

Save a copy of this document somewhere you can access.

This is ***your*** learning journal. Make sure that you keep it updated as you progress through the Project. Your teacher will let you know when to complete each step. Document both your successes and your failings as they provide the most important learning opportunities!

To get started, please type your name in the following box:

|  |
| --- |
|  |

# 

# Step 1: Define

After watching the video in the [Define](http://app.createbase.co.nz/project/send-it/define) step on the platform, your teacher will have a discussion with the class about what has happened. Afterwards, they may ask you to answer the following questions. When you are done, move on to the Imagine step.

1. List 5 things you can observe from the video**.** Remember, an observation is what you can see, not what you think is happening!

|  |
| --- |
|  |

1. Using your observations from the previous question, come up with two inferences about what is happening in the video.Remember, an inference is a short conclusion made based on evidence (observations).

|  |
| --- |
|  |

1. Based on your inference made in the previous question, what do you think is the main issue being described in the video?

|  |
| --- |
|  |

1. How do you think this situation could have been avoided? List 3 things.

|  |
| --- |
|  |

# Step 2: Imagine

As a group, select ONE of the first five Imagine modules at <https://app.createbase.co.nz/project/send-it/imagine> to complete. For reference, the names of these modules are:

* Vehicular Delivery
* Your Robot has Mail
* Controlling a Robot
* Sensing Sensors
* Automation & Ethics

Discuss all of your answers as a team, but make sure that every member writes a summary in their own learning journal in the box below. Bullet points and incomplete sentences are acceptable. If you finish early, your teacher may ask you to complete a second module as well.

|  |
| --- |
|  |

Once you have finished, check out the content in the How to Send It module, then press the green Give it a go button in the bottom left-hand corner of the platform to control the robot manually.

When manually controlling the robot, you should be thinking about three things at all times: what decisions am I making, what information am I using to make these decisions, and what actions am I performing based on my decisions.

Keep going until you have gained an understanding of the simulation as you will be working with it for the remainder of this Project (you aren’t expected to be able to complete it manually).

# 

# Step 3: Create

## Subsystem 1

### Research

Walk yourself through all five of the Research modules at <http://app.createbase.co.nz/project/send-it/create/Obstacle%20avoidance/research>. If you get stuck or confused, ask your classmates or a teacher.

# 

### Plan

Your robot will be faced with many tough decisions as a self-driving vehicle. Type your answer to these brief questions in the boxes below to explain what you think your robot should do in these situations:

1. When you were manually controlling the robot, you were using your human sensors to read information and then use that information to make a decision to perform an action.
   1. Every milli-second, you were making a decision: “do I perform action X now or wait?” What action were you performing?

|  |
| --- |
|  |

* 1. What information were *you* using to make this decision? (how did you know when to perform action X?)

|  |
| --- |
|  |

* 1. What “human sensor” were you using to gather this information?

|  |
| --- |
|  |

1. If your robot has to choose between hitting an unmanned drone or a family car what should it hit? Explain your reasoning.

|  |
| --- |
|  |

1. If your robot is going to crash into a family car containing four people, should it self-destruct instead? Explain your reasoning.

|  |
| --- |
|  |

1. How would your answer change if there was one pedestrian standing nearby that would be caught in the explosion? Should your robot self-destruct to avoid the family car but harm the pedestrian? Explain your reasoning.

|  |
| --- |
|  |

1. How would your answer change if instead there were four pedestrians standing nearby that would be caught in the explosion? Explain your reasoning.

|  |
| --- |
|  |

### Code

You can now return to the platform and create your answer as part of the Code step. Make sure that you refer back to the Research and Plan content in your learning journal or the platform whenever you get stuck!

When you have finished with Code, add a screenshot of your final solution below showing the success screen as well as either the Flow or text code. Then, write a brief explanation of how it works, including any problems that you encountered along the way and how you overcame them:

|  |
| --- |
|  |

# Step 4: Improve

Add comments and a screenshot of your final Improve solution below. You may also want to provide multiple screenshots throughout your development to highlight how your solution improved over time::

|  |
| --- |
|  |

# Step 5: Review

Congratulations on completing the Project! Please type your answers to the following questions:

1. If you had more time available, how could you potentially improve your solution? If your solution to the Create step didn’t work, try and explain why.

|  |
| --- |
|  |

1. Think about what you achieved during the project. What are you most proud of?

|  |
| --- |
|  |

1. Think about the parts of the project that didn’t go well. List up to **three** of them below. If nothing went bad, think about things that you could have done better.

|  |
| --- |
|  |

1. Choose **one** from question 4. Why do you think it didn’t go well? If you were going to redo this Project, what would you do differently to avoid this negative?

|  |
| --- |
|  |