# **Project specification.**

Over all the C language program should be able to make a robot follow a line. Draw some geometric shapes. Make a robot turn sharps bends and curves, if possible to trace the line or the shapes according to the following goals.

The following are the primary and secondary objectives and

## Primary Goals.

* Develop a compression algorithm that will compress the data stored to represent outlined shapes and geometric shapes.
* Design & build and test either a single robotic solution or collaborative robotic solution that will trace and draw simple geometric shapes.
* Modify the robot to identify geometric shapes such as square, rectangle, circles, triangle, pentagon etc…
* Improve robots navigation and position control systems to allow for more complex shapes to be traced and re-drawn
* Extend the design of the robot(s) to perform self-monitoring and re-charge if required.

## Secondary goals

* Allow the drawing robot to position itself based on in-built logic
* Modify the robot to include obstacle avoidance algorithms
* Allow the re-drawn image to be scaled up or down
* Extend the system to allow more than 1 outline shape to be traced and re-drawn in one single trace iteration.

**NOTE:**

* **The controller that I am using for my project is an mbed NXP LPC1768**
* **And the robot that I am using is an m3pi Robot.**

**In addition can you please add some comments to the code and make a few flow charts if needed. Thanks**