About The Project

Submitters

Julian Ewaied 215543497

Namir Ballan 326165156.

Github Repository

https://github.com/julianewaied/Real-Time-Systems-Lab/

Advisor

Barr Israel

Media and Resources

All videos we used to install the libraries are attached in the reports. All data we used were sent by our advisor. We wrote all the code from a to z.

Why do we deserve the points?

Evaluation Element	What we did
Defining the problem	Room Mapping using motion vector. We tested a new path which we called vertical rotation, as explained in the reports.
Knowledge about the system	We built the analysis system from 0. We understood how the drone works in the wrapping code of our advisor (we wrote the path in python), and understood the limitations of the system.
Individually solving and recognizing issues	We solved multiple technical issues with installing the libraries, and found multiple bugs individually. We managed to recognize our results were correct and map our expectation of the room to the actual results we had. We also suggested two filtering algorithms of which one was our original one (average color algorithm)
Time management	We submitted all the reports 1-2 days before the due date, and achieved our final purpose (to optimize this path's results).
Matching final results to expectations	We achieved a somewhat good resolution of the room map. We still don't have a map that matches our expectations, but we explained the difficulties and why we can't reach a better resolution.
Integration of the code in the original project	We offered a very simple interface between our project and the original project as we manage all our IPC through the file system (csv files) which is a very simple and popular method to do so.
Presentation of the project	We have presented the project in multiple ways through a plenty of reports full of diagrams, explanations, images and equations. We also attached a demo video showing all the results, and the points cloud we got for further demonstration.