THE UNIVERSITY OF
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Te Whare Wānanga o Waikato

DEPARTMENT OF
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Te Tari Rorohiko

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BERTIE'S BIG DAY OUT

The first 2 sessions of this level involved you training Bertie up for The Dog Show event. In the first session you met Bertie, our robot dog, and taught them basic agility skills. In the second session, you trained Bertie further by teaching them basic obedience skills using some of the Petoi extensible modules. Today is a big day out for Bertie as it is the day of The Dog Show!

The Dog Show

Your task today is to compete in The Dog Show event! You will need to use the skills you have developed in the previous 2 sessions to get Bertie to complete the event's sections. There are 2 sections: Agility and Obedience. Each section is worth points and the points your dog earns depends on how well they complete the section. The robot dog with the highest points will be crowned 'Best In Show'!

Figure 25: The Dog Show Logo

Agility Section

The first section is the agility section; this is where you showcase Bertie's movement skill. At the front of the room is a track with section labels containing the movement type and points value (see figure 26). You need to program Bertie to perform the movements listed within each section. If done correctly, the points value will be added to your score. If Bertie goes off course

or doesn't perform the correct action for a particular section, you will receive less points. A bonus point will be awarded to the robot dog that completes the circuit the fastest.

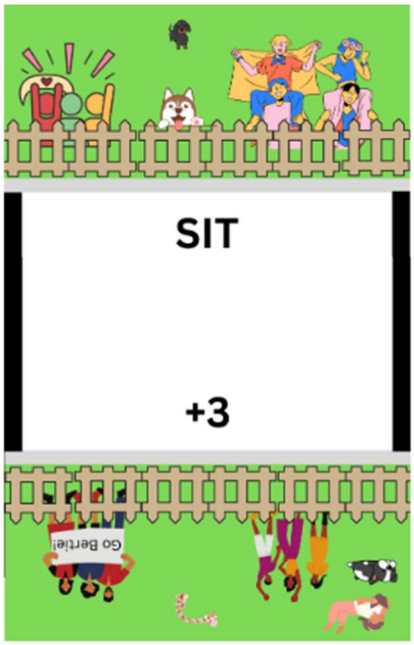

Figure 26: Example Agility Circuit Section

Obedience Section

The next section assesses obedience with the task being that Bertie must follow the white box (see figure 27). Using the IR distance sensor, if the box is more than 25cm away, Bertie should walk forward and once within 25cm Bertie should stop (i.e. stand still). It's up to you how close Bertie can get before stopping but **make sure Bertie doesn't touch the box as that will result in less points given.** This section is worth 2 points and like the last section, the fastest dog will be awarded a bonus point. If Bertie goes off track or touches the box, the maximum points you can get will be 1.

Figure 27: Using the IR Distance Sensor to Follow the Box

Event Structure

How this session will run is you will get 20 minutes to prepare for the agility section with 10 minutes for all the dogs to attempt the section. Then you will get another 20 minutes to prepare for the obedience section with 10 minutes also allocated for all the dogs to perform. We will have a short prizegiving at the beginning of the next session (or at the end of this one if time allows).

Hopefully you saved your code from the previous sessions as it will likely prove helpful (and time efficient), anyway, good luck and have fun!

Summary

In this session all your hard work and effort training Bertie paid off (if not, don't worry – Bertie can be a ratbag sometimes!) with them performing in The Dog Show. You trained Bertie to demonstrate movement as well as obedience skills (and tricks!) while learning some of the basics of robotics. Hopefully through this series of 3 sessions you have enjoyed learning about robotics and to program our robotic pet, Bertie. The next session will involve exploring human-robot interaction with our other robot, Cruz.