



Squirrely Bird Feeder

Smart AI-Powered Squirrel Deterrent

Lightning Talk • Problem & User Needs

The Problem Statement



Squirrel Invasion

Highly intelligent, agile squirrels outmaneuver traditional mechanical deterrents and dominate bird feeders.



Financial Drain

Bird enthusiasts waste significant money on premium seed that feeds pests instead of their target birds.



Failed Solutions

Plastic domes, slippery poles, and passive barriers create an expensive, endless cycle with no lasting results.

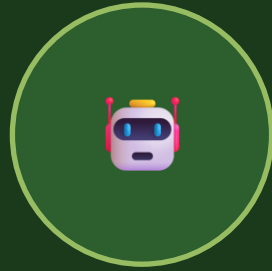
How do we maintain the integrity of bird feeders when resources are depleted by relentless squirrel populations?

Our Solution: Squirrely Bird Feeder



**Motion
Camera**

Detects movement at feeder



**AI
Classifier**

Identifies squirrel vs. bird



**Deterrent
Trigger**

Gate or mild electric shock



**Bird
Doorbell**

Captures & stores bird photos

Key Constraints

 Independent power (battery/solar)  Under \$500 budget

Who Are Our Users?



Casual Backyard Birdwatcher

Homeowners & families who enjoy bird watching as a relaxing hobby. They have a feeder on their deck or yard and want it to "just work."

Needs:

- Stop squirrels from stealing seed
- Low-maintenance, set-it-and-forget-it solution
- Easy refill & minimal upkeep



Serious Avian Enthusiast

Experienced birdwatchers who actively track species, keep logs, and want to attract specific, sometimes rare birds. Feeder exclusivity is critical.

Needs:

- Selective feeding for target species
- Record & document all bird visits
- Deter non-target bird species (stretch goal)









Eco-Conscious Homeowner

Environmentally aware homeowners who want to manage nuisance wildlife humanely (no traps, no toxins, no harm to the local ecosystem)

Needs:

- Humane, non-lethal deterrence
- Safe for local wildlife & environment
- Reduce risk of resorting to harmful chemicals

User Needs & How We Meet Them

User Group	Core Need	Our Solution
 Casual Birdwatcher	Stop seed theft by squirrels	AI-triggered gate deters squirrels
 Casual Birdwatcher	Low-maintenance, automated	Fully autonomous - no user action required
 Serious Enthusiast	Selective feeding environment	Species-level AI detection controls feeder access
 Serious Enthusiast	Record & document bird visits	Camera captures & stores images of target birds
 Eco-Conscious Homeowner	Humane, non-lethal deterrence	Gate - safe, deters without causing harm
 Eco-Conscious Homeowner	No harmful chemicals or traps	Electronic deterrence eliminates need for toxins

Conclusions

01 Clearly Defined Problem

Squirrels deplete bird feeders, waste money, and frustrate hobbyists. Static barriers consistently fail against intelligent animals.

02 Three Distinct User Groups

Casual watchers, serious enthusiasts, and eco-conscious owners each have unique, addressable needs our system meets.

03 Smart, Adaptable Design

AI-powered detection + physical deterrence on an independent power source, attachable to any standard feeder, under \$500.

04 Next Steps

Narrow deterrence mechanism (gate vs. shock), begin hardware prototyping, and start validation testing with live squirrel detection.