

**Final Year Project Proposal – Thomas Martin**

**Decided Path Shed Cleaner**

I often hear about and see automatic lawnmowers and vacuum cleaners on TV adverts and when I was on work placement, I worked in mucky cattle sheds. I got thinking that an automatic shed cleaner would be very useful.

When I dived into the mechanics of it all, I found most of the lawnmowers and vacuums do not follow a path. They run until they come near or even bump into an obstacle. This leads to a very random path and makes it hard to predict their movements. I want to create a project that will follow an adjustable defined path.

I plan on controlling a tank with a Bluetooth remote control. I will build the remote control using a HC-05 Bluetooth module, a Joystick and a LPC1768 board as it is small and lightweight.

The tank will be controlled using an L928N motor driver chip to allow forward and reverse movement. I will have a Raspberry Pi as my main board. The tank will be connected to Wi-Fi allowing the path to appear on the User interface hosted online or in app.

I will use JavaScript to create a webpage user interface. This will have a defined area to show the route the tank is following. I will be able to alter the path from this UI.

I will have an SQL database connected to the UI. This database will hold different predefined paths which the user will be able to select. These will load into the tank over a WIFI or wired connection.

To locate the tank in the area, I will use Radio Frequency transmitters and receivers.

