# Home Security and Automation

*On The Road And At Home*

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# Topics

- Security and automation objectives
- Traditional vs. emerging home security and automation
- Some examples
- Costs
- Privacy issues
- Installation requirements

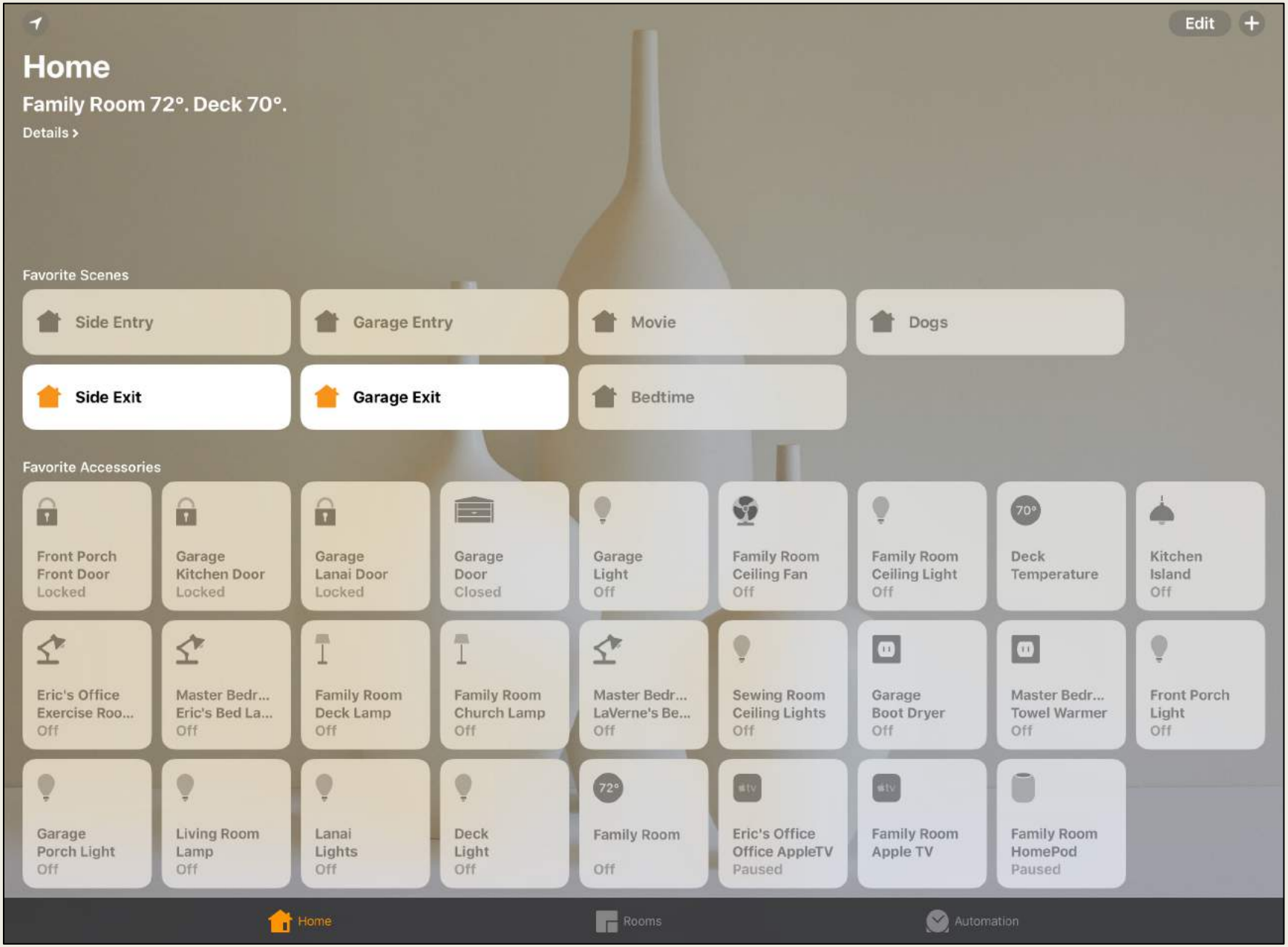
# Security and Automation Objectives

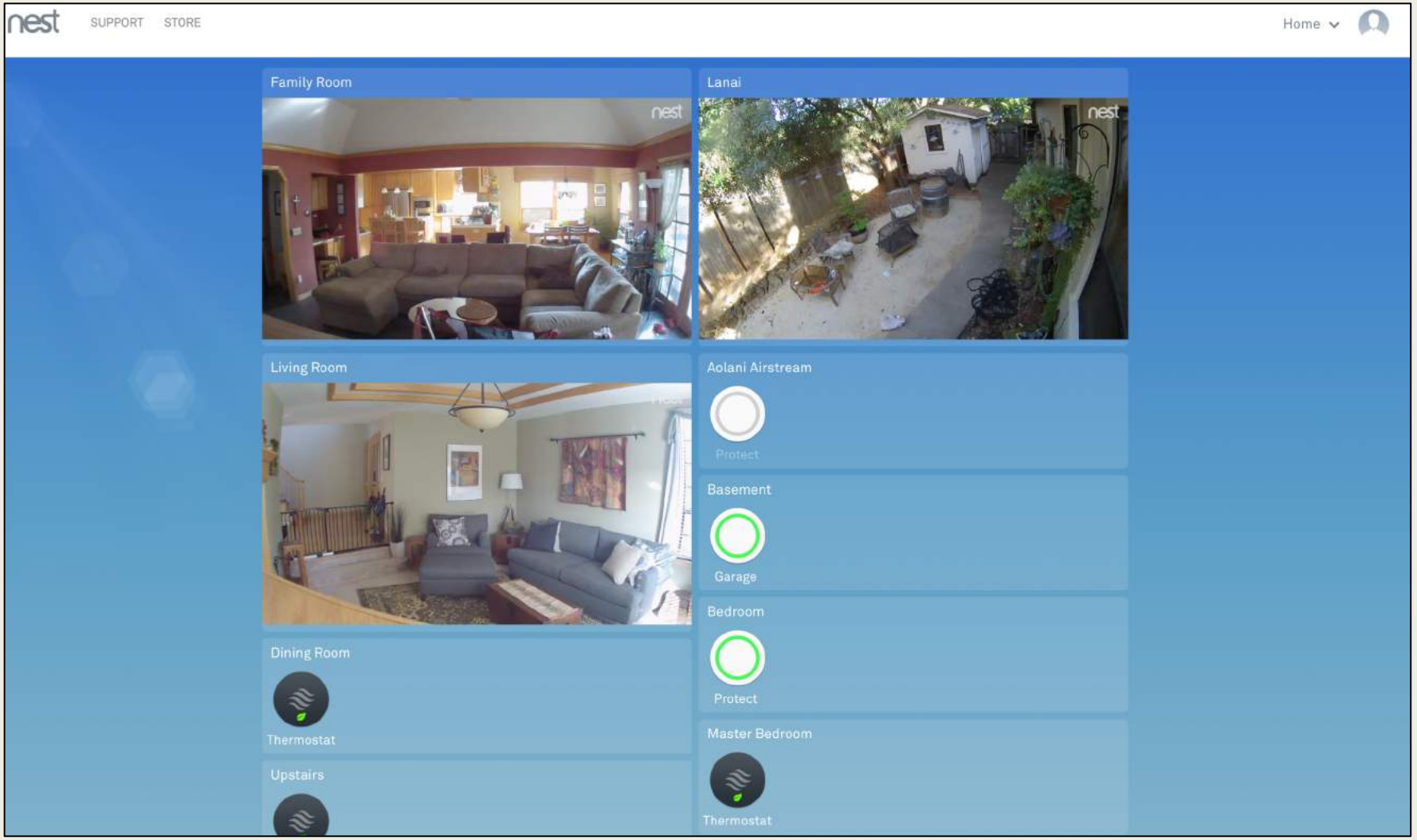
## A Continuum of Interests

- Home access control and alarming
- Video surveillance
- Simple time-of-day on/off automation
- Smart Home automation
- Bringing it all together / Q&A

# Security and Automation Objectives

- There is no correct (or wrong) answer!
- Safety sometimes equals “Perception of Safety”
- “Reasonable” differs
- Cost drives some choices
- Technology adoption and preference matters


Edit
Home
Family Room 72°. Deck 70°.
Details ›
Favorite Scenes
Side Entry
Garage Entry
Movie
Dogs
Side Exit
Garage Exit
Bedtime
Favorite Accessories
Front Porch Front Door Locked
Garage Kitchen Door Locked
Garage Lanai Door Locked
Garage Door Closed
Garage Light Off
Family Room Ceiling Fan Off
Family Room Ceiling Light Off
Deck Temperature
Kitchen Island Off
Eric's Office Exercise Roo... Off
Master Bedr... Eric's Bed La... Off
Family Room Deck Lamp Off
Family Room Church Lamp Off
Master Bedr... LaVerne's Be... Off
Sewing Room Ceiling Lights Off
Garage Boot Dryer Off
Master Bedr... Towel Warmer Off
Front Porch Light Off
Garage Porch Light Off
Living Room Lamp Off
Lanai Lights Off
Deck Light Off
Family Room Off
Eric's Office Office AppleTV Paused
Family Room Apple TV
Family Room HomePod Paused
Home
Rooms
Automation


nest
SUPPORT
STORE
Home
Family Room
Lanai
Living Room
Aolani Airstream
Protect
Basement
Garage
Bedroom
Protect
Dining Room
Thermostat
Master Bedroom
Thermostat
Upstairs

CHS Inner Lawn (SE) 1
Live
CHS Inner Lawn (SE) 2
Live
CHS Inner Lawn (SE) 3
Live
CHS Inner Lawn (SE) 4
Live

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# Traditional vs. Emerging home security and automation

## Traditional

- Wired door and motion sensors
- Few, if any cameras (“CCTV”)
- No access or control when away
- Multi-year contracts
- Professional installation
- Monitoring: ~$30 / month

## Emerging

- Full web/smartphone access
- Wireless sensors
- Camera-heavy
- Piecemeal purchases
- Monthly subscriptions
- Competing ecosystems
- Home owner installation
- Monitoring (if offered): ~$15/month

works with nest

Works with Apple HomeKit

amazon alexa

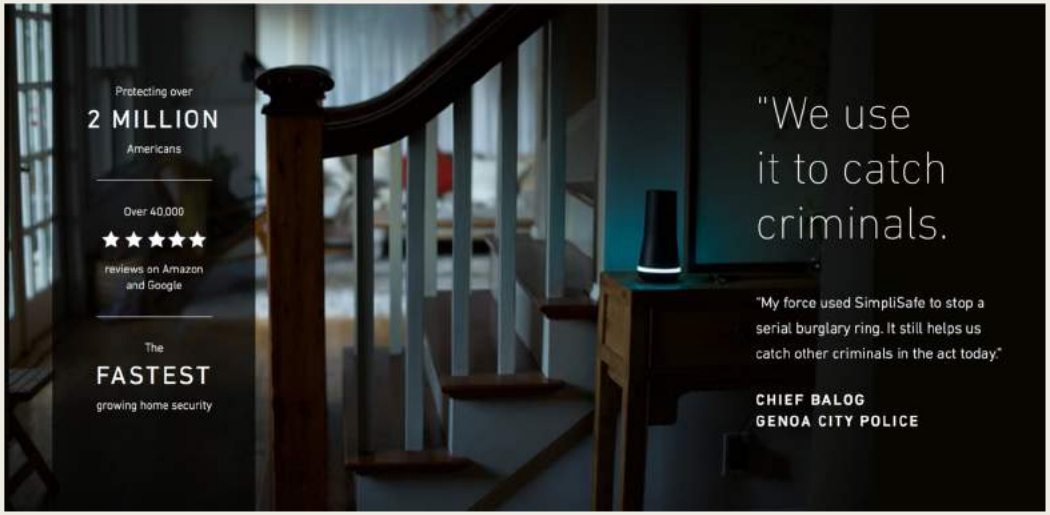
ADT

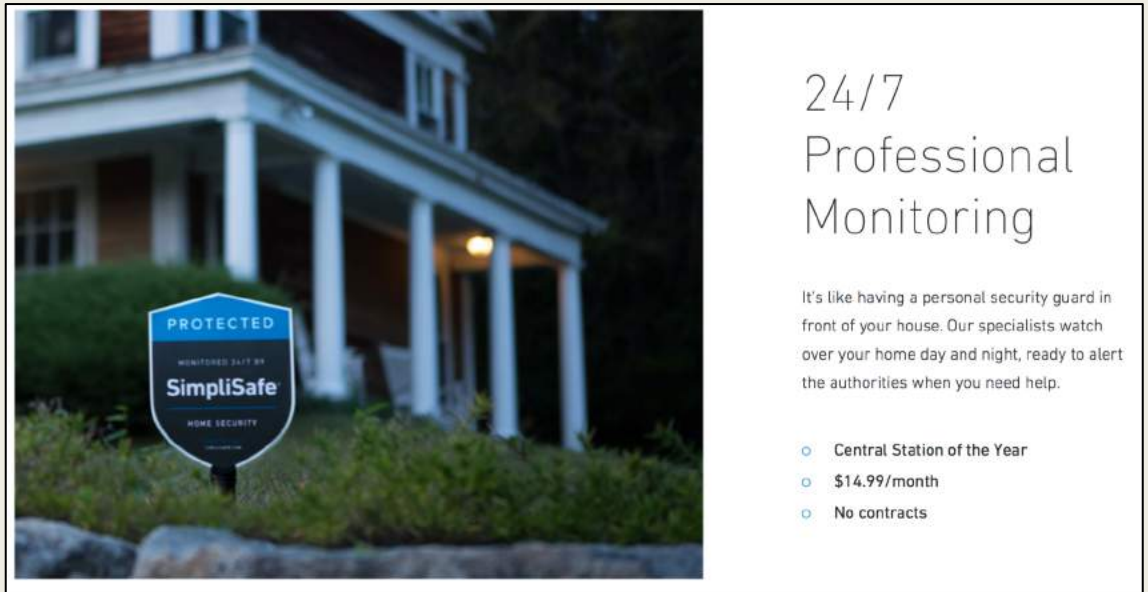
SECURED BY XFINITY Home

SimpliSafe

Google Home

# Example: SimpliSafe



# Example: SimpliSafe

## The Knox

For large homes, look no further. This kit's got twice the entry and motion protection of the Hearth. It's a great fit for homes with four or more bedrooms.

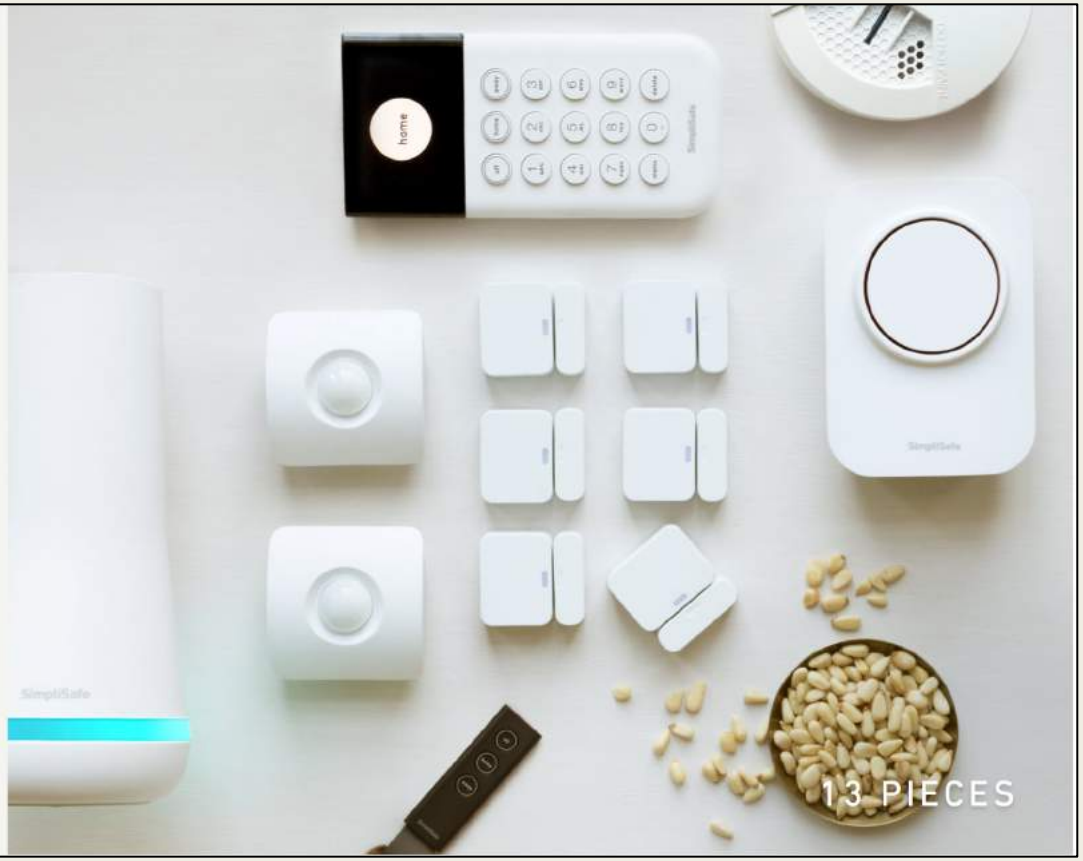
no contracts

24/7 alarm monitoring

no phoneline needed

$449

see details



# Smart Home Ecosystems

## Nest, Google Home

- Cameras
- Doorbells
- Smoke detectors
- Thermometers

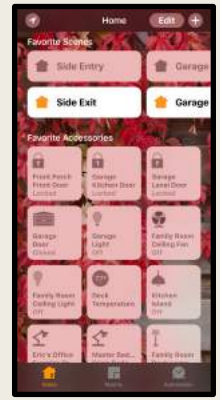
## Amazon Alexa

- Cameras
- Doorbells
- Door locks
- Switches / outlets
- etc

## Apple HomeKit

- Cameras
- Doorbells
- Smoke detectors
- Thermometers
- Cameras
- Doorbells
- Door locks
- Switches / outlets
- etc

# Smart Home Ecosystems




## Pros

- Broad product offerings
- Works with Alexa automation
- Easy web access
- Smartphone agnostic

## Cons

- Less secure
- Fragmented user interfaces

## Pros

- Tight and functional ecosystem
- High security
- Strong and integrated privacy policies
- Native Apple iOS app (“Home”)
- Integrated automation across devices

## Cons

- Only works with Apple iOS devices

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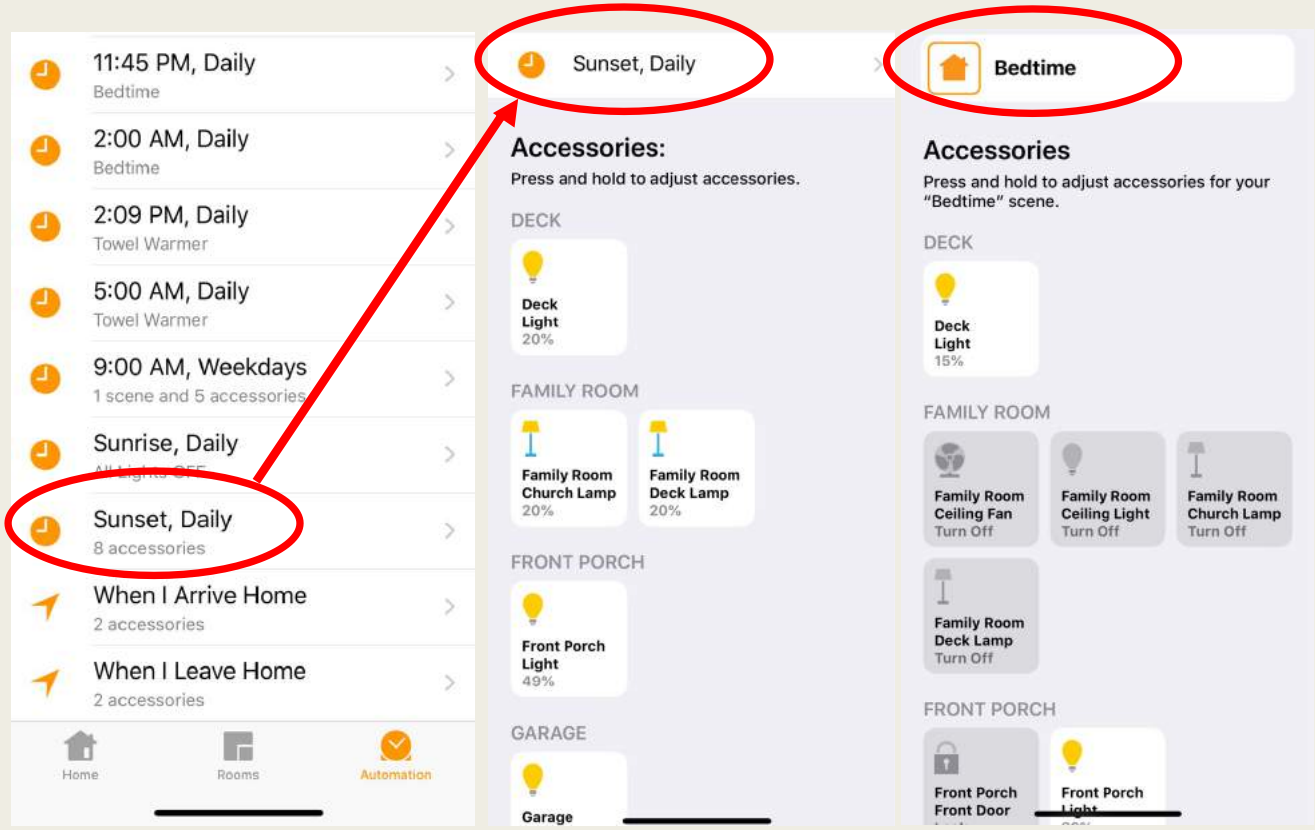
# Some Example Devices

# Home Automation Examples

**Turn my lights on and off**

- Sunrise / sunset automation
- Manual (remote) lights on/off
- Simulate someone being at home

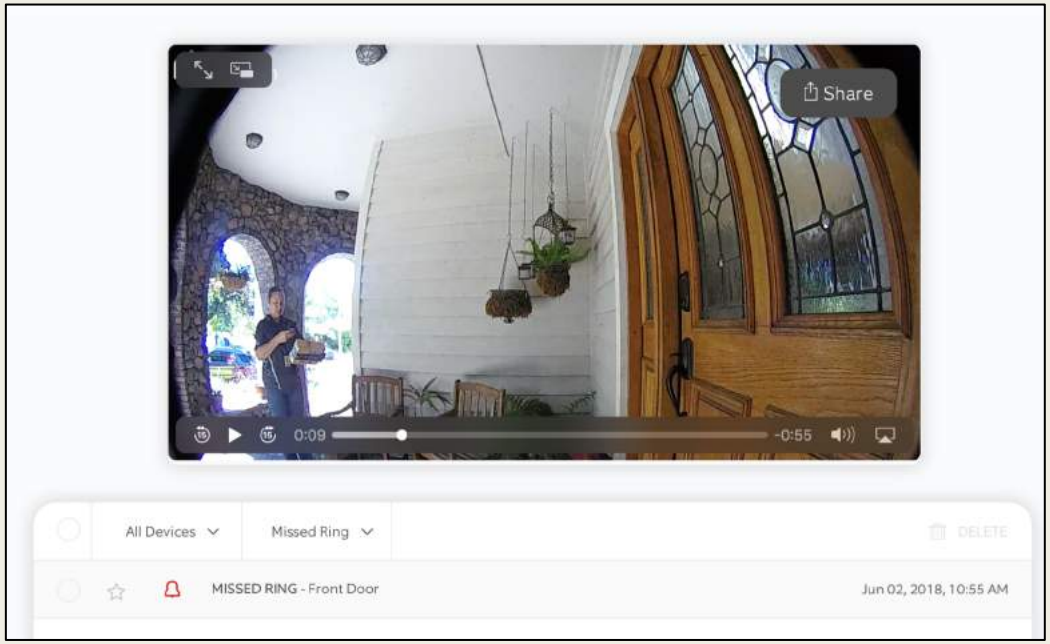


# Home Automation Examples

## See who is (was) at my door

- Missing (or delivered) package
- Suspicious behavior
- Household service personnel
- Friends and family (!!)

ring



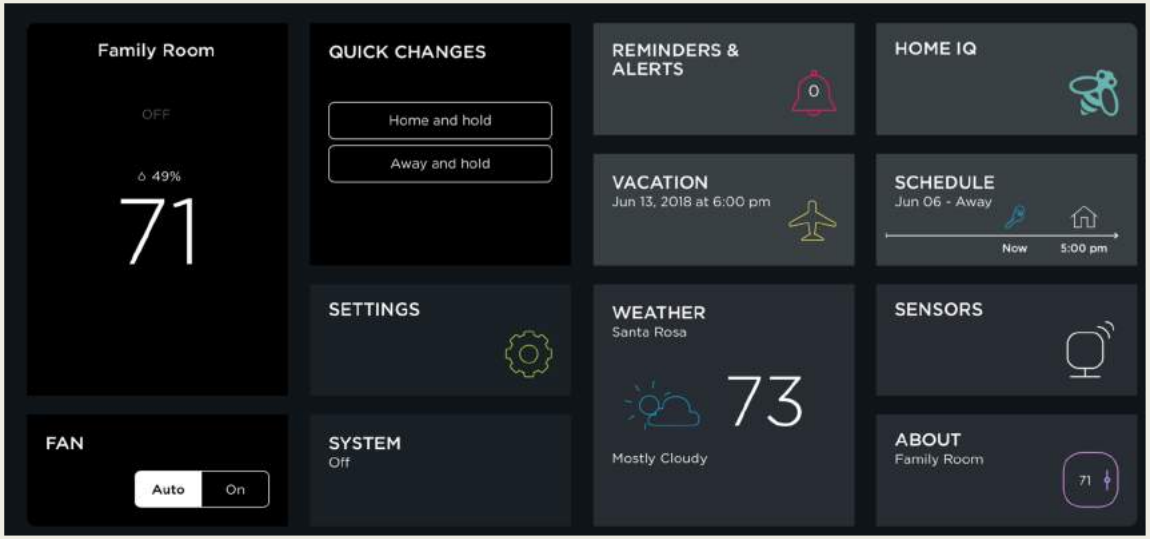
# Home Automation Examples

## Heating and Cooling Control

- Home/Away energy savings.
- Vacation Mode
- Pet Mode
- Manual (remote) override

ecobee

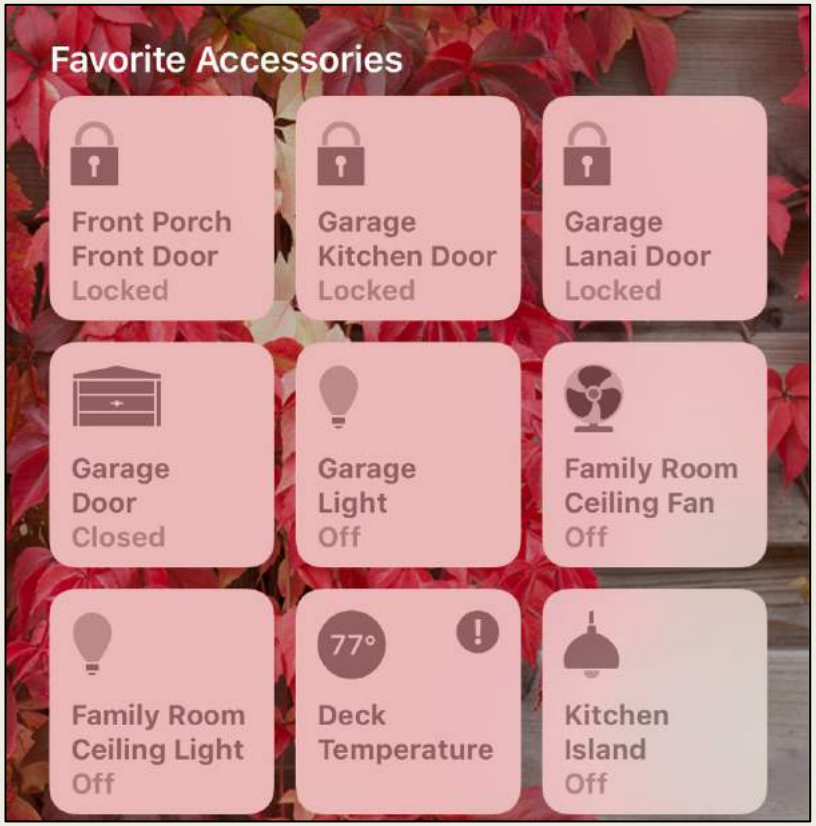
nest



# Home Automation Examples

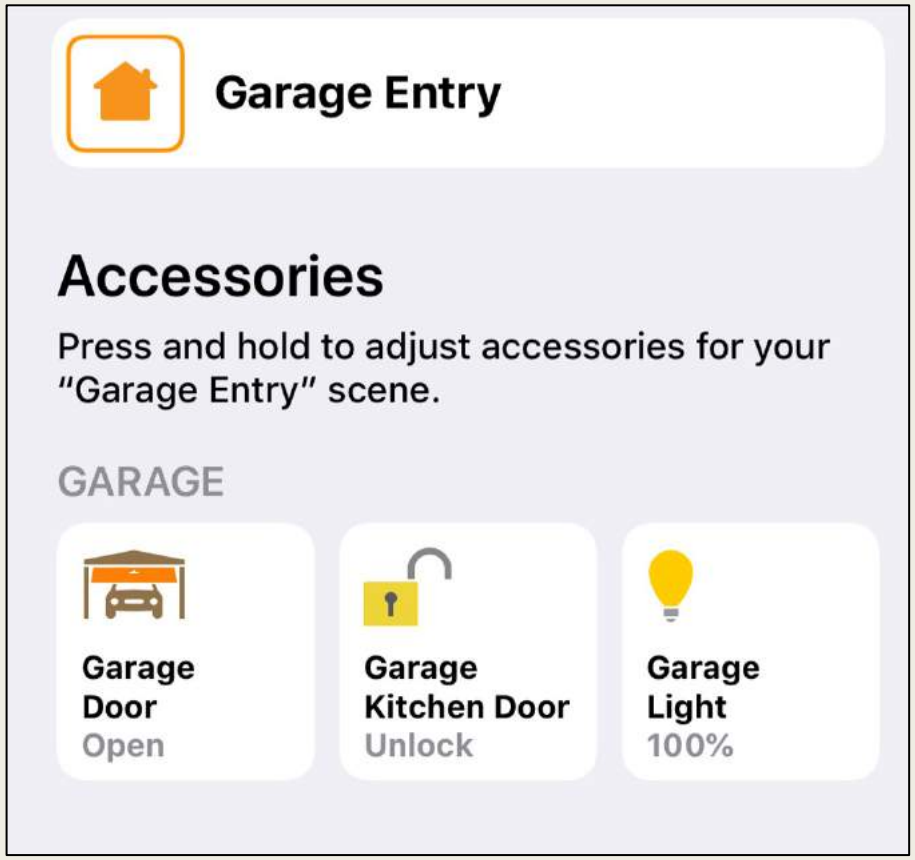
## Doors and Garage

- Automatic lock
- Lock state verification
- Remote lock/unlock
- Visitor access
- Time of day/week access schedules



# Home Automation Examples

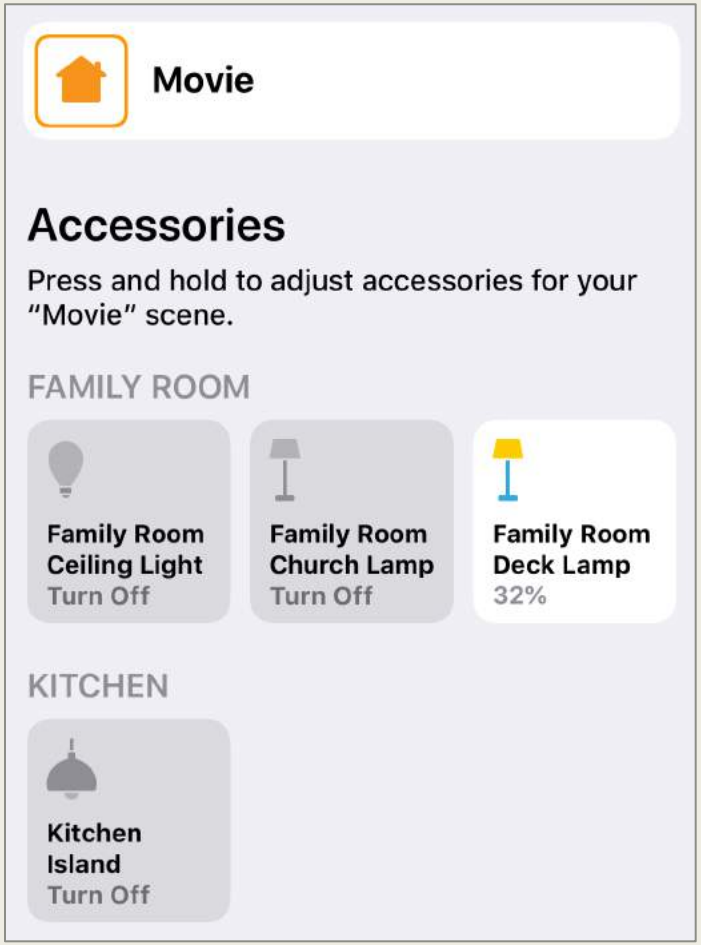
*"Hey Siri - Garage Entry"*




*Note: Great when returning home on a motorcycle!*

# Home Automation Examples

*"Hey Siri; Set Movie Scene"*

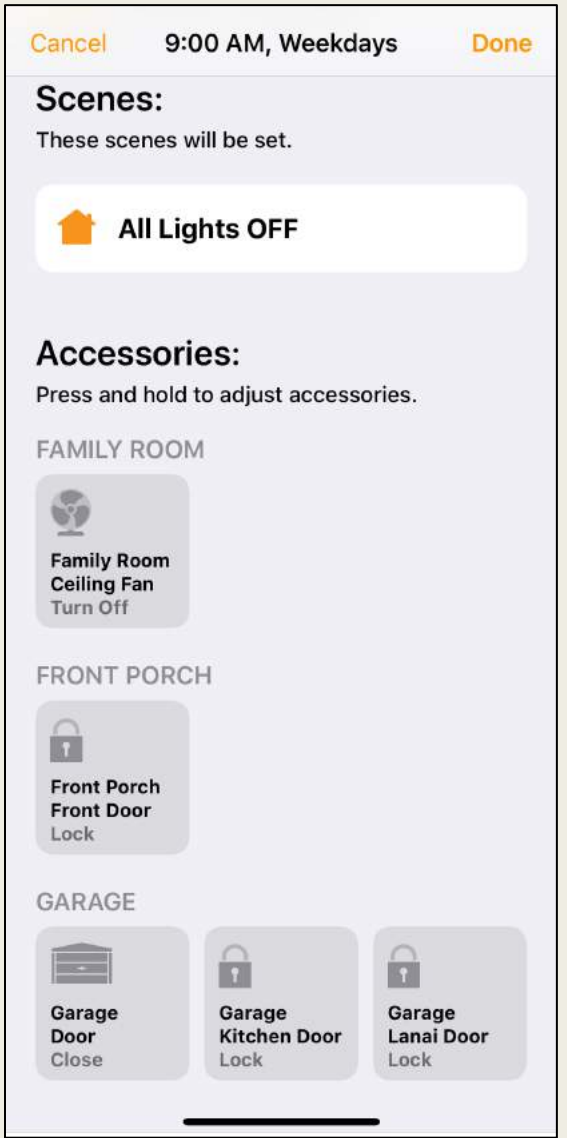


# Home Automation Examples

## Example: 9AM on Weekdays

- All lights are turned off
- Ceiling fan is turned off
- All doors are locked
- Garage door is closed

*Note: Only relevant for "working couple" (sigh)*



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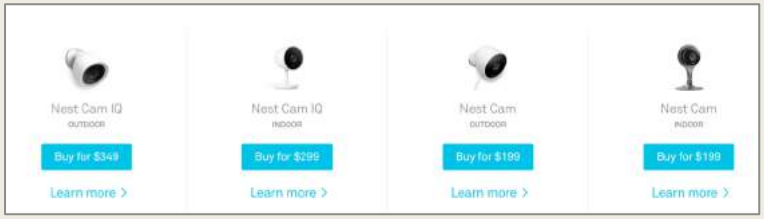
# Smart Home Costs

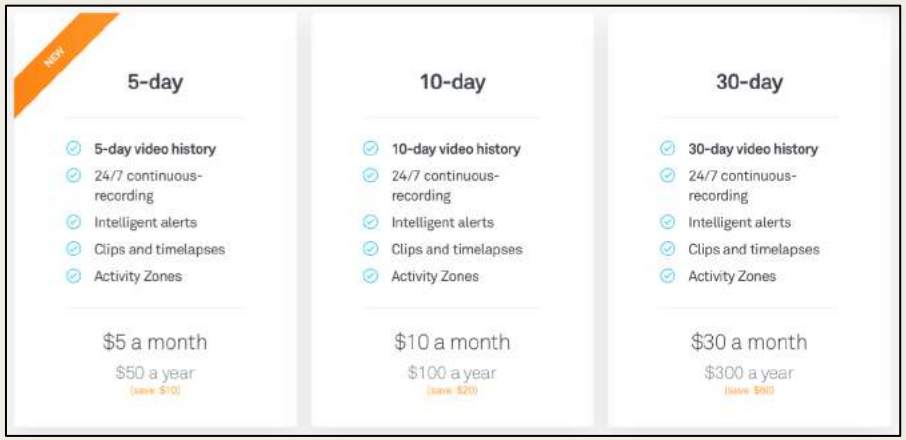
## One Time Costs (examples)

- Light automation: approximately $50 / fixture (or bulb)
- Switches: ~$25-50 / switch
- Garage door opener: ~$100 / hub
- Thermostat: ~$200 to $250
- Smoke detector: ~$100 to $150
- Video camera: ~$200 to $400
- Video doorbell: ~$200
- Door lock: ~$200 to $300
- Ceiling Fan: ~$300 to $500



# Smart Home Costs

## Ongoing Costs (examples)




- Light automation: None
- Switches: None
- Garage door opener: None
- Thermostat: None
- Smoke detector: None
- Video camera: ~ $5 to $30/month
- Video doorbell: ~ $5 to $30/month
- Door lock: None
- Ceiling Fan: None

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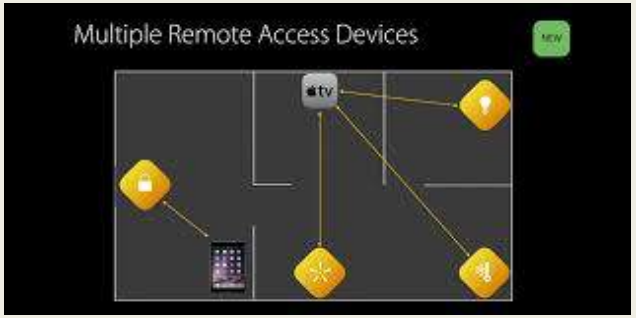
# Privacy and Security

## User Authentication

- **Low:** Username and password
- **Good:** Two Factor Authentication
- **Best:** Two Factor Authentication plus Registered Device/User
- **Also:** Voice and/or SmartWatch integration security

## Remote Access

- **Low:** Basic web access with username/password
- **Best:** Home Gateway plus two-factor



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# Installation Requirements

## Hardware installation

- Basic home improvement skills
- No specialized tools
- Electrical wiring capability in some cases

## Connectivity

- Robust WiFi and/or Bluetooth
- Range extenders and/or WiFi mesh networks for larger homes

## Software setup and configuration

- Basic software application skill required
- “YouTube is your friend…”

# THANK YOU

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