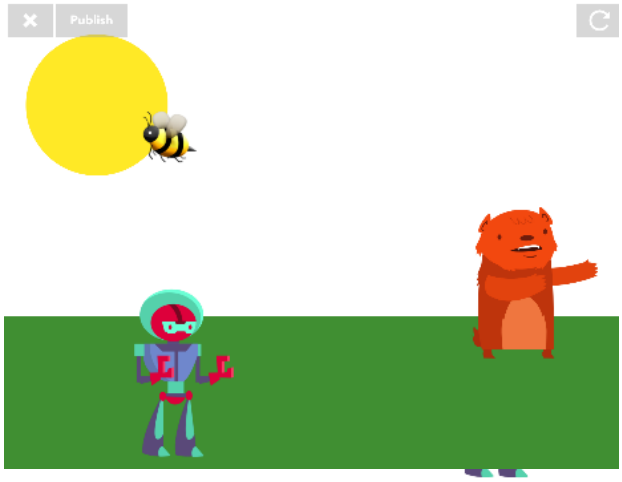
Hopscotch Programming

Add a character (sprite)

- When the ipad is tilted move a sprite around the screen and make it look like it is walking.



First we need to create a new project.

- Launch Hopscotch, select 'Create' then 'Blank Project'.

How do we create a Sprite and change its size?

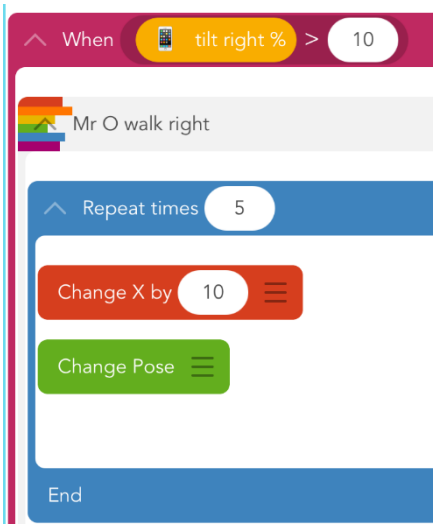
- Select + (bottom of screen) You should see sprites to choose from, I picked a robot , you can pick what you like.

- Add a new code for your character 'when Game starts'

- Select Looks & Sounds , or Size Grow by 50%
  - Press play and see your result (output).

Get you Sprite Moving - using ipad tilt

- We want the sprite to walk around when the ipad is tilted in all directions and change its pose so it looks like it is walking.
- Add a new 'When' for your character 'when the ipad is tilted right > 10'
- We have to set up our own Walk ability.
    - Create a new ability (New Block) and call it '**your init_walk right**', add to new rule
    - Select movement
        - Change X by 10
    - Select Looks and Sounds or apearance
        - Change Pose
    - Select Control Flow
        - Then Repeat Times 5



- Tap the **play button** top right to see the results, your sprite should move right when you tilt the ipad right.
- To make your sprite move in the other directions - repeat what you have just done but make the following changes.
- Add a new 'When' for your character 'when the ipad is tilted left > 10'
    - Walk left - create an ability called walk left and change X by -10

Add another static character (sprite) and if your moving character bumps into it, get them to jump and spin.

Add another Sprite and change its size

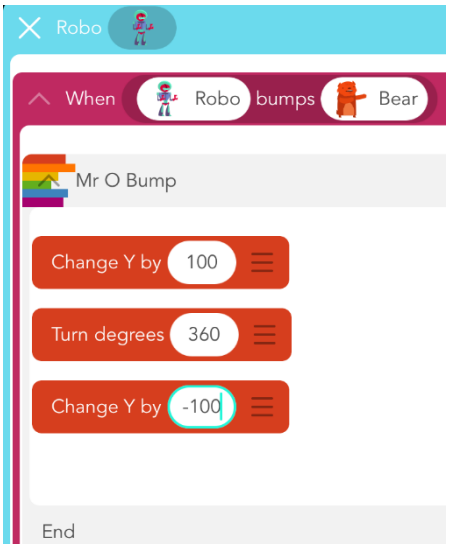
- Go to the edit screen Select + ,. You should see more sprites to choose from, I picked a bear , you can pick what you like.
- Add code for your new character 'when the Game Starts'
- Select Looks & Sounds , or Appearance Set Size Grow by 50%
    - Press play and see your result (output).

Now set the start postion for your sprite (X,Y position)

- Drag your Sprite to an new position on the screen.
- Tap and hold your sprite to drag it around the screen. You will see the X and Y co-ordinates changing. (0,0 is bottom left) (1000, 800 top right). I postioned mine at (754, 495)

Get your sprite to animate if it bumps your static sprite

- Tap on the sprite you can move around and add a new rule.
  - Select new 'When' then Bumps in the editor.
  - Now select your sprite and your static sprite, this will add them to the When bumps statement.



- Select Abilities and then add a new block and call it 'Mr O_Bump'
  - Select Movement Change Y by 100
  - Select Movement Turn 360 degrees
  - Select Movement Change Y by -100
- Tap on the static sprite and add a new rule.
  - Select 'When' then Bumps in the editor.
  - Repeat what you did above but this time you only need to select the 'bump' ability. you have already created. You can use this ability when ever you want.

Add a 'Watch where you are going!' message which is only displayed if your sprite bumps into your static sprite.

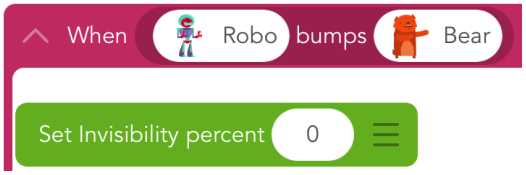
Add the text

Select edit and if necessary tap **X** top left.

- Tap the '+' button .
  - Tap **'Text'** and type in **'Watch where you are going !'** or your own message and position it on the screen where you want it.
  - Add a rule for your text.
    - When the game is started
    - Select 'Looks and sound'
    - Select Invisibility and set to 100% (why do you think this is?)

Make the text appear if they bump

- Add a new when to the 'Watch where you are going !' text.
  - Select 'When' , then Bumps.
  - Now select your sprites and to add to the editor.
  - Select 'Looks and sound'
  - Select Invisibility and set to 0% (why 0% now ?)

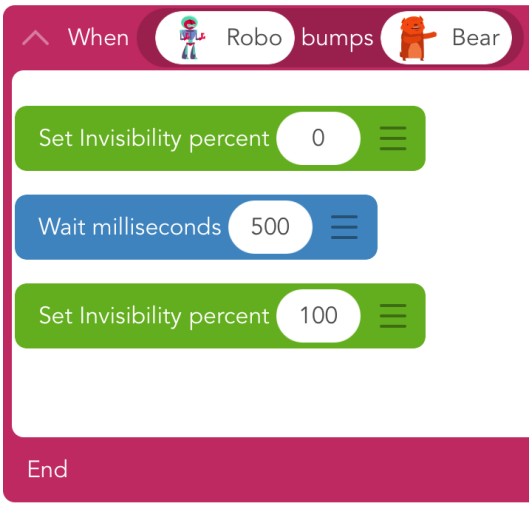


- Tap play and see the results, 'Watch where you are going !' should now appear if your sprites bump.
- The problem is the message stays on the screen.

How can we get rid of the message once they stop bumping?

Make the text dissapear if your sprites stop bumping.

- Select edit and if necessary tap **X** top left.
- Tap the 'Watch where you are going !' text and modify the bump rule.
  - Select 'Looks and sound' or Appearance
  - Select Invisibility and set to 0%
  - Select Control Flow and then Wait 500mS
  - Select Invisibility and set to 100%

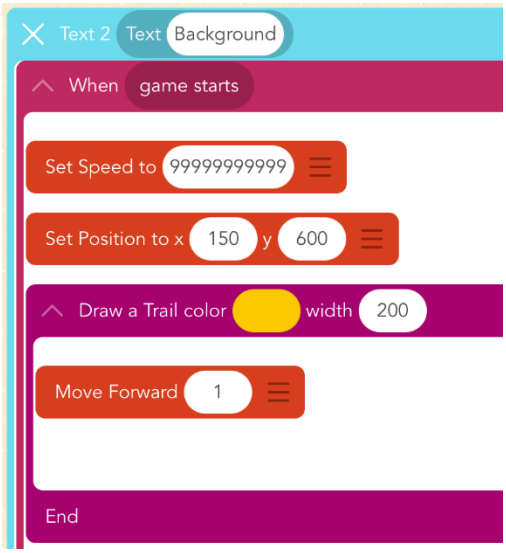


Add a background

Lets add a sun, the grass and an animated bee to our background

Set the background: This can be done by choosing either text or a sprite adding code that moves it around the screen whilst leaving a trail colour. Then make make the text or sprite invisible so all we see is the background colours.

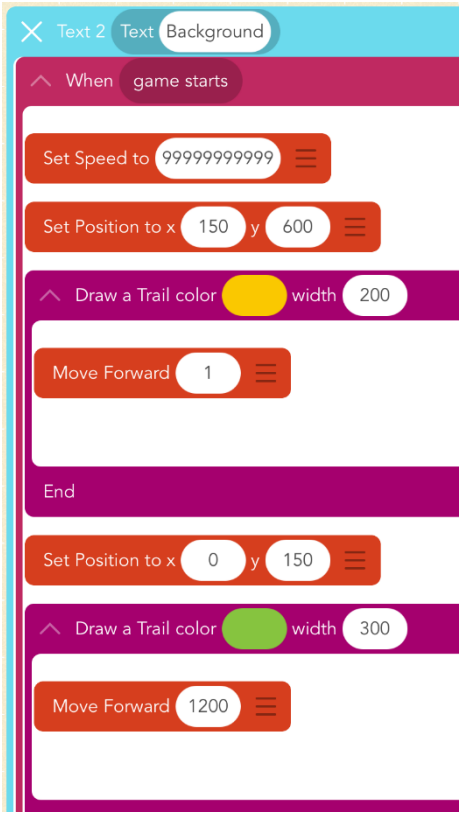
Add the sun



- Select the edit screen '<u>edit</u>' button top right.
- Tap the '+' button.
- Select <u>text</u> and type in background. The word '**background**' should now appear on the screen.
- Tap the word '**background**' drag bottom left and add code.
- Select, '<u>When Game Starts</u>'
- Select <u>Movement</u> and <u>set speed</u> . Set the speed to 9999999999
- Select <u>Movement</u> and <u>Set position</u>. Set X to 150 and Y to 600
- Select <u>Drawing</u> and <u>Draw a trail</u>, select width 200, Move Forward 1, colour it yellow.

Select play, you should now see the sun. How do you think this has happened.

Add the grass



- Tap the word '**background**' and modify the rule for drawing the sun.
- Select <u>Movement</u> and <u>Set position</u>. Set X to 0 and Y to 150
- Select <u>Drawing</u> and <u>Draw a trail</u>, select width 300, colour it green.
- Select <u>Movement</u> and <u>Move Forward</u> 1200
- Select play, you should now see the grass.

Get rid of the word background from appearing on the screen

- When 'Game Starts'
- Tap the word '**background**' and add a rule.
  - Select '<u>Looks and sound</u>' or <u>Appearance</u>
  - Select <u>Invisibility</u> and set to 100% (why100% ?)

Add the bee

- Select the edit screen 'edit' button top right.
- Tap the '+' button.
- Select text and select a bee emoji. The bee text emoji should now appear on the screen.
- Tap the bee text emoji and add a rule.
- Select, When the Game Starts
- Select Looks & Sounds
    - Set Size Grow by 100%

Position and animate the bee

- Tap the bee text emoji and add code.
- Select, 'When Game starts'
- Select Movement and Set position. Set X to 250 and Y to 550
- Select Movement and set speed . Set the speed to 50
    - Select Control Flow Then Repeat Forever
    - Select Movement then Change X by 5
        - Select Look & Sound then Change Pose
        - Select Movement and Set position. Set X to 250 and Y to 550
    - Put these inside the repeat forever loop
- Select play, you should now see the bee animated.

If you have been successful and completed all of the tasks then you should have:

- A scene including your sprites the sun, grass and an animated bee.
- If your sprites bump, a message should appear and then disappear once stop bumping.

Challenges:

- Position your static sprite at X 760 and Y 350 automatically. (You will need to add a new rule)
- Change the size of the sun.
- Add another animated flying character.
- Add another character for your moving character to bump into and create a new message.