed to access the pause screen, from which you can resume the game play, view the controls/instructions and also quit the game, similar to the title screen. While on the pause screen, the timer and enemies are paused, in case the player needs to leave mid-game.

### Bonus Reward:



This screenshot shows the other feature of our game, the honey pot. While bees love honey drops, honey pots on the other hand are a different story. These pots, which randomly generate across the map at random times, give the player an extra 50 points, rather than the measly 10 from the honey drop. The dark filter also plays a hand here as the location of the honey pots is unknown, so the player has to journey through the map to look for the honey pots if they wish to increase their score.



### Win and Lose Screen:

This is the win and lose screen respectively, which gives you an affirmative text stating that the player has won the game or lost it. It also shows the score the player achieved as well as how much time they took to win or lose the game. To exit the game, the player can press the enter key to quit the game.