18-525 Project
Architecture Proposal
January 24, 2001

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• Application (2-3 slides)
  – Definition: what the chip does
  – Significance: why we should use your chip
  – Demo: C / Matlab Simulations

• Schematics: (2-3 slides)
  – How does your chip fit into a bigger system
    • I/O interface / assignments
    • Pin names and exact functions
  – Chip internal structure
    • Use only basic components

Due Week of Jan 29, 2001
Architecture Proposal

- **Working Verilog Simulation** (1-2 slides)
  - Work out the I/O and control terminals of each basic block
  - Work out the logic of the control block
  - Integrate blocks together to check functionality

- **Architecture Analysis** (2-3 slides)
  - Data Path: bandwidth / complexity analysis
  - Control Path: timing considerations
  - Optimizations: pipelining? Merging/Duplicating units

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Check project size (1 slide)
- Update transistor counts

- **Must Haves** (2 slides)
  - Status Page: What’s completed? What’s in progress?
  - Problems encountered / Lessons Learnt
    - Common problems and solutions
    - Experience, methods or routines that may help peers
Architecture Proposal

• Nice to have:
  – Highlights: Tradeoff analysis? Experiments and results?

• Getting Ahead:
  – Finalize chip architecture
  – Finalize control architecture & logic
  – Finalize component architecture/logic styles
  – Complete Structural Verilog simulations
  – Floor planning and Data Flow Analysis
  – Start Cadence Schematics