

Assessing Your Needs to Help You Choose Smart Home Technology

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Webinar from Pennsylvania Assistive Technology Foundation's
Smart Homes Made Simple Project

Susan Tachau: Hello, everyone. It looks like it's one o'clock. I think a couple of people are still coming in. We'll wait one more minute and then we'll begin. We've got a lot to cover today and not as much time. One more minute, folks.

[pause 00:00:17]

Susan: All right, I think we'll go ahead and start. I want to welcome you to today's webinar, assessing your needs to help you choose smart home technology. I'm thrilled that we're able to do that in the heat of the summer. This webinar is part of a project that we, Pennsylvania Assistive Technology Foundation, have, called Smart Homes Made Simple. We're very grateful for funding that we have received from the Pennsylvania Developmental Disabilities Council. Next, please.

This session is fully accessible. The program will be recorded, closed captions are available. Please submit your questions using the Q&A window. We will also look for, if you need to raise your hand, we will also be looking for that. The recordings, the slides, and the transcript will be made available within a week. If you would like to learn more about this project and to keep up to date, we have a website that's in use right now, but we're making it even better and it will be launched in the fall, and it's called smarthomesmadesimple.org. Please visit and give us your comments. Thank you. Next, please.

I'm really pleased that today we have two experts in the field. Jerry Boothe, who is an assistive technology professional, an ATP, and consultant to our Smart Homes Made Simple project, and Kirby Smith, who we've worked with for years now, who's president of SunKirb Ideas, and he's also a consultant on this project. Please know that shortly after this webinar, a survey will be mailed to you. It's one of those requirements from the Developmental Disabilities Council. Please take a moment to answer those questions. They would like to know who is attending webinars such as this.

Just before we get started, Susie, we have a couple of questions, poll questions for you, so that Jeremy and Kirby will have a better idea of who's attending today's webinar. The first question is, are you using smart home technology? Yes, no, not sure? The second question is, if yes, if we're using smart home technology, did you set it up yourself? Yes or no? Third question, if you are not using smart home technology, are you interested in getting some? Yes, and Susie, I can't see the rest. Yes, no?

Susie Daily: The final question is do you have a team to support you with smart home technology? Yes or no? People are still answering, so give it a minute. I'm going to close the poll.

Susan: All right. Are you using smart home technology? 41% or 7 said yes. 53% or 9 of us said no, 1 person said not sure. If yes, did you set it up yourself? 6 of you or 35% said yes, 11

or 65% said no. If you're not using smart home technology, are you interested in getting some? 76% or 13 said yes, 24%, 4 people, said no. Do you have a team to support you with smart home technology? 29% of you or 5 said yes, 71% or 12 of you said no. I notice that there is some chat. Maybe some of you were unable to answer the questions, and we'll make note of this for the future. Jeremy, and Kirby, I kick it off to you.

Jeremy Boothe: Hello. good afternoon, everyone. My name is Jeremy Boothe. As Susan stated, I'm a consultant for our two PATFs. My background with technology is about eight years with assistive technology in a long-term living facility, but also working with members of the Greater Philadelphia community. I've been blessed and very fortunate to see a multitude of smart home configurations, and I've worked with over 200 people with a disability and either worked with them on how to figure out a way for assistive technology to enhance or enrich their lives, or help troubleshoot, train, and educate on said technology.

It's my honor to be here today, and I hope you all can walk away from this webinar with a little bit more knowledge, a little bit more understanding of smart home technology, because it can be challenging, and it's a lot to take in. I do ask that you give yourself grace. It can be confusing, don't feel intimidated. Try not to feel intimidated, but just bear with us, and Kirby and I will hopefully be able to provide a little bit more insight and some general knowledge. Anyway, next slide, please.

Assessments, essentially, they help you pair down a variety of options, and they help you to make educated choices about what will serve you most effectively. My biggest piece that I want to really talk about today is doing a self-assessment, or assessing someone else who is considering smart home technology, or is looking to add to their existing configuration. I think it's important to also note to you, this is non-clinical in nature. I am an ATP, although I'm not an OTRN or with any medical background. If any of this information comes up, and you look forward to trying to implement technology, consider running by a medical professional if you see any health risk associated with using said technology, or your position, or the position of technology.

A self-assessment, it's an important tool in our lives in general. It's not even including just a smart home assessment. At its core, it's an aid to clarify our goals, and it allows us to identify what we really need versus what we want, or what we really need and want. My intention really is to help explain the importance of assessing our thoughts, and our environment although it's boring to apply context to the variety of things happening in our lives.

I'll refrain from going too deep into topics such as what types of technology are needed to accomplish a smart home setup, but fortunately, Mr. Kirby Smith, who is an absolute expert in smart home, will be doing just that in the latter part of this presentation. Next slide, please.

In working with folks through the years, the best analogy I could come up with in trying to develop a plan after assessing for smart home is like planning a road trip. You have your starting point, your points of interest, and your destination. Bear with me on this. I know this may be challenging to grasp, but I'm trying to find the most direct way of explaining this.

With a starting point, you're looking at what technology, or what knowledge of technology your resources will I need? Where am I? Do I have smart home technology? As the poll suggested, it looks like about half of us have smart home technology while half of us don't. Whether you're starting with existing technology or starting from ground zero, it's okay. Just know that where you are is where you are and there's only one way to go and that's forward, as well as points of interest. What tasks, what hobbies or activities do you want smartphone technology to do for you, or how do you want that technology to help you?

Then lastly, destination is obviously very important for travel in a road trip. Where are you going? Where do you want to go once you get there? What would you like to be able to do? What would you like to be able to see?

With that said, let's go back to a starting point. It's much like packing for a trip aids. It's important to consider items you would like to have, which items will be useful to include. Trips to the beach almost certainly should involve sunscreen. In a parallel way, someone wanting you to have control of their lights by voice, likely, at least want to consider what a smartphone can do or make their first purchase of smart home technology be a smart speaker, something that can listen, something that has a microphone embedded. Again, Kirby will absolutely touch on those types of devices.

Next points of interest. Much like a trip to Philadelphia should include stops at a well-known cheesesteak shop or the home of a historical artifact, such as the Liberty Bell, there are certain considerations that also need to be taken when deciding how your smart home technology will serve you. Certain devices are used for very specific tasks. Though many devices are well-equipped to really perform a wide variety of functions, the most challenging part, I feel, is planning for what you think you want or what you need, and then the feasibility of that plan and resources it will take you to acquire.

For many of you who have not purchased smart home yet, and starting from the beginning, it's really hard to say, "Well, here's how I want to go--", or "Here's where I want to go. Here's what it wants to be able to do." Getting there, sometimes, is the most challenging part. One thing, an entire cheesesteak to try as a first time customer, location has absolutely no parking, the cost is over \$20 with the drink. These are all things that don't come to mind when you say, "Oh, I just want to go get a sandwich in this city."

The last step that I want to go over with the road trip is your destination. Where are you going? Once you get there, what's going to look like. For example, I would like to be able to control my home entertainment without needing assistance from someone else, and allowing yourself to be independent and to find that new sense of independence. What will the vision of my smart home will look like once configured. If this is a question that might seem hard to ponder, it's because it is. The more exposure we have to smart home devices and technology, the more comfortable we find ourselves with allowing them to help us create solutions and solution-driven setups.

One tip right off the top of my head is I would suggest, begin by looking at YouTube to get some ideas on how smart home technology is currently being used. There's some very creative people out there in the world. I think as new technologies, smart home technology, the communities that are embedded within these topics are always willing to share, and

sharing is caring. Sharing knowledge can help someone go from having a good setup to a great setup. I think that just by going on YouTube and checking some videos, it'll at least spark some ideas and get you going, get your ideas, get your wheels turning. Next slide, please.

As we talked about the starting point, there's three things that when you start off, when you're assessing, you want to consider. The first thing is focusing on function, focusing on the logistics, where and how will this technology be used, and budget, the cost that the you may incur when trying to obtain this technology. With that budget, it's obviously, you have an initial cost, you have an ongoing cost and then you have future costs or cost considerations. I won't go too much into the financial piece, but we have a wonderful staff at PATF that I'm sure would be willing, and be glad to talk to you about that.

With this road trip and that starting point, you might ponder, what do you want to do? Where do I want to go? How am I going to get there? How much am I able to spend in order to make this trip work for me? When we focus on function, I think some questions you can ask yourself is does this smart home device seem to be the most direct solution for my need? Example, in order to listen to the news, do you require the most powerful or loudest A-L-E-X-A, Alexa device? Not necessarily. However, if you're deaf, for example, a higher output or a higher volume speaker may have some added value which serves your needs, so some things to consider there.

Additionally, logistics, or how will we intend, what is the intention on utilizing this technology? Some questions you might ask yourself there are, where would the technology fit within my home? It's important to educate ourselves as best as possible, I think, and educating ourselves on specific products, and trying to understand, to the best of our ability, how it works and how it directly applies to you is helpful. It's helpful. Doing your research is the best thing that you can do, especially if you're having a hard time finding someone for support.

Another question you might ask is the layout of your home environment, is it conducive to using this technology? Is there a need to have more than one device based on the levels of floors you have in your home? Those are some thoughts to consider. Then also, we talk about budget in this starting point and trying to project out some costs. Most devices that you can find will be on the internet, and they are listed with prices. At the very least you can get a rough estimate of how much you should expect to pay.

A question you might consider is for the initial costs, and good news with that is that although the market for smart home technology has grown drastically, the cost of devices has dropped. At least more common devices such as the Amazon A-L-E-X-A devices, subscriptions are something that many companies are switching to. They're switching to a subscription based payment model. Although it's frustrating, it just appears to be the direction that most services, especially technology services are moving in, the direction they're moving in.

Then a future consideration that you may not know right now is can I use this device? A question would be, can I use this device just as it is, or might I need an alternative way of using it to its full capacity? This is a difficult way to think ahead, but it's at least something to

consider. If you were to use a, for example, an Amazon Echo Dot, and you wanted to use that in your bathroom, however, you have no ledges or surfaces to put it on where it's safe, how and where will you place that device? That's just an example of how we have to consider our environment and where these devices will live and operate with it. Next slide, please.

In doing an assessment, it's really important to include yourself in that assessment. You want to build a team as best as you can, with people who know you, and people who know the technology. Those are really the two biggest factors. People who know you, may be caregivers, may be family members, maybe friends, and people who know technology, may be the 16-year-old down the street that is really good with technology and plans to go to college for IT or computer studies.

Some ideas to think about are, you really want to be honest about your concerns of technology upfront. You want to express those concerns upfront, and do your best to communicate those concerns. For example, you say, "I'm not interested in having cameras within my home," or, "I really don't want anyone else having access to my technology. I'd prefer to control them solely by myself." These are things that you just want to air out from the get-go.

I think that doing a self assessment often leads to getting to know ourselves a little bit better. You really don't want to hesitate to put several sessions in to considering your true needs, and always doing your best to differentiate between wants and needs. After doing a self assessment, you may know that your own needs makes it easier for someone to also pair you with the right smart home tech. If you have an outside vendor, or an outside professional that is coming in to help you, knowing what you need is going to lay the groundwork and make even stronger foundation for the technology plan to implement. Example, to share details during assessments, such as vision or hearing loss, can significantly impact which devices are suitable over another.

As mentioned earlier, higher volume capable speakers could likely more helpful to someone with hearing loss or someone, with the visual impairment or who is blind, or have partial blindness, they may need a larger screen on an Amazon device. I keep saying Amazon devices because they're so popular. They may need the 10-inch screen as opposed to the 5-inch screen, just for the ability to increase, contrast, to be able to see bigger letters and to be able to see larger images.

Another thing I wanted to talk about is preparing questions prior to an assessment. Researching devices available for purchase, and consider ongoing support needs. Preparing is, if you're uncertain if two devices can work together and you're unsure how a device would work in certain situations, and you're curious about ease of use, you want to document or log those questions. If you're curious enough about it, and it's really something that you're considering, and you want more information on, it can often be a great start to exploring solutions. Exploring solutions is typically best to start exploring those solutions on the internet.

Again, I mentioned YouTube, going to different websites, tech companies' websites, reading their Q&A's and customer reviews, I'll mention that again later, it's a really important part to

find out some answers before you even obtain the equipment. Doing research. Amazon actually can be helpful to begin learning what's on the market. Just knowing what's on the market can go a long way for you as well. For Google users, their product page can also be helpful. Most of the bigger smart home technology producers have a variety of resources on their website. Next slide, please.

Okay. Part of that self-assessment is identifying your standard for positioning or your level of comfortability, whether you are standing, sitting, laying down, no matter what your position is, only you know what is most comfortable for you. Being able to stop and say, "If I'm going to get this technology, can I use it in my baseline position where I tend to spend most of my time?" It's really important for technology be in the proper position for you, and your position absolutely matters. This is always about the individual first, and this is the person first. Technology can mold around us, but I don't advise for others to ever mold around technology as best as possible.

Finding what position you're most comfortable in when using technology, whether that's sitting up, laying down, reclined, standing, if you aren't comfortable, it will be even harder to find the best position for technology to be in. This is all about the tech user. The positioning of technology is, I think of a video screen on a nightstand, for example, or mounting for a remote control for a TV or streaming device. Do-it-yourself positioning may be required to suit your needs. Often, low cost and simple DIY projects are simple in design. Items can be fabricated of household items like rubber bands, shelf liner, cardboard, duct tape, phone pieces.

If you're unsure and you're working or have access to an occupational therapist, they are wonderful resources, and professionals that have seen so many different instances. Just coming to them with an idea may be able to help them help you. You really want to channel your inner MacGyver, although I would say avoid helicopters and hot seats, hostage situations, if you can.

With specialized accessories, you have to think about mounting systems as well. There are things as monitor mounts. There are things such as tablet or phone mounts, which may be needed in order to keep your technology in a position allowing you to control it, and in turn, controlling your environment. There are a ton of things with mounts. RAM mounts are used by military and police, very strong and sturdy. Modular Hose is another type of mount that is very pliable and allows you to put it in unique positions, and then Manfrotto, they make articulating arms, which are also really, really sturdy, heavy-duty camera equipment, that can be converted into devices to position your technology. Next slide, please.

My last slide here is I just want to also, I want to state that when we're doing an assessment, it's really also important not to just assess ourselves, and our needs, and our wants, but it's also important to assess our environment. Some questions asked is, will this device work best in this location? Will it serve my needs where it will be placed? Can I interact with my device with no apparent obstruction?

Some environmental considerations such as sound, wall outlet location, and device location. Sound, if noisy, for example, voice commands may not register and this can decrease usage, and be downright frustrating for the user. Unfortunately, for example, my Amazon Echo is in

my kitchen, very close to the ceiling in the corner of the room. When the volume is anywhere above five, I have to basically yell at this device just for it to hear me.

For example, with that, I brought it down to a lower level where it was able to hear me a little bit better close to where I typically stand or where I'm cooking and that solved for that issue. Another thing is wall outlet location. Most devices are required to have power sent to them one way or another, whether that be by battery, or electricity from a wall socket. If you intend to place a device in a hallway, for example, consider if there is an outlet nearby that can supply the device power.

One more thing I want to touch on before I transition over to Kirby, is device location. We all know that signal interference is a thing. I'm pointing this out because in the use of experience, it has grown to be a pretty common issue that pops up from time to time. Like most Wi-Fi-enabled devices, they're constantly searching for a signal to access the internet and constantly sending and receiving data. You want to make sure that the device's distance from your wireless router, for example, is within router's range.

If your router is in your garage and in the back of the house, or in the front of the house, and you're trying to get a camera in the back of the house to connect, the signal has to pass through a variety of materials in your home, such as concrete wood, drywall, and windows. Some things to be mindful of are, let me check the FAQs, frequently asked questions, or let me pose the question to an expert, really trying to make sure that you're ruling out all potential distractions or things that could negatively impact your configuration.

With that said, that is really some big-ticket items on what to consider when you're doing a self-assessment or assessment for someone else when trying to obtain smart home technology. Thank you for your time. I'd like to pass it on to Kirby at this time.

Kirby Smith: Good afternoon, everyone. I'm going to focus much more the brass tacks, the bricks and nails that you're going to need if you're going to put together a home automation and a smart home. What do you need exactly? Well, the very first thing you're going to have to have, there's really no way around, is either some form of mobile device, that's either Android or iOS because these systems really are not built to run on computers. Just too expensive for a lot of manufacturers to maintain apps on different types of computers, whereas with mobile devices, there's a standard, it's much easier for them to build towards them.

At this point, if you're going to do a smart home, just keep that in mind. I have had clients, believe it or not, who don't have smart phones or tablets available, and there was just no way of getting around what they're going to need.

Second, as Jeremy mentioned, you've got to take into account your own physical limitations. If you're planning on setting up your own smart home, and you don't have the ability to install some of the pieces, that can be a big impediment for you. You really have to consider how comfortable are you with ordering the things, unpackaging them, connecting them to different types of Wi-Fi and things like that, you've got to really keep that in mind because some parts of it can be very simple.

Some, if it's your first time, can be extremely complicated, or I've had clients who have taken some things out of a box, they weren't used to opening some of these devices, and they would end up throwing parts of it away because they weren't aware that in some of the packaging, there are pieces underneath a panel, because they want to be really fancy with how they pack power cords and things like that.

Also, you have to take into account the construction of your home. That's going to play the biggest parts of for things that have failed and smart home setups, it is usually something about the home that caused that failure, and we'll go into more detail about that later. Finally, the construction of your house is going to dictate the type of devices you're going to put in place. For instance, if you are planning to build out everything based on solely Wi-Fi, that might be an issue if your Wi-Fi router's in the front of the house, and you don't really get much of a signal in the back.

You might want to consider things that use what's called a mesh technology. For example, instead of me using Wi-Fi, I'm going to use Z-wave, which is a radio communication standard that's a little bit stronger in how it moves things around the house. If we go to the next slide, I'm going to get into what some of these things are.

To control all of these devices, absolutely, you've got to have good communication between them which means also, you're going to have to maintain that that communication. One, you're going to have to have dependable internet. If you've got parts of your home where the internet, where Wi-Fi is spotty, or your internet tends to go up and down, it can really drive smart home devices crazy.

For example, if they connect to a cloud, and they're sending information backwards and forwards to keep themselves up to date, and know the state of other devices on your system, and your internet is going up and down, what happens is they start getting false readings, they start behaving very strangely, and you may not even know your internet was down at a particular moment.

For example, you're using, let's say, a Fire Cube on your TV is streaming, it's sort of saved up enough of the movie to get by for a few minutes, and then all of a sudden it cuts off, you think it's the stream device but you don't realize that it's the actual internet. Then the next thing you know, you've got that craziness everywhere. You've got to keep Wi-Fi and internet under control.

You've got to be able to handle, manage and understand passwords and your IDs. More often than not, I've encountered a lot of clients that are just not very good at this. They have multiple email accounts. They have multiple passwords, they don't write them down, and what happens is, it becomes a struggle to set up home devices or even maintain them.

For example, I have a client who would not log into his apps for months at a time, and then when he would go to use it, he would think that the system was down because the app logged him out and required that he proved who he was, which is called two-factor authentication where even if you did find the right password, it's going to come back and say, "Okay, go to your email, or go to your text, and put this code in."

You've got to be comfortable with managing multiple accounts. You may have a standard password you use, you go to put in the smart doorbell, and they require that you use a special symbol where you don't have one in your others. You're forced to change and use a different password, and if you didn't record that, you become confused later on.

When setting up the home, you also have to have the ability, or someone who can assist you with rebooting your router. During the setup, you may have to reboot your router or at some point in the future, if you're having different issues, you may have to reboot your router. It's very common for a device to sometimes get dropped by a router. Routers have these complicated tables where they manage all the devices connected to them, and occasionally, a router can literally run out of space, run out of a number system to keep track of everything and what it'll do is make room by dropping a device.

When you put that device back on the router, it comes on and everything is okay, you don't have to change your password or anything. You just have to literally turn the device on and off, or turning your router on and off. You have to make sure that you are someone understands where the router is, what the router is, and how to turn it on and off. You also need to understand the difference between what is Wi-Fi and what is internet.

Your internet service can go down, meaning you're not connected to the rest of the world, but the Wi-Fi within your home is still up. If you were to look at your Wi-Fi, you would see okay, my Wi-Fi is up, all of my devices that can talk to each other within my Wi-Fi are working, you may not realize that your actual internet service is down. Keep in mind and understand the difference between Wi-Fi and the internet.

As I mentioned before, you're going to have to have a smartphone or tablet, and the two standards in the world right now our iOS and Android. Even sometimes the apps are slightly different within the two, so if you have a household where some of you have iPhones and some of you have androids, keep in mind that your menus, even sometimes your options can change depending on the device. I get the question, which is better, really there is no better, it's more about your comfort level but keep in mind, those things can differ. Next slide.

Getting more into your actual home, you've got to know your house. Let's take an example that comes up often for me. If you have a condo, or you live in a apartment building, and that apartment building is built for as a commercial space, meaning the hallways may be lined with brick for fire prevention, and you may have a steel door, well, that's going to block just about every type of radio signal you use.

If you buy a Ring doorbell or some other doorbell, and you think, "Okay, I'm going to put this on the front of my door," and you start up, you're probably going to do the install with the door open. Everything is going to go great, everything's going to go fine and say, "My doorbell is working." When you close your door, the radio signals get blocked, and suddenly the doorbell starts to fail, you open up the door to see what's going on, it connects again and everything is fine.

Well, the reason for that is that radio signals, so Bluetooth, Wi-Fi, Z-wave and Zigbee, cannot get through metal or brick or stone. You've got to keep in mind that if you have

something like that, and I'm going to use the front door as an example, you might have to do something like install an external way for things to connect to Wi-Fi. That might be an extender. For my house, I have an outdoor Wi-Fi extender on to allow me to get through my steel door and for all the devices in front of my home to work.

Also, you're going to have to consider the rooms that are going to have the devices. For example, in my house, we have a washer/dryer that are stacked next to another appliance, and it's sort of extends out a little bit, and to half of the floor space, so to speak. Well, any signal trying to pass through those gets blocked. You can end up with a situation where your bedroom where everything is working fine on one side of the bedroom, the other side, things keep on dropping.

If you have that kind of situation, you're going to look for what's called a mesh technology, and what a mesh technology is that each device can speak to every other device. If we picture that Wi-Fi as sort of a wheel, and in the middle is the router, and everything connects directly to the router like a wheel, then anywhere where that spoke is being blocked everything behind it, there's no signal. With mesh, imagine it more like almost a spiderweb where there are different routes, the signals can travel to reach each other. When you use a mesh technology, they can usually get around things like an appliance that's in the way, as long as you don't have 100% obstruction.

You have to keep in mind that if you're going to do your lights, and let's say you have four lights in the ceiling, and they're controlled by a single switch, you're not going to go out and buy four smart bulbs for that type of situation, you're going to replace the switch. If you're looking within your home to redo your lights, keep in mind, are your lights controlled by a switch, which means you're going to require a smart switch, or is it a lamp? If it's a lamp, then you got to either get a smart plug or a smart bowl, and you'll have to make that decision before you go in, but keep in mind, if you do have overhead lights that you're trying to control with the switch, then there's going to be some wiring involved. You might need an electrician if you're not comfortable taking a switch out of a wall and replacing it with another. Once again, if we're discussing outdoors, devices you're going to put outside, whether smart sprinklers, or a smart doorbell, or a camera, you want to make sure that you have a good signal.

The best way to test that, the most handy device, we all have it, is your phone. What you would do is go outside of your home, close the door, close the windows, place the phone where you think you would place your doorbell, and if you get full bars, full Wi-Fi bars, then you're good to put it. Go around your house, if you're planning to put a smart speaker somewhere, just take your phone, set it down where that smart speaker would sit, and that's going to tell you whether or not you have a Wi-Fi dead spot in house. I used to buy expensive equipment, my phone performs the best.

At this point, that's what I do when I'm doing an assessment at someone's home, I just place my phone everywhere it's got to go. For outdoor stuff, make sure it can be physically mounted. Once again, if you have a situation where you've got brick and it's very tough brick or stone, it may be very difficult to drill into. Then you have to ask yourself, do you want to drill into your stone because if you ever removed that camera or whatever, you'll have a permanent space there, a permanent mark in that location. When you're going to be putting

things that might go on a wall, that might have to be hung or whatever, consider the physical mounting of that device.

Finally, the other downfall of a lot of smart equipment is your physical wiring in your house. If you have a home that was built before 1980 and has not been renovated, there's a good chance you don't have what's called a neutral line on in your gang box, meaning where the switches are. The reason that's important is because all smart switches pretty much need what's called a neutral line. That neutral line powers the device even when you switch the power off. If your home was built after 1980, you'll know that you have a neutral line, you should be okay. If your wiring is up to compliance, you don't have to worry about what's called surges.

A surge is when you could have a lightning strike or someone runs a heavy piece of equipment, and a surge of electricity goes through your lines. There was one home where I did a setup and the owner of the building there decided to replace the generators, and it ended up sending out a surge and it knocked out half of the person's smart switches. Keep in mind, you want stable electricity, next slide. I'm going through these quickly, certain things you're not going to be able to get around. You're going to have to have an understanding or someone who's going to assist you who has understanding of these things.

The big things are Wi-Fi, how it works, how to control it, how to position different equipment for best Wi-Fi signals, your logins, how to manage the different types of logins. Pretty much all companies are moving to what's called two-factor authentication meaning you give your login information, your password, when you hit go, they're going to come back at you with some form away, whether it's sending you a code or something to say, "Okay is this really?" You'll either have to go to your email or phone, most are moving towards phone, where you're going to go in and authenticate.

Meaning you say, "Yes, that's me it's okay," or you're going to have to take that code and type it into the device you're using to log in. There are other factors that are involved for authentication, but you should understand what authentication is. You're going to have to be comfortable with settings. You're going to have to go into your phone settings, you're going to have to go sometimes and see your router settings, you're going to have to go into each app's settings. If I'm setting up smart switches, I may have an app for that. I may have to go into the settings and that, and make adjustments.

If you are uncomfortable, and I have a lot of friends that are very uncomfortable even going into their phone settings, then setting up a smart home may be a big challenge for you because there's no way to get around going into settings and adjusting things. You're going to have to also be comfortable jumping in and out of different apps stores. If you're using, for example, iPhone, you are going to have to go to the app store and download apps. You got to know how to do that. You've got to know how to get to them, how to download them.

Sometimes your phone may have a setting where you can't download unless you're on Wi-Fi, those are the things you're going to have to be comfortable with, or someone who's assisting you is comfortable with in getting to those apps. You're going to have to understand the concept of a cloud. All of these devices are usually supported by a service.

This service exists on the internet, is comprised of tons of different types of servers and whatever. It's just called a cloud for that reason, we don't know how they work, but they work. You're going to have to be able to manage cloud accounts.

For example, if I'm setting up smart lights and I'm using a cloud service CASA, and I want to connect it to my smart speaker, well, now I've got to connect the Amazon Alexa cloud to the CASA cloud so that the two can talk and work together. If you don't have a good understanding of these external services called cloud accounts, you could also have a lot of trouble connecting to different devices so they work together. Finally, you're going to have to be very comfortable jumping between apps on your phone. If you're not used to switching between apps quickly, doing a setup of home devices can be very difficult.

If you don't understand quick ways of jumping between, let's say the settings screen, the app screen you're using, and then the other app you're trying to connect different devices to. You should be comfortable jumping between apps on your smart pad or your smartphone. Next slide, please. Finally, there's the brass tacks, the physical part of this. If you're going to order these devices and you have issues with mobility, issues using your hands, or whatever, you're going to have to have assistance to unbox these items, and unpack the items, and plug them into the correct locations. Once again, you're going to have to manipulate a phone or pad and do a lot of manipulation in terms of jumping between apps.

You have to have someone physically capable of doing that. If you're trying to do this using voice control on your device through something, it's just not going to work. You really are going to have to have someone actually hold the device and manipulate it, or if you're comfortable enough if you're using let's say the side of your hand to work your phone, you've got to be comfortable enough to jumping between things easily. You're going to have to be comfortable jumping between Wi-Fi, Bluetooth, Z-Wave, or ZigBee. When setting up let's say a new light, it's going to ask you to go to Wi-Fi and connect the light to its own personal Wi-Fi. Now each of these devices are able to broadcast a small Wi-Fi signal for setup.

Some of them use Bluetooth. What'll happen is you'll switch over in the app to your Wi-Fi settings. You're going to go into the Wi-Fi settings, find the device, connect to it. That allows you to talk to the device. You're going to tell the device what the name of your Wi-Fi is and what the password is, and then when that device connects, you're dropped on your phone and you have to log back into your Wi-Fi to now go to the app and see the device. Once again, you've got to be comfortable jumping between those different areas on your phone. Also, sometimes these devices need what's called a factory reset.

You'll look on the side and there's a tiny, tiny, tiny little hole that you're going to need a pin, like a bent paperclip, or even a clothespin, I mean, a pin as in for clothing, and you have to push that through that hole to do a factory reset. If you have, once again, difficulty with manipulating devices with your hands and doing that fine motor control, if you have any slight tremor or anything, then some device may not be for you because if something goes wrong and you have to factory reset, there's no way you are getting around that tiny little pin. Next slide, please. You're also going to have to have a comfort and understanding.

A lot of people have a fear of technology, they'll use the word, "I don't like technology, I can't use technology." If you're one of those people, this may be a very difficult thing for you to do because each manufacturer has everything their own way. There is no standard, there's no consistent way of how you set up these devices. It's going to be entirely based on the manufacturer and how they built their product. You're going to have to have a comfort with sometimes experimenting. You have a comfort with getting things wrong. Some people have a fear of as they put it "messing up," "I'm afraid I'm going to screw something up."

If that fear is something that's a big impediment for you, you will have a difficult time working with these devices because if it's your first time, you will make mistakes. Once again I can't stress understanding the difference between Wi-Fi, Bluetooth, Z-Wave, and ZigBee. If the instructions say now attach your Bluetooth device, you're going to have to understand what that is. I've had clients that go to Wi-Fi trying to attach Bluetooth devices. You don't have to be rocket scientists or whatever but you should have a comfort with jumping between those different types of radio communication standards. You have to have patience, do not do this if you don't have patience.

Once again I've been doing it for years, and I've learned when things go wrong, take a deep breath, it's okay. If you don't have patience, if you can't stick it through, once again, this may not be for you. You might want to get someone to assist you. I've been doing it for years and even sometimes I'll open up a new device that's by a different manufacturer and I can make no sense of what's going on. I don't take it as a personal comment on me. You shouldn't take it as a personal comment on you or your intelligence. If you can't understand it, have the comfort to say, "Not for me," and just send it back. Be patient but at the same time, it's not you, it's them. [chuckles]. Also, be willing to do some research.

Sometimes the best way to install something is to literally Google it. There are tons of videos, tons of YouTube things that people have done showing step by step how to do something. My first smart light switch that I installed, I learned by watching a five-minute video that an electrician made to explain these things. Finally, know when to throw in the towel or just from the beginning say, "I'm not comfortable with some of these things, I'm going to get someone." When doing switches, you might just say, "I'm not going to get into it, I'm just hiring an electrician."

Or if you're doing enough different types of products, that's when you might look for someone such as myself to say, "Look, I might not have trouble putting in one or two of these things but the integration of all of these, there's no documentation. There's no best practice of how to do it." I might just say, "You know what, I'm going to pay a professional who does this all the time to do it." Next slide, please. That pretty much wraps it up. I was hoping to have some time for questions and answers for both of us for Jeremy and myself. If we have some big questions.

Susan: Again this Susan. I want to thank everyone for attending. We still a few more minutes that we're able to stay on if people are also able to stay on. I wrote in the chat and so did Susie that we do have a draft tool assessment that did not come back in time really from our vendor who's making it 508-compliant. We're going to send out an email to everyone when it comes in, along with the slides and the presentation. Thank you, Kirby and Jeremy. If people have questions, this is the time to ask. I know that both gentlemen are

able to answer your questions and we saw a few come in. Susie, you answered a few of those questions.

Kirby: Well, I see one where someone was talking about the issues they had with a Blink camera, and it was a very good point I think the person who mentioned it because it's very, very true. I pretty much tell people, "Don't buy used devices." The reason why is I think you're saving a lot of money but a lot of these devices to prevent theft have to be released from the system they were installed on so that they can go into a new system. Until they're released, they're effectively dead, or you're going to have to go through a lot of steps to try to get that item released.

Keep in mind when you buy things second market, they may be locked, meaning belonging to someone else from a technical standpoint point, and there may be no way to reset that device so that you can install it for yourself.

[crosstalk 00:54:49]

Susie: We have a ques--

Susan: Yes. Go ahead.

Susie: We have a question from Natalia, "Where does someone with mobility issues can get these devices especially when you have limited income?"

Kirby: Well, my recommendation is oftentimes on Amazon they have rebuilt refurbished items. You don't have to fear buying those items if they're certified by Amazon. If you have any issues with them, they will take them back. A lot of times if there is an issue, they're going to send you a brand new one. That's one method.

Susan: Another one Kirby is that both the Office of Vocation Rehabilitation and our home and community-based waivers include smart home in their services. I know that OVR, our Office of Vocation Rehabilitation, was an early installer of smart home, and the waivers, they're getting around to it, but they are both allowable services within those waivers, all the waivers that are administered by the Office of Developmental Programs and those administered under the Office of Long-Term Living including Community HealthChoices, so, - [crossalk]

Kirby: I have one thing to add to that. Sometimes when you work with those services it can take a year or more to get approval. What they require you to do is to turn in a quote of the devices that you're getting and the services from the person who's doing it. Well, when it gets beyond a year, the technology may have changed, or even that piece you were planning to purchase is no longer manufactured. Keep in mind if you go that route, try to stick with devices that tend not to change too fast or too often because it may take a while to get approval. Things like a ring doorbell, smart speakers, they tend to remain stable. You don't lose a lot of functionality.

You get more perks when you buy the newer one but you keep the base functionality. Just keep that in mind when you get a quote or something.

Susan: Lastly, of course, we're talking about PATF's loan program, our mini loan program, which is 100 dollars to 7,000, so certainly would cover this, with zero interest and zero fees. A minimum of \$20 a month, literally no fees whatsoever. We're just trying to get you the cash that you need to be able to buy the assistive technology you want. You have to be able to repay a loan but this stuff, if you've been hearing from Kirby and Jeremy, is really important and life-changing, and so you can apply to PATF, patf.us, get an application, and see if that works for you.

Susie: There was one other comment in the chat that was, "The cameras that I use are high energy, meaning they're in places that the camera is installed, has high activity motion alert." This person found that it's easier to buy a USB solar panel to power those that she has outside that are not near an outlet that way she doesn't have to keep going to the camera and putting in new batteries. I thought that was a helpful tip.

Kirby: Great. To simplify what was being described there, let's take a ring doorbell, for example, one of the options they give you is to do motion detection. The other big reason people buy these is that they run off of batteries and a typical situation that batteries should last six months to a year. Well, if you've got motion detection and it's on a city sidewalk and people are walking by all the time, that thing is going off all the time, it's eating up the battery like crazy. A great solution, and I'm glad this person mentioned it, is that a lot of smart doorbells, especially ring devices, have solar panels that come with them. In fact, they're so modular now it just looks like a fancy covering that goes on the outside.

You plugged that in and what happens is it will charge the battery over time to keep it up so that you can either get more time with it, or you may never have to recharge it if you did something like turn off motion detection.

Jeremy: I also want to add to that, off of what Kirby's saying is any camera that has an application, if it's Wi-Fi-enabled, there should be an application that controls it. For example, ring, you can actually change the settings on the motion. You can have it detect only five feet or 25 feet depending on the device and the types of settings you have. Always something to consider is check your application, see if you have the ability to change that sensor distance, and keep it as short as possible. Therefore every car that goes by won't trigger your device to go off.

I think really to summarize, it's also great that we can call smart home technology something that doesn't necessarily always connect to Wi-Fi, so motion sensor lights that are solar panel. I think if it does you a service, if it makes and simplifies your life, I say we throw it in that bucket. The less Wi-Fi devices that necessarily need to be programmed and are communicating with each other, that's okay. It's all right to have that variety.

Susan: Great. Well, thank you, Jeremy, and thank you, Kirby. It was wonderful information that you imparted. Again, we will be sending out the draft assessment tool and you'll be getting a survey. I hope all of you will complete that survey and also give us any ideas that you have so that our future webinars are useful and helpful. Thank you very, very much, everyone. Have a great afternoon.

Kirby: Thank you. Bye-bye.

Jeremy: Thank you.

[01:01:03] [END OF AUDIO]