I/O Notes (Sheet 1)

EE 460N
Spring, 2013

* Characteristics
  - Parts: Medium, Device Controller
  - How: Poll, Interrupt, DMA, I/O Proc
  - Instructions: Memory-Mapped, Special
  - Synch/Asynch

* Buses
  - Wires: Data, Address, Control
    - Multiplexed
  - Arbitration
    - Central: PAU
    - Distributed: "Dinner Table"
  - Transfer
    - Asynch/Synch
      - Asynch - Handshaking
      - No Clock
      - Everything Explicit
      - Synch - Most Implicit
      - Fast if Short Distance
    - Pending/Split-Transaction
      - Pipeline vs Tagged

* Diagram (Sheet 2)
I/O Notes (Sat. 2)

An Asynchronous Bus

Transaction

Arbitration

Vanilla:

Does Not Want BG:
I/O Notes (Set 3)

2. What if Dev wants bus after Grant
   a. At this priority level, tough!
   b. At higher level: PAU must not

   Answer: Once PAU has granted, cannot grant to latecomer

8. What is "Done"?

   SSYN

   ___________
   BBSY
   MSYN

   SSYN

   SSYN

   SSYN

   IDLE

   BBSY