

Technology and your Housing Plan

Developed by DSO Housing Navigators

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Technology for Housing Independence

Todays technology can assist people live more independently.

The goal of technology to assist with Housing Independence is to:

- assist in the learning / teaching of new skills
- offer reminders
- provide safety monitoring
- where possible, to decrease the amount of paid support hours needed to live safely and as independently as possible

Technology can help with both physical and cognitive challenges. This presentation focuses primarily on assistance with cognitive challenges.

A quick Review of the 'lingo'

Smart Product

- A consumer product that has information technology (IT) incorporated into it to make them "Smart"
- Provides the user with improved information about and control over performance, greater automation and enhanced features and functions
- Often the 'smart product' can be operated by voice control or using a phone / tablet or computer

Example: Smart phones, smart thermostats, smart appliances, etc.

Smart Home

 a home equipped with lighting, heating, and electronic devices that can be controlled remotely by phone, tablet or computer

Example: "you can contact your smart home on the Internet to make sure the dinner is cooked, the central heating is on, the curtains are drawn, the home is vacuumed, and a gas fire is roaring in the grate when you get home"

Apps

- The word 'app' is an abbreviation of the word application
- It is a piece of software that can run through your computer, smart phone, tablet or other electronic devices
- Apps may or may not require connection to the internet to function
- Mobile apps are typically available for iOs (which runs on apple products) or Android (which runs on most other smart phones / tablets like Samsung, Lenovo, Google, etc.)

Example: email, schedules, reminders, etc.

Building Technology Into Your Housing Plan

The use of technology (Smart Products) can increase a person's independence and lower required support costs.

Planning with technology offers a "Just in time" approach to supports instead of a "just in case" approach.

This presentation may help you to discover technology solutions that are right for you and your housing plan.

Note: There are several other technology solutions currently on the market and several more are added daily. This presentation is intended solely as a reference, to assist you in your planning.

When developing your housing plan:

- 1. First determine your strengths as they apply to living independently. (using assessments such as "Steps to Independence" or a similar tool)
- 2. From your strengths / needs list, you can then determine where you may require supports to live as independently as possible
- 3. Consider technology first to fill those gaps either to assist in teaching the skill, monitoring for safety or offering prompting and reminders throughout the day

Note: Not all the technology reviewed in this presentation will be appropriate or affordable for everyone. However, if you believe the acquisition of a piece of technology will make a significant difference in your housing plan, speak with your DSO Housing Navigator for ideas and funding request templates to try to achieve the funds to purchase / rent / borrow the technology.

The following slides will review different activities of daily living and examples of technology that may be of assistance

Community Safety

Community Safety is about quality of life and ensuring that everyone has the opportunity to socialize, feel included and benefit from what their community has to offer. Technology can help:

- Maintain contact and support individuals during emergency situations
- Provide directions and support individuals to get to their destination

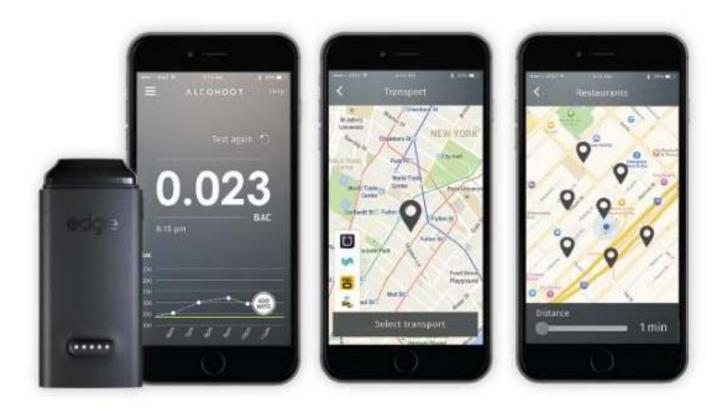


How Can Technology Assist with Community Safety?



Smart Phones/Cell Phones can help you by:

- Providing a means to call for help when needed
- Bus schedules/ routes can be downloaded on the phone
- Apps like "Find my friend" use GPS technology to allow connected users to view the location of the phone
- Providing a map with voice directions that can be set up in advance
- Communication apps can be installed to assist with communicating

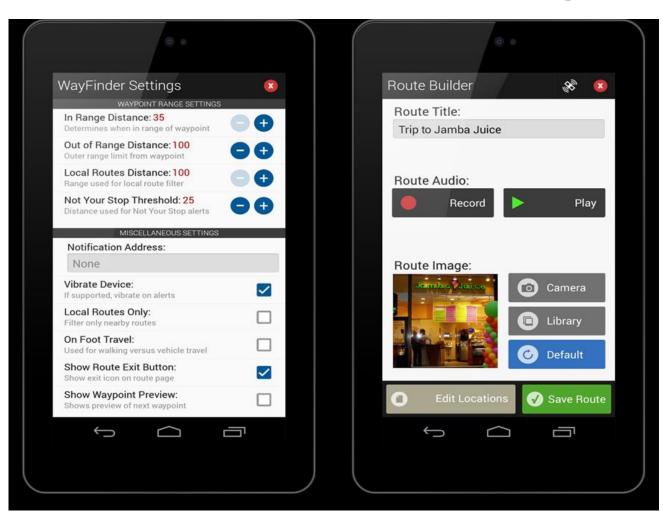


Personalizing your phone or tablet with apps:

There are many apps for phones or tablets that will help people stay safe within their community:

- Maps an app that is installed on all iOS and Android devices.
 Will guide you by foot, bus route or car to entered destination
- Find My Friends an app that lets you track where your friends or loved ones are. Will show on a map
- Life 360 an app that lets you see where family members are, send private messages, and receive alerts when loved one arrives at specific destinations.
- Wayfinder 3 an app that helps people with developmental disabilities travel safely to their destination

Community Safety



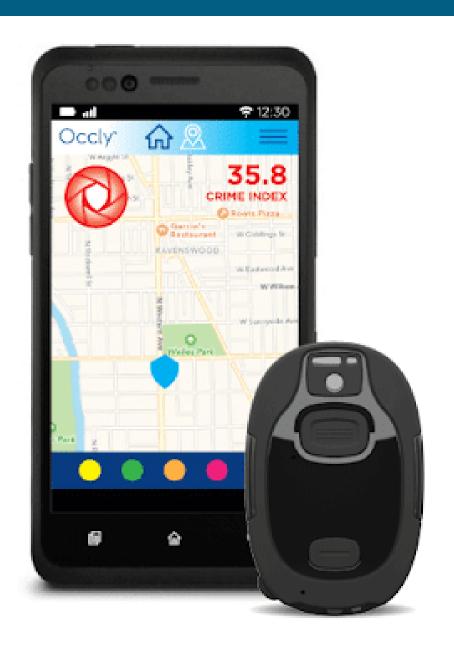
Powerful Smart App for your phone:

Wayfinder 3 - \$499.99

WayFinder 3 helps people with intellectual disabilities to travel safely, whether by bus or on foot. The traveler simply taps on the picture of their desired destination and the software takes over from there.

Routes can be built and saved to the individual's phone or tablet.

^{**} Ablelink Technologies is a company that focuses on technology to assist those with cognitive Impairment to live as independently as possible in the community. Prices are subject to change.



Wearable GPS Trackers

Wearable GPS Trackers support individuals with exceptional needs, their family and/or caregivers by:

- Tracking the individual's whereabouts and locating them if they are lost or wandering
- Providing personal freedom to a person who enjoys going being out in the community independently but who is at risk of getting lost or wandering
- Some have panic alert buttons installed on them

Wearable GPS Trackers (cont.)

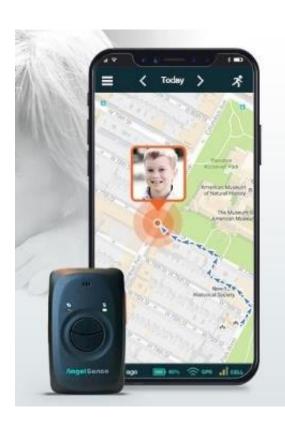
What to look for and consider when buying a GPS tracker for

monitoring in the community:

- Two way calling
- Waterproof design
- Location-Based Alerts
- Wi-Fi Support
- Fit and Comfort
- Monthly fees
- Battery Life



Examples of Wearable GPS Trackers



Angel Sense GPS:

- Originally designed for children with Autism, the Angel Sense is a GPS and voice monitoring solution
- You can view an individuals movements in real time (with updates every 10 seconds)
- It has 2-way voice which allows communication without requiring your loved one to pick up or click to speak
- A great feature is a late departure warning which can be set up to send an alert if your loved one is not where they are expected to be
- There are many different ways for your loved one to wear the Angel Sense GPS (belts, shirts, a fabric sleeve that locks within a pocket or on any clothing)

TKSTAR Personal GPS Tracker

- This system is a Real-time tracker with an SOS button
- Anytime you want to locate the tracker, you call the SIM phone number or send a text message
- Once connected the unit will send you an SMS Text message with a Google Maps link.
- Its functions include: auto tracking, voice surveillance, history route record, shock sensor alarm, geo-fence, SOS button and a low battery alert
- Requires a GSM network SIM card (Like you can obtain at Rogers) Price: Approx. \$39.94 plus \$15 / month for 3G connection with a cell phone carrier (prices subject to change)







GPS SmartSole

- This device is essentially a GPS tracker that can be implanted in the sole of a shoe
- Discreet and non-invasive if your loved one journeys somewhere they won't forget to bring the tracker
- It includes a companion app for both Android and iOS, and you can also check in on your loved one via a web interface
- Geo-fencing capability- will send text and email alerts if the tracker exits the designated area
- It pings a GPS location every ten minutes using both GPS and mobile networks
- Different Packages available. Price: Most popular: \$299 plus subscription of \$24.98 / month USD.

Prices subject to change

Household and Domestic Skills

Independent Living requires an array of domestic skills.



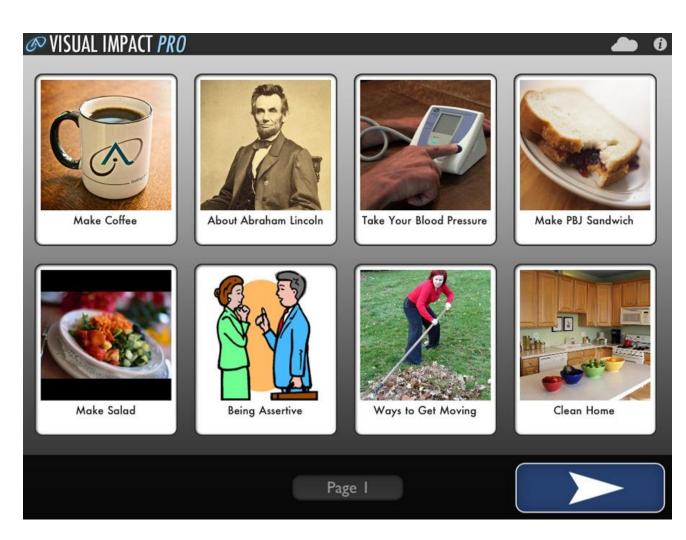
How Can Technology Assist with Household and Domestic Skills? Let's take a look at low tech to high tech examples.

Household and Domestic Skills



- Apps that can help with cooking and cooking tasks:
- Menu planning apps: can help you plan a nutritious menu and create your shopping list for the meals you planned
- Recipe apps: many apps will not only provide you with a vast choice of recipes, but can allow you to input the ingredients you want to cook with and will show you recipes that match your ingredients
- Nutrition apps / food recording apps: help you plan and track what you have been eating. Some also allow you to track symptoms if you are trying to determine potential food allergies
- Cleaning / Chore apps: Can give reminders and direction for completing regular chores

Household and Domestic Skills



Smart Apps for your phone or tablet:

Visual Impact 3: (\$209.99) (AbleLink)

Provides easy step-by-step multimedia instructions for use by anyone needing a simple support to perform daily tasks of all kinds.

Make a grilled cheese sandwich by yourself, learn important cleaning skills or health skills like how to take your own blood pressure at home, etc..

^{**}Ablelink Technologies is a company that focuses on technology to assist those with cognitive Impairment to live as independently as possible in the community, prices subject to change.



Electric Can Opener: This can make the task easier than trying to use a manual can opener. There are can openers that you can utilize with one hand with very little need for dexterity.

Example: Zylis EasiCan Electric Can Opener – Average price \$30 – Available at Amazon.ca, Walmart, etc.

Microwave ovens / Toaster Ovens:

Use of microwave ovens or toaster ovens decrease the risk of fire due to cooking accidents. Popular and easy to find at a variety of price points in any department store.





Crock-Pot Smart Slow Cooker:

A regular crock pot / slow cooker is a great alternative to using the oven. This is may be considered a safer alternative to a traditional stove top or oven method.





Another options is a crock pot you can control / monitor from a smart phone. It can also let you know when your meal is ready. This is great for those who forget they have a meal on or have limited concept of time.

Price \$125.00+



Meat Thermometer: Just place the thermometer probe into the meat you are going to cook, set the target temperature and place in the oven. You will be notified via a sound alert when your meat hits the desired temperature. Can be used with an oven, BBQ or smoker. (\$15-\$30+)

Another option is a:

Smart Meat Thermometers: work in the same way as the regular thermometer, but in this case, you can monitor the progress of the internal temperature of your meat from your cellular phone and be notified on your phone when your meat hits the desired temperature. This can be used with an oven, BBQ or smoker. (\$100.00+)

Both options available at local department stores and Amazon





Induction Stove Top:

With induction cooking, electricity flows through a coil underneath the ceramic cooktop, producing a magnetic field.

A magnetic pan—such as cast iron or magnetic stainless steel—placed on the element of an induction cooktop creates a current that heats the pan and the food inside.

- The induction element transfers heat directly to magnetic cookware, making the experience safer and increases the tolerance for error
- Because the surface of an induction stove or cooktop doesn't get hot, you can touch it with your fingers without getting burned.
- This also means that if you splatter sauce onto the cooking surface, it won't burn, making cleanup easier



Caution: The burner does not glow red like a typical glass stove top, so it is difficult to know if it is on or not. Some manufacturers are now adding virtual flames or other lighting cues. Contents within the pot and the pot are still very HOT. Available in single burner or full stove top at a wide range of prices. (\$100 - \$1000 +)



Auto Shut off for Electric Stove:

This sensor notices motion in front of the oven. It begins reminding the user with simple auditory alarms the stove is left on and then shuts the heat off automatically a short period after no motion is detected.

There are a few different models of this technology. Average Price - \$350.00 - \$1000.00

Prices subject to change

Smart Stove Knob:

Turn your existing stove into a smart one. Connects to wifi so you can monitor the status of a stove from anywhere.

Automatic shut off if you have left your stove unattended.

https://www.tochtech.com/

https://inirv.com/





Smart Fridges:

For most this will be outside of a realistic price point, but for those who need and can afford this technology it may be helpful.

This fridge can alert you when a food item has been in there long enough to go bad.

The built-in touchscreen offers recipe suggestions based on what is in your fridge and lets you automatically reorder food on a MasterCard.

Price: \$4000.00 (+ or -)



Hestan Cue System:

The cue system is an induction burner, fry pan and app that calibrates time and temperature taking the guess work out of cooking.

They advertise perfect meals every time.

Hopefully available in wider distribution in Canada soon, currently available through Amazon.ca for \$550.00 (no additional accessories yet available.)



Al (Artificial Intelligence) Personal Assistant:

A voice activated personal assistant that can verbally guide you step by step through recipes, set timers and make shopping lists.

Example: Google Home (or mini), Amazon Alexa, Apple HomeKit/Siri - Average Price \$80.00+



Al Smart Displays:

Similar to the Al Personal Assistant but with a screen to show visuals. Great for seeing YouTube videos for recipes or other directions.

Example: Google Home Hub, The Echo Show, Lenovo Smart Display. – Average price \$175.00+

Look, Cook, and Eat Membership:

a digital how-to cooking magazine designed for people with intellectual disabilities to help promote an independent lifestyle.

Simple, popular and few ingredient recipes presented in an easy to follow video delivery (also printable).

Internet Access and phone/tablet/computer required)

\$30.00 USD per year – subject to change



Making cooking easy for people with intellectual disabilities

From smart appliances to computer and phone apps, technology can assist with keeping a clean home.

Whether the challenge is physical limitations, motivation or organization/memory, there is likely a solution to help!



Apps:

There are many apps that can help a person get organized to clean their home.

Scheduling with reminders: Some apps are designed to send reminders to you phone with specific cleaning tasks on specific days.

Sharing the tasks: some apps are designed to distribute the chores with all of those who live in the same home.

Video assistance: Some apps will give step by step video assistance to home cleaning.



Apps:

There are many apps in the app store for your particular smartphone. Once you determine what assistance you require, you can search for that term in the app store.

For example, running a search for the term 'schedule' or 'house cleaning' may show some results like below:

Home Routines: Home Routines is an app to keep you on track for those repetitive chores. You create lists of jobs that need to be done around the same time, or on the same day. These lists are called Routines. They appear to remind you when you need them, and when you mark each task as complete you get a gold star (\$6.99).

Visual Schedule Planner - Visual Schedule Planner is a completely customizable visual schedule iPad app that is designed to give an individual an audio/visual representation of the "events in their day". In addition, events that require more support can be linked to an "activity schedule" or "video clip" to help model the task even further (\$20.99).

Visual Schedule - PCM – Create visual routines matched with photo and text prompting for each step of a routine. Available for iOS only (\$5.49)

Prices subject to change.





Smart Vacuum cleaning robot:

Smart technology will keep your floors clean without you having to lift a finger. Vacuums equipped with lasers, motherboards, sensors and even wi-fi to navigate around your home without the need for assistance.

Most robot vacuums come with a charging dock and they are designed to return to the dock to charge themselves before they run out of power. Once it has it enough power it will return to the job of vacuuming your floors. User input is required for most to empty the dirt and dust from the vacuum.

Price points range from \$300 - \$5000.00+

Can be purchased from stores like: Amazon.ca, Walmart, Canadian Tire, Etc.



Smart Mop Robot:

Smart technology that works very similar to the Smart Vacuum above but is designed to mop and shine your floor.

Price point: \$250.00+

Can be purchased from stores like: Amazon.ca, Walmart, Canadian Tire, Etc.

(Note: it is also possible to purchase a floor cleaning robot that does it all: vacuuming, dry sweeping, wet mopping and shining)

Technology to help with Finances and **Budgeting**

Money Management can be of concern for some individuals living with a cognitive disability.

From paying bills on time, monthly budgeting and spending management, technology may be able to play a role.





Budgeting, Managing & Paying Bills

Creating a budget: There are multiple apps available that enable you to input your monthly income and expenses to generate a budget that fits your needs. Plus, some programs can categorize and track transactions, which could help you see exactly how much you spend in certain areas on a month-to-month basis.

Shopping (and saving): Some apps are designed specifically to help you save money in a variety of ways, from searching for the best local deals to calculating the cost of driving from point A to point B. If your aim is to lower your spending, look for an app that can help you cut costs. For example, apps can compare the cost of groceries at one store against another, or help you find the lowest gas prices in your area.

Setting reminders: Concerned about forgetting to pay bills? Would it help to have a reminder to keep track of your spending and account balances? Look for an app that lets you schedule reminders that suit your needs, whether it's an alarm that goes off for monthly bills or a service that automates payments you might otherwise forget to make.





Mobile Banking

Mobile Bank Apps – Allow you to check your balances and pay your bills directly through your smart phone/ tablet or computer.

Digitizing services: You're probably aware of your bank's direct-deposit services, but did you know that you can send payments electronically? Some banks even allow you to deposit cheques through their electronic apps.

Sometimes a medical condition could be what stands in the way of someone living more independently in the community.

Technology for medical monitoring has grown leaps and bounds in the past several years.

Medication administration, blood pressure monitoring, glucose recording, and slips, trips and falls are the top concerns for those with cognitive concerns living alone.

How can technology assist?



Medical Panic Alarms -

A medical alert panic button or medical alarm is an electronic device worn on a <u>bracelet</u> or <u>necklace</u> as part of a medical alert system.

When pressed, it sends a wireless signal to a home console which dials alarm monitoring staff and alerts them of an emergency condition.

Depending on the severity of the situation, alarm monitoring staff will summon friends, family, or <u>emergency services</u>.

A panic button alarm is a self-contained electronic device powered by an internal long-life battery, typically Waterproof and designed to be shock resistant and highly durable.

There are several companies across Ontario that offer this service.

Medication Dispensing

Low Tech:

Pill Organizer - Self Loading - Person and / or caregivers load the Dosette.

Blister Pack: A "blister pack" is a special method of packing medications, where each dose of medication is placed in a small plastic bubble and backed by a sheet of foil. Medications are organized by day, usually for up to a week at a time. Prepared by the pharmacy. (Pro's: clearly colour coded for times)

Medi-Strip – Medications come in a strip filled from 1 to 28 days and each packet on the strips reminds the patient of the day, date and time to take the medication. Prepared by the pharmacy. (pro's: easy to take what is needed for 'on the go')





Medication Dispensing Higher Tech:

Auto Pill Dispensing: An automatic pill dispenser is an effective medication management solution that is designed to improve medication adherence to levels over 90%.

- They are engineered with ease-of-use in mind and typically features friendly and simple interfaces.
- They make it easy to manage even complex medication regimens.
- Some even offer monitoring services.





Medical Monitoring:

There are many different medical technology products that run through Blue Tooth Technology that allows the product to share the results with a smartphone, computer, etc.

These results can then be sent to a physician or other medical practitioner automatically or with prompting from the individual or caregiver.



Blood Pressure Monitor: The most high-tech blood pressure monitors connect to a smart device (such as a phone or tablet) via Bluetooth and record results in an app.

- The features of these apps vary depending on the manufacturer of the monitor, but they generally give you much more in-depth analytics and tracking than an average blood pressure monitor
- Some apps even allow you to send your results directly to a medical professional or upload them to your digitized medical records

Today, Friday, Oct 21 12:23

Technology to help With Medical Monitoring

Glucose Monitor:

By integrating a blood glucose meter with a smartphone app you can simplify the management of diabetes.

Blood glucose results captured throughout the day can be automatically synced and logged. Over time, your results may create meaningful insights into how your activities affect your blood glucose levels, which can help improve the understanding of your diabetes.

All the while being on the same platform you use for so many other aspects of your life – your smartphone!



Activity Level and Heart Rate Monitoring:

Several of the wearable technologies (like apple smart watch, Garmin, Fitbit, etc.) can track your activity level as well as your heartrate.

Heartrate sensors can be worn on the wrist or for a more accurate reading, a chest strap is available for many brands.

Exercise With It

MyFit...l.com

Technology to help With Medical Monitoring

Daily Exercise

There is both hardware and apps that will help you to keep you on track with your fitness goals. Activity trackers (as reviewed above such as Fitbit, etc.) can track your activity, calories burned, etc. This can then be reviewed on a regular basis to reassure caregivers that loved ones are not couch surfing all day long.

Examples: Fitbit, Garnum, Misfit.

Apps: iHealth, Samsung Health, etc.



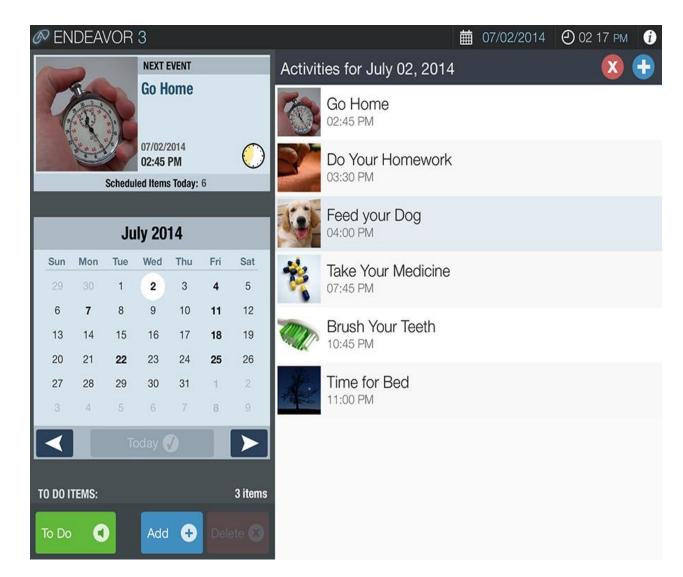
Medical Appointments:

Apps

There are several calendar and appointment reminder apps that can record and remind you of your appointments. Some of these can even be managed on a caregiver's calendar and forwarded to the focus persons calendar as a reminder.

Many medical offices are now using text reminders as well to help keep people from missing their appointments.

Scheduling and Staying on Track



There are many scheduling apps that are free or low cost. Ablelink has created one that can be highly personalized, but is rather pricey:

Endeavor 3 (\$140.00)

Everyone needs a way to organize their day and check off items from a to-do list. Now, with the AbleLink Endeavor 3 scheduling app, your loved ones can do this independently.

Easy-to-use interface will help you keep them on track throughout the day - whether at work, at school, at home, or in the community!

Scheduling and Staying on Track





Ai Appliances

Alexa, Google, Amazon Echo are a few of the artificial intelligence units available for consumer purchase.

Along with all the other uses for these products, these smart assistants can also be used to set reminders and track schedules.



From Home Security Systems and Features to door locks, technology can help ensure a safe environment.

Low Tech- Security Door Stopper



- Dual Function- this alarm can be a door stop alarm and a door stopper
- Can easily wake the homeowner up, notifies neighbours and scares intruders



Door Locks:

Smart door locks can ensure that:

- The front door always remains locked for security
- Lost keys will never be a problem
- Workers and other helpers can be given their own unique codes

There are several different smart locks on the market. Some can be opened using a punch key number or letter code, a smartphone, a fingerprint, etc.



Doorbells:

Smart Doorbells / Video Doorbells let you see who is at the door before you answer it, even when you are not at home.

Many also allow 2-way talk so you can speak to the person at the door through your smartphone. They can also include motion activated alerts and night vision.

\$150.00+



Smoke and Carbon Monoxide Detectors

- Smart smoke and carbon monoxide detectors do more than just emit a loud noise. Many smart detectors can speak up when there is a problem, telling you what the problem is, where it is located and when it is safe to return
- Notifications can be sent to a smart phone of the individual (or caregiver) alerting of a problem.



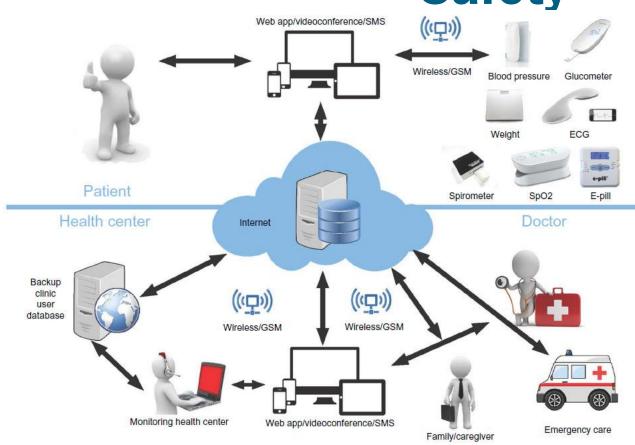
Full Security Systems:

Smart security systems will monitor your home and send notifications directly to a smart phone.

Monitor motion, door and window opening, and an array of other conditions (including fire and smoke alarms).

Cameras can also be connected and viewed on smart phones and trigger text or email notifications under particular circumstances.

Technology to help Monitor for Safety



Telecare systems and other technologies can be put in place to allow caregivers to stay in touch with their loved one from another location.

These systems are designed to track routines, check in via secure video, send messages and photos, and/or organize calendar reminders (to name just a few functions).

There are several different units available depending on the desired monitoring. Many will integrate technology we have already reviewed.



Technology to help Monitor for Safety

Full Circle TeleCare – Family Connect:

- Connects to any dedicated Internet connection and communicates with "wireless" sensors throughout the residence
- Designated caregivers can log into the secure website to send communications to their loved one, view activity and tele-wellness sensor information and customize the automatic caregiver alerts
- A caregiver may choose to receive a call, e-mail or text message if specified conditions occur (medication noncompliance, unusual activity, door opens at unusual time, etc.)
- The system also incorporates socialization, entertainment and communication elements
- Family can send pictures, messages, e-mails, reminders, calendar appointments, voice messages, family videos, music and more right to the system
- The loved one may also choose to play games, engage in brain benders, listen to favorite music, watch old film clips, view news and weather reports and more, right from their own touchscreen system.

 (Base system: approx. \$2500 with \$25/month fee or on a full rental approx. \$200 / month)

Technology to help Monitor for Safety

Alarm.com:

A Smart Home security system that can control everything from your lights to your garage door and send details and video (if installed) directly to the caregiver's phone or computer.

The system is installed and maintained by a local provider.

The system can also track activity patterns, integrate emergency response pendants and send alerts as designated by the caregiver.

(Buildable system starting at approx. \$50/month)



Examples of Technology Helping with housing Plans

 Smart Technology for living independently - Rusty's Story - How one family used technology to assist heir brother to reach his housing dreams.

https://www.youtube.com/watch?v=TuHLj2U0SMQ

 Remote monitoring in Ohio: How an agency transformed services using technology to assist people to reach their independent living goals.

https://www.youtube.com/watch?v=RA9W4t-bOqM

 Leah's Apartment – a series of videos showing the use of technology to build independence

https://www.youtube.com/watch?v=Z9Pcq4e3vEw

Great websites to help you examine apps and other technology

Bridging Apps – A website managed by Easter Seals in the Greater Houston area. This website allows you to search apps by needs, category, price, skill level.

https://www.bridgingapps.org/

Tech Toolbox – This website is managed by the Arc and allows you to search for assistive technology based on user need. It also includes user ratings and reviews.

https://toolbox.thearc.org

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