

The Potter
animals

Stanley Ave School
Trilese, Kyra & Liam

Robocup 2022

Blorobotics

Roles

Kyra Phimester

Leader, Coding, Robot Building, Slide, Plan

Trilese Large

Slide, Movie, Photos/Videos, Coding, Plan, Robot Building

Liam Western

Robot Building, Coding, Slide, Plan

Background Information

- | Team Name: The Potter Animals
- | Team Members: Trilese, Kyra & Liam
- | Challenge: Biorobotics
- | Animal: Calf
- | Our Idea: Get our Calf to walk to the trough and act like its drinking out of it



Our Plan

Team
Vicm
Trilise
Kyra

The Potter Animals Kit 3

We will open the gate and shift the calf.

Biorobotics

PLAN

Pen

We're using the PUPPY robot tutorial as a base

The tail made around

The legs move

+ move less active, more calm

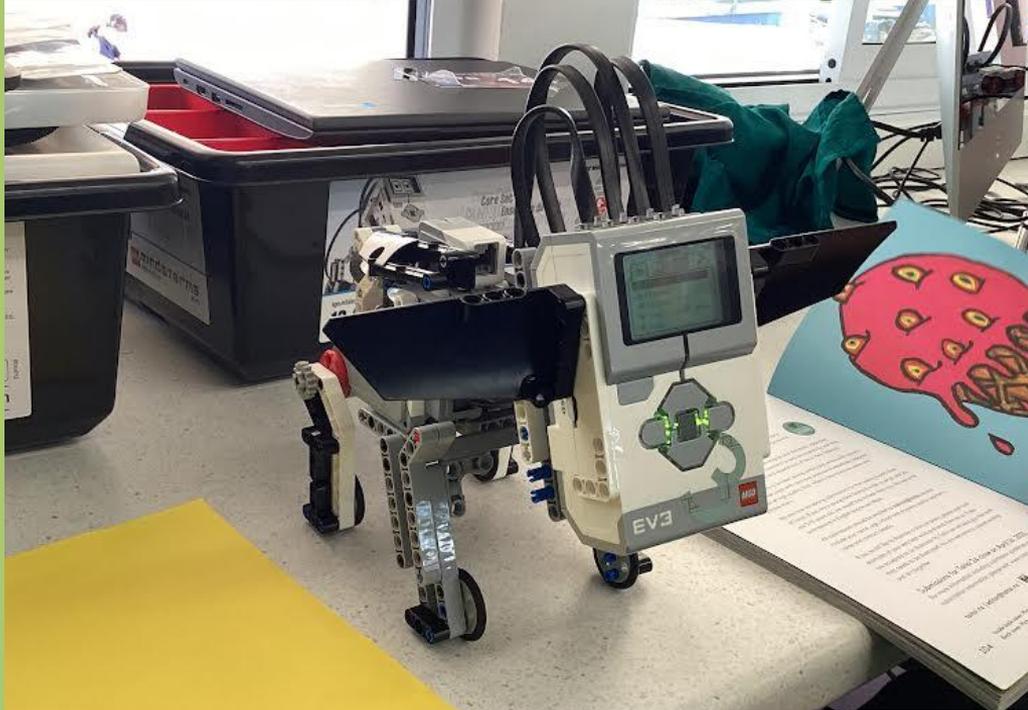
meow sound

The tail will be longer

changes

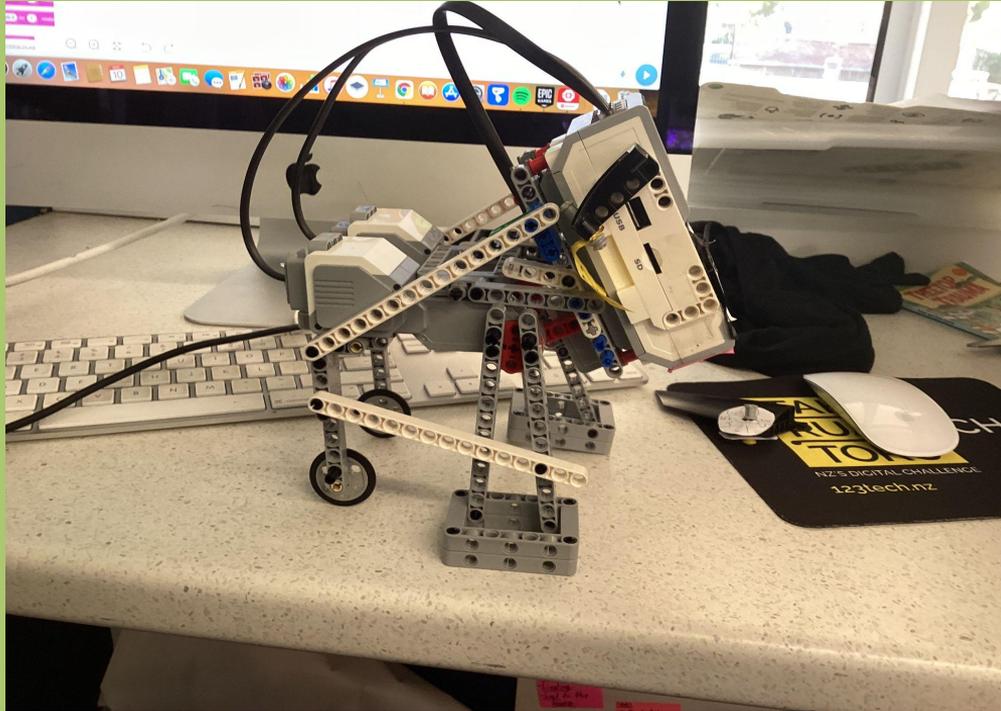
Our plan is to build a Calf for biorobotics. We are also going to make the tail go up and down and make the legs move so that it can walk. We're going to make a fence and shift the Calf.

First Design - Prototype 1



In our first design, we built a calf using the puppy tutorial to see how to build it, we then dismantled it and started building the second design with the knowledge of how to build an animal with this body shape

Second Design - Prototype 2



For our second design, we tried to use the idea from the first design and build it ourselves. We had a lot of problems with weight as it kept tipping over. We also had to work out how to get the legs to work. Eventually we added some code and extra bits to evolve it into the final design.

Final Design - Prototype 3



In our final design we had a sensor that helped it follow the yellow path like a calf, and stop when it senses the trough. Adding weight under the body helped. It took a while but we got there eventually!

Diary

Day 1: Today was the day we found out we were doing robocup. We started by choosing what theme we wanted ours and after a lot of discussing we decided to do biorobotics.

Day 2: We started to make the robot. We used the puppy blue prints to see how to use the Mindstorm kit.

Day 3: We finished the puppy so we pulled it down and started on the calf robot we got the head done.

Day 4: Today we started the 1st prototype

Day 5: we were still creating the 1st prototype

Day 6: Today we deconstructed our 1st prototype and started building the 2nd prototype

Day 7: We are still working on prototype 2

Day 8: Today we started testing our code and deconstructing our 2nd prototype

Day 9: Today we made our fences and field and started our 3rd and final design

Day 10: Today we finished our final design and started testing our robot on the field

Day 11: We were just testing the code today

Day 12: Today our robot successfully did what we programmed it to do so we started deconstructing it

Day 13: Today we started the movie

Day 14: Working on the movie

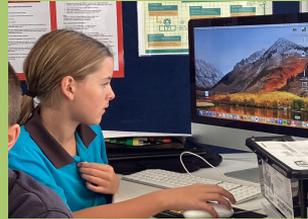
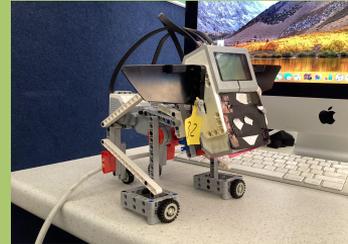
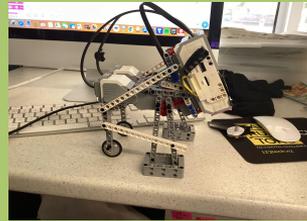
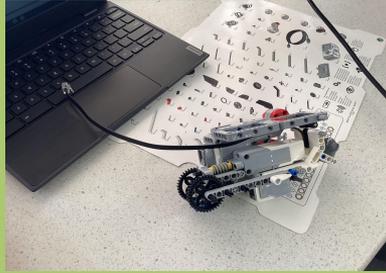
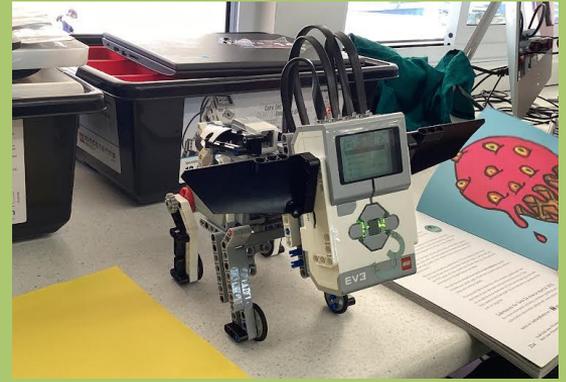
Day 15: Working on the movie

Day 16: Finished the movie and entered our movie and pdf into the competition

Video

<https://youtu.be/E37VTcdblt8>

Our Design Process



Movie

1. a video (max 5 minutes) of you demonstrating your robot as it shows off its animalistic features.
 1. Include an introduction where each team member discusses their role in the team,
 2. A discussion about why you think your robot is a good example of a biorobot,
 3. Describe the features that you built/programmed into the robot, and why they're special
 4. Each team member should discuss what they found the hardest, and what they enjoyed the most about this challenge.
 5. Your robot in action.

Specifications

1. This needs to be your own design. You are encouraged to research and find examples of what others have already done, but your final product should be your own: not a copy of someone else's idea.
2. You will create a diary to show evidence of:
 1. The research you did,
 2. How you came up with the idea for your design (try brainstorming, flowcharts, drawings, etc),
 3. Planning your design and program (justify why you made the decisions you made),
 4. Pictures of your build along the way,
 5. Anything else you want to share about your design.
3. Your robot will not be remote controlled, you should use hardware and write a program that enables it to be autonomous.
4. The robot should have features that can be found in the animal(s) that you are imitating (eg the way it moves, the skills it has).
5. You're absolutely welcome to decorate your robot to make it look more like the animal(s) you're trying to imitate. Just make sure that you don't spend all your time on decorating and forget about the programming!
6. You can use any electronics and build methods for your robots: Arduino, EV3, Raspberry Pi, 3D printing, old milk bottles... Get creative!
7. Don't forget to have fun!