

Our game takes place inside a dungeon-like cave. The player takes control of the main character, a baby turtle whose goal is to escape from the cave and make it to the ocean, where they can live a fulfilling turtle life. However, there are dynamic moving enemies — evil snakes that are trying to eat the turtle. If the player touches one of the evil snakes, then it is an immediate game over, and they will have to restart from scratch. On the other hand, the static enemies that the baby turtle in our game will have to avoid are elements of nature such as: quicksand, lava pits, or evil bunnies. In the case that the baby turtle touches the static enemies, they will lose  $x$  amount of rewards that have been collected. In the context of our game, we have determined our reward/score to be the number of carrots collected, and if it falls below zero, the user loses the game. The score will be displayed on the top of the screen, in the form of mini carrots that “glow up” to indicate the number of carrots collected by the turtle. In terms of our map, it will contain many rocks and obstacles which act as barriers and create a maze-like interface.

The objective of our game is to help the turtle escape from the cave and return to its home, the ocean. In order to complete this mission, the player must guide the turtle through the maze and collect all of the carrots, in order to open the cave exit. In addition to the carrot rewards on the map, there is a bonus reward that lies among the sea of enemies and carrots. The bonus reward is a mystical ocean fruit that grants our turtle a power-up and adds carrots to the score when collected. This mystical ocean fruit provides our turtle with invincibility, and allows the turtle to come into contact with the evil snakes without losing the game immediately, while also falling into quicksand and/or lava without losing  $x$  amount of accumulated carrot score. The game continues as described, and when a certain amount of carrot score is accumulated, the cave exit is revealed for the turtle to escape.

Once we have completed implementation of the requirements and foundational mechanics of our game, we will begin to incorporate bonus features and increase complexity — resulting in an enhanced and more polished gameplay experience. In terms of our expansion plans, one of the first things that we want to implement are difficulty levels, which can help players learn the game, provide sentiments of progression, and serve as an obstacle — all of which keep the players engaged. There will be three levels: easy, medium, and hard, where factors that we can manipulate are the number of enemies both dynamic and static, the amount of carrots lost for running into quicksand and/or lava, the location of the exit, rewards, and barriers, as well as the speed of the enemies. On levels easy and medium, the enemies will disappear after all the carrots required have been collected, removing any threat of elimination. However, an element specifically implemented for the hard difficulty will be that enemies will remain present on the map even when the required amount of carrots required is acquired. Another idea that we want to implement is a leaderboard, where players with the fastest completion time will reside at the top of the leaderboard. This creates an incentive to become more proficient at the game, while also introducing a competitive aspect. Apart from incorporating varying difficulty levels, another idea that we have is a bonus room called time freeze room. When the turtle enters this room, it will trigger mini-games such as Box It, Cup and Ball game, and Gomoku. As a reward for completing these mini-games, upon exiting the time freeze room, the turtle will be granted invincibility for a certain amount of time depending on the difficulty level. Additional power-ups are also in consideration for our expansion plan. For example, we may implement a power-up that increases the speed at which our turtle moves at, or even power-ups that grant our turtle the ability to negate/eliminate certain enemies. For instance, the ocean power-up grants the turtle the ability to shoot water out of its mouth to defuse the threat of lava, the sky power-up grants the turtle the ability to jump and avoid the quicksand, and the fire power-up allows the turtle to exhale fireballs, which eliminates the snakes in its path. These additional power-ups will have their effective durations scaled to match the difficulty level, as we do not want to have the player create a reliance on them. These bonus features are an aspect that we anticipate implementing with excitement, as increasing the complexity of a game and decreasing mundanity is an aspect that makes a game thrive.