MacV Object Tracker Task

Objective

The goal of this task is to develop an object tracking-based application. This application will:

1. Track objects in a video
2. Calculate and display specific metrics
3. Visualise tracking results
4. Export and display the output in an HTML window.

This task is designed to evaluate your technical skills and decision-making process.

Task Requirements

Core Functionalities

- Track objects in the video provided in the email.
- Calculate and display the following metrics:
  - **Total time each object spends in the video**.
  - **Total number of unique object IDs detected**.
- Visualise the results:
  - Draw bounding boxes and centroids for each object.
  - Display the trail (tail line) of each object’s movement throughout the video.

Output Video

- Save the processed video in a suitable format.
- Ensure the video runs seamlessly in a browser.

Documentation

Provide clear documentation that includes a description of your approach, the tech stack used, implementation details and anything else that is interesting that you'd like to share.

Submission

- Share your code via a GitHub repo
- Include the documentation and the result video in the repo
- Provide a sample HTML file with the result video running in a browser
- Share the repo link via email by the deadline

Evaluation Criteria

You will be evaluated based on:

- **Code Quality**: Readability, structure, and adherence to best practices.
- **Functionality**: How well the application meets the task requirements.
- **Documentation**: Clarity, completeness, and depth of your documentation.
- **Creativity**: Innovative approaches or solutions.
- **Understanding**: Ability to discuss and justify your decisions during the interview.

Deadline

The deadline for this task is 3 days after receiving this email.

Support

If you encounter any issues or need clarification, feel free to reach out to me via email.

We're excited to see your solution and discuss your approach during the interview