

Scratch Game: Build Your Own Parking Mania



In this Code_At_Home worksheet we will be making a Scratch game that tests your skills at parking. But will you get your Scratch driving licence?

But first some background information on Scratch. Scratch is a child-friendly programming environment which is developed by MIT. You can create games, music or even apps in the platform and it is well used in ICT lessons around the world.

> STEP-01: Design a Scratch Game

Using Scratch you can create your own sprites, the characters, and backdrops, the background. Let's start on the backdrop. Click 'Stage', then the 'Backdrops' tab. Now you can draw your road. Create the start line, road, grass, trees, river, and the parking space. Make sure all of these have their own separate colour (look at the photo above). All will become

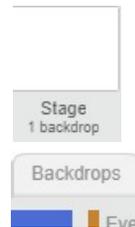


clear later. Now let's create some sprites. Click on Sprite 1, the cat. Then delete the cat and instead draw your own vehicle. We did a sports car. Then once you have done that click on the paint brush icon on the New

Sprite list.



Then create your golden coin, why not add your currency in the middle of the coin (example: £, \$ etc).



>STEP-02: Start your Scratch Game

Let's make sure your vehicle doesn't start up near the coin or on the grass. Instead, it should appear at the start line. You will need to get the 'When Green Flag Clicked' block from 'Events'. Then attach a 'go to' block from 'Motion' and replace the number in to the coordinates of your game **x: 143 y: -180** these can be seen at the bottom right of the game window. After all, we all want the same fair chance of getting our driving license.

>STEP-03: On your marks...

Let's get the car on the road. With the car sprite selected, get a when green flag clicked Events block, then attach a wait 5 seconds block followed by a forever Control block. Inside the latter, place a go to mouse-pointer Motion block. This bit of code will make sure that when the green flag is pressed, it will wait five seconds



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so the user has the chance to get the mouse ready; then, after the five seconds, the car will forever follow the mouse-pointer.

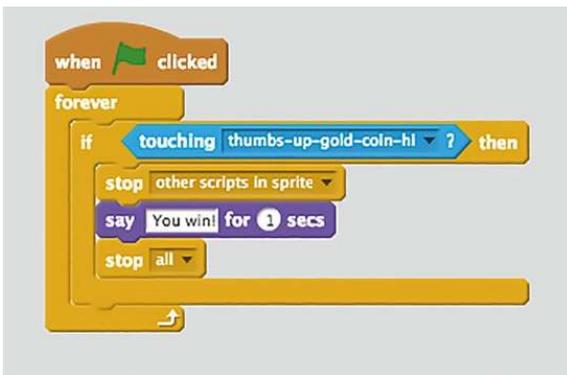
Next, get another when green flag clicked block and attach a forever block. Inside the latter, place an if then block. In its small hexagonal field, add a touching color Sensing block; click its blue square, then the green grass of your course on the stage. In the gap of the if then block, place a say Game Over for 2 seconds Looks block, then attach a go to x: -229 y: 24 block followed by a wait 5 seconds block. After that block, insert another forever block and inside that, place a go to mouse-pointer block. This chunk of code will make sure that when the green flag is pressed then if the car ever touches the dark green grass, the car will say 'Game Over' for two seconds, before then going back to the start, and it will forever follow the mouse-pointer.

Here's a challenge: can you use a broadcast block so that now it will repeat this if you crash again? At the moment it only tells you 'Game Over' once and after that it will let you crash as much as you want.

Now we insert the last bit of code for the car sprite. Insert a when green flag clicked block, then attach a forever block. Inside the latter, place an if then block. In its hexagonal field, add a touching Sensing block; click its drop-down to change it to Sprite 2 (or the name of your coin sprite). In the gap of the if then block, place a say You Win for 2 seconds block, then attach a stop all block. This bit of code makes sure that once the green flag is clicked, then if the car is touching the coin, the car will say 'You Win' and the game will stop.

> STEP-04: Money, money, money

We don't want to cheat, so let's make sure we don't get flying money. For the coin sprite, add a when green flag clicked block, then attach a forever block followed by a go to and then the coordinates of where you want the coin to be placed. This piece of code will make sure the money will forever stay in the parking space. Then add the code on the left in the car sprite. But remember to replace the 'thumbs-up-gold-coin-hl' sprite to the name of your coin sprite.



> STEP-05: Play your Scratch Game

You have now created a very basic parking game. We've made it simple, so you should be able to code it within an hour and play it.