

Game Design

Become A Game Designer

By: Claire Lin

Game mechanics

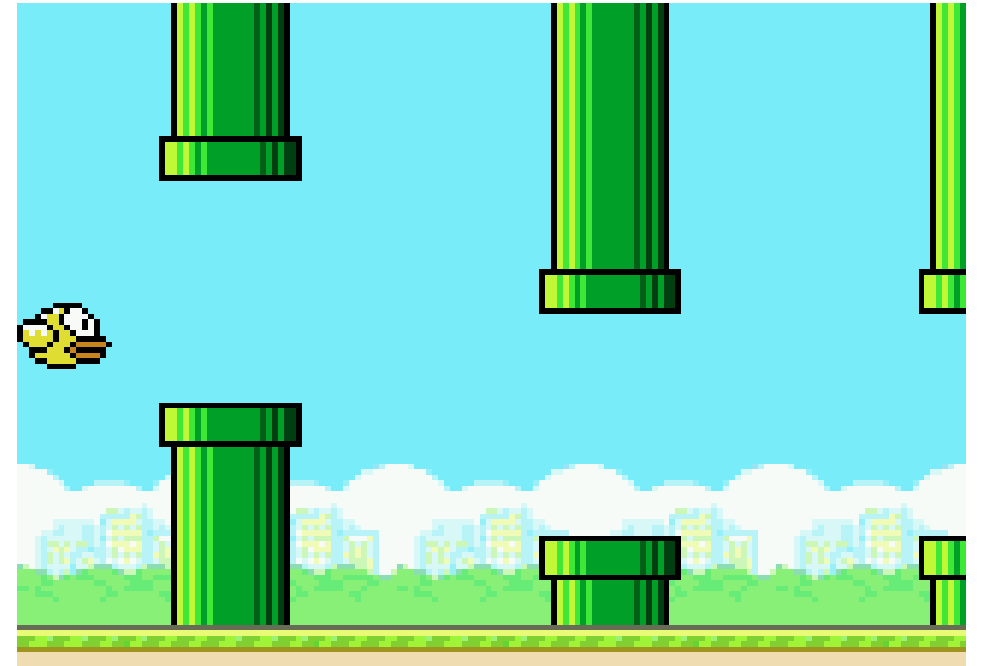
- What are game mechanics?
- Why does a game need game mechanics?
- What are common game mechanics?

Super Mario



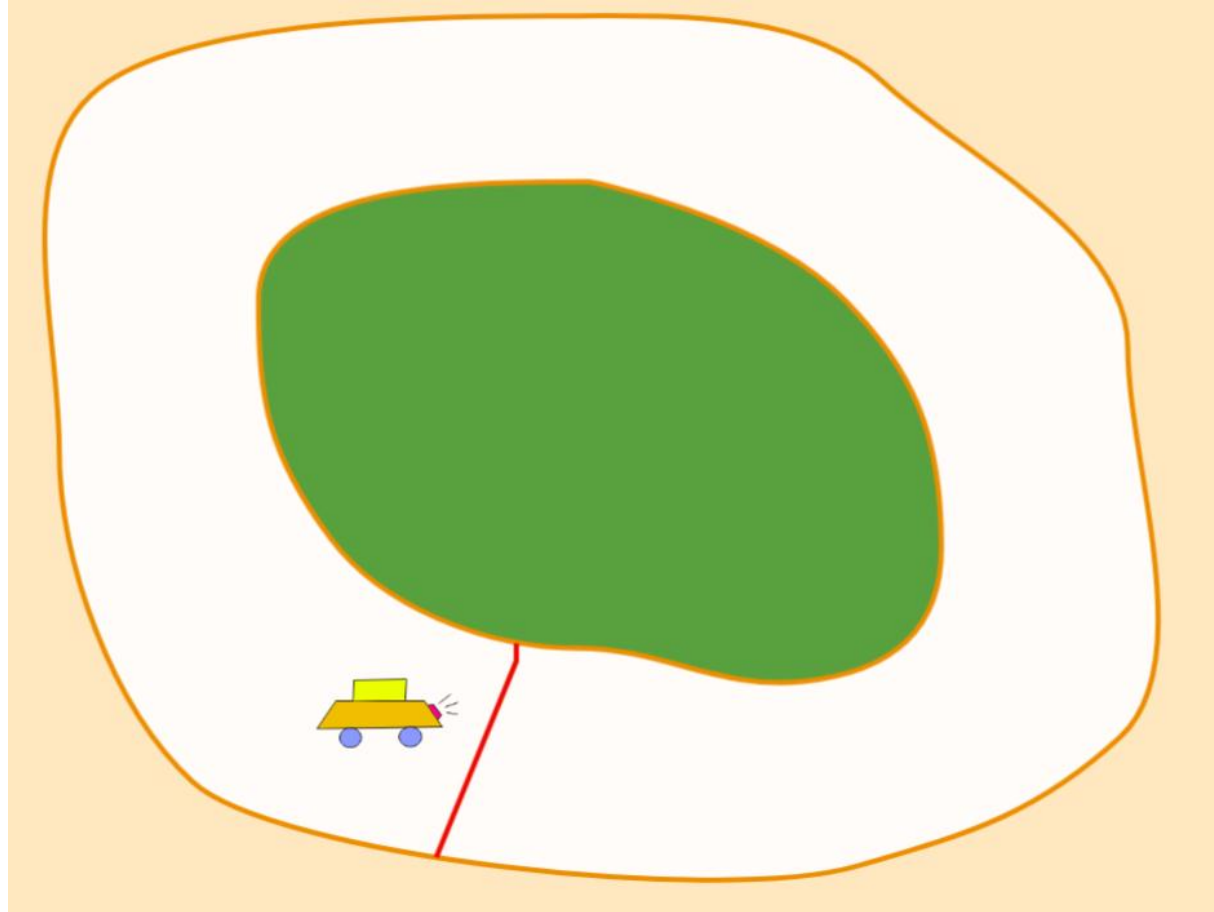
Game rules: Mario has to avoid monsters. The game will start over again once Mario touches any monsters.

Flappy Bird

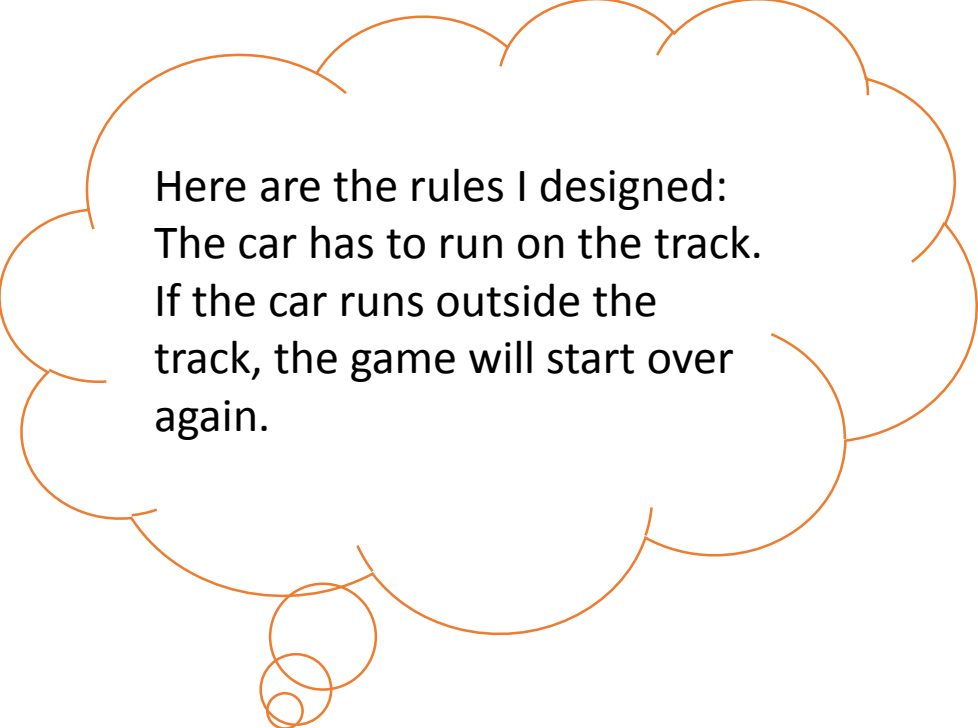


Game rules: The bird has to avoid water pipes. The game will start over again once the bird touches any water pipes.

Brainstorming: What are the game mechanics for my racing game?



Your ideas?

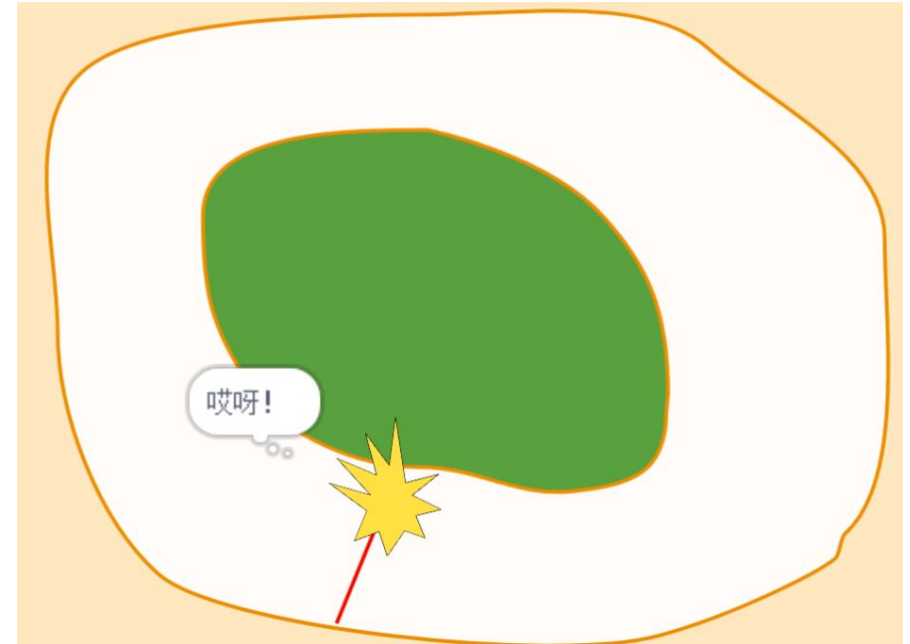
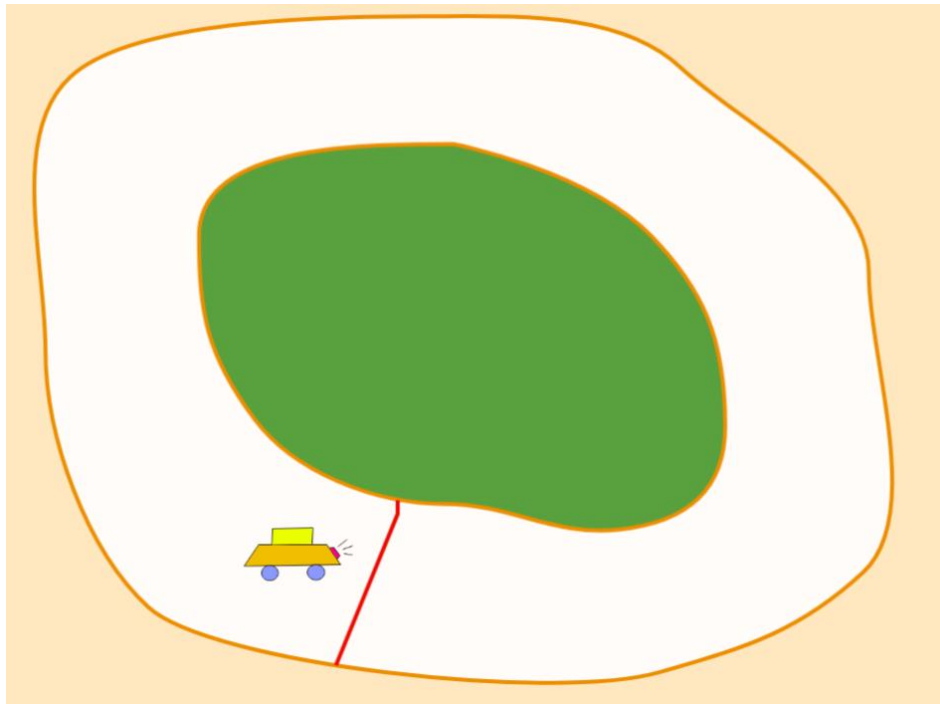
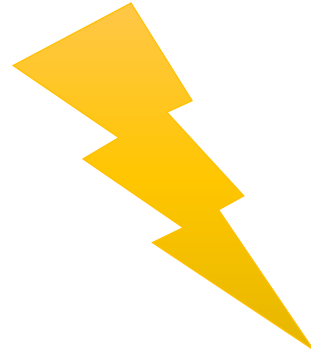


Here are the rules I designed:
The car has to run on the track.
If the car runs outside the
track, the game will start over
again.



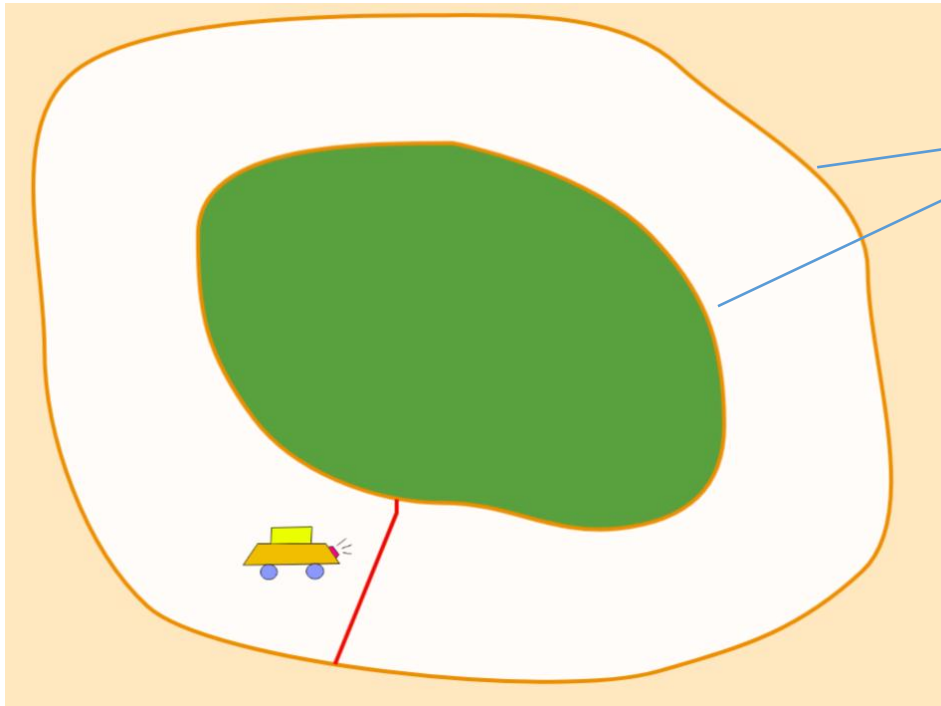
Prototyping

No running outside the track!




If the car runs outside the track, it will explode. Then the car will return to the starting place and the game will start over again!

Detect the tracks

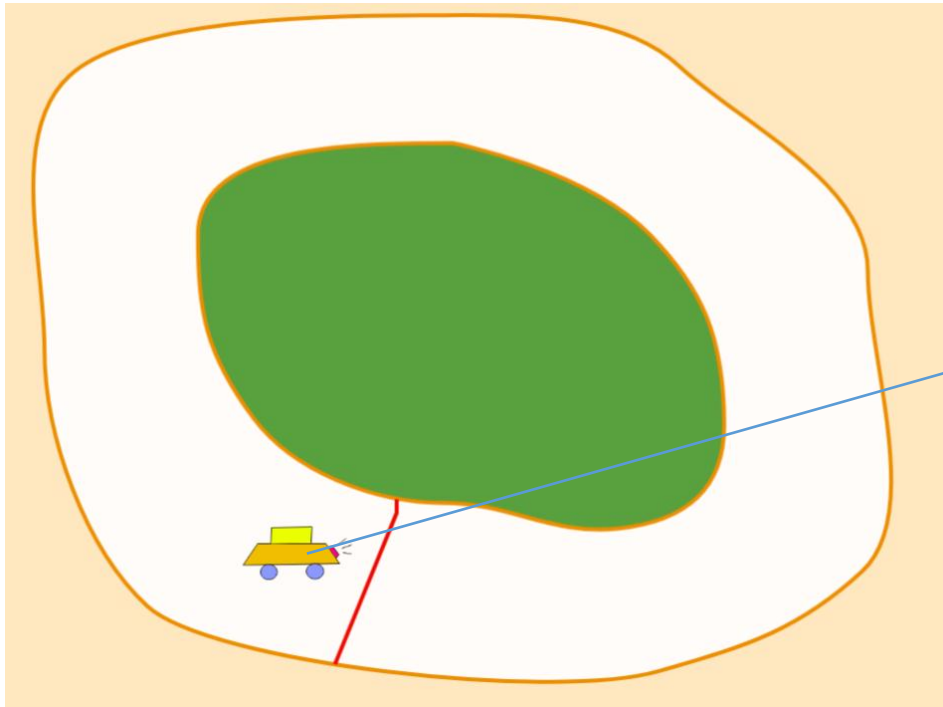


There are two tracks: the inner track and the outer track. The car is not allowed to run outside either of the tracks.

How can the program decide whether the car runs outside the tracks? We can use the coding block “**when touching color**” in our program.

```
if touching color  ? then
  think Ahya!
  next costume
  wait 1 seconds
  go to x: -79 y: -104
  point in direction 90
  switch costume to costume1
  stop all
```

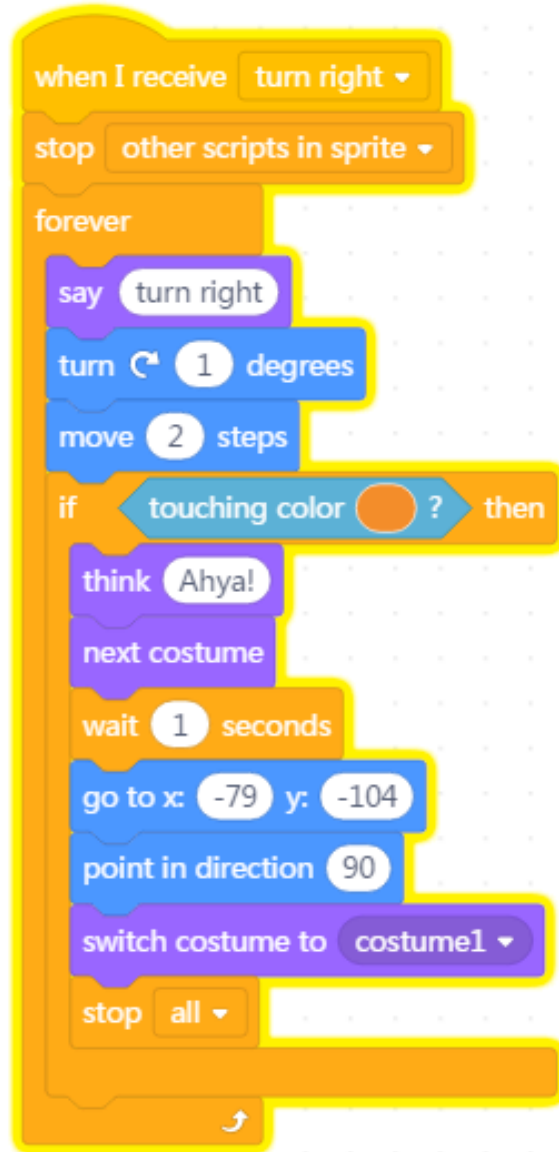
Detect the tracks



If the car runs outside the track, it will explode (using the block "next costume"), return to the starting place, changes to the "racing car" costume and stops there.

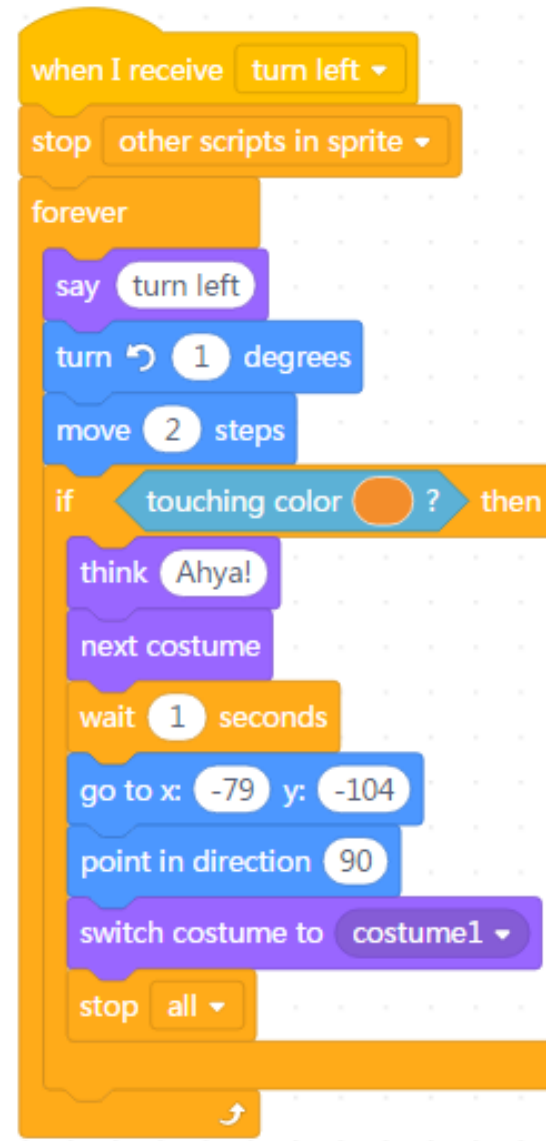
```
if touching color [red] ? then
  think Ahya!
  next costume
  wait 1 seconds
  go to x: -79 y: -104
  point in direction 90
  switch costume to costume1
  stop all
```

The complete programs



```
when I receive turn right
  stop other scripts in sprite
  forever
    say turn right
    turn 1 degrees
    move 2 steps
    if touching color red? then
      think Ahya!
      next costume
      wait 1 seconds
      go to x: -79 y: -104
      point in direction 90
      switch costume to costume1
      stop all
```

The image shows a Scratch script for a 'turn right' event. It starts with a yellow 'when I receive' block set to 'turn right'. This is followed by an orange 'stop other scripts in sprite' block. A large orange 'forever' loop contains several blocks: a purple 'say' block with 'turn right', a blue 'turn' block with '1 degrees', a blue 'move' block with '2 steps', an orange 'if' block with 'touching color red?', a purple 'think' block with 'Ahya!', a purple 'next costume' block, an orange 'wait' block with '1 seconds', a blue 'go to x: -79 y: -104' block, a blue 'point in direction' block with '90', a purple 'switch costume to' block with 'costume1', and an orange 'stop all' block. A yellow highlight is drawn around the 'when I receive' block, the 'if' block, and the 'stop all' block.



```
when I receive turn left
  stop other scripts in sprite
  forever
    say turn left
    turn 1 degrees
    move 2 steps
    if touching color red? then
      think Ahya!
      next costume
      wait 1 seconds
      go to x: -79 y: -104
      point in direction 90
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The image shows a Scratch script for a 'turn left' event. It starts with a yellow 'when I receive' block set to 'turn left'. This is followed by an orange 'stop other scripts in sprite' block. A large orange 'forever' loop contains several blocks: a purple 'say' block with 'turn left', a blue 'turn' block with '1 degrees', a blue 'move' block with '2 steps', an orange 'if' block with 'touching color red?', a purple 'think' block with 'Ahya!', a purple 'next costume' block, an orange 'wait' block with '1 seconds', a blue 'go to x: -79 y: -104' block, a blue 'point in direction' block with '90', a purple 'switch costume to' block with 'costume1', and an orange 'stop all' block.

Playtesting

Reiterating &
Implementing

Design your game
now!



**Best Game Of The
Day!**