

1 Introduction

Throughout **Project Status 1**, our team maintained a strong spirit of collaboration and resilience. Even when we faced tight deadlines, unexpected bugs, and repeated iterations in testing, we stayed aligned on a common goal and supported each other consistently. We worked with an open mindset, sharing ideas, reviewing each other's code, and dividing tasks efficiently based on individual strengths - so that every improvement was the result of collective effort rather than individual work.

2 Planned activities

Receiving the car model from Bosch Vietnam		9/12	All
Checking the hardware system, chassis	Research	10/12	Trung Anh
Running Putty through PC to Nucleo	EP	11/12	Hung
Modifying file robot_car.bin	Update	13/12	Dat
Setting up an RPI embedded computer	EP	15/12	Phat
Connecting to Dashboard server	EP	18/12	All
Being able to control the car remotely with the dashboard	Update	18/12	All
Building Lane Detection test algorithm	Development	15/12	Hung

3 Status of planned activities

Activities	Results	Status	Solutions
Receiving the car model from Bosch Vietnam		Done	
Checking the hardware system, chassis		Done	Viewing the wheels, chassis, motor, servo, rpi, nucleo.
Running Putty through PC to Nucleo		Done	Changing serial port, baudrate,..

Modifying file robot_car.bin		Done	Compile fixed speeding.cpp and steering.cpp.
Setting up an RPI embedded computer		Done	Installing the RPi-OS (Bfmc).
Connecting to Dashboard server		Done	After 10s, connecting rpi_hot_spot
Being able to control the car remotely with the dashboard		Done	Change mode into KL30, and Manual
Building Lane Detection test algorithm		Done	Conventional Lane Detection, Hough transforms.
Calibration on the 192.168.50.1:4200 server		Ongoing	Backend lost connection after calibration (run 5 dgr)
Communication between Pi and Nucleo		Done	Try python script

4 General status of the project

By the end of **Project Status 1**, the car model has successfully achieved the key baseline capabilities for autonomous driving. It can move straight at a constant velocity and perform steering control using the output angle generated by the Lane Detection algorithm. At this stage, the complete perception-to-control pipeline has been validated in an offline demo setting using prerecorded video materials, allowing us to verify lane recognition stability and ensure the steering response generally follows the detected lane geometry under basic scenarios.

However, although the vehicle is able to detect lane markings, the steering angle is not yet sufficiently accurate and stable for precise lane keeping. With more development time, we would further refine this part by improving the control strategy and tuning parameters, so the car can output a more reliable steering angle and achieve smoother, more consistent driving performance.

5 Upcoming activities

https://github.com/Baedontcry004/BFMC_for_AEElab_Team/blob/main/Document/Plan_Schedule/Plan.png