

INF2004 Robot Car Proposal

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Roles

Roles	Difficulty (1-5)*	Allocated to
Car Construction	3	Ryan and Joshua
Car Movement Attributes		
Navigation and Mapping Algorithm <ul style="list-style-type: none">Mapping AlgorithmPathfinding Algorithm	5	Wei Jun
PID Controller <ul style="list-style-type: none">Control how the car moves and turns base on the input from the peripheralsIntegrate the team's peripherals functions	5	Joshua, Wei Jun and Ryan
Wheel Motor <ul style="list-style-type: none">PWM to turn the wheelsFunctions to toggle duty cycle to set speed	3	Joshua and Farah
Wheel Encoder <ul style="list-style-type: none">Detects the speed and distance traveled by the Car	2	Joshua and Wei Jun
Efficiency and Optimization <ul style="list-style-type: none">Ensure efficient coding based on the principles learned in class	4	Everyone for the different components allocated
Car Sensors and Accessories		
Magnetometer Integration <ul style="list-style-type: none">Measures the Earth's Magnetic fieldMeasures Direction of the car	4	Joshua and Rene
IR Sensor (Side wall Detection) integration <ul style="list-style-type: none">Detect for any wallsRecord inputs if wall is	3	Rene

detected		
Ultrasonic Sensor Integration <ul style="list-style-type: none"> • Detect for objects in front of the car • Record inputs of any objects in front and the estimate distance 	4	Farah
Infrared Sensor Integration with Barcode Recognition Algorithm <ul style="list-style-type: none"> • Detect for barcodes • Scan and record the input of the barcode 	5	Ryan
User Interface - To see Recorded Inputs (If we are using command line for the user interface, difficulty could be 1)	4	Ryan and Wei Jun
Documentation and Testing <ul style="list-style-type: none"> • Unit testing on each of the respective components individually • Project report detailing the design, construction, algorithms, results, challenges, and insights 	5	Together

*Difficulty is based on what we had experienced. Can be subjective between other teams.