Lesson Title: Privacy Overview

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Rationale

Why is this lesson important? Why does the student need this lesson? How does this lesson fit in the larger module?

The ability to track and trace an object that has an RFID tag has raised privacy concerns. However, there are several ways to define privacy depending upon the individual, culture, and context. A better understanding of how to define privacy is needed. The student needs this lesson to understand privacy.

Objective(s)

What will the student know, be able to do, and value at the end of this lesson? This is smaller amounts of information than the module objectives.

The student will be able to recall the five principles of privacy, describe Alan F. Westin’s privacy classifications of individuals, and describe privacy threats by RFID.

Exploration

Explicit concepts related to the Module goal are explored. It is at this point that the student will be provided basic information about the topic and the chance to explore some basic concepts about the topic. This is where the instructor imparts information.

- What is Privacy?
  - Privacy includes the right to make decisions about one’s own life, to keep personal secrets, and to keep secrets about where we come and go.
  - It is the right to make decisions without interference from the government or economic pressures from commercial entities.

- What Privacy is Not!
  - Privacy does NOT apply to an organization. It only applies to data about an individual, which is called personally identifiable information (PII).
  - Privacy is NOT security.
    - Security is important to privacy.
    - Security is only part of the story.

- 5 Principles of Privacy
  - Notice. There must be no personal-data, record-keeping systems whose very existence is a secret.
  - Access. There must be a way for a person to find out what information about the person is in a record and how it is used.
  - Choice. There must be a way to prevent personal information that was obtained for one purpose from being used or made available for other purposes without the person’s consent.
  - Recourse. There must be a way for a person to correct or amend a record of identifiable information about the person.
Security. Any organization creating, maintaining, using, or disseminating records of identifiable personal data must assure the reliability of the data for their intended use and must take reasonable precautions to prevent misuse of the data.

- Alan F. Westin’s Privacy Classifications
  - Privacy Fundamentalist (11%)
    - Very concerned
    - Unwilling to provide data
  - Privacy Unconcerned (13%)
    - Mild concern
    - Willing to provide data
  - Privacy Pragmatists (75%)
    - Somewhat concerned
    - Willing to provide data if they are notified and get a benefit

- Privacy Threats by RFID
  - A bomb in a restaurant explodes when there are five or more Americans with RFID-enabled passports detected.
  - A mugger marks a potential victim by querying the tags in possession of an individual.
  - A fixed reader at any retail counter could identify the tags of a person and show the similar products on the nearby screen to a person to provide individualized marketing.
  - A sufficiently powerful directed reader reads tags in your house or car.
    - The ISO 14443 standard proposed for passports specifies about 4 inches (10 cm) as the typical range. However, NIST with a special purpose antenna read it at 30 feet (10 meters)!
  - RFID enables tracking, profiling, and surveillance of individuals on a large scale.

- Top Privacy Threats by RFID
  - Tracking – Determine where individuals are located
  - Tracing – Determine where individuals have been
  - Hotlisting – Single out certain individuals because of the items they possess
  - Profiling – Identifying the items an individual has in their possession

Reflection

Several questions are posed to the student to answer and then often discuss as a class. This is an attempt to determine whether the student "gets" the basic concepts delivered above. If they do get it, move on to engagement. If they do not get it, go back to exploration above. It could be as simple as asking a few probing questions or as complex as asking the student to write a paper.

- What is privacy?
- What are the five principles of privacy?
- How do you classify yourself under Alan Westin’s categories?

Engagement

Concepts learned in the Exploration are further developed by conducting experiments, designing and building solutions, and solving problems. This is an attempt to cause the student to apply the new knowledge. By applying the new knowledge, the student is much more likely to retain this information. This engagement could be accomplished through a debate, an experiment, a problem solving activity, or anything else that would cause the student to demonstrate understanding and competence.

- Homework assignment
Expansion

Provide opportunities for students to expand the concepts to more general or global situations including connection to the Module goal. Expand back to the big ideas of the module and prepare for the next lesson.

- Do you think the definition of privacy will change in the future?

Lesson Assessment

Assess student understanding of the lesson content. This does not have to be a full-blown examination. It could be a graded homework assignment, a quiz, a performance examination, a graded problem solving activity, or something similar.

- Homework assignment

Equipment

- None

Software

- None

References

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