Lecture 11 Outline (April 22, 2015)

Reading: §3.1–3.2, §4   **Assignment**: Program 2, due April 27, 2015
Homework 2, May 1, 2015

1. Greetings and felicitations!
    a. Brian Perry's office hours for today only are moved to 3:10–4:00pm
2. Discussion problem of the day
3. HRU Result
    a. Notion of leakage in terms of ACM
    b. Determining security of a generic system with generic rights and mono-operational commands is decidable
    c. Determining security of a generic system with generic rights is undecidable
    d. Meaning: can't derive a generic algorithm; must look at (sets of) individual case
4. Policy
    a. Sets of authorized, unauthorized states
    b. Secure systems in terms of states
    c. Mechanism vs. policy
5. Types of Policies
    a. Military/government vs. confidentiality
    b. Commercial vs. integrity
6. Types of Access Control
    a. Mandatory access control
    b. Discretionary access control
    c. Originator-controlled access control
7. High-level policy languages
    a. Characterization
    b. Example: DTEL
8. Low-level policy languages
    a. Characterization
    b. Example: tripwire configuration file
9. Policies in natural language

Discussion question. In 2003, Senator Orin Hatch said he wanted copyright holders to be able to use special-purpose hardware to prevent piracy. The following paragraph is quoted from an article in the PoliTech mailing list (June 19, 2003, at 10:12AM):

> Sen. Orrin Hatch, R-UT, said he was drafting legislation to require devices in PCs permitting the destruction of hardware used for wide-scale copyright infringement by sending a secret command to the remote computer. A copyright holder would be required to offer two warnings before the "kill switch" was activated and the computer destroyed or permanently disabled, Hatch said.

1. What are the arguments in favor of Sen. Hatch's proposal?
2. What are the arguments against Sen. Hatch's proposal?
3. If this proposal had been adopted, what safeguards should be put into place to prevent unauthorized activation of the "kill switch"?