

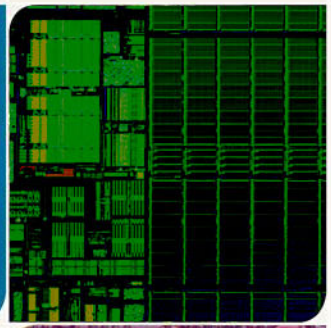
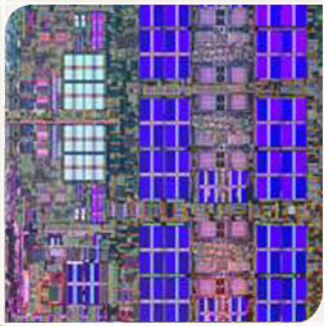
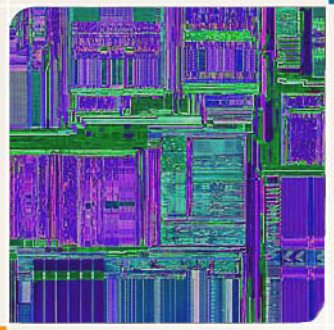
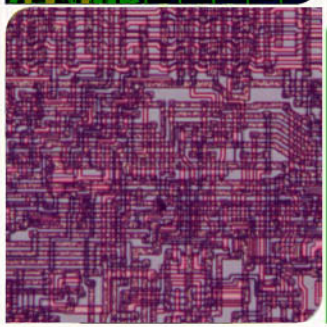

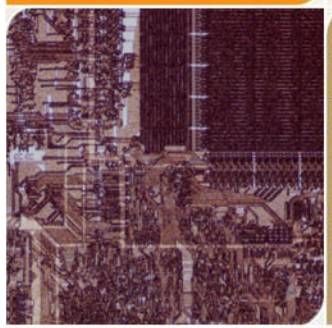


CS4803DGC Design Game Consoles

Spring 2010

Prof. Hyesoon Kim

Georgia Tech College of Computing

Who Am I?

- Prof. Hyesoon Kim
- Attending HPCA conference.
- Will be back in the next week



What Will We Learn?

- ~~Game programming~~
- ~~Game architecture~~
- ~~Graphics programming~~
- Game computer architecture
- Computer architecture case studies
- Emerging architecture
- Graphics processor hardware
- CUDA/OpenCL programming
- Embedded processor programming (Nintendo DS programming)



Game Console

- CPU
- GPU
- I/O devices



Who Should Take ?

- If you want to develop
  - Xbox 720 Xbox 1440?
  - Playstation 4,5,6 ?
- If you want to program efficiently using those hardware.
  - ARM Processors, Nintendo DS, PSP
- Background
  - CS2200



Course Info

- http://www.cc.gatech.edu/~hyesoon/spr10/index.html



Changes from Last Year's Course

- Nintendo DS programming (ARM) programming
- More material on ARM, less material on computer architecture background
- More Lab oriented.
- Final Project

Why Game Consoles?











Effects of Game Industries

- Leading the industry
- Game processors are used for other applications
  - GPGPU:
  - Medical image processing
  - Scientific applications
- Movie industries



Requirements for GC

- Time constrain
- Lots of Data
- Heavy use of graphics
- Both Integer/floating point operations are important
- Floating point → low precision
- Stream applications
- Embedded systems
- Various I/O devices
- No comparability issues (no reason to support legacy code)
- All the platform is stable:
- Platform optimizations



Lab Classes

- Every Friday
- Lectures on CUDA Programming (first half of the semester)
- Nintendo DS programming (the second half of the semester)