



# 2E10 Project Plan

Group Y1

## Overall Group Objective

The objective of the group is to achieve a gold rating in this project. We aim to use a GitHub and Linear workflow to efficiently develop a buggy that can effectively traverse a predefined path and stop to avoid obstacles blocking the path. We aim to complete our deliverables on time and share the workload evenly across team members.

## Project Schedule

Members: Ruairi Mullally, Labiba Mansur, Shane McDermott, Noah Savage.

Schedule:

Week	Milestone	Deliverables	Key Date
W1	Planning complete	Project plan report. <a href="#">Group</a> Assign project manager. <a href="#">Group</a>	09/02/2024
W2	Initial construction	Fritzing circuit diagram. <a href="#">Ruairi, Shane</a> Set up IR sensors. <a href="#">Labiba, Noah</a> Complete first update video. <a href="#">Group</a>	
W3	Function demo (2%)	Wire all components. <a href="#">Labiba, Noah</a> Code wheel control. <a href="#">Ruairi, Shane</a>	
W4	Line following demo (3%)	Implement turning to follow track. <a href="#">Group</a>	
W5	Wireless Reporting	Implement wireless reporting to computer. <a href="#">Labiba, Noah</a> Complete circuitry diagram. <a href="#">Ruairi, Shane</a>	
W6	Bronze Challenge (15%)	Traverse track without hitting obstacles. Report event wirelessly. Complete Interim report (7%). <a href="#">Group</a> Group interviews (10%). <a href="#">Group</a>	26/02/24 - 01/03/24
W7	Speed controls	Implement GUI for speed setting. <a href="#">Labiba, Shane</a> Implement follow mode (SS sensor). <a href="#">Ruairi, Noah</a> Report distance and speed figures. <a href="#">Shane</a>	
W8	Silver Challenge (15%)	Remedy any bugs. <a href="#">Group</a> Demo Silver Challenge.	20/03/2024
W9	Implement camera	Take in camera data. <a href="#">Ruairi, Noah</a> Understand how camera data can be used and plan integration. <a href="#">Labiba, Shane</a>	
W10	Challenge course	Combine elements to tackle a challenge course.	
W11	Gold challenge	Deliver gold challenge. Code review. <a href="#">Group</a> Clean up and optimize code. Individual MCQ (10%).	
W12	Final challenge	Demonstrate final work. Final report (10%). <a href="#">Group</a> 3-minute YouTube Video (4%). <a href="#">Group</a>	08/03/2024

## Risk Assessment

Risk	Chance	Impact	C * I	Contingency
Team member falls ill	2	3	6	Comment all code. All familiar with elements. Frequent meetings
Damaged Components	4	2	8	Try not to hit walls and run over people. Keep the buggy in the plastic box when not in use.
Software bugs	5	10	50	Peer review code, allocate bug fixing time
Sensor calibration issues	7	8	56	Implement regular calibration checks for sensors.
Data quality issues	4	8	32	Implement data validation and preprocessing techniques to ensure data quality.
Unpredictable academic schedules	6	7	42	Develop a flexible project timeline that accommodates academic schedules and commitments. Plan ahead for busy periods such as exams or holidays.
Student availability and commitment	3	7	21	Establish clear expectations and timelines for project participation. Create communication plan.

## Communication Plan

The communication plan aims to facilitate effective collaboration, coordination, and information sharing among the team members working on the creation of a self-driving buggy. The plan will leverage various communication tools, including a WhatsApp group chat, GitHub for file sharing, and Linear for task assignment.

Project Manager: Ruairi Mullally

### Communication Tools:

1. WhatsApp Group Chat: For real-time communication, quick updates, and planning meetings.
  - a. Maintain a professional and respectful tone in all communications.
  - b. Ensure that notifications are enabled to stay updated with the latest messages.
2. GitHub: For version control, sharing code, documentation, and other project-related files.

- a. Follow the Git branching model for development (e.g., feature branches, release branches).
  - b. Use clear and descriptive commit messages for better understanding and tracking changes.
  - c. Review and merge pull requests promptly to maintain the project's progress.
3. Linear: For task management, assignment, and tracking progress.
- a. Create tasks for each project milestone, feature, or bug.
  - b. Assign tasks to respective team members based on their expertise and availability.
  - c. Regularly update task statuses to reflect progress accurately.

### **Meeting Schedule:**

Weekly Status Meetings: Every Monday at 6:00 PM (after lab) for 1hr. Discuss progress, challenges, and goals for the week.

Bi-weekly Technical Meetings: Every Wednesday at 4:00 PM (after lab) for 1hr. More in-depth technical discussions and problem-solving.

Ad-hoc Meetings: Organized as needed for urgent matters or critical decision-making.