Coding Using Scratch

Scratch uses a block code system instead of algorithmic coding. This makes it a lot less intimidating for beginners, but it has a very high learning curve. I have programmed with Scratch before. The game I made this year though was harder than any other game I ever programmed. This game took about 7-10 hours to make..

Most games I have made used either the W,A,S,D buttons to move the character or the arrow buttons. This time I wanted to make it a lot more challenging for the player and for me as the programmer. The main sprite(or character in this case the ball) is controlled by the mouse. The sprite follows the mouse to wherever the mouse is on the screen.

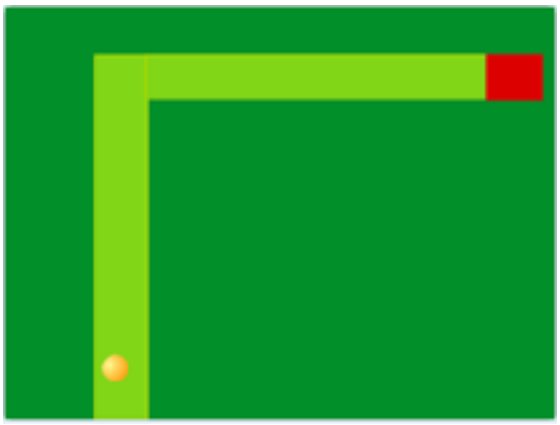
I first tried making the sprite glide to the mouse which ended up not working. I had set up a boundary for the sprite to be withheld in and if you went to the spot where you're supposed to get the ball(the sprite) to, it would ignore the boundary and just go straight to that spot. The game was very difficult because of the speed. I decided to make the sprite follow the cursor moving in 3.8 step increments which I originally set it to 5 step increments.

After that, I made the backdrops for the stages and I set the boundaries for where the ball could go. You can design your own backdrops and you can choose from stock backdrops. I designed my own and chose a few pre-made designs for say the Space themed level.

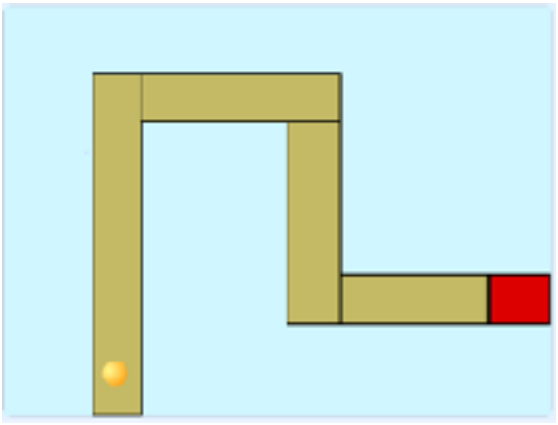
I designed 5 levels for the game each becoming gradually harder with path for the ball. I added winding turns and narrowing paths. On the next page I have included pictures of the levels I created for this game.

The light green is the path for the ball to get to the red tile at the end. The darker green is restricted and if the ball were to touch it it would get sent back to the start of the level. Also, if the ball would touch the cursor it would send it back to the beginning of the level.

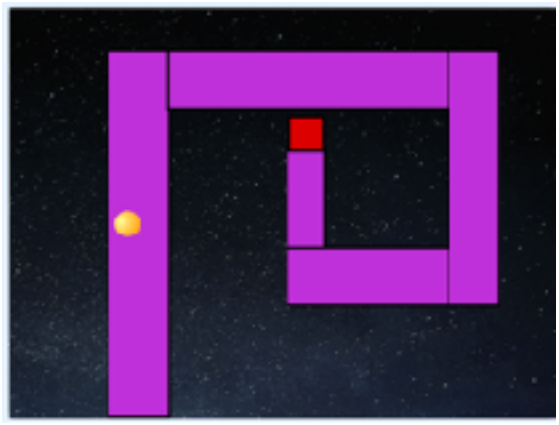
Level 1



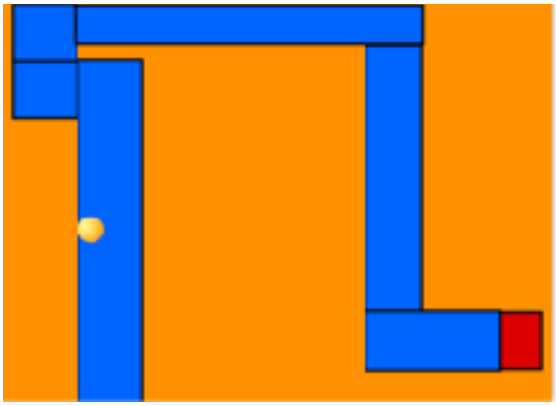
Level 2



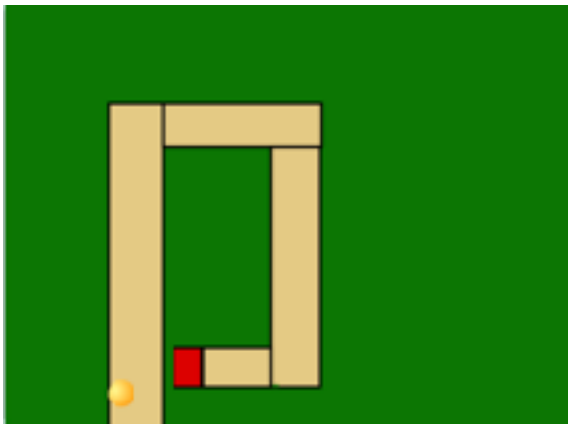
Level 3



Level 4



Level 5

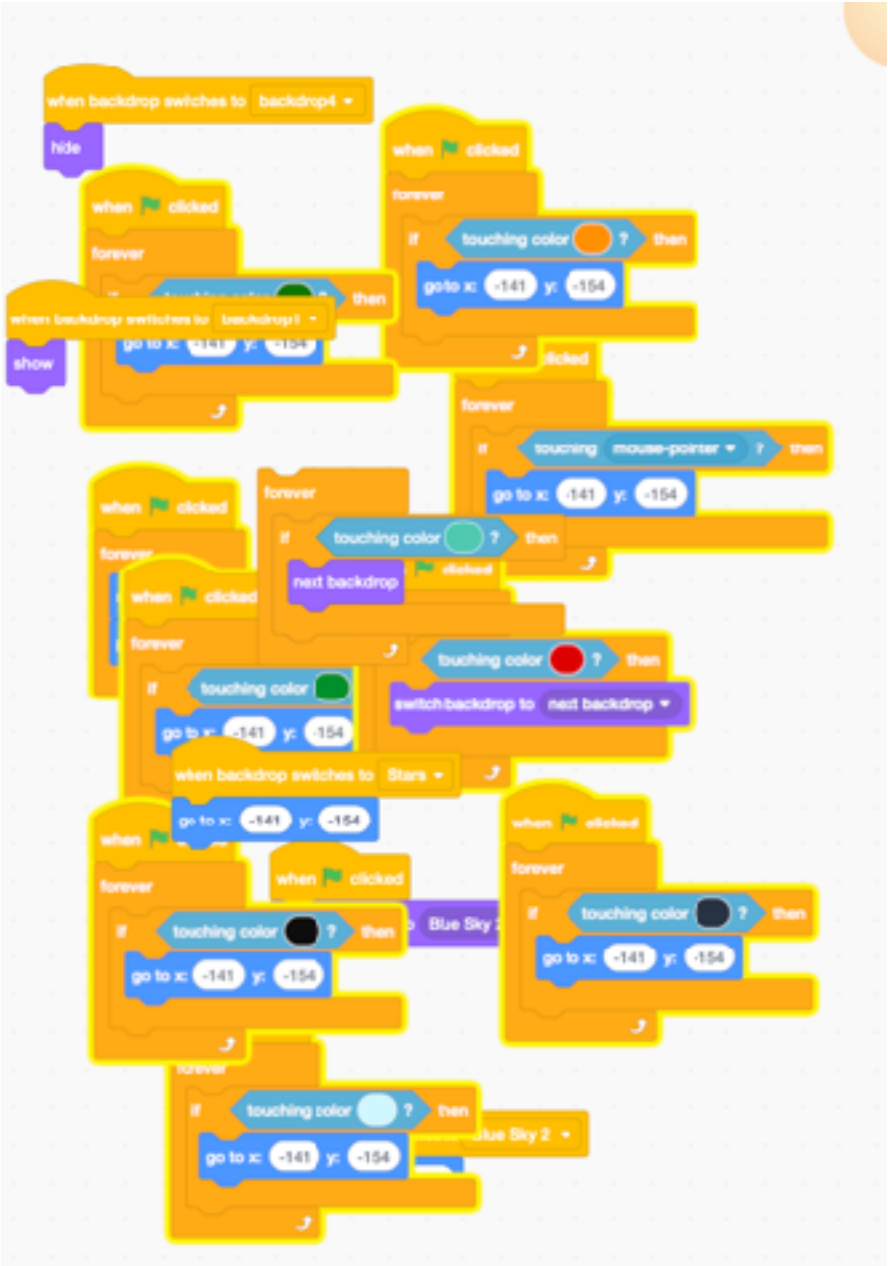


As you can see, the levels get harder with sharp corners and winding paths. The challenge as I mentioned before was the speed at which the ball would travel. If it was too fast the levels would be too hard, yet if it was too slow the levels would be too easy. I designed the levels to work with the speed I set it too.

I then made a congratulatory screen with confetti. This was kind of unnecessary, but I wanted the challenge of programming a forever moving sprite. I started by just drawing little blocks in the built-in sprite designer. Then, I figured out a way for them to go to the bottom and go to the top forever and I ended up using this script for it.

This game was a challenge at first but once I got into the rhythm of coding the sprite for each stage and the designing the stages it became easier.On the next page, I have included a picture all the code that went into creating this game.

All of this code went in to creating this game and making it work.



A recurring script is the one on the right.
It is the script for if the ball goes off the path. It says if the ball were to touch the color of the restricted area it would be sent back to the beginning of the level.

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Evan Gagne 7th Intermediate

References

scratch.mit.edu accessed multiple times