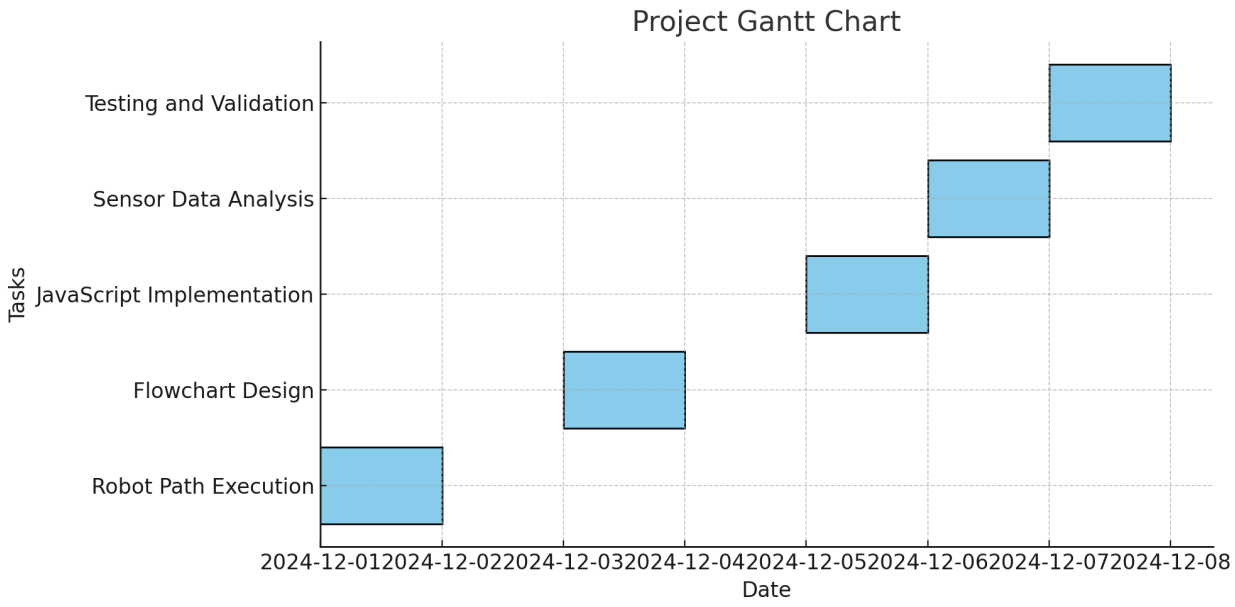
1. **Gantt Chart**



2. **Requirements Table**

Requirement ID	**Description**	**Status**
R1	Robot must follow path without hitting obstacles and knock down all markers	Complete
R2	Flowchart must match the algorithm steps	Complete
R3	Javascript code must drive the Sphero Bolt	Complete
R4	Sensor data must be collected and analyzed	Complete

3. **Requirments Signoff Table**

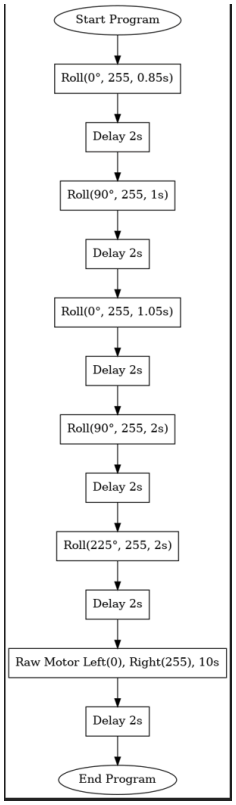
Requirement ID	**Signoff By**	**Date**
R1	Isaac and Bilal	12/6/24
R2	Isaac and Bilal	12/6/24

R3	Isaac and Bilal	12/6/24
R4	Isaac and Bilal	12/6/24

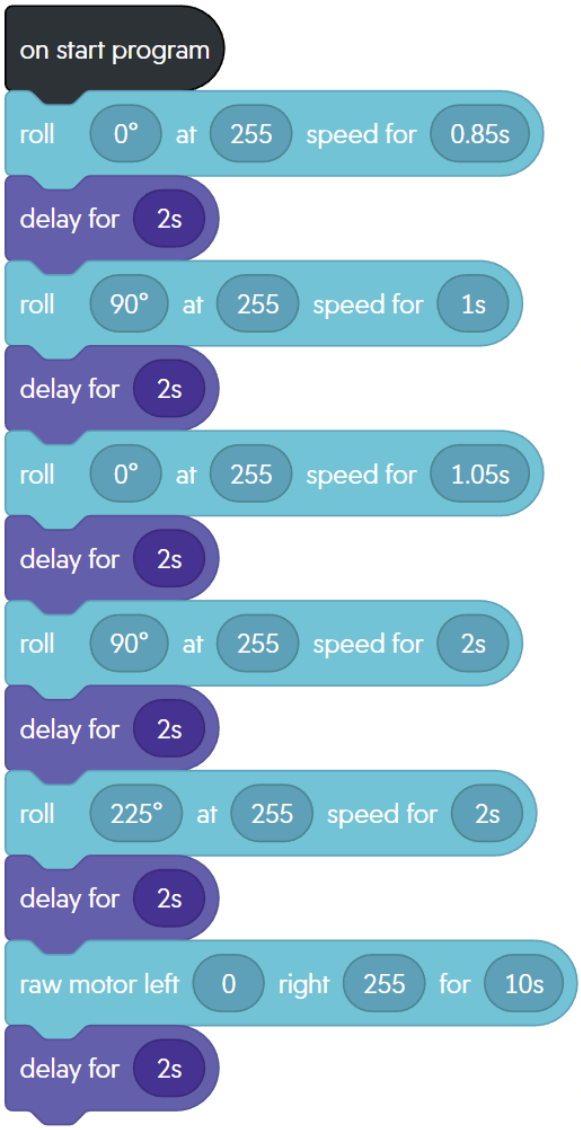
4. Algorithm

1) Start the program.
2) Call roll(0°, 255, 0.85) and wait for completion.
3) Delay for 2 seconds.
4) Call roll(90°, 255, 1) and wait for completion.
5) Delay for 2 seconds.
6) Call roll(0°, 255, 1.05) and wait for completion.
7) Delay for 2 seconds.
8) Call roll(90°, 255, 2) and wait for completion.
9) Delay for 2 seconds.
10) Call roll(225°, 255, 2) and wait for completion.
11) Delay for 2 seconds.
12) Set motor control directly:
13) Left motor to 0
14) Right motor to 255
15) Duration to 10 seconds
16) Delay for 2 seconds.
17) End the program.

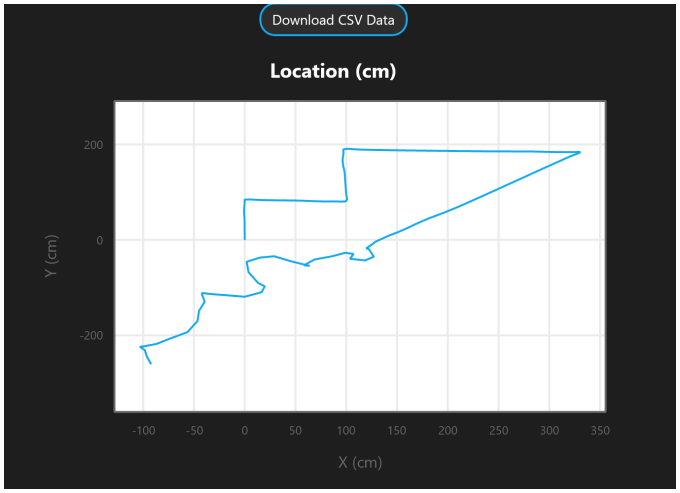
5. Flowchart



6. Block Code


on start program
roll 0° at 255 speed for 0.85s
delay for 2s
roll 90° at 255 speed for 1s
delay for 2s
roll 0° at 255 speed for 1.05s
delay for 2s
roll 90° at 255 speed for 2s
delay for 2s
roll 225° at 255 speed for 2s
delay for 2s
raw motor left 0 right 255 for 10s
delay for 2s

7. Sensor Data



8. Test Table

Test Case	Description	Expected Outcome	Actual Outcome	Pass/Fail
TC1	Folow path, avoid obstacles, go up ramp	Robot follows path and goes up ramp	Robot somewhat followed path and went up the ramp well	Pass
TC2	Knock down all markers	Knocks all markers down first try	Took a little moving around to get them all knocked down	Pass

9. Staffing Plan

Name	Title	Responsibilities
Isaac Sasson	Group leader	Submit project and create github
Bilal Shweb	Group member	Assist with the project and github