

# Presentation Topic Examples

CS 311

If you're having trouble finding a topic on your own for your presentation, here's a list of topics to get you started. USENIX conference proceedings (use a search engine to track them down) are also a good place to check for ideas. You'll want to pick one of interest and possibly narrow it down. Your topic should have intellectual heft. Remember, the Library staff is available to assist you in locating references. A one paragraph abstract of your presentation topic, with a title and two or three references is due on Monday, Feb. 8 at 5:00 pm. Presentations will commence on Monday, Feb. 22.

Jeremy Schatten, Goucher College class of 2014, contributed several of these topics.

1. Power awareness for mobile devices
  - (a) Memory management
  - (b) Process management
  - (c) Peripheral management
  - (d) Interaction with Radio Interface Layer
  - (e) Mobile CPU Schedulers
2. Real-time systems
  - (a) Scheduling
  - (b) Non-blocking synchronization
3. File systems
  - (a) User-level file systems
  - (b) flash file systems
  - (c) Journaling file systems
  - (d) Versioning file systems
  - (e) Object Storage
  - (f) Tape File Systems
  - (g) ZFS
  - (h) NFS
  - (i) iSCSI
  - (j) File System-assisted backups of hot Databases

#### 4. Hardware

- (a) Power conservation techniques, for anything from mobile devices up through server farms.
- (b) MEMS technology for storage
- (c) High performance flash disks
- (d) HSMs
- (e) TPMs
- (f) BIOS vs. UEFI

#### 5. Multimedia systems

- (a) File system support
- (b) Audio and video coding
- (c) Quality of service
- (d) Security, digital rights management

#### 6. Virtualization

- (a) Energy management
- (b) Memory management
- (c) Trust management
- (d) Load balancing
- (e) live migration
- (f) Thin clients/desktop virtualization
- (g) Application virtualization
- (h) Type of hypervisors
- (i) NVidia Grid GPUs
- (j) Server Virtualization

#### 7. Security

- (a) Trusted computing
- (b) User authentication
- (c) Exploitation techniques and defenses
- (d) Endpoint Protection
- (e) Malware Heuristic Analysis
- (f) Cryptographic Providers
- (g) Cluster Management Tools (Ansible, Puppet)

- (h) Group Policy
  - (i) STIGs
  - (j) Intrusion Detection Systems
8. Embedded Operating Systems
9. Specialized Purpose Operating Systems
- (a) Load Balancing (see <https://blog.cloudflare.com/kernel-bypass/>)
  - (b) Ballistics / Weaponry
  - (c) Space Exploration