15/8/2024

Team 3

Daily report

Prepared by :

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Today's Progress

1. Roles of Team Members

1.1 Hardware Sub-team

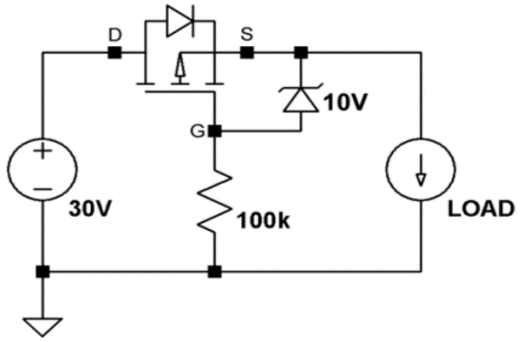
Ezzeldin Fekry Abdelsalam

Today, I assembled the circuitry of the car robot with Omar Hafez to ensure all components were functioning correctly and to test the Firmware Sub-team's code. During this process, we encountered two Problems

- Battery Issue: The Lithium-ion batteries failed to operate as expected. Although the circuit worked with a 9V battery, it was insufficient to power the motors.
- Component Dimensions: Some components provided by electronics stores had incorrect dimensions. I will adjust the footprints accordingly before fabricating the PCB.

Nour Mohamed Ramadan

- Searched for voltage sensor to be more suitable, but still searching.
- Searched for the reversed polarity protection (P-channel MOSFET) ,its technique , watched videos to understand the mechanism of the circuit to handle it well and how we calculated the values of all components.



1.2 Firmware Sub-team

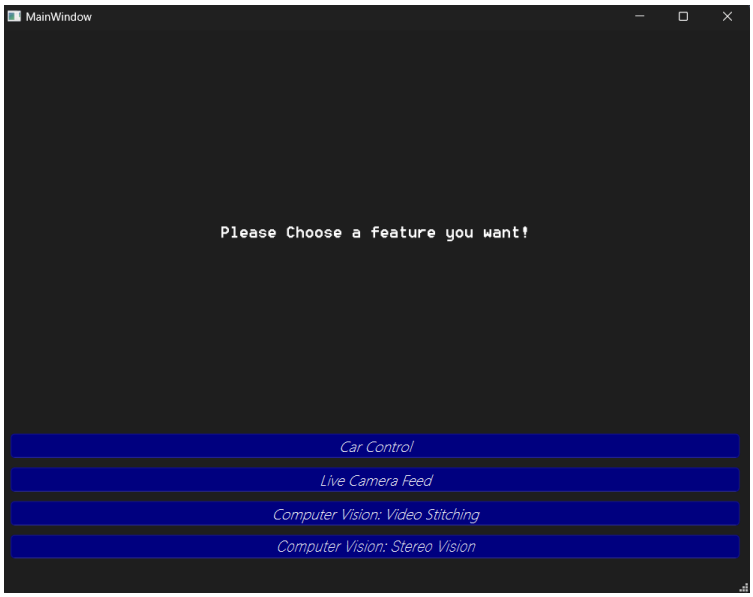
Omar Mohamed Hafez

- Made several modifications in the car robot code.
- Successfully bootloaded a test code onto the ATmega328P microcontroller.
- Assembled the car with Ezzeldin Fekry.

1.3 Software Sub-team

Nour Zeidan

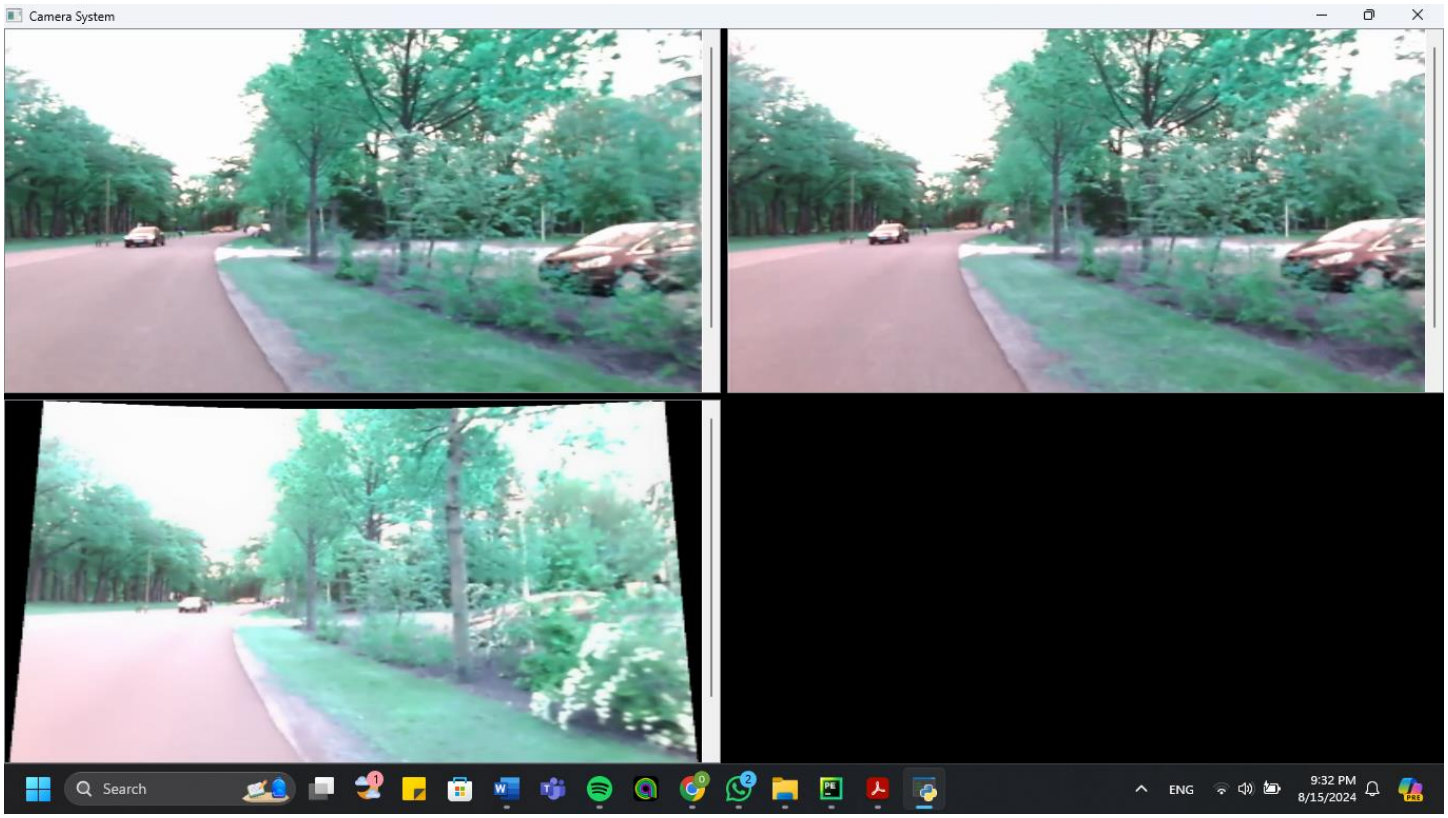
- Changed the main window buttons to have two buttons each one for each computer vision task.
- Made the frontend of the manual page to control the car.
- Tried implementation the connection of GUI and the Arduino code by importing serial communication and it is being tested by Omar Mohamed but not sure of the output.



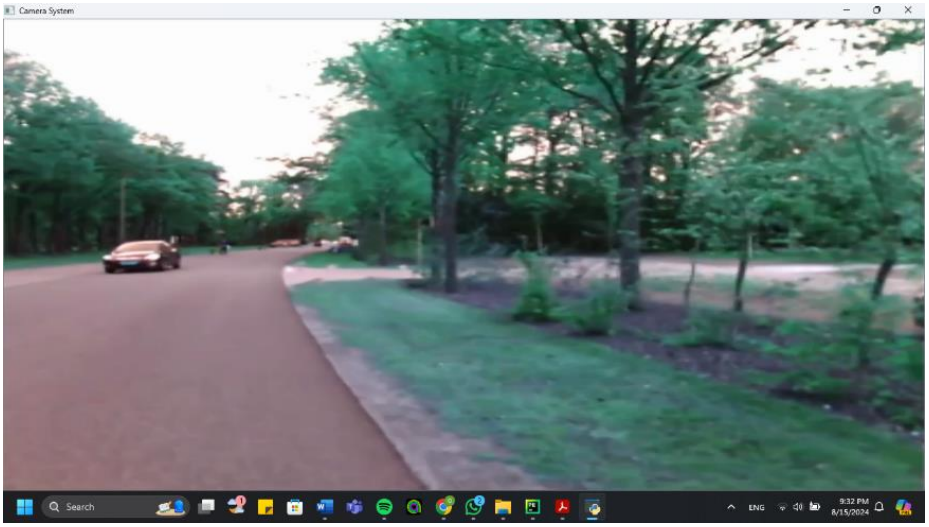
Omnia Farouk

Video Stitching Progress

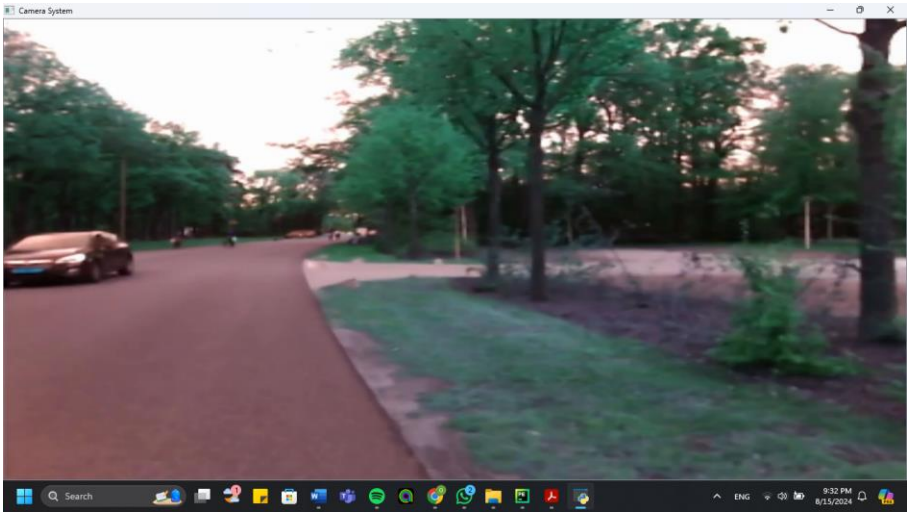
- Finished the GUI of the camera system
- Finishing the Video Stitching Task but without connecting it to the full GUI
- Displayed left, right, and stitched views in the Camera System window with added features like
    - The ability to scroll through the whole view as the screen is bigger than to be displayed in the specific place for the camera in the window
    - The ability to enter a full-screen mode for one view and return back
    - All windows are displayed in different threads using QThread
    - Separation between the frontend and the GUI and the logic of the display, threads, and stitching
- Unfortunately, Though, the logic of the stitching is still a bit inconsistent and slow in processing and display, Also, the video visuals and colors are washed out and are not the best



Left Camera Maximized



Right Camera Maximized



Stitched View Maximized