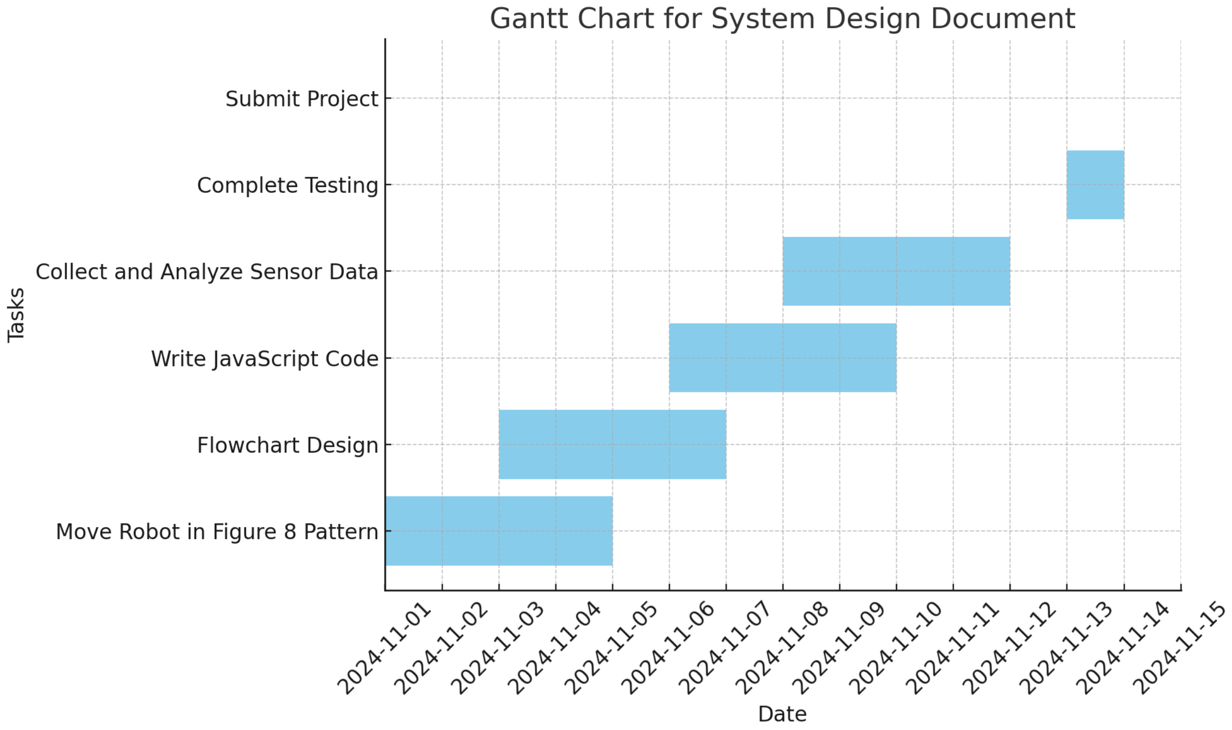
1. Gantt Chart



2. Requirements Table

Requirement ID	Description	Status
R1	Robot must move in a figure 8 patter	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

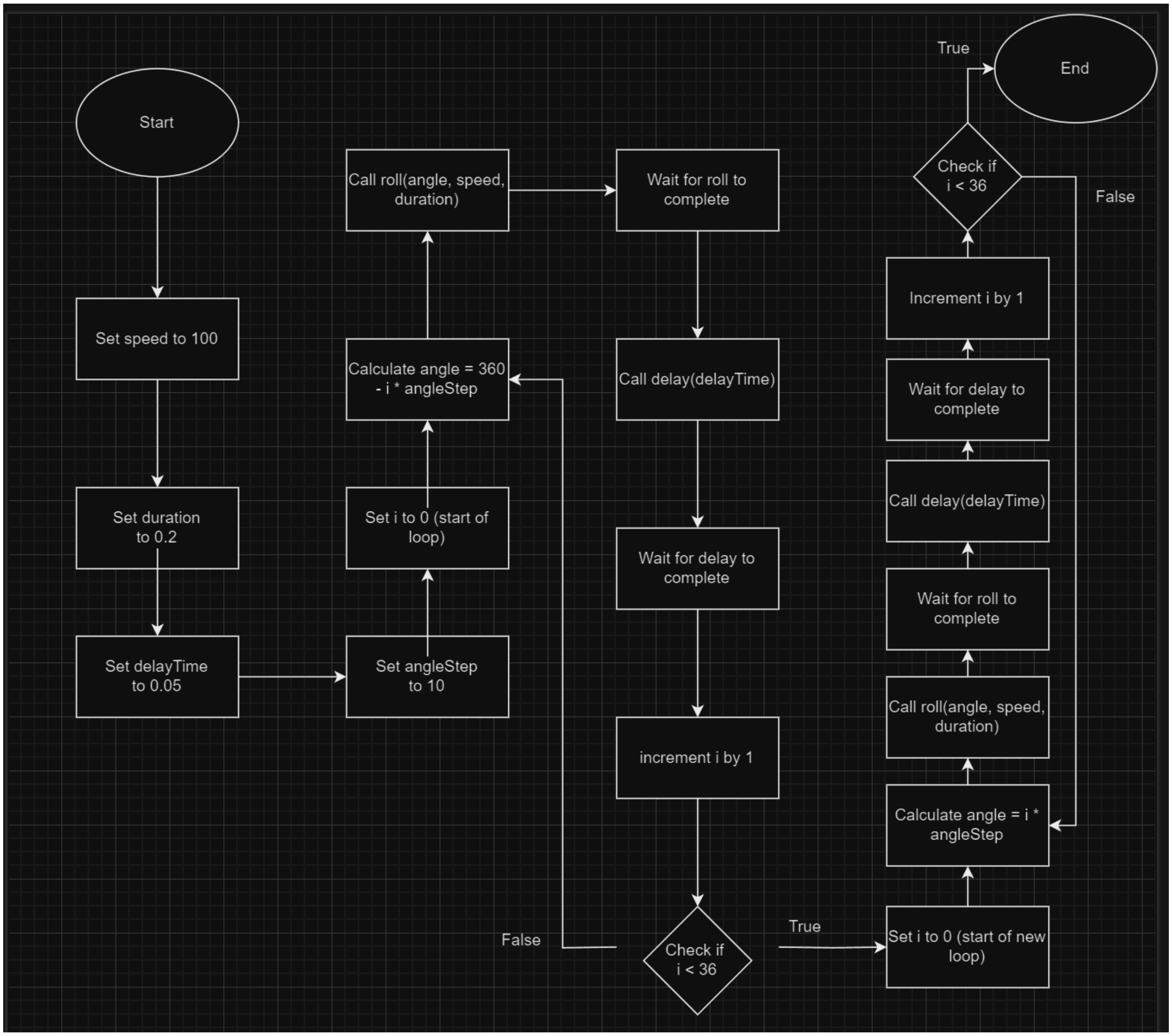
Requirement ID	Signoff By	Date
R1	Isaac and Bilal	11/15/24

R2	Isaac and Bilal	11/15/24
R3	Isaac and Bilal	11/15/24
R4	Isaac and Bilal	11/15/24

4. Algorithm

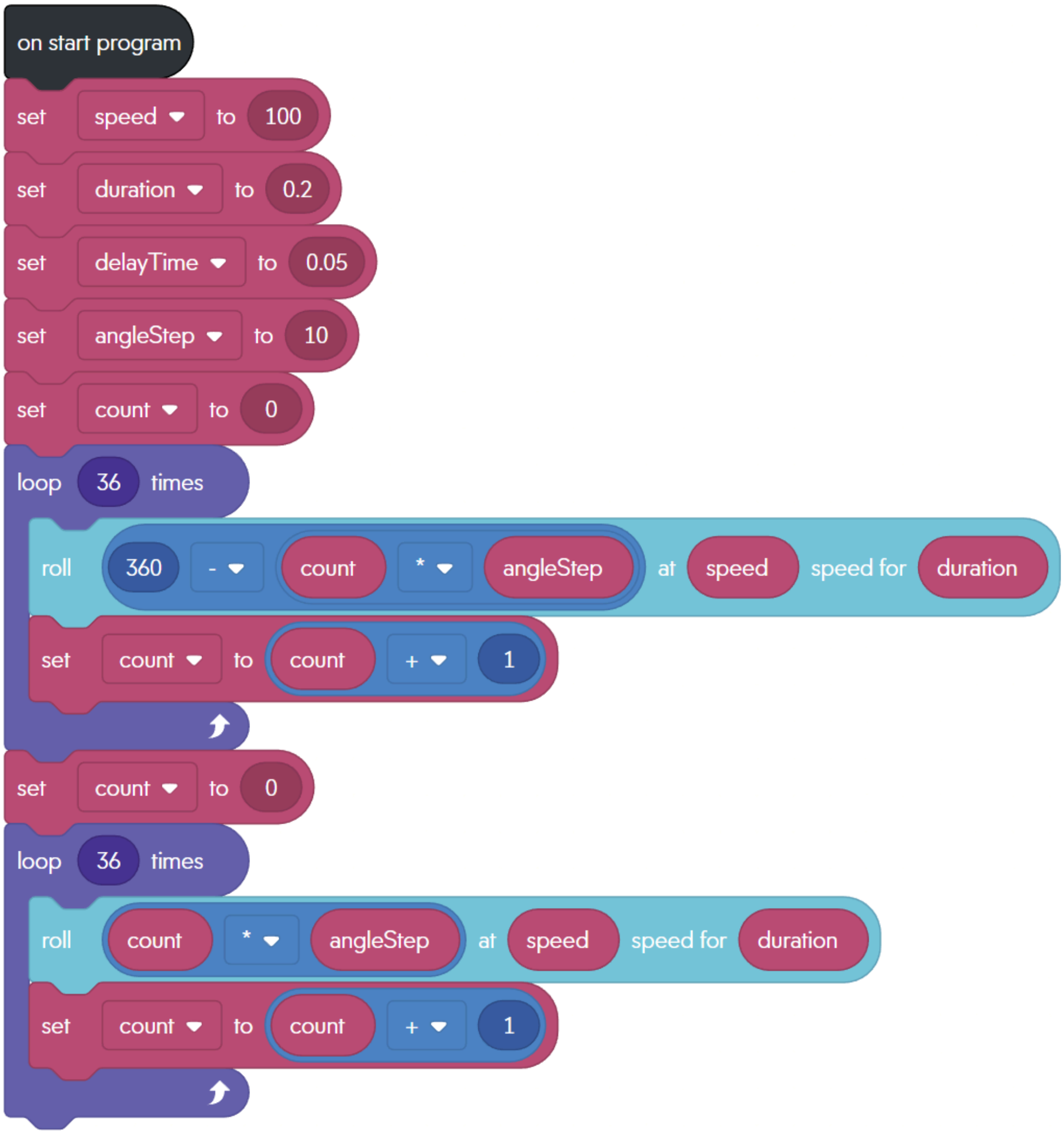
1) Initialize `speed` to 100.
2) Initialize `duration` to 0.2.
3) Initialize `delayTime` to 0.05.
4) Initialize `angleStep` to 10.
5) Set `i` to 0 (start of loop).
6) Calculate `angle = 360 - i * angleStep`.
7) Call `roll(angle, speed, duration)`.
8) Wait for `roll` to complete.
9) Call `delay(delayTime)`.
10)Wait for `delay` to complete.
11) Increment `i` by 1.
12) Check if `i < 36`. If true, go back to Step 6; otherwise, continue.
13) Set `i` to 0 (start of loop).
14) Calculate `angle = i * angleStep`.
15) Call `roll(angle, speed, duration)`.
16) Wait for `roll` to complete.
17) Call `delay(delayTime)`.
18) Wait for `delay` to complete.
19) Increment `i` by 1.
20) Check if `i < 36`. If true, go back to Step 14; otherwise, continue.
21) Program ends after completing both loops.

5. Flowchart



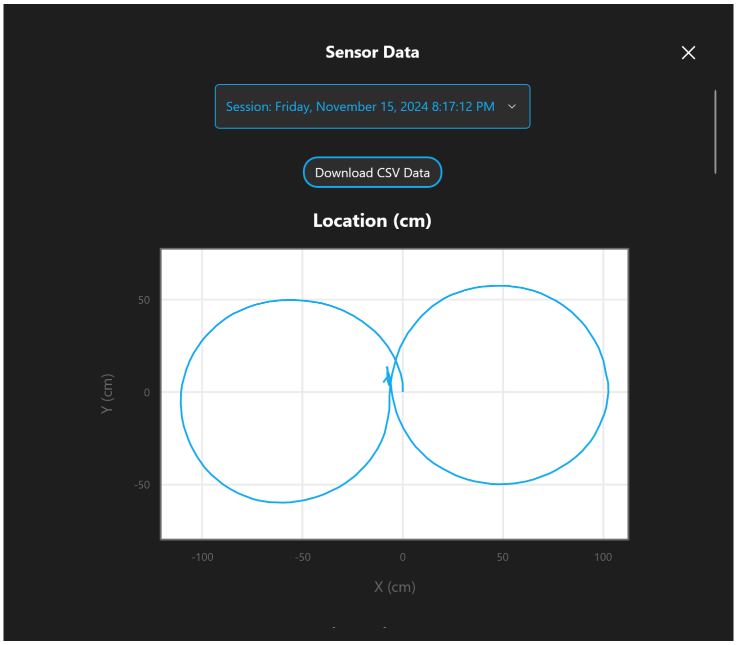
Start
Set speed to 100
Set duration to 0.2
Set delayTime to 0.05
Set angleStep to 10
Set i to 0 (start of loop)
Calculate angle = 360 - i * angleStep
Call roll(angle, speed, duration)
Wait for roll to complete
Call delay(delayTime)
Wait for delay to complete
increment i by 1
Check if i < 36
False
True
Set i to 0 (start of new loop)
Calculate angle = i * angleStep
Call roll(angle, speed, duration)
Wait for roll to complete
Call delay(delayTime)
Wait for delay to complete
Increment i by 1
Check if i < 36
False
True
End

6. Block Code



```
on start program
set speed to 100
set duration to 0.2
set delayTime to 0.05
set angleStep to 10
set count to 0
loop 36 times
    roll 360 - count * angleStep at speed speed for duration
    set count to count + 1
set count to 0
loop 36 times
    roll count * angleStep at speed speed for duration
    set count to count + 1
```

7. Sensor Data



8. Test Table

Test Case	Description	Expected Outcome	Actual Outcome	Pass/Fail
TC1	Go in a clockwise circle	Robot goes in a perfect clockwise circle	Robot went in a somewhat perfect clockwise circle	Pass
TC2	Go in a counter-clockwise circle	Robot goes in a perfect counter-clockwise circle	Robot went in a somewhat perfect counter-clockwise circle	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