# 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.

# 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 |

# 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 |

# 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 is able to move straight at a constant velocity and perform steering control based on the output angle generated by the Lane Detection algorithm. At this stage, the complete perception-to-control pipeline has been validated through both offline demonstrations using prerecorded video materials and real-time testing.

The vehicle can now reliably detect lane markings and generate a steering angle that is sufficiently accurate and stable for lane keeping. As a result, the car is able to follow the detected lane smoothly and maintain consistent driving behavior under basic scenarios. This demonstrates that the lane detection and control strategy is functioning effectively and provides a solid foundation for further improvements and more advanced driving scenarios.

<https://youtube.com/shorts/BCRHiI0atEA?feature=share>

# Upcoming activities

<https://github.com/Baedontcry004/AEElab-BFMC2026/blob/main/Project%20status/Project%20status%201/Upcoming_activities.png>