

## Class Activity - Design a Communications System (Instructor Version)

**Instructor Note:** Red font color or gray highlights indicate text that appears in the instructor copy only.

### Objectives

Explain the role of protocols and standards organizations in facilitating interoperability in network communications.

### Background / Scenario

You have just purchased a new automobile for your personal use. After driving the car for a week or so, you find that it is not working correctly. Discussing the problem with several of your peers, you decide to take it to an automotive repair facility that they highly recommend. It is the only repair facility located in close proximity.

When you arrive at the repair facility, you find that all the mechanics speak another language. You are having difficulty explaining the automobile's performance problems, but the repairs really need to be done. You are not sure you can drive it back home to research other options.

You must find a way to work with the repair facility to ensure your automobile is fixed correctly.

How will you communicate with the mechanics? Design a communications model to ensure that the car is properly repaired.

**Instructor Note:** This Modeling Activity is not intended to be a graded assignment. Its purpose is to encourage students to reflect on their perceptions of how a communications system facilitates the transfer of data from source to destination (personally and in corporate practice). Discussion should be initiated as a result of this activity.

### Reflection Question

What steps did you identify as important to communicating your repair request? Justify your answer.

**To resolve this issue, some steps might include:**

**Establishing a language for communication (could be voice, written, or kinesthetic/physical).**

**Very carefully (in small steps), explaining the problem experienced with the automobile (again voice, written/pictures, or kinesthetic/physical representations).**

**Asking the mechanic to confirm his/her understanding of the problem.**

**Waiting for the repair to be done.**

**Driving the automobile to ensure repairs were successful.**

**Closing the meeting by paying for the repairs and thanking the mechanic.**

**Identify elements of the model that map to IT content:**

- Establishing a language to communicate (Application protocol)
- Dividing the message into small steps to facilitate understanding of the problem to be solved a little at a time (Transfer protocol).
- Checking to see if the message has been delivered and correctly understood to the mechanic who will be performing the repairs. (Internet protocol)
- Delivery of automobile and wait time for repairs (Network Access protocol)