Table Football

Novice Scratch PDF

Community Contributed Project

This project was generously contributed by Mark Hardisty (idea, art, and original design) and Andy Lulham (editing and formatting as a Code Club project).

If you'd like to contribute a project of your own, then get in touch with us on Github.

Introduction

Let's make a world cup football game in Scratch!

screenshot

Step 1: Get the pitch ready for a game

Activity Checklist

- [ ] Start a new project in Scratch.
- [ ] Click on the **stage** next to the sprite and switch to the `Backdrops` tab, then click the `Upload backdrop from file` button and choose the **resources/pitch.jpg** file.
- [ ] Delete the original blank backdrop, and the cat sprite.
- [ ] Our goals need nets! Create a sprite using the `Upload sprite from file` button and select **resources/net.png**. Move the net into the middle of the goal on the left. Rename it **blue goal.**
- [ ] Right-click on the net sprite and click `duplicate`, then move this new sprite to the goal on the right and rename it **red goal.**

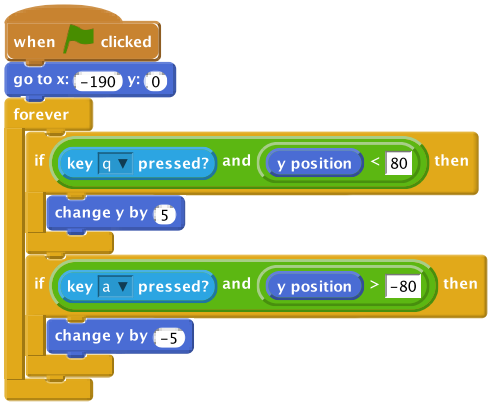
Save your project

Step 2: Add a goalie

Okay – our pitch is looking good! Now let's add some players and get them moving about.

Activity Checklist

- [ ] Click on `Upload sprite from file` and choose **resources/goalie_blue.png**. Rename the sprite **blue goalie**, and drag it near to the left goal.
- [ ] Click on the `grow sprite` button, and click on the **blue goalie** sprite 10 times to scale up the sprite.
- [ ] Click on the `Scripts` tab, and add:



Let's look at the code. We position the goalie, then we loop forever listening for key presses from the player. **Q** moves the goalie up, **A** moves it down. We check the `y position` of the goalie to stop it moving off the screen.

Test your project

Click the green flag.

- [ ] Can you control the goalie by pressing Q and A?
- [ ] What happens when it gets to the edges of the pitch?

Save your project

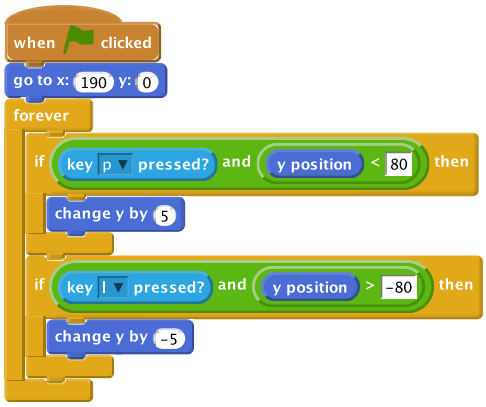
Step 3: Add some more players

We can't play a game of football with just one player! We need to add some more.

Activity Checklist

- [ ] Create another sprite using the `Upload sprite from file` button and selecting **resources/goalie_red.png**.
- [ ] Change the name of the sprite to **red goalie**.
- [ ] Drag the sprite on the stage to the right-hand side just in front of the goal.
- [ ] Like before, grow the sprite 10 times so it is as big as the other goalie.
- [ ] Select the **blue goalie** sprite and drag the script to **red goalie** to duplicate it.

- [ ] Select **red goalie**, and modify the script so it looks like this:



You should only have to change three things: the `x position`, and which keys are pressed.

Test your project

Click the green flag.

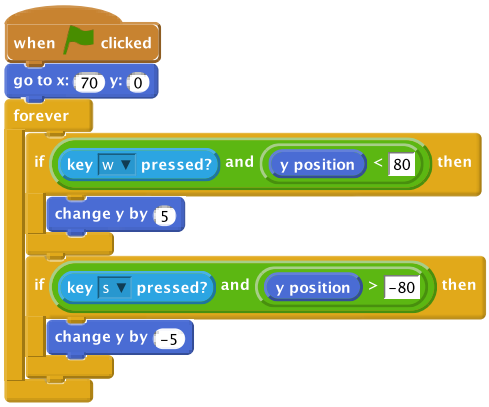
- [ ] Can you control the red goalie by pressing P and L?
- [ ] Do the controls for the blue goalie still work?

Save your project

Step 4: Add some attacking players

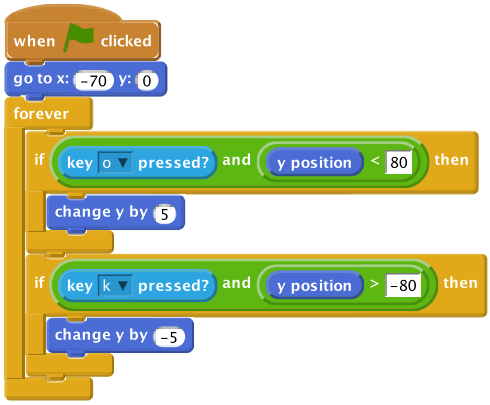
Activity Checklist

- [ ] Create another sprite using the `Upload sprite from file` button and selecting **resources/attack_blue.png**. Rename the sprite **blue attack**.
- [ ] As before, grow the sprite 10 times, so the players are as big as the goalies.
- [ ] Move the sprite into the right-hand side of the pitch, so they are attacking the red team's goal.
- [ ] Drag the script from **blue goalie** to **blue attack**, and modify it to match this:



You should only have to change three things: the `x position`, and which keys are pressed.

- [ ] Create one more sprite using the `Upload sprite from file` button and selecting **resources/attack_red.png**. Rename sprite to **red attack.**
- [ ] As before, grow the sprite 10 times, so all the players on the pitch are the same size.
- [ ] Move the sprite into the left-hand side of the pitch, so they are attacking the blue team's goal.
- [ ] Drag the script from **blue attack** to **red attack**, and modify it to match this:



You should only have to change three things: the `x position`, and which keys are pressed.

Test your project

Click the green flag.

- [ ] Do you have two teams of working players now? Try pressing Q, A, W and S to control the blue team, and P, L, O and K to control the red team.

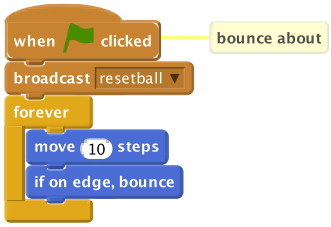
Save your project

Step 5: Add a bouncing ball

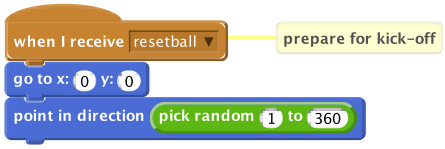
Our game of *football* has **feet**, but no **ball!** Let's fix that.

Activity Checklist

- [ ] Click `Upload sprite from file`
- [ ] Select **resources/ball.png**, and rename the sprite **ball.**
- [ ] In the `Scripts` tab for the ball, add the following:



- [ ] Right-click on this script and click `add comment`. Add the comment **“bounce about”**.
- [ ] Add another script to the ball:



This tells the ball to move to the middle of the pitch for kick-off, and then point in a random direction. Why do we use `resetball`?

- [ ] Don’t forget to add the **“prepare for kick-off”** comment, so we remember what this script does!

Test your project

Click the green flag.

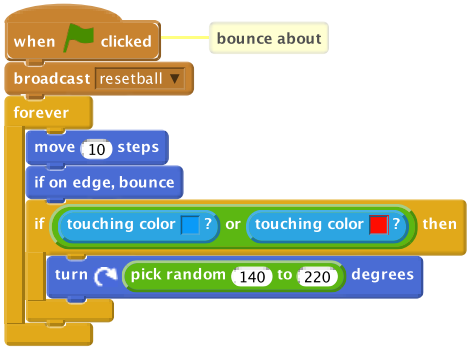
- [ ] Does the ball move?
- [ ] What happens when it hits the edges?
- [ ] Are you happy with the ball speed? Try changing the `move` block to have a smaller or larger number until you’re happy with it.
- [ ] What happens when the ball hits your players?

Save your project

Step 6: Kicking the ball

We need the ball to bounce off the players on the pitch.

- [ ] Modify the last code block you created (**“bounce about”**) to look like this:



You should select the colours by clicking on the football players. This change makes the ball sense it is touching a player, and then bounce off them by turning (with a bit of randomness).

Test your project

Press the green flag.

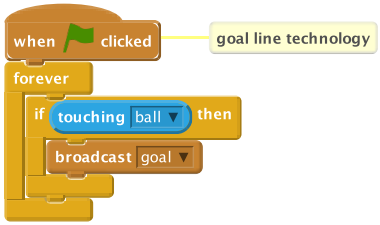
- [ ] What happens now when the ball hits your players? Is it working for both red and blue players?

Save your project

Step 7: GOOOOOOAAAAAALLLLLLLL!!!!!!!!

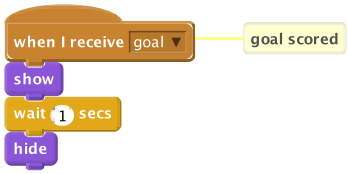
Activity Checklist

- [ ] Select **red goal** and add the following script:

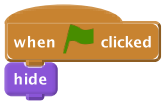


This is like goal line technology - it runs all the time, checking whether the ball is touching the goal, and broadcasting a message when it is.

- [ ] Drag the script to **blue goal** to copy it there as well.
- [ ] Now we need to do something when **goal** is broadcast. Click Upload sprite from file .
- [ ] Select **resources/goal_text.png**, and rename the sprite **goal text**.
- [ ] Add this script to **goal text**:



- [ ] Finally, add one more script to **goal text**:



...to ensure the **goal text** begins the game hidden.

Save your project

Test your project

You're ready to play a game! Press the green flag.

- [ ] What happens when the ball goes in?

- [ ] Try challenging a partner to a game!

Challenge 1: Keep score

Can you add variables that will keep track of scores for the red and blue teams?

Challenge 2: Tip the table

You might notice sometimes the ball gets stuck bouncing where the players can't reach. Can you add a script to the ball to fix this by "tipping the table" when the spacebar is pressed?

Challenge 3: Referee's whistle

Can you add the sound effect **resources/whistle.mp3** so that the whistle sounds whenever a kick-off takes place?