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Mr. Myers

AP Computer Science Principles

Scratch Game/Story Write-Up

Link to Game/Story

Scratch Game "pollen"

Video

"pollen" video

- When it comes to the purpose of creating this game, it's mainly due to the entertainment value of creating such a game. When designing the game, the goal was to make a game where it's easy to control yet hard to have new players trial over and over in order to learn about the mechanics and the patterns influenced inside the program. Due to the tight time schedule our team had to endure, we decided to make the game simple and fun so that we wouldn't overcomplicate ourselves and try to make a game enjoyable for new gamers alike. With the video we have created, it's to help demonstrate the simple mechanics of how our bee character control and to show the different variety of enemies the bee must pass through. The video is also to demonstrate how deaths are made, how to

win the game, and how the health bar system works. But in the ned, the game is mostly for entertainment and to have the game engaging while being simple to play.

- Since the start of the development process, our original intention was to make a 1940's style cartoonish side scroller with cutscenes, rubber-hose animations, and fluid flying through enemies. But as we began going through conceptual coding, our original intentions were too vast from our skills and decided that the quickest way to finish the game within the two week frame was to remove the cutscenes and reduce the animation quality. We started going through PLTW to learn about the lessons about how to make the characters control and use different costumes in interchanging scenes. It helped somewhat with the process and during the first week, we basically experimented with how the controls should go, how the character must move, and what the game was actually going to be like. The next week goes over and Cassy begins to help develop the movement and the scene transitions while I helped contribute the idle animations for the bee and for the enemies. We had difficulty with the bee's costume idling whenever left or right is pressed and the costumes were the most difficult on trying to crack with the intentions me and Cassy both desired. After two days, I then asked for assistance from Mr. Myers and finally made the animations work with mostly satisfying success. Now scene transitions were the biggest of challenges on that Cassy had difficulty with making the transition go smoothly without the bee going to the right and back to the left in the same scene. So with the same method of using the code for the bee of "if blank then else", we made the scenes transition due to the x-position, y-position, and location of

backdrop. After that was complete and verified, the rest of the development was smooth as butter. Now an opportunity we had encountered were the title screens and end screens. At first, it was quite difficult on trying to make it happen but we succeeded making the backdrops to transition accordingly to how the buttons are made and how each pressed would lead to different backdrops in the game. Once all of the coding was completed, we got it checked out by our teacher and the game was a-ok to be done with.

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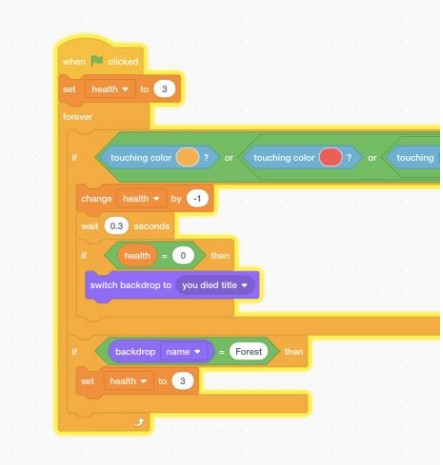


- In this line of code, this algorithm is associated with the bee character's interaction with the enemies swarming the levels and how the health system of the game works out. Due to the influx of colors the enemies had and the hit boxes becoming invisible around the enemies, the decision to use colors for the bee to touch was due to having instant deaths over and surrounding the enemies' animation. The colors help have the bee be hurt only by a specific color and creates a tension filled situation without having a cheap death. Now when it comes to the health system, the code underneath the touching of colors help indicate the leath system to remove a life whenever the colors touch the sprite. Due to the

health timing to be super fast, we had incorporated a separate amount of the time to have the player have some time before the bee gets hit again. And to help alleviate the health going to zero, we then had it go toward a separate backdrop where it'll show a death screen rather than going to the next backdrop. When creating this algorithm, it contained many trials and errors to where we focused on the health system from two days straight and was a day behind schedule. And it was concerning the point of how to keep the health system three lives every restart instead of the pressed flag. So in order to complete that, me and my partner found out that restarting back to the forest backdrop would help so we incorporated where it would restart to three lives whenever the backdrop is switched to the Forest. And with that, our algorithm was quite a challenging, yet satisfying one as it was a part of the original concept.