



Highly Commended

Models & Inventions

Year R-2

Hugo Mallett
Charlie Gray
Louis McCallum

Highgate School

CHL ROBOT

CHL Robot has wiring and a motor. It contains batteries for led lights and the motor makes energy which makes it move forward.

It is made out of cardboard and it is made out of tubes for the arms. It is all recycling, but the bottom bit is made from a kit from the shops.

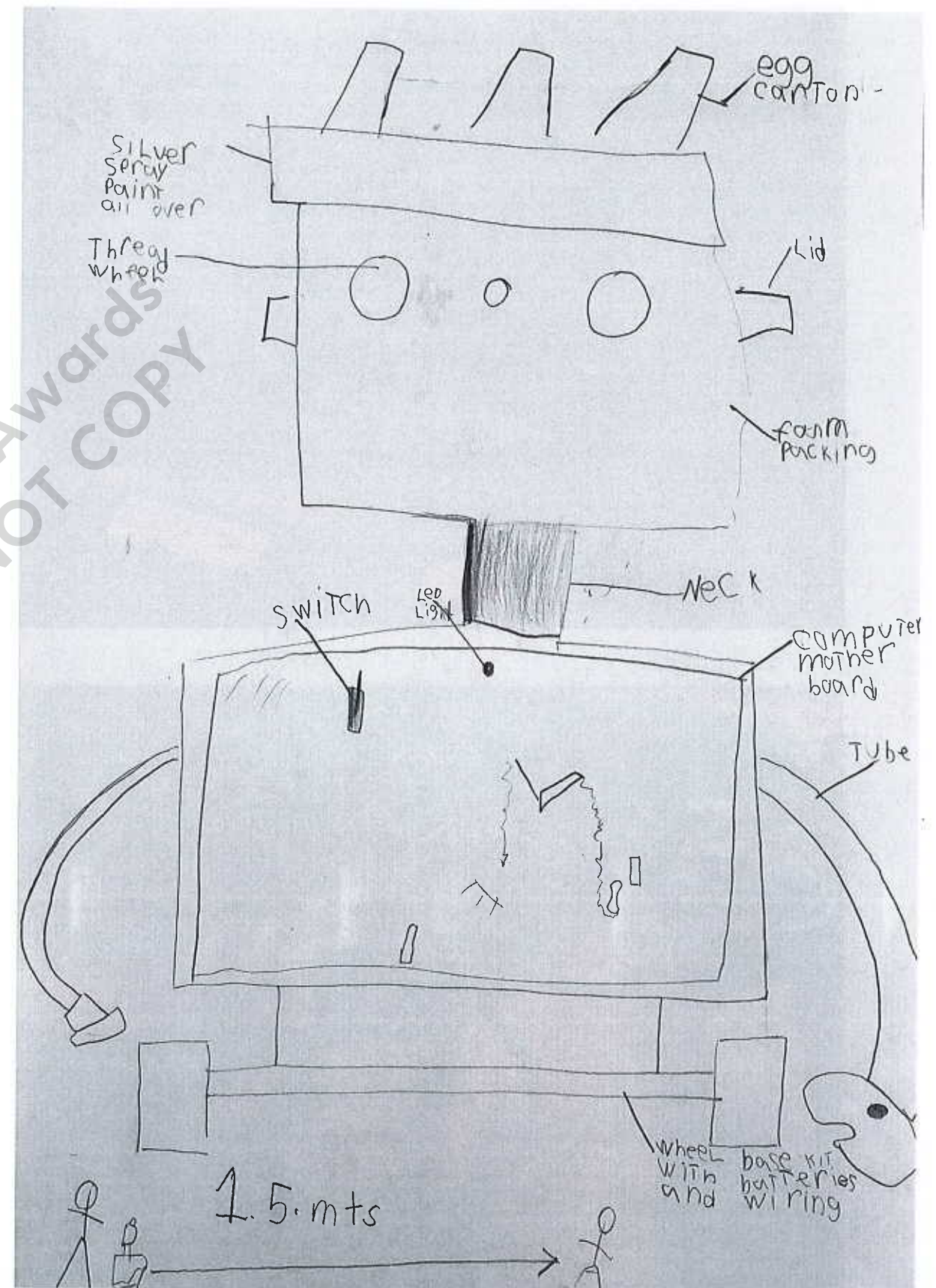
We tried to use clip circuit for the motor to make it move. But it wasn't powerful enough. We had to solder the wires instead. We had adult help with that.

It has a switch to make it go on and off.

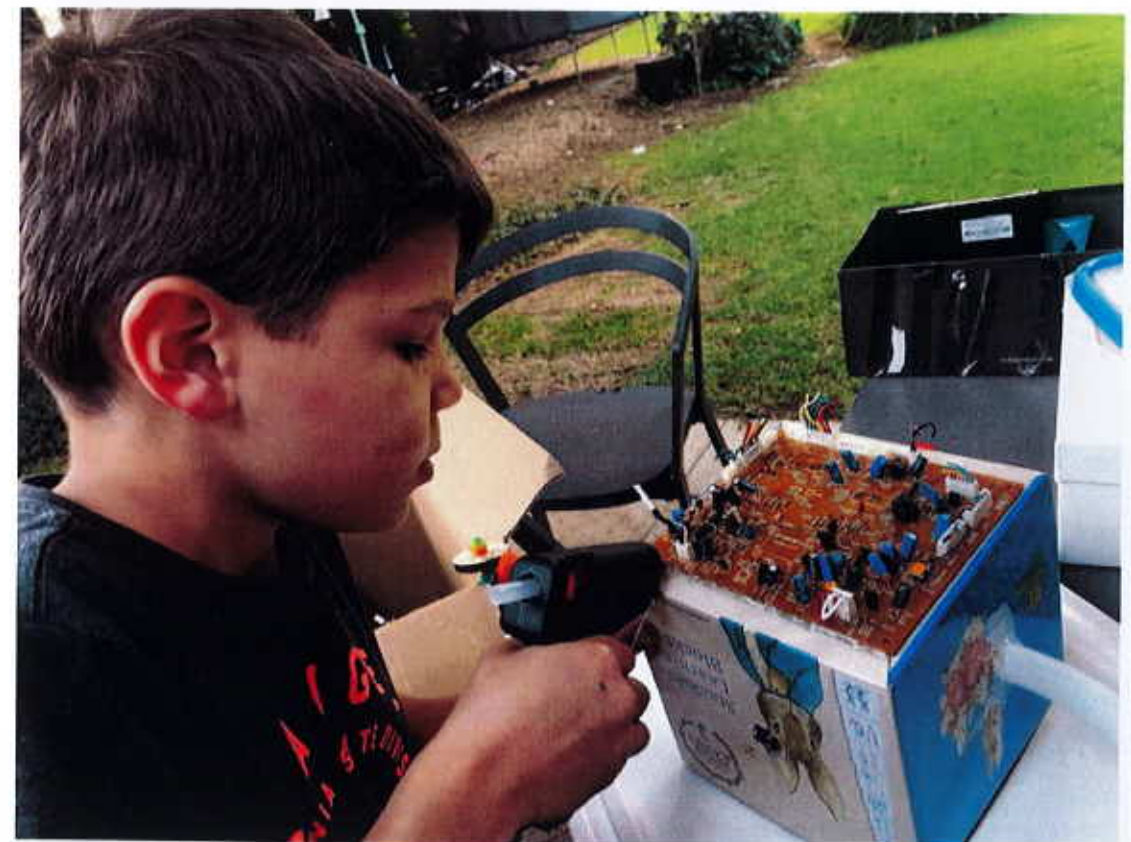
If someone has coronavirus 19, CHL robot can take them things. Like tablets and small food. Staying 1.5 meters away means we won't get sick and using hand sanitiser.

CHL Robot



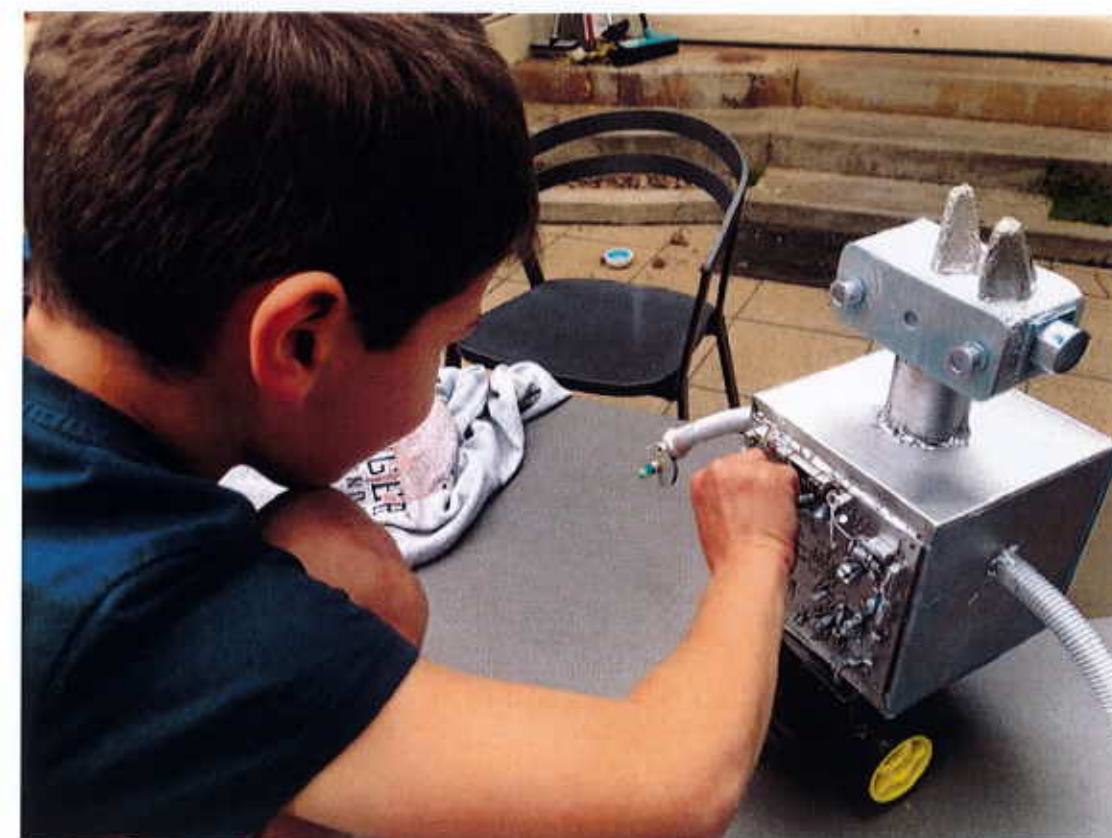












Declaration of Adult Assistance

The boys designed the robot themselves. They drew it up initially, then we (parents) helped them collect various bits and pieces that they might like to make it out of. Louis designed and made the arms, Charlie the head and Hugo the body. We talked through how to fix their concept, which meant sometimes giving them a hand with a drill or hot glue etc.

The original plan was for them to use clip circuit (proprietary children's wiring kit) to create the electric circuit, but it was inflexible, chunky and heavy, so we bought a simple wiring kit and helped them put it together. This meant we brought the know-how and did the soldering. We had never done this before either, so we spent time looking on the internet with them to understand how an electricity circuit works. We all learnt something.

The boys also wanted the robot to talk. Maybe next year!

OSA RISK ASSESSMENT FORM

for all entries in (✓) ☒ Models & Inventions and ☐ Scientific Inquiry

This must be included with your report, log book or entry. One form per entry.

NAME: HUGO.M. LOUIS.M. CHARLIE

SCHOOL: HIGHGATE

Activity: Give a brief outline of what you are planning to do.

Building a robot that moves forward and has led eyes that light up.

Are there possible risks? Consider the following:

- Chemical risks: Are you using chemicals? If so, check with your teacher that any chemicals to be used are on the approved list for schools. Check the safety requirements for their use, such as eye protection and eyewash facilities, availability of running water, use of gloves, a well-ventilated area or fume cupboard.
- Thermal risks: Are you heating things? Could you be burnt?
- Biological risks: Are you working with micro-organisms such as mould and bacteria?
- Sharps risks: Are you cutting things, and is there a risk of injury from sharp objects?
- Electrical risks: Are you using mains (240 volt) electricity? How will you make sure that this is safe? Could you use a battery instead?
- Radiation risks: Does your entry use potentially harmful radiation such as UV or lasers?
- Other hazards.

Also, if you are using other people as subjects in an investigation you must get them to sign a note consenting to be part of your experiment.

Risks	How I will control/manage the risk
<u>drill</u>	<u>Ad</u>
<u>ELECTRICITY</u>	<u>ADULT HELP</u>
<u>BURNS</u>	<u>WII</u>
<u>FUMES</u>	<u>WII</u>
	<u>WEAR MASK</u>

(Attach another sheet if needed.)

Risk Assessment indicates that this activity can be safely carried out

RISK ASSESSMENT COMPLETED BY (student name(s)): HUGO.M. LOUIS.M. CHARLIE

SIGNATURE(S): HUGO. LOUIS. CHARLIE

☒ By ticking this box, we state that our project adheres to the listed criteria for this Category.

TEACHER'S NAME: Lynna Tachay

SIGNATURE: Jalung DATE: 30.07.2020

H.U