Lesson Title: Social Implications of RFID

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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 uniquely address every object that is enabled by RFID is important for the future Internet of Things (ThingNet). The student needs this lesson to understand that such a capability will change society.

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 describe both the good and bad implications of a transparent society enabled by RFID embedded in all objects, the main privacy threat, and the top privacy threats.

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.

- The Future
  - Imagine a world where every item around you and that you carry or wear has sensors, is uniquely identifiable, and can be queried over the Internet.
  - How would that affect you and the rest of society?
- Transparent Society
  - Good aspects
  - Bad aspects
- Main Privacy Threat by RFID
  - 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.

- Name two good things about a transparent society?
- Name two bad things about a transparent society?
• What is the main privacy threat by RFID?
• What is tracking?
• What is tracing?
• What is hotlisting?
• What is profiling?

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.

• Class solution. What are the requirements for a future transparent society that you would consider acceptable?

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.

• Are privacy and security the same?

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 problem

Equipment
• None

Software
• None

References
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