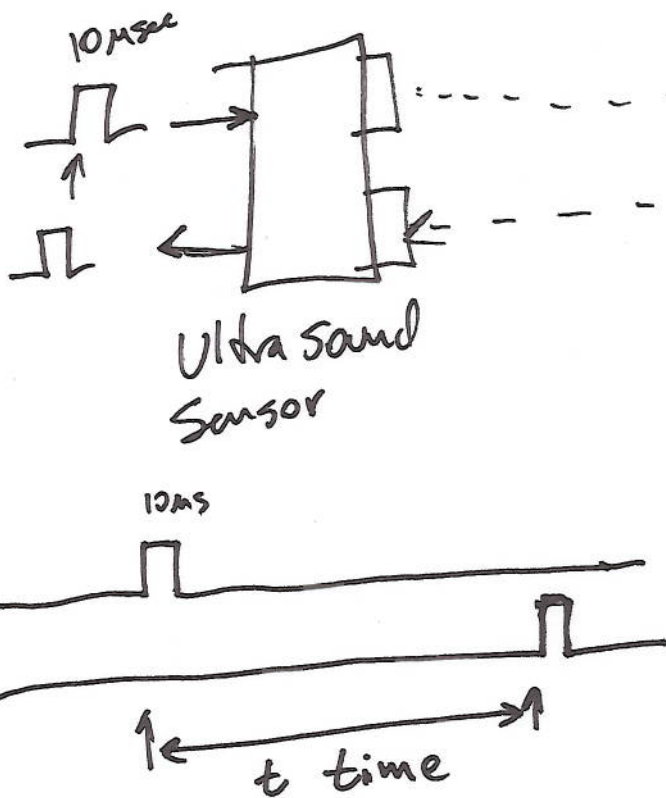
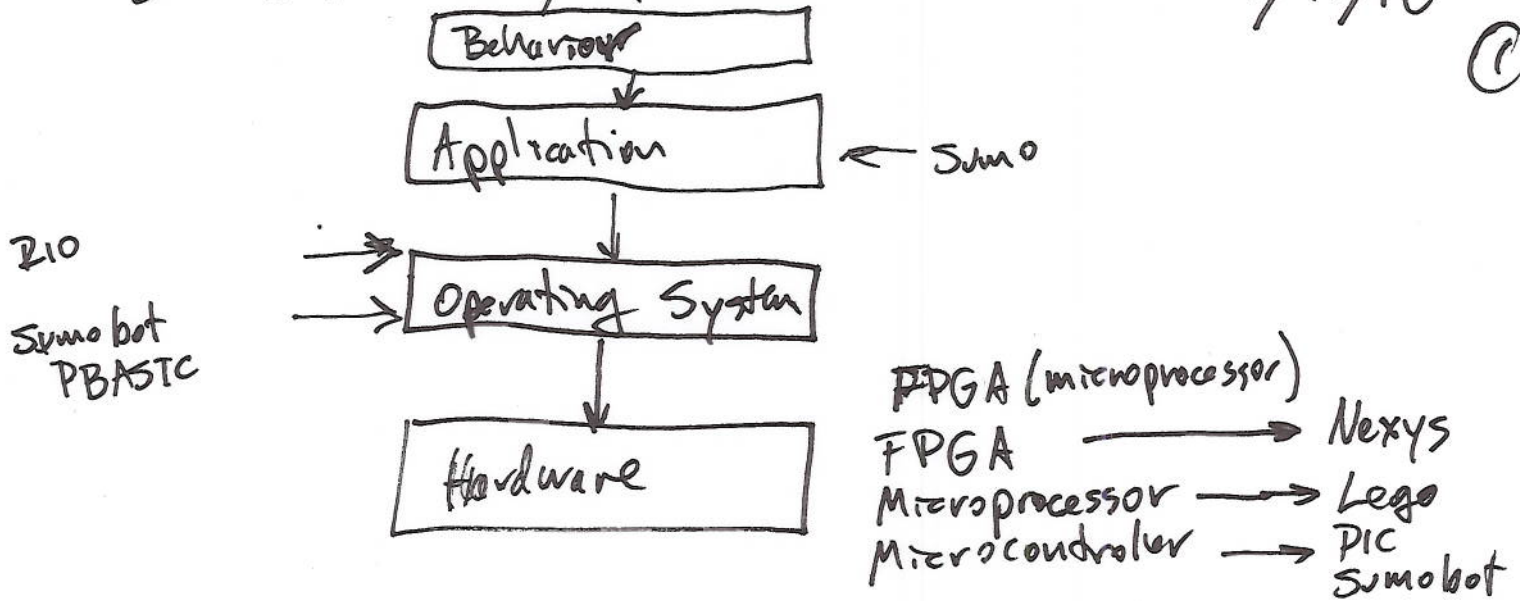


# ECGR 4161/5196 -

Lecture 7/19/10

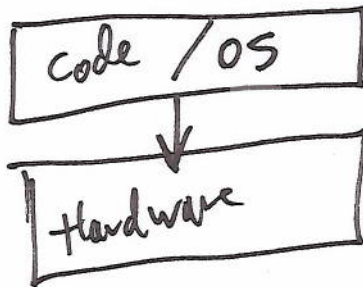
①




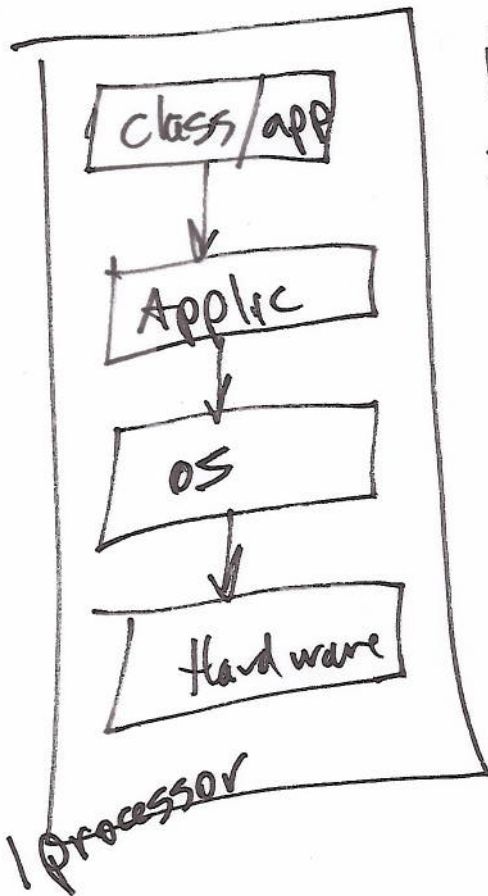
$$\begin{aligned}
 \text{distance to object } m &= \frac{t}{\text{speed of sound}} \\
 &= \frac{t * \text{speed of sound } (m/sec)}{2} \\
 &= \frac{t \text{ sec} * 340 \frac{m}{sec}}{2} \\
 d &= 170t \text{ m}
 \end{aligned}$$

$$\begin{aligned}
 3m &= t \text{ sec} \\
 \frac{3m}{170} &= 42 \text{ msec}
 \end{aligned}$$

②



- 1) pulse wiggle
  - 2) wait
  - 3) get pulse, compute
-  return pulse



- 1) what is distance?
  - 2) 3m
- 1) Turn Pmg 30°
  - 2) OK

- 1) Travel 0.5m/sec forward
- 2) OK

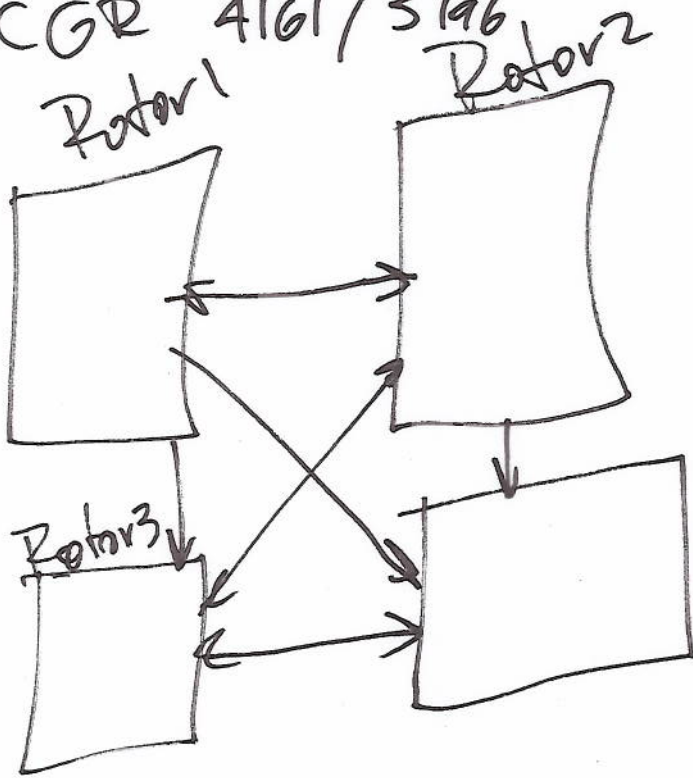


- Software
- 1) move motors
  - 2) check speed based on the sensor

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3



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Test 2 on Wed

Lab 1 → 3

Quiz 1 → 6 (solutions online)

Chapter 1 → 5 in book

All lectures through today.

Look at old class exams

Look at Exam 1 solution