Intro to Smart Speakers

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As the popularity of Voice First Computing has risen in the last several years. You may have heard of the following terms:

- **Smart digital assistants / voice assistants**— The usual suspects, Alexa, Siri and Google Assistant
- **Smart speakers / Voice-first devices**— Refers to a device (usually a speaker like an Amazon Echo, that you can converse with and hear spoken replies from with the primary interface being your voice.
- **Chatbots**— A chatbot is an application that you can type questions to and get typed replies from. It uses AI to converse in a chat applet.

To start a smart speaker that is an Alexa enabled device such as an Amazon Echo, you need to say its “Wake Word”. In Alexa’s case it’s simply “Alexa”. When you say the device’s wake word it knows that you want to interact with it. You can ask it many types of thing that we will get into later.

A device like an Amazon Echo needs to be plugged into a power outlet, and connected to a Wi-Fi network to function. The device needs to be connected to the internet because it’s driven by Amazon’s cloud based services. Devices like Google Home and Apple’s HomePod are similar in that they need to be connected to a power source, and connected to their respective company’s cloud services (Henning, 2018, 2-5).

**The Platforms and Their Devices**

**Amazon Alexa**: Echo, Echo Dot, Echo Plus, Echo Spot, Echo Show, Echo Look, and the Sonos one smart speaker.

**Google Assistant**: Google Home, Google Home Mini, Google Home Max, and third-party devices, The Google Assistant app (Android, iOS).

**Apple’s Siri**: HompePod, (iPhone, iPad, Apple Watch)
Voice First Computing is useful in many situations.

Hands Free Situations

- **Food prep**—With a smart speaker you can make a grocery list, convert units, set multiple timers, control smart appliances, search for recipes, get cooking times all by using your voice.
- **Illness**—If you are sick in a hospital or if you are bedridden at home a smart speaker can control the TV, listen to music, raise or lower the artificial and natural light levels coming through windows with shades or blinds, the room temperature, and it can even help you arrange transportation by calling Uber or Lyft.

The Workplace

- Alexa in the workplace is one of Amazon’s future endeavors. With Alexa for business companies are able to build their own skills.
- Future integration with Microsoft Office 365
- Meeting Room scheduling skills

For the Elderly

- Voice computing can be helpful when there are mobility issues, hearing and/or visual impairment or coordination problems that make typing on a smartphone difficult.
- A study showed positive results for 100% of the respondents saying it made their life easier. They used it for tasks, like getting weather reports, listening to music, and searching for information.

For People with Disabilities

- Useful for people with mobility issues.
- Beneficial for people who are blind or have visual impairments.
- Alexa can be made to work with assistive smart devices.
- Developers are working on integrating technology that will help people with speech impairments.

(Henning, 2018, 29-46)
This information is borrowed from Amazon’s Alexa FAQ page, and the Washington Post Article by tech columnist Geoffrey Fowler.

**Is Alexa always listening to me?**

Yes and no is the best way to put it. The device “detects” the acoustic patterns of your chosen wake word. The acoustic patterns are recorded in 1 second intervals of ambient sound and processed by Alexa looking for the wake word. The 1 second intervals of recorded ambient sound are not stored or transmitted, they are regularly overwritten as Alexa listens for the wake word. Once the wake word is detected the blue light ring activates and Alexa begins to record and transmit the sound to Amazon’s cloud for processing.

**Can I find and delete the recordings that Alexa has sent to Amazon?**

Yes you can manage your Alexa recordings by visiting the Privacy section in the Alexa app or by visiting this URL: [https://www.amazon.com/alexaprivacy](https://www.amazon.com/alexaprivacy). You can also review those voice recordings by visiting “History” in Settings in the Alexa app and delete those voice recordings all at once for each of your Alexa-enabled products. This also works if you log into your Amazon account and go to Manage Your Content and Devices.

**What can I do if I am concerned about my Privacy?**

1. You can mute the device and unmute it when you want to use it, although this partially defeats the purpose and convenience of having it. If you are a little suspicious that the mute button doesn’t actually do anything, keep in mind that the button is a hardware button and it turns off the microphone.

2. You can turn off the voice purchasing capabilities, and disable the drop in feature that allows another Echo to automatically connect and start a conversation.

3. Become familiar with the settings that let you listen to and delete what has been recorded.

4. If you don’t trust Amazon’s claims or any other tech company’s claims that they are not listening you can unplug the device entirely while you are not using it.
Getting started

You will need your Amazon Account Info.

Attach the micro-USB cable and adapter to the Echo Dot. A blue light ring will begin to spin around the top. In about a minute the light ring will change to Orange and Alexa will greet you.

Download the Alexa App for your mobile phone or tablet. You can find the App in the Appstore or Google Play. If you don’t have a mobile device you can set up Alexa through a web browser on a PC (this only is useful if your PC is on a Wireless Network).

go to:
https://alexa.amazon.com

If the setup process does not automatically start, go to Settings > Set up a new device. During setup you will connect the Echo Dot to the Internet, so you will need your Wi-Fi network name and password.

You can also connect your Echo Dot to a Speaker using Bluetooth or an AUX cable. If you are using Bluetooth, place your speaker more than 3 feet from the Echo Dot for best performance.
1. Open the App

2. Log Into your Amazon Account

3. Manage your devices

4. Add new devices
5. Press “Add Device”

6. Choose your device type

7. Choose your device

8. Choose your device generation
9. Press Continue

10. Wait for the orange light, press continue

11. Find the Wi-Fi settings on your device

12. Choose the Amazon device under the list of available networks
1. Direct your web browser to: https://alexa.amazon.com

Log Into your Amazon Account.

2. This is the Alexa homepage.

3. To begin setting up your device click on settings.
4. Choose your device.

The library has an Echo Dot for this class.

5. Begin connecting your dot to the Wi-Fi network.

6. Make sure that your device is in set-up mode.

Wait for the orange light.
7. Connect to the device with your PC’s Wi-Fi connection.

Choose the Wifi-Network that you want to attach your device to.

Make sure you know the login information for your Wi-Fi Network.

8. Choose your speaker.

You can connect and external speaker.

We’ll choose the built-in speaker.

9. Let it finish preparing and your done!
What can you do with an Amazon Echo Dot?

How do I use Alexa?

Alexa allows you to ask questions and make requests using just your voice. For example, you can ask Alexa a question, such as "What is the weather today in Nashua?", or tell Alexa to do something, like "Add sugar to my shopping list," or "Play classical music."

“When you speak to Alexa, a recording of what you asked Alexa is sent to Amazon’s cloud where we process your request and other information to respond to you. For example, when you ask “Alexa, play top hits on Amazon Music” we use the recording of your request and information from Amazon Music to play top hits.” - Amazon Alexa FAQs

Here’s a list of some of the things that Alexa can do.

- News and Information
- Calling and Messaging
- Prime - Access your prime account and benefits
- Voice Shopping
- Smart Home
- Fun and Games
- Alexa Skills
- Extras like Music Unlimited, and Audible

Let’s ask Alexa!
News and Information
You can ask Alexa for news, sports updates, weather reports, cooking questions and more.
“Alexa, tell me the news”
“Alexa, give me a sports update”
“Alexa, will it rain this weekend?”

Calling and Messaging
This requires that your Alexa app be setup and given access to your devices contacts. You can make hands free calls with Alexa easily. Call or message anyone with a compatible Echo device or the Alexa app on their phone-for free.
“Alexa, call Dad.”
“Alexa, answer the call.”
“Alexa, message Mom.”

Voice Shopping - (Amazon Prime membership required)
Shop on Amazon.com and its millions of items with Alexa.
“Alexa, add popcorn to my cart.”
“Alexa, what are your deals?”
“Alexa, where’s my stuff?’

Amazon Prime
Your Prime membership makes can enhance your experience. Prime lets you order from your favorite restaurants, get access to new music and free Audible content each month.
“Alexa, what is the status of my order?”
“Alexa, order sushi from Prime Now.” (currently not delivering in Nashua)
“Alexa, play new music”
Extras like Music Unlimited, and Audible

These are services that you get with an extra subscription not included with your Prime subscription. Music Unlimited gives you access to 50 million songs for an additional subscription cost. Amazon Prime subscribers get access to Audible Channels as part of their memberships. Prime members will also have access to a limited rotating collection of audiobooks. The full Audible service is available for a subscription fee and allows up to three full audio books a month.

“Alexa, play new music.”

“Alexa, read Girl on the Train from Audible.”

“Alexa, what audiobooks do I have?”

Smart Home

Alexa lets you control compatible devices such as lights, thermostats, TVs, locks, sprinklers, and more. You can explore more at amazon.com/smarthome.

“Alexa, dim the living room lights.”

“Alexa, lock the front door.”

“Alexa, set the bedroom to 68 degrees.”

Fun and Games

Alexa has a sense of humor, and will also play games with you. You can ask her to play a tell a joke, play a game, or give you a hug.

“Alexa, tell me a joke.”

“Alexa, let’s play Jeopardy!”

“Alexa, sing me a song.”
Alexa Skills

Skills are capabilities for Alexa that are controlled by your voice. Although they are called skills they are essentially apps for Alexa, and are run on Alexa’s conversation-based OS. You can enable and search for new Alexa skills in the app on your mobile device.

“Alexa, what are your top skills?”

“Alexa, what are your top finance skills?”

“Alexa, what are your popular game skills?”

"Alexa, help me get started with skills."

More Alexa Skills to try...

Alexa Trebek? Play the Official Jeopardy Game

Alexa is on Twitter with the Twitter Reader Skill

Let Alexa Be Your Workout Coach with the 7 Minute Workout Skill

Alexa can be your Meditation Guide with the 1-Minute Mindfulness Skill

Go on a yeti Hunt with the Hunt the Yeti game Skill

Alexa Can Guess What Person You Are Thinking Of with the Akinator Skill

"Alexa, what's up?"

"Alexa, learn my voice."

"Alexa, ask Wikipedia about Albert Einstein."

"Alexa, add a to-do."

"Alexa, what are your deals?"

"Alexa, what's on my calendar?"

"Alexa, give me a quote."
Consumer Reports - Consumer Reports has ratings and reviews for Smart Speakers. You can find information on the major players in market including Google Assistant, Alexa, and Siri. Consumer Reports can be accessed from the library’s website on the A to Z Resource page. You can get there by following this link.

https://www.nashualibrary.org/explore/research/a-z-resource-list/

Best Smart Speakers of 2018 PC Magazine’s review of the different options available in the Smart Speaker Market.

https://www.pcmag.com/article/357520/the-best-smart-speakers

Cnet.com - Cnet.com is a good tech website for reading about consumer technology. You can find many reviews of products and product comparisons. There are many up to date articles on digital assistants and smart speakers.

YouTube - YouTube is a great resource for finding tutorials and for just watching how something can be done.
References

“Alexa and Alexa Device FAQs.” Amazon, Amazon,  
