



RFID INFOSEC for Nation-Wide Engineering Education

March 11, 2008

Dale R. Thompson (Co-PI), Jia Di (Co-PI), and Craig W. Thompson, (Senior Investigator)
Computer Science and Computer Engineering Dept.

Michael K. Daugherty (Senior Investigator)
College of Education and Health Professions

University of Arkansas

This work is supported by the National Science Foundation Division of Undergraduate Education under the Course, Curriculum and Laboratory Improvement (CCLI) program, contract DUE-0736741.

Problem

- Radio frequency identification (RFID) information systems security (INFOSEC) education is rare
- Students experience only narrowly focused layers of a RFID system

Goal

- Improve quality of education nation-wide in RFID INFOSEC

Objectives

- Understand layers in a RFID system
- Know security threats
- Understand techniques for mitigating threats
- Perform risk analysis
- Configure and use RFID system
- Understand privacy concerns

RFID System Layers

- Application layer
- Middleware layer
- Network layer
- Reader layer
- Air interface layer
- Tag layer

Activities

- Develop lecture notes, example problems, field experiences and laboratory experiments to introduce tag, air interface, reader, network, middleware, and application layers in a RFID system.
- Develop lecture notes and example problems to explain threats and mitigation techniques to a RFID system.
- Develop lecture notes and example problems to explain how to perform a risk analysis on a RFID system.
- Develop a project website. (<http://rfidsecurity.uark.edu>)
- Assess the developed materials using an external evaluator from the College of Education and Health Professions.
- Request feedback by having the developed materials reviewed externally by RFID experts.
- Disseminate the developed materials nation-wide to faculty members at other institutions through journal articles, conference proceedings, presentations, and list servers.
- Showcase the materials at the UA RFID Research Center (<http://itri.uark.edu/rfid/>) .

Acknowledgment

- Bill C. Hardgrave for use of the RFID Research Center

Support

- This work is supported by the National Science Foundation Division of Undergraduate Education under the Course, Curriculum and Laboratory Improvement (CCLI) program, contract DUE-0736741.

Contact Information

Dale R. Thompson, Ph.D., P.E.

Associate Professor

Computer Science and Computer Engineering Dept.

JBHT – CSCE 504

1 University of Arkansas

Fayetteville, Arkansas 72701-1201

Phone: +1 (479) 575-5090

FAX: +1 (479) 575-5339

E-mail: d.r.thompson@ieee.org

WWW: <http://comp.uark.edu/~drt/>