WEEKLY REPORT and MEETING AGENDA

Report #: 1 Project Name: Traffic Light Detection and Tracking
Date: 2/7/23 Prepared by: Morgan Roberts

Agenda for the weekly meeting

1. Discuss and resolve problems with potential implementation
2. Can edge detection be used to reduce workload on the neural network?
3. How to do blinking lights
4. What kind of graphics card does the test car run?
    - The larger the neural network, the longer it takes to get a result from the input
5. Do the objectives specify landmarks or aspects of the final goal?
6. What is our expected budget?
7. When is our Proposal presentation?
8. When are the weekly reports due (discrepancy on syllabus vs google classroom)

Accomplishments during this period

1. Completed Docker and ROS setup
    - Found how to open multiple distinct terminals in docker container
2. Agreed on proper collaboration times outside of primary meeting times
3. Researched methods of training a model
    - Clayton discovered YOLOv8 and compared it to other versions
4. Made progress on Project Proposal
    - Morgan started an outline for the needs, goals, objectives, and design constraints and feasibility.
    - Clayton worked on societal, safety and environmental analysis.
    - Aaryan found relevant research for a similar implementation using YOLOv4
5. Clayton learned how to format Gantt Charts

Plans for next period

1. Complete the project proposal
    - Each member needs to find:
        - a proposal section to work on
        - a research paper or previous project which might aid us
2. Work on project proposal presentation
3. Discuss and research potential libraries that might help us with our implementation

Project management status

1. Schedule and milestones
    - Everyone completed ROS and docker setup
    - Next milestone is completion of proposal
2. Teamwork
    - Collaborated on thursday in-person and sunday online
3. Purchases
    - None

Minutes from previous meeting

1/31/23 – Progress Meeting 1 (Morgan, Clayton, Aaryan, Robert, Max)

- Located in EABA
- Met with client Shuangyu Xie
- Camera over lidar
    - lidar gets proximity data, can only get color at close range
    - camera is easy to trick
- We won't use lidar data at all
- minimize process time to human perception (1/10th second)
    - under 100 ms
- We need to label data
    - find best way to do that
- find what tracker is best
    - YOLO is probably the fastest (maybe v8?)
- Decided to have in-person collaborative meeting on thursdays 9:30am-11am