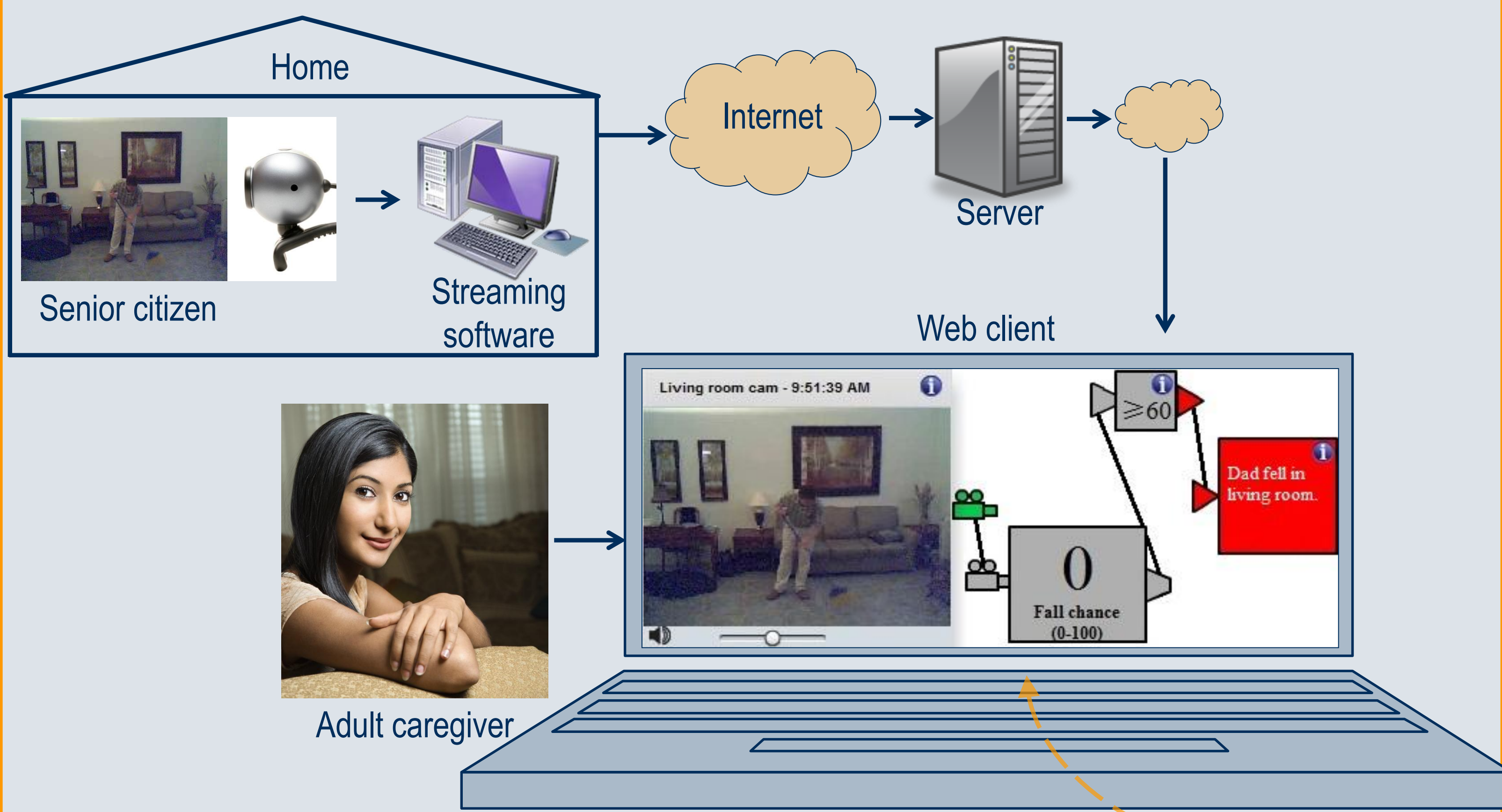# Can YOU program assistive monitoring systems?

MNFL: The Monitoring and Notification Flow Language for Assistive Monitoring
Alex Edgcomb and Frank Vahid
University of California, Riverside (UCR)

Introduction

- Customization in assistive monitoring is essential
- MNFL enables end-user customization of assistive monitoring systems

Usability of MNFL by end-users

Can end-users program assistive monitoring systems with MNFL?
End-users have basic technical competence *not* programming skills

Participants: 51 undergraduates from the College of Humanities and Social Sciences at UC Riverside

Procedure: Participants viewed a one-minute introductory video and an overview picture, then completed four challenge problems
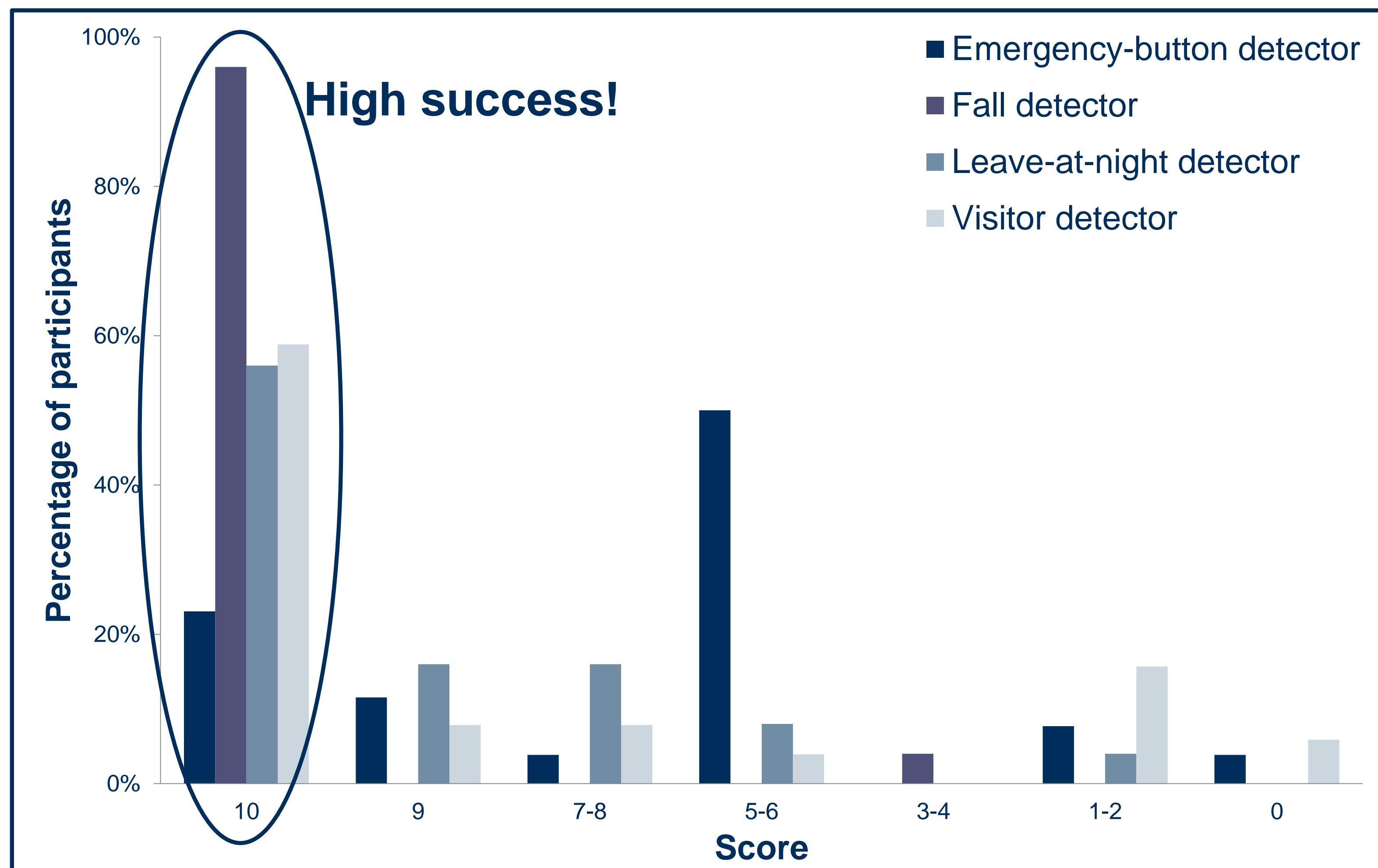
	Emergency button detector	Fall detector	Leave at night detector	Visitor detector
Avg. score	6.42	9.72	8.80	7.68
Avg. time to solve	8.4 min.	4.8 min.	12.4 min.	5.5 min.

Conclusions

In less than 8 minutes on average to read the problem, find/instantiate/connect the right blocks, and test the system, end-users (with nearly no training) could more than 50% of the time successfully select the necessary 1-2 blocks needed.
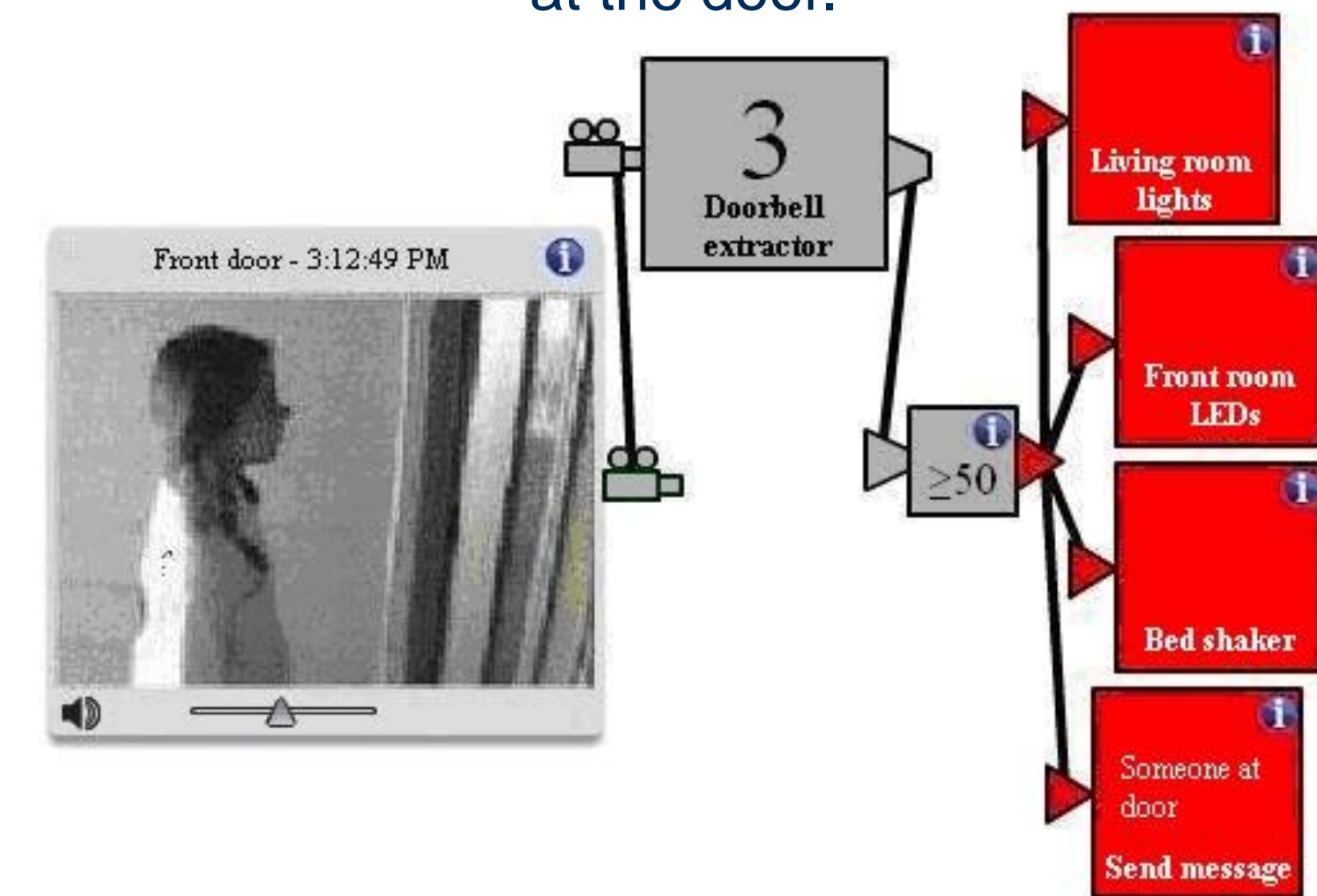
Contact

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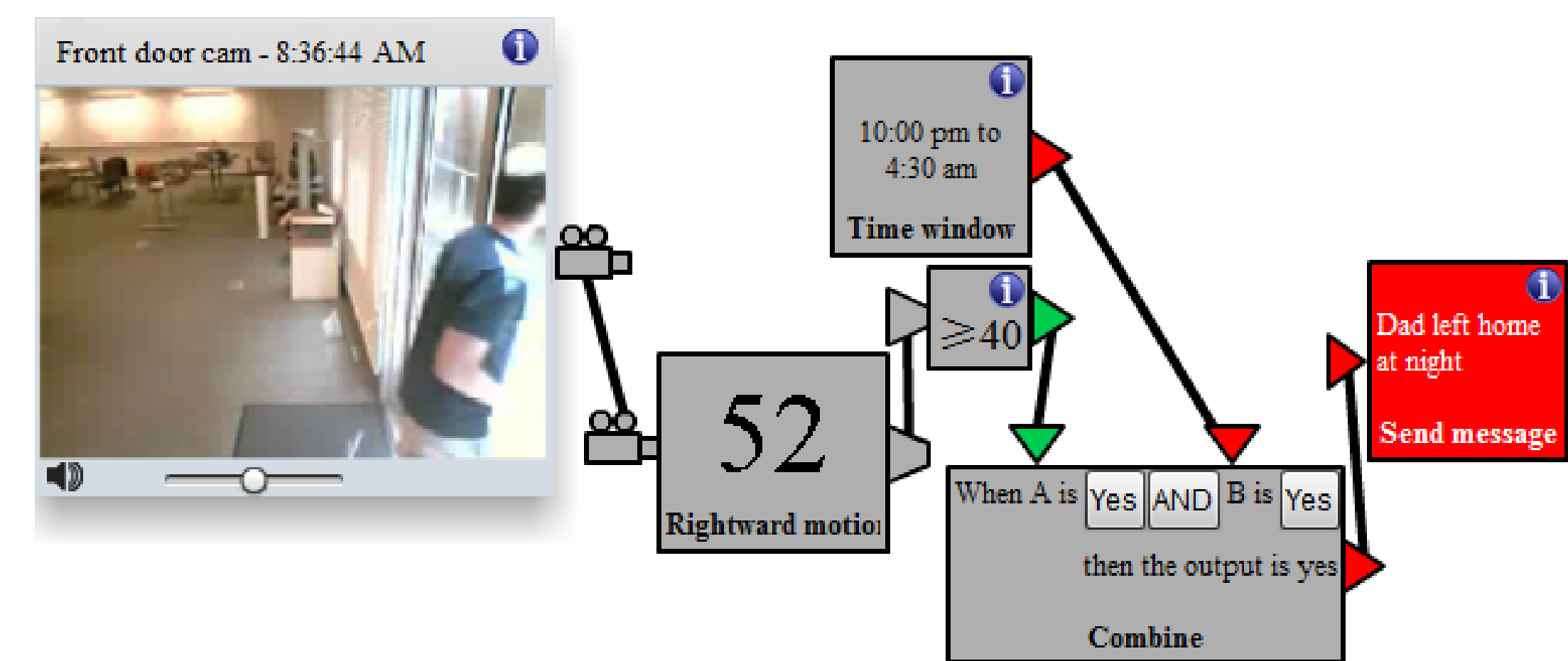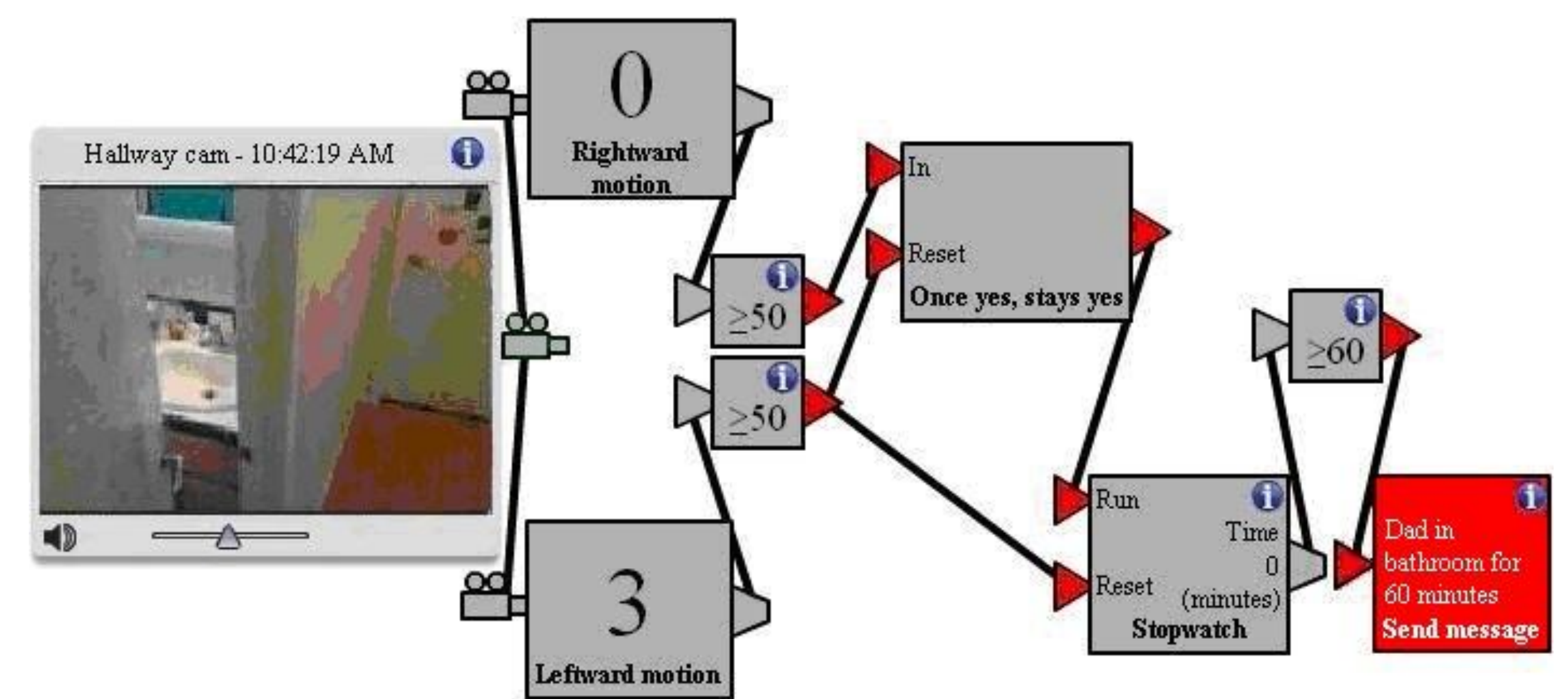University of California, Riverside

Examples

Visitor detector - A common goal for the hearing impaired is to be notified when someone is at the door.
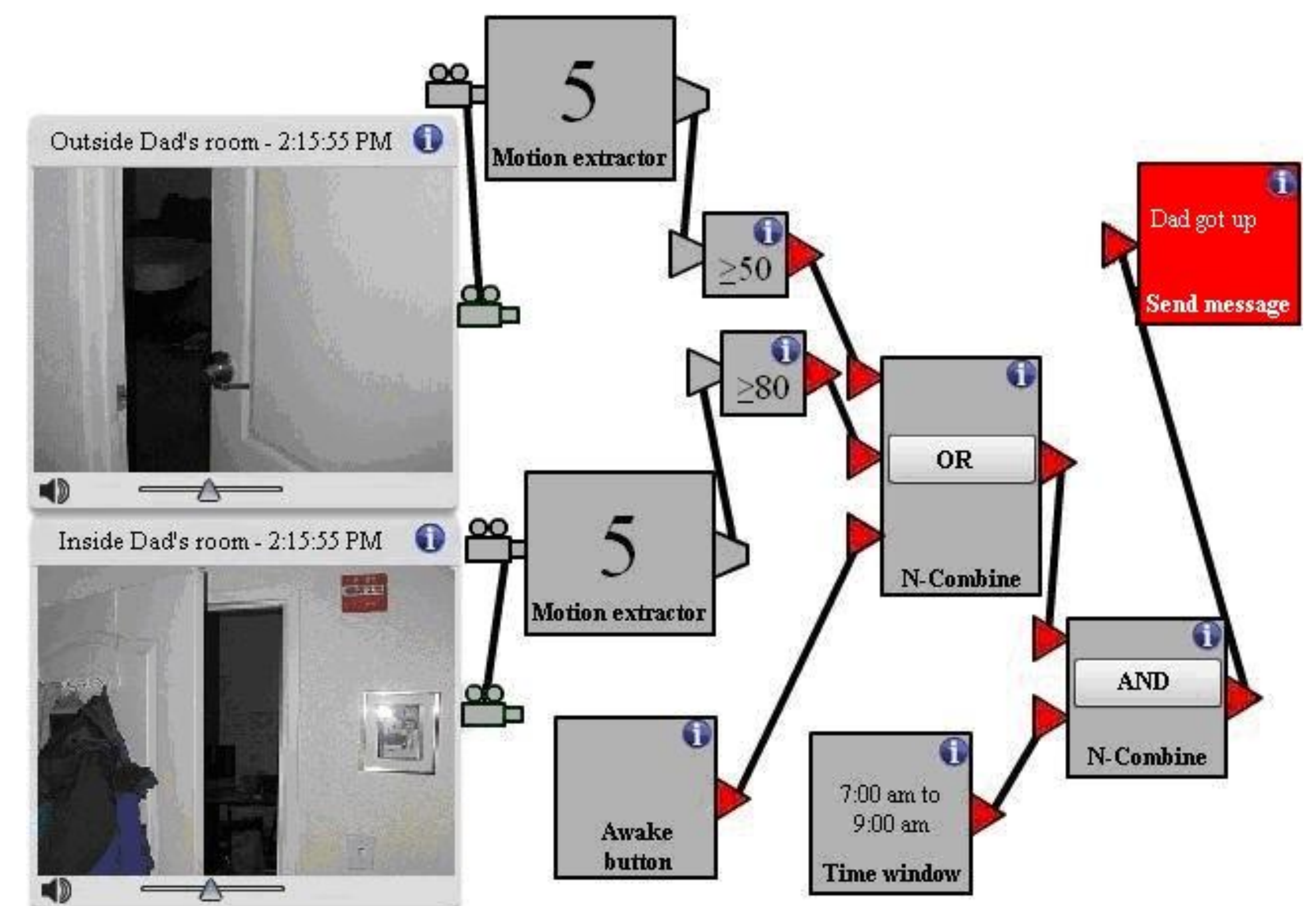

Leave at night – Alzheimer's patients who leave at night may be confused and get lost.

In room too long – A person being in some rooms too long suggests a need for assistance.

Rise in morning – Ensuring a person arises in the morning is a common goal for caregivers.

Visitor detector advanced - (a) Detect knock in addition to the doorbell, (b) include a physical switch for system enable, and (c) pulse the actuators for 20 seconds for better notification.