Alexa, What's the Internet of Things

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Alexa, What is the Internet of Things (IoT)

- In simple terms, The Internet of Things (IoT) refers the plethora of everyday devices which are increasing being connected to the internet.

- In more technical terms, the Internet of Things (IoT) is an ecosystem of physical objects that feature an IP address for internet connectivity, and the communication that occurs between these objects and other internet-enabled devices and systems.

- AKA: "the internet of everything"; "Skynet"; and "machine to machine"

How does IoT Works?

Collect	Communicate	Analyze	Act
Devices and sensors are collecting data all around us.	Data and events interact through networks.	Information is created from the data and events collected and communicated.	An action is taken based on the information.
Wearable counts your steps and tracks your location -->	Steps and location are uploaded to service →	Determination is made about activity level -->	Feedback is provided to the user about activity level and progress toward goals.

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The Wide World of the IoT
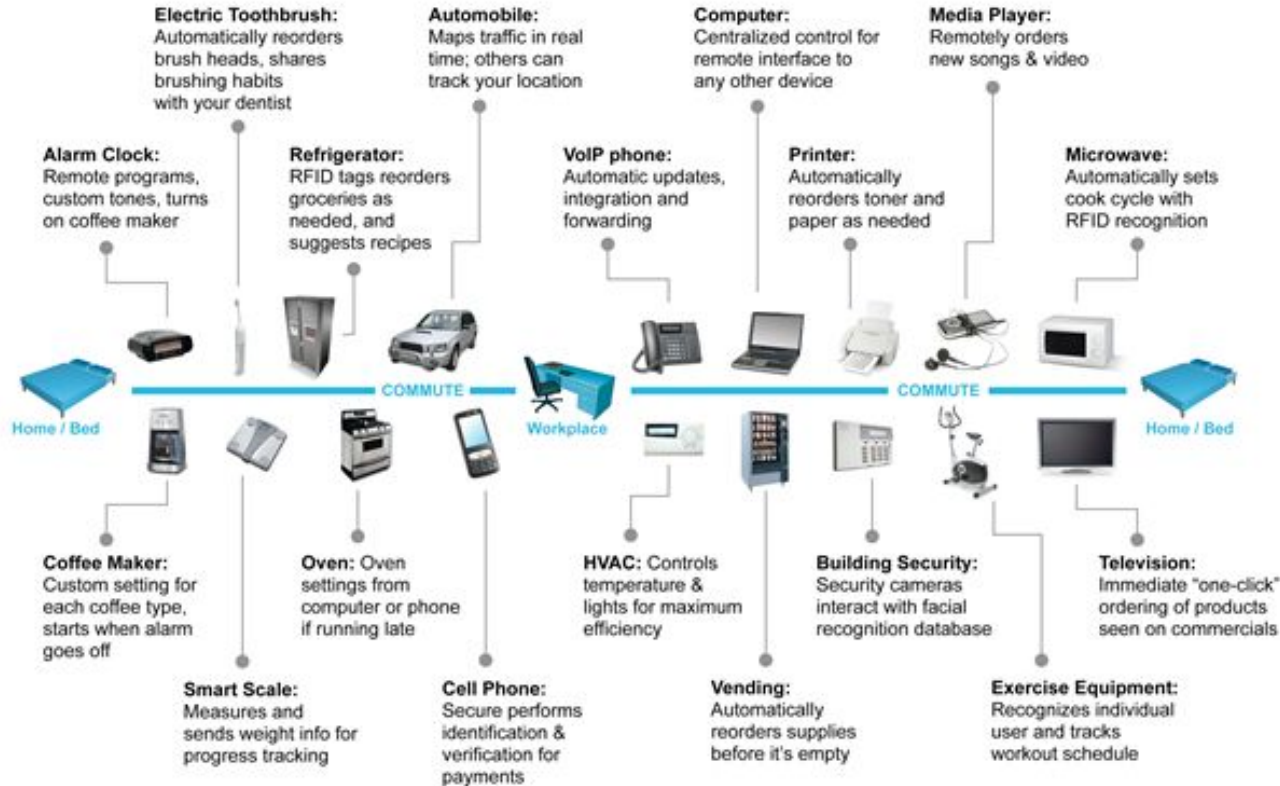
Gartner Hype Cycle

- The Hype Cycle is a graphical tool developed by the Gartner Research Center to represent the adoption, maturity and social application of technology. Although it was designed for information technology, my personal experience (no EdTech or AT research has used this model to my knowledge) that it applies to educational/assistive technology as well.

- Predictable cycle of how technology will evolve over time.

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5 Phases of the Hype Cycle

- Technology Trigger
  - New technology is introduced as a proof of concept and is not generally widely available
- Peak of Inflated Expectations
  - Early publicity and use produces limited success stories and many failures.
- Trough of Disillusionment
  - Interest wanes as the technology does not produce at expected levels
- Slope of Enlightenment
  - 2nd and 3rd generation products appear and the uses with enterprise are fine tuned
- Plateau of Productivity
 - Mainstream adoption and widespread commercial availability

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5 Phases of the Hype Cycle:
The AT Edition

- Technology Trigger
  - New technology is introduced into the market– Think iPad 1
- Peak of Inflated Expectations
  - Early publicity of use produces limited success stories and many failures– iPad 1 is a content consumption tool no camera, limited apps to support education, difficult to move content on/off device.
- Trough of Disillusionment
  - Interest wanes as the technology does not produce at expected levels– Only the very dedicated continue to use iPad 1 in the classroom, most put them aside waiting for a better option.
- Slope of Enlightenment
  - 2nd and 3rd generation products appear– iPad 2 have cameras, accessibility features and specialized communication and learning apps become available.
- Plateau of Productivity
  - Mainstream adoption and widespread commercial availability- Use of iPads as assistive technology and augmentative communication featured in mainstream media (60 minutes; TV commercials, etc.)

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Technology adoption curve
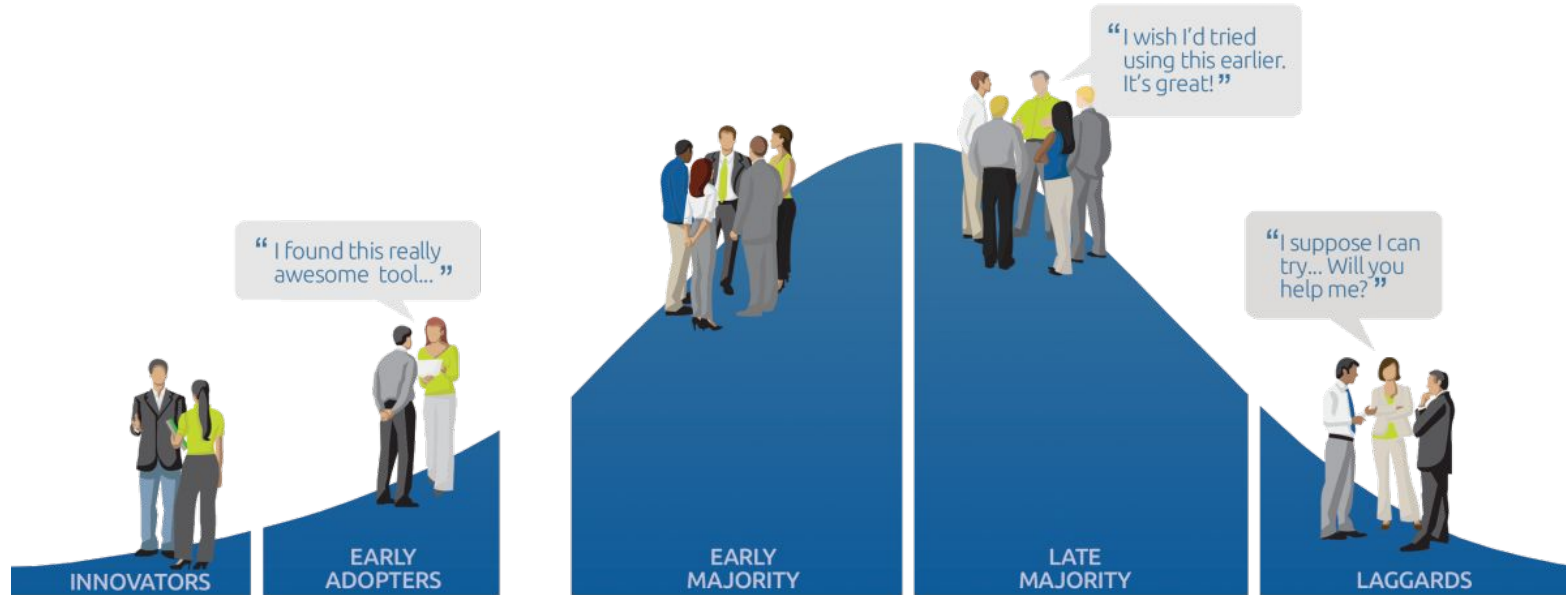
Alexa, are you ready?

The Alexa Family: The Great Eight

- Echo

- Echo Plus

- Echo Dot

- Echo Show

- Echo Tap

- Echo Spot

- Echo Look (fashion)

- Echo Connect (phone)

- Echo Buttons*

What more information?

https://techcrunch.com/2017/09/27/echo-plus-spot-connect-dot-show-look/

Set Up

Parental Settings

1. Create a free or use an existing Amazon account

2. Download the free Alexa app (phone preferred)

3. Plug in the Amazon device

4. In the app go to Settings→ Set up a new device and follow the onscreen directions to connect to the wifi

5. Talk to Alexa

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Basic Customizing

- Account
  - Voice Purchasing→ recommend toggling off
  - Flash Briefing→ turn off or customize for student friendly briefings
  - Calendar→ link to preferred online calendar
  - List→ link to preferred list
- By Device
  - Sounds (volume, alarms, etc.)
  - Device name (this is important for advanced skills)
  - Wake word (choose from Alexa, Amazon, Echo, Computer)

Software = Skills (Native)

- Timers
- Alarms
- Reminders
- To Do Lists
- Messaging
- Flash Briefing
- Basic Information Requests
  - Sports scores
  - Fact checks

- Weather
- Stock Quotes
- Calendar*
- Purchasing*
- Music*
- Audiobooks*
- Smart Home (when paired with IoT devices)

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Software = Skills (Add-Ons)

- Communication
  - Ask My Buddy
- Education & Reference
  - Curiosity
  - 1-2-3 Math
  - BrainyBee
  - I'm Bored
- Games and Trivia
  - Amazing Word Master
  - Would You Rather
  - Jeopardy

- Lifestyle
  - Guided Meditation
  - Zen Sounds
  - Ambient Sounds
- News
  - MPR Hourly
  - Nasa Breaking News
- Productivity/Utilizes
  - My Morning
  - Any.do

Enabling (adding) Skills

- App
  - Open Alexa App → select Skills
  - Browse or search for the skill you would like to add
  - Click open the skills that you are interested in
  - Press Enable
- Website
  - Go to Amazon.com → Departments → Alexa Skills
  - Browse or search for the skill you would like to add
  - Click open the skills that you are interested in
  - Press Enable

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Ask Alexa
during ELA and Math

Alexa, how do you spell _____?

Alexa, what is _____ plus _____?

Alexa, what is _____ minus _____?

Alexa, Simon says _____.

Alexa, flip a coin.

Alexa, what is the definition of _____?

Alexa, roll the dice.

Alexa, what is a synonym for _____?

Alexa, set a work timer for _____ minutes.

Alexa Skills
to help you relax

Skill: Breathing 4 7 9

Say: Alexa, ask breathing exercise
    to begin.

Skill: Ambient Noise: Rainforest

Say: Alexa, ask Rainforest Sounds
    to start.

Skill: Mediation Timer

Say: Alexa, open Mediation Timer

Skill: Mediation Timer

Say: Alexa, open Mediation Timer

Communications

Drop in with Alexa

To Make a Call Say:

"Alexa, drop in on _____"
or
Alexa, call _____"

To Recieve a Call Say:

"Alexa, answer call"
or
"Alexa, answer"

To Recieve a Call Say:

"Alexa, hang up"
or
Alexa, end the call"

- Calling
  - Call between Echo device and/or the Alexa app
  - Use the new Connect for true phone calling
- Messaging
  - Leave a message for another Echo use
- Drop In
  - Intercom style feature

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Alexa, make my house smart

- Wide range of products categories
  - **Lighting**
  - Outlets
  - Thermostats
  - Door locks
  - Camera
  - TV & Video
  - Audio & Home theater
  - And more

Philips Hue Lighting

Components: smart light bulb + hub + mobile device + Alexa (optional)

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Setting Up Your Hue

1. Place a light bulb into the fixture and power it on
2. Set up your bridge
   a. Plug in the power cord and use the provided network cord to plug it into your router (three blue lights)
3. Download the Philips Hue app (free)
4. Launch the app and create a log in
5. Tap setup on the app, then press the connect button on the bridge to link the two
6. Tap the + sign in the light setup page→ press search

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The more you know…
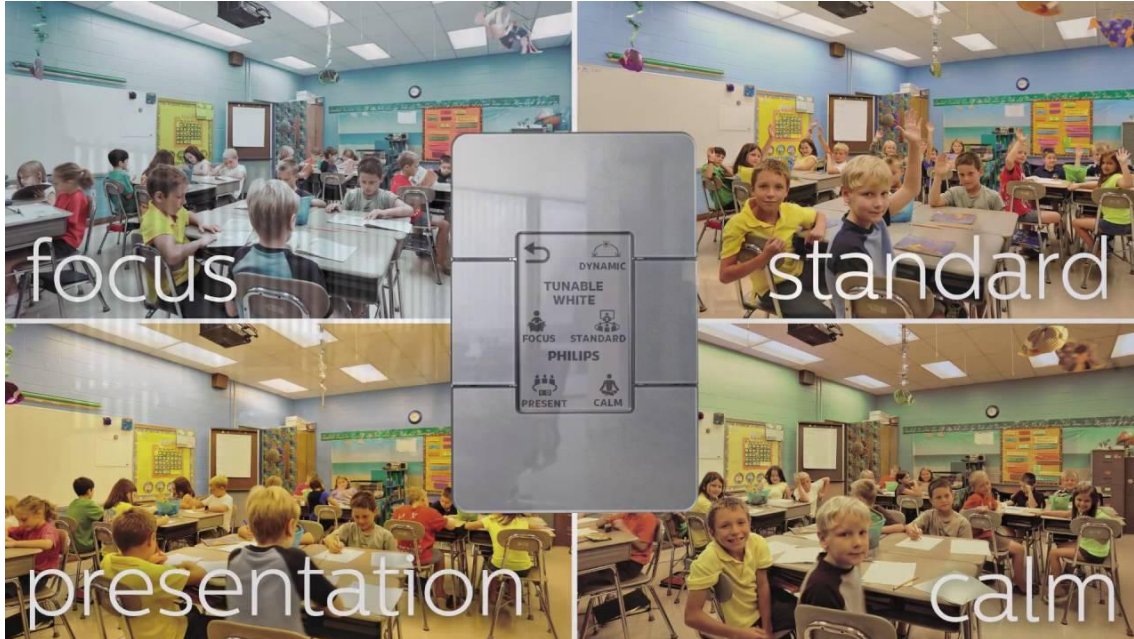
Connecting to Alexa

1) Enable the Philips Hue skill on your Alexa App
2) Sign in to your Philips Hue account to link your accounts
3) In the Alexa App go to Smart Home and follow the on screen directions for adding a new device

What can a Hue do?***

- Customize a full spectrum of white light and/or color
- Create routines
  - Home & away, wake up, go to sleep, etc.
- Be controlled over the internet or through other Smart Home services (i.e., Apple Homekit, Alexa, etc)

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Fun to Functional

focus

standard

presentation

calm

DYNAMIC
TUNABLE WHITE
FOCUS   STANDARD
PHILIPS
PRESENT   CALM

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Challenges of IoT

Globally

- Privacy
- Security
- Safety
- Influence on Society (political, social, moral)

With Students

- Teacher buy-in
- Tech adoption
- Screens in the classroom
- Consistent network access