	homes or small businesses
Major features of your prototype (Microelectronics features + Machine Learning features)	**Microelectronics Features**: - Motion detection using a PIR (Passive Infrared) sensor. - Audible alarm triggered via a buzzer or speaker. - Optional LED indication for visual feedback. **Machine Learning Features:** - Train the system to distinguish between human motion and other disturbances (e.g., pets or environmental factors).
Benefits of the project	- Cost-effective alternative to commercial alarm systems. - Easy to assemble and maintain. - Enhances security for small spaces.
Potential audience	- Students learning about Arduino and motion sensor projects. - Homeowners looking for budget-friendly security solutions.

Costs, learning time, risks,...	• **Costs:**
	  • PIR motion sensor: ~$5
	  • Arduino Uno: ~$25
	  • Buzzer or LED: ~$2
	  • Miscellaneous components (resistors, wires, breadboard): ~$10
	  • Total: ~$42
	• **Learning Time:**
	  • Hardware assembly: 2-4 hours.
	  • Programming and testing: 3-6 hours.
	• **Risks:**
	  • Incorrect wiring may damage components.
	  • False alarms due to environmental disturbances.
	  • Limited scalability without advanced programming.
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