

Taking Care of ALL the Generations on the Farm

A discussion about simple, automated devices to make caregiving and farm tasks safer and easier. Exploring remote cameras, smart outlets and bulbs, door monitors and sensors, feeding and watering systems, apps and more.

Introduction:

- ▶ Who we are and how we have used this technology!
- ▶ Uses for supporting dependent family members
- ▶ Uses for supporting a farm or ranch operation
- ▶ What we will cover: types of devices and some examples and ideas how they can be used
- ▶ **What we won't cover: specific set up, information about Wi-Fi and Voice Controlled Assistants (i.e. Alexa, Hey Google)**
- ▶ We will mention if a device requires an application for setup/control, and if they can be Bluetooth or Wi-Fi
- ▶ We do not endorse one product over another.
- ▶ As with all technology, at the time of this presentation, tools, applications, and resources will have change.

Introductions:

Cassie Ramon - North Central & Northeast AgrAbility



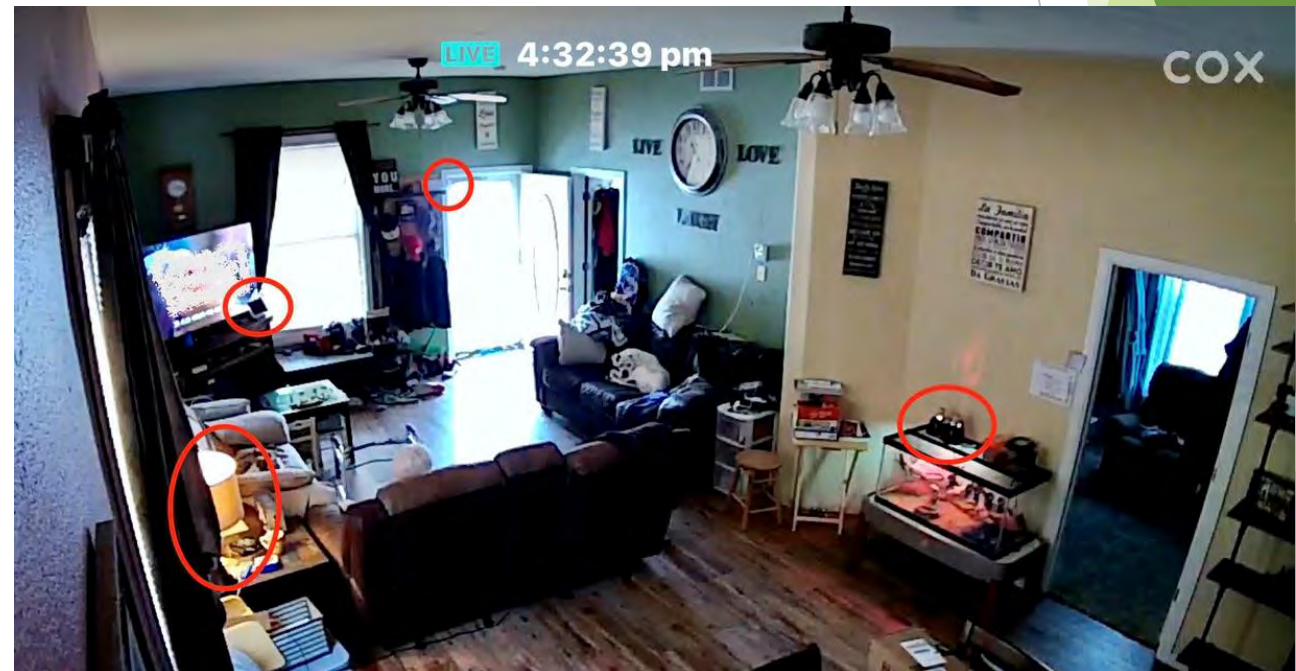
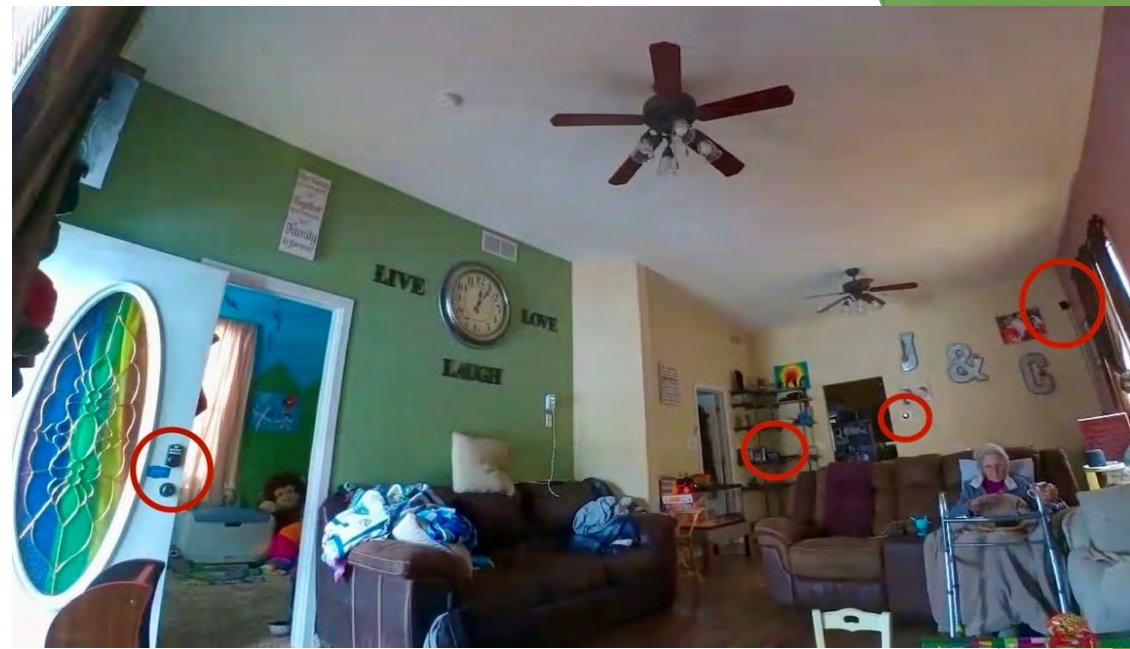
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Karin Rasmussen - Western AgrAbility



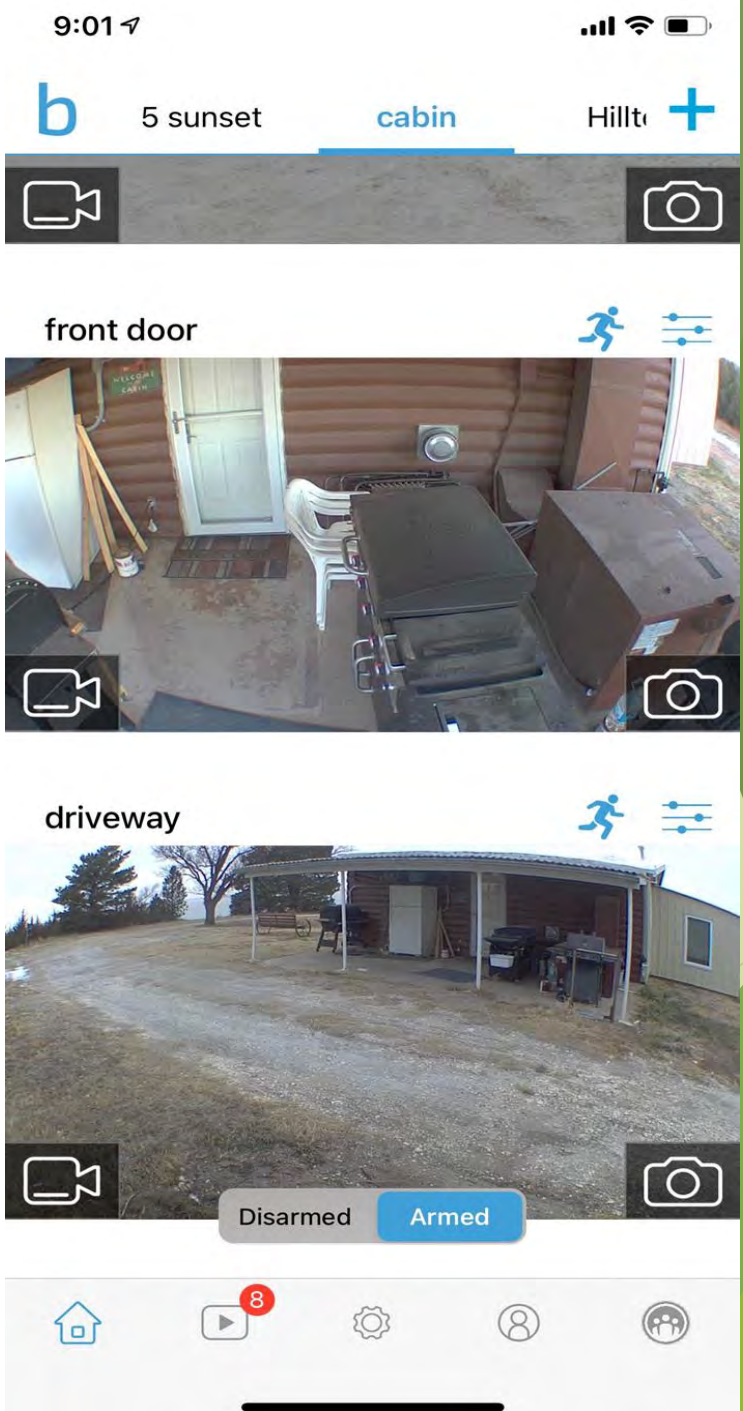
One of the most valuable tools: Cameras

- Check in from anywhere
 - Watch for falls, or wondering
 - Using appliances, or eating meals
- Two-way communication
 - Give instructions or reminders
 - Reassurance in case of a fall
- Ensure other devices are on/working
 - Changing TV channels
 - Turning on lights





Top left: Samsung camera facing front door.
Bottom left: Wyze Camera on a pole facing a home.
Right: Blink camera screen shot of entrance to a cabin.
Most cameras now offer recording and playback, live screen, motion detection, 2-way audio, and swivel. This **Blink camera doesn't swivel.**





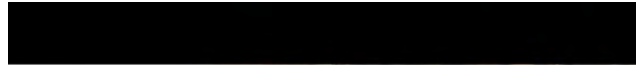
Wyse camera mounted inside the home with motion detector, night vision, and two-way audio.



Eken Outdoor Doorbell with security camera, night vision and two-way talk.

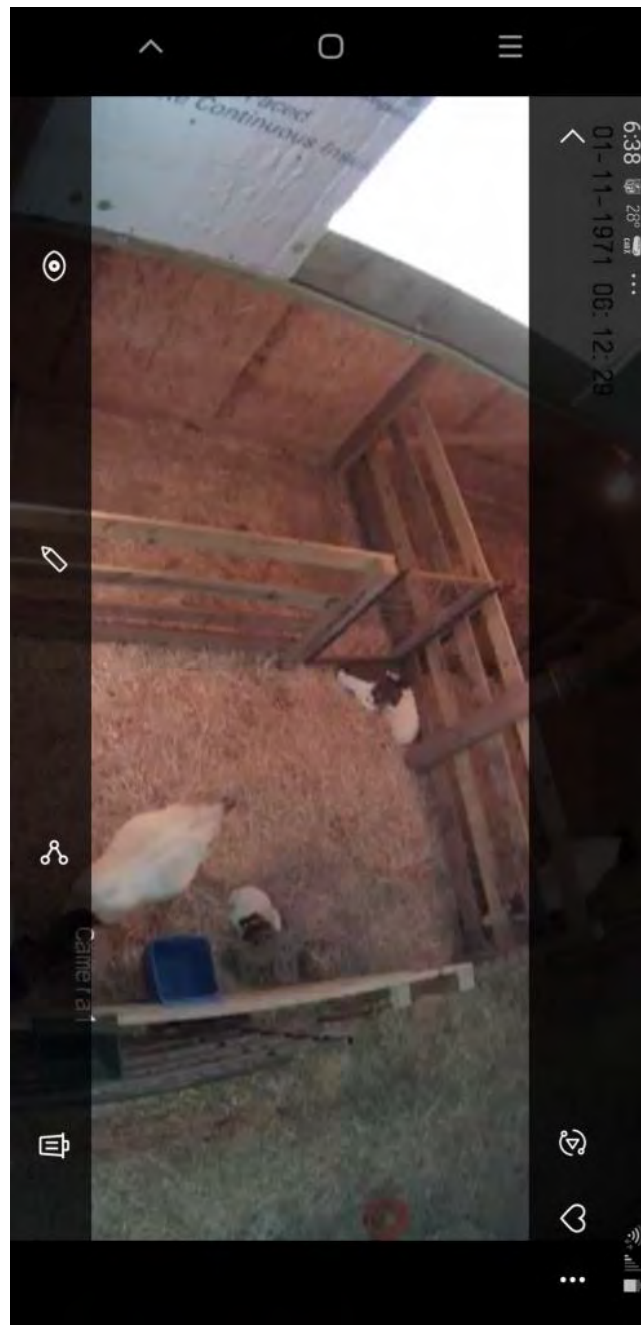


Foscam in a calving barn. Camera can swivel. Used in view only mode but has audio and motion detector option. It has night vision and zoom capabilities.



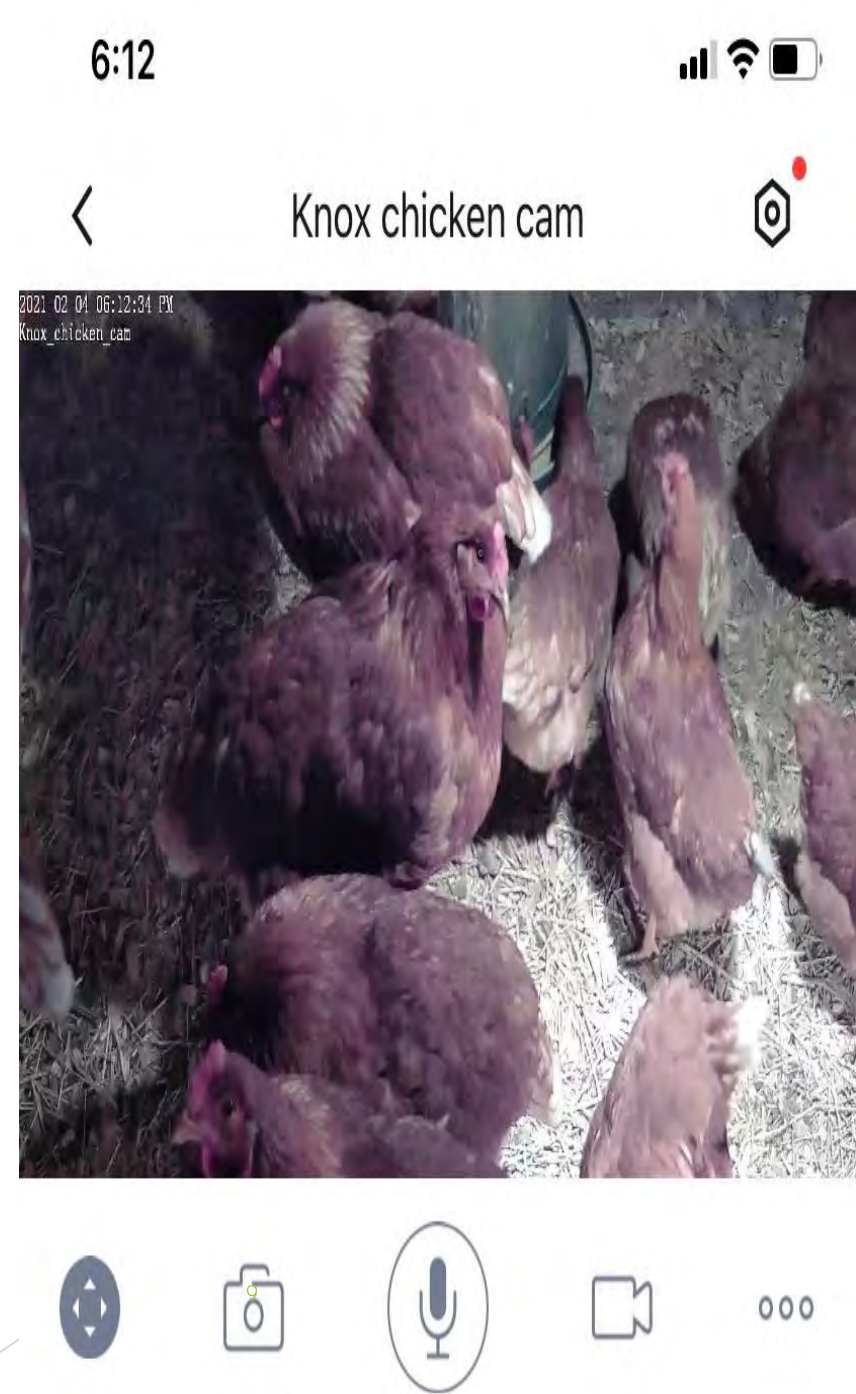
Screenshots of calving barn with cows and a new baby calf as seen using the Foscam app. There are 3 cameras in this barn for farmer brothers to view from 1 - 2 miles away.

Camera(s) mounted in barn with goats. Rancher has camera set in view only to monitor the goats when they are kidding. Right picture is a screenshot of camera view.

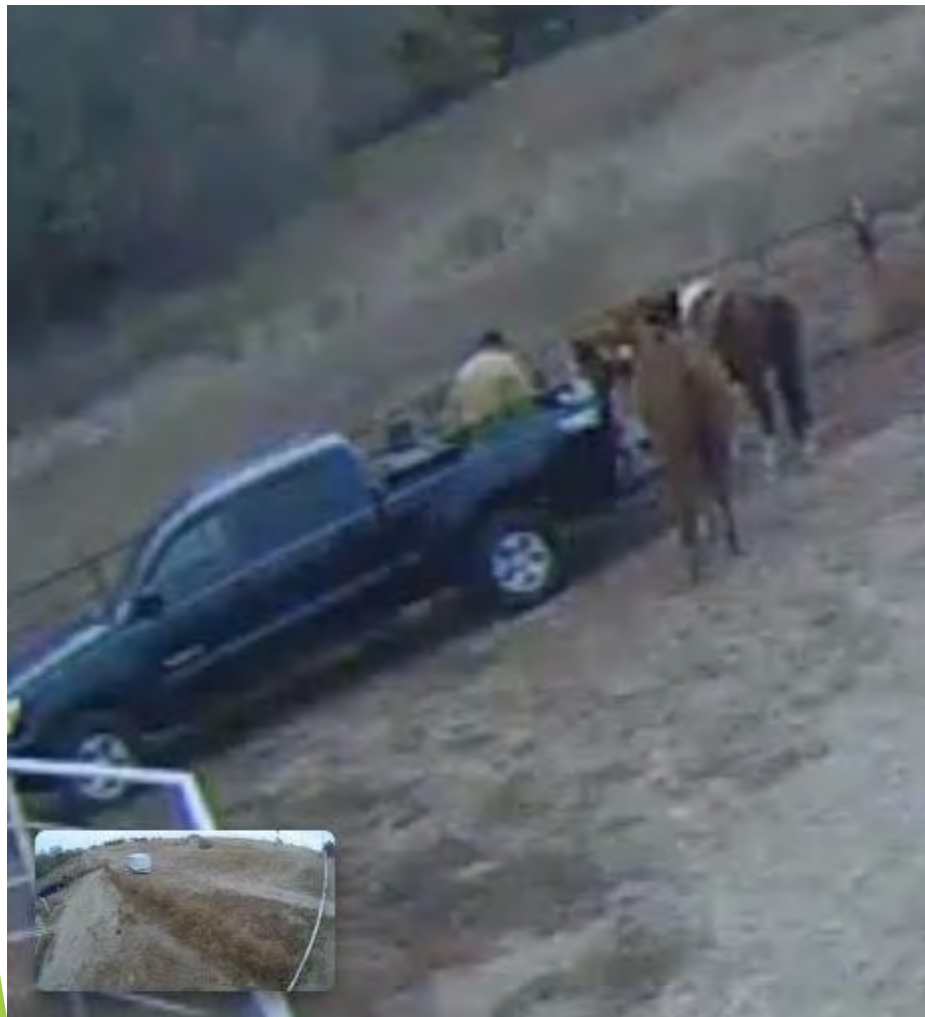




Bottom center: Foscam outdoor camera with zoom, tilt, audio, night vision, recording and motions sensor options. Right: Screenshot from phone app monitoring the chickens.



Meet Knox and his Egg Production Business. Currently he has 30 Golden Sex Link hens. He helps feed, water and gather eggs daily. He sells his eggs in town.



This horse owner can check on horses in the paddock, while at her job 30 miles away.

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During foaling season, a camera owner can share the camera app and the log on link with a remote helper so that she can have two-way communication if there is an emergency.



Top: Camera mounted on the wall, focused on the mare about to foal.
Right: the new arrival, photo taken through the camera app.



Auxiliary Devices: Plugs and Light Bulbs

- Power on and off things like fans, table lights, and humidifiers
 - Getting dark, help prevent falls
 - Fans on and off through the day
- Light Bulbs
 - Different lighting effects
 - Set up routines, on/off at certain times





Smart Outlets allow schedules to be set for on/off, turn on automatically if gone, or turn on verbally through Alexa. Example options: lamps, Scentsy, diffuser, Christmas Trees, coffee pot, ceiling fan, instant pot, humidifier, space heater, etc.



Bottom right picture: Smart Outlets and 2 USB Ports, Works with Alexa Echo & Google Home, No Hub Required

“Alexa, turn on music.” Use Smart plug app to turn off automatically in 30 minutes.





ConnectSense - 2-Smart Outlet Plug powered by extension cord to operate 2 heat lamps in chicken coop.

The three lights in the kitchen are Philips Hue LED Smart Bulbs that can automatically be turned on and off. Mostly use them when away from home to simulate normal activities. The Samsung SmartThings system is being used to automatically turn those on at sunset and turn them off at 11pm.



Security Devices: Door Locks and Sensors

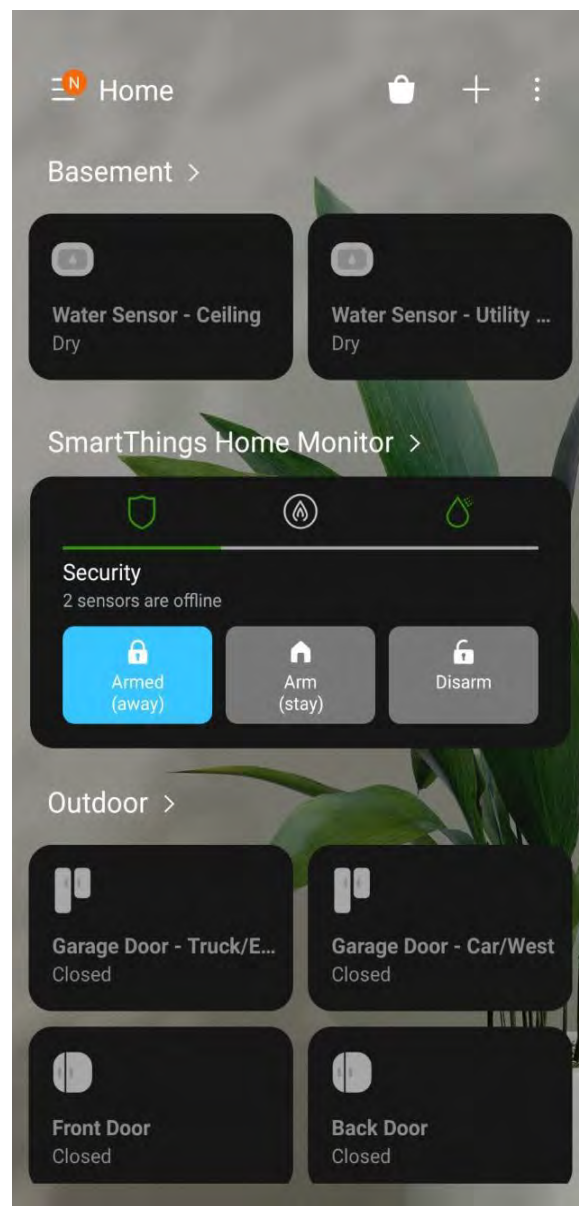
- Lock and Unlock Deadbolts
 - Monitor wondering
 - Check on kids at home
 - Assign codes to others to monitor
- Door and Window Sensors
 - Monitor wondering, opened or closed
 - Security
 - Receive alerts when opened





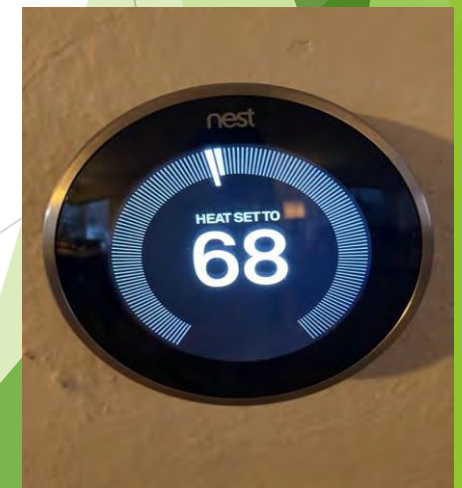
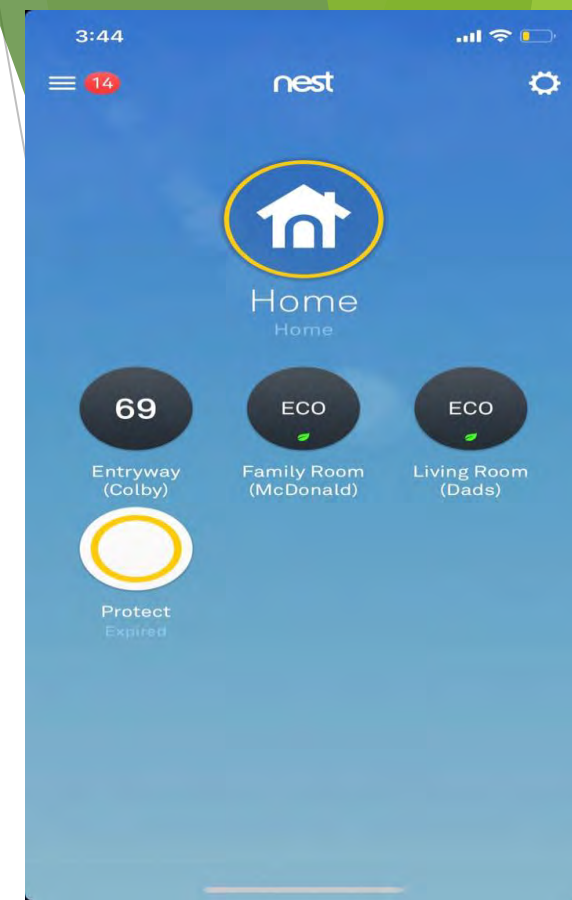
Top: Sensor for garage door. For this user, it is set to send an alert if open for more than 2 hours. Can be closed from its app.

Right: Status indicated in the SmartThings app.



Top: Honeywell thermostat controlled by Samsung SmartThings Hub

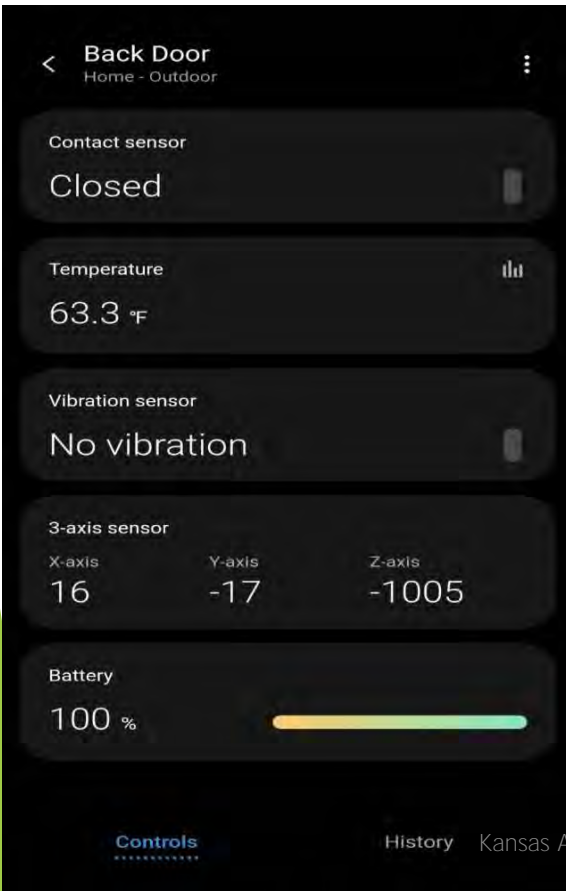
Right: screenshot of the Nest app used to monitor the Nest thermostat of 3 homes.





Left: Door sensor with screenshot of app showing door status - closed.

Center: Water Sensor with screenshot of app showing status of: Dry.

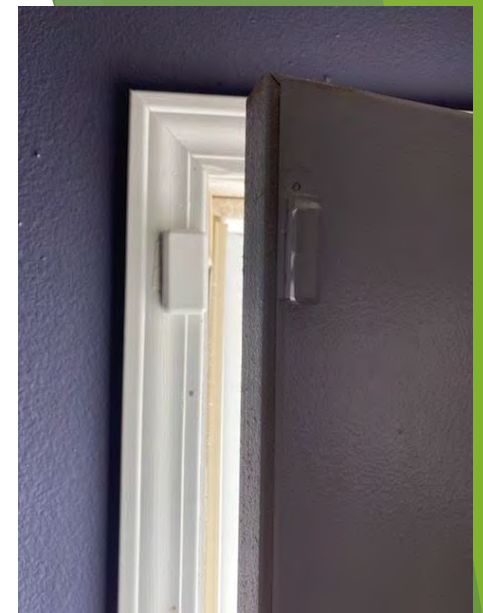
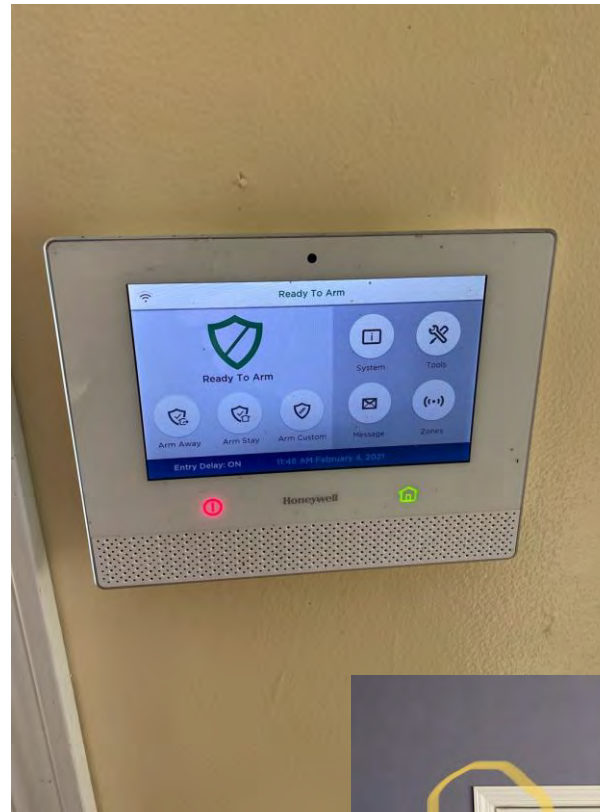


This motion light & lamp combo is set to automatically give a high school student light when going downstairs to do chores early in the morning. (He gets up earlier than the rest of the family).

When the family leaves for a long weekend, it will be connected to the Samsung SmartThing Security System. Any motion will trigger it to send an alert to the owner.



This hunting cabin is set up with a security system by a local internet provider. Right: Alarm inside door to enter security code. If the incorrect code is entered, security will call cabin owner. Door has keyless entry.



Door has a sensor to alert the system when it is opened and closed.



Be creative: - hide your sensor or camera!





Door Locks:

App allows user to lock/unlock door and tracks the history of lock/unlocking.

Considerations, some:

Attach to current deadbolt & use regular key, others have a special key.

Keyless door entry - walk up to door, it senses the phone app and unlocks the door. (This may use the phone battery faster)

Offer guest codes for specific times/days.

Offer a sensor to alert owner if door is open or closed.

More considerations:

Keypad can be an option and may be backlit.

Check to see if waterproof.

Some offer audio lock at set times.



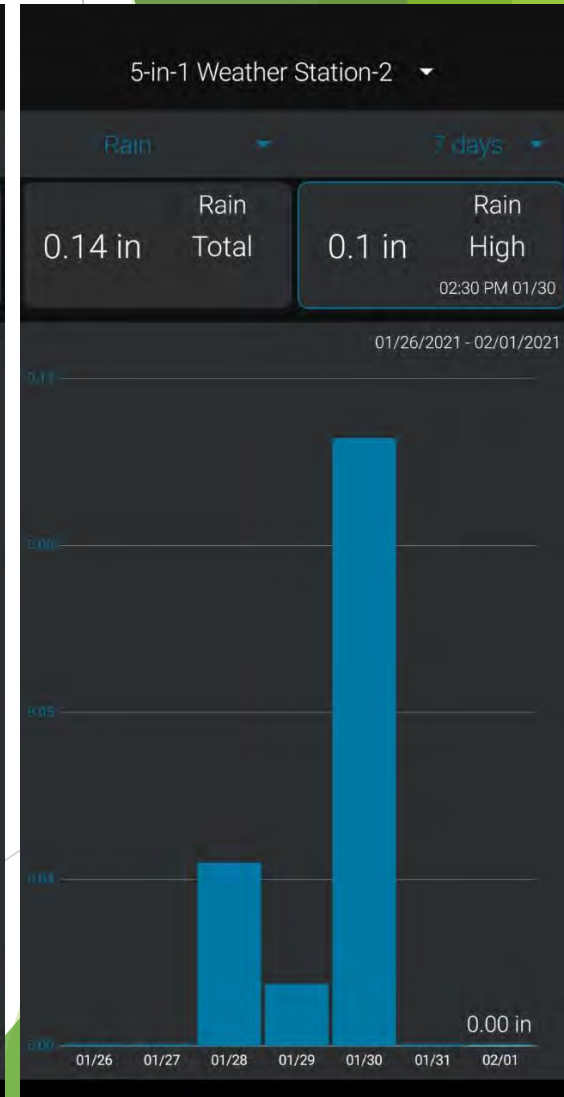
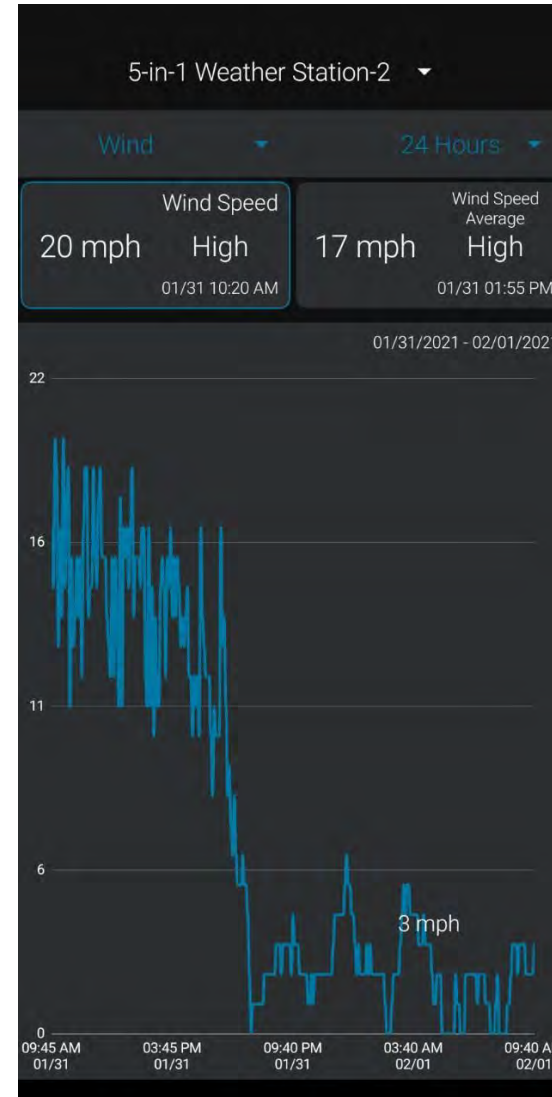
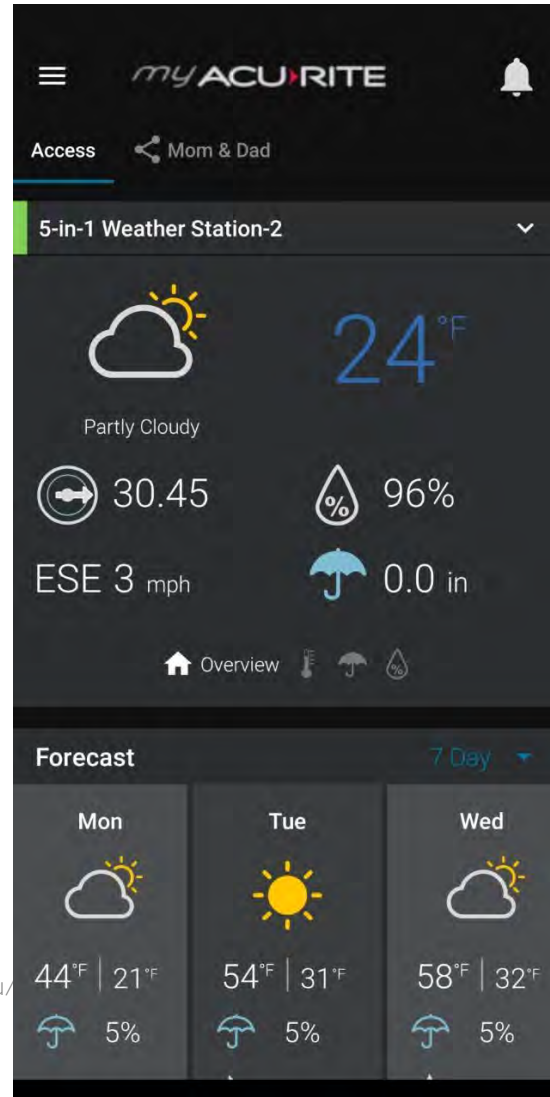


AcuRite - Weather Alert System

provides information on:
 rain gauge,
 wind speed,
 wind direction,
 temperature, and humidity.
 Works with AcuRite App to track history.

You can customize alerts to include: wind gust, low or high temperature warnings, rain alerts, UV index, lightning strikes

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Gate Openers

Swing or slide options

Power options: battery (energy can come from a solar panel kit)

open with a remote or drive over Wired Vehicle Sensor.

Some offer an app that works with Bluetooth.



Irrigation monitoring systems can save a farmer manpower, gas, wear on vehicles and lots of time when having to oversee multiple systems. They provide alerts to problems with water pressure, system lack of movement, sprinkle head plugs etc. It is expensive but using the smart apps saves a lot of resources in the long run.



When Wi-Fi is not available.

Solar panel to pump water in a pasture.

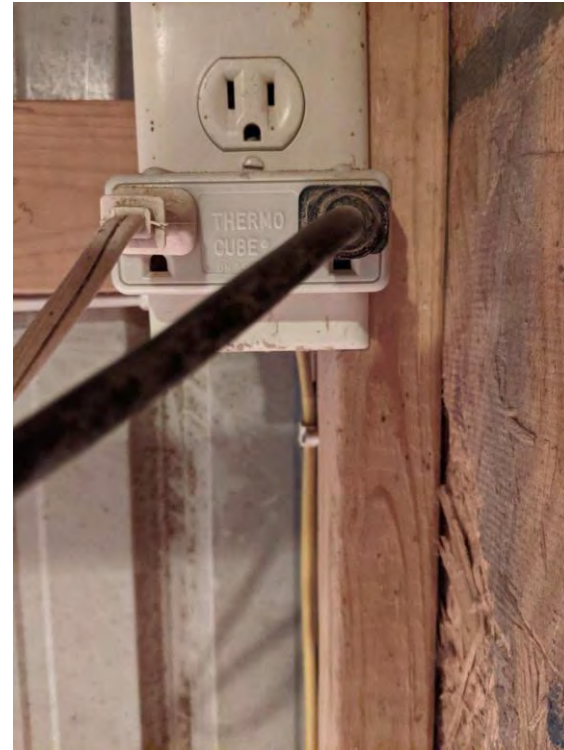
Heated Water Bucket

Heated Pet Bowl

Heat lamp for chickens, dogs and cats.

2 plug Thermostatically Controlled Outlet

Thermo Cube Display





Not ready to take away **Grandpa's (Grandma's)** tractor keys Safety Considerations

- 1) Medical Alert Systems - work where there is Cell Service.
<https://www.caring.com/best-medical-alert-systems/>



- 2) Implement manufacture support:

Operation Center - John Deere

Advance Farming Solution (AFS Connect) - CASE IH

PML Connect - New Holland

Standard on new tractors, sprayers and combines with a yearly fee.

- 3) Find My Phone

Set up in mobile phone settings and download app



- 4) Pin Location - **Use Maps or Google Maps to “Pin” your location and text** to a contact.



Other Resources:

- 1) Search for Best Security Systems for Farm or Ranch
<https://bit.ly/3g2i3mw>
- 2) Smart Homes Made Simple
A Guide to Smart Home Technology by the
Pennsylvania Assistive Technology Foundation
<https://bit.ly/3r3ljn5>



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Questions?