RC Controller

A simple activity about developing a robot controller, designed to teach programming through a simple pseudocode.

Tools:

- A Whiteboard + Whiteboard Markers
- 1x Smartphone
- Robot Platform

Setup:

Introduce participants to the robot prior to beginning the activity.

Method:

Step 1: Introduce the premise of the narrative to the participants. This can be modified to better suit your needs however the basic concept is that the group has been commissioned to develop the basic functionality of the robot platform.

Step 2: Encourage the participants to voice their opinions on potential features. These ideas should be written on a whiteboard.

Step 3: Once all ideas have been exhausted, instruct the group to consider narrowing it down to an initial set of basic functionality. This can be explained as part of the narrative, for example as a result of budget constraints.

Step 4: Guide the narrowing process towards the following functionality; Forward, Reverse, Left, Right and Stop.

Step 5: Introduce the pseudocode to the group. Make sure to walk through the first few lines of the code, as well as some of the initial functions. (The whiteboard will come in handy again during this step).

Step 6: Encourage participants to ask any questions they may have. It is important to try and make the code as easy to understand as possible.

Step 7: For the later functions, encourage the participants to try and explain what is happening as you write them on the board.

Step 8: Once the code has been covered and all outstanding questions have been answered, encourage the participants to take turns playing with the remote control and steering the robot around.

Step 9: Continue this activity until every participant has had at least one turn of controlling the robot. Be sure to encourage any further questions.