Notes in ECEN 5623

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Bureaucracy

Liu and Layland Paper read by tuesday
Chapter 11 in the text.
Saturday at 5pm exercise 1 start.
Exercise 2 starts now.
Quiz 1 next Thursday.

Lecture

Real-time service implementation.

Safe Resource Utilization Bound.

High-Level Design
Input and Output Hardware design and characterization.
Services: What are they?
System level methodology:
UML, and such.

Space Transportation System-shuttle example.
paper by Carlow for exercise 2.
Ascent and entry guidelines
Phases of flight divided into Major modes
each mode has real-time scheduling.
control and sensors in high frequency
navigation in medium frequency
guidance in low frequency
Ask Lucy Pao about this.

sirtf caltech. www.sirtf.caltech.edu
A CU example

RM assumptions:
All services requested on periodic basis, the period is constant
Completion time ¡ Period
Service Requests are independent (no known phasing)
Run-time is known and deterministic.

RM constraints:
Deadline=Period by definition

Fixed Priority, preemptive, run-to-completion scheduling

critical instant: longest response time for a service occurs when al system serivces are requested simultaneously
No other shared resources- not in the paper, but it is a key assumption they make

derivation of RM LUB for 2 tasks
can you safely exceed the LUB

NOte that there can be up to the ciel$T2/T1$ releases of $S1$ in $T2$.

Next time: finish RM LUB derivation
discuss pitfalls
introduce extensions to overcome pitfalls.

Quiz will be largely over chapters 1 and 2. Look at methodology.