Notes in ECEN 5623

Zahary Vogel

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First day stuff

REal time embedded omponents and systems with linux and rtos 2nd edition, Sam Siewert and John Pratt
ISBN: 978-1942270041
ebook is the only thing available
web page http://ecee.colorado.edu/ ecen5623/
and learn
GRAD TA Anurag.Azad@colorado.edu

Tim Scherr: main interests are Embedded systems design, especially with respect to single board computers.

Project exercises:

1. INvariant LCM schedules
2. Service Scheduling Feasibility
3. Threading and REal-Time Synchronization
4. REal-Time Continous Media
5. Real-Time Failures
6. REal-Time Software System Project

HE always wants attendance. Need a clicker by Thursday.
Complete Assignments on time. 10% a day lost, weekly homeworks. Skip/slip day, where you can turn something in a day or two late and still get credit.
Also have assessments which include a few quizzes and 2 exams.

Course requirements:
Each team (of 2) will get a kit.
two options, Altera DE1-SoC which can run RTOS linux or FreeRTOS, or the TI TIVA Launchpad, EK-TM4C123GXL which runs FreeRTOS.
30% in class part, homework, exercises, 30% exams, 10% quizzes and final project/exam is 30%.

D2L course webpage.
First homework: read syllabus, siewert, CH 1.
Due 1/19:

1. Do excercises 1-3 at the end of chapter 1 in the text.
2. Find a partner

15 minute interview with instructor. Second and third weeks, MF 10-11 am and M-Th 1-2 pm. Doodle poll at: http://doodle.com/poll/mpmcv5knx2b4nqv2.

gave some examples of embedded systems.

What does it mean to be embedded:
A compute node that provides specific services by proccessing inputs and producing required responses.
specific services rather than general purpose computing
often no direct connection to user i/o
contained within a larger system as a sub-system.

real time implies it must respond to a request or service by a deadline relative to the request.
rate monotonic, look it up, scheduling type. RMS scheduling gives optimal performance of system based on certain assumptions.

RMA and DMA(not direct memory access) analysis exist.
desgin methods for multi-thread RTOS systems.

final project (2-4 peeps) or individual by approval. This makes up assignment 5 and 6.

intro over, slides are online.

Integrating Linux into RT systems