DEPARTMENT OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCE

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

6.033—Computer System Engineering Handout 12—March 12, 1995

ASSIGNMENT: March 21 through April 3

For Recitation: Tuesday, March 21

No **one-page reading report** this week. Get your design project in shape; it is due Thursday.

Carefully read T. Berners-Lee et al., “The World-Wide Web,” reading #25. Prepare for a detailed discussion on the Web architecture and naming scheme in recitation. Note that the paper uses the term Universal Resource Identifier (URI), but the term Universal Resource Locator (URL) is used by most browsers today instead. URIs are still around but refer either to an URL or an Uniform Resource Name (URN). The difference between an URL and an URN is that the first one is location-dependent, and the second is not. Check the WWW bibliography link on the “6.033 Design Project 1 Encounter page” for more information on the Web. (Check out http://www.ics.uci.edu/pub/ietf/uri/, if you would like to know what one of the important standards committees is up to.)

In addition, read Gary Stix, “The Speed of Write,” reading #26, which discusses electronic publishing and its impact. You should be able to zip through this paper pretty quickly; it is easy reading.

For Lecture, Wednesday, March 22

A new topic in 6.033: security. As an introduction to security, we will first discuss privacy and security in society. To get prepared read “Teaching students about responsible use of computers” by Lerman et al. (the paper lists Saltzer as the only author, but the official authors are Lerman, Bruce, and Saltzer), reading #26e, “Ethics and the Internet” by Vint Cerf, reading #26f, and pages 6-3 through 6-8 of “The Protection of Information in Computer Systems” by Saltzer and Schroeder, reading #30.

The following question was assigned for a reading report last year. You do *not* have to write a reading report on this question this year, but you might want to think about it. As an April Fool's day prank, Joe L. User writes a program that takes advantage of a security hole he has discovered in the X Window system at Project Athena. The program takes a user’s name, finds out from Zephyr where that user is logged in, then opens a full-screen-sized window on that other user’s Athena workstation and displays the message “This workstation has crashed. All user files have been lost.” Thirty seconds later it displays the message “APRIL FOOL'S! Hah Hah Hah.” Unfortunately, Joe stays up all night March 31 doing the reading for 6.033. Finally realizing that it is April 1, Joe races to an Athena workstation, checks and finds that his good friend Ben Bitdiddle is logged in and types the command to target Ben. In his haste, he mistypes the arguments and the program targets ALL Zephyr-visible users who happen to be logged in at the time. Needless to say, this mistake causes a lot of confusion and floods the Athena consultants and help lines.

Information Systems traces the source of the messages to Joe's account. When confronted, he apologizes profusely and claims it was a mistake. He says that he and Ben have a long running tradition of playing practical jokes on one another. According to Project Athena's Statement of Ethics, what action, if any, should be taken against Joe?

For Recitation, Thursday, March 23

The paper for Design Project #1 is due today. Hand it in today, since the instructors will be grading during spring break and they might leave for spring break to far and unknown destinations.

For section read readings #26a through #26d and #26g; they all discuss issues related to the Internet worm constructed by Robert Morris. Read #26a, “Crisis and Aftermath” by Spafford carefully; the other readings can be read more lightly.

In addition read information on the use of social security numbers; you can find it at the following URL: ftp://rtfm.mit.edu/pub/usenet-by-hierarchy/news/answers/privacy/ssn-faq. (We will also distribute it on paper as handout #14.)

Week of March 27

No one-page reading report due and no reading is assigned: *spring break*; have fun!

For Lecture, Monday, April 3

Second lecture on security. Read Tanenbaum Section 4.4 and "Cryptography and Secure Channels" by Needham, reading #27. You can zip through most of Section 4.4, except for the discussion on access control lists and capabilities; read that material with more care. Needham's paper is very dense, but try to give it a careful read. It contains a wealth of important information.

System Aphorism of the week: A system continues to do its thing, regardless of need.