

Team 3 AVC Plan

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Dolf - **We were not able to contact Dolf, and he has not contributed to this plan**

Roles:

Hardware: Felix Kain (builds robot, making sure it is fully functional)

Software Architect/Programmer: Edward (writes core code and debugging code, making sure it links together)

Designer: Zac Scott (Makes sure design of robot achieves recyclability and aesthetic requirements)

Organiser: Samantha Hau (Organises the team meetings, ensures hardware and software link correctly, makes sure we are up to date with the schedule and plan)

Team Agreement

By signing below, all team members are acknowledging that they have read and committed to their part in the AVC. They acknowledge that they will attempt to complete the tasks agreed on by the group each week and document this on the team github account. They acknowledge that failure to meet these goals can result in the team recommending any member receives a lesser grade for their AVC report. In the event that a team member is unable to complete their task due to circumstances beyond their control (i.e. sickness, bereavement etc) that they will inform the team at the earliest possible time. Finally, the team acknowledges that a member going a week without contact with other team members (except when discussed with the team in advance) will constitute the member in question being considered AWOL. In this instance the team agrees to inform the ENGR101 course co-ordinator immediately. The penalty this for this can range from a reduction in the final grade to immediate failure of the AVC (and thus the ENGR101 course). Should the team unanimously agree that a member (or members) have failed to contribute to the AVC sufficiently for other reasons, on the day of robot testing the team will be given the opportunity to anonymously vote for a team member to receive 0% for the robot part of the AVC. Should the team choose this option they **MUST** be able to show that the member in question had been assigned tasks that they failed to complete and that the team had afforded them an opportunity to make up for past mistakes.

Signed by all team members: (Printed Name)/ (Signature)

Z.scott

F.kain

S.Hau

E. Rean

Plan:

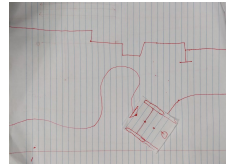
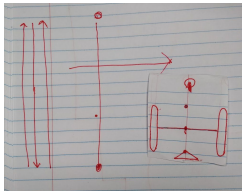
Week	Team Objectives	Commitments	Items Due	Tasks
Week 1 (7) 30th April	Make sure the robot is moving and built. Start building wednesday 2nd may - 1pm	ENGR101 test	AVC plan due	<ul style="list-style-type: none">- Start building- Start working on code for different functions- Finish design plan
Week 2 (8) 7th May	Make sure the robot can turn with accuracy.	CYBR 171 test		<ul style="list-style-type: none">- Finalise robot build- Make sure it can follow basic lines- Make sure most the body of the code is finished so it can function and move
Week 3 (9) 14th May	Get the robot to follow basic lines, and navigate maze, or just not crash...	COMP102 test		<ul style="list-style-type: none">- Improve code for performance of the robot- Fix any design flaws with the hardware
Week 4 (10) 21st May	Make sure it can follow lines, and handle dead ends and gates. Improve the performance of the robot	ENGR121 test	Progress report Finished robot	<ul style="list-style-type: none">- Final polishing of code and hardware for efficient movement and performance

Additional Tasks

- Keep record of coding
- Progress report at the end of each session

Building Ideas	Line ideas
<ul style="list-style-type: none"> - Distance sensors on three sides to detect walls - Angled Camera on top to see white line - Battery on top of wheels - USB ports and SD card on the sides (easy access) - Medium sized wheels - 3 IR sensors on left, right and centre of the front of the robot 	<ul style="list-style-type: none"> - If red spot change to function to get around the walls - If white line in front go straight - Else if there's a line left turn left - Else if there's a line right turn right - Else turn around

Robot Tasks:

<p>A-Quadrant:</p> <p>Robot should follow a straight white line on black background, wirelessly open a gate and move through it.</p>	<p>B-Quadrant:</p> <p>White line is arranged in curvy pattern, robot must continue to follow it.</p> 
<p>C-quadrant:</p> <p>White line is arranged in a maze pattern. You can consider some maze-solving algorithms.</p>  <p>If red square ahead change function Else if no white line ahead turn 90 degrees left If still no white line ahead turn 180 degrees to the right Else call follow white line function</p>	<p>D-quadrant:</p> <p>No white line. Maze made out of wall 100 mm high. Distance between walls 180 mm. No loops in the maze. The group score will be out of 100.</p>