

Smart Homes as Assistive Technology 101

Ben Jacobs
RebelTech Consulting LLC

Easterseals Crossroads -
Innovative Assistive
Technology

January 17, 2020

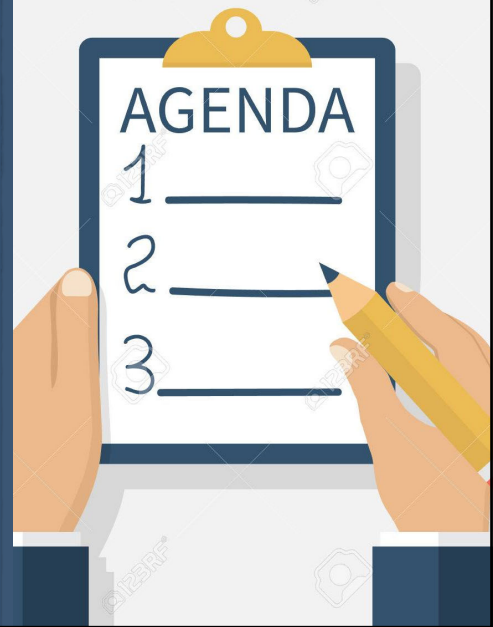


I have no Relevant
Financial
Relationships or
Relevant Non-
Financial Relationship
to disclose.

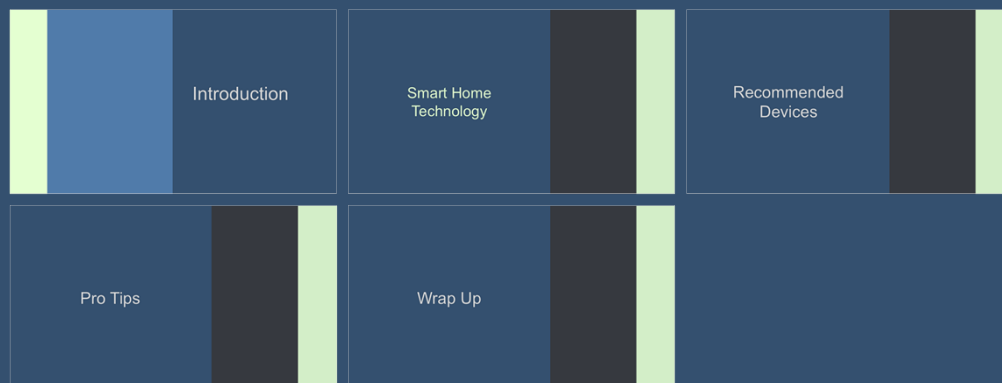
Disclosure

Agenda

- ◆ Introduction
- ◆ Smart Home Technology
 - ◆ Implementation Strategies
 - ◆ Recommended Devices
- ◆ Pro Tips
- ◆ Questions



Summary



Introduction



Who I Am

- ◆ Maine
- ◆ Air Force
- ◆ Georgia Tech

RebelTech Consulting

- ◆ Services for Individuals
 - ◆ Consultation
 - ◆ Installation
 - ◆ Setup
 - ◆ Customization
 - ◆ Continued Support
- ◆ Services for Organizations
 - ◆ Trainings
 - ◆ Presentations
 - ◆ Access to Expertise



Quotes to Think About


“Innovation is not a random process. When it works, it works because someone has identified a real need, and found a way to bring new ideas or new technologies to bear on that need.”

~Lewis W. Lehr

“Do not let what you cannot do interfere with what you can do.”

~John Wooden

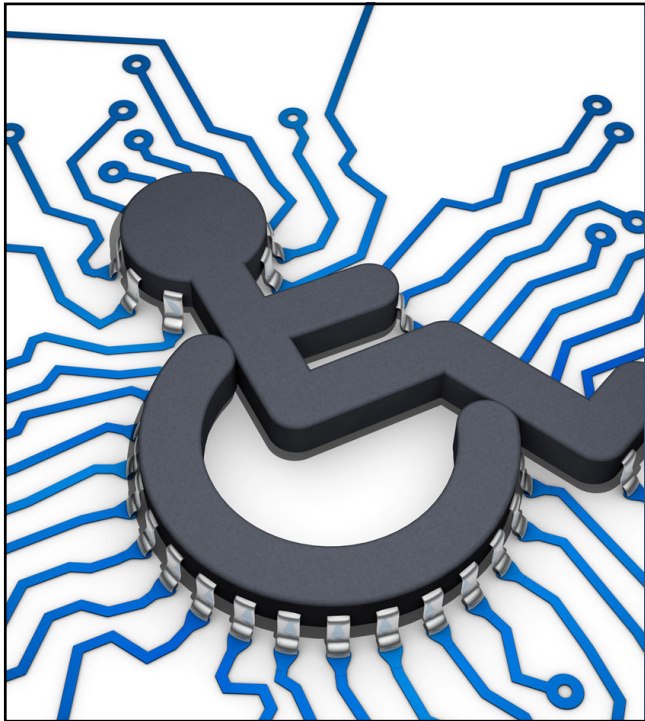
Smart Home Technology



The diagram on the left shows a central green house icon with a white outline. It is surrounded by several circular nodes, each containing a different smart home icon: a fan, a light bulb, a thermometer, a camera, a speaker, a Wi-Fi signal, and a smartphone. These nodes are connected to the central house icon by white lines, representing a network of connected devices.

What is Smart Home Technology?

- ◇ A Network of Connected Devices
 - ◇ Smart Speakers
 - ◇ Smart Devices
 - ◇ Hubs
 - ◇ Others



How is this Assistive Technology?

- ◊ Independently Control Environment
- ◊ Maintain Safety
- ◊ Social Connectivity
- ◊ Entertainment

**HOW TO
BE A
GREAT BOSS**

**RADICAL
CANDOR**

**WITHOUT
LOSING YOUR
HUMANITY**

*'WILL HELP YOU
INSPIRE TEAMS TO
DO THE BEST WORK
OF THEIR LIVES'
SHERYL
SANDBERG*

Smart Home Tech in the Workplace

- ◊ Bring your best self to work
 - ◊ Your productivity is directly affected by the rest of your life experience
 - ◊ Sleep
 - ◊ Hygiene
 - ◊ Independence
 - ◊ Social Integration
- ◊ Many solutions can be used in the office affordably!

Implementation Strategies



“Who is going to install this?”

- ◇ Professional Installation vs DIY
- ◇ Hub Vs WiFi

Professional Installation


- ◆ Expert Setup
- ◆ Equipment installed all at once
- ◆ Limited options for interface
 - ◆ Control4
- ◆ Not easily managed after installation
- ◆ Expensive



DIY




- ◆ Build your smart home over time
- ◆ Choose your interface
- ◆ Affordable
- ◆ Requires technological skill



So which is best?

- ◇ Prioritize what you want to access first
- ◇ Learn it, use it, make it a habit
- ◇ Build from there
- ◇ The primary barriers are
 - ◇ \$\$\$
 - ◇ Technical Expertise



Hub vs Wifi

- ◇ WiFi Devices
 - ◇ Less initial cost
 - ◇ High number of devices can cause WiFi interference
- ◇ Hub
 - ◇ More upfront cost
 - ◇ Creates own wireless network separate from WiFi

Samsung SmartThings Hub

Control most smart home
devices

App

Link with smart speaker

Sensors

Automation



Recommended Devices



Phase One Devices

- ◆ Smart Speaker
- ◆ Lighting
- ◆ Smart Plugs
- ◆ Smart Switches
- ◆ Thermostat

Smart Speakers

- ◆ Voice controlled
- ◆ Smart displays available
- ◆ Built in digital assistant
 - ◆ Google Home
 - ◆ Amazon Echo
 - ◆ Apple Homepod



Lighting

- ◆ Phillips Hue
 - ◆ Standard Bulbs
 - ◆ White
 - ◆ White Ambiance
 - ◆ White and Color Ambiance
 - ◆ Other standalone lights
 - ◆ Hue Go
 - ◆ Light Strips
 - ◆ Outdoor Fixtures
 - ◆ Indoor Fixtures
 - ◆ Hub Recommended



Smart Plugs

- ◆ Controls power at the outlet
- ◆ Great for devices that operate once they are plugged in
- ◆ Emergency Shut Off is possible
 - ◆ Samsung Smart Plug
 - ◆ TP Link Kasa Smart Plug Mini
 - ◆ TP Link Kasa Smart Power Strip



Caséta by **LUTRON**




Smart Switches

- ◆ Replace in wall switch
- ◆ Allows control of fans and multiple lighting fixtures
 - ◆ Lutron Caséta
 - ◆ Leviton
 - ◆ TP Link
 - ◆ Wemo

Thermostat

- ◆ Link to smart speaker or control through app
- ◆ Learns your schedule
- ◆ Automatically adjusts
 - ◆ Nest Thermostat
 - ◆ Ecobee
 - ◆ Honeywell



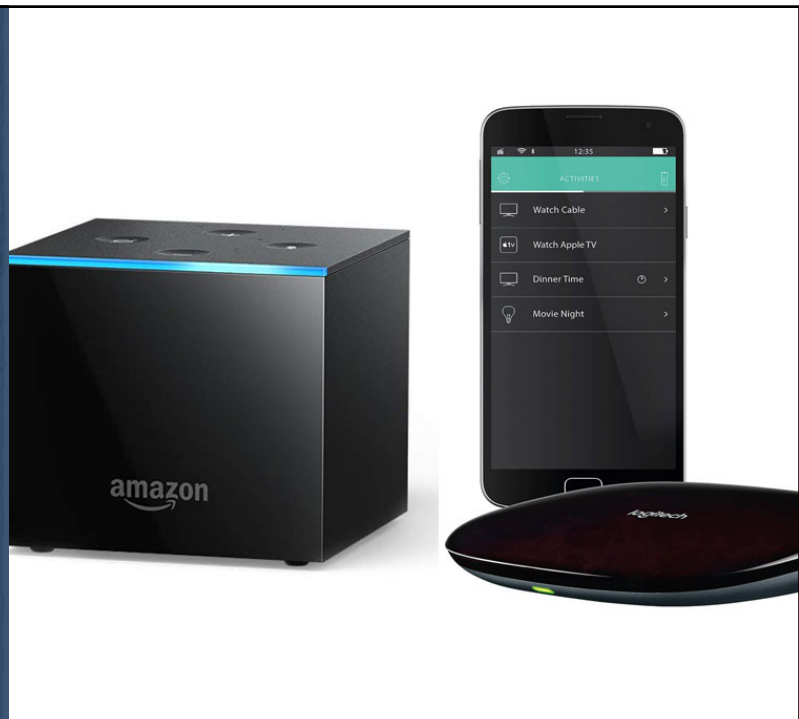


Phase Two Devices

- ◆ Audio Visual Equipment
- ◆ Video Doorbells
- ◆ Smart Locks

Audio Visual Equipment

- ◆ Control TV, Sound System, Cable Box
- ◆ Access to Apps
 - ◆ YouTube
 - ◆ Hulu
 - ◆ Netflix
 - ◆ More
- ◆ Solutions
 - ◆ Google Home, Chromecast, Logitech Harmony Hub
 - ◆ Fire TV Cube



Video Doorbells


- ◆ Normal Doorbell Function
- ◆ Alerts sent to device
 - ◆ Phone
 - ◆ Smart Speaker
 - ◆ Check video on Smart Display or TV
- ◆ Face Recognition
- ◆ Motion Detection
- ◆ Solutions
 - ◆ Nest Hello = Google
 - ◆ Ring = Amazon



Smart Locks

- ◆ Allows control of personal security
 - ◆ App
 - ◆ Voice
 - ◆ Schedule
 - ◆ Other
- ◆ Solutions
 - ◆ Schlage
 - ◆ Yale
 - ◆ August






Phase Three Devices

- ◇ Blinds
- ◇ Adjustable Bed
- ◇ Automatic Doors
- ◇ Other

Blinds

- ◇ Automated Schedule
- ◇ Manual Control
- ◇ Voice Control
- ◇ Solutions
 - ◇ Soma
 - ◇ IKEA
 - ◇ MySmartBlinds



Adjustable Bed

- ◆ Incremental Adjustment
- ◆ Memory Settings
- ◆ DIY Voice Control
- ◆ Built In Voice Control
 - ◆ ErgoMotion
 - ◆ GlideAway
 - ◆ BeautyRest
 - ◆ Others



Automatic Doors

- ◆ Garage Door Openers
 - ◆ Chamberlain's MyQ Smart Garage Hub
 - ◆ Garadget
- ◆ Other Doors in the Home or Workplace
 - ◆ Open Sesame
 - ◆ Portal
 - ◆ DIY Solutions





Other Devices

- ◇ Broadlink
 - ◇ IR and RF Control
- ◇ Bidet/Toilet Seat
 - ◇ Toto Washlet
- ◇ Heated Floor
- ◇ Towel Warmer

Phase Four “Upcoming” Devices

- ◇ Shower/Bath
- ◇ Faucets
- ◇ Other Major Appliances
 - ◇ Kohler
 - ◇ Moen
 - ◇ Samsung
 - ◇ Others
- ◇ Automotive
- ◇ Elevators?



Pro Tips

Custom Voice Commands

- ◆ Ease the learning curve
 - ◆ Utilize natural language
 - ◆ “It’s too hot in here”
- ◆ Reduce tasking of the memory
 - ◆ Create multiple device names
 - ◆ Accomplish multiple tasks with one command





New Features

- ◆ Google Assistant
 - ◆ Schedule actions for later
 - ◆ “Start the coffee pot at 6 am.”
 - ◆ “Turn off the TV at 9 pm.”
 - ◆ Leave a note on smart displays
- ◆ Amazon Alexa
 - ◆ Choose your news
 - ◆ “Play news from ESPN”
 - ◆ Alexa Guard



Privacy and Security

- ◆ Typical Concerns
 - ◆ “It’s always recording me.”
 - ◆ “My smart home is going to be hacked”
- ◆ Solutions
 - ◆ Mute switches
 - ◆ Manage your recordings
 - ◆ Network/Password Security
- ◆ Local Voice Recognition

Wrap Up



Questions

Contact Information



Ben Jacobs

RebelTech Consulting LLC

ben.jacobs@rebel-tech.org

