University Of Washington, CSE 590P – Computer Security - Homework 1
Tadayoshi Kohno, John Manferdelli

Due: 6:30 January 11, 2007.

See the course website (http://www.cs.washington.edu/education/courses/csep590b/07wi/) for instructions on how to submit your homework via the UW Catalyst Tools. For this assignment, you should submit a PDF file named 'YourLastName-YourFirstInitial- HW1.pdf.

Pick three of the following scenarios, outline the overall "business" goal to be achieved, "strawman" security policy, high level enforcement mechanism, threat and attack model and risk analysis. Comment on the role of public policy and the legal/social environment. Each analysis should be about 1-2 pages long. At least one analysis should involve an economic assessment of expected return and variance. Remember a security system that is too hard to use won't be! Each problem is worth 8 points.

Scenario 1: Single computer use, personal administration, single user, no network connection.
1.   Add family member ← Windows pre-1995
2.   Add office mate   ← This is the Unix Time Sharing Model
3.   Add competitor
4.   Add connection to internet
5.   Suppose the computer is portable

Scenario 2: Storage and access to Medical Records
1.   Who owns them? What about disaster support?
2.   How would you enable selective disclosure?
3.   How would you control time-use restrictions?
4.   How would you trade off access failure v. privacy failure (Consider threats and risks)?
5.   Threats from the Medical Insurance Industry?

Scenario 3: DRM for "premium" entertainment
1.   Think about the business goal and risk/payoff benefit?
2.   Public policy? Useability?
3.   What are the hardware and software subjects in the security scenario?
4.   What about use in many jurisdictions, legal enforcement and cost?

Scenario 4: Web Server for Federation of American Scientists (web site providing information)
1.   What changes if it's Amazon.com
2.   What changes if it's Google.com

Scenario 5: CIA's internal Wiki.
1.   See: http://www.latimes.com/news/nationworld/nation/la-na-intel1nov01,0,2004402.story?coll=la-home-headlines
2.   Discuss the effect of "need to know" and many access compartments and levels as well as fairly stringent authentication requirements.
3.   The CIA cooperates with other intelligence agencies, if you were the CIA Director, would your Wiki do the authorization properly?

Reading:
Gollmann: Chapter 1
Anderson: Chapters 1-4
Outside reading: Reflections on Trust available at http://www.acm.org/classics/sep95/ .