Case Study: Nursing Home Cameras Workshop #3

| **Purpose:**  Prevent an unauthorized exit of a nursing home resident from our facility.  **Description**: A technology project is being considered where an exit camera would automatically sound an alarm when a nursing home resident leaves our facility with an unauthorized person. The decision to sound the alarm (or not) should take less than 3000 milliseconds. Cameras are currently in place across all three of our facilities on both the inside and outside of all exits. |  |
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Discuss each item with a colleague and provide a brief answer for each.

1. What defines a successful outcome from this system? Is it possible to have a partially successful outcome from this system? Briefly discuss.
2. A simple rule-based method is currently used to identify when residents leave our facility. In particular, residents are required to wear socks that contain an embedded microchip. The current system sounds the alarm whenever the microchip passes through an exit. What shortcomings exist with the current rule-based system?
3. In what ways might a machine learning solution improve upon the current system? What would the machine learning algorithm need to do in order to be successful?
4. Apply the BLERP (Bandwidth, Latency, Economics, Reliability, Privacy) acronym to this situation to identify whether or not an edge AI solution is a possibility.

* **B**andwidth
* **L**atency
* **E**conomics
* **R**eliability
* **P**rivacy

1. Discuss any ethical issues that might be of importance in this situation. What technology considerations would need to be considered for this situation?
2. Discuss how you plan to complete the *Discovery* phase of development.

* Is the project feasible?
* Are there any potential risks?
* What will the data look like?
* What framework will be used, and how will progress be judged?
* What major milestones will you break your project into?

1. Discuss the use of **feedback loops** in the *Test and Iterate* phase. Why is the *Edge AI Development* model more appropriate than the *Classic AI Development* model?
2. What metrics make the most sense for evaluating this AI application? Might one be better or worse than the others?