Spooky Signals: micro:bit Ghost Throwing Challenge

Overview

The Teleporting Ghost project brings coding to life by creating an interactive ghost that can magically travel between two micro:bits! Using the micro:bit's built-in motion sensor and radio capabilities, you will learn how devices can communicate wirelessly while creating a fun and spooky experience.

What you will Learn

This hands-on project introduces important programming concepts like:

- [ ] Wireless communication between devices
- [ ] Using sensors (accelerometer) to detect motion
- [ ] Creating custom images using LED displays
- [ ] Understanding basic program flow and logic

What you will Need

> NOTE
> You do not need a micro:bit to do this tutorial you can use the simulator built into the MakeCode editor.

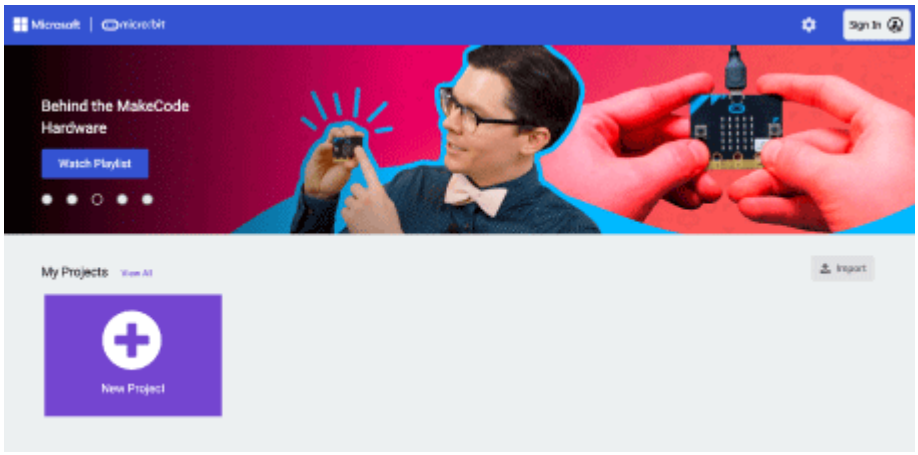
- 1 x micro:bit
- 1 x micro USB cable
- 1 x battery pack for the micro:bit (optional)

The project is not only entertaining but also demonstrates how modern devices can sense movement and share information wirelessly - the same technology used in everything from video game controllers to smart home devices.

Navigating to MakeCode

1. Open your favourite browser (we recommend Google Chrome) or if you are using a mobile phone or tablet open the micro:bit app.

2. Within the address bar of the browser type makecode.microbit.org or on a tablet or phone press create code.



3. Select **New Project** and give it the name Spooky Signals.

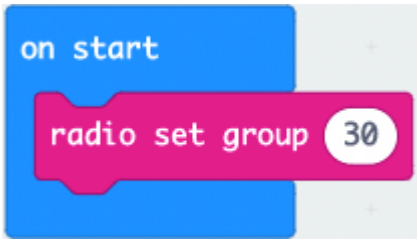
We are now ready to start coding!

Coding

Setting the Radio Group

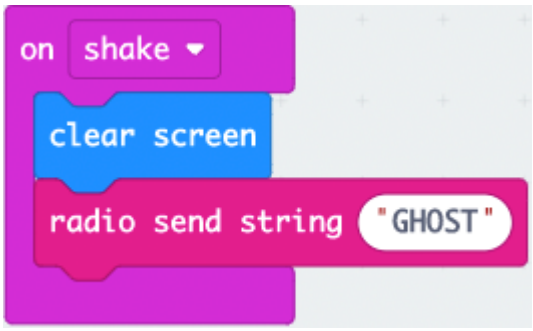
1. Select and drag the `forever` block to the left and drop it on the **bin**.
2. From Radio select and drag a `radio set group 1` block to the code area and attach it within the `on start` block. Change **1** to **30**.

> WORKING WITH MULTIPLE PAIRS
> If you are working with more than one group of pairs, make sure each pair is on a different radio group.



Outgoing Message

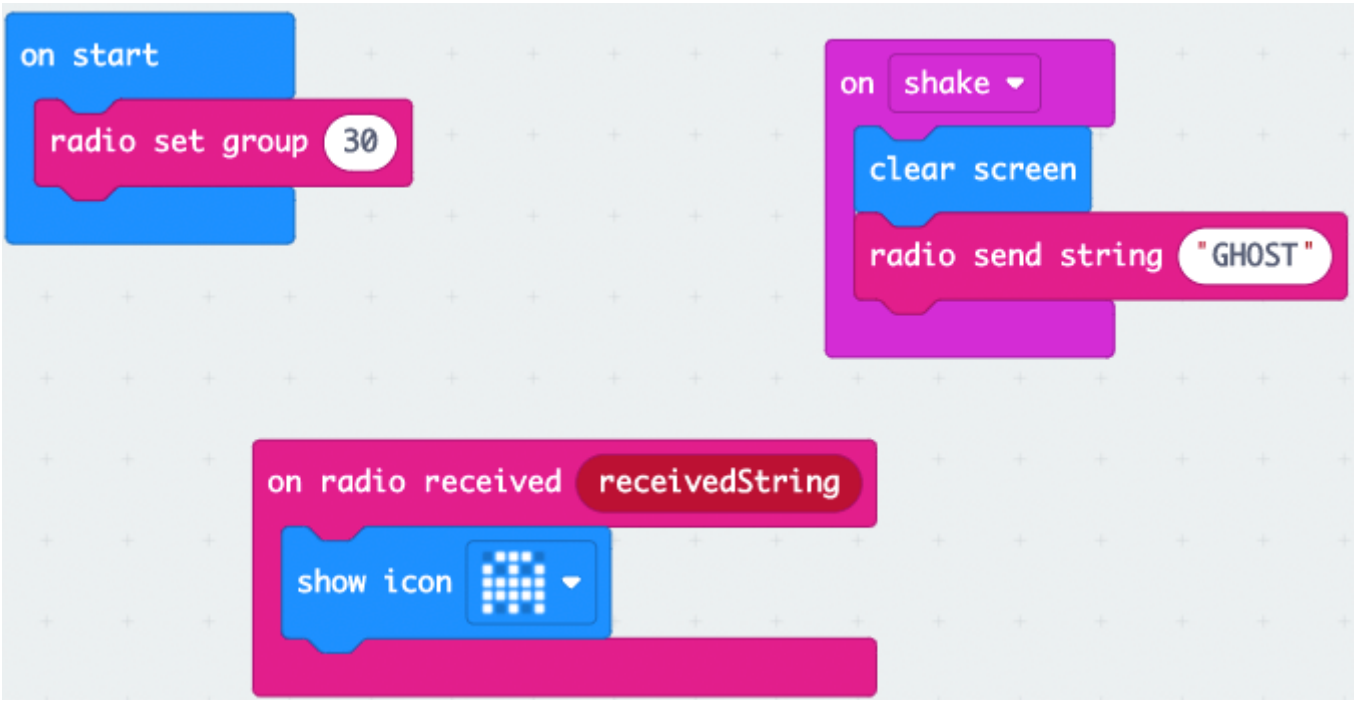
1. From Input select and drag an `on shake` block to the code area and drop it.
2. From Basic select and drag a `clear screen` block to the code area and attach it within the `on shake` block.
3. From Radio select and drag a `radio send string “ “` block to the code area and attach it under the `clear screen` block. Within the **blank** space type **GHOST**.



Incoming Message

1. From Radio select and drag an `on radio received received string` block to the code area and drop it.
2. From Basic select and drag a `show icon` block to the code area and attach it within the `on radio received received string` block. Select the **heart** and pick the **ghost** icon.

Completed Code:

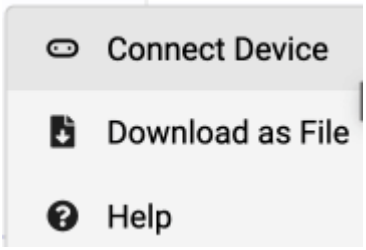


Now that we have completed our code, lets move on and download it to our micro:bits.

Downloading the code to the micro:bit

1. Select the **3 dots** next to **Download**.

2. Select **pair device** a pop-up will come on screen to show you how to connect the micro:bit to the computer. Select **pair device** again.



3. Select **BBC micro:bit xxxx** and Select **connect**.

4. Select Download.

Now that we have downloaded our code, let's find out how to play.

How to Play

Using the Web Browser

You will see that two micro:bit appear within the micro:bit simulator. Press the **shake** button on one and see the micro:bit appear on the other. Press **shake** on the micro:bit where the **ghost** is and see it land on the other micro:bit.

Using the micro:bit

When you shake one micro:bit, the ghost displayed on its LED screen will vanish and mysteriously appear on the other micro:bit's display. It's like playing a game of supernatural catch!

Grab a friend and have a go.