

**Internet of Things (IoT):** the inter-networking of physical devices, vehicles, buildings and other items embedded with electronics, software, sensors, actuators and network connectivity which enable these objects to collect and exchange data

People with vision impairments may find it difficult to navigate the world around them, including unfamiliar places like a crowded street or places they haven't been, but also familiar places that may have changed in subtle or significant ways.

For users with vision impairments, IoT-connected technology allows them to more fully participate in the world around them, including sports, academics, work-related tasks, or specific events and social gatherings.

### GPS AND NAVIGATION TOOLS

- **iBeam modules:** can provide indoor location assistance for navigating buildings or other closed structures
- **ViiO Travel Aid:** vibrating and audio alerts for detecting obstacles and to receive turn-by-turn directions
- **Sunu Band:** uses sonar and echolocation to inform users about objects or obstacles in their way
- **GPS Apps:** provide turn-by-turn walking or driving directions

### APPS

- **Seeing AI, BeMyEyes, TapTapSee:** recognition apps for identifying products, text and items in one's environment
- **Uber, Lyft:** apps that provide transportation assistance
- **EyeNote, ColorID:** money and color recognition apps
- **KNFB Reader, Seeing AI, iYumbe:** uses a mobile device's camera to snap pictures of text and then reads it back to the user

### WEARABLE DEVICES

- **Lechal Footwear:** Haptic GPS Navigation and fitness tracking
- **Orcam glasses:** High-definition camera reads text, recognize faces and identifies products and money
- **NuEyes glasses:** High-definition video to take variable magnification, identify products, read text, watch movies, email, and browse the Internet
- **eSight glasses:** High-definition video to improve mobility. Can take photos, stream videos and games
- **Aira glasses:** Instant access to trained agents who see the user's surroundings in real-time and talk them through any situation
- **Sonar glasses:** Sonar to identify potential hazards like parked cars, overhanging branches, traffic signs
- **Dot Watch:** Tactile smart watch - tells time and date, receive notifications
- **Smart Watches** (Apple Watch, Samsung Gear): Prompting, email/calendar reminders, health tracking, routing, and real-time connection to apps and websites

### SMART HOME

- **Amazon Echo, Google Home, Apple HomePod:** stream music; create tasks or to-do lists; create a shopping list and/or order items directly from Amazon; make voice calls; message other Echo users; prepare for the day by asking about the weather and news; set prompts/alarms for different times; use voice control for several 3rd party smart devices
- **Smart Plugs** (Insteon, Wemo, TP-Link): control lights, fans, radios, TVs, ovens and other appliances
- **Smart Thermostats** (Honeywell, Nest, ecobee): change the temperature in the home
- **Smart Locks** (Schlage, Kwikset, Yale): lock and unlock doors; Many people with disabilities have home health aides who provide care and assistance, and they often let themselves in and out of the home using IoT-connected devices.