Log Book

NJRB2 | MVS9 | FA296

This document shows our minutes for every meeting with Dan Knox (supervisor).

# 17/09/18

## Attendees

Finlay Shepherd, Nicholas Bailey, Marielle Valdez

## Goals

* Define project deliverables

## Discussion

|  |  |
| --- | --- |
| Topic | Discussion |
| *Methodologies* | Decide on which methodology to use for development, whether agile or TDD, with reasons why |
| *Timeframe* | Deadline for project completion is March 2019 |
| *ROS Framework* | To control the drone, the language Python will be used using the ROS framework |

## To Do:

|  |  |
| --- | --- |
| Assignee | Task |
| *[group]* | Work through ROS framework tutorial  Decide on project methodologies  Get turtlebot sim working |

# 02/10/18

## Attendees

Finlay Shepherd, Nicholas Bailey, Marielle Valdez

## Goals

* Discuss how to define milestones for the project

## Discussion

|  |  |
| --- | --- |
| Topic | Discussion |
| *Methodologies* | It is possible to alter the scrum methodology – however will need to note down why we did so, and why it wouldn’t work if we applied it normally. User stories are not applicable, but stories can be created to explain requirements. |
| *ROS* | Will receive guidance to help set up the ROS framework, but will need to reference where we received help from. |
| *Milestones* | Big milestones shouldn’t be set. Instead we should figure out how to get to the output we want. |
| *Three Main Pillars* | The three main areas of the project are the image analysis, location finding, and the ROS framework. |
| *Simulator vs Drone* | Some similarities, only difference is the fact that simulators are very limited in terms of the environment (for example, wind). It will also always act in its optimum performance |

## To Do:

|  |  |
| --- | --- |
| Assignee | Task |
| *[group]* | * Document our main goals and create stories for them * Create diagrams for project structure * Split main pillars into objectives |

# 09/10/18

## Attendees

Finlay Shepherd, Nicholas Bailey, Marielle Valdez

## Goals

* Discuss the location problem as well as limitations

## Discussion

|  |  |
| --- | --- |
| Topic | Discussion |
| *Trello* | Held our first sprint planning, which consisted of creating tasks and assigning them to the appropriate person. Within the board includes the difficulty of one task. |
| *ROS* | ROS was deployed with flying and landing the drone, however came across a few package problems - the drone doesn’t know whether or not there is an object in front of them. |
| *Location Problem* | The drone can be put on a minimum height, therefore can be the same height as the Roomba. Should have a look at using a lighthouse which sends messages to the Roomba saying there is a block in front of it. |

## To Do:

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| --- | --- |
| Assignee | Task |
| *[group]* | * Continue looking at articles * Get the drone controlled using the keyboard * Send code to Dan for checking before using the actual drone |

# 16/10/18

## Attendees

Finlay Shepherd, Nicholas Bailey, Marielle Valdez

## Goals

* Get the drone to fly and land

## Discussion

|  |  |
| --- | --- |
| Topic | Discussion |
| *Finding QR Code with Drone* | Using the simulation, you can put a tile on the floor and get the drone to look for the tile, and once found, take it away again |
| *Roomba Investigation* | Let a Roomba roam a massive hall for half an hour and investigate its behaviour, taking notes of the possibilities of where it can go, how often does it turn etc. |
| *Drone* | Was able to give the drone a try using both the code and the controller via an app on the mobile phone. |
| *Sprint Planning* | Would it be easier to do a sprint every week? Realistically speaking, a sprint every two weeks is best just in case there are more assignments needed to be done |

## To Do:

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| --- | --- |
| Assignee | Task |
| *[group]* | * Have a look at trying to get the image analysis onto ROS * Investigate the behaviour of the Roomba * Bring documentation for next session |

# 23/10/18

## Attendees

Finlay Shepherd, Nicholas Bailey, Marielle Valdez

## Goals

* Get the drone to fly and land

## Discussion

|  |  |
| --- | --- |
| Topic | Discussion |
| *Drone* | Accomplished the flying and landing of the drone, therefore can apply to the real drone and practice emergency landing. |
| *Documentation* | Provide evidence of documentation so that can confirm whether or not it exists. |

## To Do:

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| --- | --- |
| Assignee | Task |
| *[whole group]* | * Read articles for the location problem |

# 06/11/18

## Attendees

Finlay Shepherd, Nicholas Bailey, Marielle Valdez

## Goals

* Get the drone to fly and land

## Discussion

|  |  |
| --- | --- |
| Topic | Discussion |
| *Simulation Additions* | There have been problems with adding textures/images to the world. ROS might be doing something different, as it could be a permission error, as ROS handles the pathing. |
| *Location Problem* | Since ROS doesn’t have compass readings, it has (x,y,z) values from the magnetometer, which reads values in different dimensions. Every once in a while, drone will have to be recalibrated, and happens when it flips over. The magnetometer can only be used outside of the Shed due to internal magnetic fields. |
| *QR Reader* | A library can be used if needed, need to ensure that everything is transparent and reasons why a library is used should be explained and justified. |
| *Flight Checklist* | Will need at least two people to fly the drone, the Pilot and the Observer. Better to use in the field due to the space required, and a QR code can be put on top of someone or on the ground. |
| *Roomba into Simulator* | Use turtle bot to put into the simulator |

## To Do:

|  |  |
| --- | --- |
| Assignee | Task |
| *[group]* | * Play around with the drone to look at what values gyroscope reads |