


EECS192 Lecture 14

Physical Race 2

April 27, 2021

Topics

- 
- Oral Report: Tues May 4/Wed May 5
 - submit pdf of ppt slides to BCourses by 5pm Tues May 4.
 - Final Exam Fri, May 14, 11:30A - 2:30P
 - Open book, open notes, individually
 - (contact if in awkward timezone)
 - Other example questions posted by next week
 - 4/27: Quiz 5: bicycle model
 - Round 2 (live/hardware) in class 4/27

Oral Report

<https://inst.eecs.berkeley.edu/~ee192/sp21/docs/oral-present.pdf>

- Slides due on bcourses 5 pm Tues May 4.
- The style should be of a professional technical presentation. (No hand drawn diagrams)
- Each group's presentation will need to be no more than 10 minutes with one minute left for answering questions. Be sure to practice and time your presentation.
- Assume that your audience is very familiar with the project. Hence, you do not need to explain how the line camera sensors work or how the program is compiled.
- Typically, going through ten slides in ten minutes is about right.

Oral Report, cont.

1. Vehicle Hardware and Embedded Peripherals (20%)

c) Describe how you used any of the embedded peripherals for generating signals, counting pulses, measuring intervals, generating interrupts, etc. For example PCNT and MCPWM might be used for velocity sensor and line camera respectively.

2. Line Sensor Algorithm (20%)

3. Software (20%)

4. Controls (25%)

5. Lessons learned (10%)

6. Roles and Contributions (5%)

Briefly describe the role of each team member.

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Round 2 Tues 4/27 5 pm

- 1) Video of best run(s) + telemetry plots
 - Will be shown in class and discussed
 - Can do live on personal track
 - Be prepared to explain plots if not clear
 - Use timer/distance to show speed

- 2) Can do Courtyard or personal track
 - score = $\max\{\text{Courtyard, personal track}\}$

Round 2 Cory Track Scoring (+20 pts max) (Draft 4/13)

-0.5 points	Twitchy steering
-0.5 points	Goes wide on curves
-0.5 points	Oscillatory step response
-1 points	Ignores stop marks

-0.5 points	Slower than 2.5 m/s
-1 points	Slower than 1.5 m/s

-1 point	Does not finish track
-2 points	Finish < $\frac{1}{2}$ track
- 3 points	Finish < $\frac{1}{4}$ track

Round 2 Personal Track Scoring (+20 pts max) (Draft 4/13)

Step Response

-1 points	Oscillatory step response
-1 points	Slower than 2.5 m/sec
-2 points	Slower than 1.5 m/sec

S Curve or Fig 8

-0.5 points	Twitchy steering
-0.5 points	Goes wide on curves
-0.5 points	Ave speed Slower than 2.5 m/s
-1 points	Ave speed Slower than 1.5 m/s

Straight line- drag race

-0.5 points	Twitchy steering
-2 points	Misses stop line
-0.5 points	Peak speed Slower than 2.5 m/s
-1 points	peak speed Slower than 1.5 m/s

Team Order

Team	Cory Courtyard	Step	S-Curve	Straight
1. Kellen, Alex				
2. Akhil, Sala				
3. Eric, Alexander, Chung Min				
4. Gavin, Thiti, Derek				
5. Rafi, Jason				
6. Albert Lee, Andrew Hu				
7. Sebastian Lee, Mark Scheble Jiazhen Li				