THE UNIVERSITY OF
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Te Whare Wānanga o Waikato

DEPARTMENT OF
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Au Reikura

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Contributors

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BIG PERFORMANCE NIGHT SHOW

The first 2 sessions of this level involved you training Bot Marley up for The Big Performance Night event. In the first session, you met Bot Marley, our robot music, and taught them basic movement and dance skills. In the second session, you trained Bot Marley further by teaching them basic singing skills using Python programming. Today is a big day out for Bot Marley as it is the day of The Big Performance Night!

Today's Exercises:

Your task today is to compete in The Big Performance Night Show event! You will need to use the skills you have developed in the previous 2 sessions to get Bot Marley dancing and singing again. Each ability i.e., dancing and singing, is worth points and the points your Bot Marley earns depends on how well they complete the action. The robot with the highest points will be crowned 'Best In Show'!

Figure 25: The Winner Bot Marley

Event Structure

How this session will run is you will get 20 minutes to get into your groups and grab the kept notes from Session 1 and Session 2; focusing on each other strengths and deciding who will be doing which role for today session in preparation for the Big Performance Night Show. Then you

will get another 20 minutes to program your Bot Marley with 10 minutes for last minute touch up to get creative i.e., dressing up Bot Marley or setting up the stage and you could decorate it to suit your rehearsed staged performance. 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!

Figure 2: The Big Performance Night Show

To recap:
We think Andrei has an amazing companion bot, Marley, but we believe Marley could benefit from some performance enhancements – this is where you come in! As you are Marley's programmers, during this event, Marley must demonstrate great creativity, adaptability, and wit to impress Andrei and his family. (Dr. Jessica Turner/Teaching Fellows impersonating Andrei and student ambassadors impersonating Andrei's family).

You have been tasked to enhance Marley's ability to personalise interactions and perform songs with style to keep Andrei and his family entertained. Your task is to create a program that:

1. Allows Marley to sing a custom song (like "Three Little Birds") upon request.
2. Learns Andrei's birthday (December 13th) and remembers it for the future to deliver a "Happy Birthday" surprise.
3. Adds an option for Marley to "dance" or display a celebratory animation to make the performances fun and engaging.

Summary

In this session all your hard work and effort training Bot Marley paid off (if not, don't worry – Bot Marley can be quite stubborn sometimes!) with them performing in The Show, forgetting his moves. You trained Bot Marley to demonstrate movement as well as singing skills, while learning some of the basics concepts of Artificial Intelligence, i.e., patterns in data and AI memory. Hopefully through this series of 3 sessions you have enjoyed learning more about artificial intelligence and in programming our robotic music, Bot Marley. The next session will involve exploring human-robot interaction with our other robot, Buddy.

Useful Resources

- Create your own music: https://www.noteflight.com/scores/view/ac08337a5288ebdfe38abb4732f6eeab8671ec4a
- Virtual piano: https://recursivearts.com/virtual-piano/
- Python Web Playground v1.2.3: https://python.irobot.com/
- Web-Playground-Command-Reference.pdf
- Workbook_Session1_BotMarley.pdf
- Workbook_Session2_BotMarley.pdf