# Project

## Why a Project?

This course covers a very large discipline, and – perhaps more so than many other areas of computer science – the discipline of computer security runs through many other areas. Because the class has a very limited amount of time, we will only touch the surface of many topics. The project is to give you an opportunity to explore one of these topics, or some other area or application of computer security that interests you, in some depth.

## The Ground Rules

You may select a project from the list below (in most cases, you will need to refine or limit the suggestions). You may also think of a project on your own. The project can be a detailed research report or survey, or a programming project. In any case, ***check with me*** before beginning to be sure it is a reasonable project and no-one else has chosen it. Please select something that interests you!

You may work singly or in groups of not more than 3. For a group project, everyone will get the same grade, and I will expect more out of such a project than out of one done by a single student. If you decide to do a group project, please let me know the members of your group.

## Some Suggestions for Project and Report Topics

- Biology and Computer Security: viruses, worms, and so forth
- Security Requirements in Educational, Commercial and Governmental Environments (medical environments is a hot topic right now)
- User/System Authentication Methods (especially over untrusted networks)
- Formal Models (for example, something in depth on HRU, *etc*; I can point you to several of these, )
- Factoring a Number
- Electronic Voting Machines and Computer Security
- Adding New Access Control Mechanisms to the UNIX Operating System
- Rights and Amplification of Rights in a Capability System
- Secure Electronic Mail: Proposed Standards
- Breaking Ciphers with Computers (you will have to narrow this down a *great deal*)
- Analyzing and/or Testing Programs for Vulnerabilities
- Intrusion Detection and Incident Response
- Writing Secure Programs (mail server, WWW server, *etc.*; these may have limited functionality)
- Analyzing a System's or Site's Security
- The Security Features of IP Version 6: How Good Are They?
- Windows NT Security

## Time Line

You must turn in the following. Use the *handin* program to submit electronic copies, as described in the **All About Homework** handout.

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| January 17, 1997 | Project selected; if it is a group project, please name the members of the group. |
| February 14, 1997 | Design or outline completed. |
| March 14, 1997 | Project completed. |