

Assignment #1: Software Security Requirements

Due: Nov. 3rd @ 23:59h (soft deadline)

OBJECTIVE:

Understand the process of identifying, analyzing, and validating security requirements for a software system. **This assignment can be done individually or by groups of two.** Groups of two are expected to deliver proportionally more than individuals.

READINGS:

N. Mead, E. Hough, T. R. Stehney II, “*Security Quality Requirements Engineering (SQUARE) Methodology*”, CMU/SEI-2005-TR-009, CMU, 2005.

EXERCISE:

Following the SQUARE Methodology (**only steps 2, 3, 4, 6 and 7**), define the security requirements for a home-banking application. Regarding step 3 of SQUARE, focus only on misuse case scenarios/diagrams and attack trees. Assume that the system will provide typical home-banking functionalities, such as:

- **Change Password, User ID, Security Phrase, and Challenge Questions and/or Answers for the Online Banking service**
- **Retrieve User ID**
- **Check your account balances, review activity, and access account history**
- **Transfer funds between accounts and to other customers' accounts**
 - Transfer funds to an external checking, savings, or money market savings account at another domestic financial institution
 - Set up recurring and future-dated transfers
 - Reorder Checks
 - Pay bills

Regarding the architectural solution, assume a database-centric architecture. Consider, however, that some operations may require access to external systems. As the functionalities of the application are not fully defined, you can make your own assumptions, but you should clearly state those.

Note: Focus the analysis on the functionalities highlighted (bold) in the list above. Also, an exhaustive analysis is not expected (i.e., you are not expected to define all misuse cases, all attack trees, all security requirements, etc.), but only a clear definition of the most relevant aspects. If you have questions, please ask the professors of the course.

DELIVER:

A detailed report of the work conducted. It is recommended to structure the document following the steps of the SQUARE Methodology that are applicable.