Phase 4 Report

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The Game:

Racoon Rush is a 2D-style arcade adventure game. The protagonist is a Racoon named Rusty and the objective of the game is to go from one side of the SFU's Burnaby campus to the other while fending off a variety of enemies.

To win the game, Rusty will need to collect all of the donuts in the level. Eating these donuts will also increase Rusty's score, which is pivotal to completing each level. Punishments can be found on each level and they will lower Rusty's overall score, and the moving enemies will end Rusty's reign if they catch him. The punishments are leftover food, and the enemies are a rival raccoon gang.

We stayed faithful to the overall idea of the game, but we did have to make a few changes. Initially we wanted to have 3 levels, these levels would include: The AQ, dining hall and library. However, we greatly underestimated the amount of time and effort it took to create a quality level. We then decided to scrap the idea of 3 levels and just have one big level. This way we can take more time designing a quality level that is fun, instead of having three subpar levels that are a drag to get through.

The overall level design of the AQ went through a couple changes from the initial level plan. We would play the level after following the design and see if there were anything that should be changed, things that couldn't really be seen by just looking at the level design. This included donuts being too close together, enemies not covering enough space and overall how tedious the maze would be to clear. After a good amount of trial and error, we were able to create a level that all members are happy with.

One challenge for our group was the entity system. Our original design had called for 3 different enemy designs, each with their own special moves. Additionally, the player was originally supposed to have a power-up move that would freeze nearby enemies. This was an ambitious objective that we knew would be difficult to implement, but we set our goals high. Given a few more days for phase 2, we would have been able to implement these features, but we realised that shipping a working project was more important than implementing all possible features in the first version of the project.

When creating the game assets, we had to agree on a tile size that would balance design, aesthetics, and game design. We settled on a sprite size of 16x16 pixels early on in our initial design. We agreed that this aligned with our vision for the 8-bit style of the game, and set Jonathan up to create custom graphics. A 16x16 size meant that detailed characters needed to be abstracted to fewer pixels while maintaining crucial details like shading, face details, fur colour (for the raccoon), and animation. Our UI mockup gave us a starting point to create the game assets, and the menu graphics followed the mockup closely.

We agree that the most important lessons we learned from this project is the need for a good group work ethic and system of making decisions. We ran into times where someone would have a question or a problem for the group about how to complete their section of the phase. Often we needed a phase leader that could guide the rest of the group to success. A leader is a good asset for a group, and more experienced members like Max could teach the rest of the group to follow good coding principles and think in terms of abstraction. Having a consistent vision for the game was also key. Sometimes design requirements can get lost in the middle of coding, so having a UML diagram and consistent check-ins over discord helped to reduce any mistakes that could require more work.

We're proud of our game, and we feel equipped to code large projects in Java!

Tutorial:
Video: https://www.youtube.com/watch?v=FV8iqgWPEO8

1. The game opens to the menu. Resizing is currently unsupported.
2. Navigate the menu using W and S to move the selection up or down. Press Enter to select the button. Presse Escape to exit the game.
3. Select the Instructions button and press Enter:
4. Press Escape to return to the Main Menu. Select the Play button and press Enter. Prepare to play!
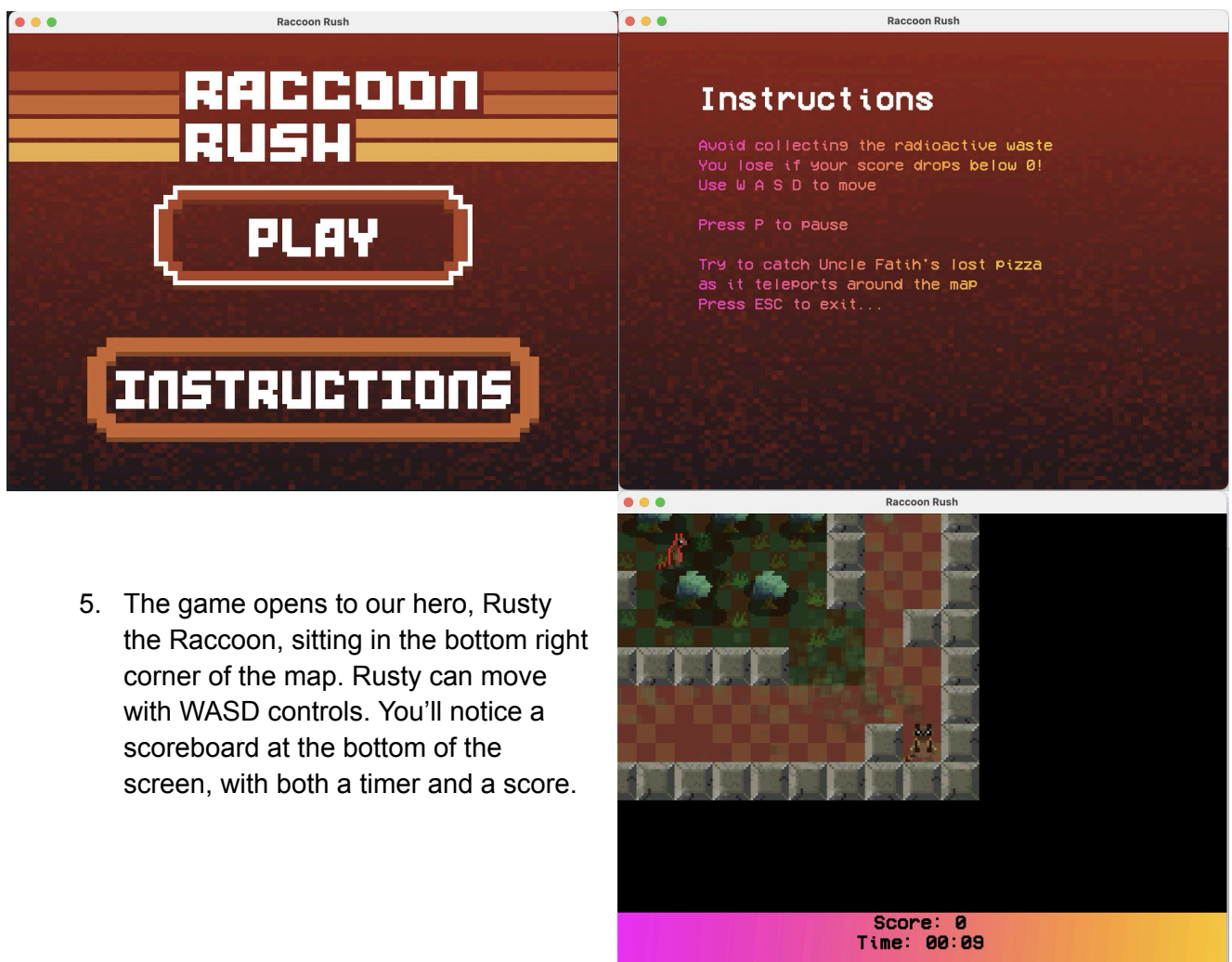

5. The game opens to our hero, Rusty the Raccoon, sitting in the bottom right corner of the map. Rusty can move with WASD controls. You'll notice a scoreboard at the bottom of the screen, with both a timer and a score.

6. Your job is to collect all 7 donuts on the map as quickly as possible. They increase your score by **10**. Donuts look like this:
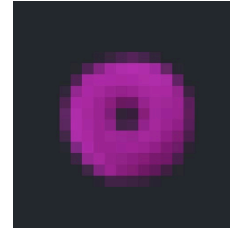

7. Avoid collecting radioactive waste leftovers! They will decrease your score by **20**! You will lose if your score drops below **0**. Leftovers look like this:
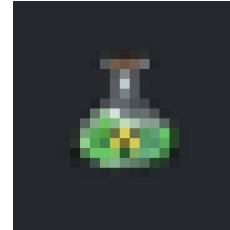
8. Keep an eye out for Uncle Fatih's Magical Teleporting Pepperoni Pizza! Collecting it will award you **50** points! You can even collect multiple pizzas, although this will increase the risk of losing…
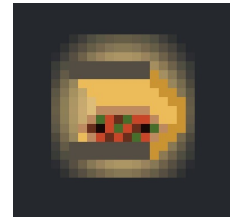
9. As you navigate the map, watch out for rival raccoons! They will steal your donuts and you will lose the game! Rival raccoons are highlighted in red.
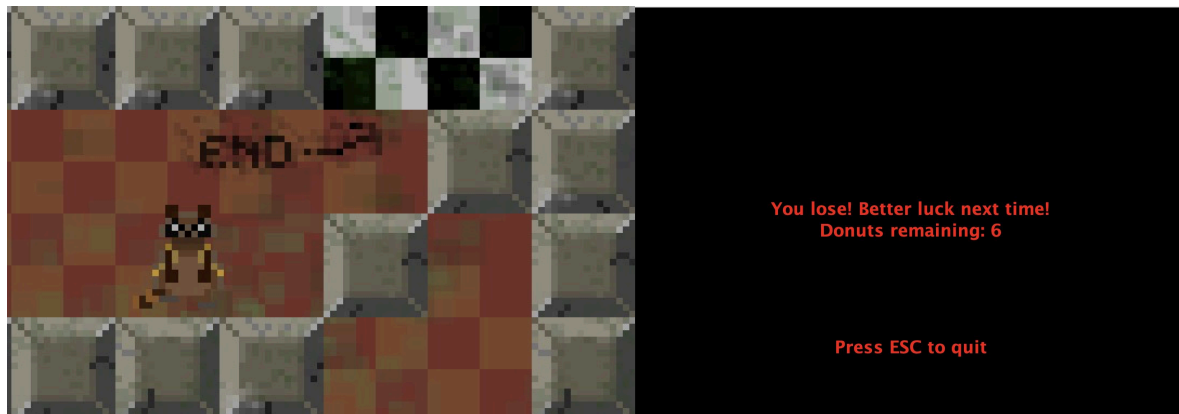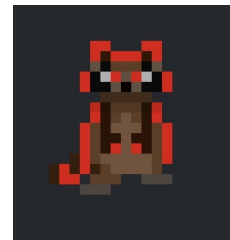
10. Once you have collected all **7** donuts, find your way to the exit!
11. If you win or lose, you must restart the game to play again.

Good Luck!!