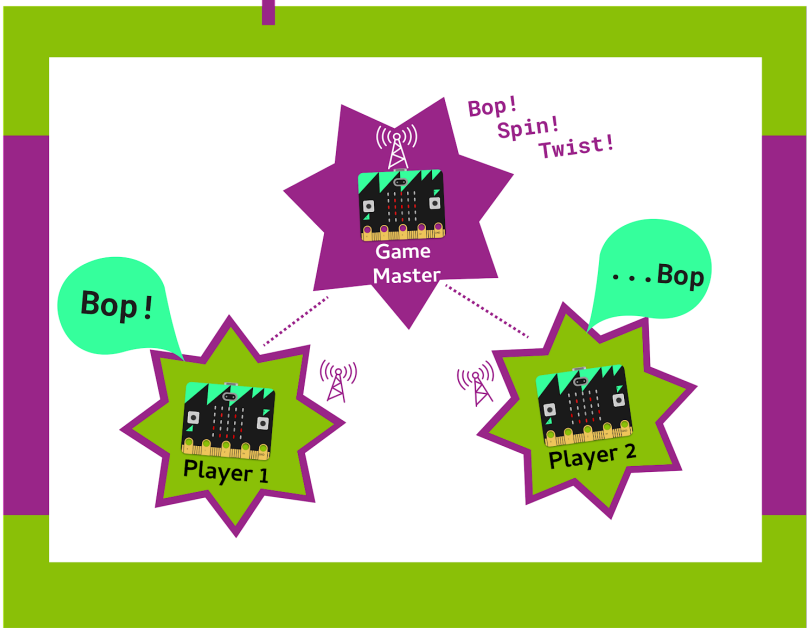
Extension: Bop Battle

Battle your friends for every Bop It point!

Be the first to do the action to get the point!

The Game Master will decide the moves and tell them to each player via radio.

Race to be the first to do the action and radio message the Game Master to score!



Learning about Radio

We'll need to know how to use the radio for this extension. Here's some commands

Action	Code
Set the channel, we set it to 6.	`radio.config(channel=6)`
Turn the radio on	`radio.on()`
Send a message, we sent "bop"	`radio.send("bop")`
Receive a message, check if it matches "bop"	`if radio.receive() == "bop":`

Part 1

Getting actions via radio

Create a player Microbit to compete in the multiplayer game!

It receives actions from the Game Master via radio and sends your name back to score when it's completed actions!

Part 2

All powerful Game Master

Create a Game Master microbit. It will use radio to tell the players an action to complete.

It will wait until it hears back from the first player to get complete the action to announce the winner!

Part 2: All powerful Game Master

Create a Game Master where the moves for the multiplayer game are decided!

It will:

- Let someone chose a move the player must do
- Radio message the players the move
- Wait to here who completes the move first to announce the winner

Task 2.1: Configure the Radio

We'll need to start a new file for our game master!

1. Click the **Project** button to the left, and then click **Create file**.
2. Name your new "game_master" file.
3. At the top of your file, `import` the `microbit` and `radio` modules.
4. Turn the radio on with `radio.on()`.
5. Configure the radio to use the channel that the room coordinator gave you.

Task 2.2: Ready, Set, Go!

Let's set up the variables we need!

1. Create a variable called `winner`, and set it to `None`.
2. Constantly scroll a message that says `"CHOOSE ACTION TO START"`.
3. Make sure your message has a wait of `False`.

Task 13.2.3: Game loop!

Now, let's set up the game loop!

1. Create a `while` loop that continually loops until `winner` is not equal to `None`.
2. Inside the `while` loop, set `winner` to be the incoming radio message.
3. Outside the `while` loop, at the end of your code, `scroll` who won the game continuously!

Task 13.2.4: Choose your move!

Now, we need to choose our move and send it to the players!

1. Inside the `while` loop, check to see `if` `button_a` was pressed.
2. If it was, show a left arrow, and send a radio message saying `"button a"`.
3. Create another if statement that checks `if` `button_b` was pressed.
4. If it was, show a right arrow and send a radio message saying `"button b"`.

Task 13.2.5: Testing time!

Try playing a game with your game master!

1. Test your Game Master! Which player won?

☑ CHECKPOINT ☑

If you can tick all of these off you have finished this Extension:

- ☐ You have configured your radio using the channel number the room coordinator gave you.
- ☐ Your radio sends a message of "button a" when button_a was pressed.
- ☐ Your radio sends a message of "button b" when button_b was pressed.
- ☐ When there is a winner, their name is displayed!

★ CHALLENGE 2.6: More than one move ★

We've shown you how to do this for 1 move! Now it's your turn to do the rest!

Figure out how to make this work so the game keeps playing for many turns.

Feel free to change the whole structure of the code, there are so many ways to create your own solution!