

A PROTOTYPE TOOL FOR SECURITY AND RISK ASSESSMENT IN HOSPITAL IT SYSTEM

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ABSTRACT

The purpose of this study is to propose a security risk analysis process for an IT security system at a hospital. The thesis uses computer security tools to support risk evaluation process. These tools were developed based on the study of standard and best practices of security risk assessment programs used in information system. Moreover, the security assessment was performed using a penetration testing technique that included key processes such as Risk Assessment and Vulnerability Verification along with others factors for supporting this researcher's risk analyzing process and computer security tool development.

The process of risk assessment proposed in this thesis was divided into 4 steps: (1) Planning, (2) Analyzing, (3) Developing, and (4) Utilizing. Results from the experiment showed by inputting the outcome from the vulnerability scan and adjusting the scale of business impact of sample hospitals, the tool was able to assess and rate the security risk which reflected the environment of the hospital's information system. Moreover, this tool was able to simulate some examples of exploitation in order to explore and show system flaws and then generate a report to be used as a reference.

KEY WORDS: SECURITY RISK ASSESSMENT / HOSPITAL SECURITY
ASSESSMENT/ SECURITY ASSESSMENT TOOL

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