⬡ INTELLIGENT CONNECTED OBJECTS

THEME	Characteristics and architecture of na intelligent connected object
FORMAT	Group (students work in small groups)
PREPARATION TIME	2 hours
ACTIVITY LENGHT	30-45 minutes
DIFFICULTY LEVEL	Low

⬡ PEDAGOGIC GOALS

- To identify problems that can be solved with Internet of Things.
- To describe a problem and a solution that uses connected intelligent objects.
- To Identify architectural components of the proposed solution.

⬡ NECESSARY MATERIALS

Blackboard and pen.

Preparation:

Draw the reference architecture presented in class on the blackboard (see below).

Perception / performance:	Network:	Application:
Parts of the IoT system that interact with the physical world.	Responsible for making connections in the IoT system.	Uses the other two components (perception and network) to do something useful, to deliver a service to people.

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Leading activity:

Step 1: Defining the problem
- Divide the class into small groups.
- Ask the groups to discuss and define a problem that they would like to solve with Internet of Things. Suggest that they think about their house, region or city. Ask them to interview some people to find out about other problems.
- Ask each group to identify any problems that could be solved with IoT and to describe the problem in a sentence, involving the following aspects :
    - What is the problem or the need?
    - Who has this problem or need?
    - Why is this important?
- Tell to elaborate a sentence. If they want to, they can use the following structure:
    _____ need _____ because_____.

Step 2: Functioning structure
- Students must now think of a solution based on what they have learned so far.
- Ask the groups to define the solution architecture according to the reference architecture you drew on the board.
- Say that they must define the three components of the solution: Perception / performance, Network and Application.

Step 3: Sharing
- Ask each group to present to the class: the problem they identified, the solution they are proposing and the architecture of the solution.
- Ask the first group a question. Then ask the group that introduced it to ask a question of the next group.

Discussion and reflection:
- Create a discussion with the whole class about the activity. See sample questions you can ask:
    - What were the main themes of the problems that you identified?
    - Are there solutions to the problems presented? Are they the same as the students' proposals?
    - What was the most difficult activity in the class? Why?

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