

## Final Project Assignment

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**Due Date:** various dates for each deliverable (see below)

While the main goal of the case study project was to “learn something”, the focus of the final project is to make / do something. That is, your project should result in an original artifact that relates to information security e.g., a piece of software, a novel discovery, a demonstration, an original policy or design document, etc. Your group should consist of 4 or 5 students. The scope of your project should be significant and interesting enough to occupy you for about 4-5 weeks, and should have a high likelihood of producing some tangible results in that time span.

As with the case study, the “deliverables” for your final project are as follows:

- **Short proposal, due Tue 1 November (before class).** With your group, write a short proposal describing your plan for the final project, and start your initial work. Include the names all of your group members on the proposal, and have one group member upload it to the Final Project assignment in T-Square. See below for some potential kinds of projects. If you need additional suggestions or are unsure whether your ideas would be appropriate, don't hesitate to ask the instructor. (But try to do so sooner rather than later!)
- **Written report, due Thu 1 December.** Write a self-contained report briefly outlining the background and motivation for your project, and describing your findings and contributions (including any supporting artifacts). The appropriate length for the report will depend on the complexity of your project's other components; for example, if you create a rich demonstration or piece of software, the report need not be as involved (but it should still summarize the key ideas and contributions).
- **Class presentation, last week and a half of classes.** Give a short presentation to the class summarizing your project and its outcomes. The presentation should cover only the most significant aspects of your project, and should be organized and well-rehearsed so that it fits within the allocated time (about 10 minutes, including questions).

Here is a (non-exhaustive) list of suggestions for possible types of projects:

- Write an application, or an extension for an existing piece of software (e.g., Firefox, instant messengers, smartphone OSes, web applications) that enhances security in some way.
- Study how a significant kind of malware operates, and devise a strategy for stopping its spread or mitigating its effects.
- Write or extend a tool that automatically searches for common security flaws in a certain kind of application.
- Learn and deploy a significant security tool in a system that you own or administer.
- Formulate and/or demonstrate (within ethical boundaries) a significant new attack on the security of a system.

- Propose a new design or security policy for an existing computing system either a clean slate, or one that works within existing constraints.
- Investigate and/or test what aspects of user interfaces make security-related functions more/less likely to be used correctly by humans, and the security implications.
- Study and contribute to an existing open-source project or system that serves some security purpose (e.g., Tor, TrueCrypt, OpenID, password managers, software rewalls, etc.).
- Survey/measure the relative real-world usage of different solutions to a security problem, and evaluate your findings