

# Controller Design Report

## Design

The controller is in a crescent shape and so the child can grip the hand grips easily while being able to reach with the thumbs to control the robot. The crescent shape is similar to a wheel, therefore the child can image that he is driving a car.

Blue is a very gender-neutral colour and the branding signifies that the toys bought from this company will provide hours and hours of fun in a loop, and the infinity symbol is very simple and recognisable and when buying more toys from shops, if the child likes their current toy from Blue Sausage, then they'd look for more toys from them.

The controller will be made from plastic so it will be cheap to make and light, powered by batteries, but the downsides are that it will be easily breakable. The dimensions of the controller is not defined but will be designed to the medium ergonomic standard for a 3 to 4 year old child so an average child playing with the controller will not find the controller too large for their hands, or too wide apart.

## Layout

There are 8 buttons:

The on-off switches are self-explanatory but there is a deeper meaning of “when you switch me on, you will have lots of fun!” and “when you switch me off, I will miss you until next time”.

Joystick 1 controls the movement of the robot. Pushing the joystick up will make the robot accelerate till full speed, pushing it down will decelerate and pushing it left or right will make the robot turn left or right.

Joystick 2 controls the torso of the robot which will allow aiming its arms to be easier, kind of like controlling the turret of a tank.

Audio button 1 and 2 will say pre-recorded speeches which fit well with the theme of the robot.

Command button 1 will make the arms of the robot raise or lower from the side of its body so the arms will be stuck out horizontally.

Command button 2 will shoot out the hands of the robot (which is connected by plastic from the arms) regardless if the arms are vertical or horizontal. If the arms are pointing towards the ground, shooting out the hands will make the robot push itself about 20cm into the air; if the arms are stuck out horizontally, the hands will fire out and will retract afterwards.

The layout of the buttons is so the child can grip easily, control the joysticks with thumbs and reach the command buttons with their first two fingers at the back. The audio buttons are a bit awkward to reach but they won't get in the way of the other buttons and the child can control the robot with one hand while reaching for the audio buttons.