Re: CP34 - Check In

Cian (Robotics Masters) <cian@roboticsmasters.co>

Tue 8/09/2020 10:22 PM

To: Xiaoxiang Wu <xiwu9085@uni.sydney.edu.au>; Yufan Xu <yuxu6642@uni.sydney.edu.au>; Derong Liu <dliu2530@uni.sydney.edu.au>; Justin Lee <jlee2180@uni.sydney.edu.au>; Dylan Duplessis <ddup5819@uni.sydney.edu.au>; Shau Chi Hui <shui3677@uni.sydney.edu.au>
Cc: Cian Byrne <cian.byrne@coliemore.com.au>; abdallah.lakhdari@sydney.edu.au <abdallah.lakhdari@sydney.edu.au>

1 attachments (316 KB)

CP34 - Scope and Requirements Document September 2020.pdf;

Dear Team,

Please find attached the requirements document for guidance throughout the semester. Please feel free to ask any questions on Discord regarding the scope document.

Kind Regards,

Cian
Robotics Masters Limited
E: cian@roboticsmasters.co

On 2020-09-06 23:30, Cian (Robotics Masters) wrote:

> Dear Team,
>
> Thank you for the meeting we had last week. It was great to discuss the project with you at the meeting.
>
> I will be sending out the requirements document very soon. Please make sure you have joined the Sydney 2020 discord server - this is essential for all teams now. https://discord.gg/3VcknAe. Each team has their own channel which I will be continually sending out further documentation and updates.
>
> I have slightly adjusted what is going to be due at the next meeting. Please see below.
>
> Please let me know if you have any problems progressing with setting up Gazebo simulator, ArduPilot or PX4 environments. Documentation is available (below) to achieve this.
>
> Setting up Gazebo and ArduPilot
> Setting up Gazebo and PX4
> Gazebo Documentation
>
> Apparently you can now run Gazebo on Windows, thanks to the Windows Subsystem for Linux (WSL). Please try to set it up the best you can, otherwise try using VirtualBox. There are plenty of other online resources that you can find using Google if you run into installation issues. Please also ask in the relevant community channels for assistance, as they are best placed to help you out quickly and efficiently.
>
> PX4 Slack Channel
> ArduPilot Community Groups

We will need to model buildings and trees in a city environment. Please model these in the Gazebo environment. I will check in the middle of this week to see how you are going.
To be delivered in the next week:

- Working Simulator with both ArduPilot and PX4 Environments (**aim**: complete by Wednesday)
- Path navigation based on coordinates or point to point in the simulator (**aim**: Friday).
- Weather conditions modelled into simulator (**aim**: Saturday).
- Plan for how to achieve optimal path and include base stations and proof of concept in the simulator (**aim**: Saturday). I am leaving this open ended; you can any approach to achieve this task. The team working on this project last year attempted to use a modified Dijkstra's shortest path algorithm, however, they did not complete it. Remember that the core problem for this project is to find an optimal drone delivery path based on fuel consumption, weather conditions, charging station locations and the destination. More information will be in the requirements doc.

Divide and Conquer to ensure all the above is delivered by the next meeting. Please send through a list of who will be completing each task via email before the end of Monday. I believe all of this is achievable in the time frame as there are a few of you for completing each task.

Please let me know if you have any technical issues with the above. I will be on Sydney 2020 Discord every afternoon to assist with problems.

Kind Regards,

Cian Byrne
E: cian.byrne@coliemore.com.au
M: +61 458 644 173