UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION

PARUS HOLDINGS INC., Plaintiff, v. AMAZON.COM, INC. Defendant.	)	Civil Action No. 6:19-cv-00454-ADA **JURY TRIAL DEMANDED**

PARUS HOLDINGS INC.'S
FIRST AMENDED COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Parus Holdings Inc. ("Parus" or "Plaintiff") for its First Amended Complaint for Patent infringement ("Amended Complaint") against Amazon.com, Inc. ("Amazon" or "Defendant"), hereby alleges as follows:

THE PARTIES

1. Plaintiff Parus Holdings Inc. is a Delaware corporation having its principal place of business at 3000 Lakeside Drive, Suite 110S, Bannockburn, IL 60015.

2. Parus is the owner by assignment of U.S. Patent No. 7,076,431 ("the '431 Patent") (attached as Exhibit 1) and U.S. Patent No. 9,451,084 ("the '084 Patent") (attached as Exhibit 2).

3. Defendant Amazon.com, Inc. is a Delaware corporation with its principal office at 410 Terry Avenue North, Seattle, WA 98109. Amazon.com, Inc. can be served through its registered agent, Corporation Service Company, 2711 Centerville Rd., Wilmington, DE 19808.

4. Amazon has a regular and established place of business in this District in both the Waco and Austin Divisions, including distribution facilities, employees, "Amazon Pickup Locations," and other business. For example, Amazon has a fulfillment center at 2093, 2209 Rutland Drive, Austin, TX 78758. Further, Amazon currently employs over 5,600 workers in the Austin area and has plans to add over 800 additional jobs. https://www.statesman.com/news/20190328/amazon-plans-austin-expansion-that-will-add-800-jobs. Further, Amazon operates at least nine permanent, physical "Amazon Pickup Locations" in McLennan, Bell, and Coryell counties (in the Waco Division), including six Amazon Hub Lockers and three Amazon Hub Counters. Amazon offers its products and services, including those accused herein of infringement, to customers located in Waco and Austin. Amazon derives financial benefits through its business in Waco and Austin.

5. Amazon has placed or contributed to placing infringing products like the Amazon Echo into the stream of commerce via an established distribution channel knowing or understanding that such products would be sold and used in the United States, including in the Western District of Texas. On information and belief, Amazon also has derived substantial revenues from infringing acts in the Western District of Texas, including from the sale and use of infringing products like the Amazon Echo.

6. Amazon had constructive notice of the '431 Patent based on Parus's marking at least as of June 18, 2007.

7. Amazon had constructive notice of the '084 Patent based on Parus's marking at least as of February 21, 2018.

JURISDICTION AND VENUE

8. This is an action for patent infringement arising under the patent laws of the United States, Title 35 of the United States Code. Accordingly, this Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a).

9. This Court has specific personal jurisdiction over Defendant at least in part because Defendant conducts business in this Judicial District. Parus's causes of action arise, at least in part, from Defendant's contacts with and activities in the State of Texas and this Judicial District. Upon information and belief, each Defendant has committed acts of infringement within the State of Texas and this Judicial District by, *inter alia*, directly and/or indirectly using, selling, offering to sell, or importing products that infringe one or more claims of the '431 Patent and/or the '084 Patent.

10. Defendant has committed acts within this District giving rise to this action, and have established sufficient minimum contacts with the State of Texas such that the exercise of jurisdiction would not offend traditional notions of fair play and substantial justice.

11. Venue is proper in this Judicial District pursuant to 28 U.S.C. §§ 1391(b), (c), and 1400(d). Venue is proper for Amazon.com, Inc. because Amazon.com, Inc. (1) has a regular and established place of business in this Judicial District, and (2) has committed and continues to commit acts of patent infringement in this Judicial District by, *inter alia*, directly and/or indirectly using, selling, offering to sell, or importing products that infringe one or more claims of the '431 Patent and/or the '084 Patent.

12. Defendant maintains, controls, and pays for numerous permanent, physical locations in this District and specifically in the Waco Division.

13. Defendant's permanent, physical locations within this District and in the Waco Division include locations that serve as pick-up and return centers for its Accused Products.

14. For example, Defendant operates at least nine "Amazon Pickup Locations" in McLennan, Bell and Coryell counties, including six Amazon Hub Lockers and three Amazon Hub Counters:

Amazon Pickup Location Search Results

Results for "76528"

1	Amazon Hub Locker - Verity 5511 W Adams Ave, at Sunoco, Temple TX 76502-6078 Map details	Mon - Sun: Open 24hrs	Select
2	Amazon Hub Locker - Mackendy 1600 S Interstate 35, at CEFCO, Belton TX 76513-4375 Map details	Mon - Sun: Open 24hrs	Select
3	Amazon Hub Locker - Ogden 2210 E Stan Schleuter Loop, at Sunoco, Killeen TX 76542 Map details	Mon - Sun: Open 24hrs	Select
4	Amazon Hub Locker - Walleye 5001 S 31st St, at Sunoco, Temple TX 76502-3622 Map details	Mon - Sun: Open 24hrs	Select
5	Amazon Hub Locker - Vesta 8089 W Trimmier Rd, at Sunoco, Killeen TX 76542-3838 Map details	Mon - Sun: Open 24hrs	Select
6	Amazon Hub Counter - Bealls, Gatesville 2411 Highway 36, Route 233 Stop 010, Gatesville TX 765282517 Map details	Mon - Sat: 10:00 - 20:00 Sun: 12:00 - 18:00	Select
7	Amazon Hub Counter - Bealls, Copperas Cove 232 RobertGriffin III Dr St700, Suite 700, Copperas Cove TX 76522 Map details	Mon - Sat: 10:00 - 21:00 Sun: 12:00 - 18:00	Select
8	Amazon Hub Counter - Bealls, Waco 6001 W Waco Dr, Route 233 Stop 005, Waco TX 767106306 Map details	Mon - Sat: 10:00 - 21:00 Sun: 12:00 - 18:00	Select
9	Amazon Hub Locker - Bobbye 1311 S 5th Street, at Baylor University, Waco TX 76706 Map details	Mon - Sun: Open 24hrs	Select

Not a public Locker. You must have building access to pick up your package.

I confirm that I have access to this location Learn more

15. On information and belief, Defendant's Amazon Hub Lockers are anchored to each location in this District and in the Waco Division.

16. On information and belief, Defendant pays monthly rent for and exercises control over its "Amazon Hub Locker" locations in this District and in the Waco Division.

17. Defendant uses its Amazon Hub Lockers exclusively for its own business, and hosts do not use the Amazon Hub Lockers in this District and in the Waco Division.

18. Defendant's business is to facilitate the delivery of packages to customers reliably and efficiently, and its Amazon Hub Lockers are a means of carrying out that objective in this District and in the Waco Division.

19. On information and belief, Defendant's agents or employees configure the Amazon Hub Lockers' software, perform regular maintenance on the Amazon Hub Lockers, and perform repairs on the Amazon Hub Lockers in this District and in the Waco Division.

20. On information and belief, the Amazon Hub Lockers and Amazon Hub Counters in the District and in the Waco Division are branded with Amazon's logo, advertisements for Amazon's online marketplace, and an Amazon customer service number.

COUNT I

AMAZON'S INFRINGEMENT OF U.S. PATENT NO. 7,076,431

21. Parus restates and incorporates by reference all of the allegations made in the preceding paragraphs as though fully set forth herein.

22. Parus is the owner, by assignment, of the '431 Patent. A true copy of the '431 Patent granted by the U.S. Patent & Trademark Office is attached as Exhibit 1.

23. Amazon has directly infringed, and continues to directly infringe, literally or under the doctrine of equivalents, at least independent claim 1 of Parus's '431 Patent by making,

using, selling, and/or offering for sale its products that include Amazon's Alexa virtual assistant ("Alexa"), in the United States, in violation of 35 U.S.C. § 271(a).

24. Amazon had constructive notice of the '431 Patent based on Parus's marking at least as of June 18, 2007. Upon filing of the original complaint or shortly thereafter, Defendant had actual knowledge of the '431 Patent.

25. Further, on information and belief, Amazon has a policy or practice of not reviewing the patents of others (including instructing its employees to not review the patents of others), and thus has been willfully blind to Parus's patent rights.

26. Amazon Technologies Inc. is the owner by assignment of U.S. Patent No. 9,842,584.

27. Amazon Technologies Inc. is the owner by assignment of U.S. Patent No. 10,133,546.

28. On information and belief, Amazon Technologies Inc. is a subsidiary of Amazon.com, Inc.

29. U.S. Patent No. 9,842,584 cites to U.S. Patent No. 6,721,705 to Kurganov.

30. U.S. Patent No. 10,133,546 cites to U.S. Patent No. 6,721,705 to Kurganov.

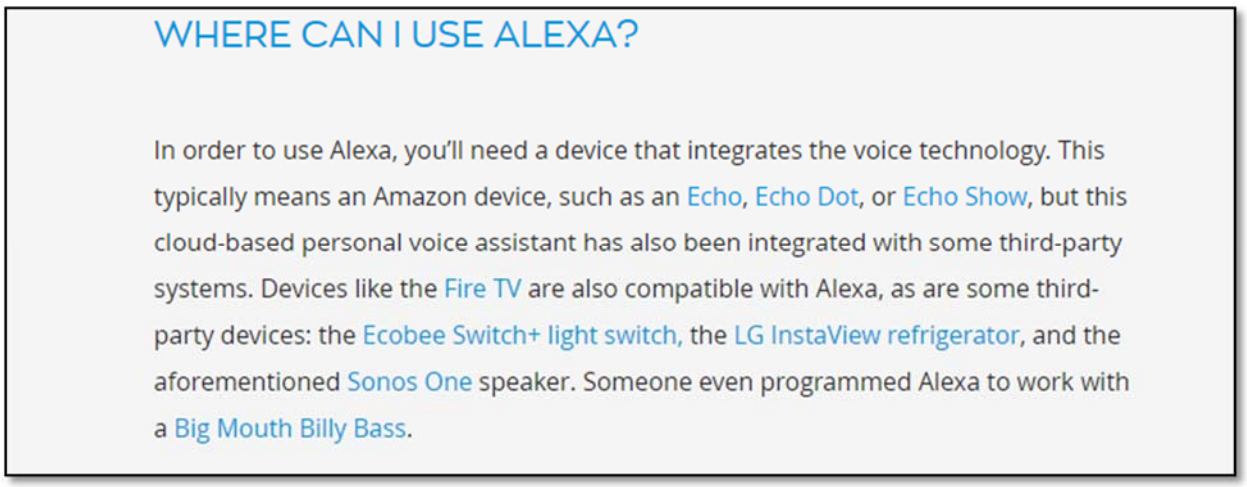
31. U.S. Patent No. 6,721,705 to Kurganov is a parent patent to the '431 Patent.

32. Amazon's acts of direct infringement of the '431 Patent are willful, and have caused and will continue to cause substantial damage and irreparable harm to Parus, and Parus has no adequate remedy at law.

33. Various Amazon products with Alexa made or sold by Amazon directly infringe at least independent claim 1 of the '431 Patent, including at least the Amazon Echo and other

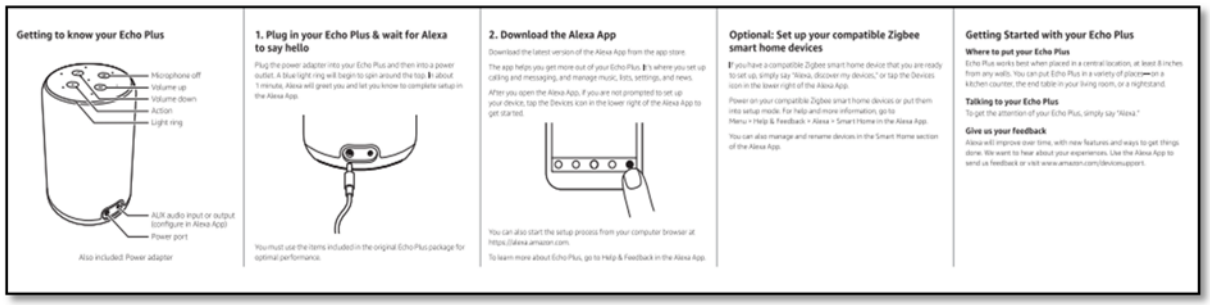
Amazon products that incorporate Alexa ("Amazon Accused Products"). For example, the Amazon Echo comes with Alexa preinstalled.

See, e.g., https://www.amazon.com/gp/product/B06XCM9LJ4/ref=s9_acsd_al_bw_c_x_6_w?pf_rd_m=ATVPDKIKX0DER&pf_rd_s=merchandised-search-4&pf_rd_r=7 WEC0RE7WX 15PC8 SY4 BY& pf_rd_t=101&pf_rd_p=26ee7d18-7cee-420f-a95c-f4be02106756&pf_rd_i=9818047011.



See, e.g., What is Alexa, and what can Amazon's virtual assistant do for you? (Feb. 16, 2019), available at https://www.digitaltrends.com/home/what-is-amazons-alexa-and-what-can-it-do/.

34. Further, Amazon makes instructions available for setting up and using the Amazon Echo in conjunction with Alexa.



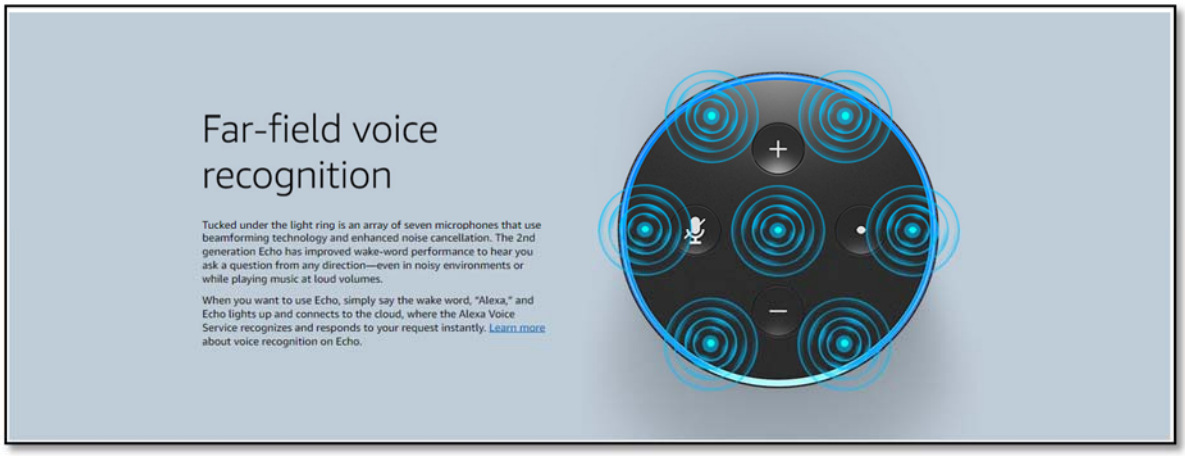
See, e.g, https://m.media-amazon.com/images/G/01/kindle/merch/2018/Alexa/User_Guide/Update/Echo_Plus_2nd_Gen_QSG_US._CB1539033940_.pdf?pf_rd_m=ATVPDKIKX0DER&pf_rd_s=merchandised-search-

5&pf_rd_r=GT6YH640T1R7NT78C62S&pf_rd_t=101&pf_rd_p=116e29b1-6379-409e-a135-db7ad24bd07e&pf_rd_i=18116225011.

See, e.g., https://www.amazon.com/All-new-Echo-Plus-2nd-built/dp/B0794W1SKP/ref=sr_1_2?keywords=echo&qid=1562871943&s=gateway&sr=8-2 .

35. Each Amazon Accused Product comprises a system for retrieving information from pre-selected web sites by uttering speech commands into a voice enabled device and for providing to users retrieved information in an audio form via said voice enabled device. *See e.g.*, Andrew Nusca, How voice recognition will change the world (Nov. 4, 2011), available at https://www.zdnet.com/article/how-voice-recognition-will-change-the-world/; Gene Munster, Will Thompson, Annual Digital Assistant IQ Test – Siri, Google Assistant, Alexa, Cortana (Jul. 25, 2018), available at https://loupventures.com/annual-digital-assistant-iq-test-siri-google-assistant-alexa-cortana/; Voice Browsing (Jan. 29, 2019), available at https://www.w3.org/standards/webofdevices/voice; What is Alexa, and what can Amazon's virtual assistant do for you? (Feb. 16, 2019), available at https://www.digitaltrends.com/home/what-is-amazons-alexa-and-what-can-it-do/; Alexa Voice Service, available at https://developer.amazon.com/alexa-voice-service; Alexa Skills Set, Amazon Alexa, https://developer.amazon.com/en-US/alexa/alexa-skills-kit.

36. For example, each of the Amazon Accused Products, including the Amazon Echo, includes a microphone and a speaker:



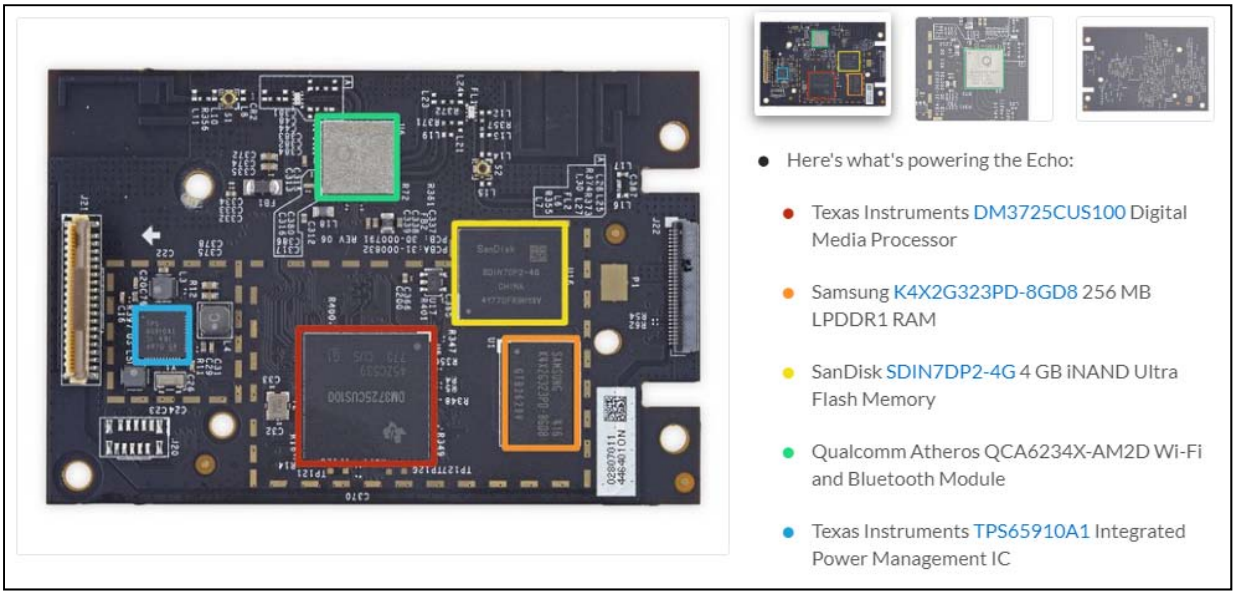
See, e.g., https://www.amazon.com/dp/B07456BG8N?tag=googhydr-20&hvadid=333263006615&hvpos=1t1&hvnetw=g&hvrand=17718345068411276924&hvpone=&hvptwo=&hvqmt=e&hvdev=c&hvdvcmdl=&hvlocint=&hvlocphy=1018127&hvtargid=kwd-295921616770&ref=pd_sl_2g7cb1h5ze_e#tech.

See, e.g., https://www.amazon.com/All-new-Echo-Plus-2nd-built/dp/B0794W1SKP/ref=sr_1_2?keywords=%20echo&qid=1562871943&s=gateway&sr=8-2.

> But really, what exactly is Alexa? When you ask Alexa a question, what you're doing is communicating with a cloud-based service. Amazon has designed the Alexa Voice Service (AVS) to mimic real conversations, but you're actually using intuitive voice commands to get this service to perform specific tasks. "Alexa" is simply the "wake word" that alerts the service to start listening to your voice. For most devices, you just have to say it to get a response.
>
> Here's how Amazon describes the Alexa Voice Service on its developer page:
>
> "The Alexa Voice Service (AVS) is Amazon's intelligent voice recognition and natural language understanding service that allows you to voice-enable any connected device that has a microphone and speaker."

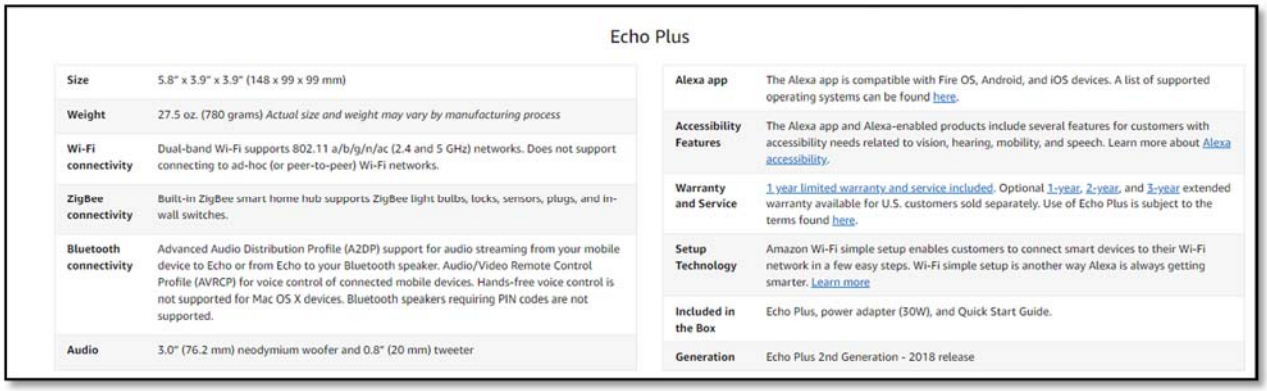
What is Alexa, and what can Amazon's virtual assistant do for you? (Feb. 16, 2019), available at https://www.digitaltrends.com/home/what-is-amazons-alexa-and-what-can-it-do/.

37. The Amazon Accused Products in conjunction with Alexa include a computer, said computer operatively connected to the internet. For example, the Amazon Echo includes a Texas Instruments DM3725 ARM Cortex-A8 processor.



See, e.g., https://www.ifixit.com/Teardown/Amazon+Echo+Teardown/33953

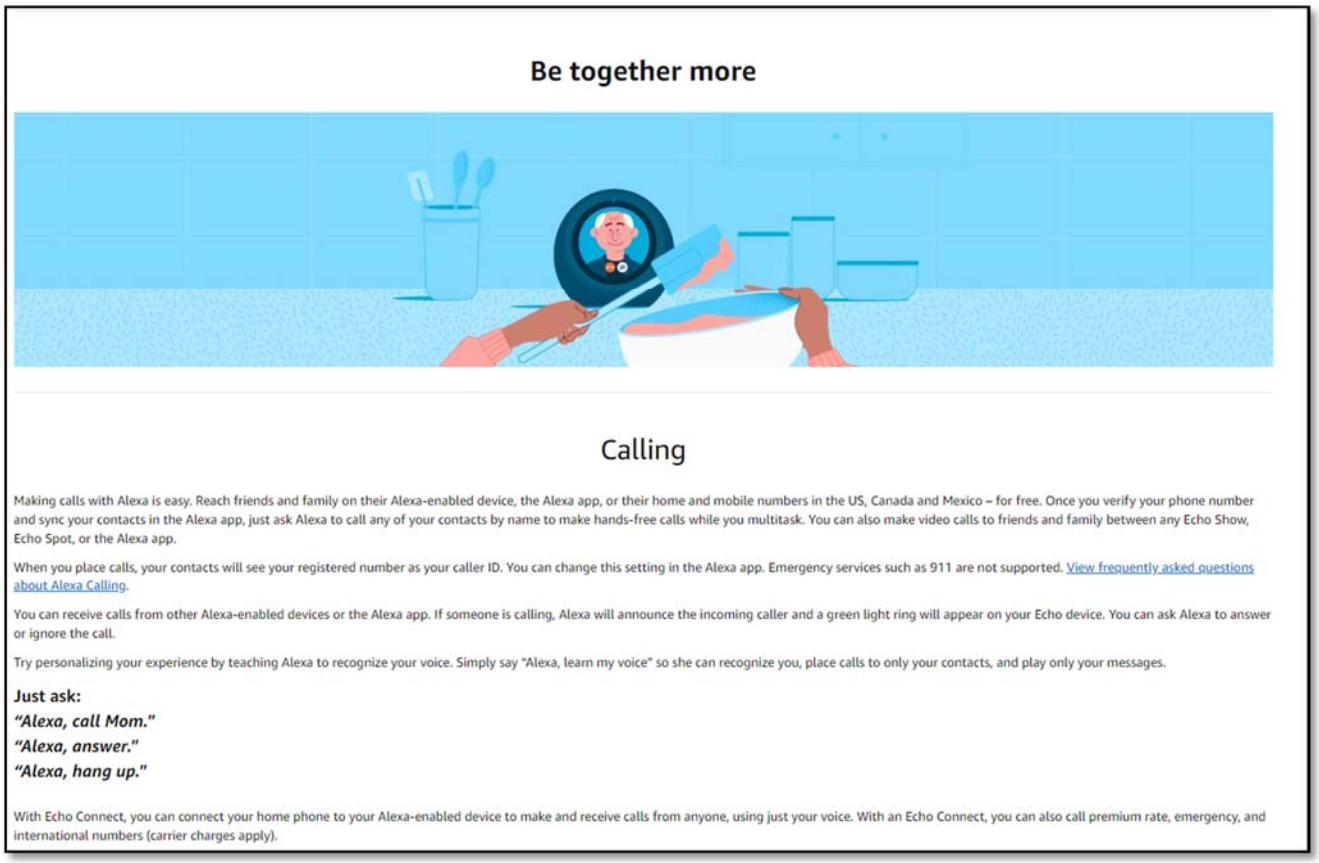
38. That computer is operatively connected to the internet because the Amazon Echo includes both Wi-Fi connectivity and cellular connectivity.



Echo Plus

Size	5.8" x 3.9" x 3.9" (148 x 99 x 99 mm)
Weight	27.5 oz. (780 grams) *Actual size and weight may vary by manufacturing process*
Wi-Fi connectivity	Dual-band Wi-Fi supports 802.11 a/b/g/n/ac (2.4 and 5 GHz) networks. Does not support connecting to ad-hoc (or peer-to-peer) Wi-Fi networks.
ZigBee connectivity	Built-in ZigBee smart home hub supports ZigBee light bulbs, locks, sensors, plugs, and in-wall switches.
Bluetooth connectivity	Advanced Audio Distribution Profile (A2DP) support for audio streaming from your mobile device to Echo or from Echo to your Bluetooth speaker. Audio/Video Remote Control Profile (AVRCP) for voice control of connected mobile devices. Hands-free voice control is not supported for Mac OS X devices. Bluetooth speakers requiring PIN codes are not supported.
Audio	3.0" (76.2 mm) neodymium woofer and 0.8" (20 mm) tweeter
Alexa app	The Alexa app is compatible with Fire OS, Android, and iOS devices. A list of supported operating systems can be found here.
Accessibility Features	The Alexa app and Alexa-enabled products include several features for customers with accessibility needs related to vision, hearing, mobility, and speech. Learn more about Alexa accessibility.
Warranty and Service	1 year limited warranty and service included. Optional 1-year, 2-year, and 3-year extended warranty available for U.S. customers sold separately. Use of Echo Plus is subject to the terms found here.
Setup Technology	Amazon Wi-Fi simple setup enables customers to connect smart devices to their Wi-Fi network in a few easy steps. Wi-Fi simple setup is another way Alexa is always getting smarter. Learn more
Included in the Box	Echo Plus, power adapter (30W), and Quick Start Guide.
Generation	Echo Plus 2nd Generation - 2018 release

See, e.g., https://www.amazon.com/All-new-Echo-Plus-2nd-built/dp/B0794W1SKP/ref=sr_1_2?keywords= echo&qid=1562871943&s=gateway&sr=8-2



Be together more

Calling

Making calls with Alexa is easy. Reach friends and family on their Alexa-enabled device, the Alexa app, or their home and mobile numbers in the US, Canada and Mexico – for free. Once you verify your phone number and sync your contacts in the Alexa app, just ask Alexa to call any of your contacts by name to make hands-free calls while you multitask. You can also make video calls to friends and family between any Echo Show, Echo Spot, or the Alexa app.

When you place calls, your contacts will see your registered number as your caller ID. You can change this setting in the Alexa app. Emergency services such as 911 are not supported. View frequently asked questions about Alexa Calling.

You can receive calls from other Alexa-enabled devices or the Alexa app. If someone is calling, Alexa will announce the incoming caller and a green light ring will appear on your Echo device. You can ask Alexa to answer or ignore the call.

Try personalizing your experience by teaching Alexa to recognize your voice. Simply say "Alexa, learn my voice" so she can recognize you, place calls to only your contacts, and play only your messages.

Just ask:
"Alexa, call Mom."
"Alexa, answer."
"Alexa, hang up."

With Echo Connect, you can connect your home phone to your Alexa-enabled device to make and receive calls from anyone, using just your voice. With an Echo Connect, you can also call premium rate, emergency, and international numbers (carrier charges apply).

See, e.g., https://www.amazon.com/b/ref=aeg_lp_comm_d/ref=s9_acss_bw_cg_aegflp_1b1_w?node=17934681011&pf_rd_m=ATVPDKIKX0DER&pf_rd_s=merchandised-search-6&pf_rd_r=JCEXPV9CFAK9TVXXVEKA&pf_rd_t=101&pf_rd_p=02147624-e148-4901-b449-773097cfa62e&pf_rd_i=17934672011 .

39. The Amazon Accused Products in conjunction with Alexa include a voice enabled device operatively connected to their included computer, and that voice enabled device is configured to receive speech commands from users.

40. For example, Amazon Echo in conjunction with Alexa is a voice enabled device because the Amazon Echo includes a microphone:

See, e.g., https://www.amazon.com/dp/B07456BG8N?tag=googhydr-20&hvadid=333263006615&hvpos=1t1&hvnetw=g&hvrand=17718345068411276924&hvpone=&hvptwo=&hvqmt=e&hvdev=c&hvdvcmdl=&hvlocint=&hvlocphy=1018127&hvtargid=kwd-295921616770&ref=pd_sl_2g7cb1h5ze_e#tech.

See, e.g., https://www.amazon.com/All-new-Echo-Plus-2nd-built/dp/B0794W1SKP/ref=sr_1_2?keywords=%20echo&qid=1562871943&s=gateway&sr=8-2

41. Further, the microphone operatively connected to the Amazon Echo in conjunction with Alexa is configured to receive speech commands from users.

> But really, what exactly is Alexa? When you ask Alexa a question, what you're doing is communicating with a cloud-based service. Amazon has designed the Alexa Voice Service (AVS) to mimic real conversations, but you're actually using intuitive voice commands to get this service to perform specific tasks. "Alexa" is simply the "wake word" that alerts the service to start listening to your voice. For most devices, you just have to say it to get a response.
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> Here's how Amazon describes the Alexa Voice Service on its developer page:
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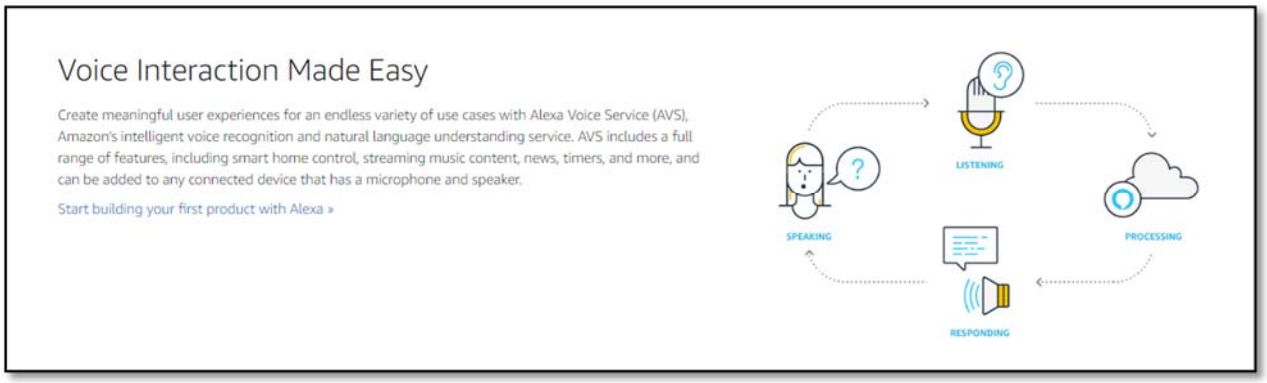
> "The Alexa Voice Service (AVS) is Amazon's intelligent voice recognition and natural language understanding service that allows you to voice-enable any connected device that has a microphone and speaker."

What is Alexa, and what can Amazon's virtual assistant do for you? (Feb. 16, 2019), available at https://www.digitaltrends.com/home/what-is-amazons-alexa-and-what-can-it-do/.



See, e.g., https://developer.amazon.com/alexa-voice-service/what-is-avs?linkCode=w61&imprToken= r0iiuJ6M7dIbzmX940rclw&slotNum=1

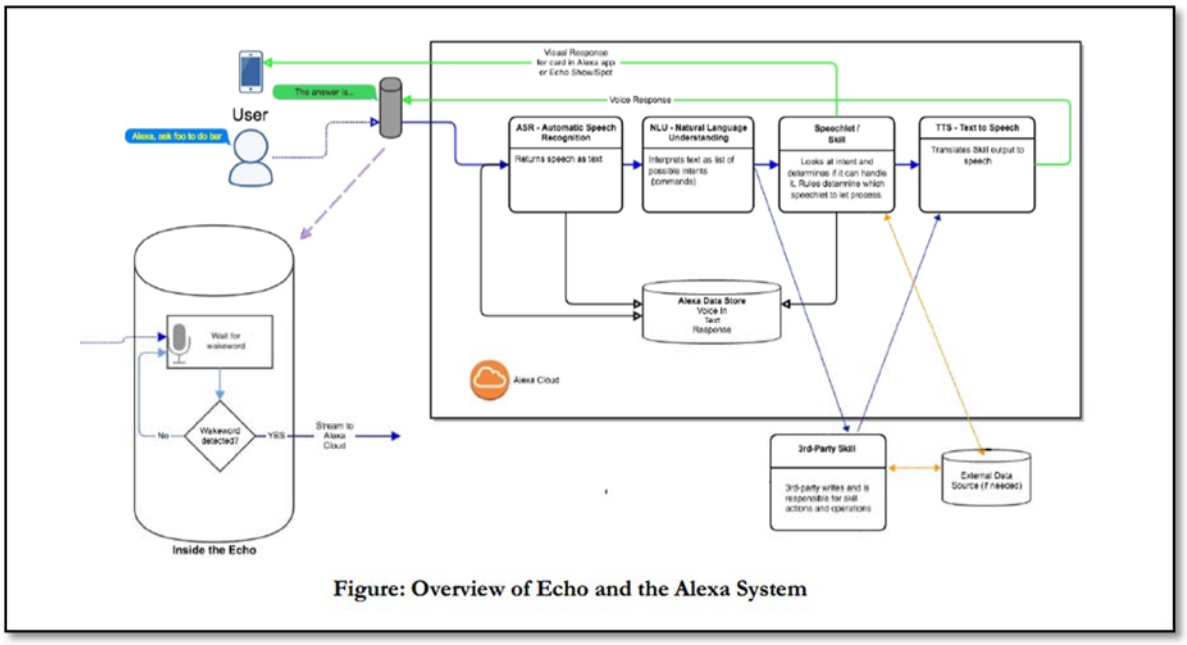


Figure: Overview of Echo and the Alexa System

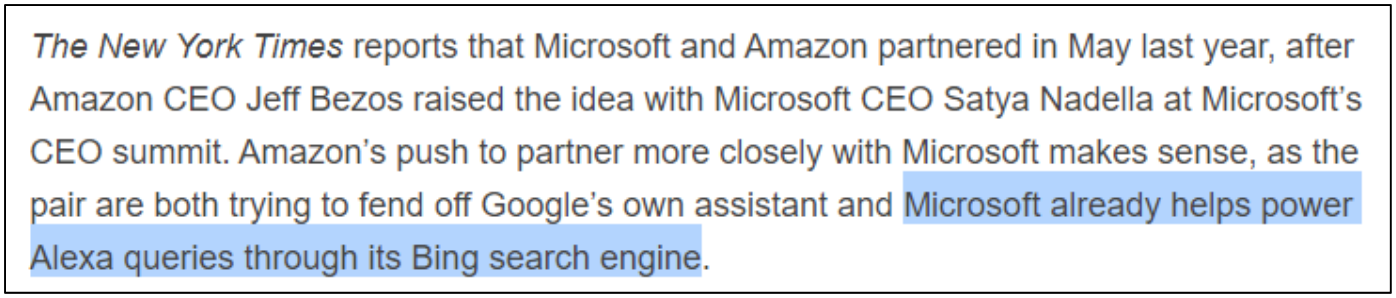
See, *e.g.*, Amazon, White Paper, Alexa Privacy and Data Handling Overview (July 20, 2018) at 1.

ASR and NLU

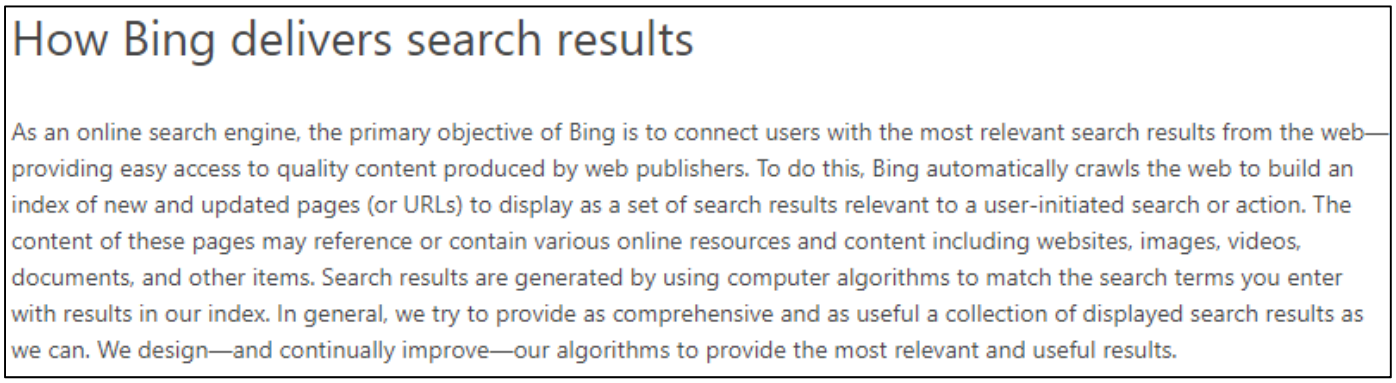
Alexa converts spoken words to text using automatic speech recognition (ASR), deduces the speaker's meaning using natural language understanding (NLU), and provides the underlying customer intent to your skill.

See, *e.g.*, Alexa Skills Set, Amazon Alexa, https://developer.amazon.com/en-US/alexa/alexa-skills-kit.

42. The Amazon Echo device in conjunction with Alexa retrieves information from pre-selected websites that have already been crawled.

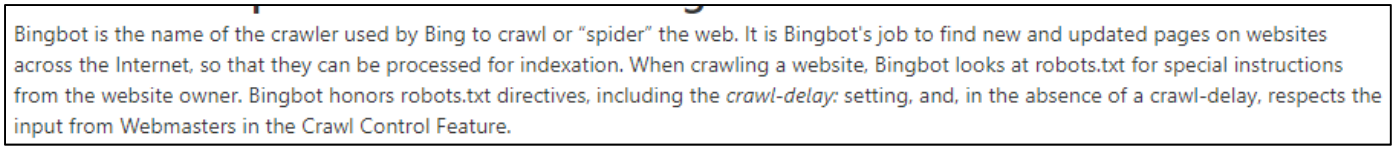

The New York Times reports that Microsoft and Amazon partnered in May last year, after Amazon CEO Jeff Bezos raised the idea with Microsoft CEO Satya Nadella at Microsoft's CEO summit. Amazon's push to partner more closely with Microsoft makes sense, as the pair are both trying to fend off Google's own assistant and Microsoft already helps power Alexa queries through its Bing search engine.

See, e.g., https://www.theverge.com/2017/8/30/16224876/microsoft-amazon-cortana-alexa-partnership

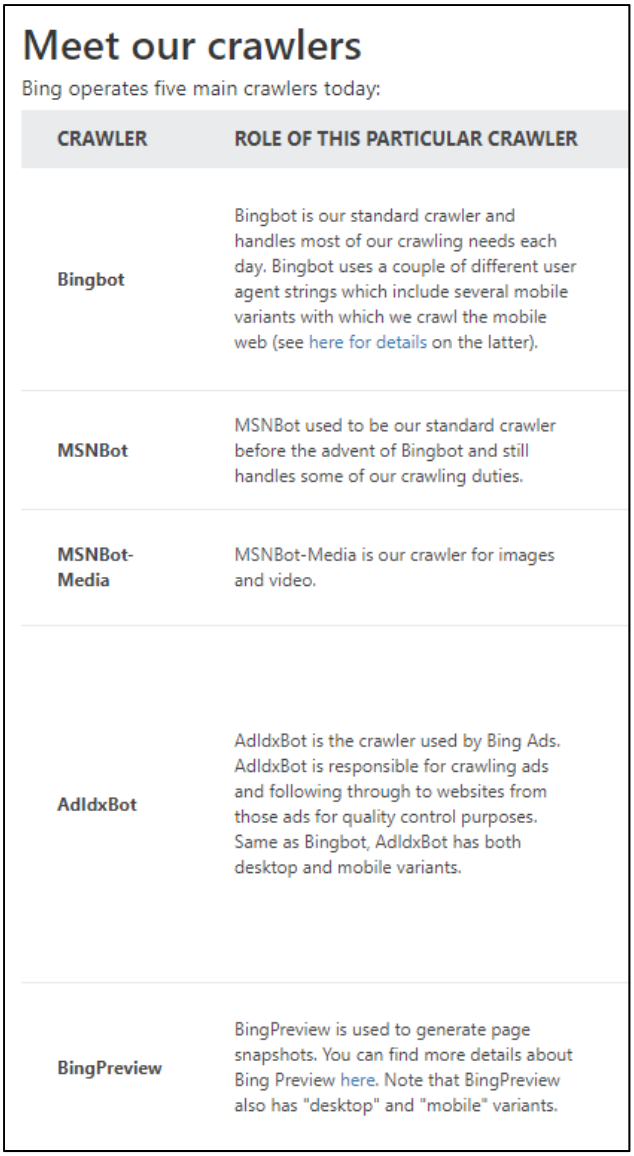

How Bing delivers search results

As an online search engine, the primary objective of Bing is to connect users with the most relevant search results from the web—providing easy access to quality content produced by web publishers. To do this, Bing automatically crawls the web to build an index of new and updated pages (or URLs) to display as a set of search results relevant to a user-initiated search or action. The content of these pages may reference or contain various online resources and content including websites, images, videos, documents, and other items. Search results are generated by using computer algorithms to match the search terms you enter with results in our index. In general, we try to provide as comprehensive and as useful a collection of displayed search results as we can. We design—and continually improve—our algorithms to provide the most relevant and useful results.

See, e.g., http://help.bing.microsoft.com/#apex/18/en-US/10016/0


Bingbot is the name of the crawler used by Bing to crawl or "spider" the web. It is Bingbot's job to find new and updated pages on websites across the Internet, so that they can be processed for indexation. When crawling a website, Bingbot looks at robots.txt for special instructions from the website owner. Bingbot honors robots.txt directives, including the *crawl-delay:* setting, and, in the absence of a crawl-delay, respects the input from Webmasters in the Crawl Control Feature.

See, e.g., https://www.bing.com/webmaster/help/how-to-report-an-issue-with-bingbot-25c19802



Meet our crawlers

Bing operates five main crawlers today:

CRAWLER	ROLE OF THIS PARTICULAR CRAWLER
Bingbot	Bingbot is our standard crawler and handles most of our crawling needs each day. Bingbot uses a couple of different user agent strings which include several mobile variants with which we crawl the mobile web (see here for details on the latter).
MSNBot	MSNBot used to be our standard crawler before the advent of Bingbot and still handles some of our crawling duties.
MSNBot-Media	MSNBot-Media is our crawler for images and video.
AdIdxBot	AdIdxBot is the crawler used by Bing Ads. AdIdxBot is responsible for crawling ads and following through to websites from those ads for quality control purposes. Same as Bingbot, AdIdxBot has both desktop and mobile variants.
BingPreview	BingPreview is used to generate page snapshots. You can find more details about Bing Preview here. Note that BingPreview also has "desktop" and "mobile" variants.

See, e.g., https://www.bing.com/webmaster/help/which-crawlers-does-bing-use-8c184ec0

> Bing's crawler, Bingbot is a key component of the Bing platform. Bingbot's main function is to:
>
> - Download webpages to get the latest content and discover new links from existing known links.
> - Verify that web documents already indexed are still valid, not dead links, helping to keep the Bing index comprehensive and fresh to answer customer queries with relevant results.

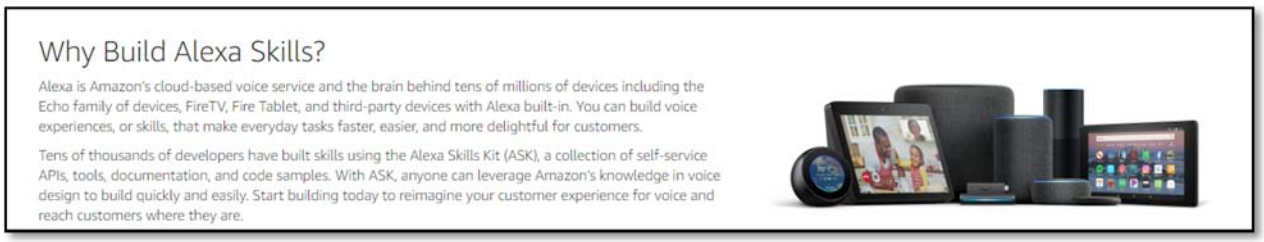
See, e.g., https://www.searchenginejournal.com/why-how-bing-plans-to-improve-its-crawler-bingbot/291979/#close

> For example, Bing customers searching for the latest space rocket launch can search and find new relevant webpages only seconds after this rocket launch. To be able to link to these new URLs, we have to discover, select, crawl, process, and then index them.
>
> To discover these new URLs, we have to crawl regularly existing known URLs to monitor for new URLs.
>
> Once discovered, we have to crawl to get the content for these new URLs.
>
> We have to continue crawling these newly indexed URLs regularly to check for potential content changes and verify that these webpages are still valid, not dead links.
>
> In other words, we crawl each URL in our system more than once.

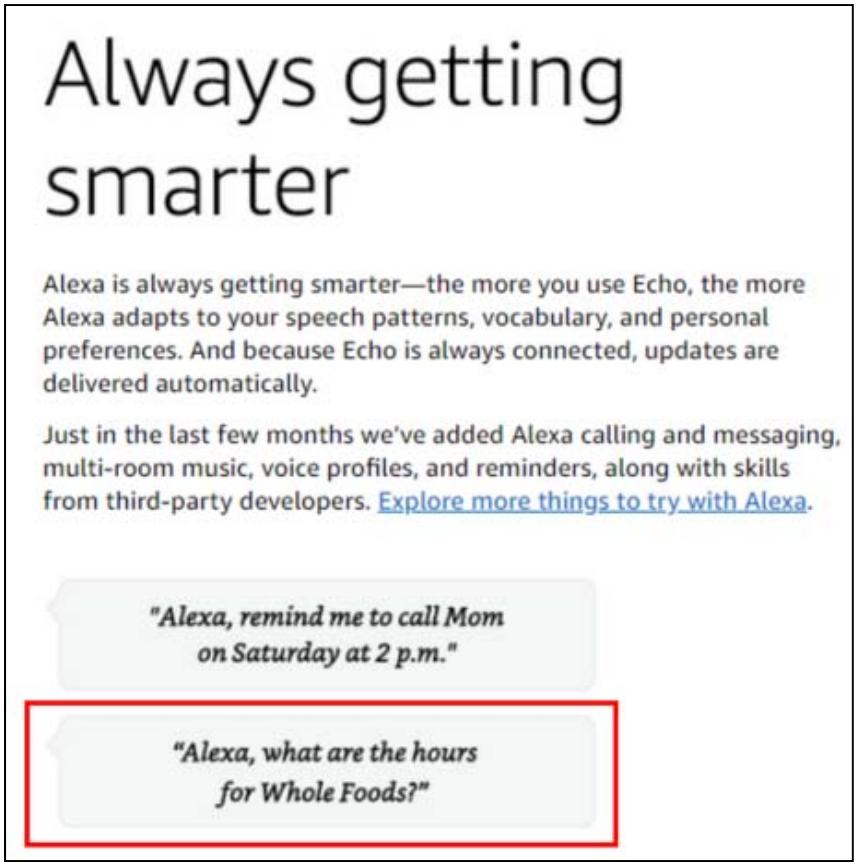
See id.

See, e.g., https://developer.amazon.com/alexa-voice-service.

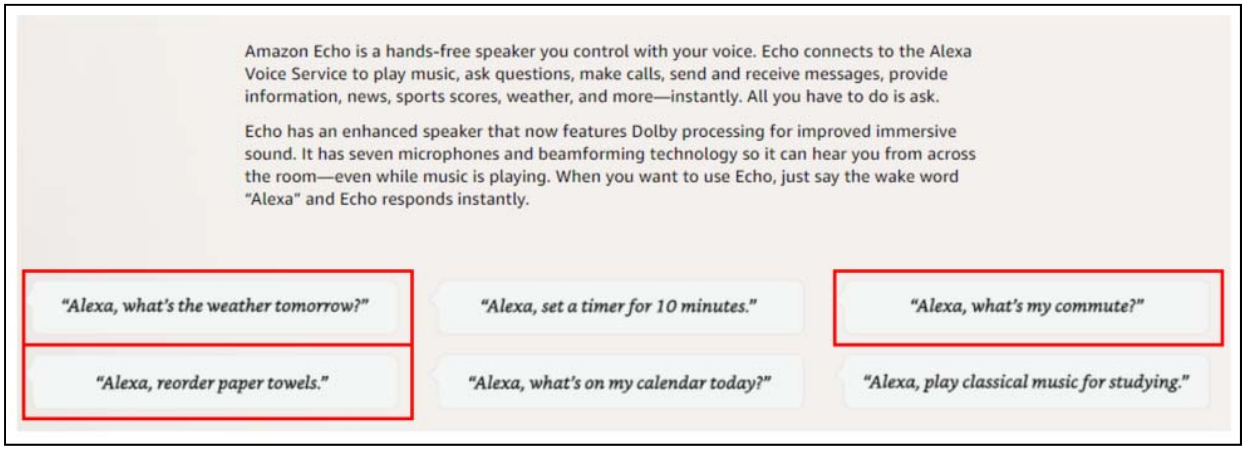
43. Each of the Amazon Accused Products includes at least one speaker-independent speech recognition device, which is operatively connected to the computer and to the voice enabled device. For example, the Amazon Echo allows a user to talk through the device to send commands to the cloud.



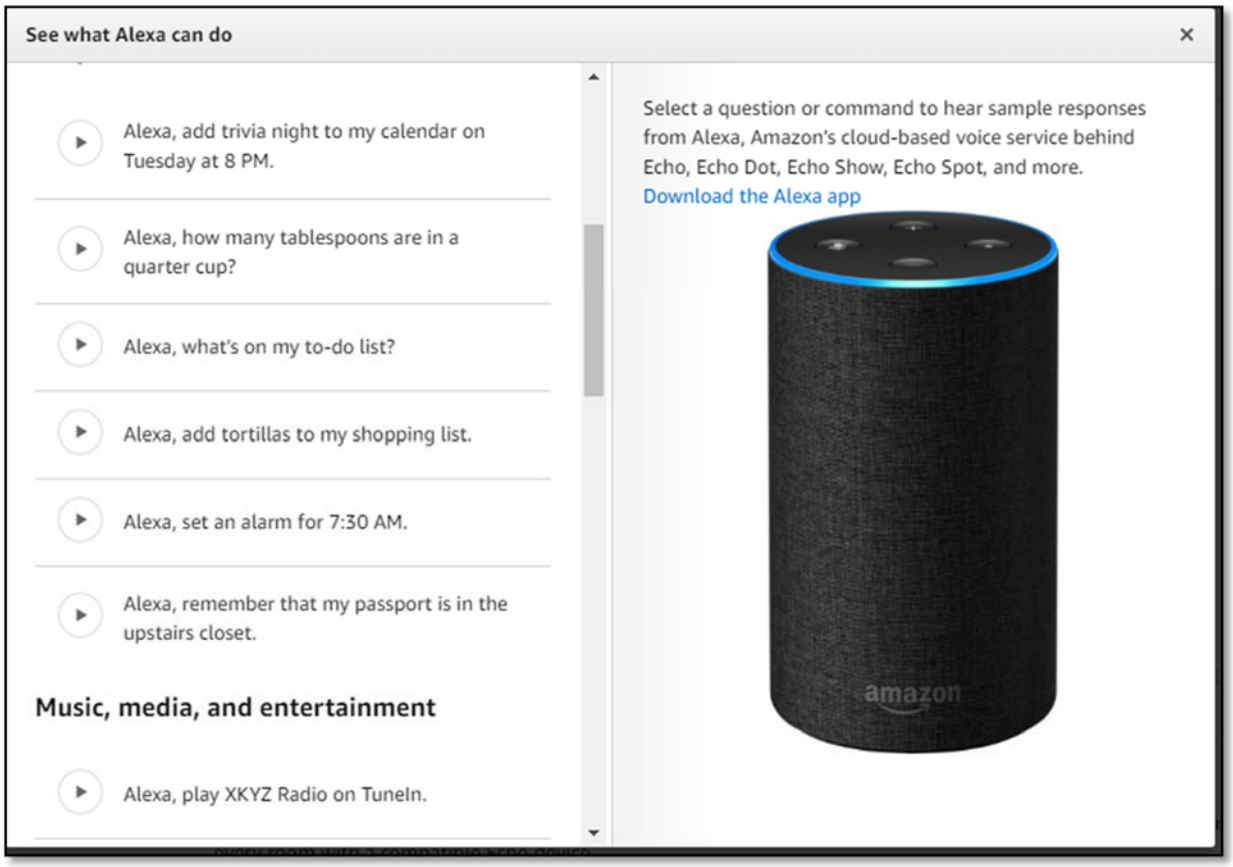
See, e.g., https://developer.amazon.com/en-US/alexa/alexa-skills-kit.



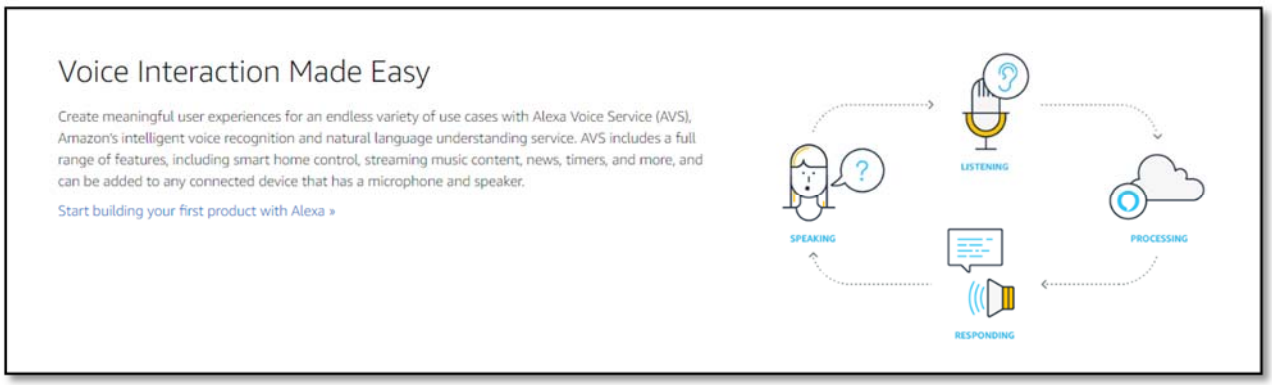
See, e.g., https://www.amazon.com/dp/B07456BG8N?tag=googhydr-20&hvadid=333263006615&hvpos=1t1&hvnetw=g&hvrand=17718345068411276924&hvpone=&hvptwo=&hvqmt=e&hvdev=c&hvdvcmdl=&hvlocint=&hvlocphy=1018127&hvtargid=kwd-295921616770&ref=pd_sl_2g7cb1h5ze_e#tech (annotation added).



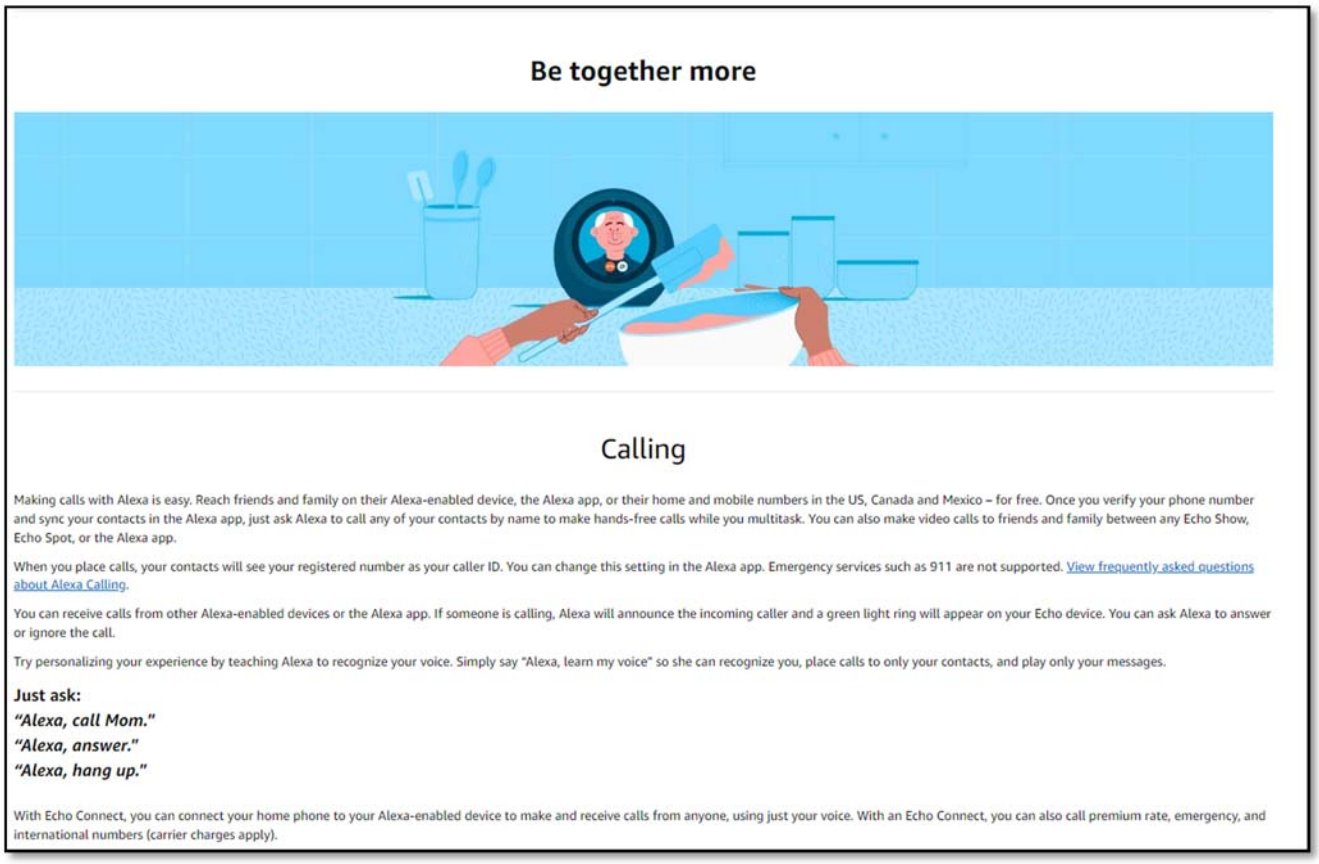
See, e.g., *id.* (annotation added)



See, *e.g.*,https://www.amazon.com/dp/B07456BG8N?tag=googhydr-20&hvadid=333263006615&hvpos=1t1&hvnetw=g&hvrand=17718345068411276924&hvpone=&hvptwo=&hvqmt=e&hvdev=c&hvdvcmdl=&hvlocint=&hvlocphy=1018127&hvtargid=kwd-295921616770&ref=pd_sl_2g7cb1h5ze_e.



See, *e.g.*, https://developer.amazon.com/alexa-voice-service/what-is-avs?linkCode=w61&imprToken= r0iiuJ6M7dIbzmX940rclw&slotNum=1



Be together more

Calling

Making calls with Alexa is easy. Reach friends and family on their Alexa-enabled device, the Alexa app, or their home and mobile numbers in the US, Canada and Mexico – for free. Once you verify your phone number and sync your contacts in the Alexa app, just ask Alexa to call any of your contacts by name to make hands-free calls while you multitask. You can also make video calls to friends and family between any Echo Show, Echo Spot, or the Alexa app.

When you place calls, your contacts will see your registered number as your caller ID. You can change this setting in the Alexa app. Emergency services such as 911 are not supported. View frequently asked questions about Alexa Calling.

You can receive calls from other Alexa-enabled devices or the Alexa app. If someone is calling, Alexa will announce the incoming caller and a green light ring will appear on your Echo device. You can ask Alexa to answer or ignore the call.

Try personalizing your experience by teaching Alexa to recognize your voice. Simply say "Alexa, learn my voice" so she can recognize you, place calls to only your contacts, and play only your messages.

Just ask:
"Alexa, call Mom."
"Alexa, answer."
"Alexa, hang up."

With Echo Connect, you can connect your home phone to your Alexa-enabled device to make and receive calls from anyone, using just your voice. With an Echo Connect, you can also call premium rate, emergency, and international numbers (carrier charges apply).

See, *e.g.*, https://www.amazon.com/b/ref=aeg_lp_comm_d/ref=s9_acss_bw_cg_aegflp_1b1_w?node= 17934681011&pf_rd_m=ATVPDKIKX0DER&pf_rd_s=merchandised-search-6&pf_rd_r= JCEXPV9CF AK9TVXXVEKA&pf_rd_t=101&pf_rd_p=02147624-e148-4901-b449-773097cfa62e&pf_rd_i=17934672011.

44. Each of the Amazon Accused Products includes at least one speech synthesis device, said speech synthesis device operatively connected to its computer and to its voice enabled device. For example, the Amazon Echo in conjunction with Alexa can handle voice commands on the device itself or with help from the cloud.

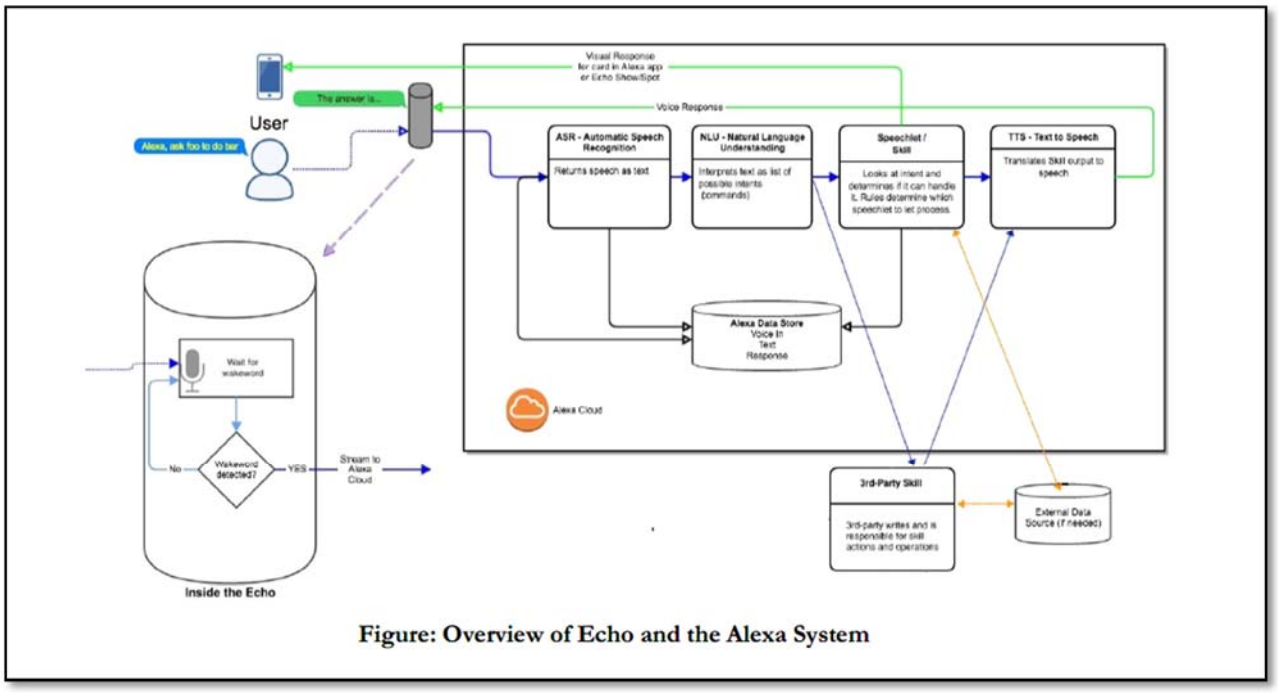


Figure: Overview of Echo and the Alexa System

See, e.g., Amazon, White Paper, Alexa Privacy and Data Handling Overview (July 20, 2018) at 1.

ASR and NLU

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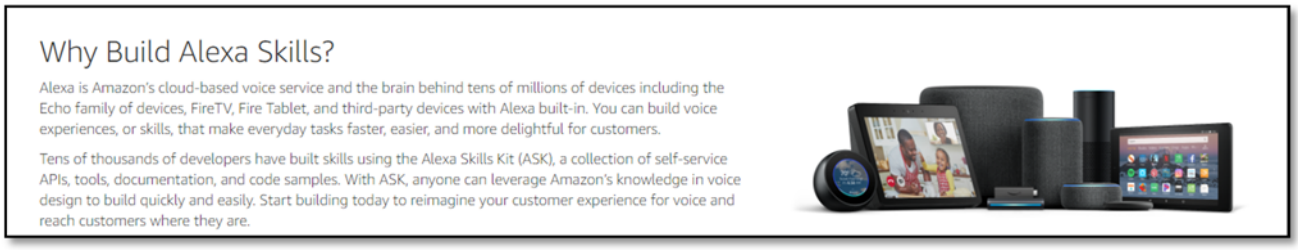

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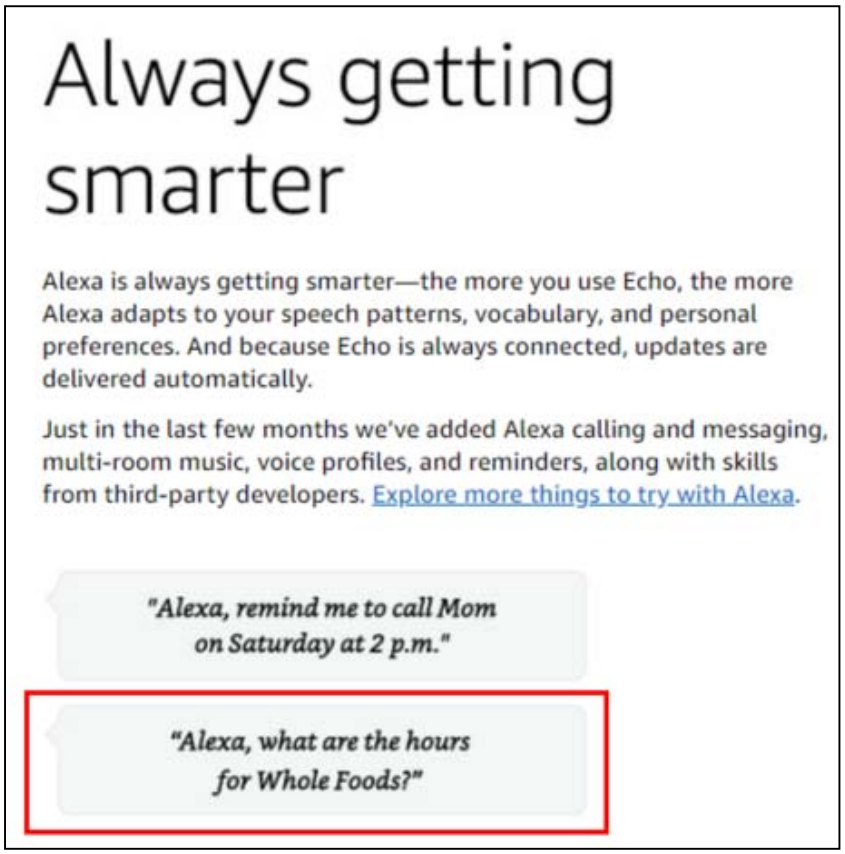
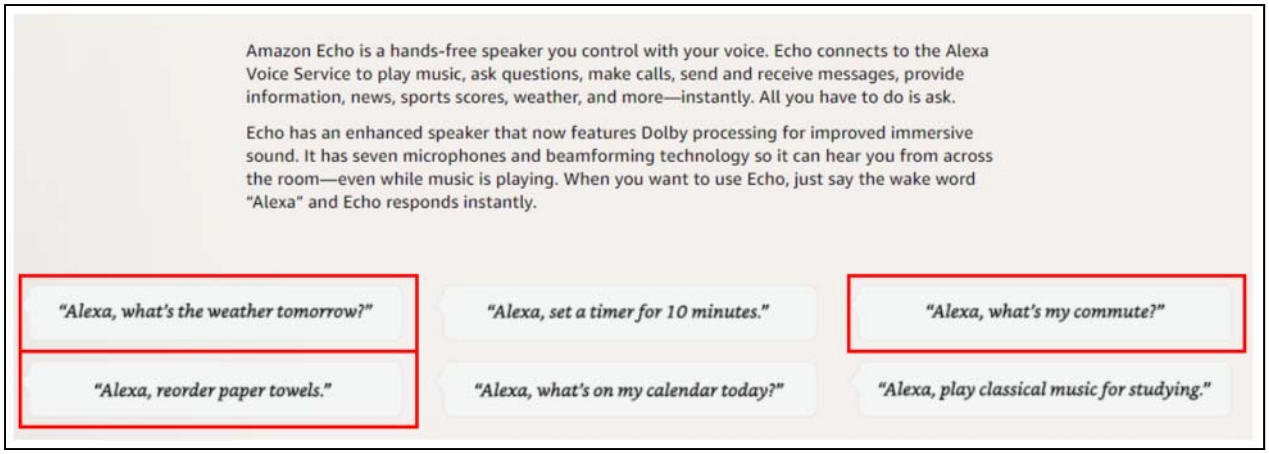
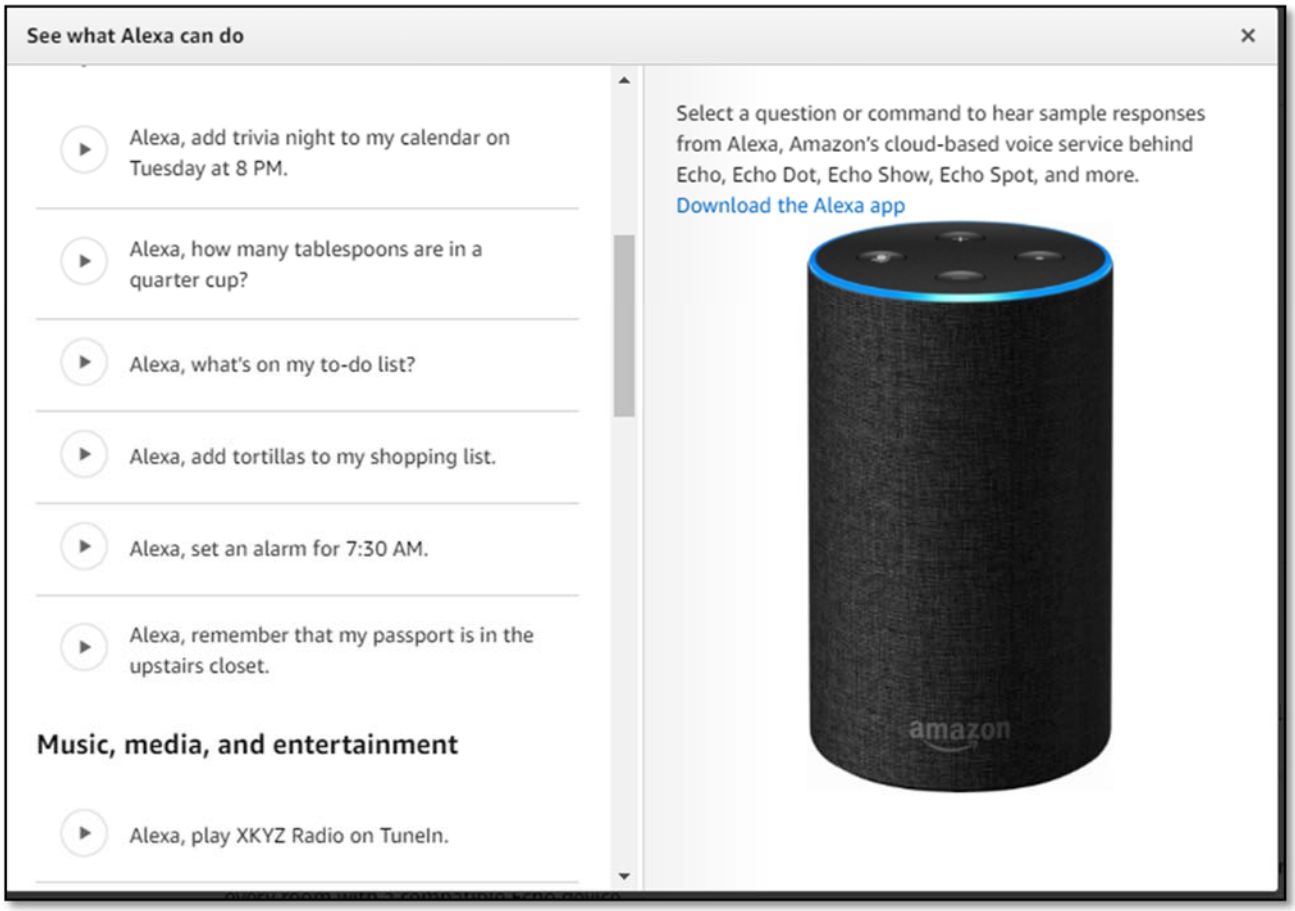


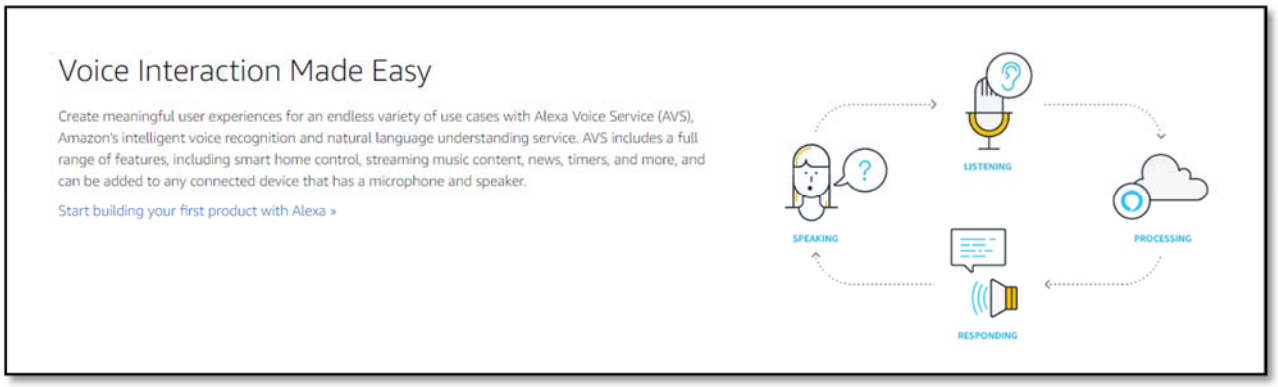
See, e.g., https://www.amazon.com/dp/B07456BG8N?tag=googhydr-20&hvadid=333263006615&hvpos=1t1&hvnetw=g&hvrand=17718345068411276924&hvpone=&hvptwo=&hvqmt=e&hvdev=c&hvdvcmdl=&hvlocint=&hvlocphy=1018127&hvtargid=kwd-295921616770&ref=pd_sl_2g7cb1h5ze_e#tech (annotation added).



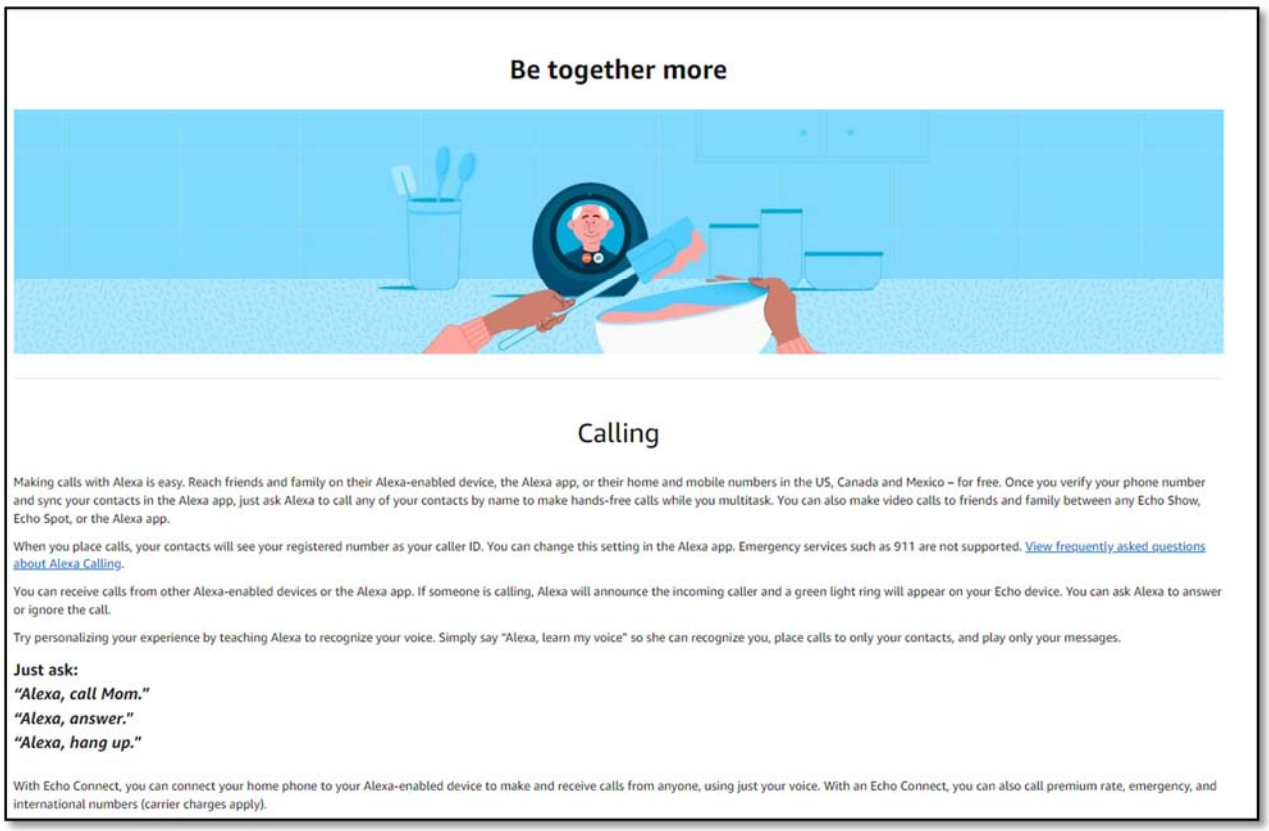
See, e.g., id. (annotation added)



See, e.g.,https://www.amazon.com/dp/B07456BG8N?tag=googhydr-20&hvadid=333263006615&hvpos=1t1&hvnetw=g&hvrand=17718345068411276924&hvpone=&hvptwo=&hvqmt=e&hvdev=c&hvdvcmdl=&hvlocint=&hvlocphy=1018127&hvtargid=kwd-295921616770&ref=pd_sl_2g7cb1h5ze_e.



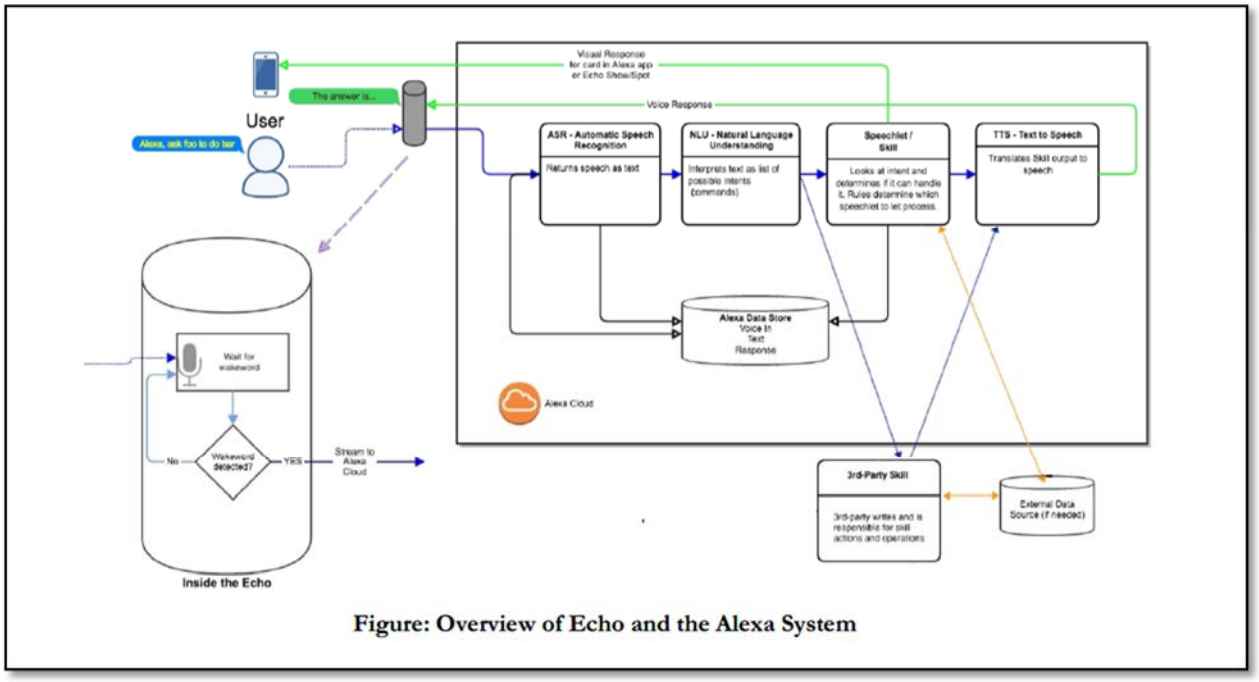
See, *e.g.*, https://developer.amazon.com/alexa-voice-service/what-is-avs?linkCode=w61&imprToken= r0iiuJ6M7dIbzmX940rclw&slotNum=1



See, *e.g.*, https://www.amazon.com/b/ref=aeg_lp_comm_d/ref=s9_acss_bw_cg_aegflp_1b1_w?node= 17934681011&pf_rd_m=ATVPDKIKX0DER&pf_rd_s=merchandised-search-6&pf_rd_r= JCEXPV9CF AK9TVXXVEKA&pf_rd_t=101&pf_rd_p=02147624-e148-4901-b449-773097cfa62e&pf_rd_i=17934672011.

45. The Amazon Accused Products include at least one instruction set for identifying said information to be retrieved, and those instruction sets being associated with the computer.

46. For example, because the Amazon Echo in conjunction with Alexa can handle voice commands on the device itself or with help from the cloud, there is an instruction set for identifying said information to be retrieved, said instruction set being associated with said computer.



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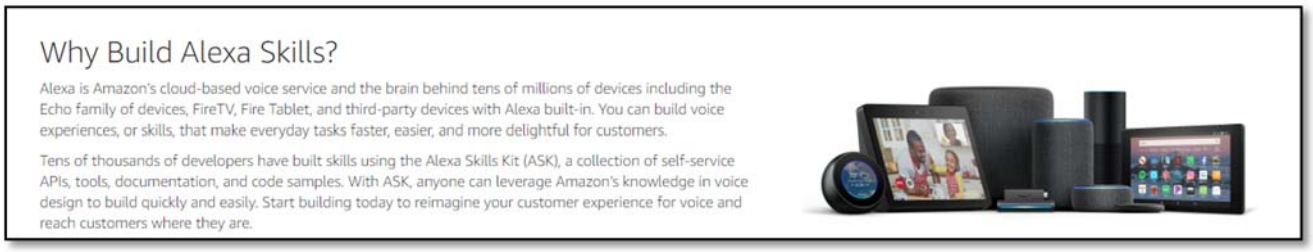

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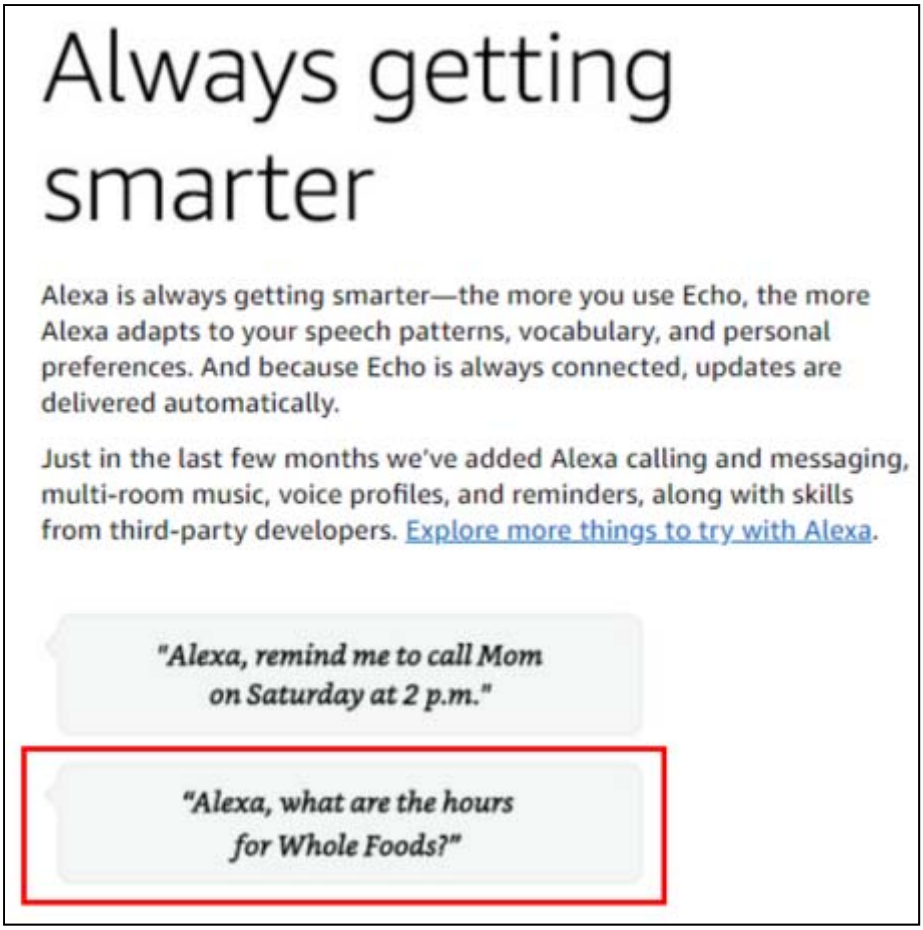

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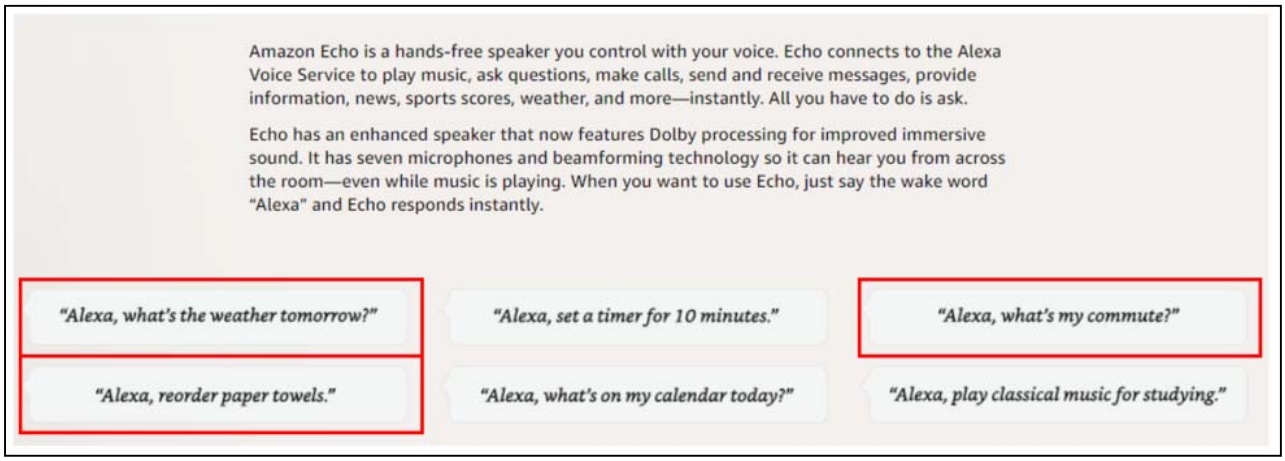
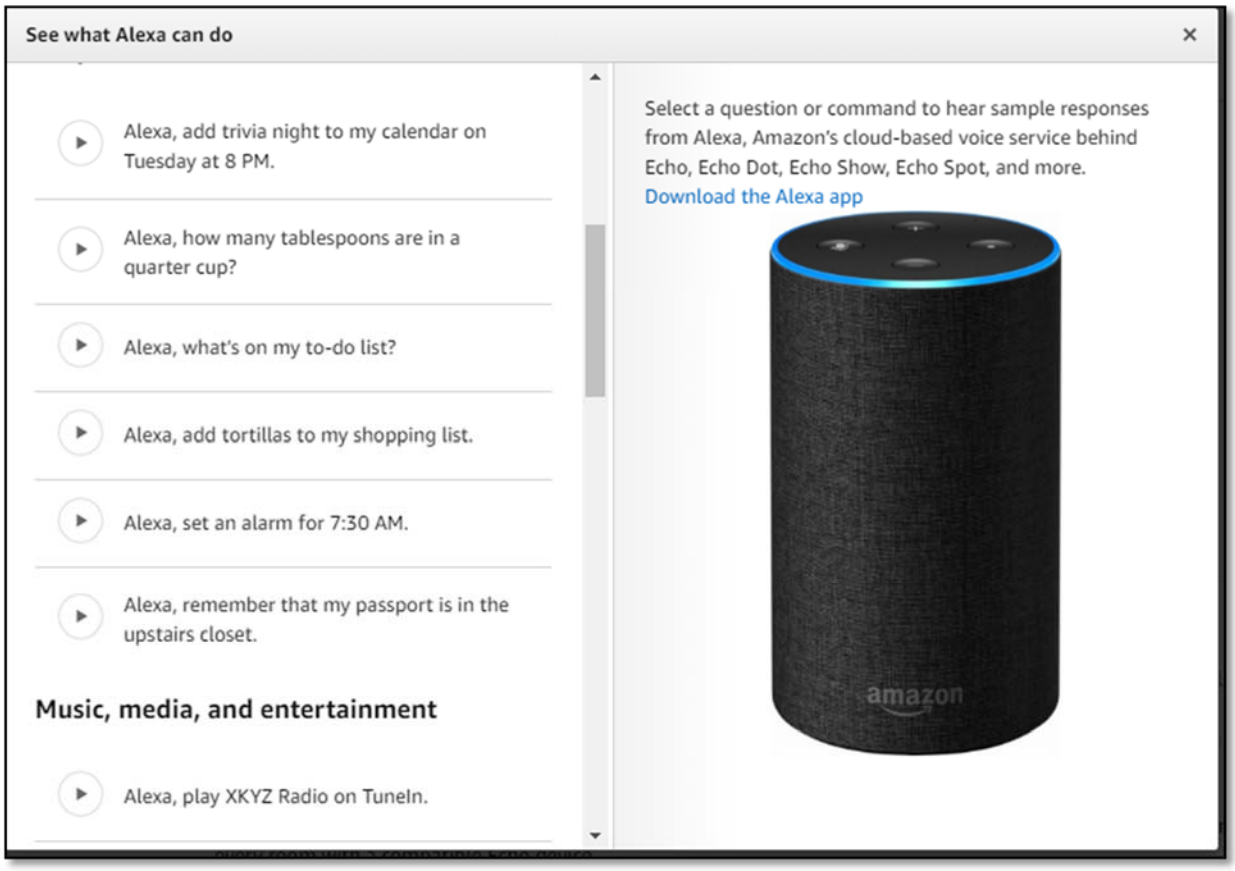


See, e.g., id. (annotation added)



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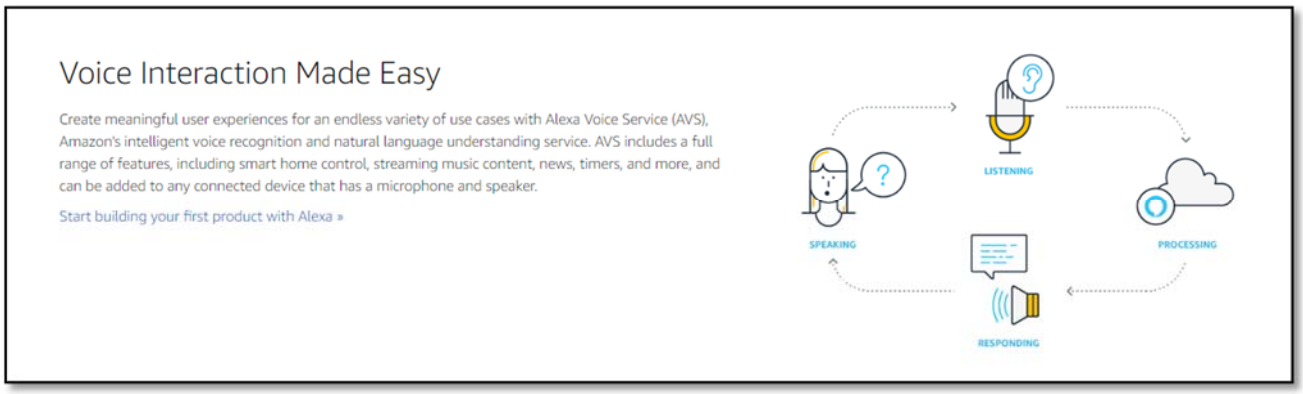

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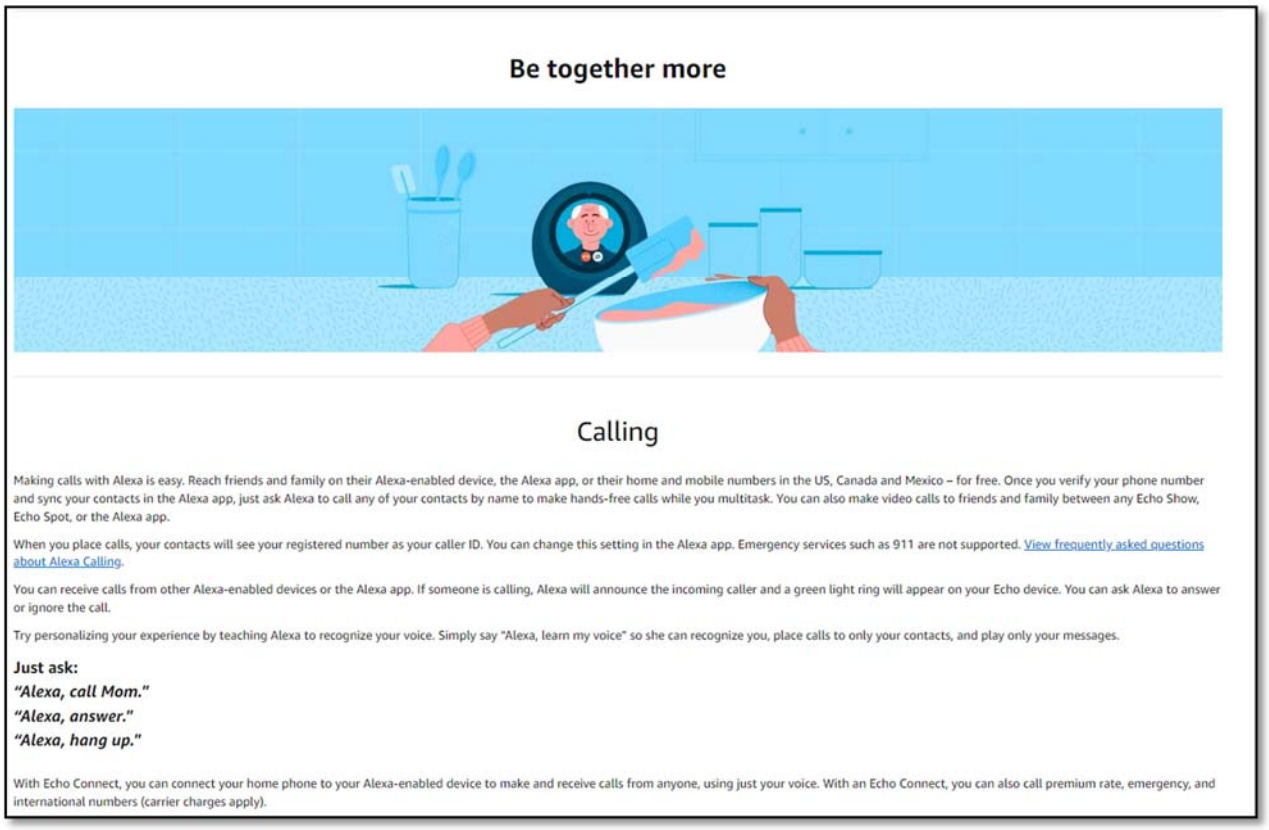
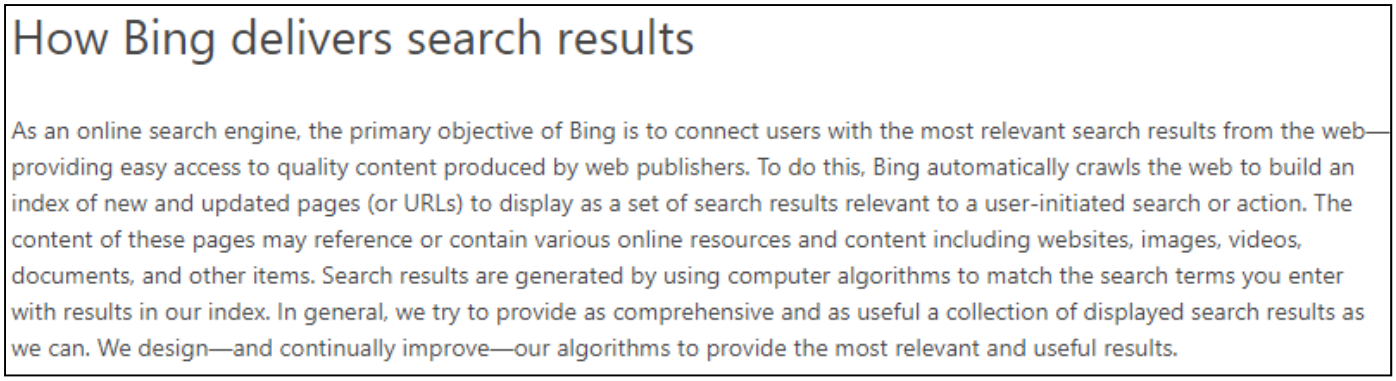


See, e.g., https://www.amazon.com/b/ref=aeg_lp_comm_d/ref=s9_acss_bw_cg_aegflp_1b1_w?node= 17934681011&pf_rd_m=ATVPDKIKX0DER&pf_rd_s=merchandised-search-6&pf_rd_r= JCEXPV9CF AK9TVXXVEKA&pf_rd_t=101&pf_rd_p=02147624-e148-4901-b449-773097cfa62e&pf_rd_i=17934672011.

47. The aforementioned instruction set for each of the Amazon Accused Products comprises a plurality of pre-selected web site addresses, each said web site address identifying a web site containing said information to be retrieved. For example, the Amazon Echo retrieves information from pre-selected websites that have already been crawled.

> *The New York Times* reports that Microsoft and Amazon partnered in May last year, after Amazon CEO Jeff Bezos raised the idea with Microsoft CEO Satya Nadella at Microsoft's CEO summit. Amazon's push to partner more closely with Microsoft makes sense, as the pair are both trying to fend off Google's own assistant and Microsoft already helps power Alexa queries through its Bing search engine.

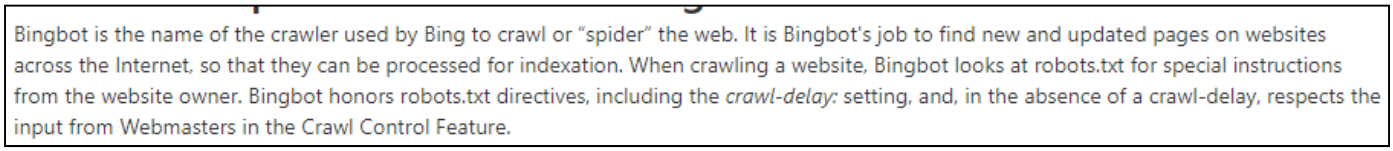
See, e.g., https://www.theverge.com/2017/8/30/16224876/microsoft-amazon-cortana-alexa-partnership



How Bing delivers search results

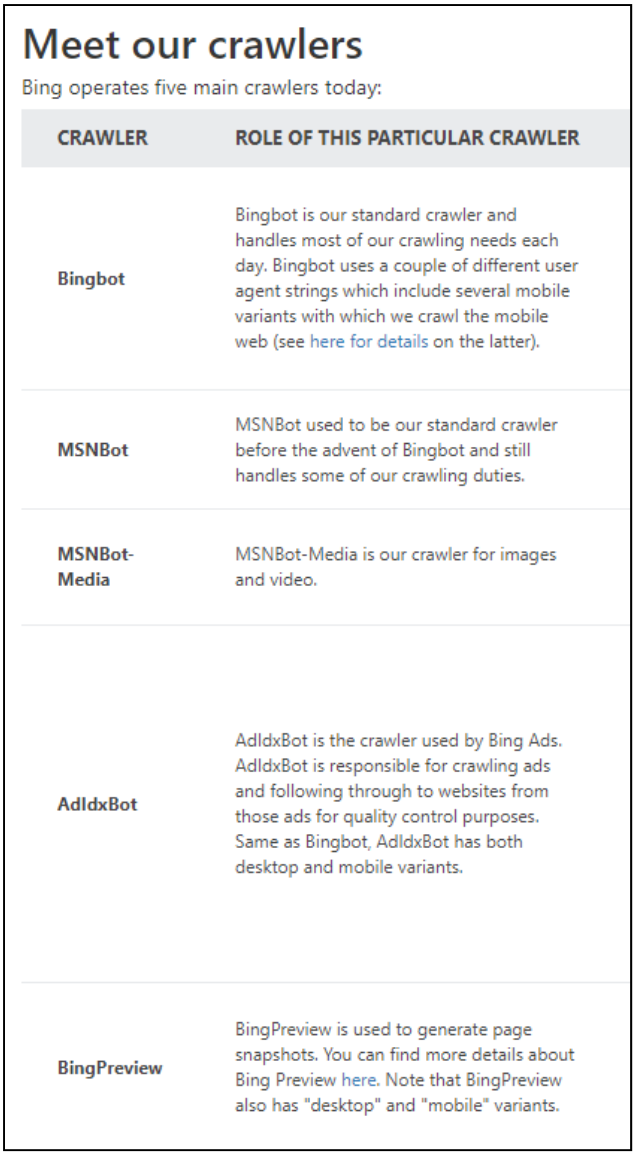
As an online search engine, the primary objective of Bing is to connect users with the most relevant search results from the web—providing easy access to quality content produced by web publishers. To do this, Bing automatically crawls the web to build an index of new and updated pages (or URLs) to display as a set of search results relevant to a user-initiated search or action. The content of these pages may reference or contain various online resources and content including websites, images, videos, documents, and other items. Search results are generated by using computer algorithms to match the search terms you enter with results in our index. In general, we try to provide as comprehensive and as useful a collection of displayed search results as we can. We design—and continually improve—our algorithms to provide the most relevant and useful results.

See, *e.g.*, http://help.bing.microsoft.com/#apex/18/en-US/10016/0



Bingbot is the name of the crawler used by Bing to crawl or "spider" the web. It is Bingbot's job to find new and updated pages on websites across the Internet, so that they can be processed for indexation. When crawling a website, Bingbot looks at robots.txt for special instructions from the website owner. Bingbot honors robots.txt directives, including the *crawl-delay:* setting, and, in the absence of a crawl-delay, respects the input from Webmasters in the Crawl Control Feature.

See, *e.g.*, https://www.bing.com/webmaster/help/how-to-report-an-issue-with-bingbot-25c19802



Meet our crawlers

Bing operates five main crawlers today:

CRAWLER	ROLE OF THIS PARTICULAR CRAWLER
Bingbot	Bingbot is our standard crawler and handles most of our crawling needs each day. Bingbot uses a couple of different user agent strings which include several mobile variants with which we crawl the mobile web (see here for details on the latter).
MSNBot	MSNBot used to be our standard crawler before the advent of Bingbot and still handles some of our crawling duties.
MSNBot-Media	MSNBot-Media is our crawler for images and video.
AdIdxBot	AdIdxBot is the crawler used by Bing Ads. AdIdxBot is responsible for crawling ads and following through to websites from those ads for quality control purposes. Same as Bingbot, AdIdxBot has both desktop and mobile variants.
BingPreview	BingPreview is used to generate page snapshots. You can find more details about Bing Preview here. Note that BingPreview also has "desktop" and "mobile" variants.

See, e.g., https://www.bing.com/webmaster/help/which-crawlers-does-bing-use-8c184ec0

> Bing's crawler, Bingbot is a key component of the Bing platform. Bingbot's main function is to:
>
> - Download webpages to get the latest content and discover new links from existing known links.
> - Verify that web documents already indexed are still valid, not dead links, helping to keep the Bing index comprehensive and fresh to answer customer queries with relevant results.

See, e.g., https://www.searchenginejournal.com/why-how-bing-plans-to-improve-its-crawler-bingbot/291979/#close

> For example, Bing customers searching for the latest space rocket launch can search and find new relevant webpages only seconds after this rocket launch. To be able to link to these new URLs, we have to discover, select, crawl, process, and then index them.
>
> To discover these new URLs, we have to crawl regularly existing known URLs to monitor for new URLs.
>
> Once discovered, we have to crawl to get the content for these new URLs.
>
> We have to continue crawling these newly indexed URLs regularly to check for potential content changes and verify that these webpages are still valid, not dead links.
>
> In other words, we crawl each URL in our system more than once.

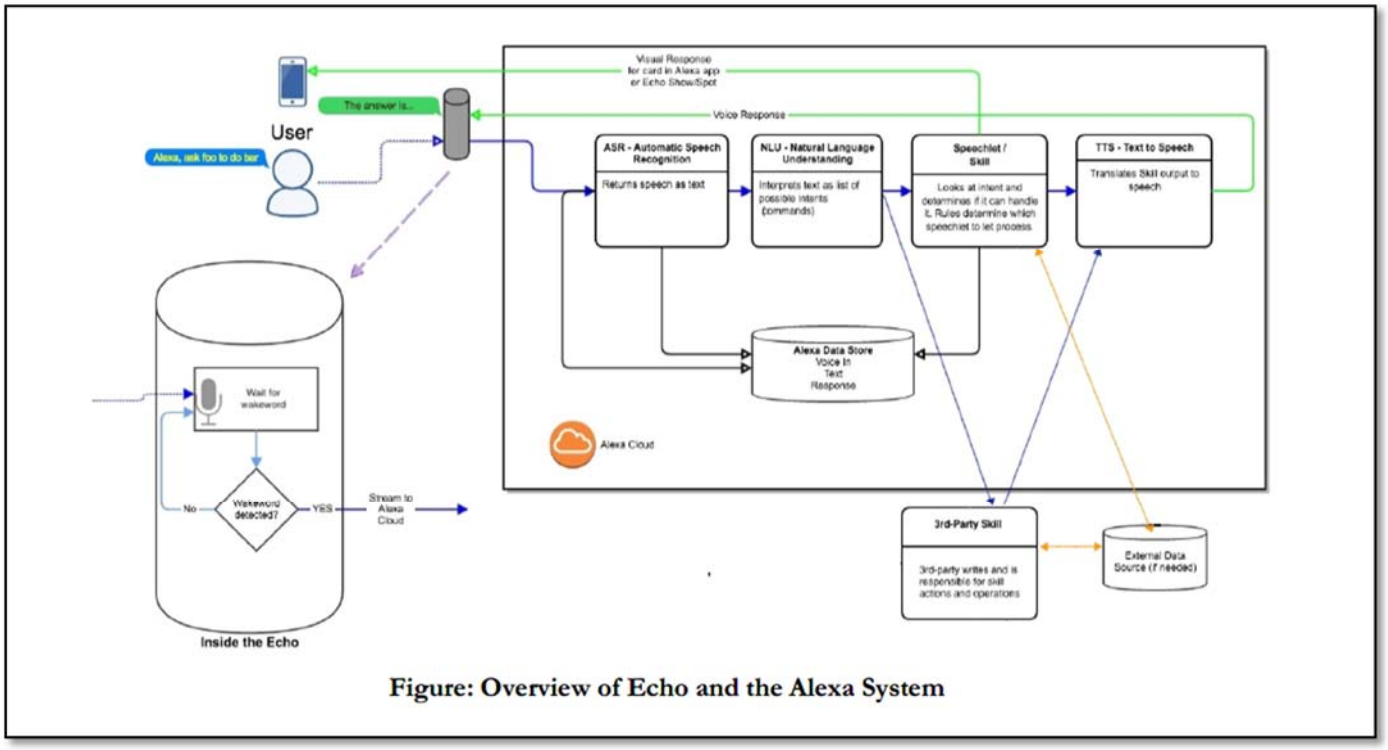
See id.

See, e.g., https://developer.amazon.com/alexa-voice-service.

48. Microsoft / Bing uses technology to crawl the web to index web sites with information to respond to a search request. The indexed websites are identified by web site addresses. These indexed websites are "a plurality of pre-selected web site addresses," and each such website "indentif[ies] a web site containing said information to be retrieved."

49. The Amazon Accused Products include at least one recognition grammar associated with said computer, each said recognition grammar corresponding to each said instruction set and corresponding to a speech command.

50. For example, on information and belief, the Amazon Echo, in connection with Alexa, utilizes an artificial neural network, which is a speech recognition grammar, to process voice commands. On information and belief, Amazon provides the capability for a user to define recognition grammars via skills. The Amazon Echo then also utilizes these user-defined speech recognition grammars when executing the skills triggered by a voice command. The Amazon Echo can handle voice commands on the device itself when offline, indicating that at least one recognition grammar corresponding to each said instruction set and corresponding to a speech command is on the device itself. The Amazon Echo can also handle voice commands with help from the cloud.



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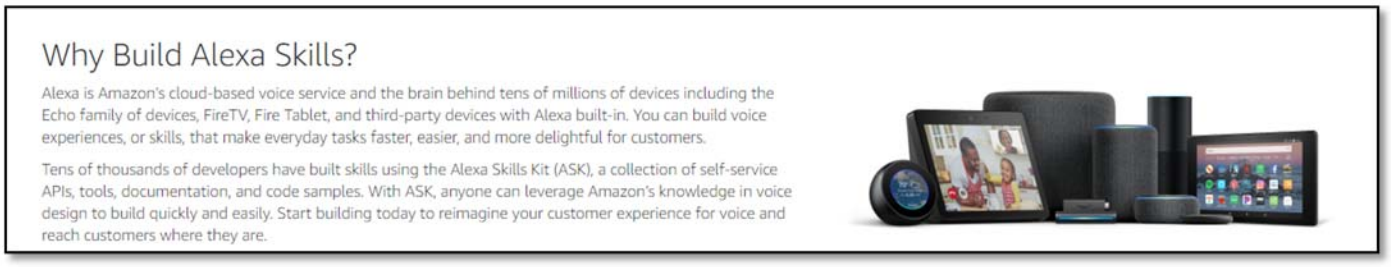

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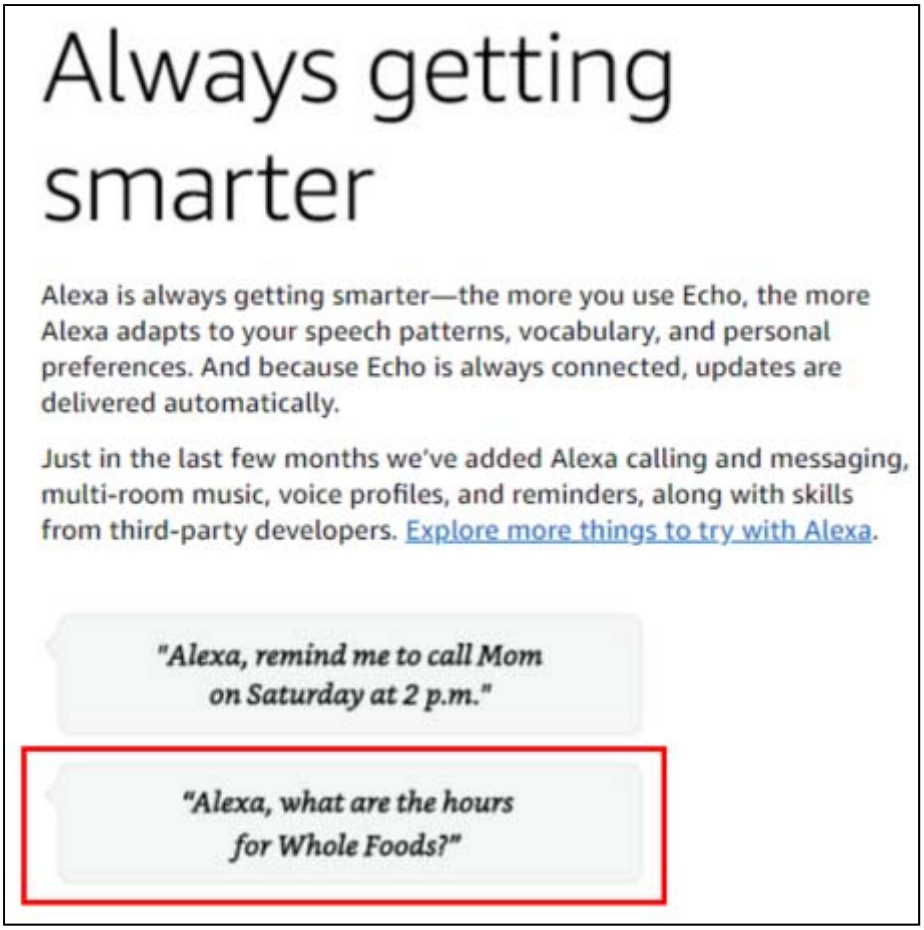

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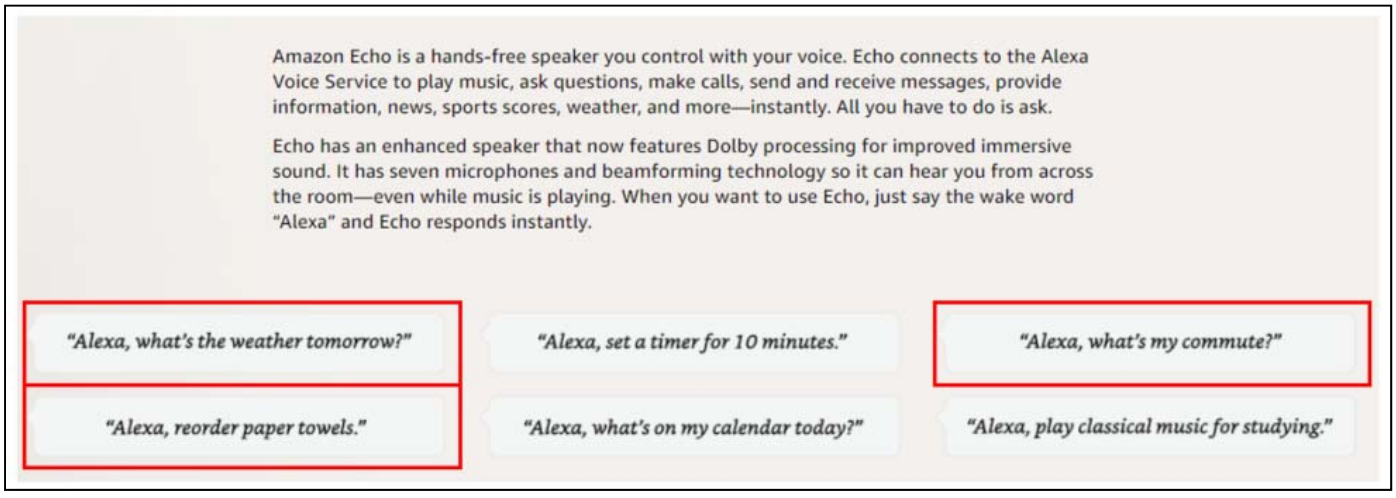

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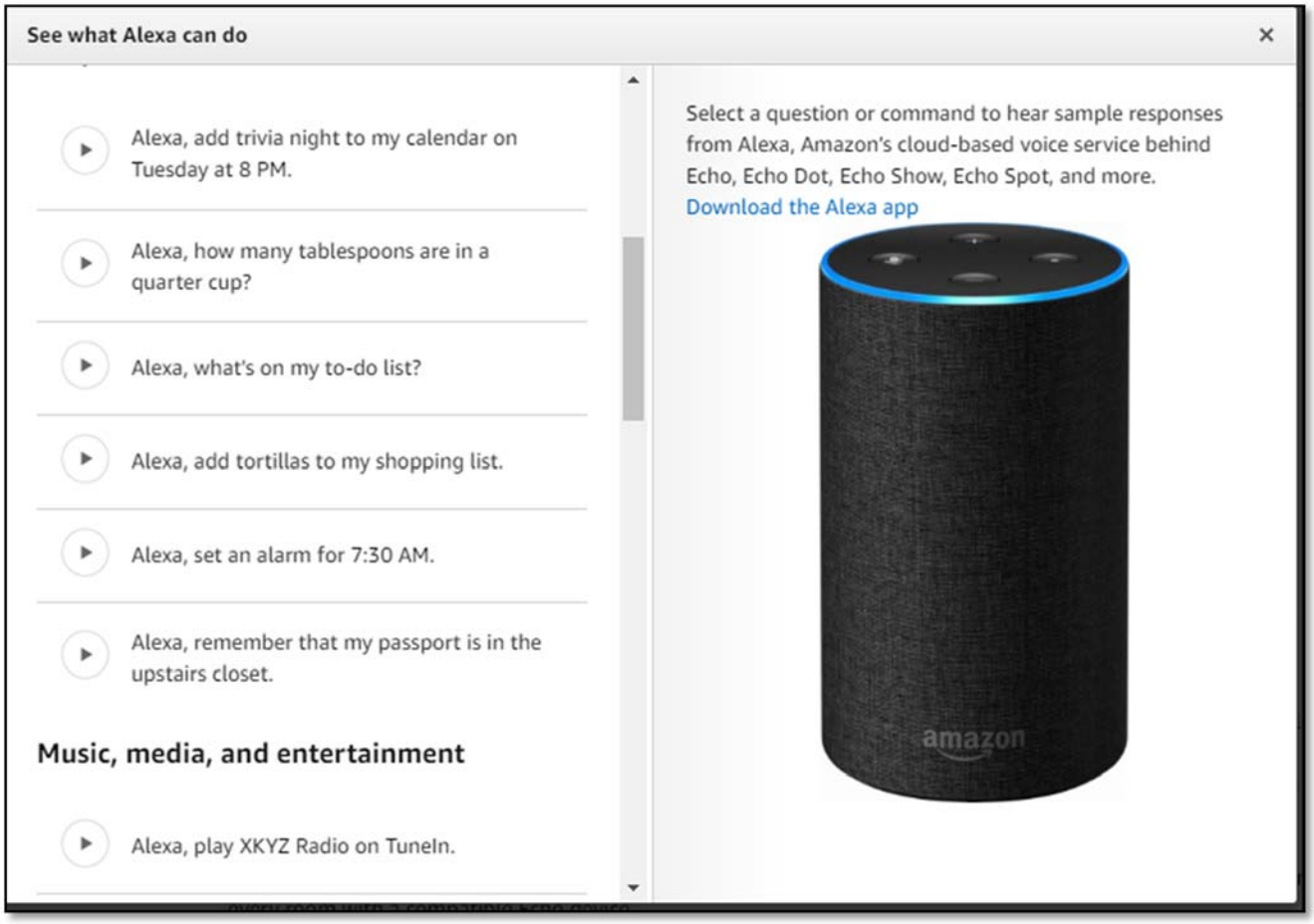
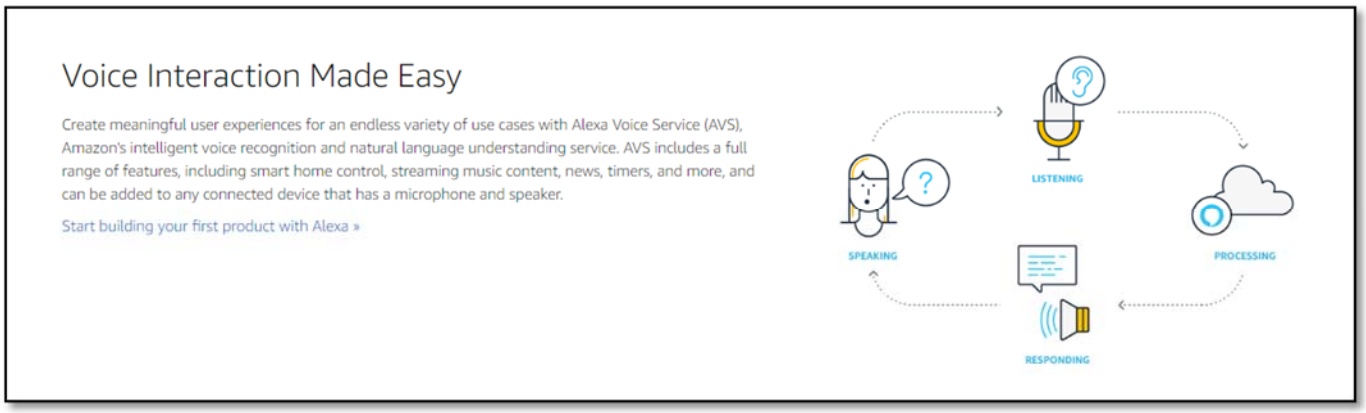
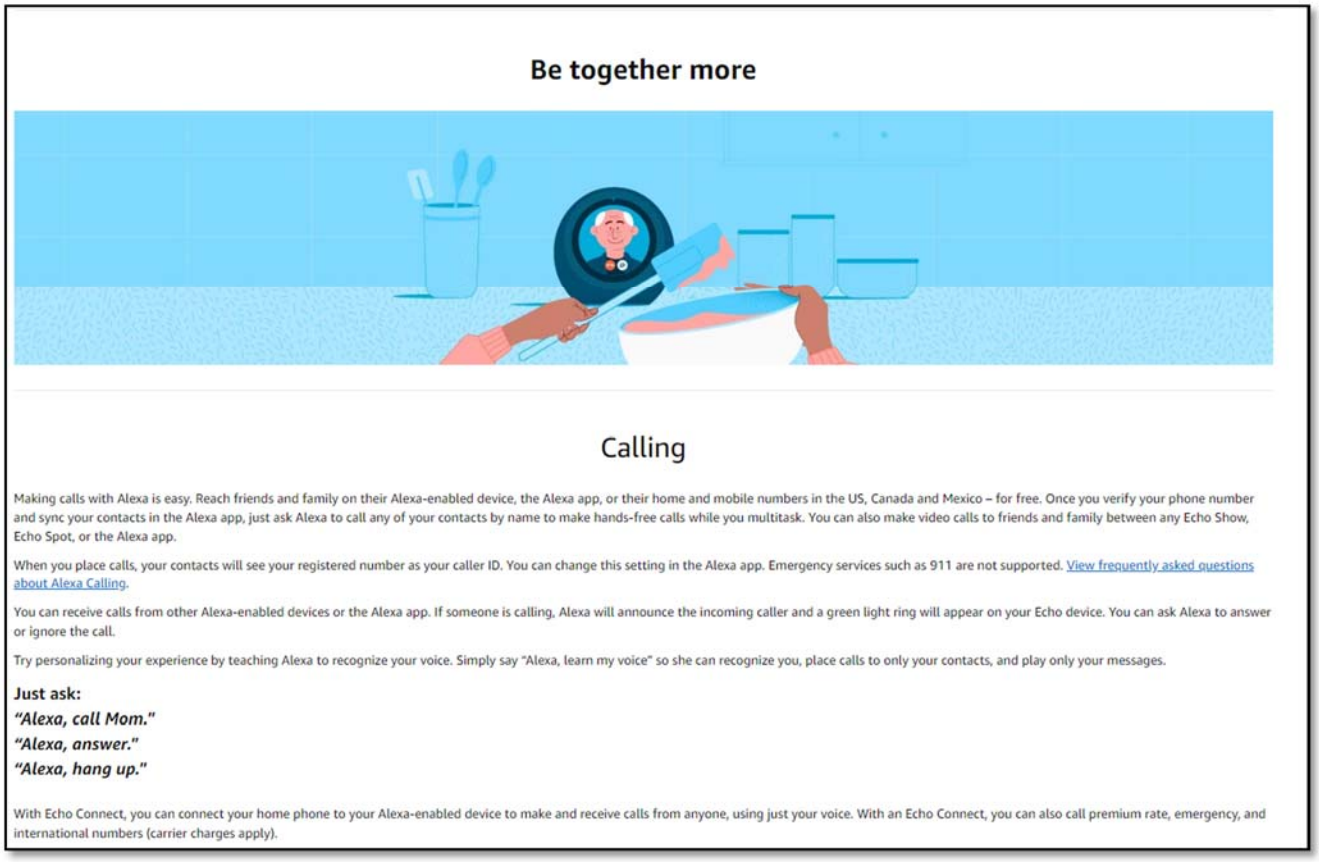


See, *e.g.*,https://www.amazon.com/dp/B07456BG8N?tag=googhydr-20&hvadid=333263006615&hvpos=1t1&hvnetw=g&hvrand=17718345068411276924&hvpone=&hvptwo=&hvqmt=e&hvdev=c&hvdvcmdl=&hvlocint=&hvlocphy=1018127&hvtargid=kwd-295921616770&ref=pd_sl_2g7cb1h5ze_e.



See, *e.g.*, https://developer.amazon.com/alexa-voice-service/what-is-avs?linkCode=w61&imprToken= r0iiuJ6M7dIbzmX940rclw&slotNum=1



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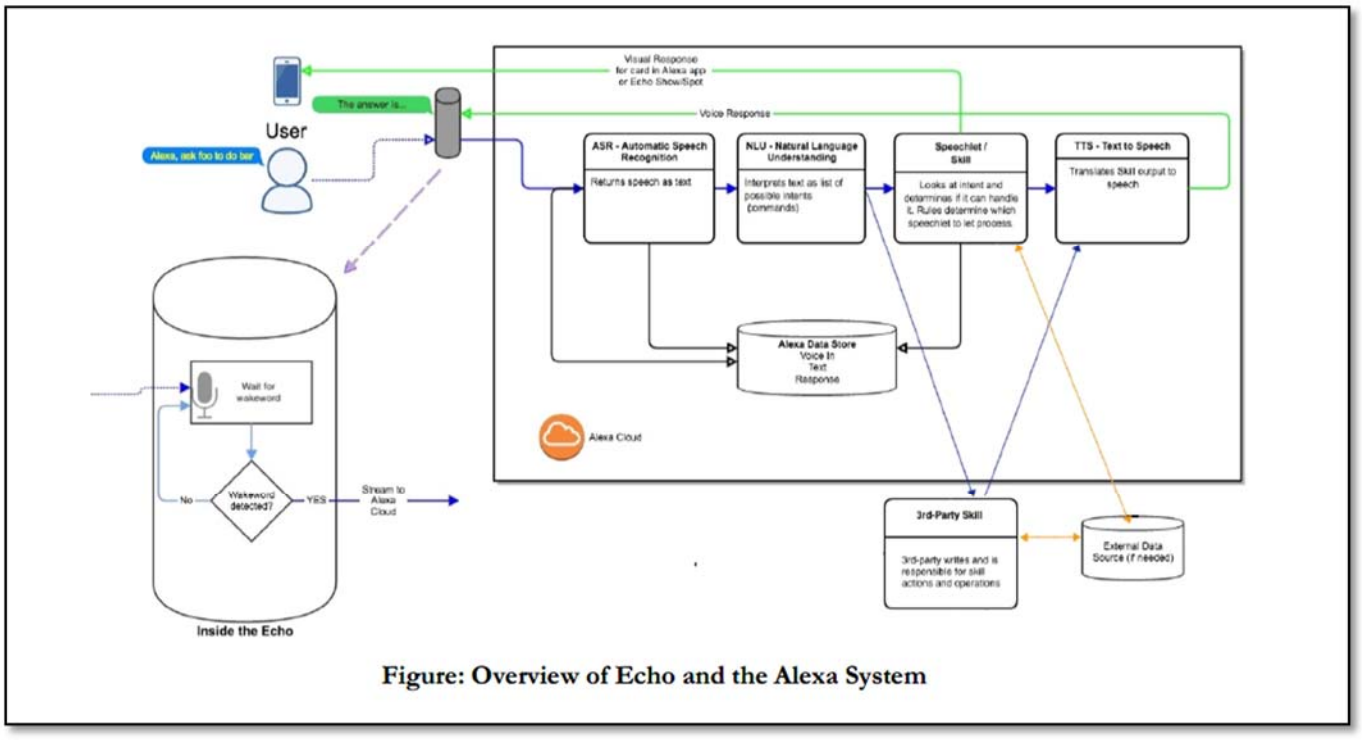
51. The speech commands of the Amazon Accused Products comprise information requests selectable by the user.

52. For example, the Amazon Echo is a system for retrieving information from pre-selected web sites by uttering speech commands into a voice enabled device. In marketing materials, Amazon indicates that the Amazon Echo will make tasks easier by responding to speech commands that comprise information requests from a user with retrieved information in an audio form.



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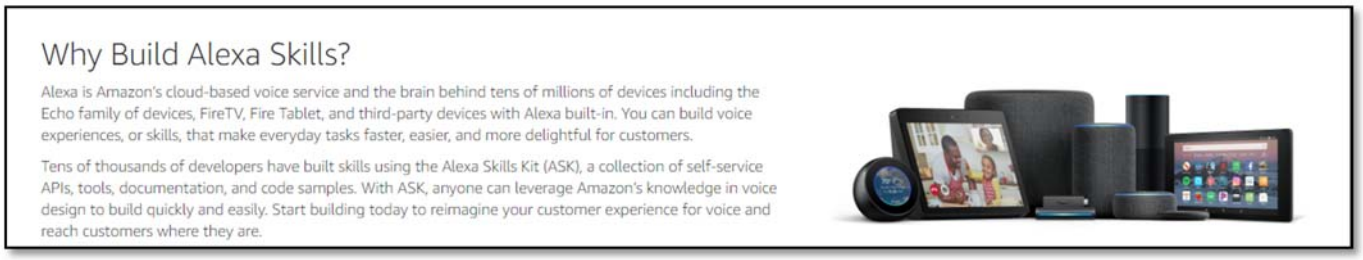

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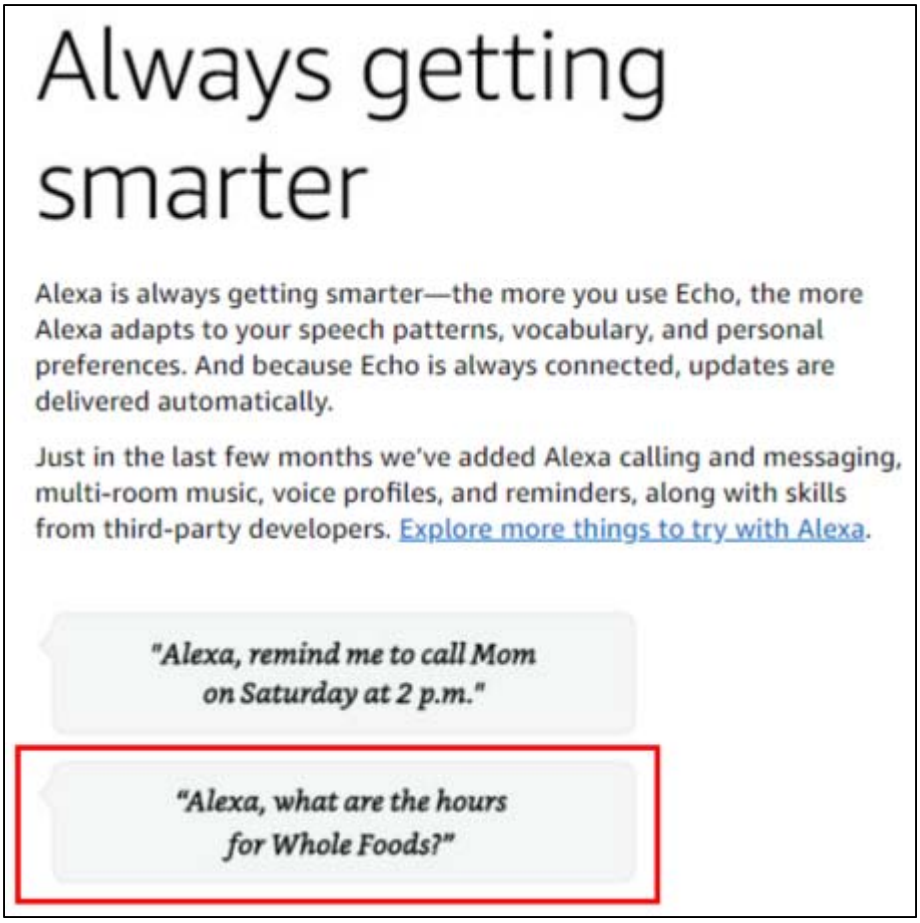

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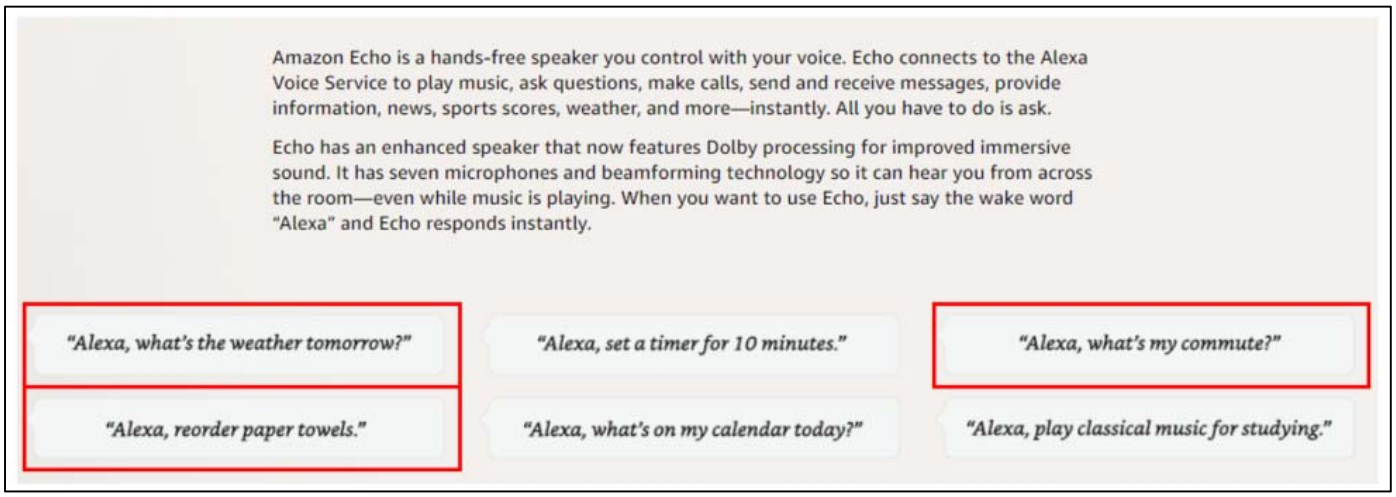

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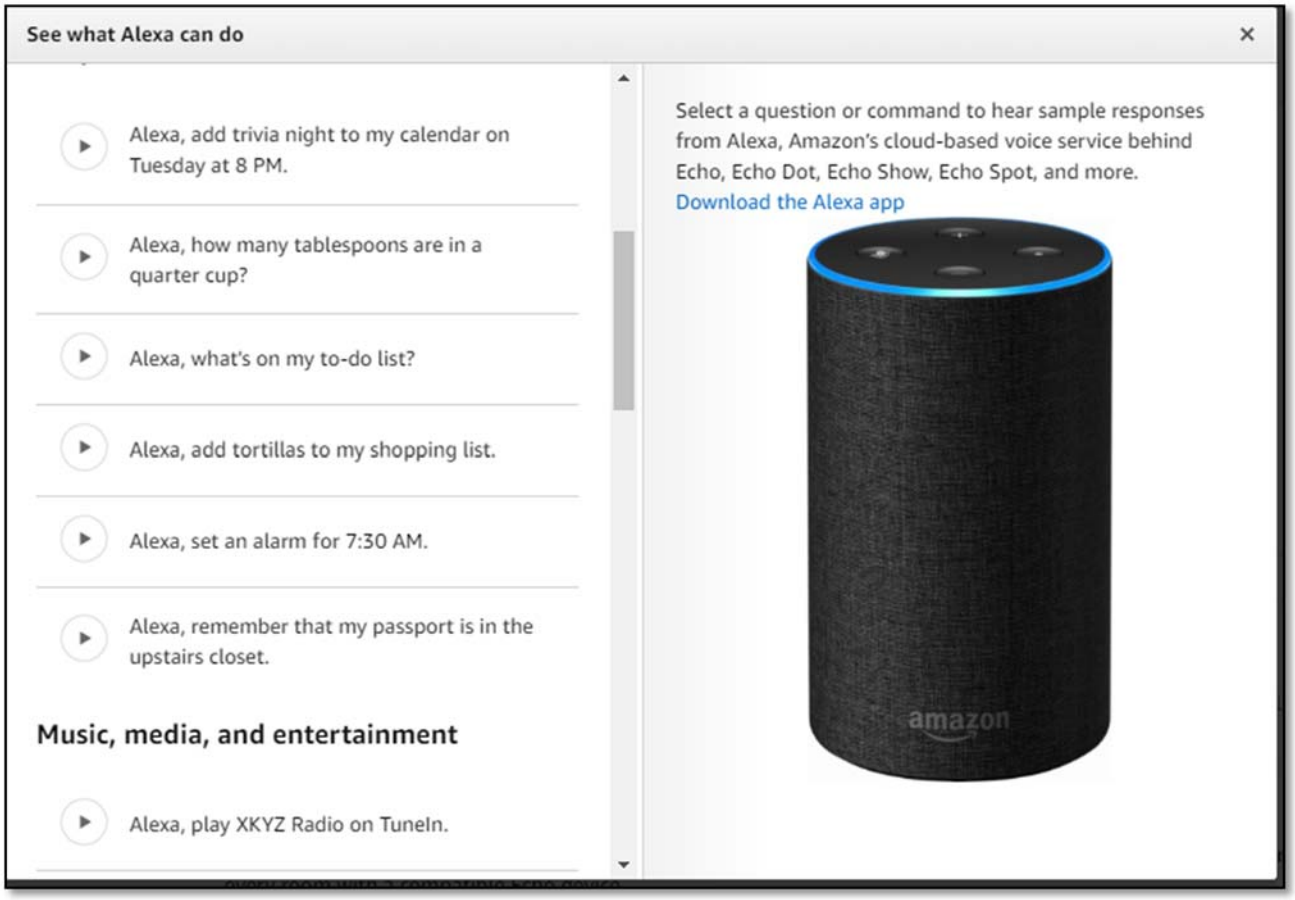

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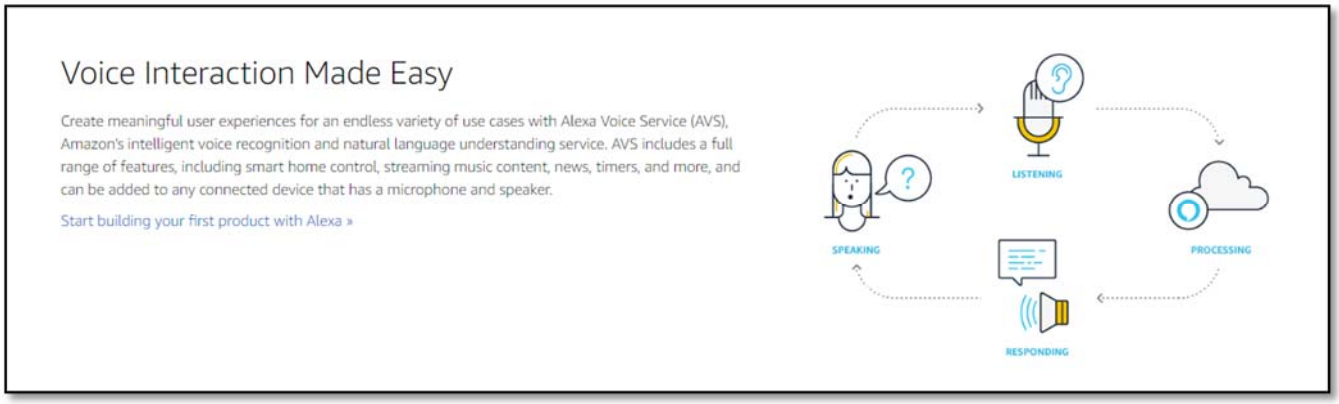

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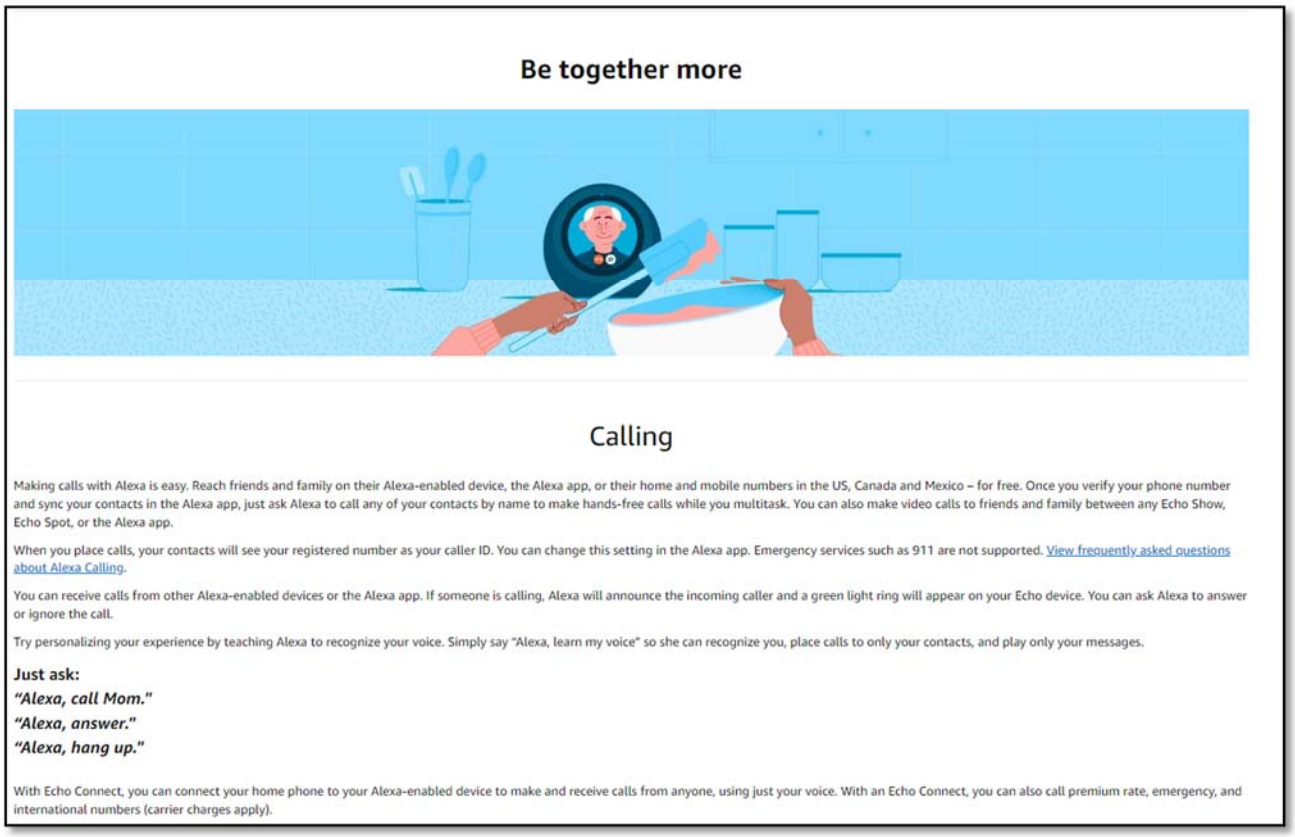


Be together more

Calling

Making calls with Alexa is easy. Reach friends and family on their Alexa-enabled device, the Alexa app, or their home and mobile numbers in the US, Canada and Mexico – for free. Once you verify your phone number and sync your contacts in the Alexa app, just ask Alexa to call any of your contacts by name to make hands-free calls while you multitask. You can also make video calls to friends and family between any Echo Show, Echo Spot, or the Alexa app.

When you place calls, your contacts will see your registered number as your caller ID. You can change this setting in the Alexa app. Emergency services such as 911 are not supported. View frequently asked questions about Alexa Calling.

You can receive calls from other Alexa-enabled devices or the Alexa app. If someone is calling, Alexa will announce the incoming caller and a green light ring will appear on your Echo device. You can ask Alexa to answer or ignore the call.

Try personalizing your experience by teaching Alexa to recognize your voice. Simply say "Alexa, learn my voice" so she can recognize you, place calls to only your contacts, and play only your messages.

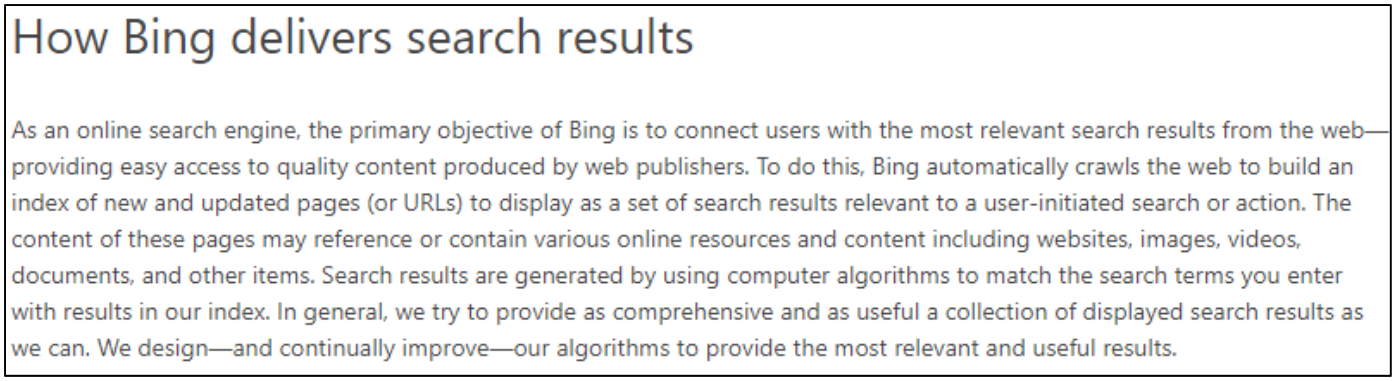
Just ask:
"Alexa, call Mom."
"Alexa, answer."
"Alexa, hang up."

With Echo Connect, you can connect your home phone to your Alexa-enabled device to make and receive calls from anyone, using just your voice. With an Echo Connect, you can also call premium rate, emergency, and international numbers (carrier charges apply).

See, e.g., https://www.amazon.com/b/ref=aeg_lp_comm_d/ref=s9_acss_bw_cg_aegflp_1b1_w?node= 17934681011&pf_rd_m=ATVPDKIKX0DER&pf_rd_s=merchandised-search-6&pf_rd_r= JCEXPV9CF AK9TVXXVEKA&pf_rd_t=101&pf_rd_p=02147624-e148-4901-b449-773097cfa62e&pf_rd_i=17934672011.

The New York Times reports that Microsoft and Amazon partnered in May last year, after Amazon CEO Jeff Bezos raised the idea with Microsoft CEO Satya Nadella at Microsoft's CEO summit. Amazon's push to partner more closely with Microsoft makes sense, as the pair are both trying to fend off Google's own assistant and Microsoft already helps power Alexa queries through its Bing search engine.

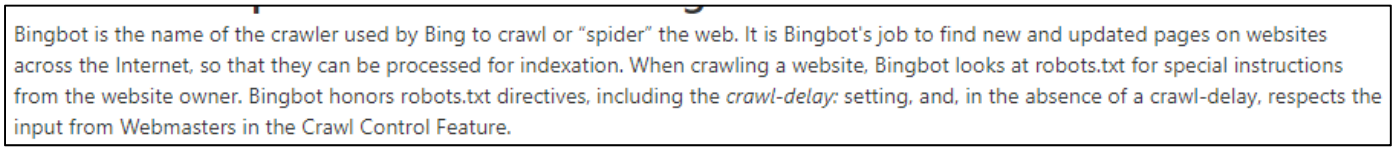
See, e.g., https://www.theverge.com/2017/8/30/16224876/microsoft-amazon-cortana-alexa-partnership



How Bing delivers search results

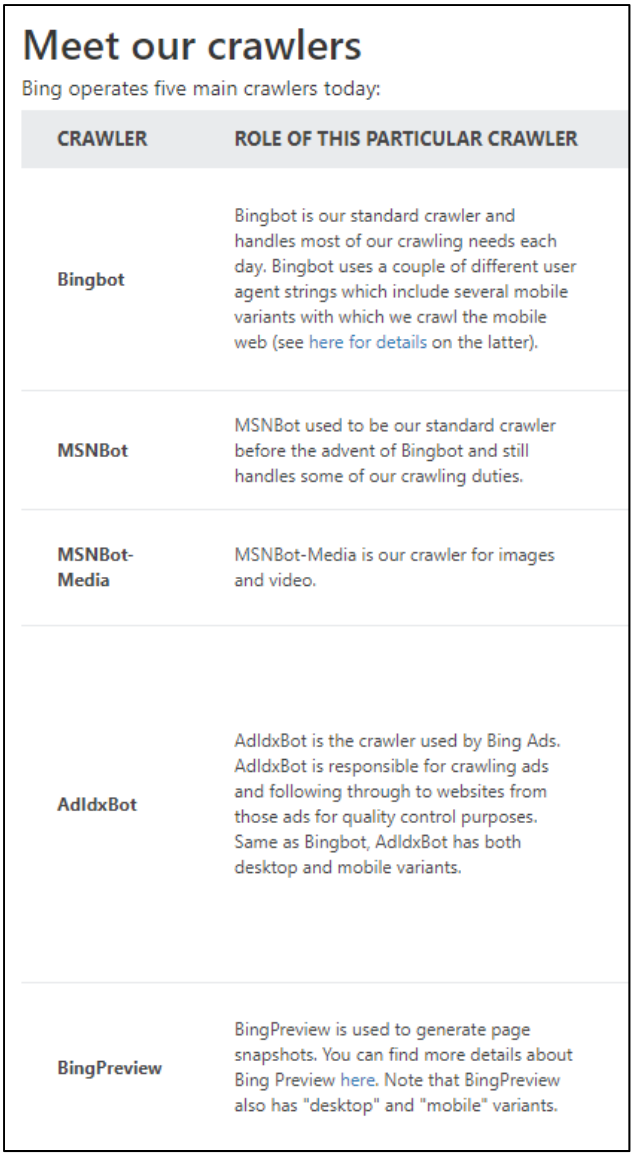
As an online search engine, the primary objective of Bing is to connect users with the most relevant search results from the web—providing easy access to quality content produced by web publishers. To do this, Bing automatically crawls the web to build an index of new and updated pages (or URLs) to display as a set of search results relevant to a user-initiated search or action. The content of these pages may reference or contain various online resources and content including websites, images, videos, documents, and other items. Search results are generated by using computer algorithms to match the search terms you enter with results in our index. In general, we try to provide as comprehensive and as useful a collection of displayed search results as we can. We design—and continually improve—our algorithms to provide the most relevant and useful results.

See, e.g., http://help.bing.microsoft.com/#apex/18/en-US/10016/0



Bingbot is the name of the crawler used by Bing to crawl or "spider" the web. It is Bingbot's job to find new and updated pages on websites across the Internet, so that they can be processed for indexation. When crawling a website, Bingbot looks at robots.txt for special instructions from the website owner. Bingbot honors robots.txt directives, including the *crawl-delay:* setting, and, in the absence of a crawl-delay, respects the input from Webmasters in the Crawl Control Feature.

See, e.g., https://www.bing.com/webmaster/help/how-to-report-an-issue-with-bingbot-25c19802



Meet our crawlers

Bing operates five main crawlers today:

CRAWLER	ROLE OF THIS PARTICULAR CRAWLER
Bingbot	Bingbot is our standard crawler and handles most of our crawling needs each day. Bingbot uses a couple of different user agent strings which include several mobile variants with which we crawl the mobile web (see here for details on the latter).
MSNBot	MSNBot used to be our standard crawler before the advent of Bingbot and still handles some of our crawling duties.
MSNBot-Media	MSNBot-Media is our crawler for images and video.
AdIdxBot	AdIdxBot is the crawler used by Bing Ads. AdIdxBot is responsible for crawling ads and following through to websites from those ads for quality control purposes. Same as Bingbot, AdIdxBot has both desktop and mobile variants.
BingPreview	BingPreview is used to generate page snapshots. You can find more details about Bing Preview here. Note that BingPreview also has "desktop" and "mobile" variants.

See, e.g., https://www.bing.com/webmaster/help/which-crawlers-does-bing-use-8c184ec0

> Bing's crawler, Bingbot is a key component of the Bing platform. Bingbot's main function is to:
>
> - Download webpages to get the latest content and discover new links from existing known links.
> - Verify that web documents already indexed are still valid, not dead links, helping to keep the Bing index comprehensive and fresh to answer customer queries with relevant results.

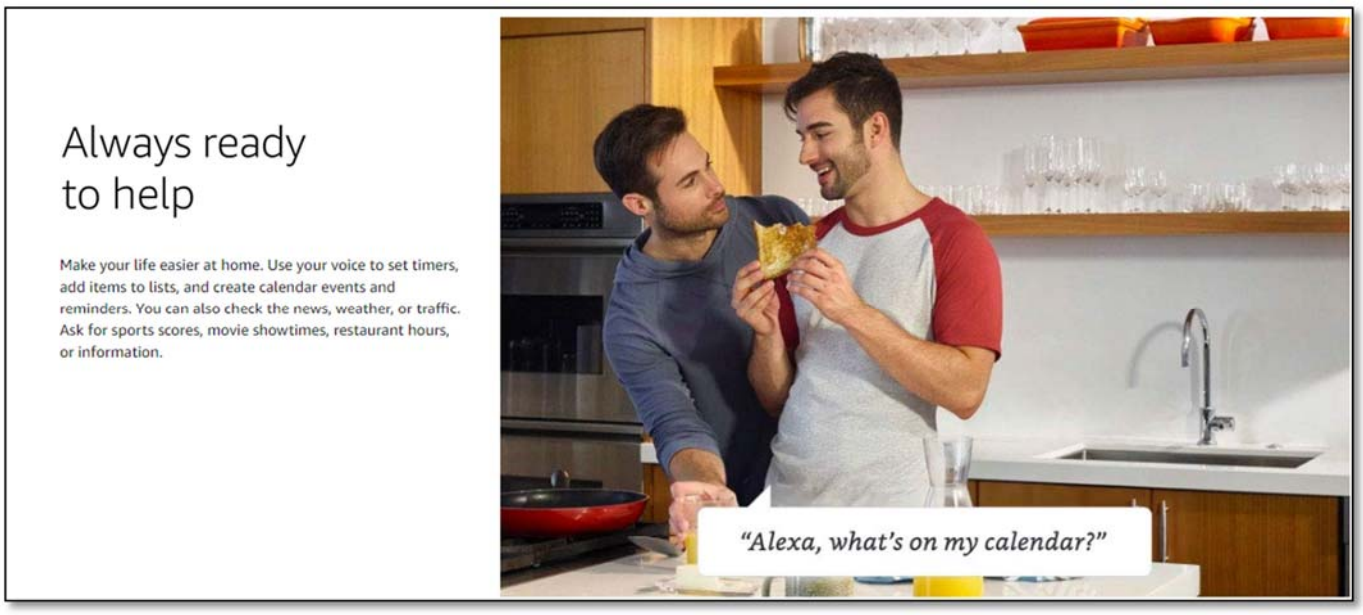
See, e.g., https://www.searchenginejournal.com/why-how-bing-plans-to-improve-its-crawler-bingbot/291979/#close

> For example, Bing customers searching for the latest space rocket launch can search and find new relevant webpages only seconds after this rocket launch. To be able to link to these new URLs, we have to discover, select, crawl, process, and then index them.
>
> To discover these new URLs, we have to crawl regularly existing known URLs to monitor for new URLs.
>
> Once discovered, we have to crawl to get the content for these new URLs.
>
> We have to continue crawling these newly indexed URLs regularly to check for potential content changes and verify that these webpages are still valid, not dead links.
>
> In other words, we crawl each URL in our system more than once.

See id.

See, e.g., https://developer.amazon.com/alexa-voice-service.

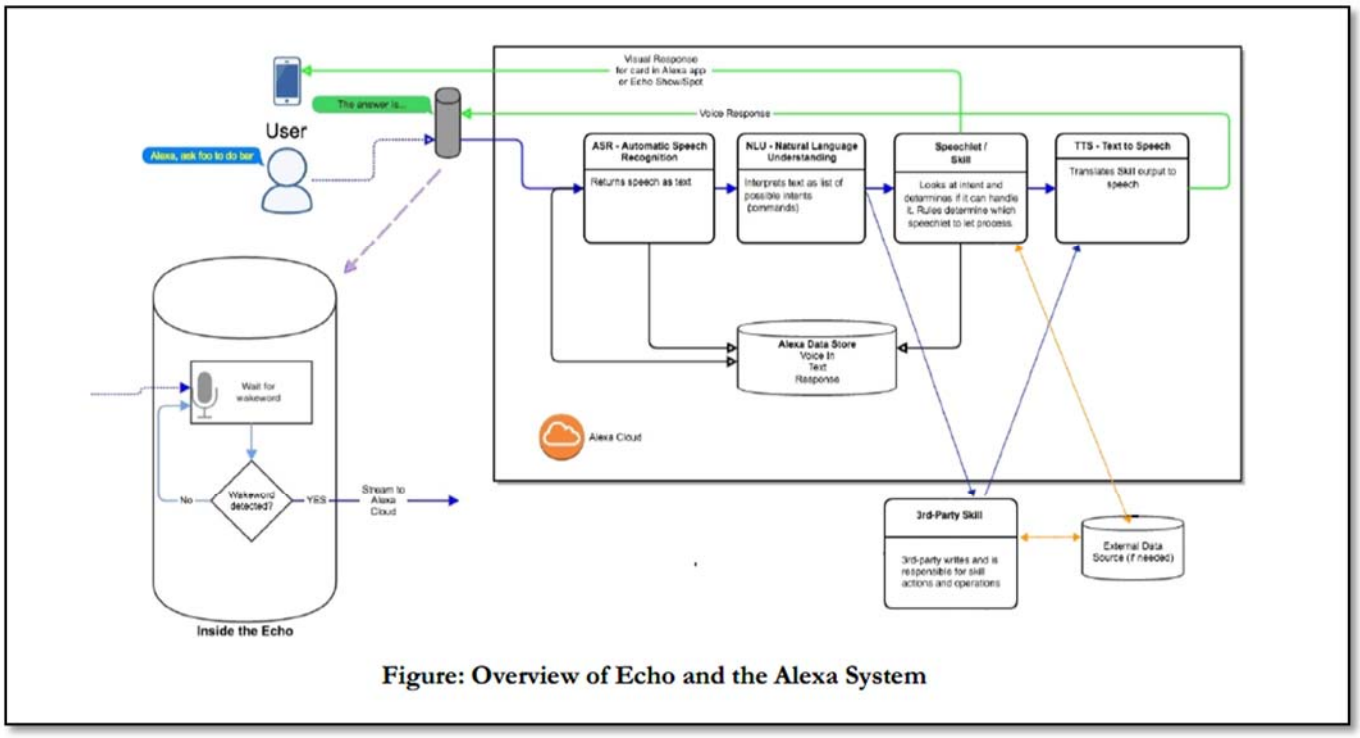
53. The retrieve information is in audio form via the voice enabled device. For example, Amazon indicates that one can "use voice to set timers, add items to lists, and create calendar events and reminders. [One] can also check the news, weather or traffic." On information and belief, the Amazon Echo device in conjunction with Alexa provides the retrieved information in an audio form via said voice enabled device.



See, e.g., https://www.amazon.com/All-new-Echo-Plus-2nd-built/dp/B0794W1SKP/ref=sr_1_2?keywords =echo&qid=1562871943&s=gateway&sr=8-2.

54. The speaker-independent speech recognition device of the Amazon Accused Products in conjunction with Alexa are configured to receive from users via the voice enabled device speech commands and to select the corresponding recognition grammar upon receiving the speech commands.

55. For example, because the Amazon Echo in conjunction with Alexa can handle voice commands on the device itself or with help from the cloud, there is a recognition grammar corresponding to each said instruction set and corresponding speech command.



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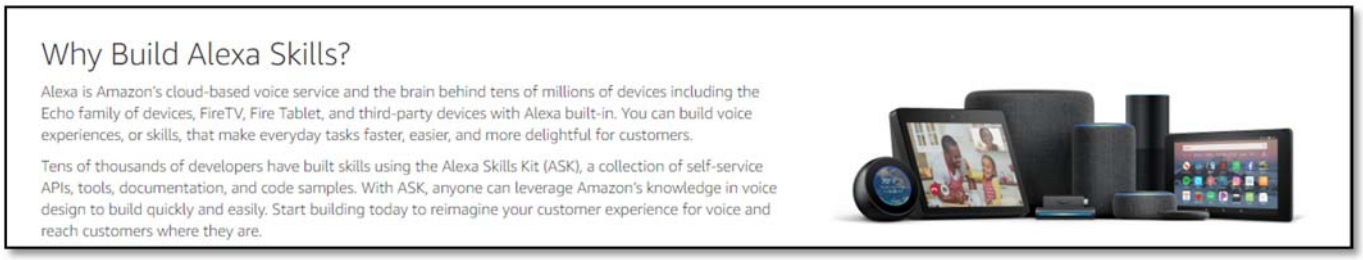

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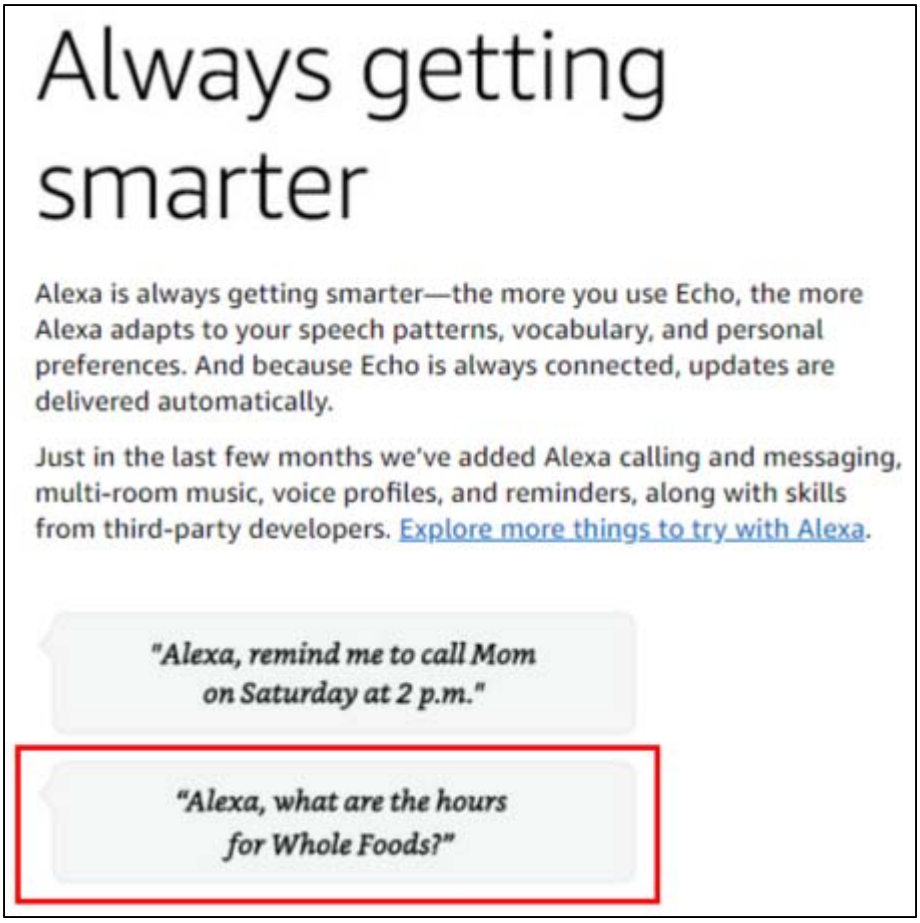

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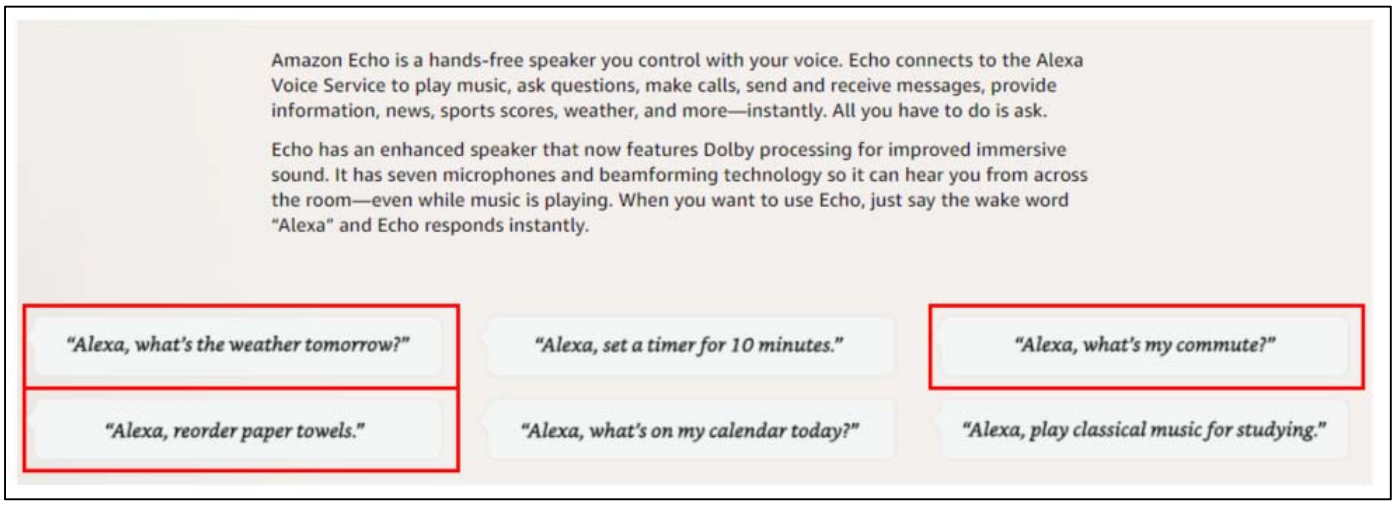

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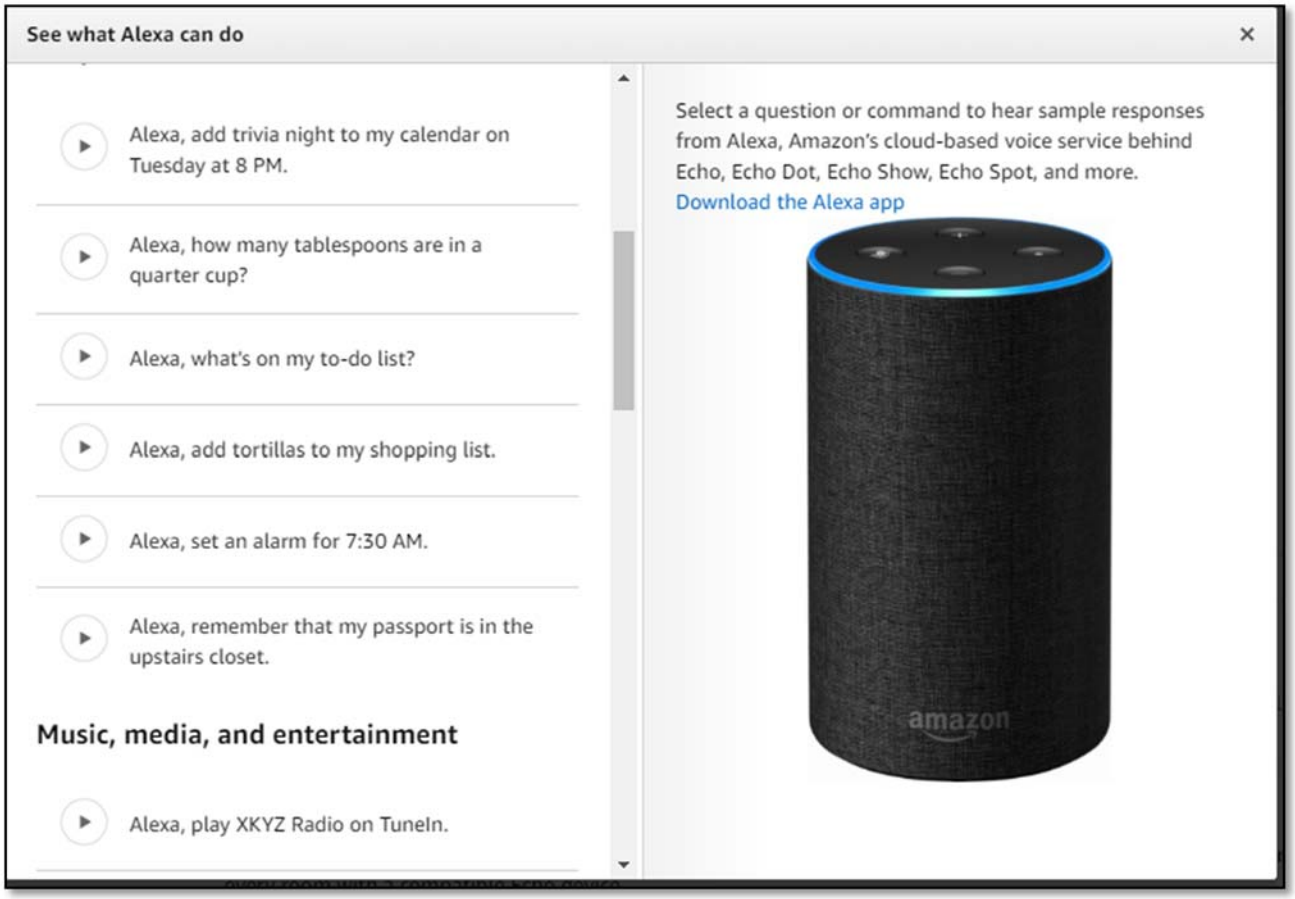

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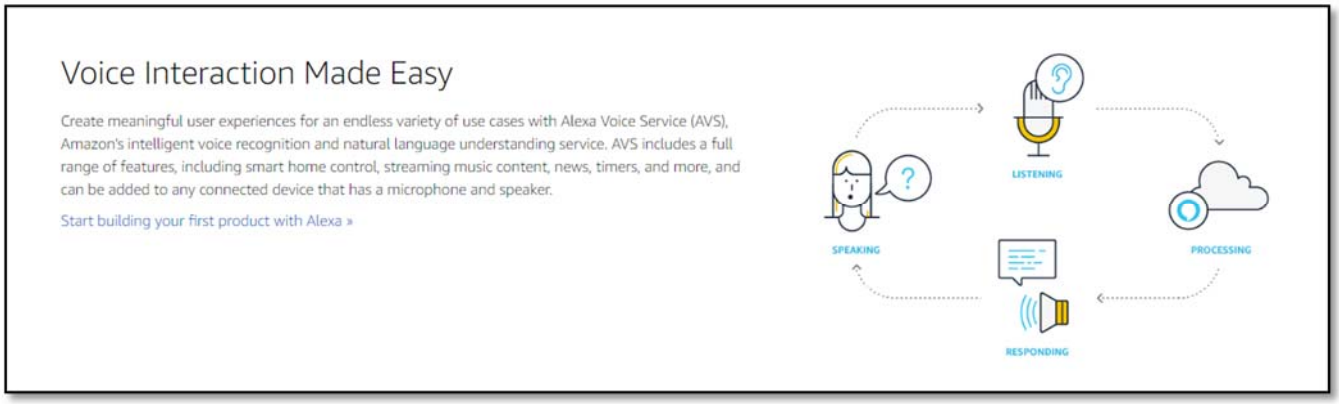

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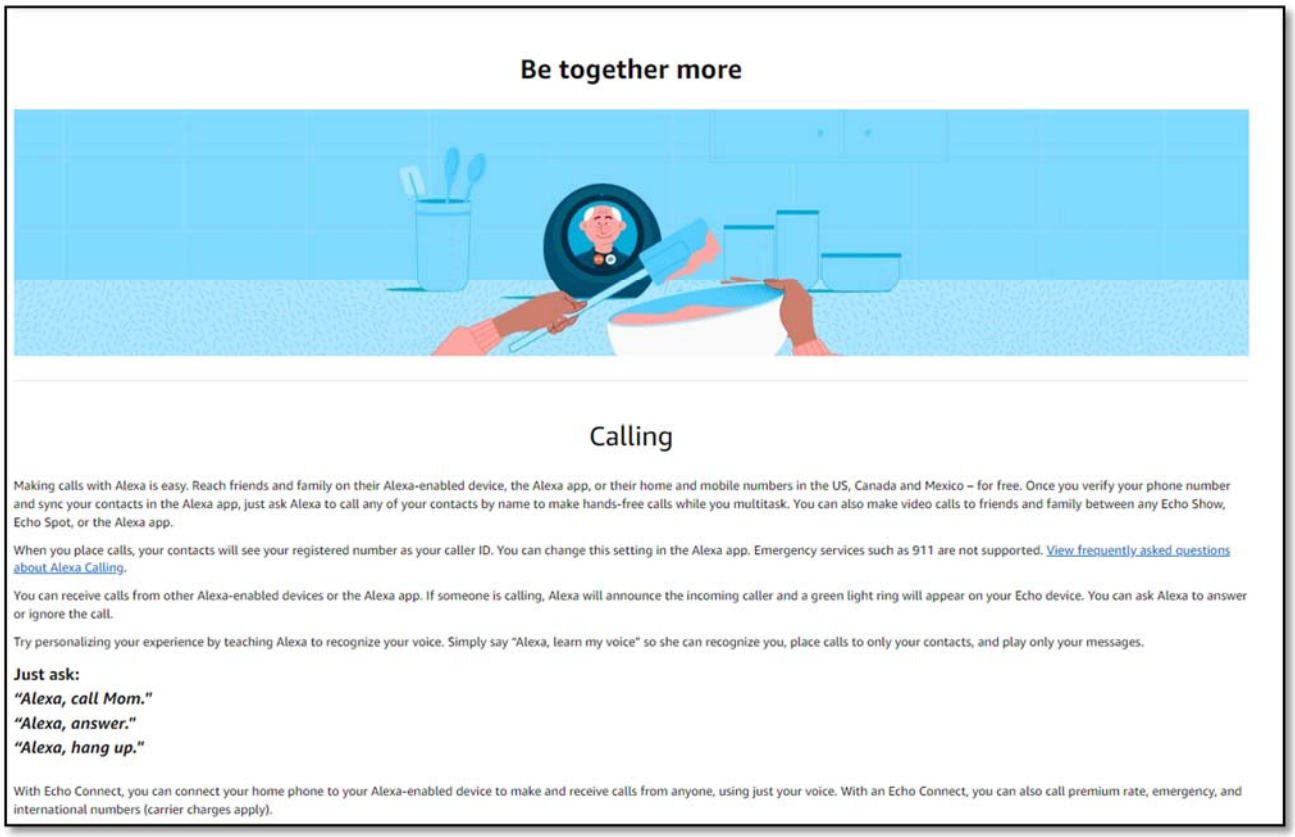

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56. The computer of the Amazon Accused Products in conjunction with Alexa is configured to retrieve said instruction set corresponding to said recognition grammar selected by said speaker-independent speech recognition device.

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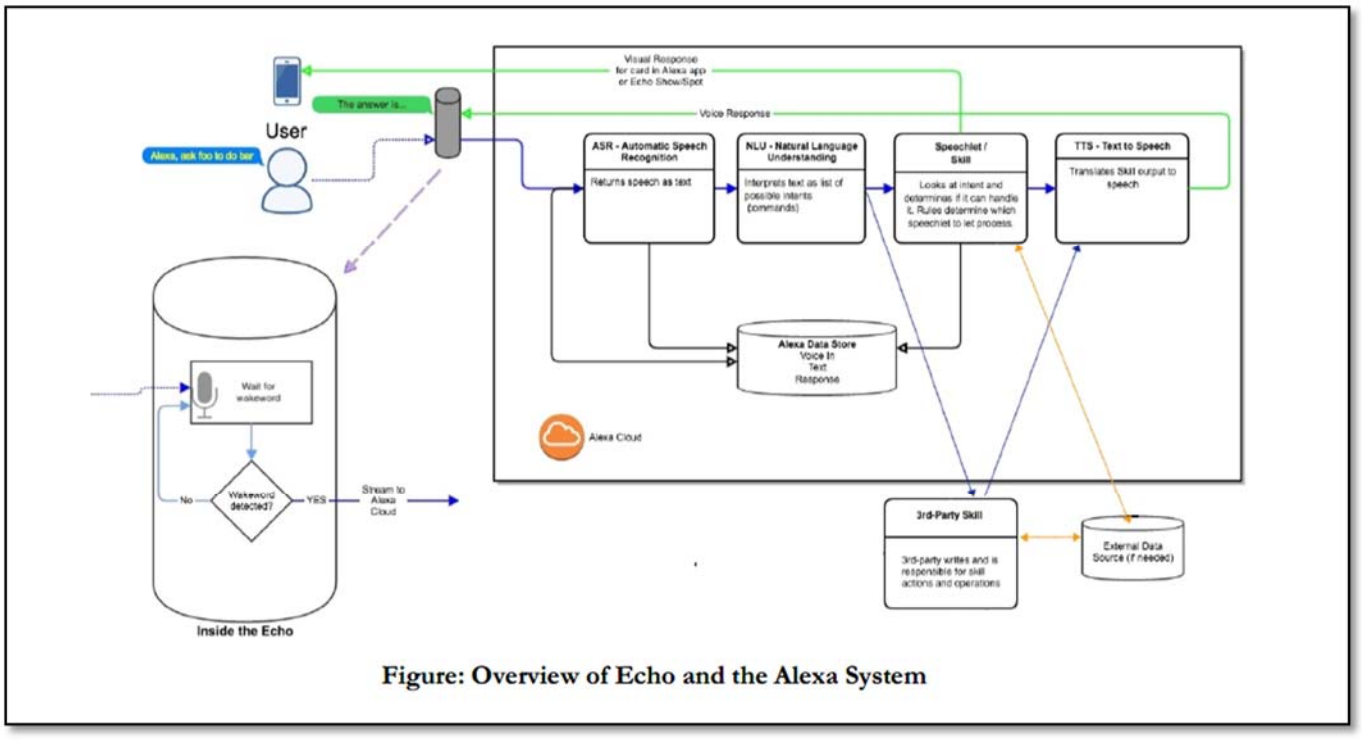

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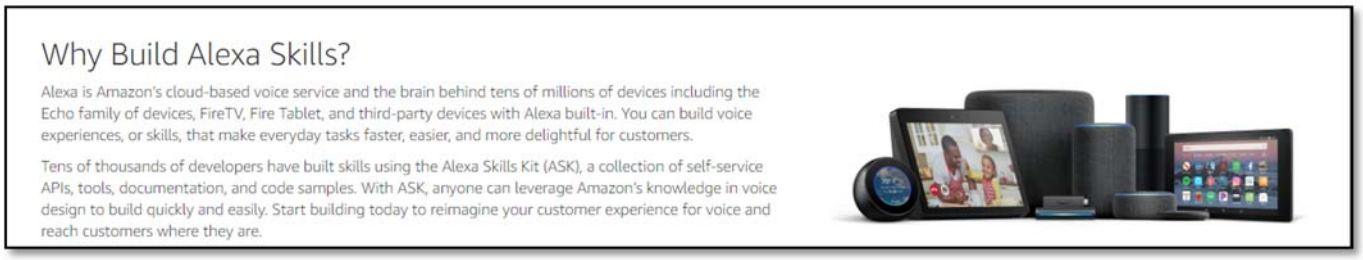

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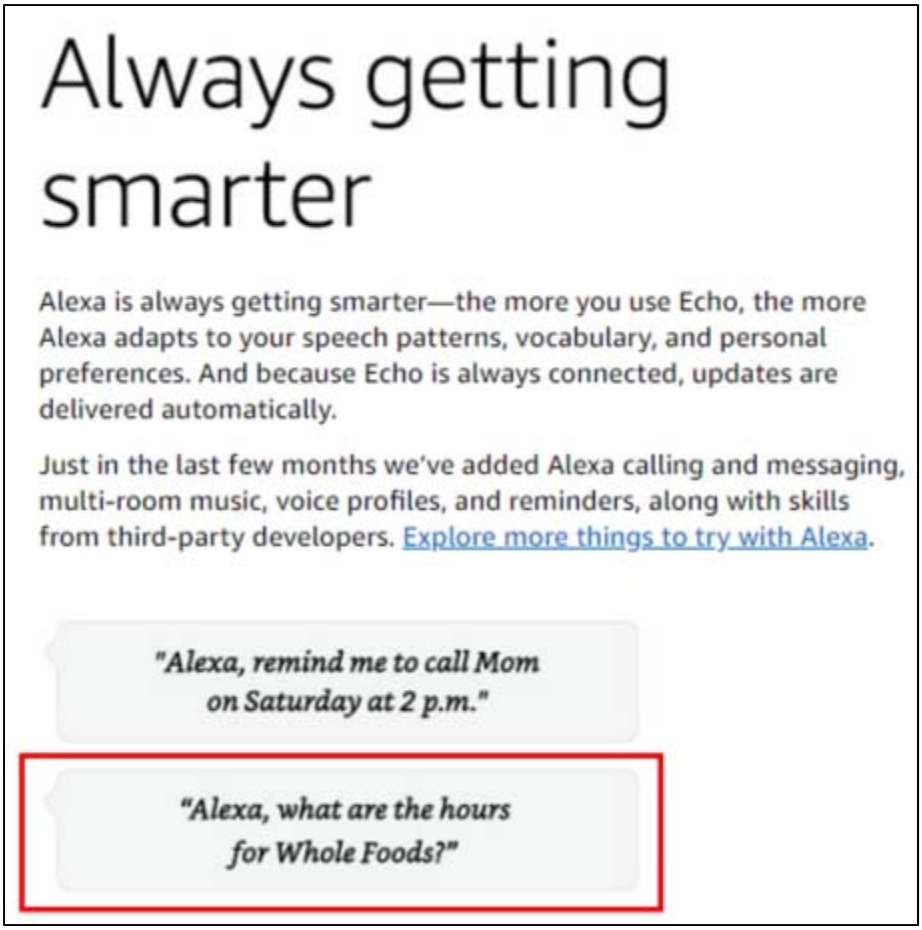

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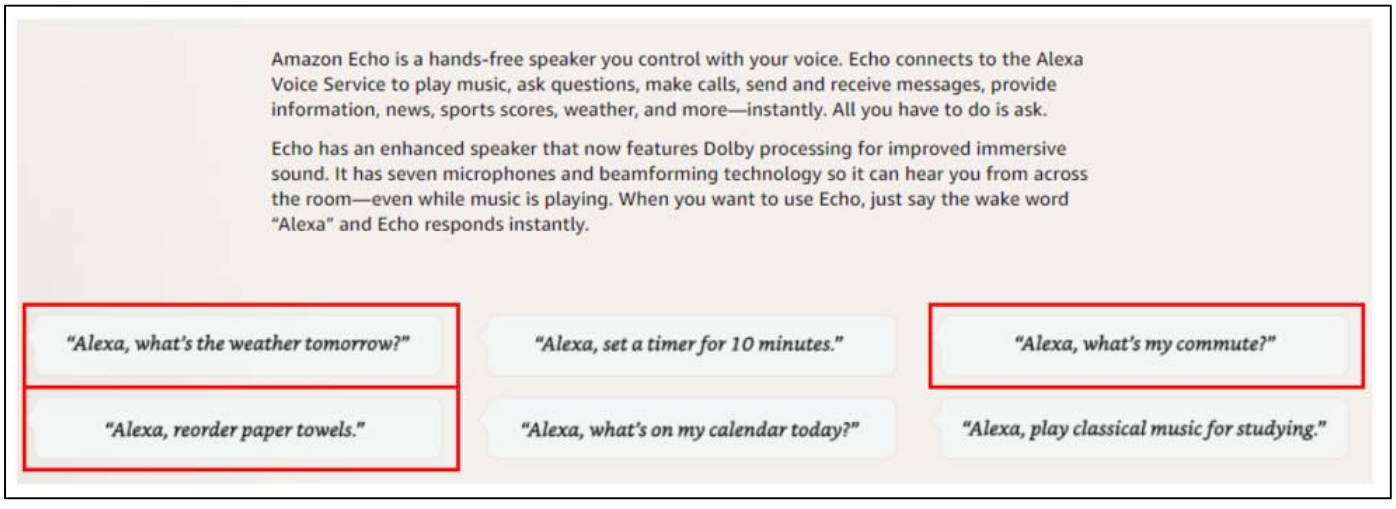

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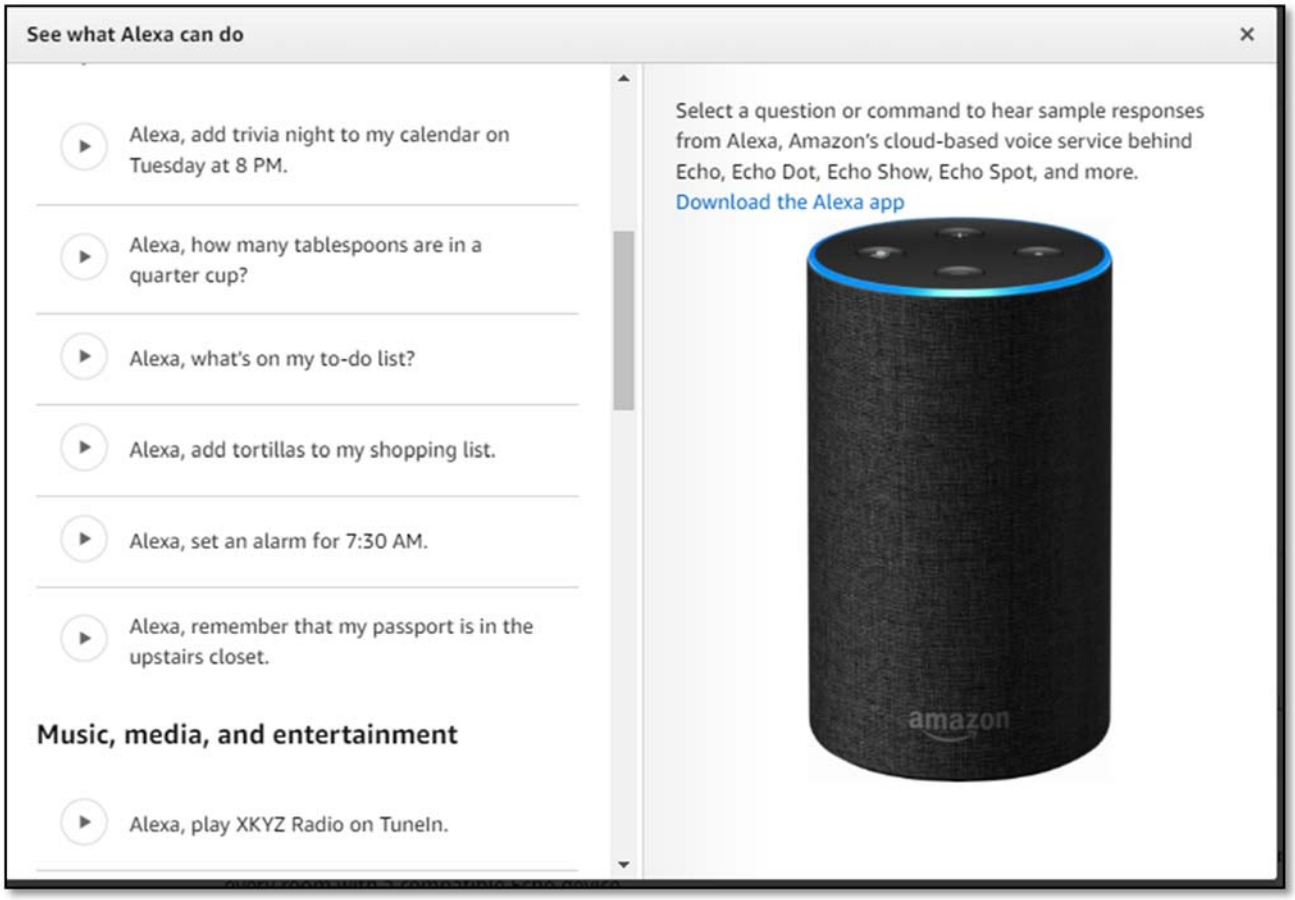

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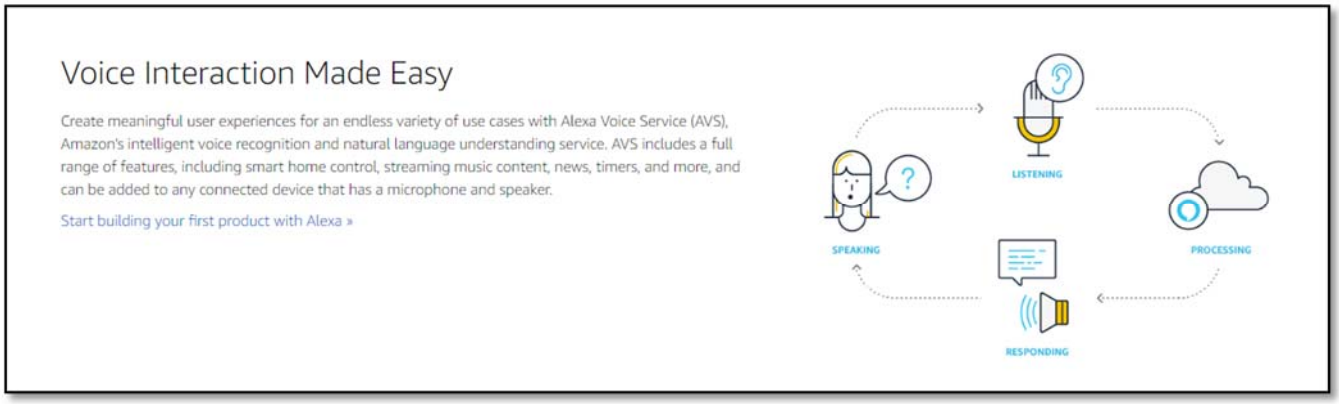
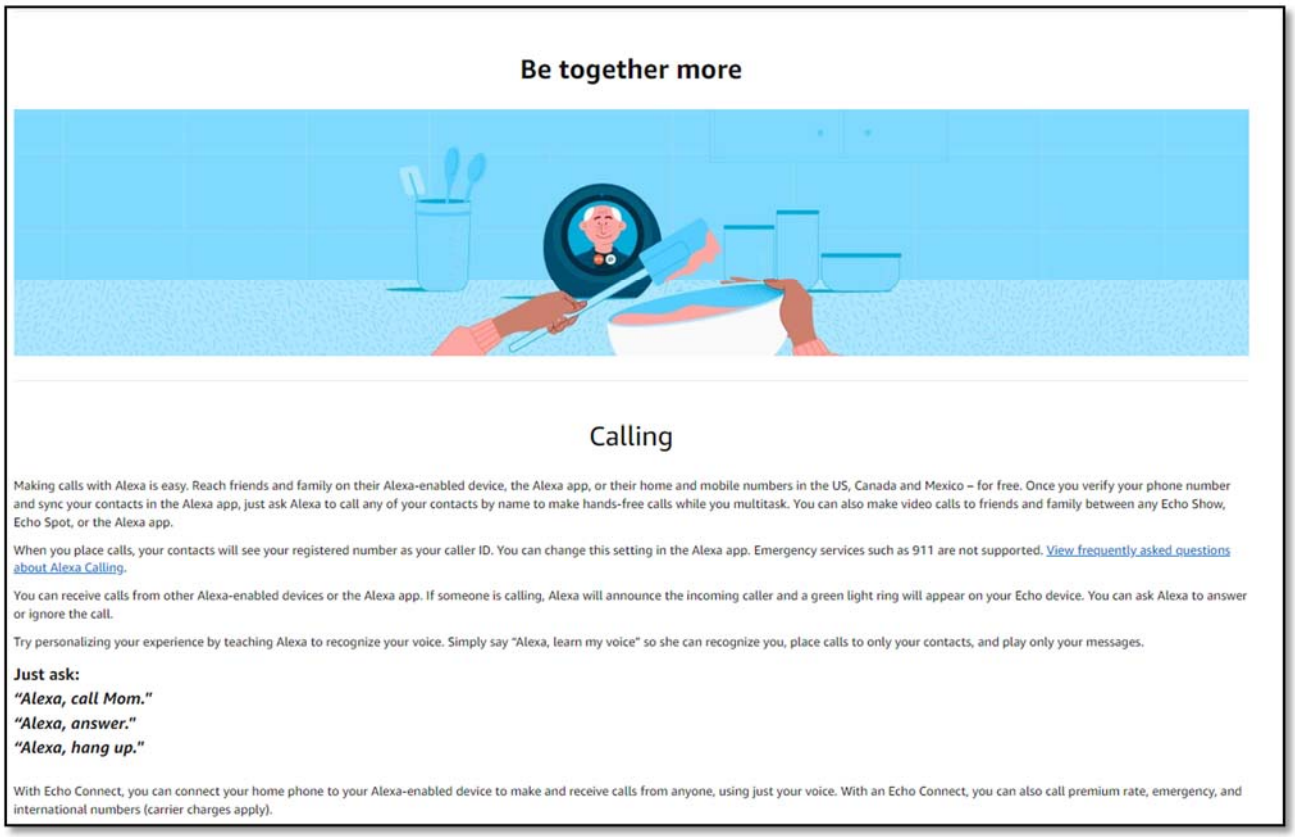


See, e.g., https://developer.amazon.com/alexa-voice-service/what-is-avs?linkCode=w61&imprToken= r0iiuJ6M7dIbzmX940rclw&slotNum=1



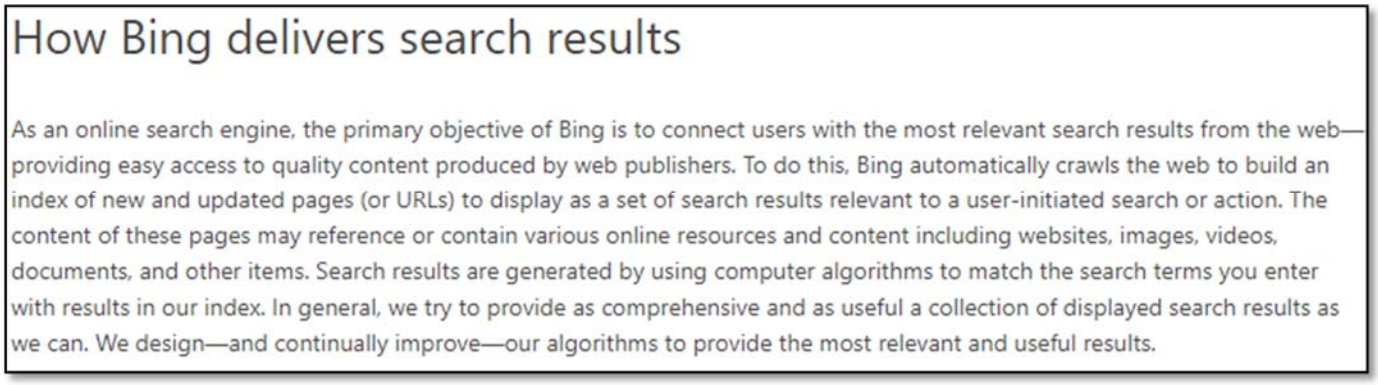
See, e.g., https://www.amazon.com/b/ref=aeg_lp_comm_d/ref=s9_acss_bw_cg_aegflp_1b1_w?node= 17934681011&pf_rd_m=ATVPDKIKX0DER&pf_rd_s=merchandised-search-6&pf_rd_r= JCEXPV9CF AK9TVXXVEKA&pf_rd_t=101&pf_rd_p=02147624-e148-4901-b449-773097cfa62e&pf_rd_i=17934672011.

58. The computer included in each Amazon Accused Product with Alexa is further configured to access at least one of the plurality of web sites identified by the instruction set to obtain the information to be retrieved, access the first web site of the plurality of web sites and, if the information to be retrieved is not found at the first web site, to sequentially access the plurality of web sites until the information to be retrieved is found or until the plurality of web sites has been accessed.

59. For example, the Amazon Echo device in conjunction with Alexa retrieves information from pre-selected websites that have already been crawled.

> *The New York Times* reports that Microsoft and Amazon partnered in May last year, after Amazon CEO Jeff Bezos raised the idea with Microsoft CEO Satya Nadella at Microsoft's CEO summit. Amazon's push to partner more closely with Microsoft makes sense, as the pair are both trying to fend off Google's own assistant and Microsoft already helps power Alexa queries through its Bing search engine.

See, e.g., https://www.theverge.com/2017/8/30/16224876/microsoft-amazon-cortana-alexa-partnership



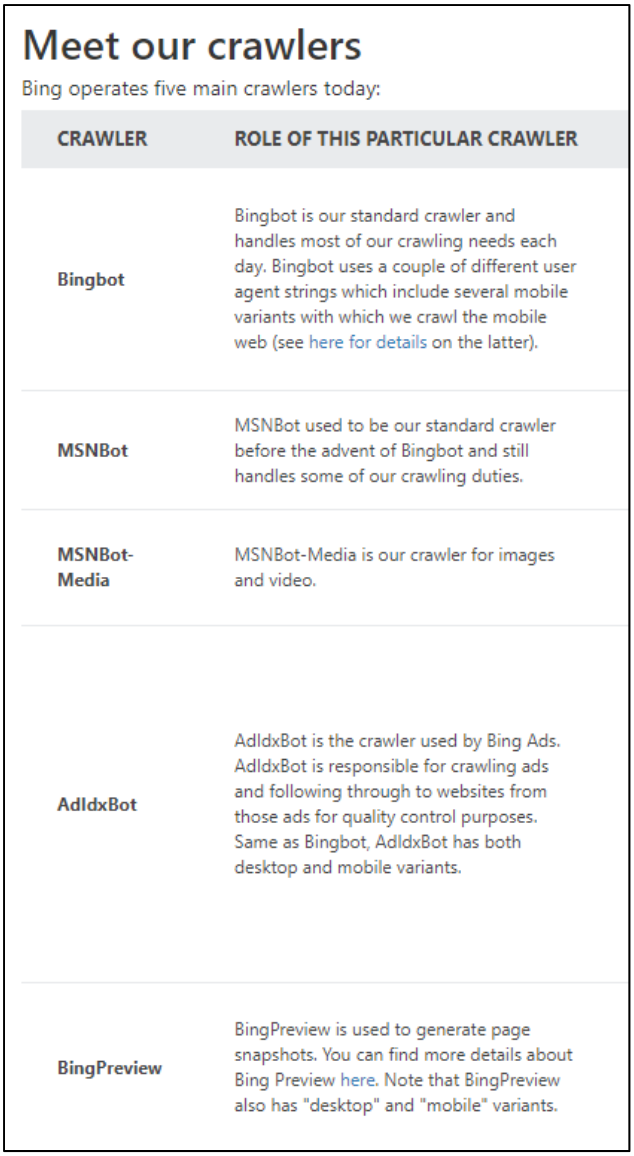
How Bing delivers search results

As an online search engine, the primary objective of Bing is to connect users with the most relevant search results from the web—providing easy access to quality content produced by web publishers. To do this, Bing automatically crawls the web to build an index of new and updated pages (or URLs) to display as a set of search results relevant to a user-initiated search or action. The content of these pages may reference or contain various online resources and content including websites, images, videos, documents, and other items. Search results are generated by using computer algorithms to match the search terms you enter with results in our index. In general, we try to provide as comprehensive and as useful a collection of displayed search results as we can. We design—and continually improve—our algorithms to provide the most relevant and useful results.

See, e.g., http://help.bing.microsoft.com/#apex/18/en-US/10016/0

> Bingbot is the name of the crawler used by Bing to crawl or "spider" the web. It is Bingbot's job to find new and updated pages on websites across the Internet, so that they can be processed for indexation. When crawling a website, Bingbot looks at robots.txt for special instructions from the website owner. Bingbot honors robots.txt directives, including the *crawl-delay:* setting, and, in the absence of a crawl-delay, respects the input from Webmasters in the Crawl Control Feature.

See, e.g., https://www.bing.com/webmaster/help/how-to-report-an-issue-with-bingbot-25c19802



Meet our crawlers

Bing operates five main crawlers today:

CRAWLER	ROLE OF THIS PARTICULAR CRAWLER
Bingbot	Bingbot is our standard crawler and handles most of our crawling needs each day. Bingbot uses a couple of different user agent strings which include several mobile variants with which we crawl the mobile web (see here for details on the latter).
MSNBot	MSNBot used to be our standard crawler before the advent of Bingbot and still handles some of our crawling duties.
MSNBot-Media	MSNBot-Media is our crawler for images and video.
AdIdxBot	AdIdxBot is the crawler used by Bing Ads. AdIdxBot is responsible for crawling ads and following through to websites from those ads for quality control purposes. Same as Bingbot, AdIdxBot has both desktop and mobile variants.
BingPreview	BingPreview is used to generate page snapshots. You can find more details about Bing Preview here. Note that BingPreview also has "desktop" and "mobile" variants.

See, e.g., https://www.bing.com/webmaster/help/which-crawlers-does-bing-use-8c184ec0

> Bing's crawler, Bingbot is a key component of the Bing platform. Bingbot's main function is to:
>
> - Download webpages to get the latest content and discover new links from existing known links.
> - Verify that web documents already indexed are still valid, not dead links, helping to keep the Bing index comprehensive and fresh to answer customer queries with relevant results.

See, e.g., https://www.searchenginejournal.com/why-how-bing-plans-to-improve-its-crawler-bingbot/291979/#close

> For example, Bing customers searching for the latest space rocket launch can search and find new relevant webpages only seconds after this rocket launch. To be able to link to these new URLs, we have to discover, select, crawl, process, and then index them.
>
> To discover these new URLs, we have to crawl regularly existing known URLs to monitor for new URLs.
>
> Once discovered, we have to crawl to get the content for these new URLs.
>
> We have to continue crawling these newly indexed URLs regularly to check for potential content changes and verify that these webpages are still valid, not dead links.
>
> In other words, we crawl each URL in our system more than once.

See id.

See, *e.g.*, https://developer.amazon.com/alexa-voice-service.

60. The speech synthesis devices of the Amazon Accused Products with Alexa are configured to produce an audio message containing any retrieved information from the pre-selected web sites, and are further configured to transmit said audio message to the users via the voice enabled device.

61. For example, because the Amazon Echo in conjunction with Alexa can handle voice commands on the device itself or with help from the cloud, there is a recognition grammar corresponding to each said instruction set and corresponding speech command.

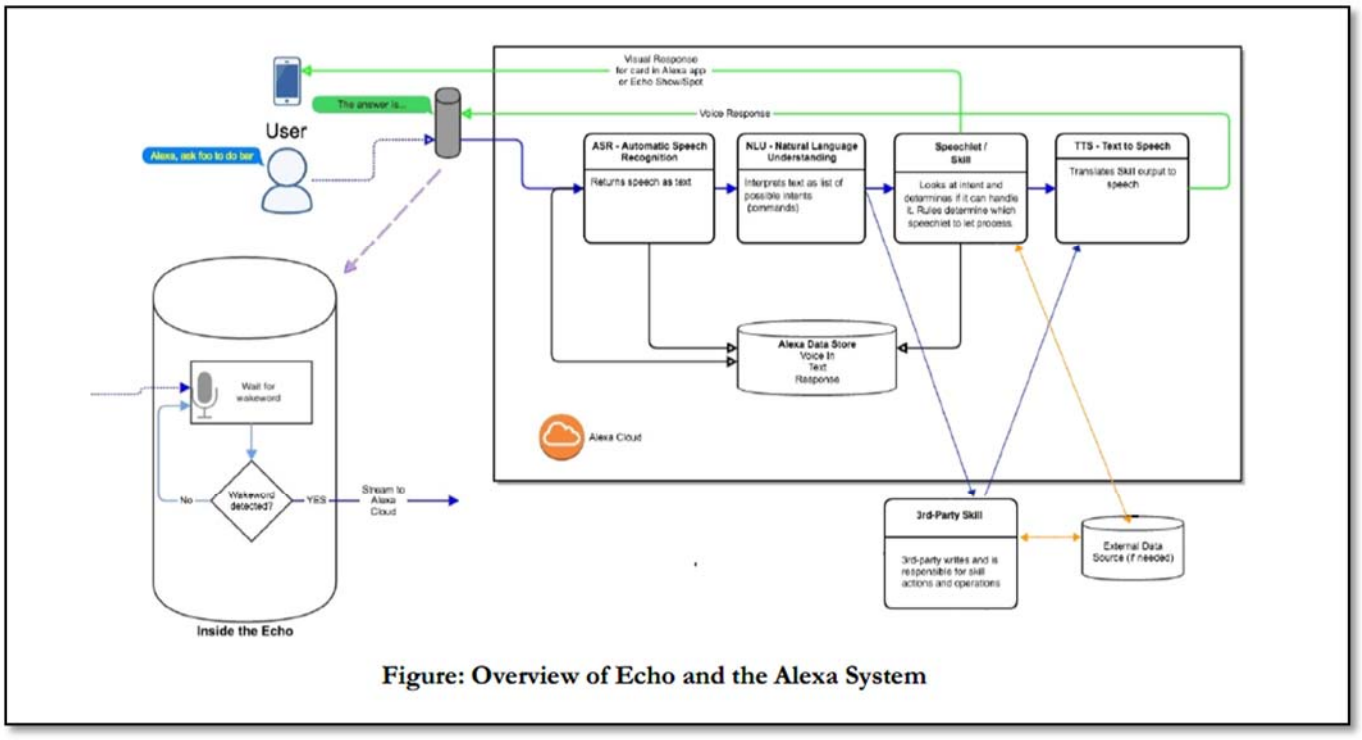


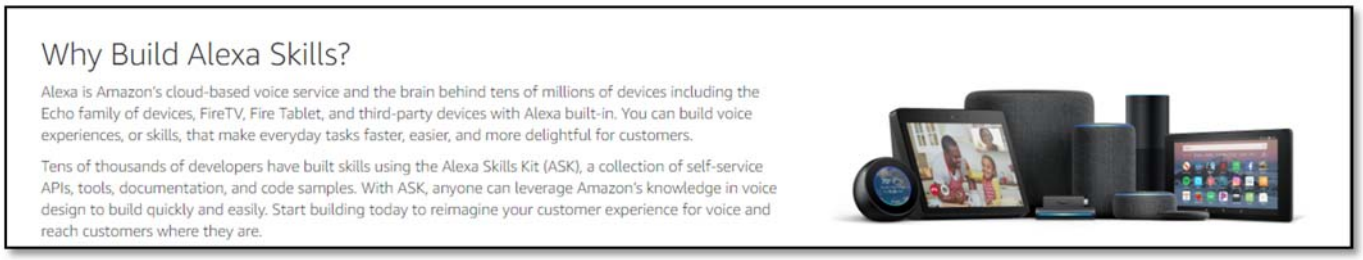
Figure: Overview of Echo and the Alexa System

See, e.g., Amazon, White Paper, Alexa Privacy and Data Handling Overview (July 20, 2018) at 1.

ASR and NLU

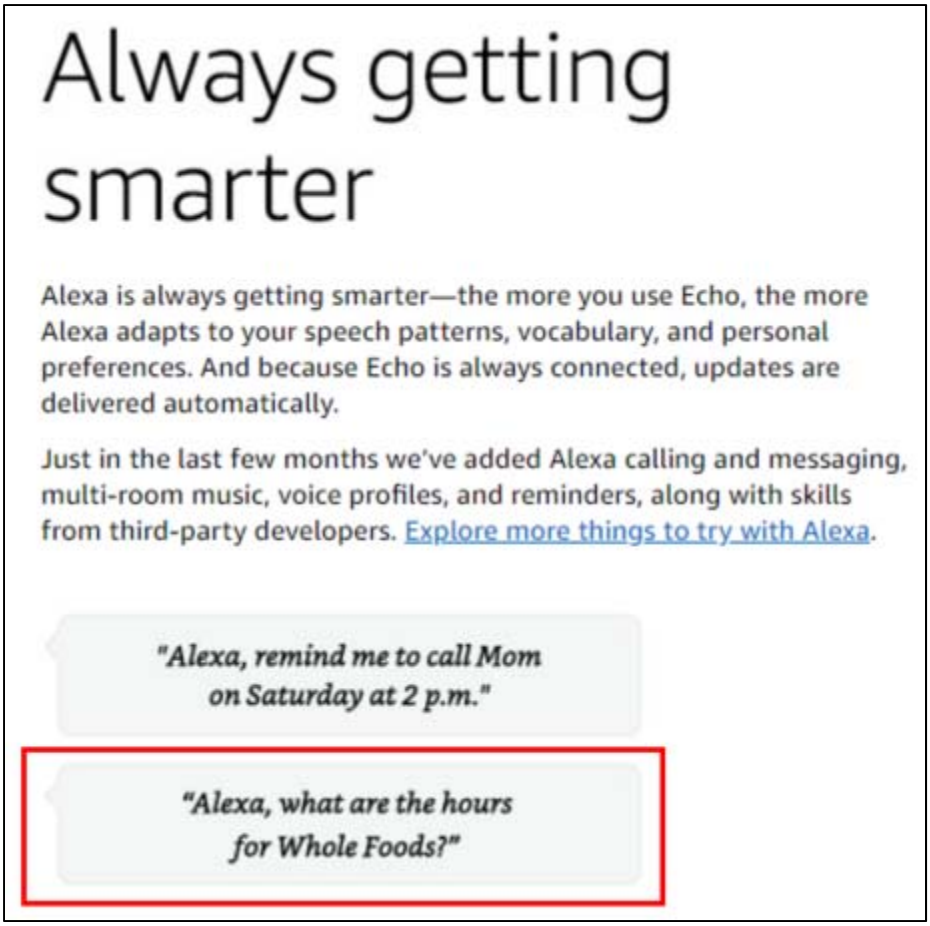
Alexa converts spoken words to text using automatic speech recognition (ASR), deduces the speaker's meaning using natural language understanding (NLU), and provides the underlying customer intent to your skill.

See, e.g., Alexa Skills Set, Amazon Alexa, https://developer.amazon.com/en-US/alexa/alexa-skills-kit.

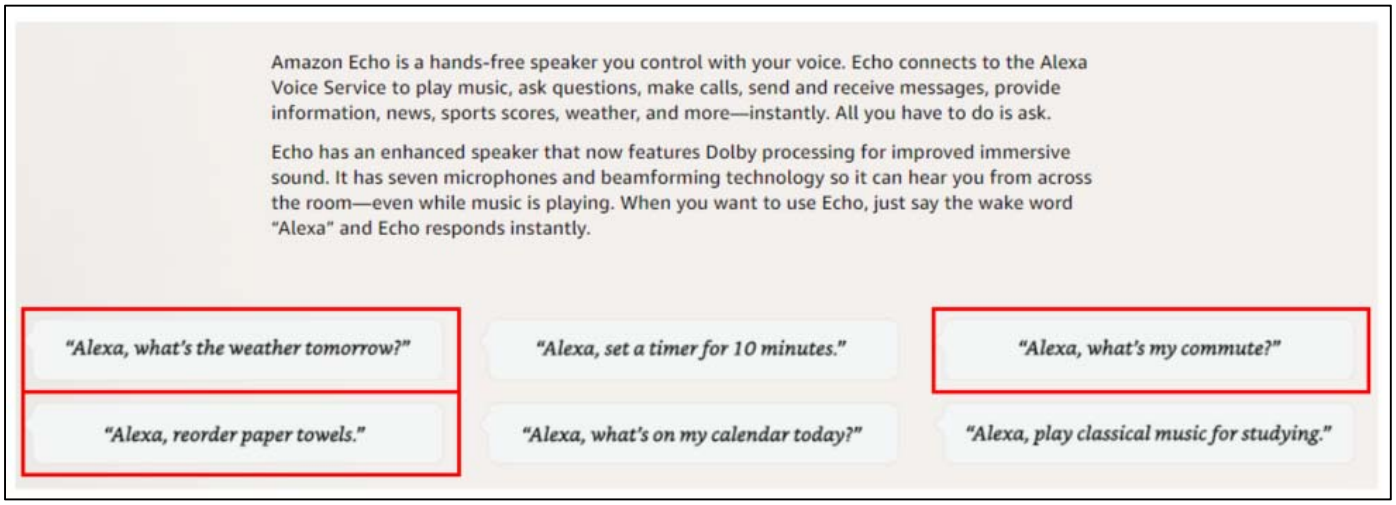


See, e.g., https://developer.amazon.com/en-US/alexa/alexa-skills-kit.

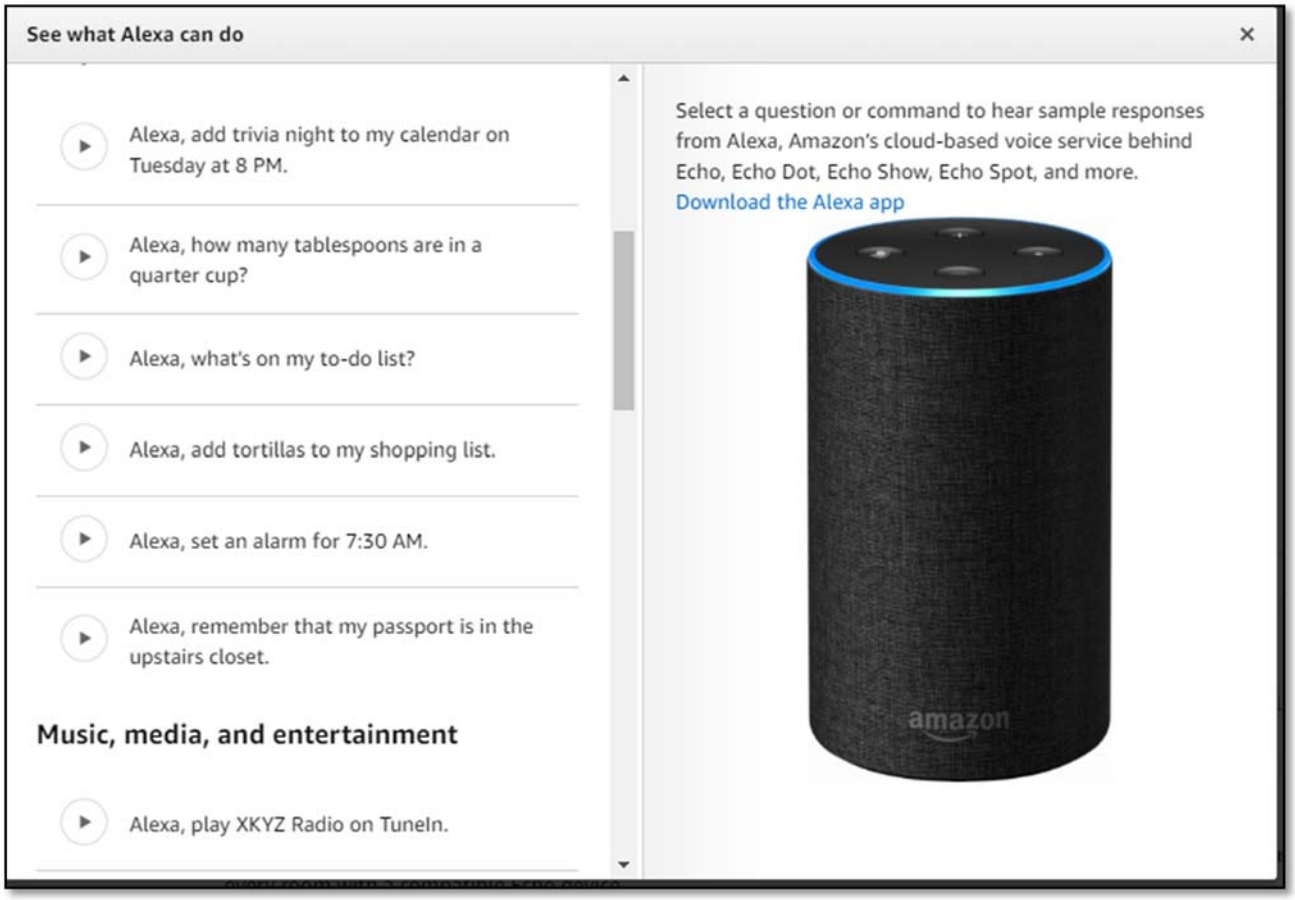
See, e.g., https://developer.amazon.com/alexa-voice-service.



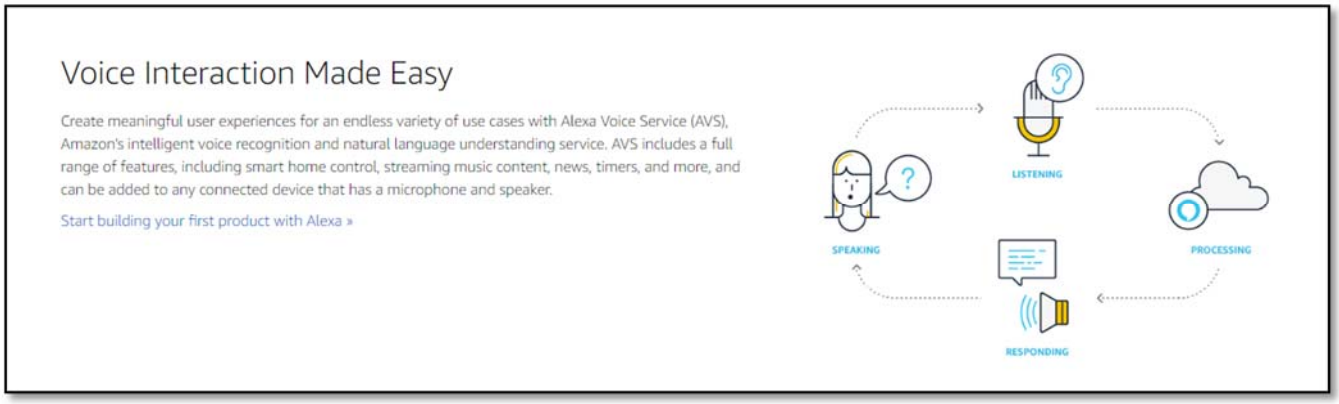
See, e.g., https://www.amazon.com/dp/B07456BG8N?tag=googhydr-20&hvadid=333263006615&hvpos=1t1&hvnetw=g&hvrand=17718345068411276924&hvpone=&hvptwo=&hvqmt=e&hvdev=c&hvdvcmdl=&hvlocint=&hvlocphy=1018127&hvtargid=kwd-295921616770&ref=pd_sl_2g7cb1h5ze_e#tech (annotations added).



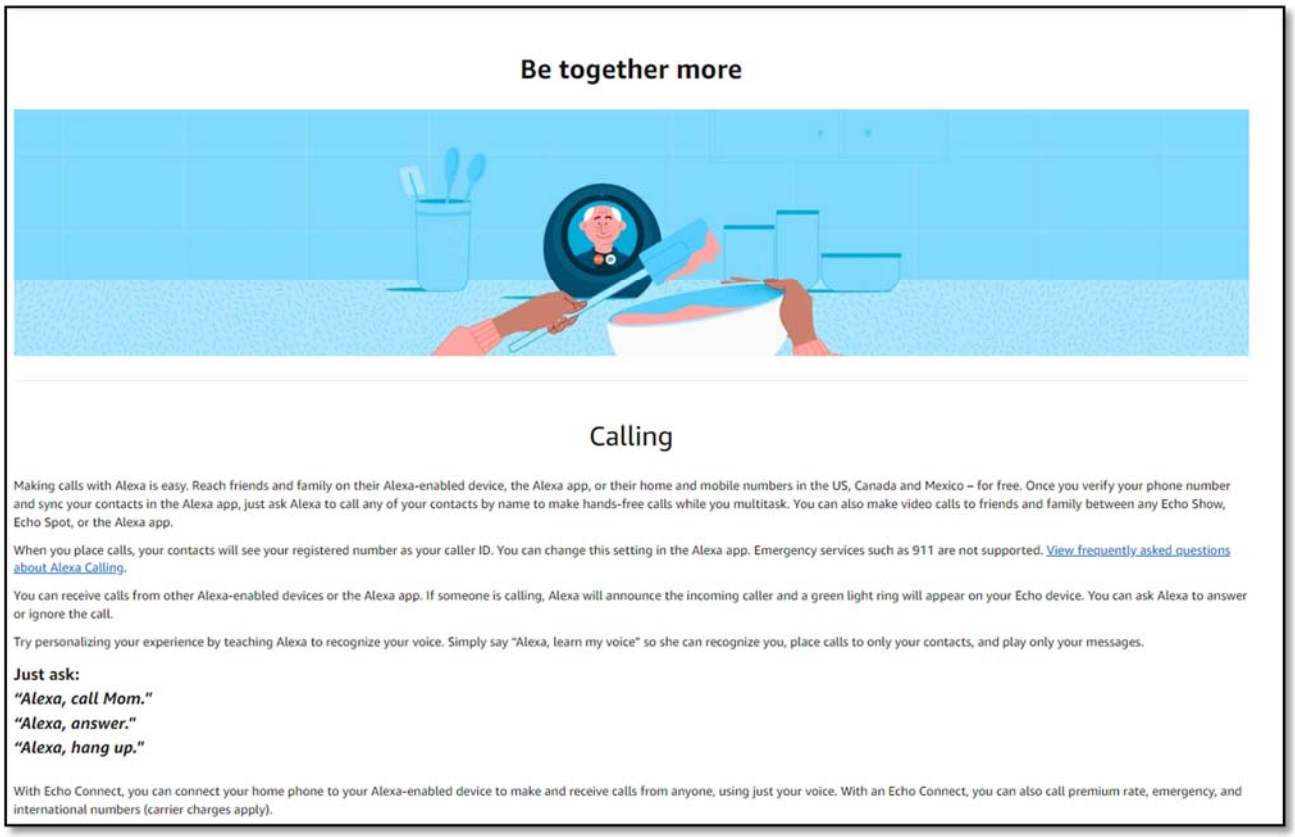
See, e.g., id. (annotations added).



See, e.g.,https://www.amazon.com/dp/B07456BG8N?tag=googhydr-20&hvadid=333263006615&hvpos=1t1&hvnetw=g&hvrand=17718345068411276924&hvpone=&hvptwo=&hvqmt=e&hvdev=c&hvdvcmdl=&hvlocint=&hvlocphy=1018127&hvtargid=kwd-295921616770&ref=pd_sl_2g7cb1h5ze_e.



See, e.g., https://developer.amazon.com/alexa-voice-service/what-is-avs?linkCode=w61&imprToken= r0iiuJ6M7dIbzmX940rclw&slotNum=1



Be together more

Calling

Making calls with Alexa is easy. Reach friends and family on their Alexa-enabled device, the Alexa app, or their home and mobile numbers in the US, Canada and Mexico – for free. Once you verify your phone number and sync your contacts in the Alexa app, just ask Alexa to call any of your contacts by name to make hands-free calls while you multitask. You can also make video calls to friends and family between any Echo Show, Echo Spot, or the Alexa app.

When you place calls, your contacts will see your registered number as your caller ID. You can change this setting in the Alexa app. Emergency services such as 911 are not supported. View frequently asked questions about Alexa Calling.

You can receive calls from other Alexa-enabled devices or the Alexa app. If someone is calling, Alexa will announce the incoming caller and a green light ring will appear on your Echo device. You can ask Alexa to answer or ignore the call.

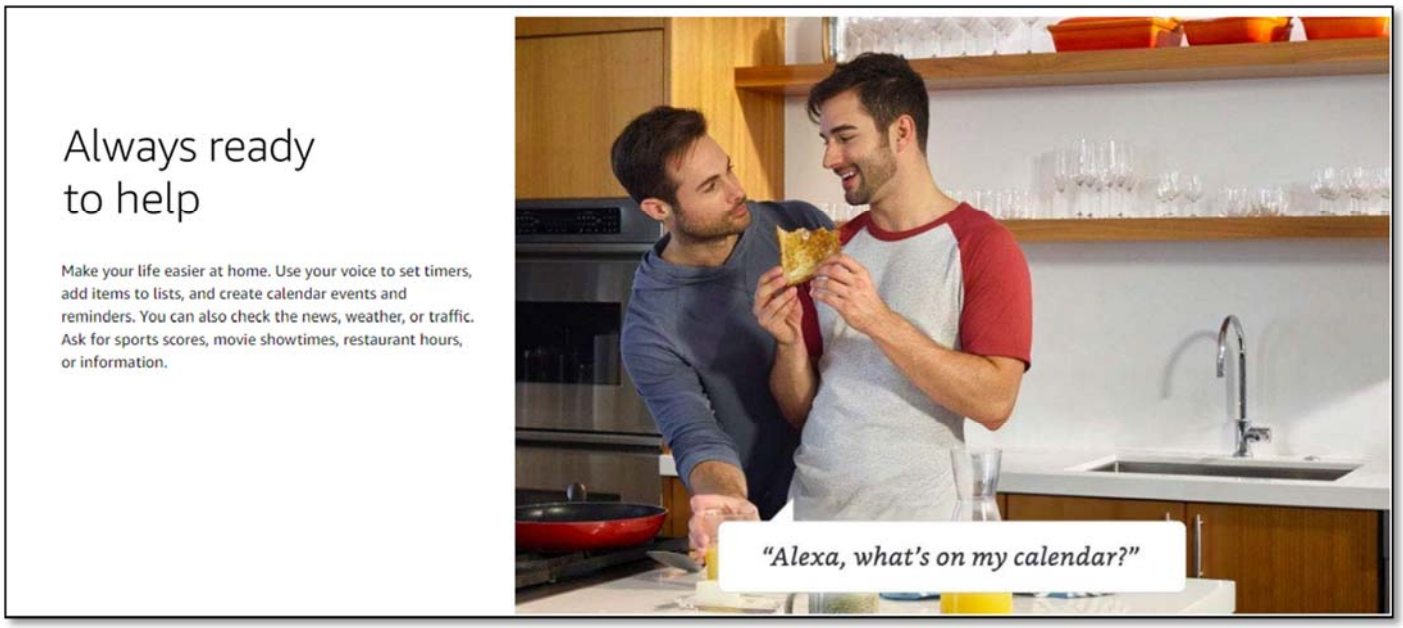
Try personalizing your experience by teaching Alexa to recognize your voice. Simply say "Alexa, learn my voice" so she can recognize you, place calls to only your contacts, and play only your messages.

Just ask:
"Alexa, call Mom."
"Alexa, answer."
"Alexa, hang up."

With Echo Connect, you can connect your home phone to your Alexa-enabled device to make and receive calls from anyone, using just your voice. With an Echo Connect, you can also call premium rate, emergency, and international numbers (carrier charges apply).

See, *e.g.*, https://www.amazon.com/b/ref=aeg_lp_comm_d/ref=s9_acss_bw_cg_aegflp_1b1_w?node= 17934681011&pf_rd_m=ATVPDKIKX0DER&pf_rd_s=merchandised-search-6&pf_rd_r= JCEXPV9CF AK9TVXXVEKA&pf_rd_t=101&pf_rd_p=02147624-e148-4901-b449-773097cfa62e&pf_rd_i=17934672011.

62. The retrieved information is in an audio form via said voice enabled device as Amazon indicates that one can "use voice to set timers, add items to lists, and create calendar events and reminders. [One] can also check the news, weather or traffic." On information and belief, the Amazon Echo device in conjunction with Alexa provides the retrieved information in an audio form via said voice enabled device.



See, e.g., https://www.amazon.com/All-new-Echo-Plus-2nd-built/dp/B0794W1SKP/ref=sr_1_2?keywords =echo&qid=1562871943&s=gateway&sr=8-2.

63. In addition to directly infringing the '431 Patent, Amazon indirectly infringes the '431 Patent pursuant to 35 U.S.C. § 271(b) and (c). Amazon has had knowledge of the '431 Patent since at least the filing of the original complaint, and has been on constructive notice of the '431 Patent due to Parus' marking since at least June 18, 2007. By the time of trial, Amazon will have known and intended (since receiving such notice) that their continued actions would actively induce the infringement of the claims of the '431 Patent.

64. Amazon indirectly infringes the '431 Patent by instructing, directing and/or requiring others, including customers, purchasers, users and developers, to perform one or more of the steps of the method claims, either literally or under the doctrine of equivalents, of the '431 Patent, where all the steps of the method claims are performed by either Amazon, its customers, purchasers, users, and developers, or some combination thereof. Amazon knew or should have known that it was inducing others, including customers, purchasers, users, and developers, to

infringe by practicing, either themselves or in conjunction with Amazon, one or more method claims of the ’431 Patent.

65. Upon information and belief, Amazon knowingly and actively aided and abetted the direct infringement of the ’431 Patent by instructing and encouraging its customers, purchasers, users, and developers to use the ’431 Patent methods and technology. These instructions of encouragement include, but are not limited to, using the accused products as described in the claims of the ’431 Patent, in advertising and promoting the use of the ’431 Patent’s claimed technology, and as further described in above.

66. Amazon has also infringed, and continues to infringe, claims of the ’431 Patent by offering to commercially distribute, commercially distributing, making and/or importing the Amazon Accused Products, which are used in practicing the process, or using the systems, of the ’431 Patent, and constitute a material part of the invention. Amazon knows the components in the Amazon Accused Products to be especially made or especially adapted for use in infringement of the ’431 Patent, not a staple article, and not a commodity of commerce suitable for substantial noninfringing use. For example, the ordinary way of using the Amazon Accused Products infringes the patent claims, and as such, is especially adapted for use in infringement as set forth above. Accordingly, Amazon has been, and currently is, contributorily infringing the ’431 Patent, in violation of 35 U.S.C. § 271(c).

COUNT II

AMAZON’S INFRINGEMENT OF U.S. PATENT NO. 9,451,084

67. Parus restates and incorporates by reference all of the allegations made in the preceding paragraphs as though fully set forth herein.

68. Parus is the owner, by assignment, of the ’084 Patent. A true copy of the ’084 Patent granted by the U.S. Patent & Trademark Office is attached as Exhibit 2.

69. Amazon has directly infringed, and continues to directly infringe, literally or under the doctrine of equivalents, at least independent claim 1 of Parus’s ’084 Patent by making, using, selling, and/or offering for sale its products that include Alexa, in the United States, in violation of 35 U.S.C. § 271(a).

70. Amazon had constructive notice of the ’084 Patent based on Parus’s marking at least as of February 21, 2018. Upon filing of the original complaint or shortly thereafter, Defendant has actual knowledge of the ’084 Patent.

71. Further, as stated above, on information and belief, Amazon has a policy or practice of not reviewing the patents of others (including instructing its employees to not review the patents of others), and thus has been willfully blind to Parus’s patent rights.

72. Amazon Technologies Inc. is the owner by assignment of U.S. Patent No. 9,842,584.

73. Amazon Technologies Inc. is the owner by assignment of U.S. Patent No. 10,133,546.

74. On information and belief, Amazon Technologies Inc. is a subsidiary of Amazon.com, Inc.

75. U.S. Patent No. 9,842,584 cites to U.S Patent No. 6,721,705 to Kurganov.

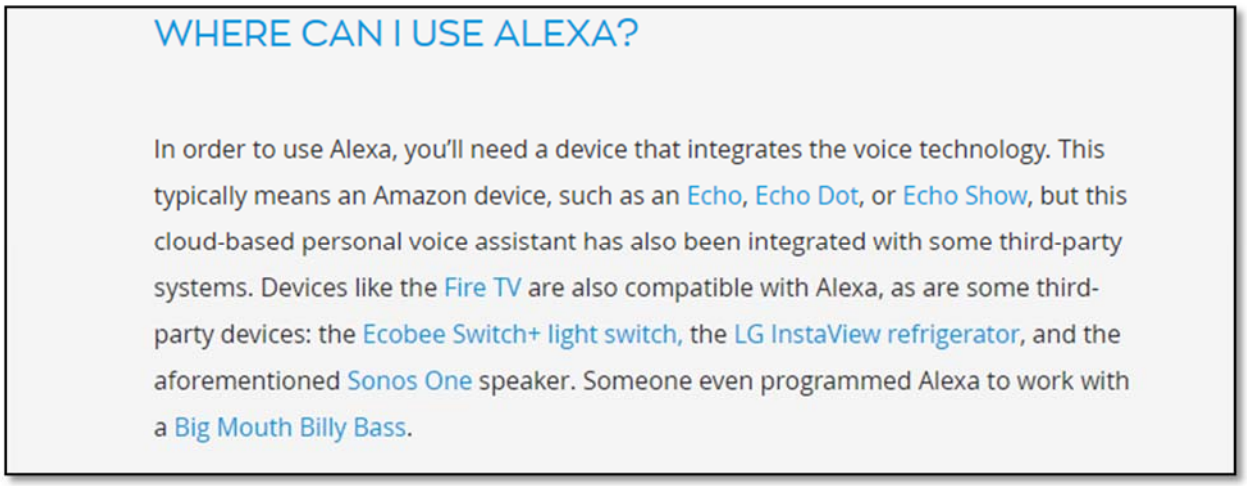
76. U.S. Patent No. 10,133,546 cites to U.S Patent No. 6,721,705 to Kurganov.

77. U.S. Patent No. 6,721,705 to Kurganov is a parent patent to the ’084 Patent.

78. Amazon's acts of direct infringement of the '084 Patent are willful, and have caused and will continue to cause substantial damage and irreparable harm to Parus, and Parus has no adequate remedy at law.

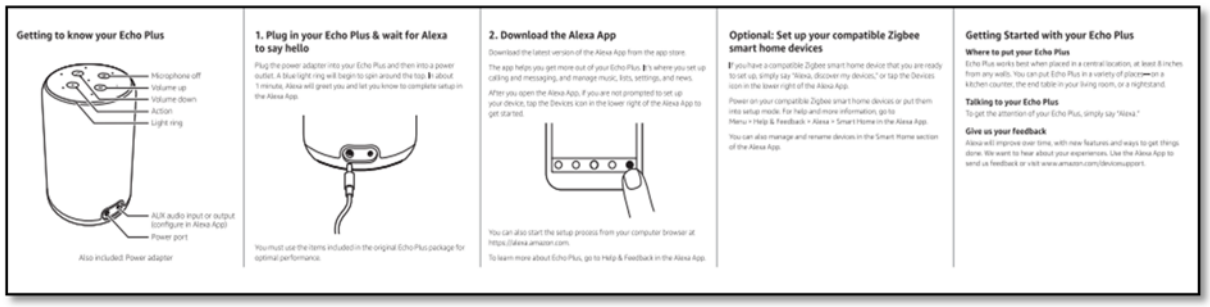
79. The Amazon Accused Products made or sold by Amazon directly infringe at least independent claim 1 of the '084 Patent, including at least the Amazon Echo and other Amazon products that incorporate Alexa. For example, the Amazon Echo comes with Alexa preinstalled.

See, e.g., https://www.amazon.com/gp/product/B06XCM9LJ4/ref=s9_acsd_al_bw_c_x_6_w?pf_rd_m=ATVPDKIKX0DER&pf_rd_s=merchandised-search-4&pf_rd_r=7 WEC0RE7WX 15PC8 SY4 BY& pf_rd_t=101&pf_rd_p=26ee7d18-7cee-420f-a95c-f4be02106756&pf_rd_i=9818047011.

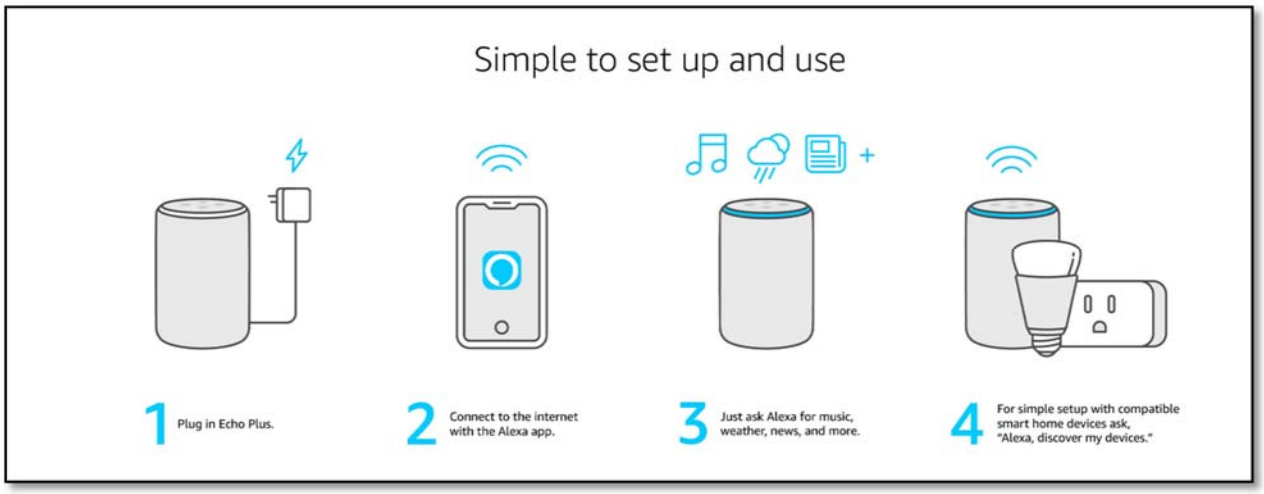


See, e.g., What is Alexa, and what can Amazon's virtual assistant do for you? (Feb. 16, 2019), available at https://www.digitaltrends.com/home/what-is-amazons-alexa-and-what-can-it-do/.

80. Further, Amazon makes instructions available for setting up and using the Amazon Echo in conjunction with Alexa.



See, *e.g*, https://m.media-amazon.com/images/G/01/kindle/merch/2018/Alexa/User_Guide/Update/Echo_Plus_2nd_Gen_QSG_US._CB1539033940_.pdf?pf_rd_m=ATVPDKIKX0DER&pf_rd_s=merchandised-search-5&pf_rd_r=GT6YH640T1R7NT78C62S&pf_rd_t=101&pf_rd_p=116e29b1-6379-409e-a135-db7ad24bd07e&pf_rd_i=18116225011.



See, *e.g.*, https://www.amazon.com/All-new-Echo-Plus-2nd-built/dp/B0794W1SKP/ref=sr_1_2?keywords=echo&qid=1562871943&s=gateway&sr=8-2 .

81. The Amazon Accused Products in conjunction with Alexa form a system for acquiring information from one or more sources maintaining a listing of web sites by receiving speech commands uttered by users into a voice-enabled device and for providing information retrieved from the web sites to the users in an audio form via the voice-enabled device.

82. *See e.g.*, Andrew Nusca, How voice recognition will change the world (Nov. 4, 2011), available at https://www.zdnet.com/article/how-voice-recognition-will-change-the-world/; Gene Munster, Will Thompson, Annual Digital Assistant IQ Test – Siri, Google Assistant, Alexa, Cortana (Jul. 25, 2018), available at https://loupventures.com/annual-digital-assistant-iq-

test-siri-google-assistant-alexa-cortana/; Voice Browsing (Jan. 29, 2019), available at https://www.w3.org/standards/webofdevices/voice; What is Alexa, and what can Amazon's virtual assistant do for you? (Feb. 16, 2019), available at https://www.digitaltrends.com/home/what-is-amazons-alexa-and-what-can-it-do/; Alexa Voice Service, available at https://developer.amazon.com/alexa-voice-service; Alexa Skills Set, Amazon Alexa, https://developer.amazon.com/en-US/alexa/alexa-skills-kit.

83. For example, each of the Amazon Accused Products, including the Amazon Echo, includes a microphone and a speaker:

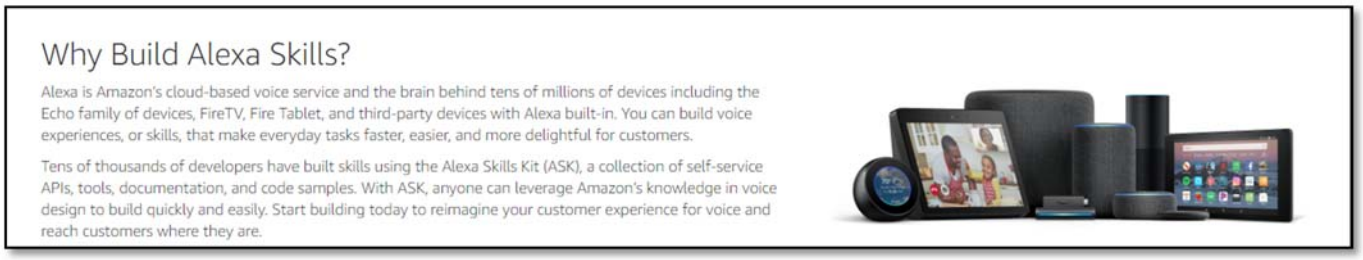
See, e.g., https://www.amazon.com/dp/B07456BG8N?tag=googhydr-20&hvadid=333263006615&hvpos=1t1&hvnetw=g&hvrand=17718345068411276924&hvpone=&hvptwo=&hvqmt=e&hvdev=c&hvdvcmdl=&hvlocint=&hvlocphy=1018127&hvtargid=kwd-295921616770&ref=pd_sl_2g7cb1h5ze_e#tech.

See, e.g., https://www.amazon.com/All-new-Echo-Plus-2nd-built/dp/B0794W1SKP/ref=sr_1_2?keywords=%20echo&qid=1562871943&s=gateway&sr=8-2.

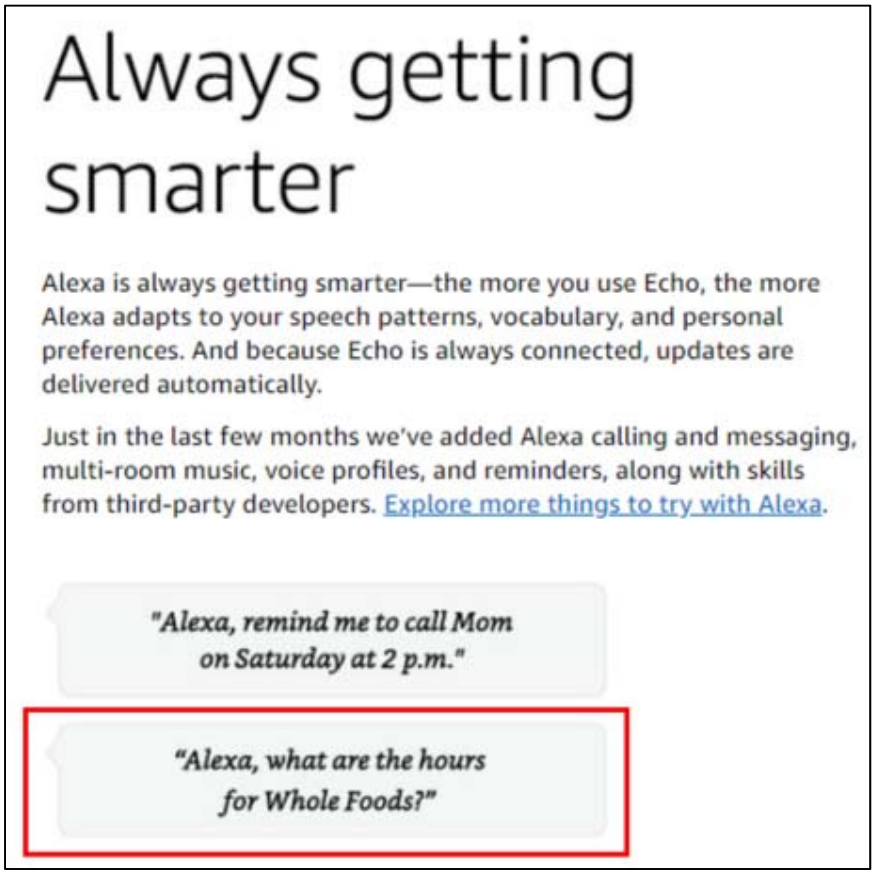
> But really, what exactly is Alexa? When you ask Alexa a question, what you're doing is communicating with a cloud-based service. Amazon has designed the Alexa Voice Service (AVS) to mimic real conversations, but you're actually using intuitive voice commands to get this service to perform specific tasks. "Alexa" is simply the "wake word" that alerts the service to start listening to your voice. For most devices, you just have to say it to get a response.
>
> Here's how Amazon describes the Alexa Voice Service on its developer page:
>
> "The Alexa Voice Service (AVS) is Amazon's intelligent voice recognition and natural language understanding service that allows you to voice-enable any connected device that has a microphone and speaker."

What is Alexa, and what can Amazon's virtual assistant do for you? (Feb. 16, 2019), available at https://www.digitaltrends.com/home/what-is-amazons-alexa-and-what-can-it-do/.

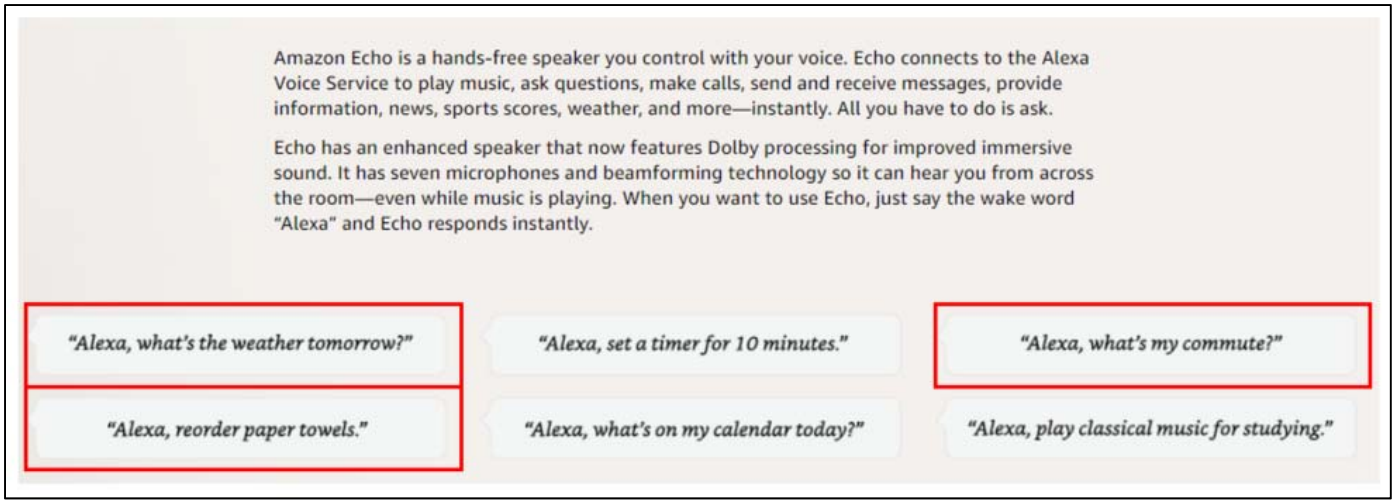
84. The Amazon Echo device in conjunction with Alexa is a system for retrieving information from pre-selected web sites by uttering speech commands into a voice enabled device. Amazon indicates that the Amazon Echo in conjunction with Alexa will make tasks easier.



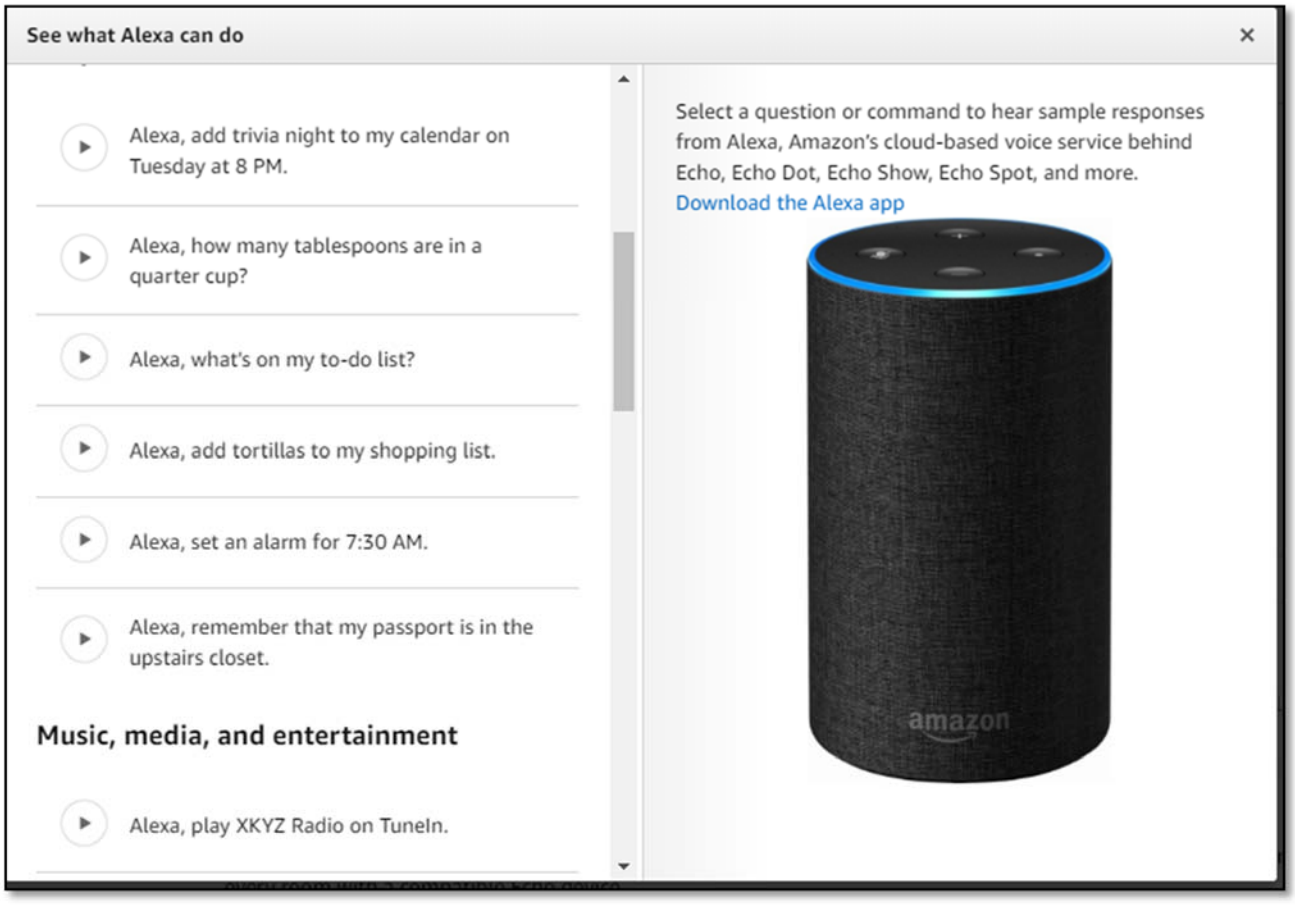
See, e.g., https://developer.amazon.com/en-US/alexa/alexa-skills-kit.



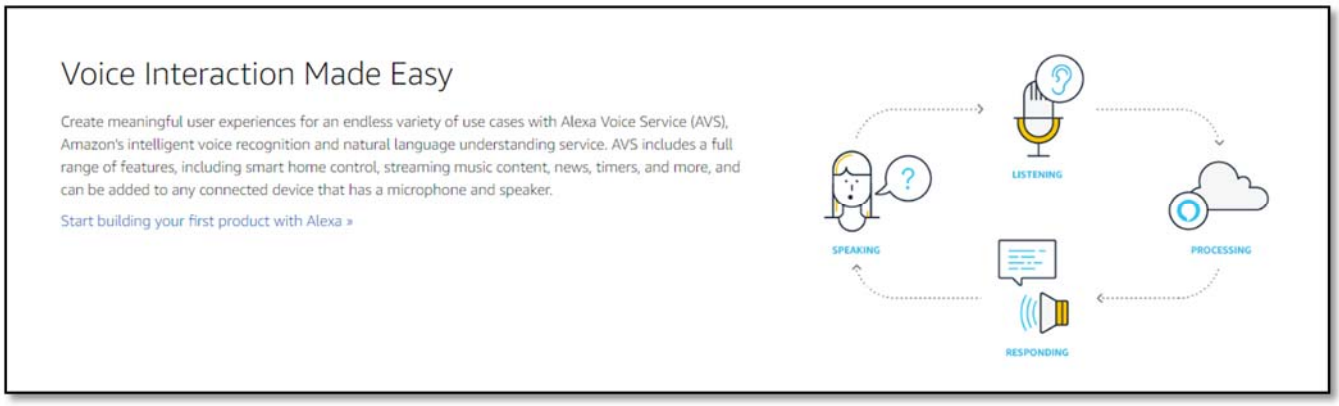
See, e.g., https://www.amazon.com/dp/B07456BG8N?tag=googhydr-20&hvadid=333263006615&hvpos=1t1&hvnetw=g&hvrand=17718345068411276924&hvpone=&hvptwo=&hvqmt=e&hvdev=c&hvdvcmdl=&hvlocint=&hvlocphy=1018127&hvtargid=kwd-295921616770&ref=pd_sl_2g7cb1h5ze_e#tech (annotations added).



See, e.g., id. (annotations added).



See, e.g.,https://www.amazon.com/dp/B07456BG8N?tag=googhydr-20&hvadid=333263006615&hvpos=1t1&hvnetw=g&hvrand=17718345068411276924&hvpone=&hvptwo=&hvqmt=e&hvdev=c&hvdvcmdl=&hvlocint=&hvlocphy=1018127&hvtargid=kwd-295921616770&ref=pd_sl_2g7cb1h5ze_e.



See, e.g., https://developer.amazon.com/alexa-voice-service/what-is-avs?linkCode=w61&imprToken= r0iiuJ6M7dIbzmX940rclw&slotNum=1

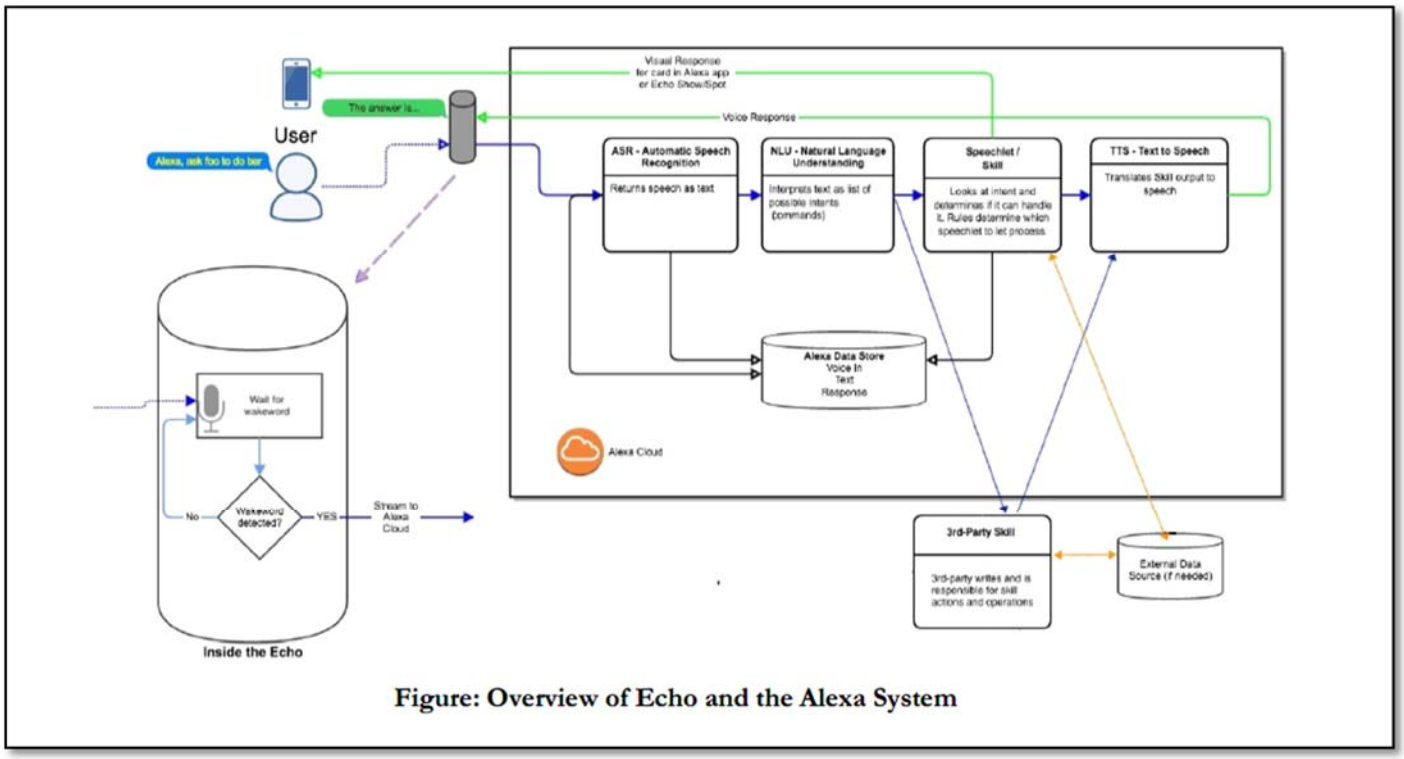
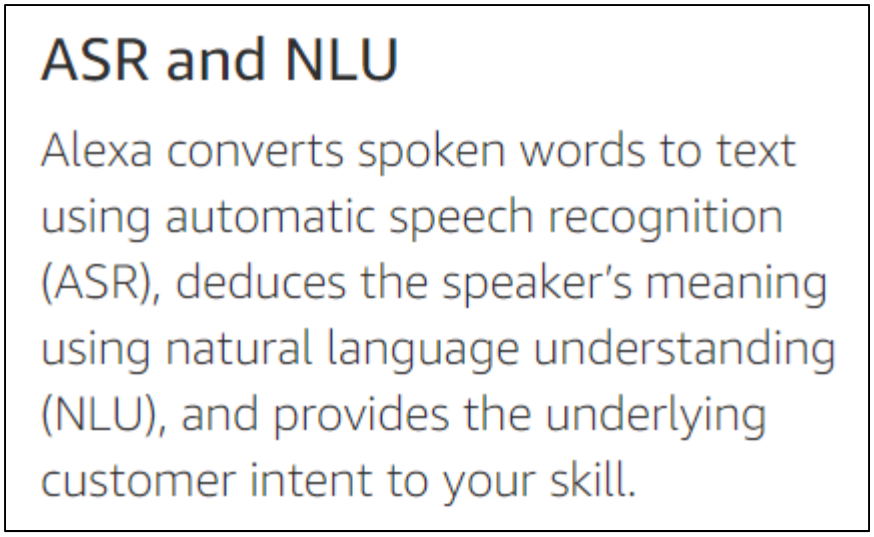


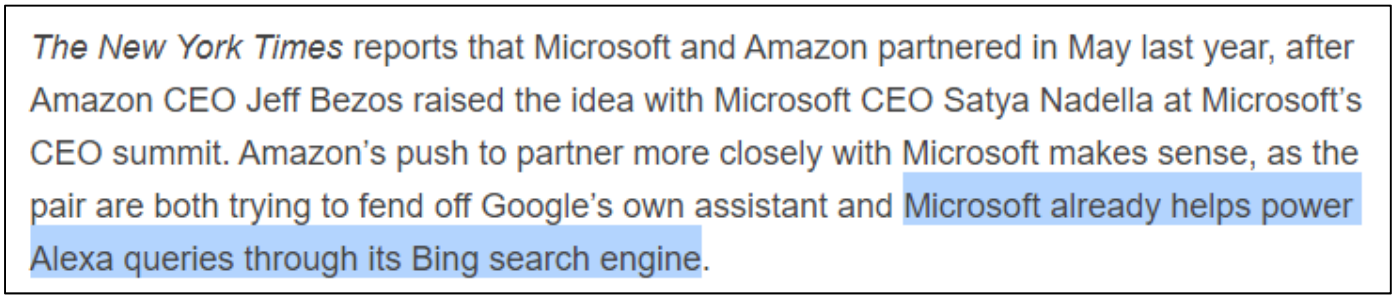
Figure: Overview of Echo and the Alexa System

See, e.g., Amazon, White Paper, Alexa Privacy and Data Handling Overview (July 20, 2018) at 1.

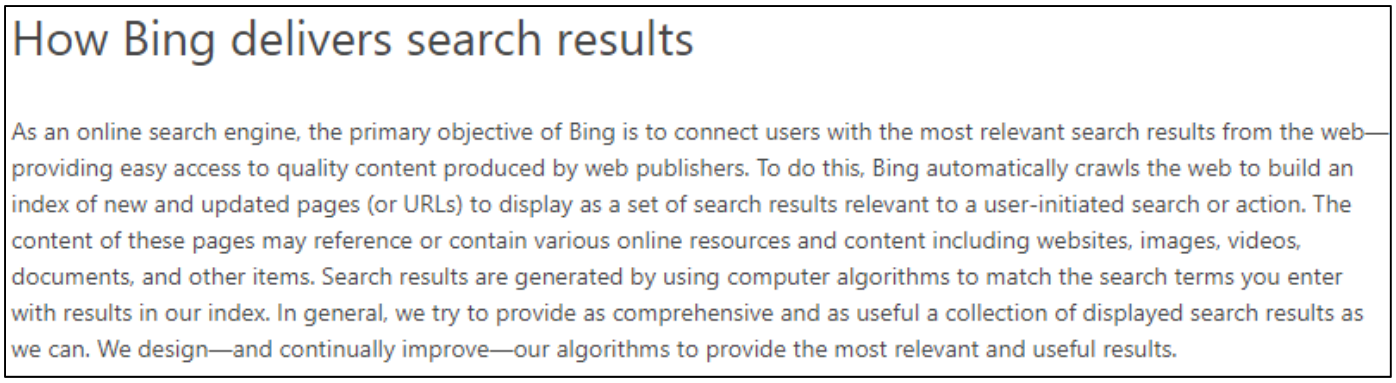


See, e.g., Alexa Skills Set, Amazon Alexa, https://developer.amazon.com/en-US/alexa/alexa-skills-kit.

85. The Amazon Echo device in conjunction with Alexa retrieves information from pre-selected websites that have already been crawled.



See, e.g., https://www.theverge.com/2017/8/30/16224876/microsoft-amazon-cortana-alexa-partnership



See, e.g., http://help.bing.microsoft.com/#apex/18/en-US/10016/0

Bingbot is the name of the crawler used by Bing to crawl or "spider" the web. It is Bingbot's job to find new and updated pages on websites across the Internet, so that they can be processed for indexation. When crawling a website, Bingbot looks at robots.txt for special instructions from the website owner. Bingbot honors robots.txt directives, including the *crawl-delay:* setting, and, in the absence of a crawl-delay, respects the input from Webmasters in the Crawl Control Feature.

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Meet our crawlers

Bing operates five main crawlers today:

CRAWLER	ROLE OF THIS PARTICULAR CRAWLER
Bingbot	Bingbot is our standard crawler and handles most of our crawling needs each day. Bingbot uses a couple of different user agent strings which include several mobile variants with which we crawl the mobile web (see here for details on the latter).
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> Bing's crawler, Bingbot is a key component of the Bing platform. Bingbot's main function is to:
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> - Download webpages to get the latest content and discover new links from existing known links.
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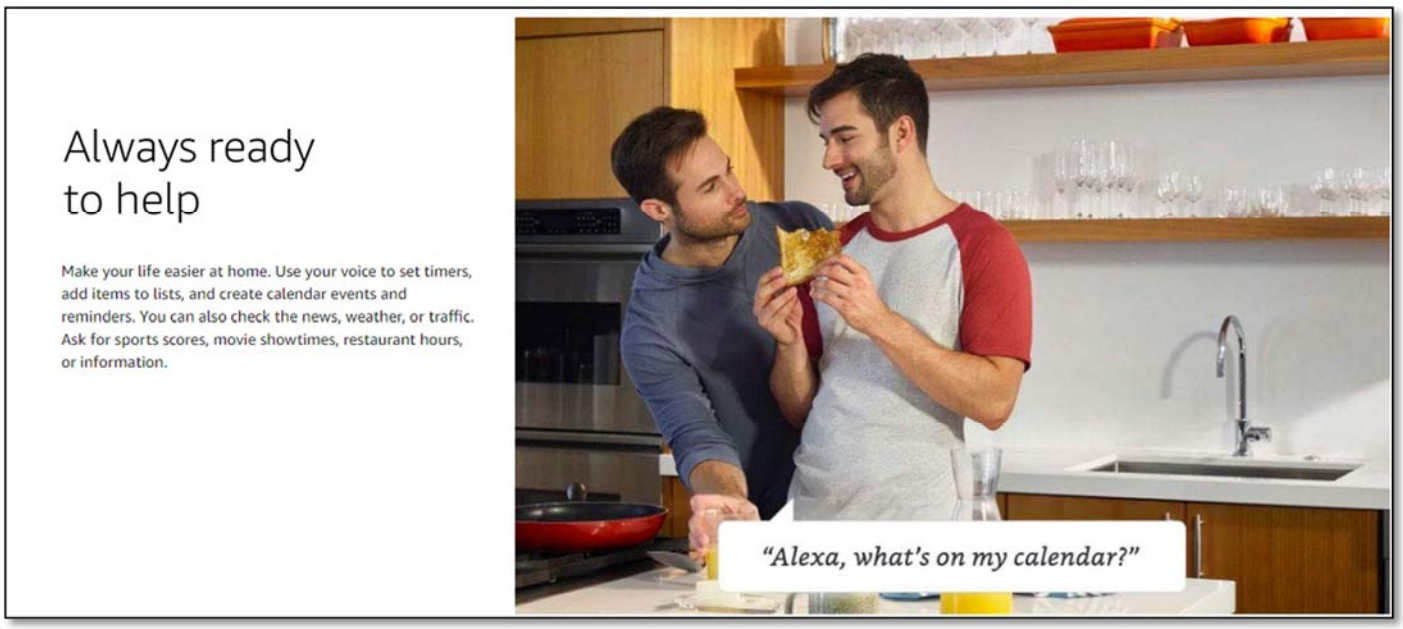
See id.

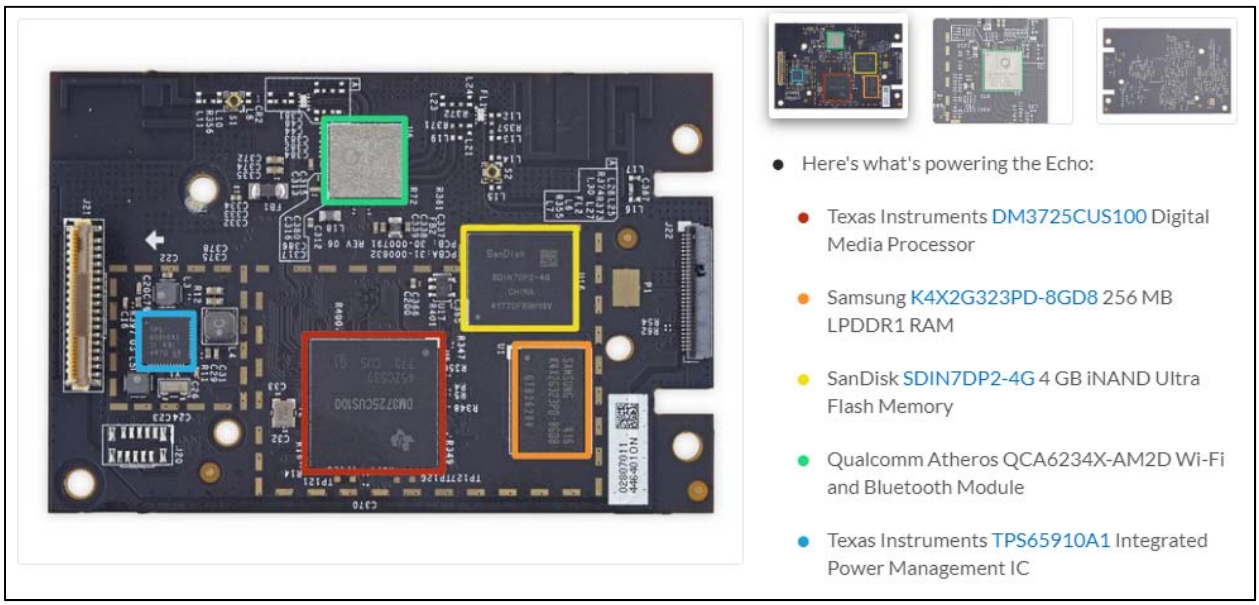
See, e.g., https://developer.amazon.com/alexa-voice-service.

86. The retrieved information is in an audio form via said voice enabled device as Amazon indicates that one can "use voice to set timers, add items to lists, and create calendar events and reminders. [One] can also check the news, weather or traffic." On information and belief, the Amazon Echo device in conjunction with Alexa provides the retrieved information in an audio form via said voice enabled device.



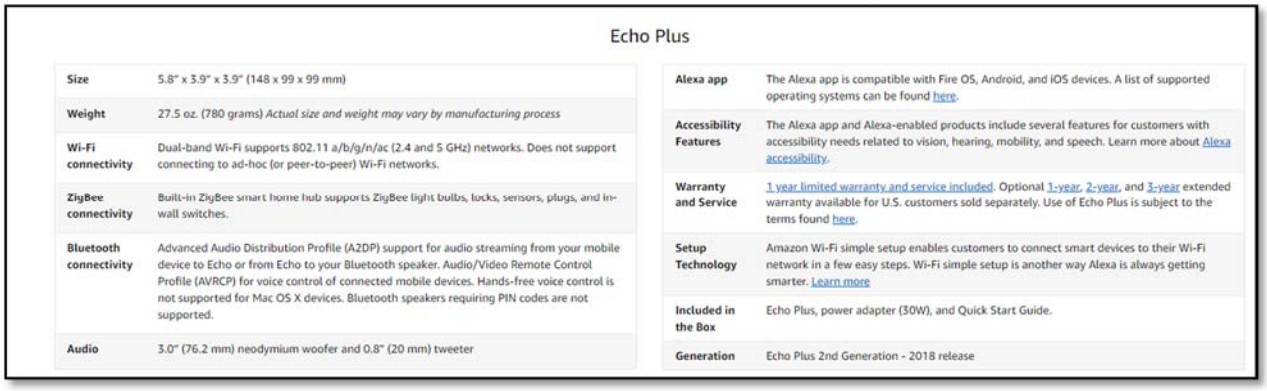
See, e.g., https://www.amazon.com/All-new-Echo-Plus-2nd-built/dp/B0794W1SKP/ref=sr_1_2?keywords =echo&qid=1562871943&s=gateway&sr=8-2.

87. The Amazon Accused Products in conjunction with Alexa include at least one computing device, the computing device operatively coupled to one or more networks. For example, the Amazon Echo includes a Texas Instruments DM3725 ARM Cortex-A8 processor.



See, e.g., https://www.ifixit.com/Teardown/Amazon+Echo+Teardown/33953

88. That computer is operatively connected to the internet because the Amazon Echo includes both Wi-Fi connectivity and cellular connectivity.



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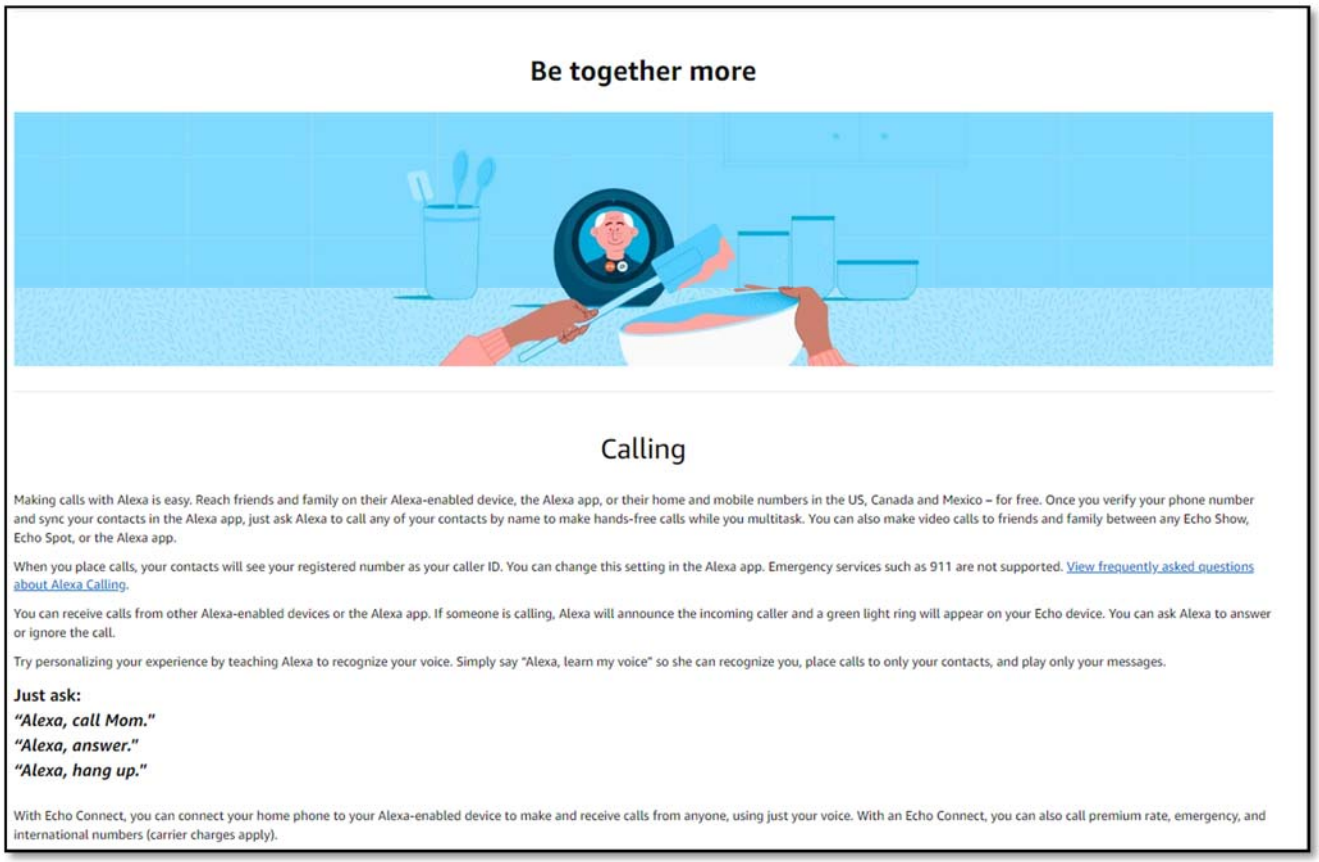

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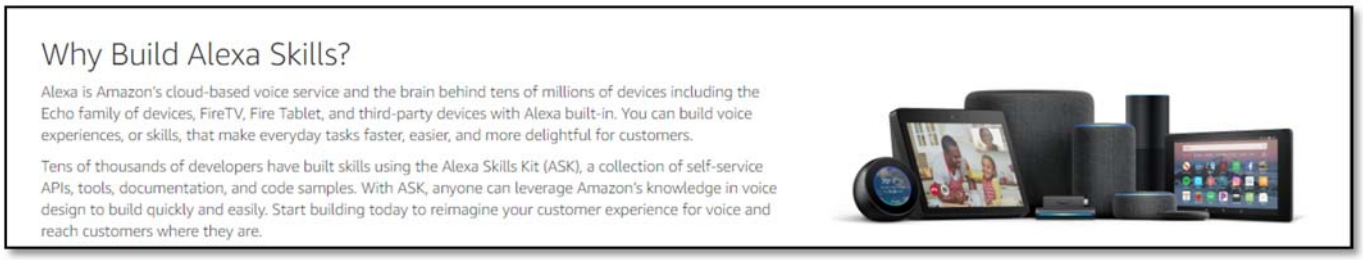
89. The Amazon Accused Products in conjunction with Alexa include at least one speaker-independent speech-recognition device, the speaker-independent speech-recognition device operatively connected to the computing device and configured to receive the speech commands.

90. For example, the Amazon Echo in conjunction with Alexa allows a user to talk through the device to send commands to the cloud.



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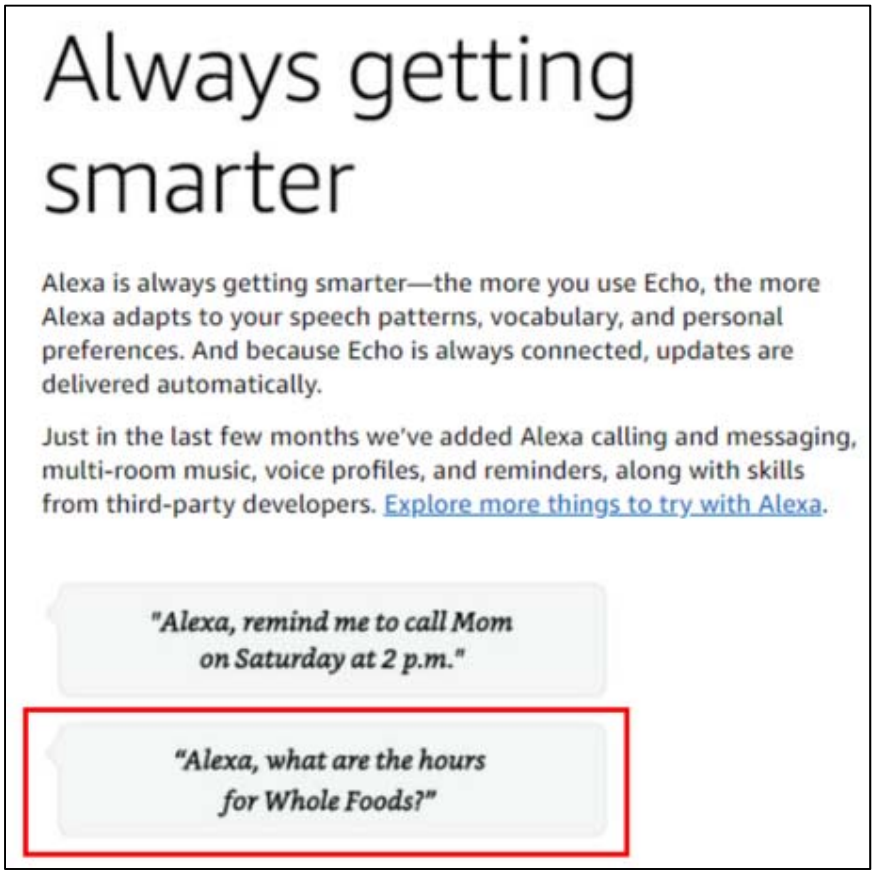
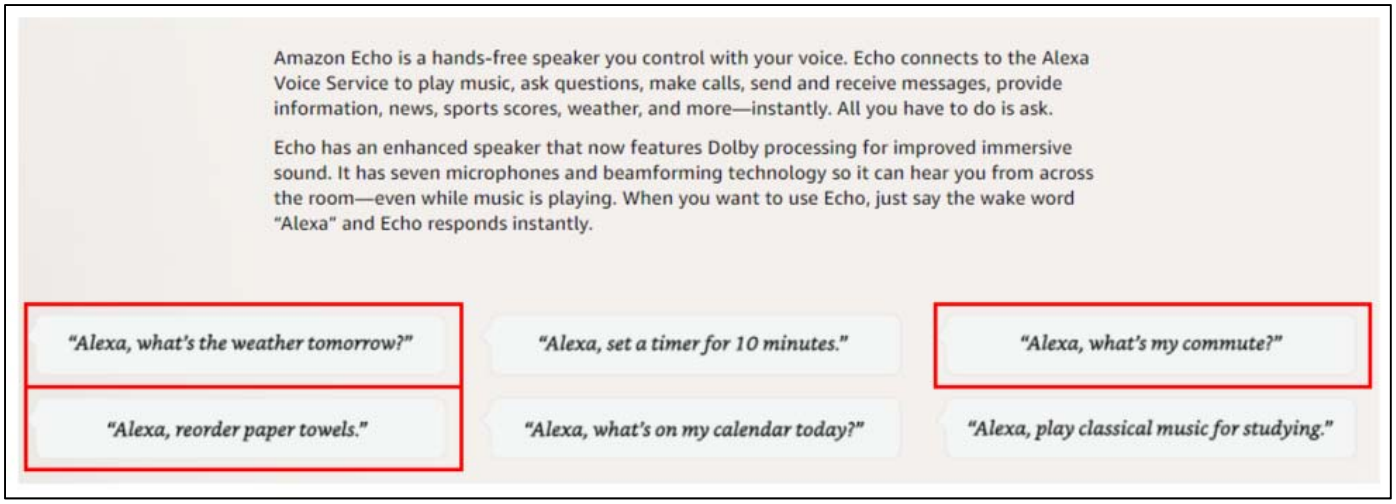
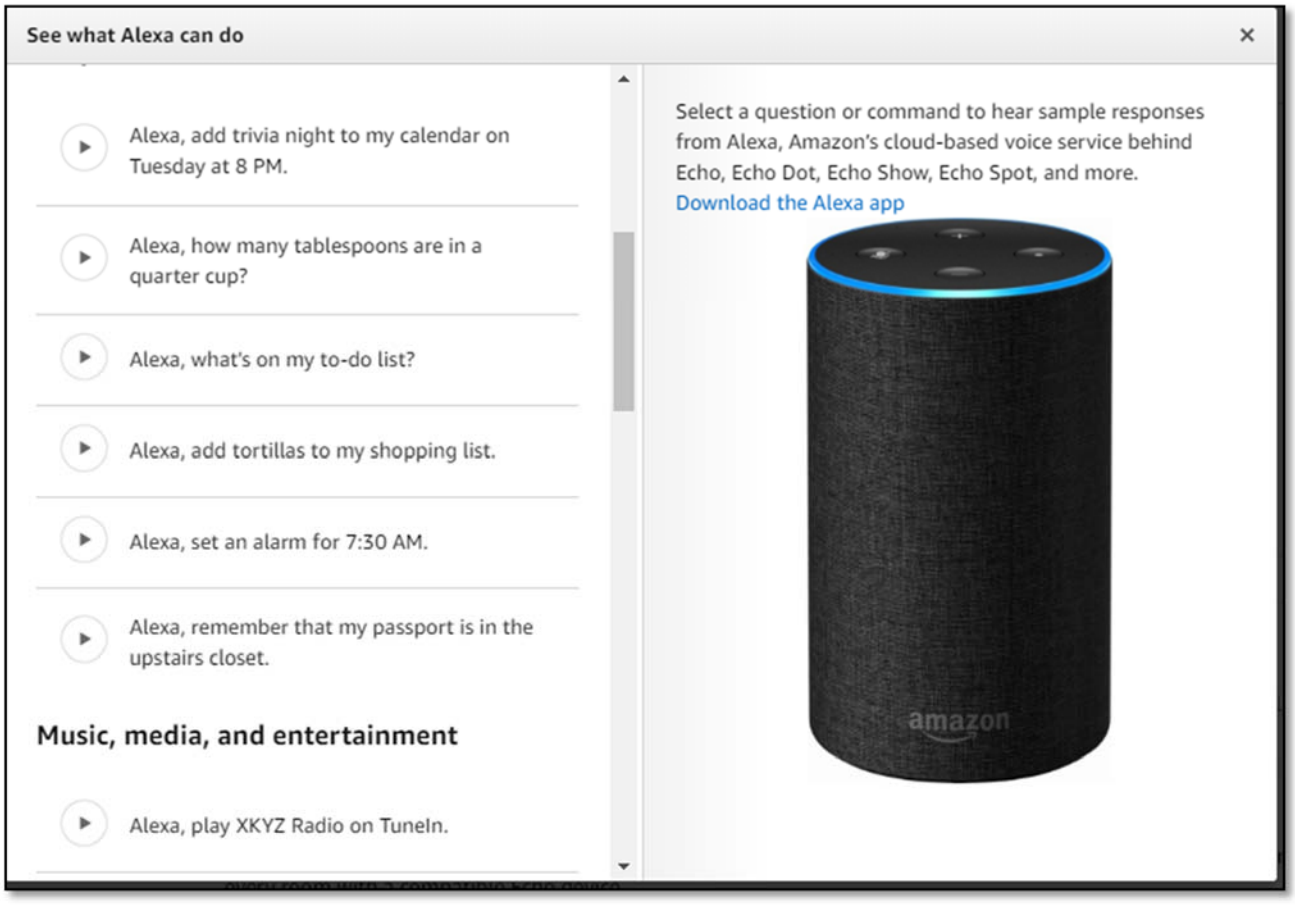


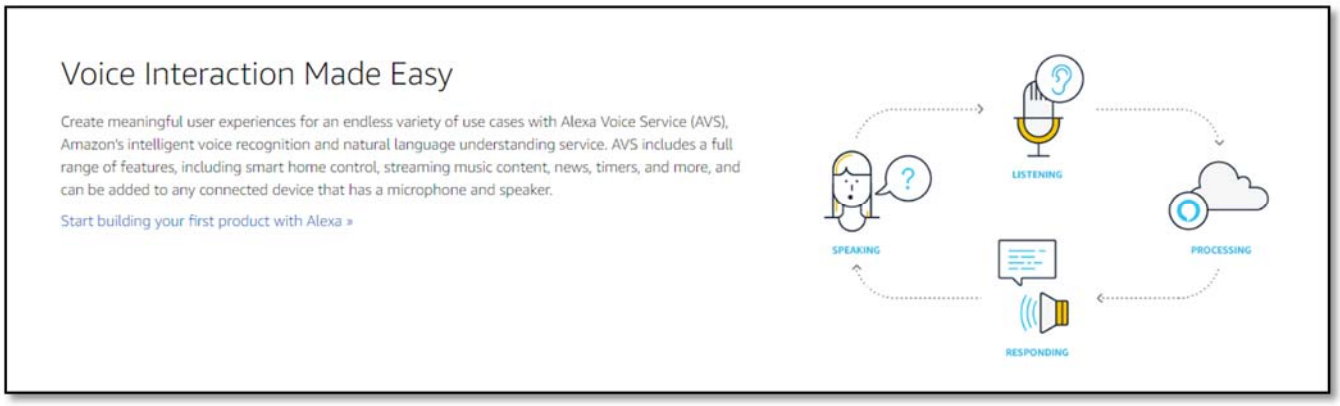
See, e.g., https://www.amazon.com/dp/B07456BG8N?tag=googhydr-20&hvadid=333263006615&hvpos=1t1&hvnetw=g&hvrand=17718345068411276924&hvpone=&hvptwo=&hvqmt=e&hvdev=c&hvdvcmdl=&hvlocint=&hvlocphy=1018127&hvtargid=kwd-295921616770&ref=pd_sl_2g7cb1h5ze_e#tech (annotations added).



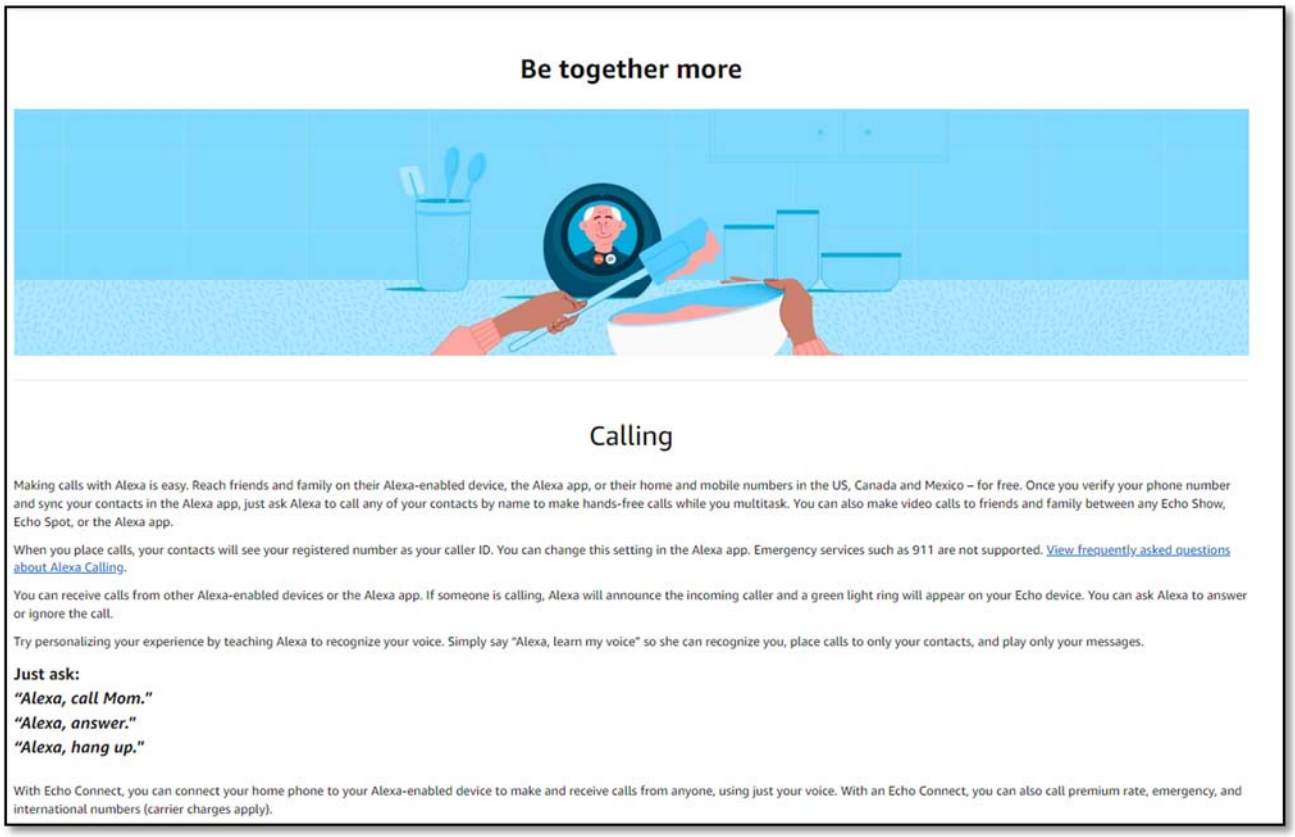
See, e.g., id. (annotations added).



See, e.g.,https://www.amazon.com/dp/B07456BG8N?tag=googhydr-20&hvadid=333263006615&hvpos=1t1&hvnetw=g&hvrand=17718345068411276924&hvpone=&hvptwo=&hvqmt=e&hvdev=c&hvdvcmdl=&hvlocint=&hvlocphy=1018127&hvtargid=kwd-295921616770&ref=pd_sl_2g7cb1h5ze_e.



See, e.g., https://developer.amazon.com/alexa-voice-service/what-is-avs?linkCode=w61&imprToken= r0iiuJ6M7dIbzmX940rclw&slotNum=1



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91. The Amazon Accused Products in conjunction with Alexa include at least one speech-synthesis device, the speech-synthesis device operatively connected to the computing device.

92. For example, the Amazon Echo in conjunction with Alexa can handle voice commands on the device itself or with help from the cloud.

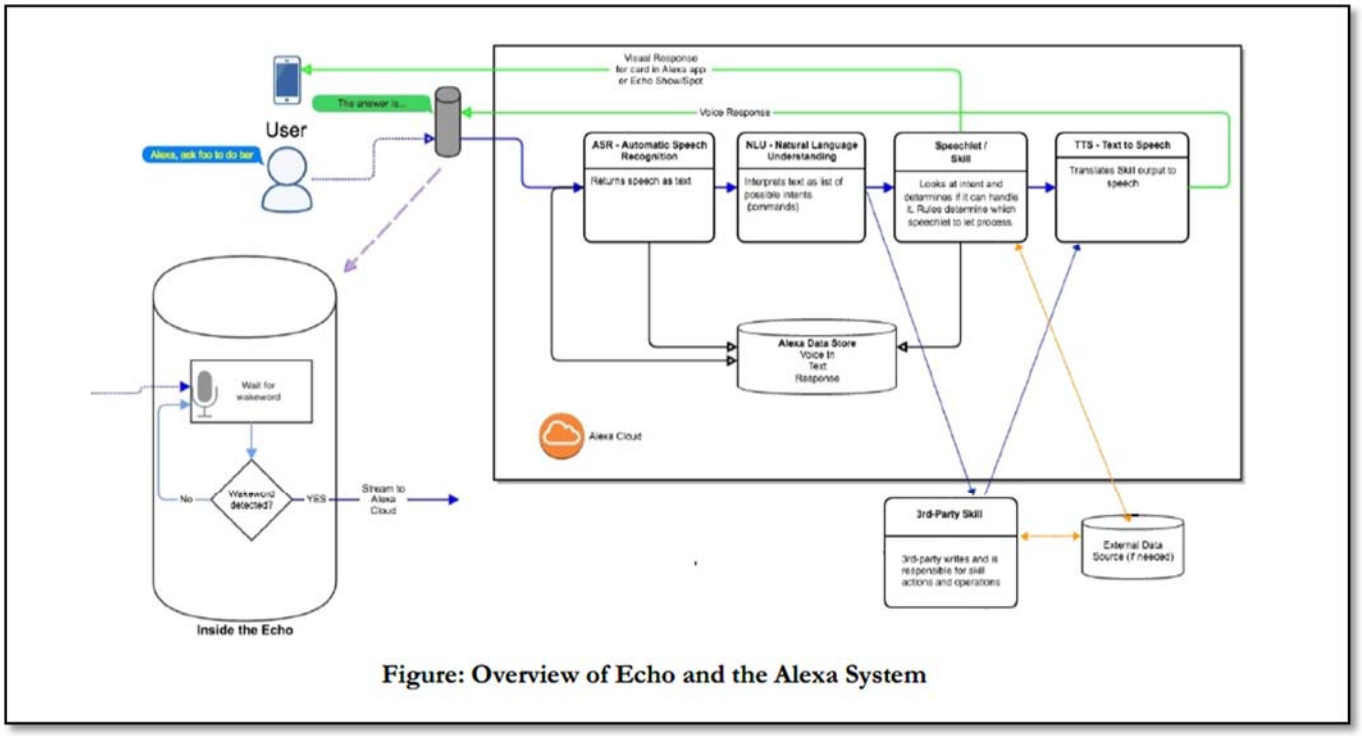


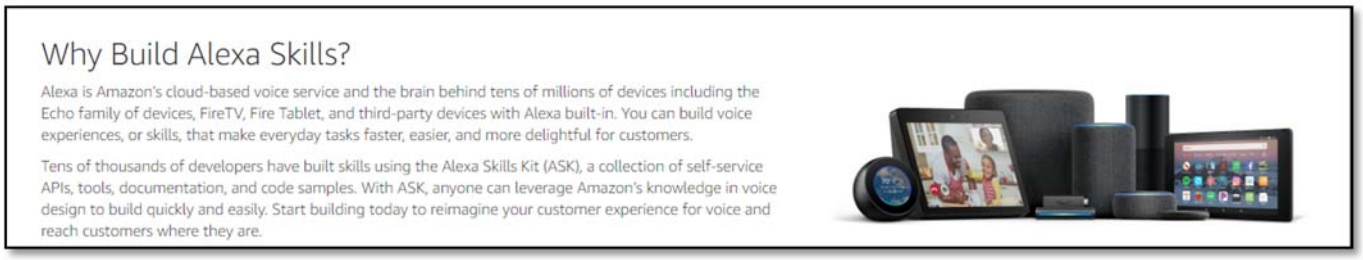
Figure: Overview of Echo and the Alexa System

See, *e.g.*, Amazon, White Paper, Alexa Privacy and Data Handling Overview (July 20, 2018) at 1.

ASR and NLU

Alexa converts spoken words to text using automatic speech recognition (ASR), deduces the speaker's meaning using natural language understanding (NLU), and provides the underlying customer intent to your skill.

See, e.g., Alexa Skills Set, Amazon Alexa, https://developer.amazon.com/en-US/alexa/alexa-skills-kit.



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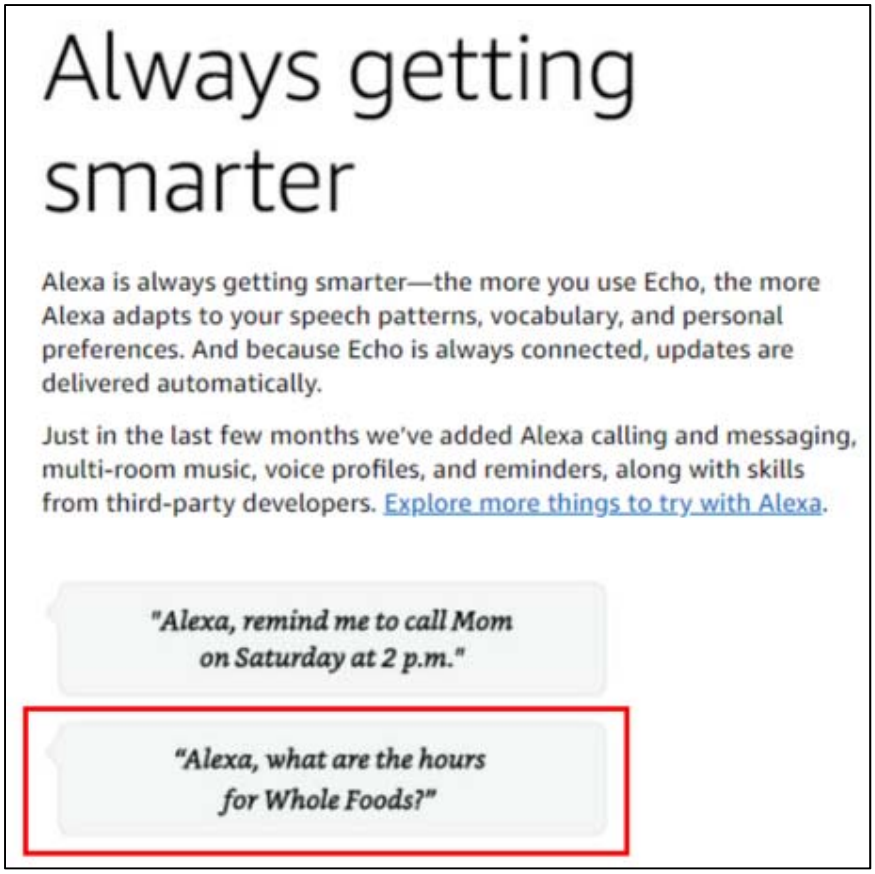

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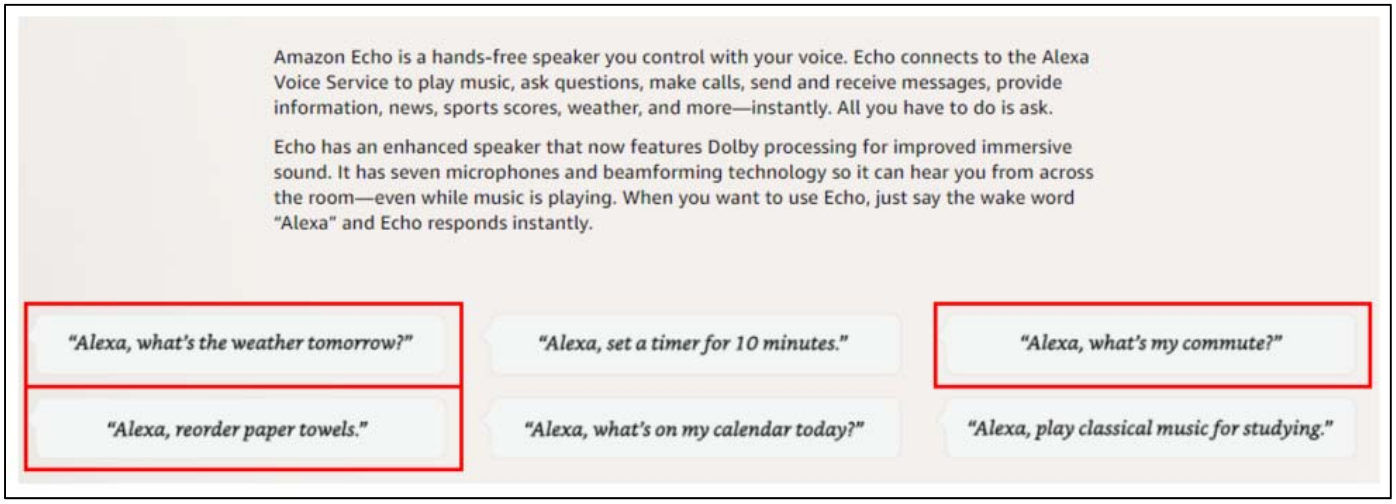

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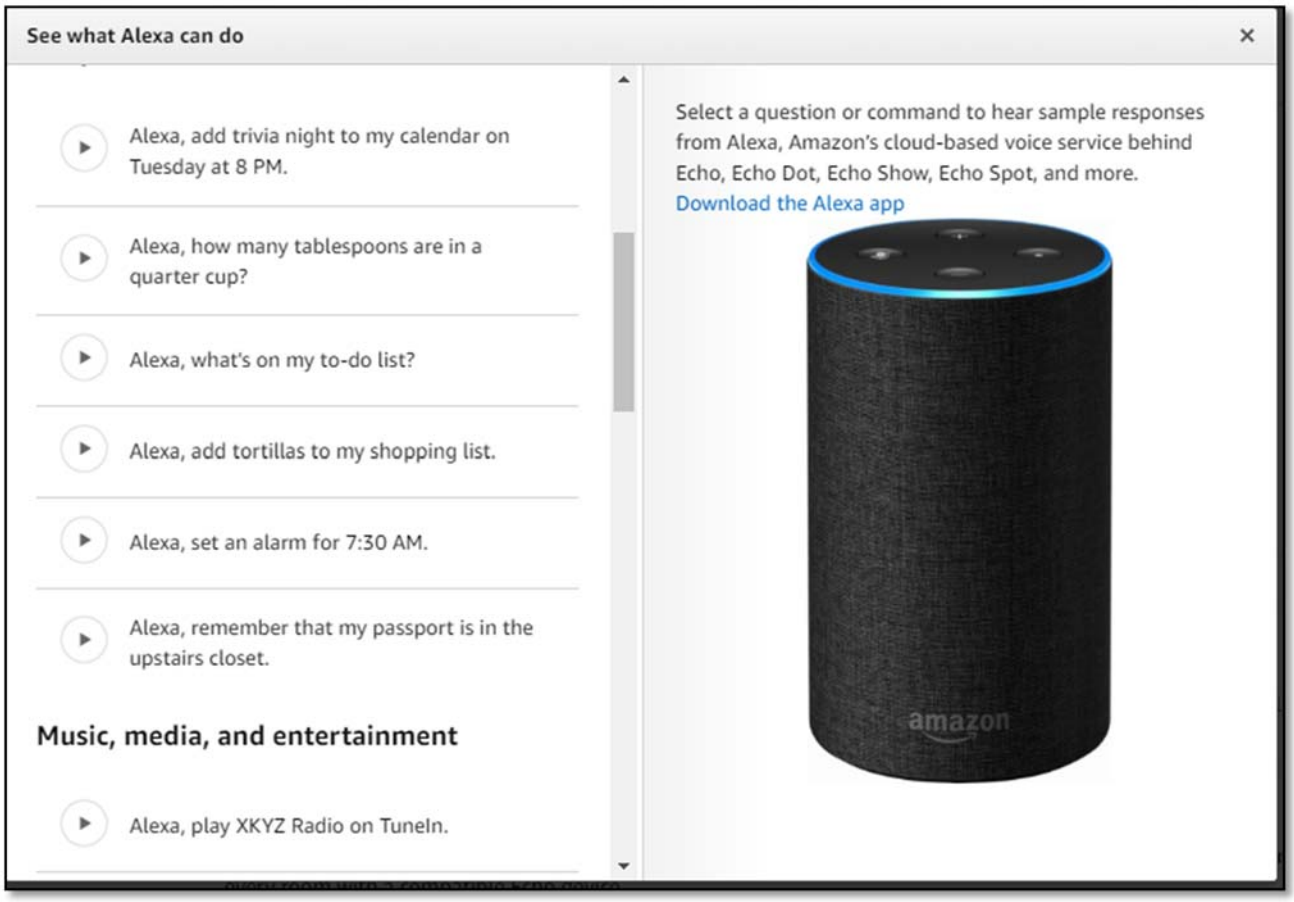

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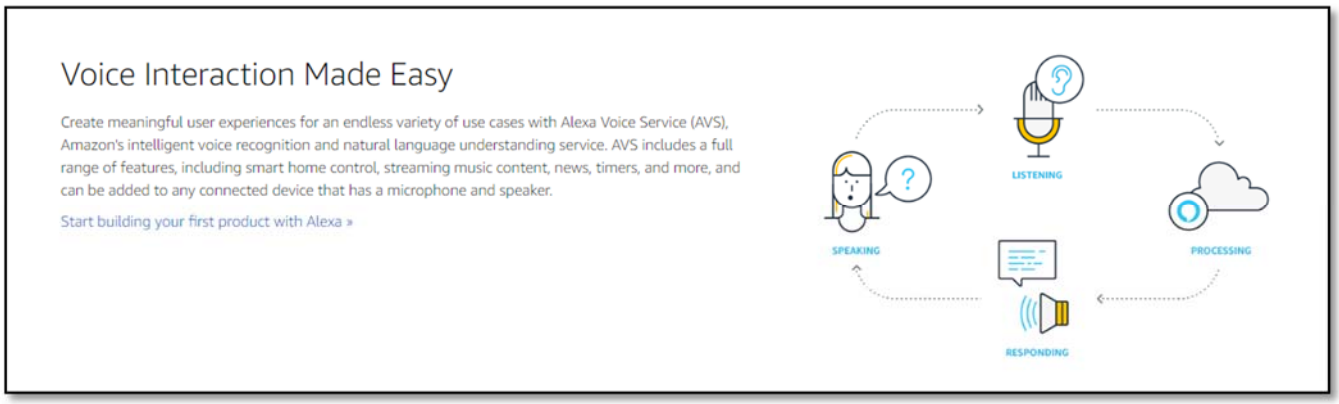

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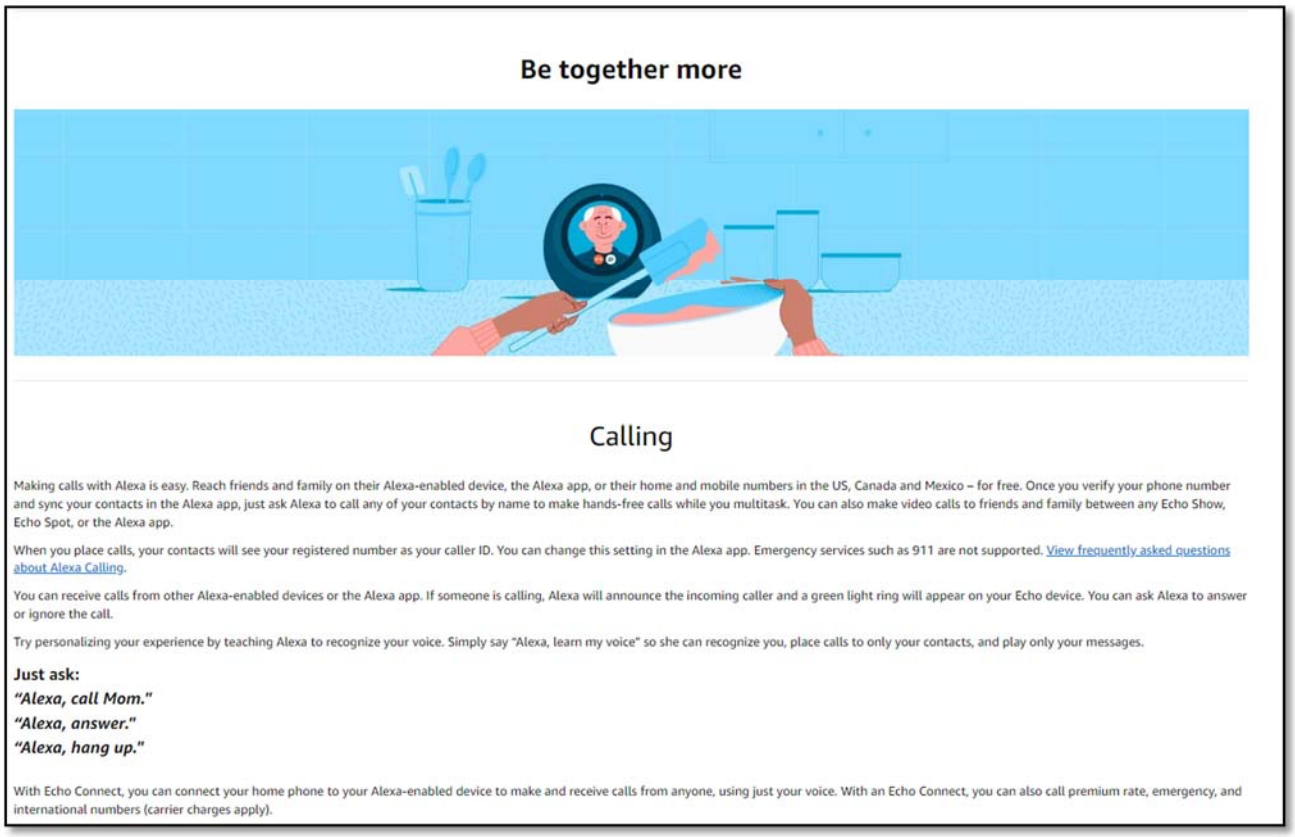


Be together more

Calling

Making calls with Alexa is easy. Reach friends and family on their Alexa-enabled device, the Alexa app, or their home and mobile numbers in the US, Canada and Mexico – for free. Once you verify your phone number and sync your contacts in the Alexa app, just ask Alexa to call any of your contacts by name to make hands-free calls while you multitask. You can also make video calls to friends and family between any Echo Show, Echo Spot, or the Alexa app.

When you place calls, your contacts will see your registered number as your caller ID. You can change this setting in the Alexa app. Emergency services such as 911 are not supported. View frequently asked questions about Alexa Calling.

You can receive calls from other Alexa-enabled devices or the Alexa app. If someone is calling, Alexa will announce the incoming caller and a green light ring will appear on your Echo device. You can ask Alexa to answer or ignore the call.

Try personalizing your experience by teaching Alexa to recognize your voice. Simply say "Alexa, learn my voice" so she can recognize you, place calls to only your contacts, and play only your messages.

Just ask:
"Alexa, call Mom."
"Alexa, answer."
"Alexa, hang up."

With Echo Connect, you can connect your home phone to your Alexa-enabled device to make and receive calls from anyone, using just your voice. With an Echo Connect, you can also call premium rate, emergency, and international numbers (carrier charges apply).

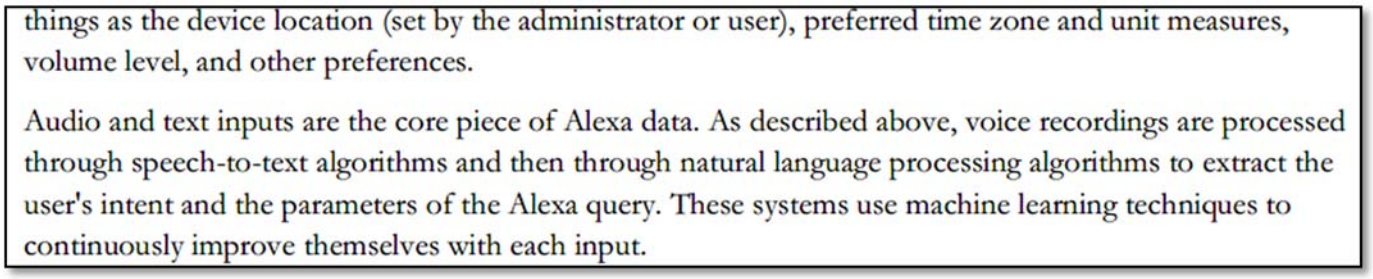
See, e.g., https://www.amazon.com/b/ref=aeg_lp_comm_d/ref=s9_acss_bw_cg_aegflp_1b1_w?node= 17934681011&pf_rd_m=ATVPDKIKX0DER&pf_rd_s=merchandised-search-6&pf_rd_r= JCEXPV9CF AK9TVXXVEKA&pf_rd_t=101&pf_rd_p=02147624-e148-4901-b449-773097cfa62e&pf_rd_i=17934672011.

93. The Amazon Accused Products in conjunction with Alexa include a memory operatively associated with the computing device with at least one instruction set for identifying the information to be retrieved, the instruction set being associated with the computing device.

94. For example, the Amazon Echo includes a memory that is associated with the computing device and includes at least one instruction set for Alexa in order to allow Alexa to run.

Data Storage

Different types of data are used and stored by the Alexa system to provide the Alexa service. Configuration parameters are set by the user either on the device or using the Alexa app. These parameters include such



things as the device location (set by the administrator or user), preferred time zone and unit measures, volume level, and other preferences.

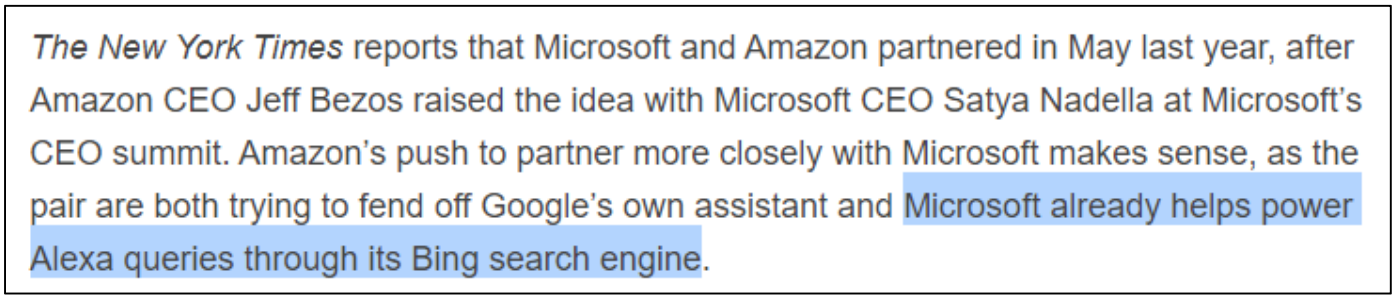
Audio and text inputs are the core piece of Alexa data. As described above, voice recordings are processed through speech-to-text algorithms and then through natural language processing algorithms to extract the user's intent and the parameters of the Alexa query. These systems use machine learning techniques to continuously improve themselves with each input.

See, e.g., Amazon, White Paper, Alexa Privacy and Data Handling Overview (July 20, 2018) at 6-7.

95. A Person of Ordinary Skill in the Art ("POSITA") would understand that this memory would be operatively coupled to the computing device and there would be at least one instruction set being associated with the computing device stored therein.

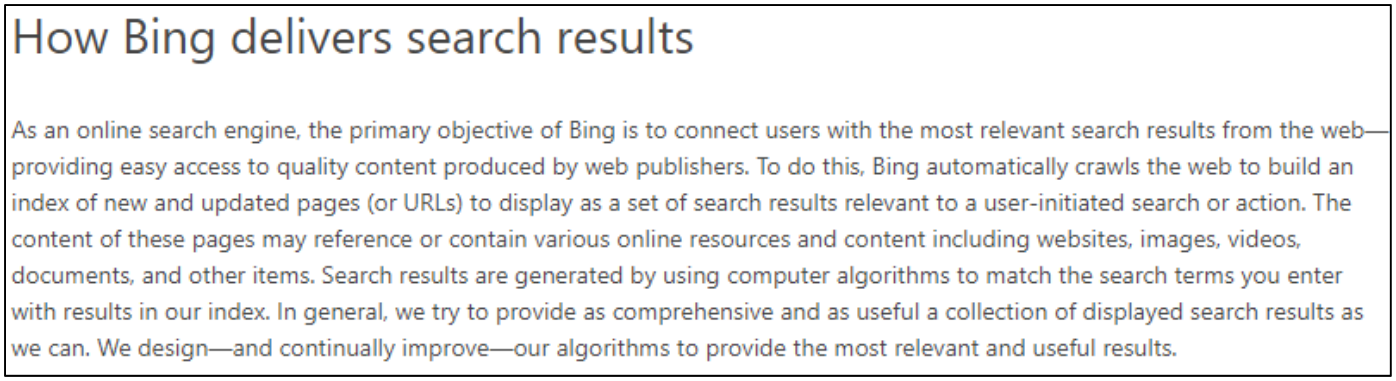
96. The Amazon Accused Products in conjunction with Alexa include at least one instruction set for identifying the information to be retrieved comprising a plurality of web site addresses for the listing of web sites, each web site address identifying a web site containing the information to be retrieved.

97. For example, the Amazon Echo device in conjunction with Alexa retrieves information from pre-selected websites that have already been crawled.



The New York Times reports that Microsoft and Amazon partnered in May last year, after Amazon CEO Jeff Bezos raised the idea with Microsoft CEO Satya Nadella at Microsoft's CEO summit. Amazon's push to partner more closely with Microsoft makes sense, as the pair are both trying to fend off Google's own assistant and Microsoft already helps power Alexa queries through its Bing search engine.

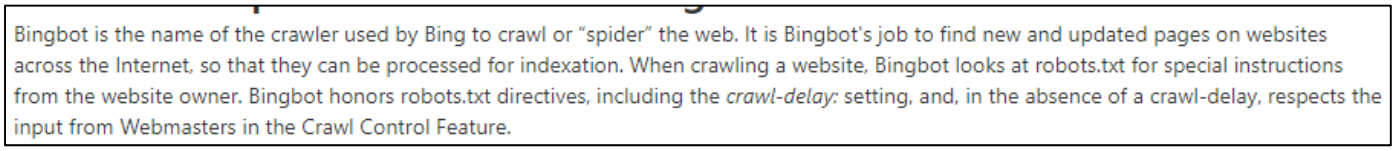
See, e.g., https://www.theverge.com/2017/8/30/16224876/microsoft-amazon-cortana-alexa-partnership



How Bing delivers search results

As an online search engine, the primary objective of Bing is to connect users with the most relevant search results from the web—providing easy access to quality content produced by web publishers. To do this, Bing automatically crawls the web to build an index of new and updated pages (or URLs) to display as a set of search results relevant to a user-initiated search or action. The content of these pages may reference or contain various online resources and content including websites, images, videos, documents, and other items. Search results are generated by using computer algorithms to match the search terms you enter with results in our index. In general, we try to provide as comprehensive and as useful a collection of displayed search results as we can. We design—and continually improve—our algorithms to provide the most relevant and useful results.

See, e.g., http://help.bing.microsoft.com/#apex/18/en-US/10016/0



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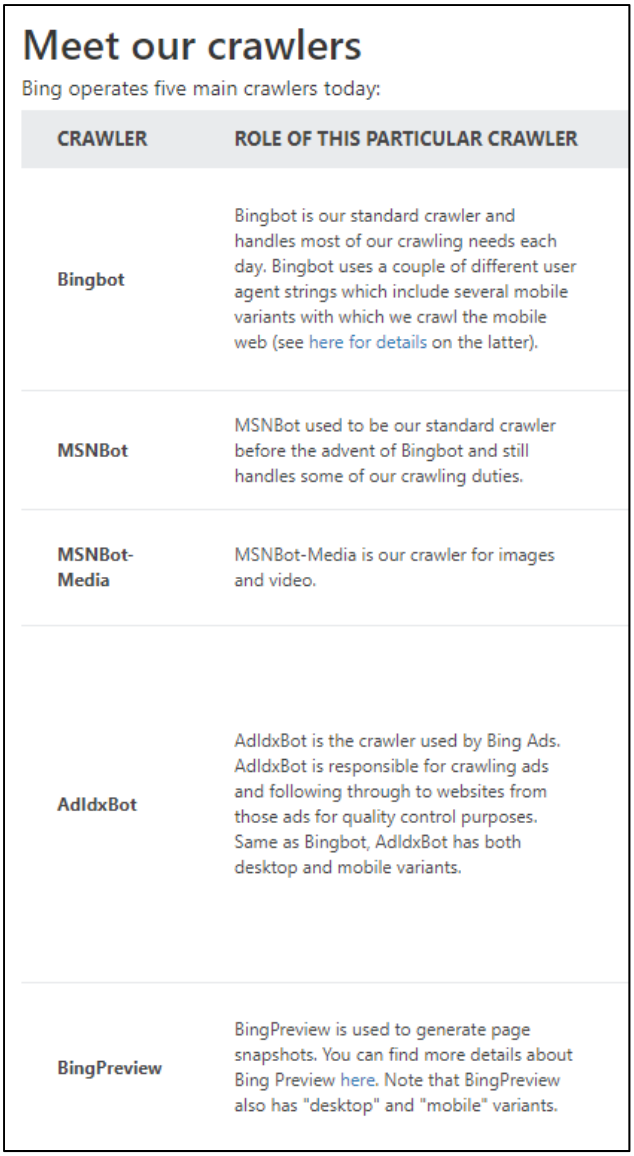

Meet our crawlers

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See id.

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98. Microsoft / Bing uses technology to crawl the web to index web sites with information to respond to a search request. The indexed websites are identified by web site addresses. These indexed websites are "a plurality of pre-selected web site addresses," and each such website "indentif[ies] a web site containing said information to be retrieved."

99. The Amazon Accused Products in conjunction with Alexa include at least one recognition grammar associated with the computing device, each recognition grammar corresponding to each instruction set and corresponding to a speech command, the speech command comprising an information request provided by the user, the speaker-independent speech-recognition device configured to receive the speech command from the users via the voice-enabled device and to select the corresponding recognition grammar upon receiving the speech command.

100. For example, on information and belief, the Amazon Echo, in connection with Alexa, utilizes an artificial neural network, which is a speech recognition grammar, to process voice commands. On information and belief, Amazon provides the capability for a user to define recognition grammars via skills. The Amazon Echo then also utilizes these user-defined speech recognition grammars when executing the skills triggered by a voice command. The Amazon

Echo can handle voice commands on the device itself when offline, indicating that at least one recognition grammar corresponding to each said instruction set and corresponding to a speech command is on the device itself. The Amazon Echo can also handle voice commands with help from the cloud.

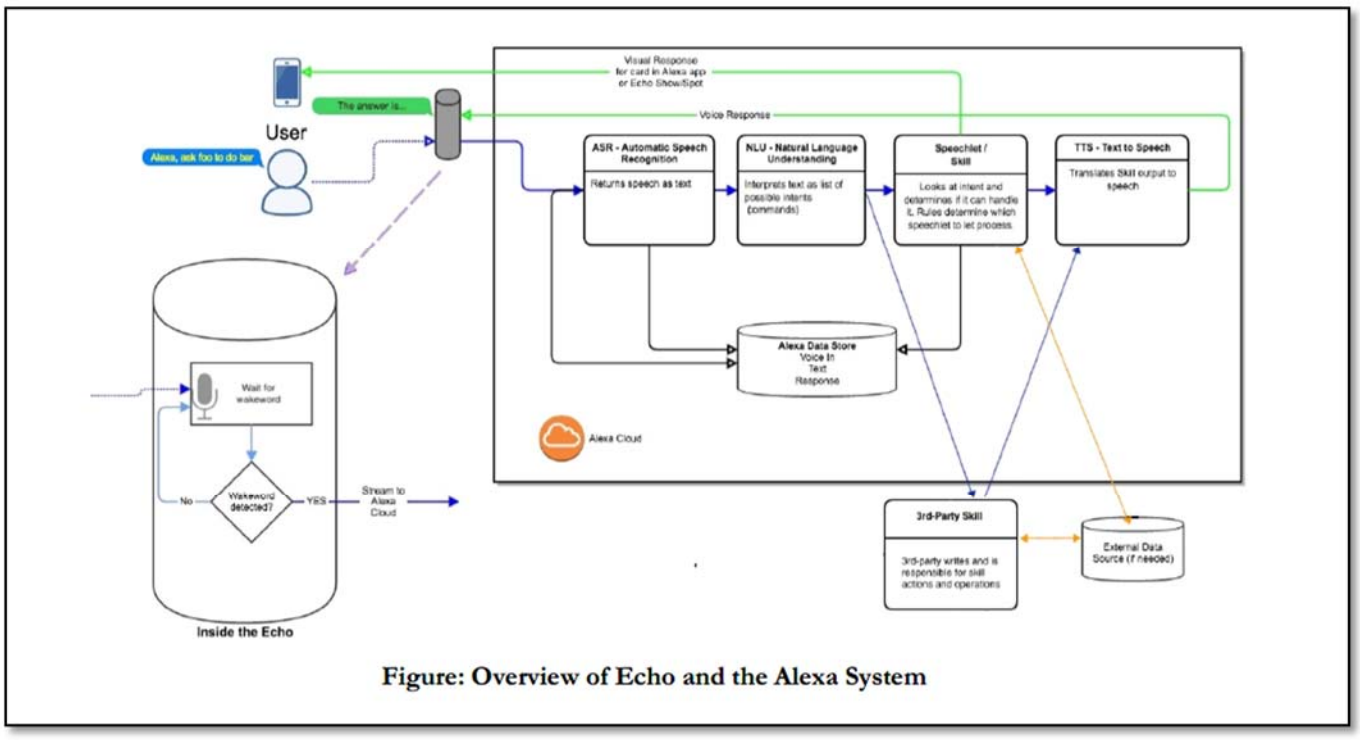

Figure: Overview of Echo and the Alexa System

See, e.g., Amazon, White Paper, Alexa Privacy and Data Handling Overview (July 20, 2018) at 1.

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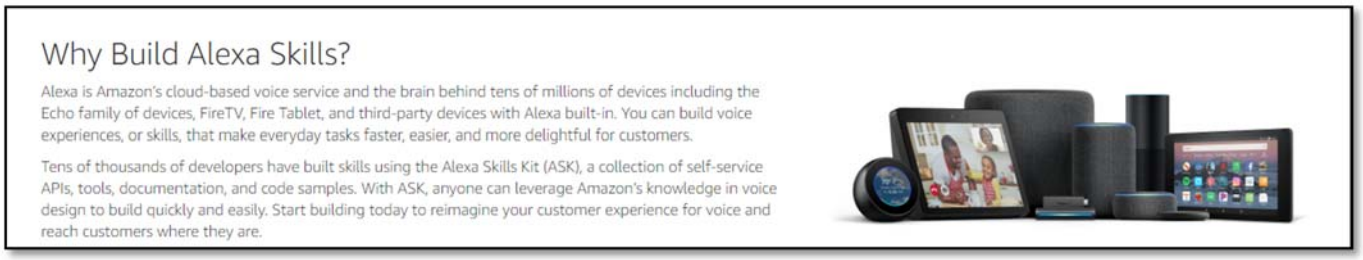
See, e.g., Alexa Skills Set, Amazon Alexa, https://developer.amazon.com/en-US/alexa/alexa-skills-kit.



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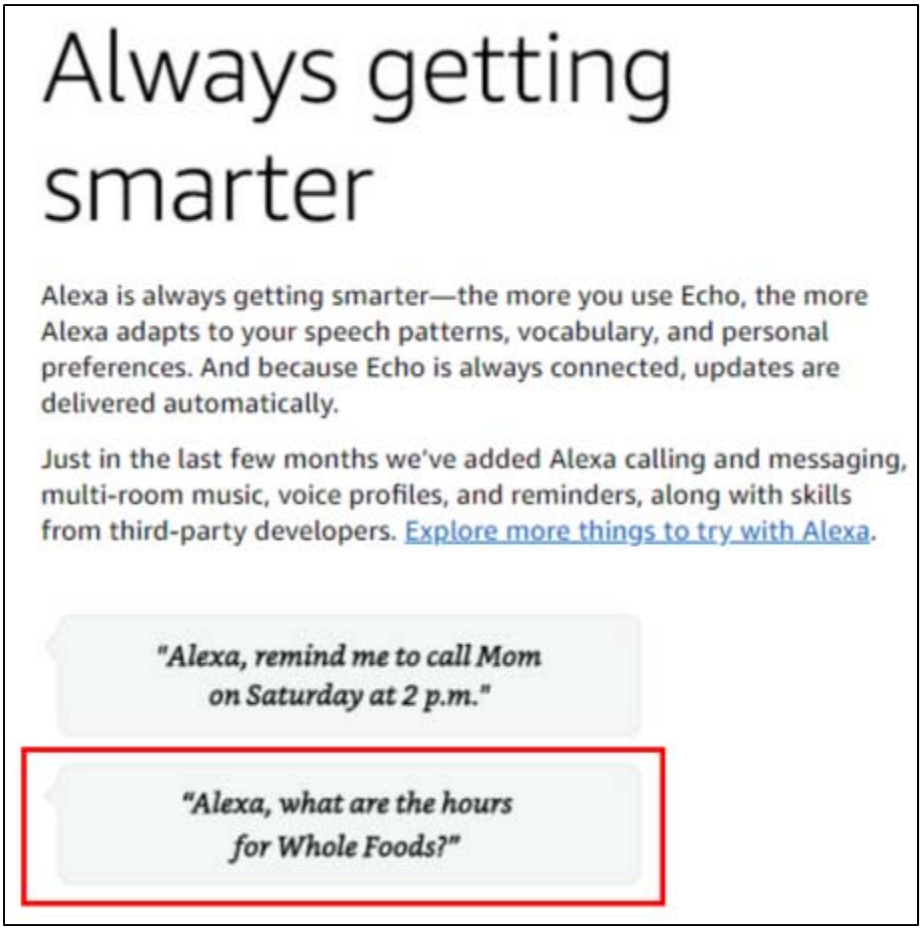
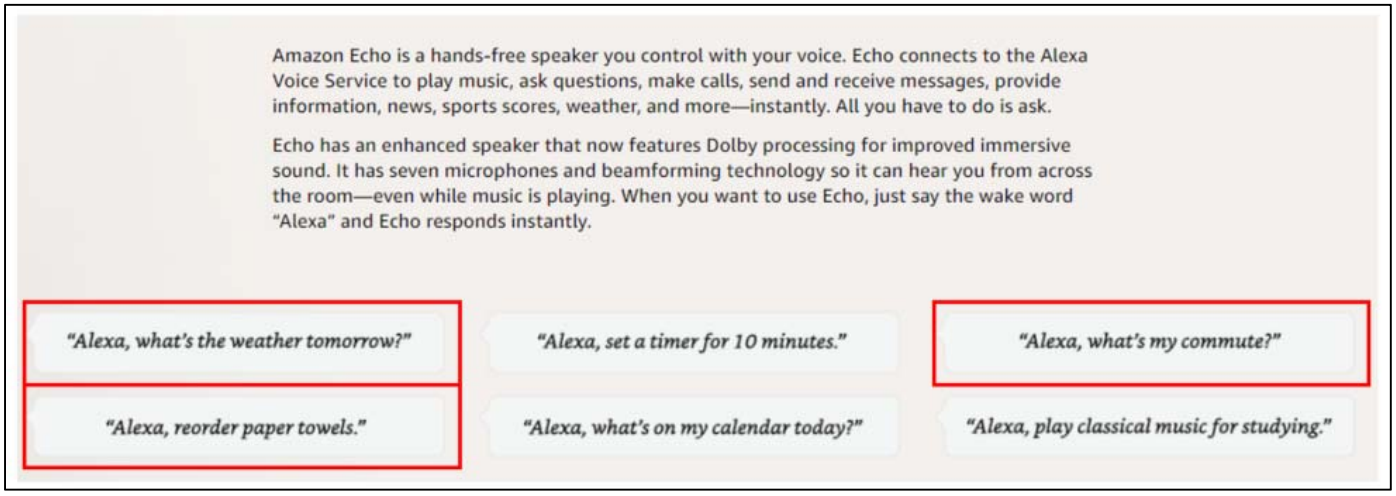
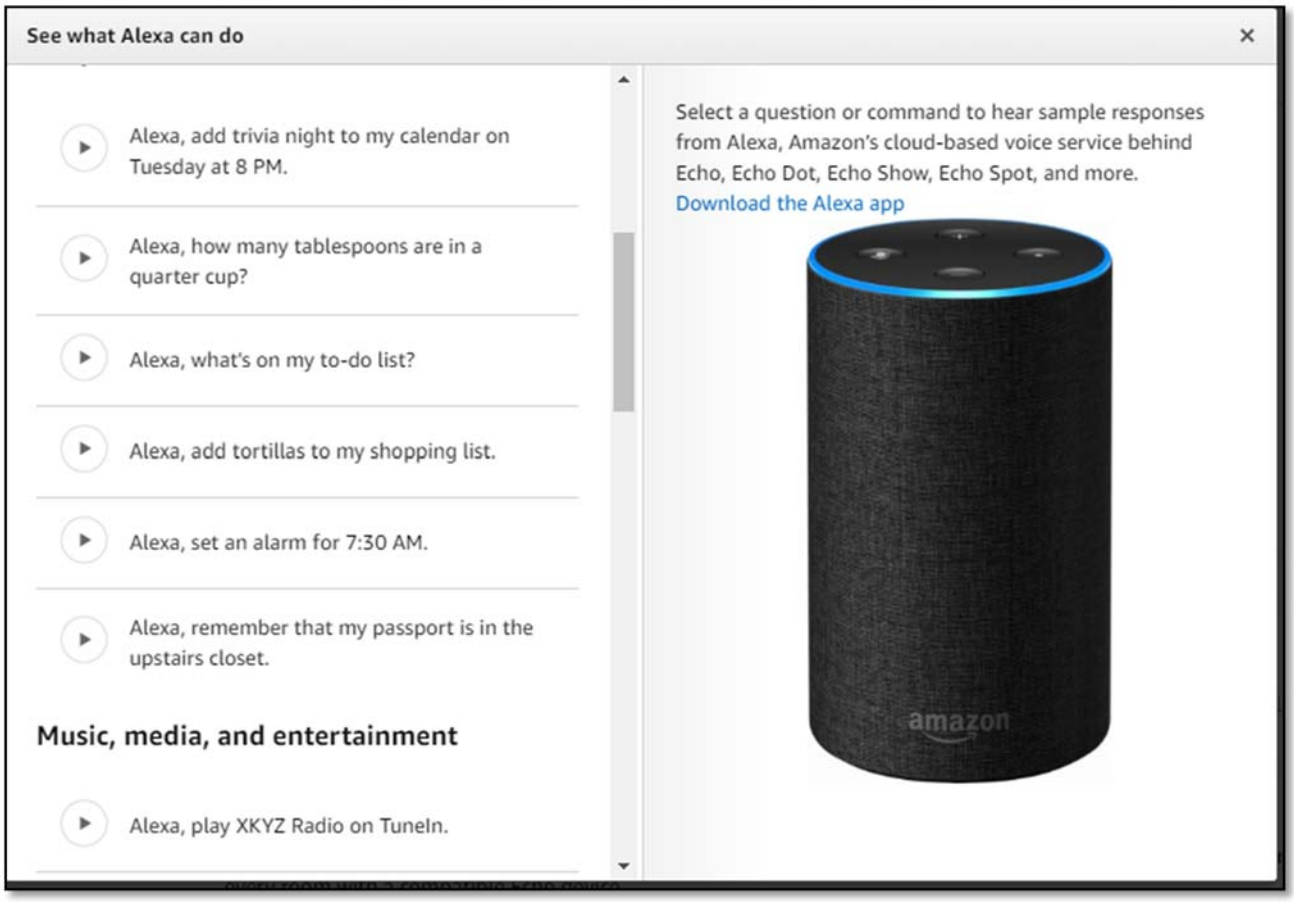


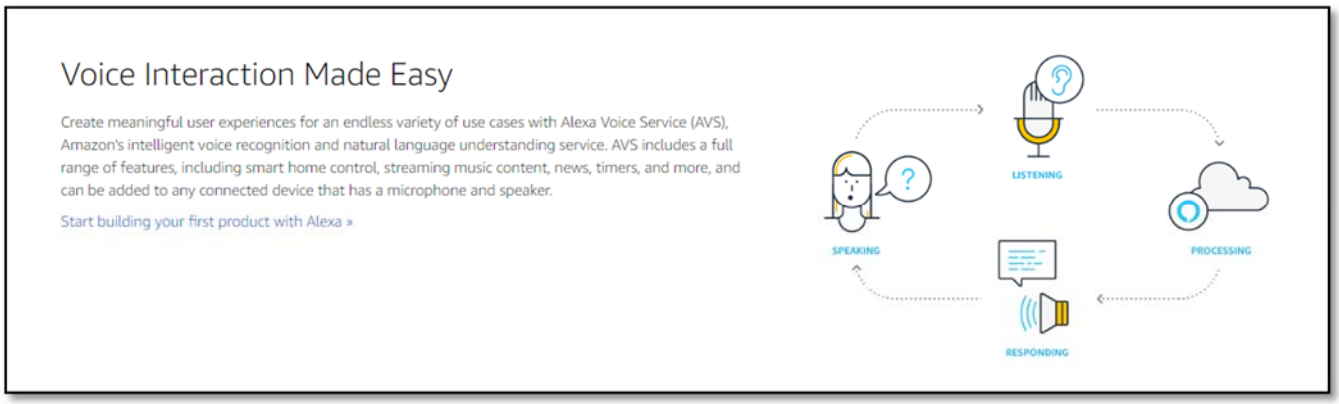
See, e.g., https://www.amazon.com/dp/B07456BG8N?tag=googhydr-20&hvadid=333263006615&hvpos=1t1&hvnetw=g&hvrand=17718345068411276924&hvpone=&hvptwo=&hvqmt=e&hvdev=c&hvdvcmdl=&hvlocint=&hvlocphy=1018127&hvtargid=kwd-295921616770&ref=pd_sl_2g7cb1h5ze_e#tech (annotations added).



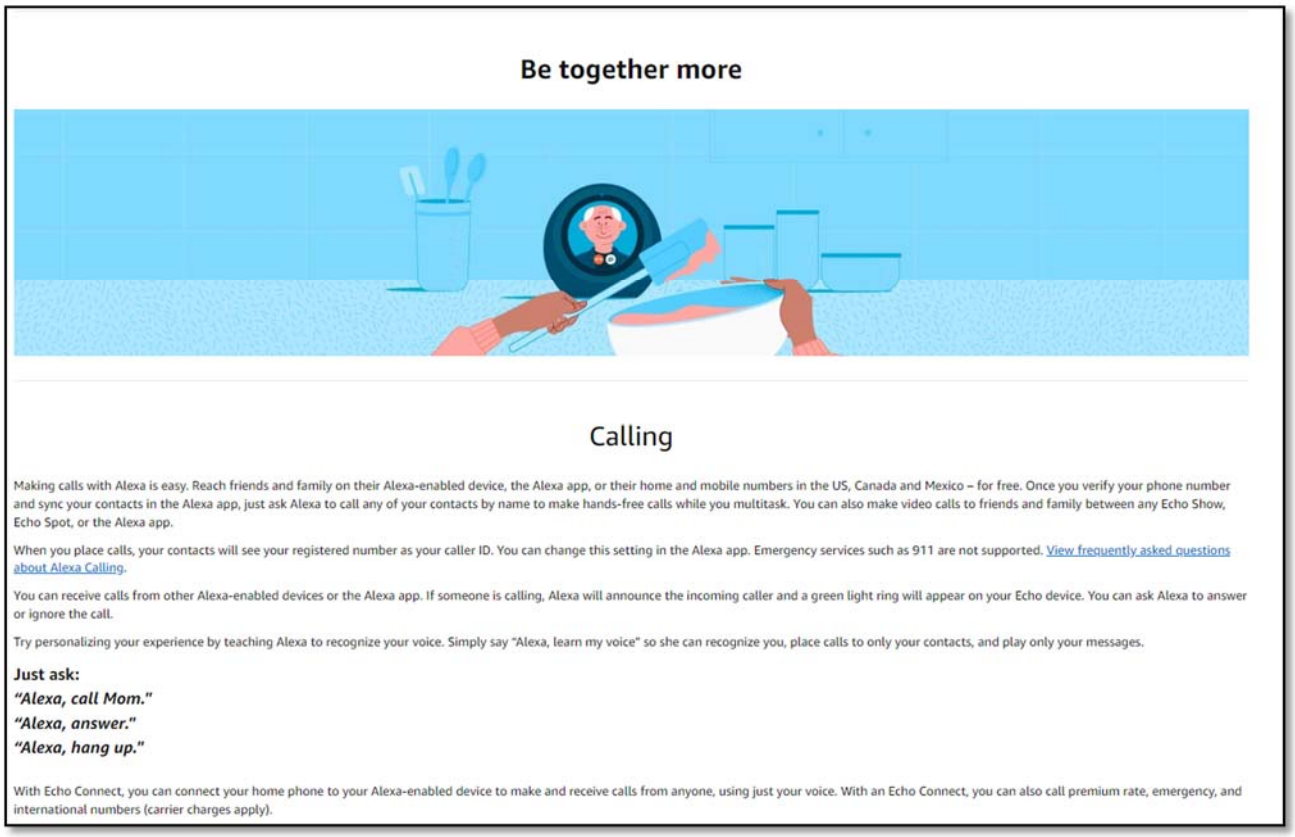
See, e.g., *id.* (annotations added).



See, e.g.,https://www.amazon.com/dp/B07456BG8N?tag=googhydr-20&hvadid=333263006615&hvpos=1t1&hvnetw=g&hvrand=17718345068411276924&hvpone=&hvptwo=&hvqmt=e&hvdev=c&hvdvcmdl=&hvlocint=&hvlocphy=1018127&hvtargid=kwd-295921616770&ref=pd_sl_2g7cb1h5ze_e.



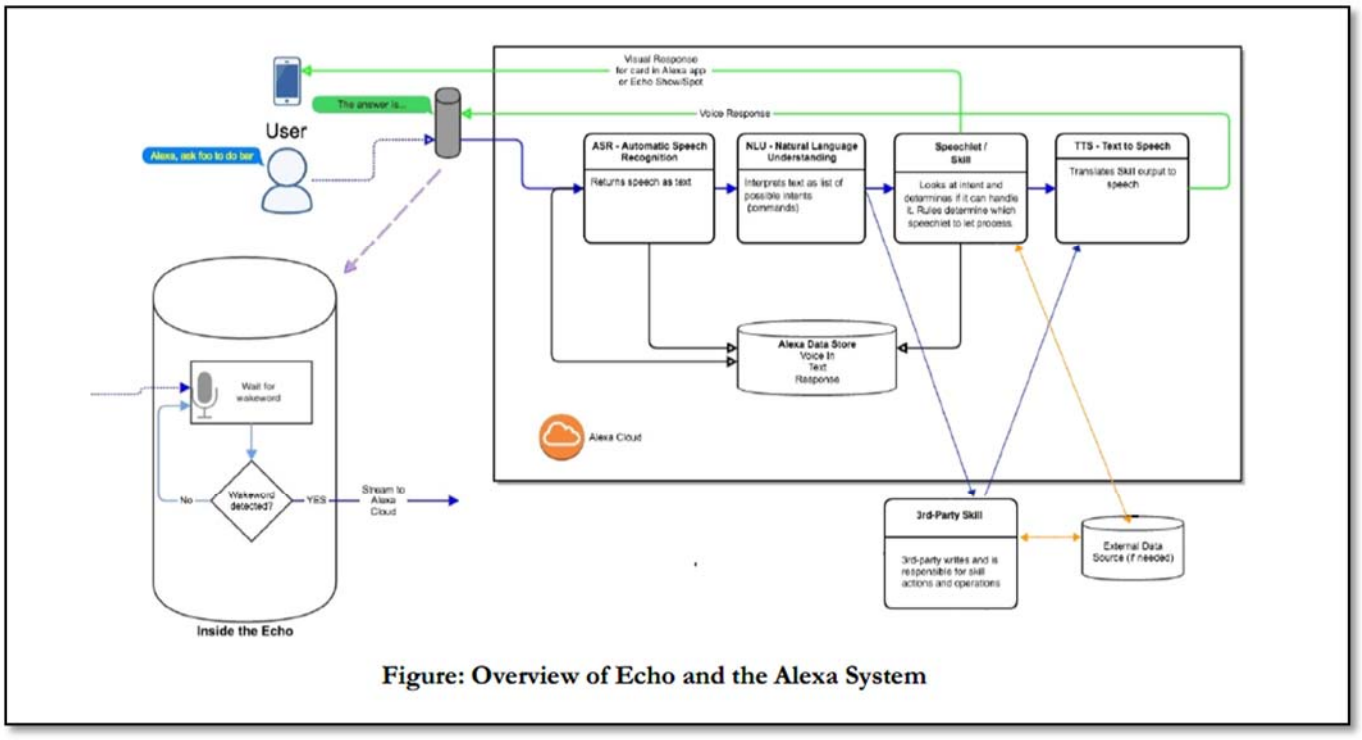
See, e.g., https://developer.amazon.com/alexa-voice-service/what-is-avs?linkCode=w61&imprToken= r0iiuJ6M7dIbzmX940rclw&slotNum=1



See, e.g., https://www.amazon.com/b/ref=aeg_lp_comm_d/ref=s9_acss_bw_cg_aegflp_1b1_w?node= 17934681011&pf_rd_m=ATVPDKIKX0DER&pf_rd_s=merchandised-search-6&pf_rd_r= JCEXPV9CF AK9TVXXVEKA&pf_rd_t=101&pf_rd_p=02147624-e148-4901-b449-773097cfa62e&pf_rd_i=17934672011.

101. The computing device of the Amazon Accused Products in conjunction with Alexa is configured to retrieve the instruction set corresponding to the recognition grammar provided by the speaker-independent speech-recognition device.

102. For example, because the Amazon Echo in conjunction with Alexa can handle voice commands on the device itself or with help from the cloud, there is a recognition grammar corresponding to each said instruction set and corresponding speech command.



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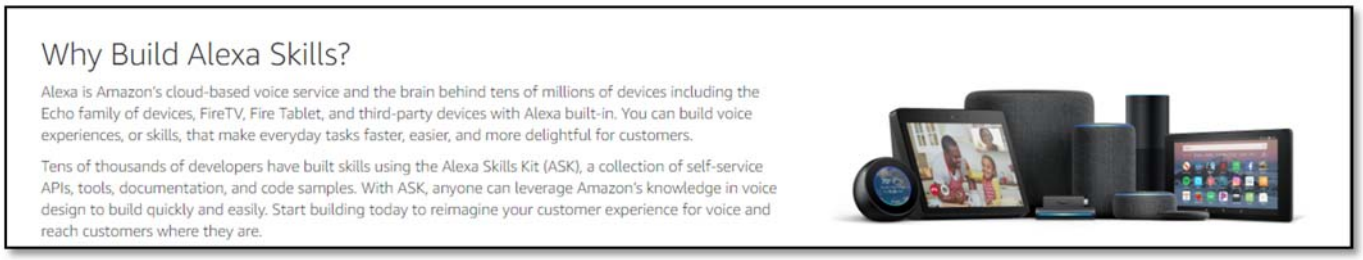

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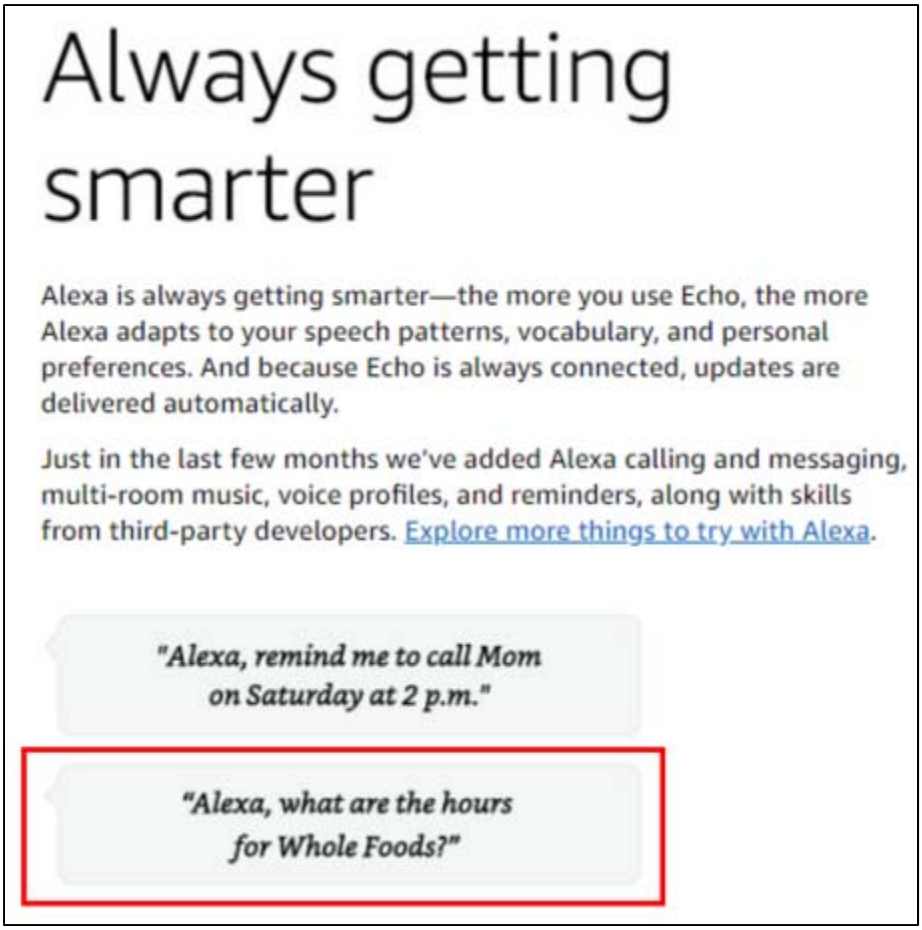

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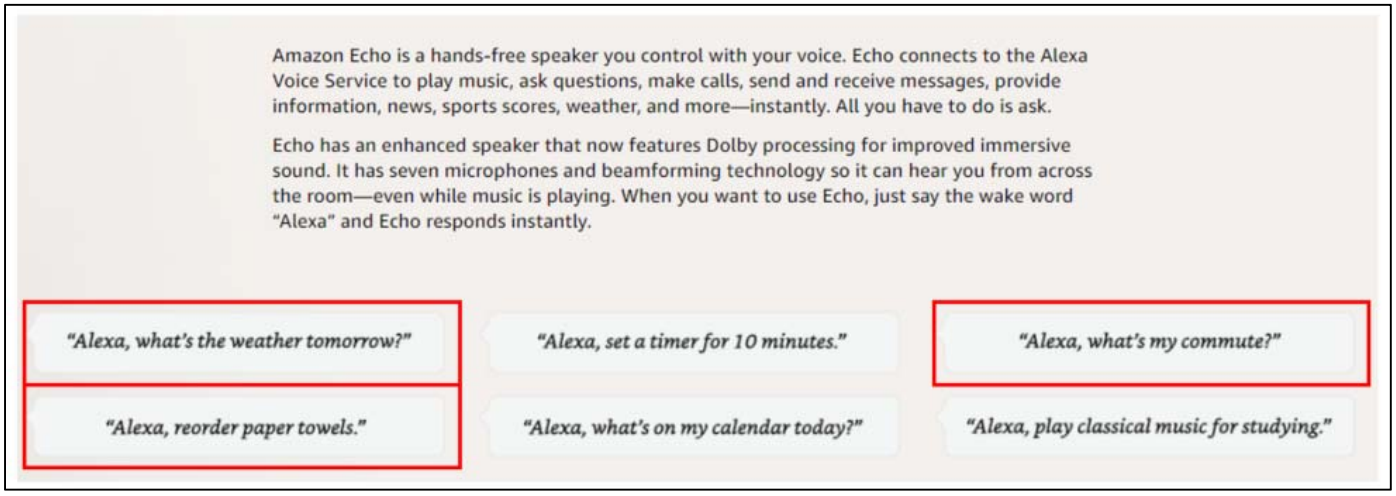

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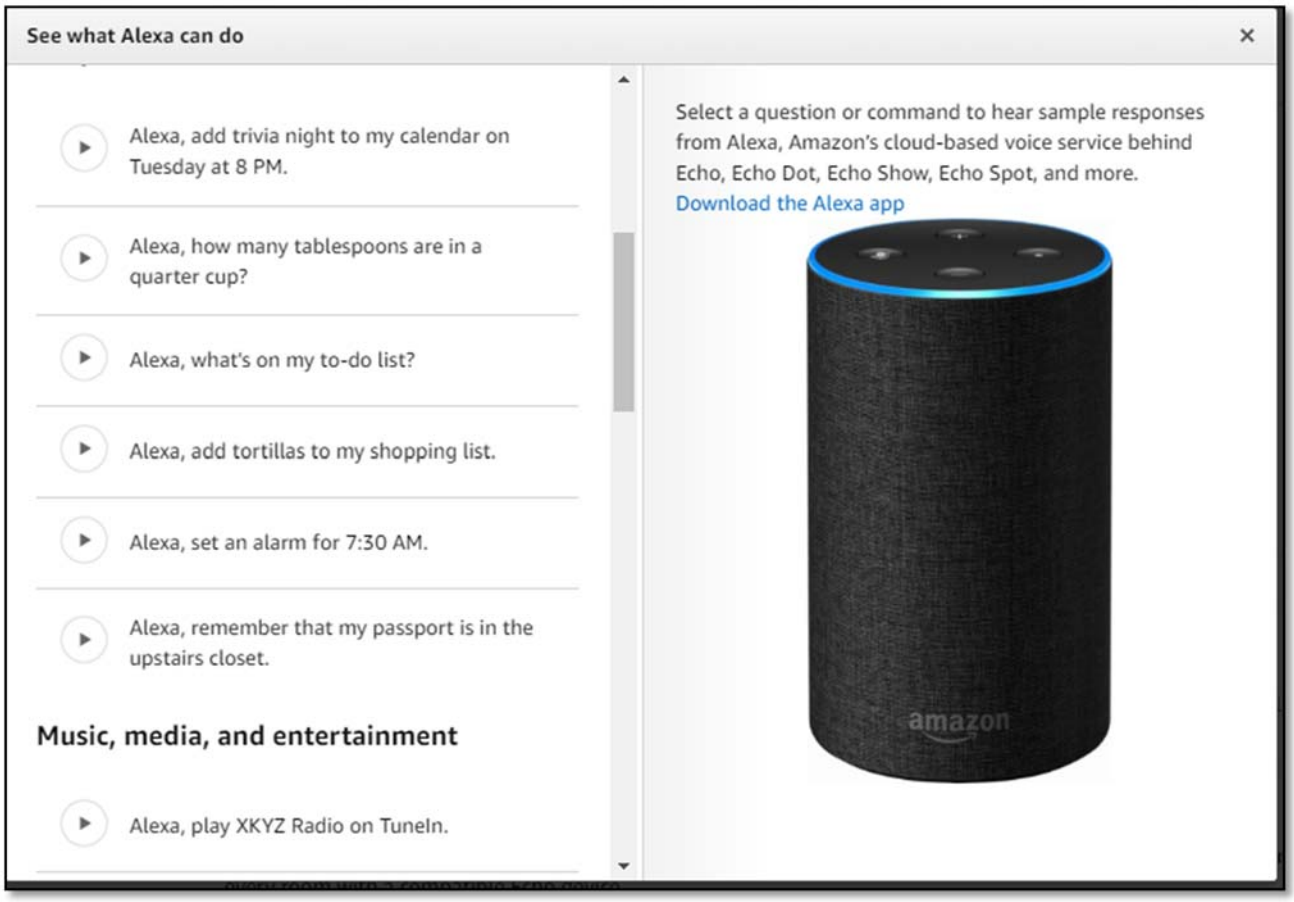
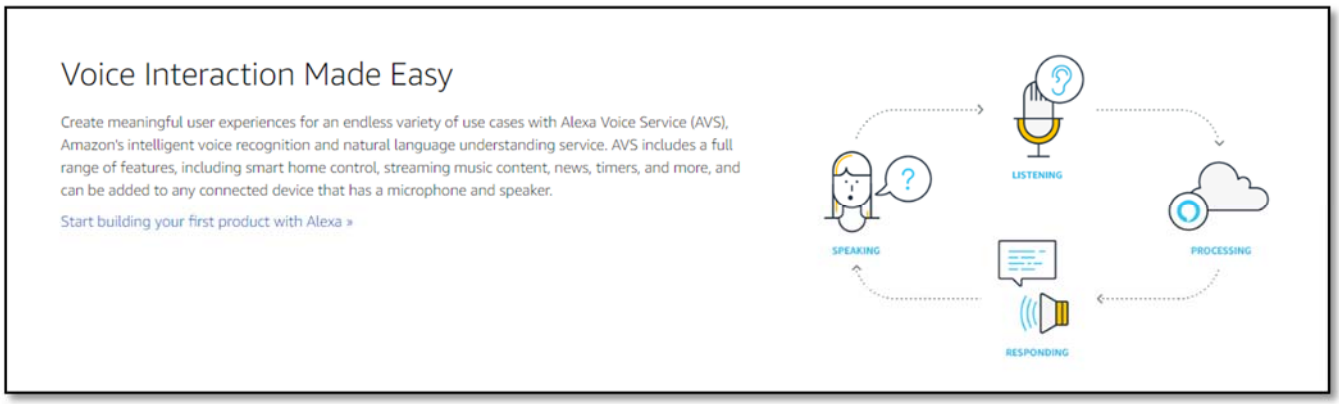
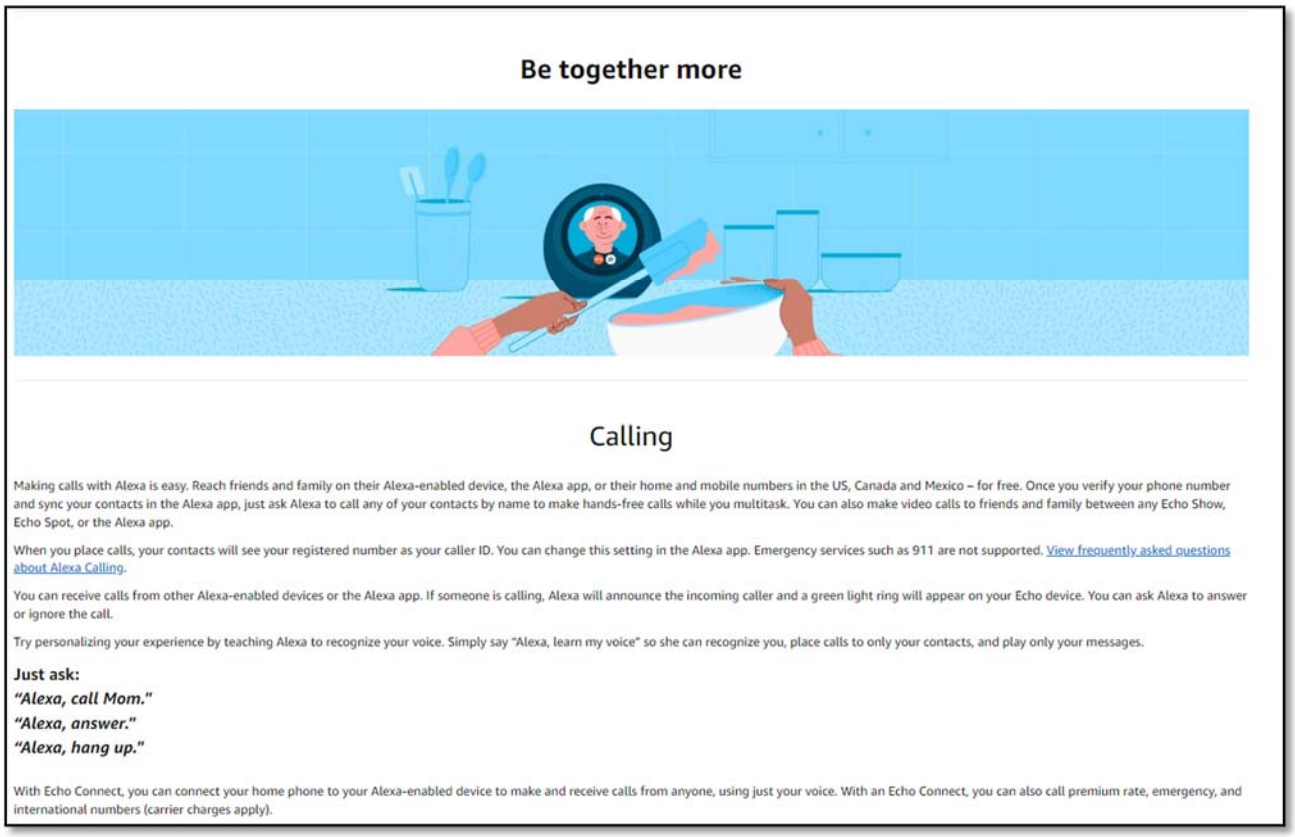


See, e.g.,https://www.amazon.com/dp/B07456BG8N?tag=googhydr-20&hvadid=333263006615&hvpos=
1t1&hvnetw=g&hvrand=17718345068411276924&hvpone=&hvptwo=&hvqmt=e&hvdev=c&hvdvcmdl=&hvlocint=&hvlocphy=1018127&hvtargid=kwd-295921616770&ref=pd_sl_2g7cb1h5ze_e.



See, e.g., https://developer.amazon.com/alexa-voice-service/what-is-avs?linkCode=w61&imprToken= r0iiuJ6M7dIbzmX940rclw&slotNum=1



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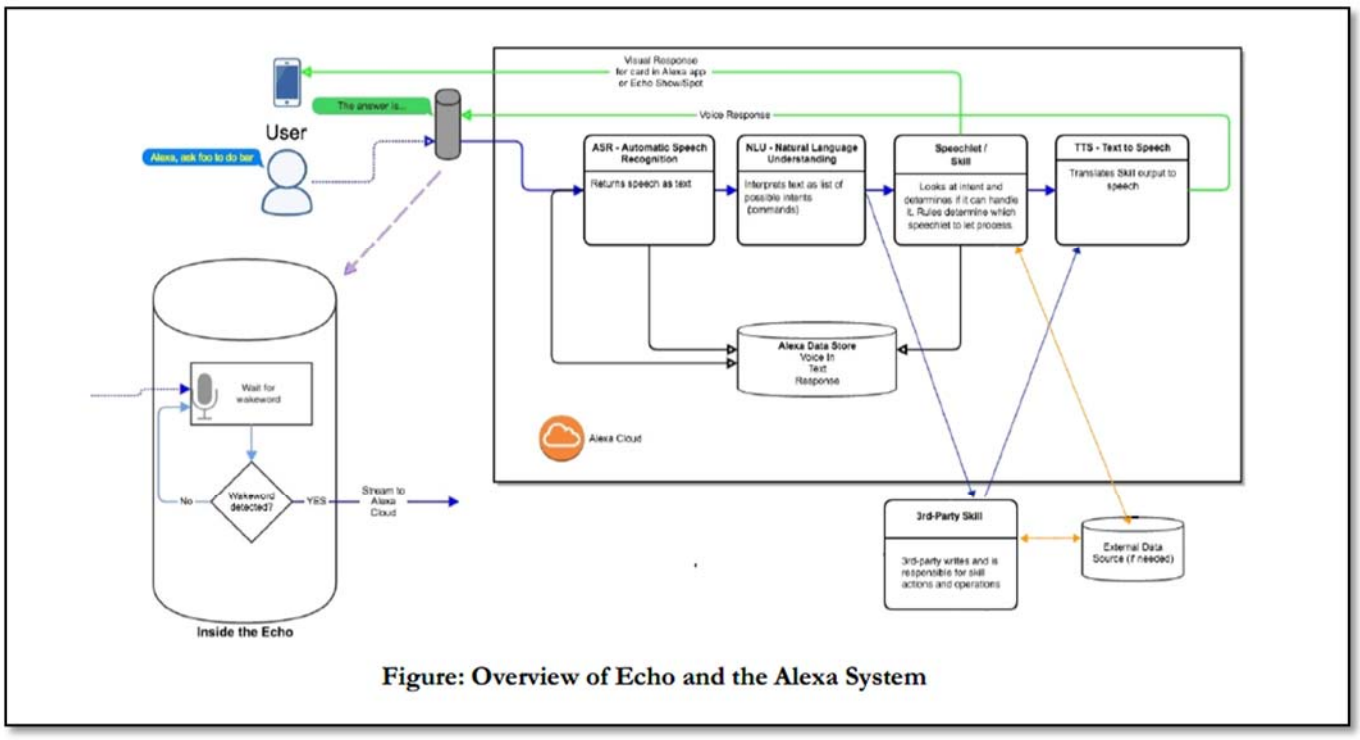
103. The Amazon Accused Products in conjunction with Alexa include the computing device further configured to access at least one of the plurality of web sites identified by the instruction set to obtain the information to be retrieved, wherein the computing device is further configured to periodically search via the one or more networks to identify new web sites and to add the new web sites to the plurality of web sites, the computing device configured to access a first web site of the plurality of web sites and, if the information to be retrieved is not found at the first web site, the computer configured to access the plurality of web sites remaining in an order defined for accessing the listing of web sites until the information to be retrieved is found in at least one of the plurality of web sites or until the plurality of web sites have been accessed.

104. The Amazon Echo in conjunction with Alexa is a system for retrieving information from web sites by uttering speech commands into a voice enabled device. For example, Amazon indicates that the Amazon Echo in conjunction with Alexa will make tasks easier.



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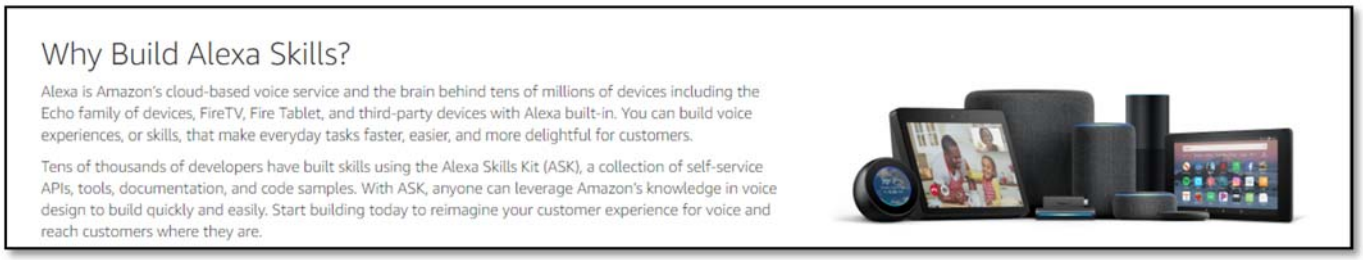

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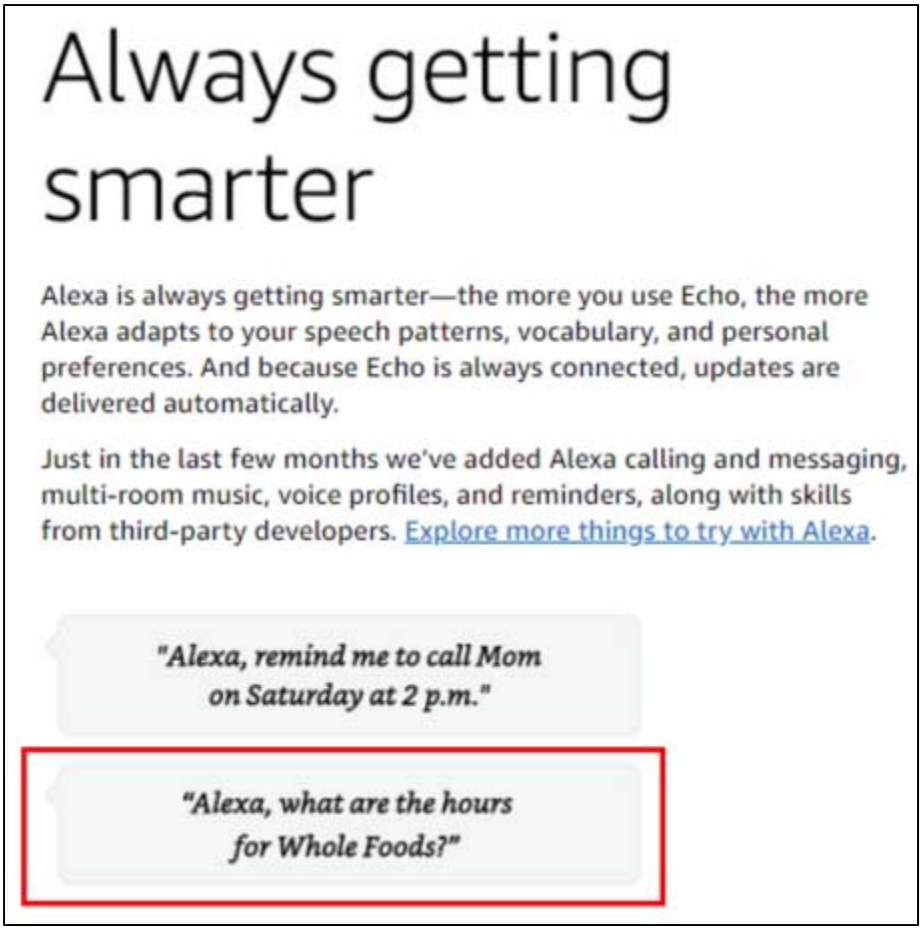

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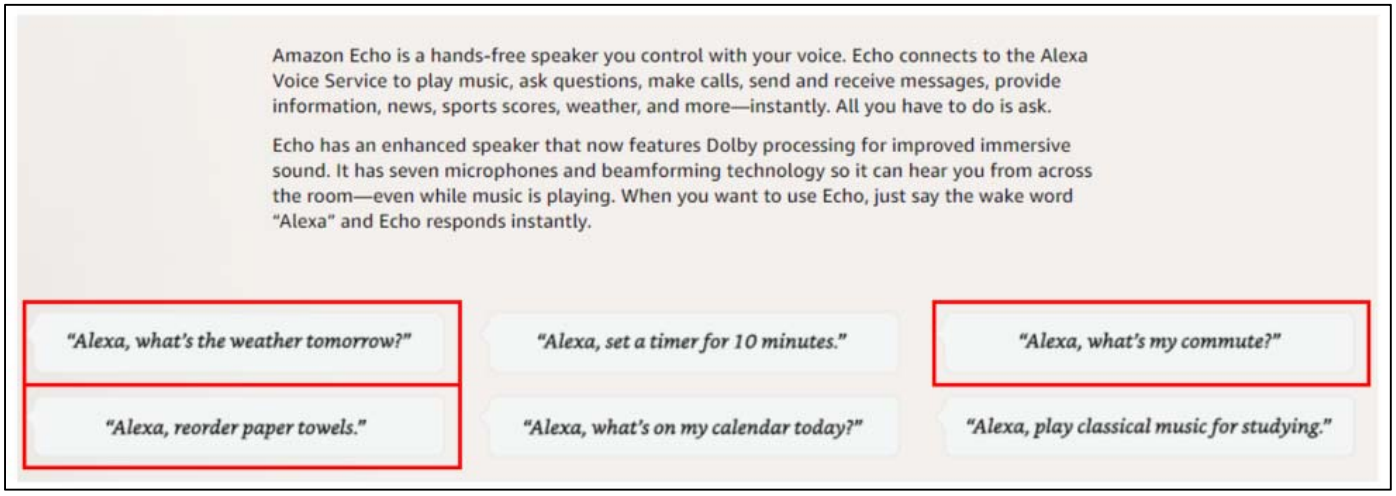

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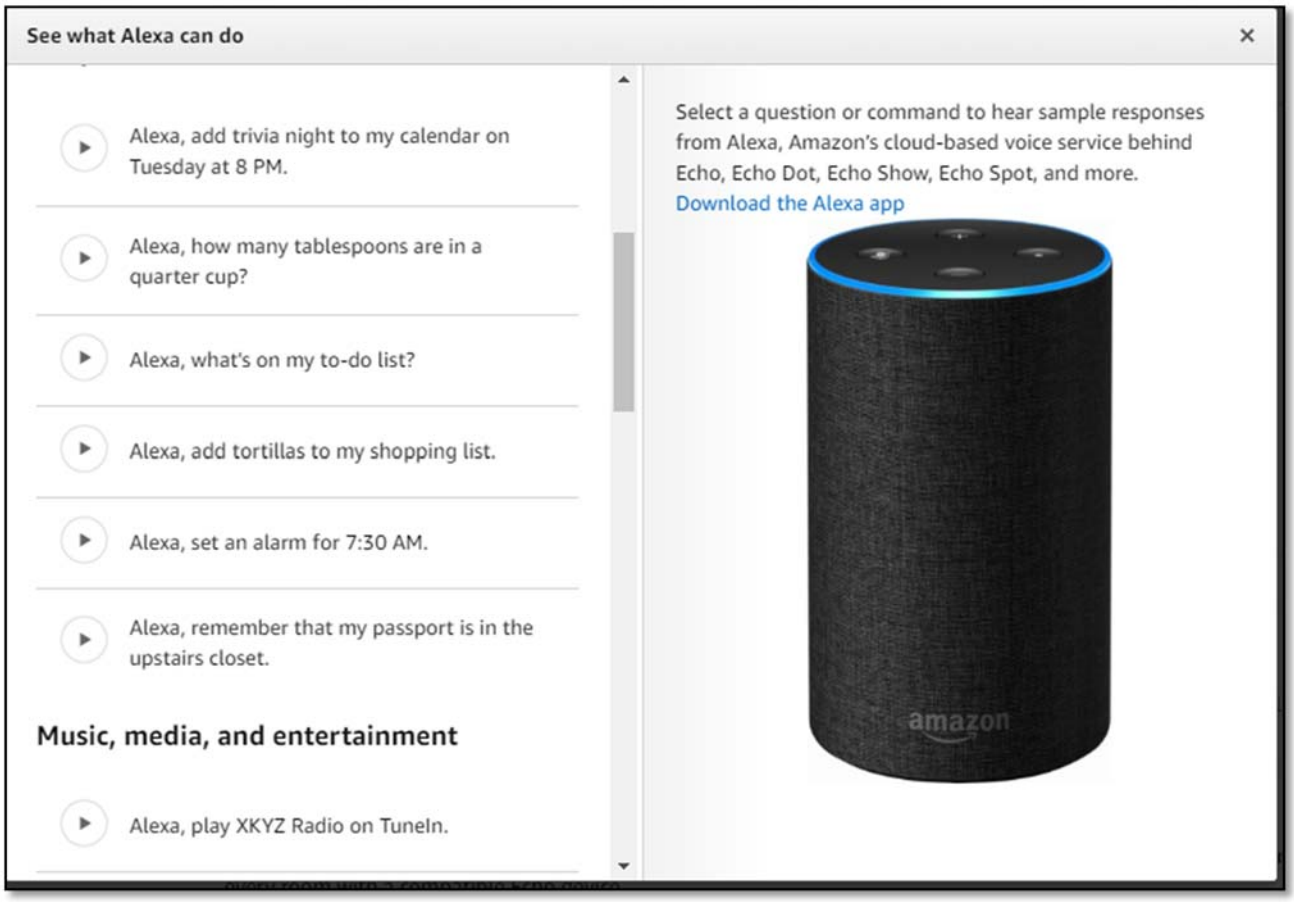
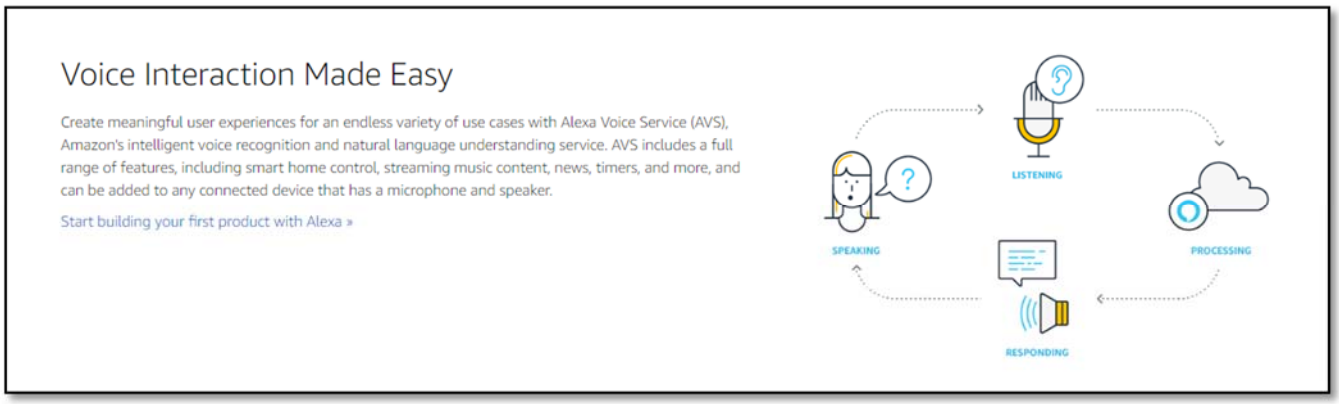


See, e.g.,https://www.amazon.com/dp/B07456BG8N?tag=googhydr-20&hvadid=333263006615&hvpos=1t1&hvnetw=g&hvrand=17718345068411276924&hvpone=&hvptwo=&hvqmt=e&hvdev=c&hvdvcmdl=&hvlocint=&hvlocphy=1018127&hvtargid=kwd-295921616770&ref=pd_sl_2g7cb1h5ze_e.



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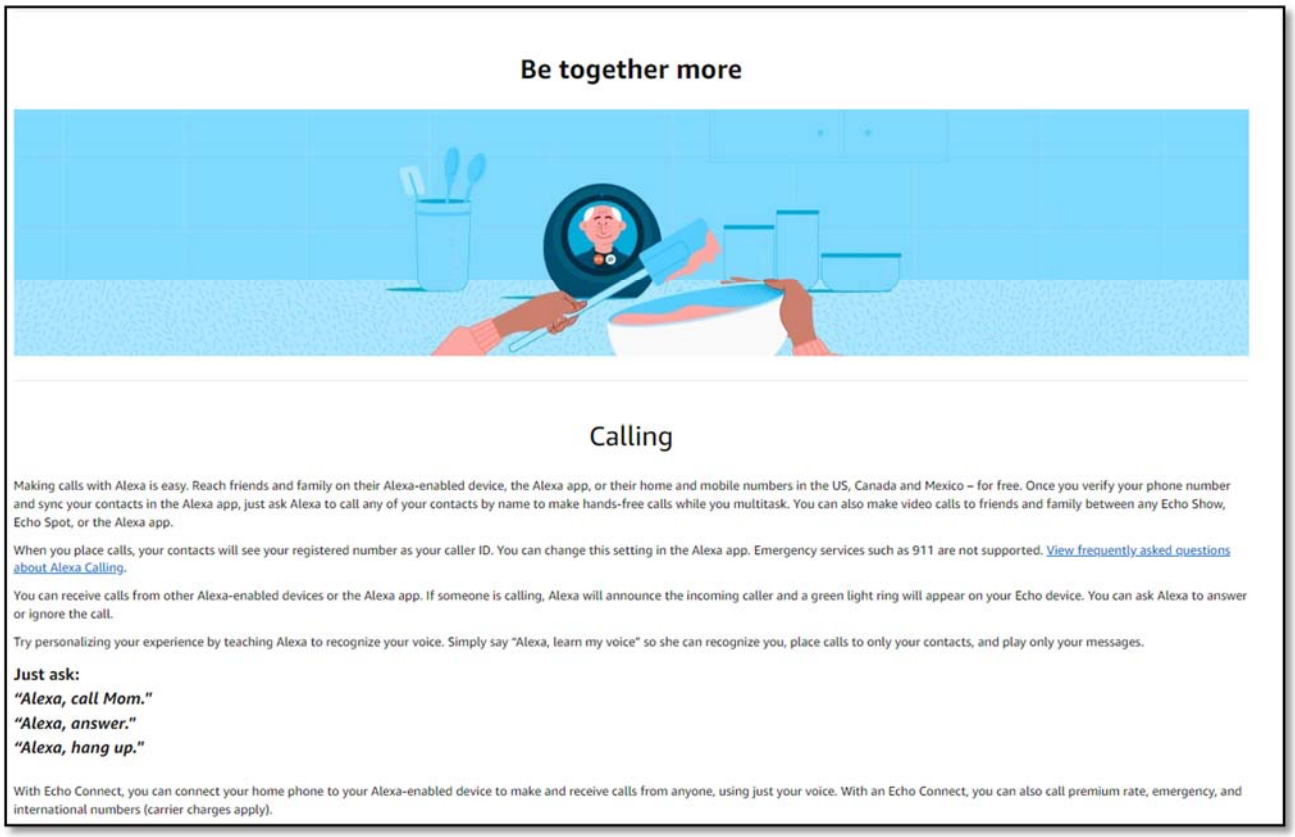


Be together more

Calling

Making calls with Alexa is easy. Reach friends and family on their Alexa-enabled device, the Alexa app, or their home and mobile numbers in the US, Canada and Mexico – for free. Once you verify your phone number and sync your contacts in the Alexa app, just ask Alexa to call any of your contacts by name to make hands-free calls while you multitask. You can also make video calls to friends and family between any Echo Show, Echo Spot, or the Alexa app.

When you place calls, your contacts will see your registered number as your caller ID. You can change this setting in the Alexa app. Emergency services such as 911 are not supported. View frequently asked questions about Alexa Calling.

You can receive calls from other Alexa-enabled devices or the Alexa app. If someone is calling, Alexa will announce the incoming caller and a green light ring will appear on your Echo device. You can ask Alexa to answer or ignore the call.

Try personalizing your experience by teaching Alexa to recognize your voice. Simply say "Alexa, learn my voice" so she can recognize you, place calls to only your contacts, and play only your messages.

Just ask:
"Alexa, call Mom."
"Alexa, answer."
"Alexa, hang up."

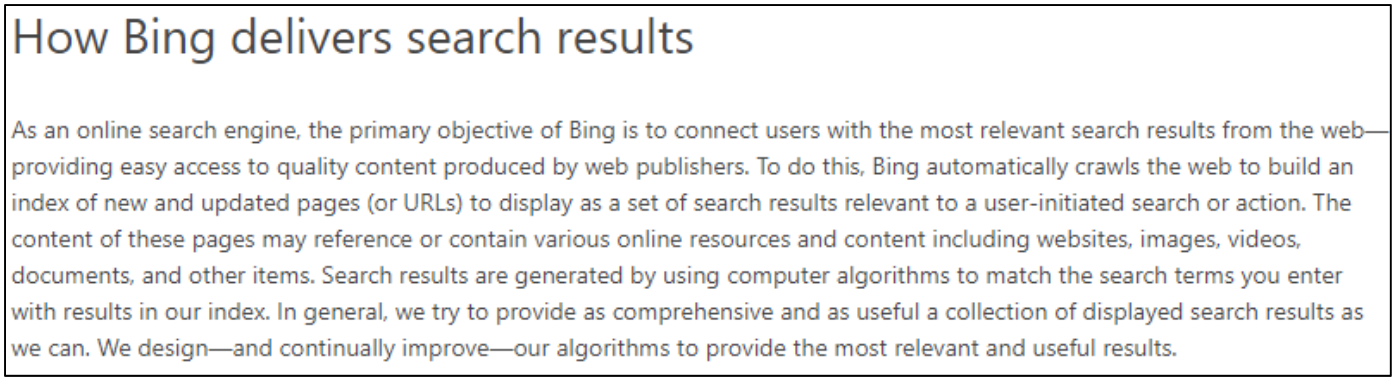
With Echo Connect, you can connect your home phone to your Alexa-enabled device to make and receive calls from anyone, using just your voice. With an Echo Connect, you can also call premium rate, emergency, and international numbers (carrier charges apply).

See, e.g., https://www.amazon.com/b/ref=aeg_lp_comm_d/ref=s9_acss_bw_cg_aegflp_1b1_w?node= 17934681011&pf_rd_m=ATVPDKIKX0DER&pf_rd_s=merchandised-search-6&pf_rd_r= JCEXPV9CF AK9TVXXVEKA&pf_rd_t=101&pf_rd_p=02147624-e148-4901-b449-773097cfa62e&pf_rd_i=17934672011.

105. The Amazon Echo device in conjunction with Alexa retrieves information from pre-selected websites that have already been crawled.

> *The New York Times* reports that Microsoft and Amazon partnered in May last year, after Amazon CEO Jeff Bezos raised the idea with Microsoft CEO Satya Nadella at Microsoft's CEO summit. Amazon's push to partner more closely with Microsoft makes sense, as the pair are both trying to fend off Google's own assistant and Microsoft already helps power Alexa queries through its Bing search engine.

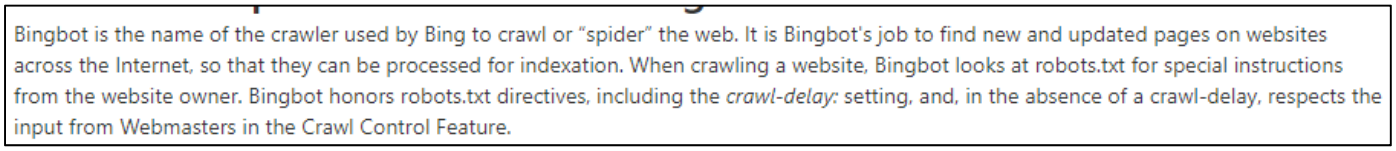
See, e.g., https://www.theverge.com/2017/8/30/16224876/microsoft-amazon-cortana-alexa-partnership



How Bing delivers search results

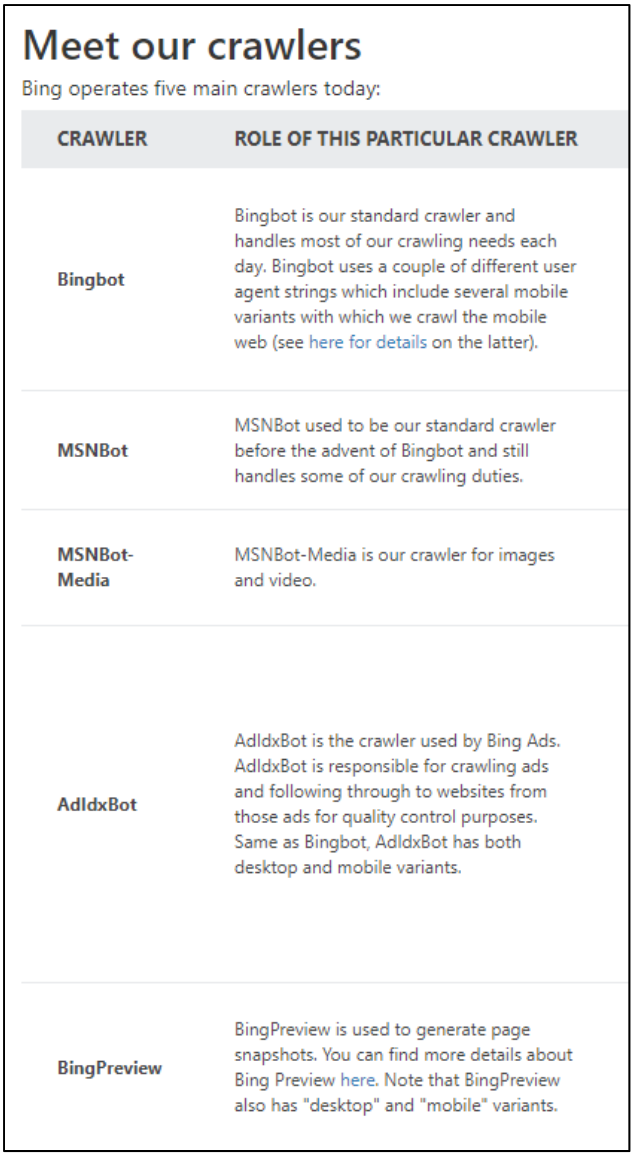
As an online search engine, the primary objective of Bing is to connect users with the most relevant search results from the web—providing easy access to quality content produced by web publishers. To do this, Bing automatically crawls the web to build an index of new and updated pages (or URLs) to display as a set of search results relevant to a user-initiated search or action. The content of these pages may reference or contain various online resources and content including websites, images, videos, documents, and other items. Search results are generated by using computer algorithms to match the search terms you enter with results in our index. In general, we try to provide as comprehensive and as useful a collection of displayed search results as we can. We design—and continually improve—our algorithms to provide the most relevant and useful results.

See, e.g., http://help.bing.microsoft.com/#apex/18/en-US/10016/0



Bingbot is the name of the crawler used by Bing to crawl or "spider" the web. It is Bingbot's job to find new and updated pages on websites across the Internet, so that they can be processed for indexation. When crawling a website, Bingbot looks at robots.txt for special instructions from the website owner. Bingbot honors robots.txt directives, including the *crawl-delay:* setting, and, in the absence of a crawl-delay, respects the input from Webmasters in the Crawl Control Feature.

See, e.g., https://www.bing.com/webmaster/help/how-to-report-an-issue-with-bingbot-25c19802



Meet our crawlers

Bing operates five main crawlers today:

CRAWLER	ROLE OF THIS PARTICULAR CRAWLER
Bingbot	Bingbot is our standard crawler and handles most of our crawling needs each day. Bingbot uses a couple of different user agent strings which include several mobile variants with which we crawl the mobile web (see here for details on the latter).
MSNBot	MSNBot used to be our standard crawler before the advent of Bingbot and still handles some of our crawling duties.
MSNBot-Media	MSNBot-Media is our crawler for images and video.
AdIdxBot	AdIdxBot is the crawler used by Bing Ads. AdIdxBot is responsible for crawling ads and following through to websites from those ads for quality control purposes. Same as Bingbot, AdIdxBot has both desktop and mobile variants.
BingPreview	BingPreview is used to generate page snapshots. You can find more details about Bing Preview here. Note that BingPreview also has "desktop" and "mobile" variants.

See, e.g., https://www.bing.com/webmaster/help/which-crawlers-does-bing-use-8c184ec0

Bing's crawler, Bingbot is a key component of the Bing platform. Bingbot's main function is to:

- Download webpages to get the latest content and discover new links from existing known links.
- Verify that web documents already indexed are still valid, not dead links, helping to keep the Bing index comprehensive and fresh to answer customer queries with relevant results.

See, e.g., https://www.searchenginejournal.com/why-how-bing-plans-to-improve-its-crawler-bingbot/291979/#close

For example, Bing customers searching for the latest space rocket launch can search and find new relevant webpages only seconds after this rocket launch. To be able to link to these new URLs, we have to discover, select, crawl, process, and then index them.

To discover these new URLs, we have to crawl regularly existing known URLs to monitor for new URLs.

Once discovered, we have to crawl to get the content for these new URLs.

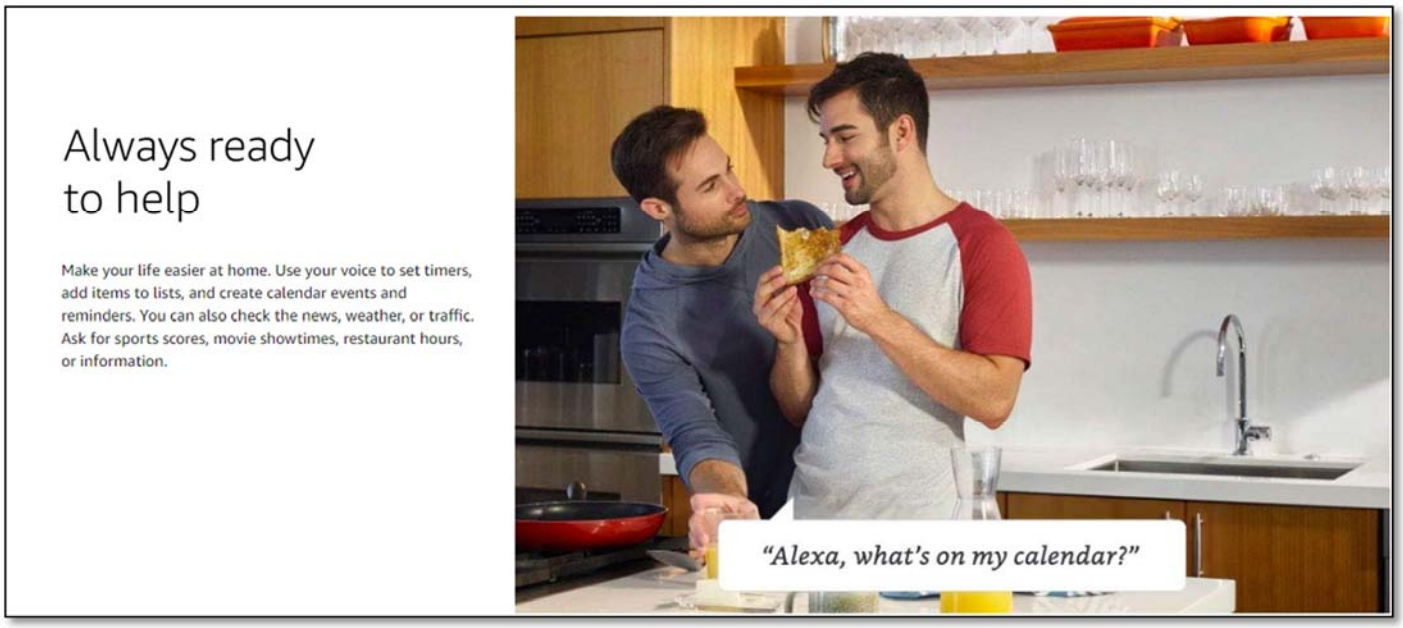
We have to continue crawling these newly indexed URLs regularly to check for potential content changes and verify that these webpages are still valid, not dead links.

In other words, we crawl each URL in our system more than once.

See id.

See, e.g., https://developer.amazon.com/alexa-voice-service.

106. The retrieved information is in an audio form via said voice enabled device as Amazon indicates that one can "use voice to set timers, add items to lists, and create calendar events and reminders. [One] can also check the news, weather or traffic."



See, e.g., https://www.amazon.com/All-new-Echo-Plus-2nd-built/dp/B0794W1SKP/ref=sr_1_2?keywords =echo&qid=1562871943&s=gateway&sr=8-2.

107. The speech synthesis devices of the Amazon Accused Products in conjunction with Alexa are configured to produce an audio message containing any retrieved information from the plurality of web sites.

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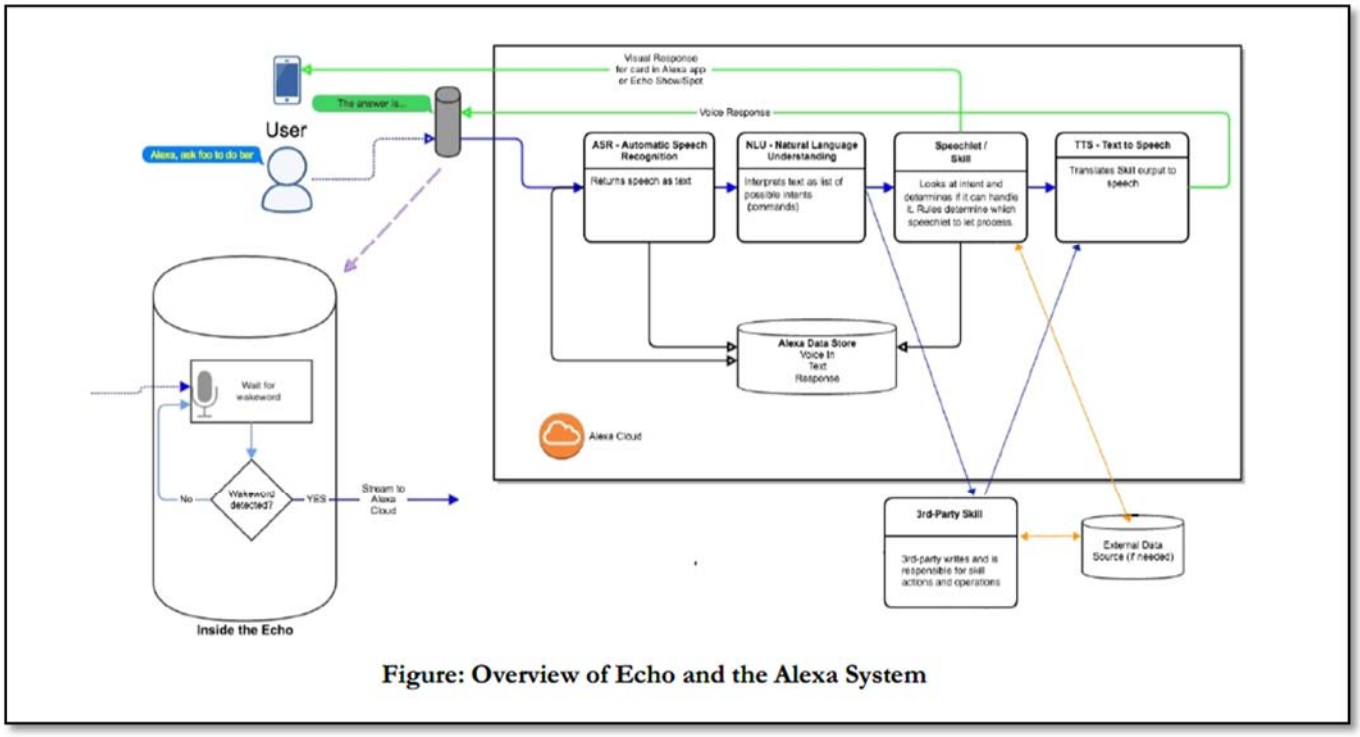

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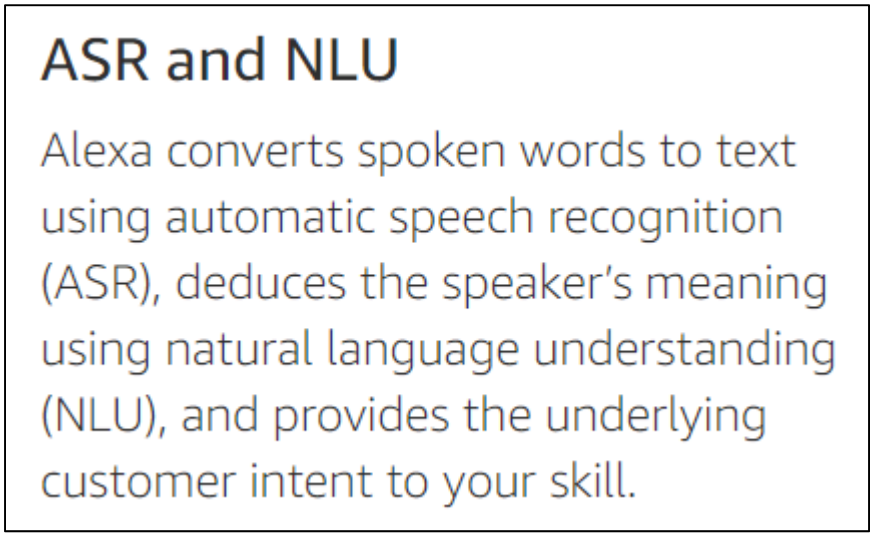

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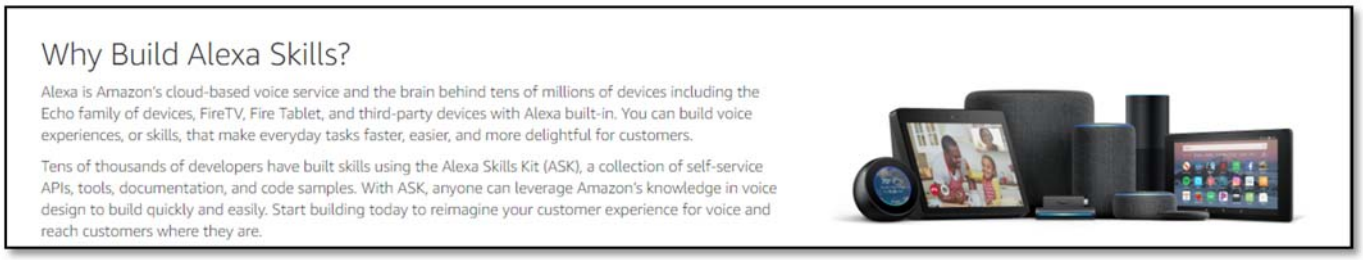

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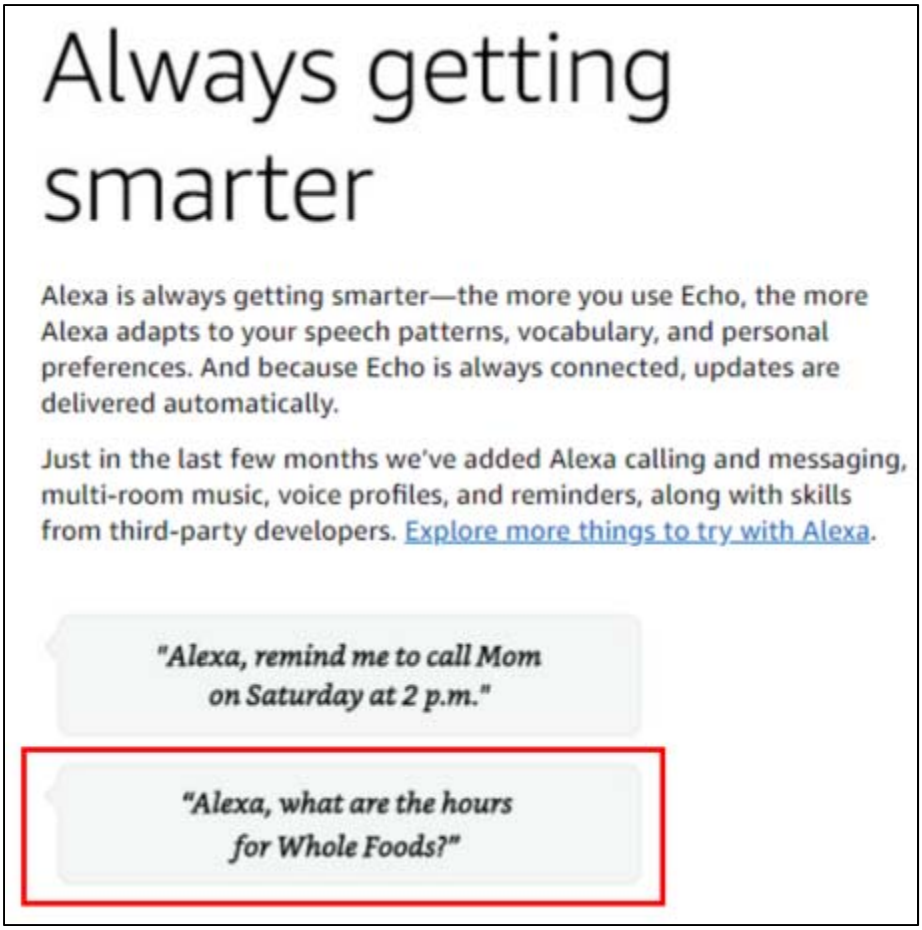
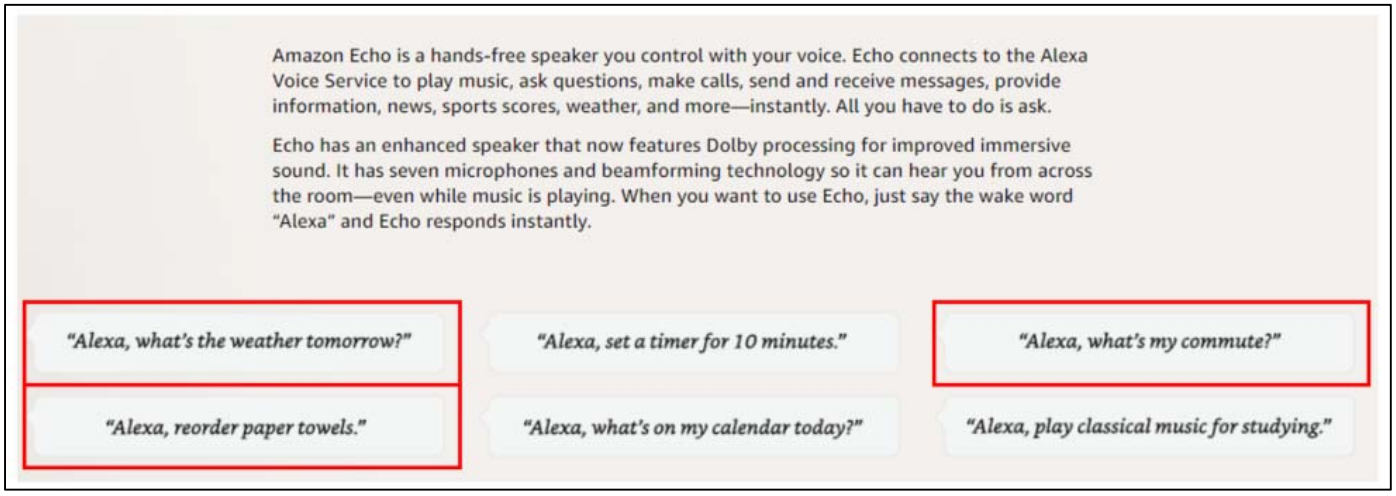
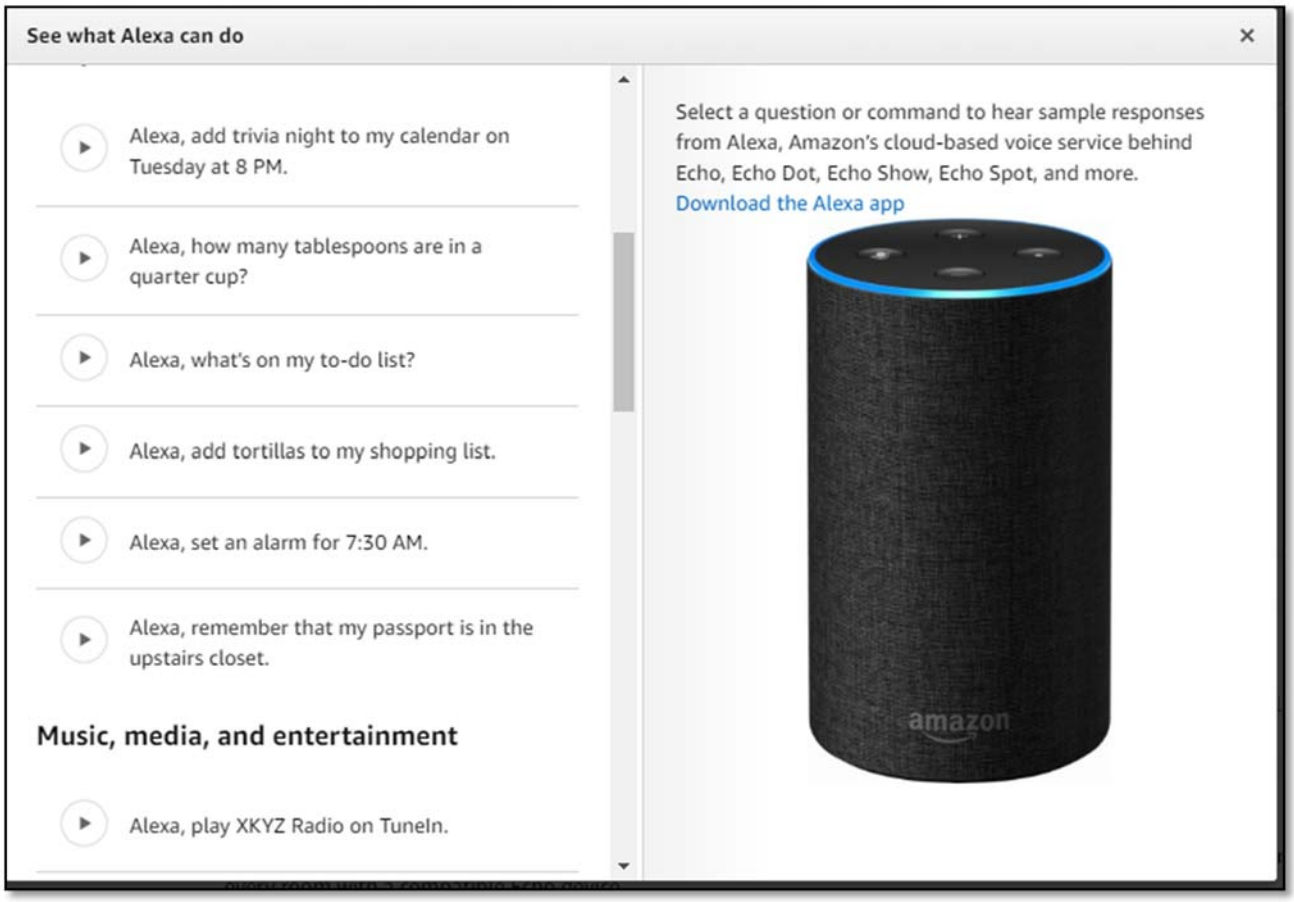
See, e.g., https://developer.amazon.com/alexa-voice-service.



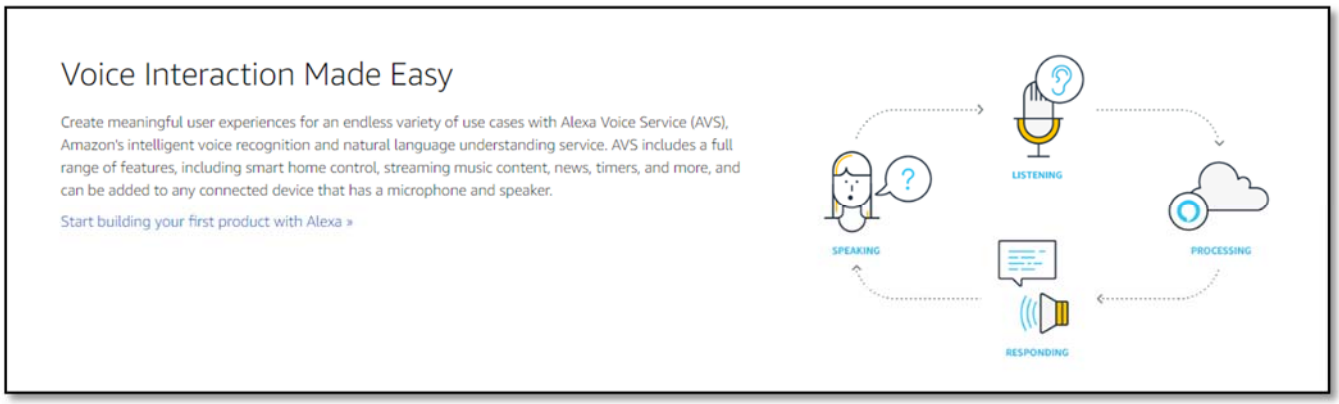
See, e.g., https://www.amazon.com/dp/B07456BG8N?tag=googhydr-20&hvadid=333263006615&hvpos=1t1&hvnetw=g&hvrand=17718345068411276924&hvpone=&hvptwo=&hvqmt=e&hvdev=c&hvdvcmdl=&hvlocint=&hvlocphy=1018127&hvtargid=kwd-295921616770&ref=pd_sl_2g7cb1h5ze_e#tech (annotations added).



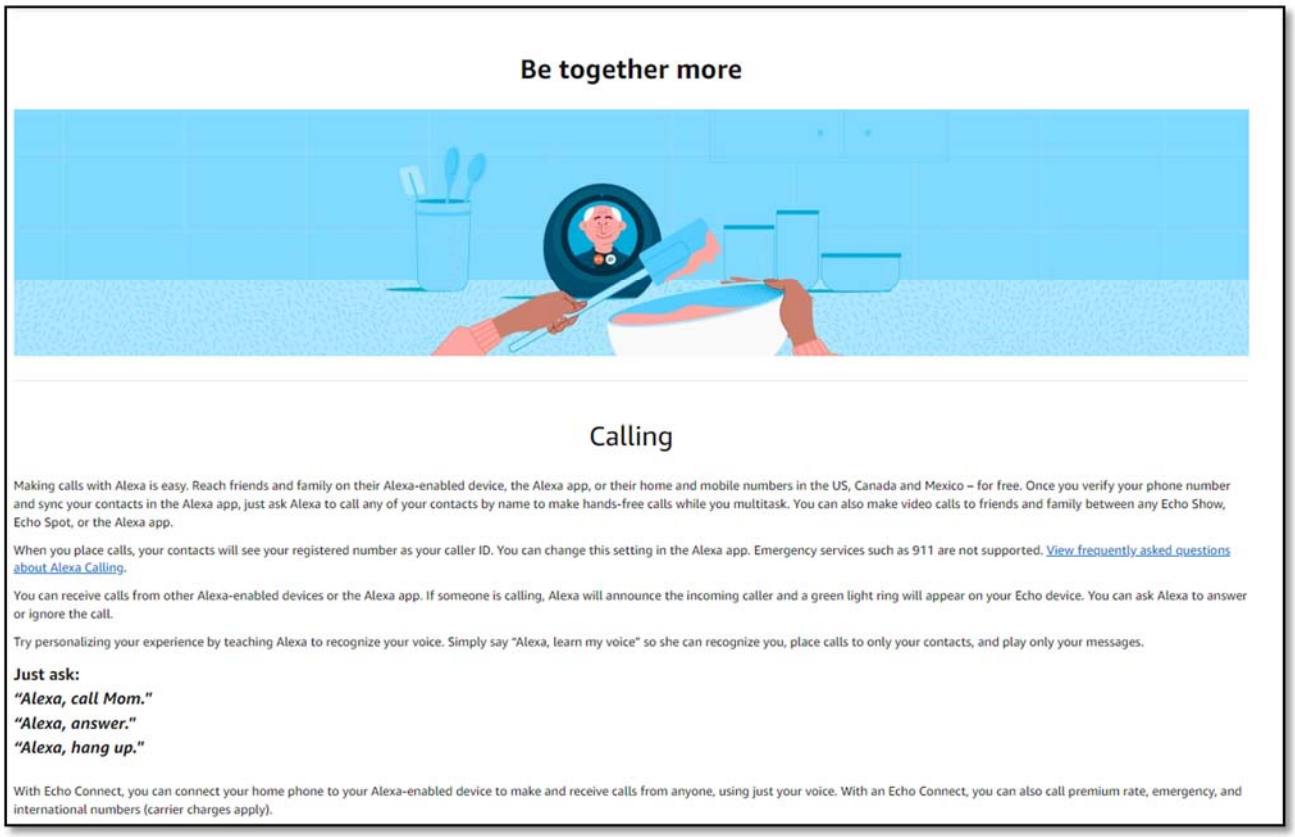
See, e.g., *id.* (annotations added).



See, e.g.,https://www.amazon.com/dp/B07456BG8N?tag=googhydr-20&hvadid=333263006615&hvpos=1t1&hvnetw=g&hvrand=17718345068411276924&hvpone=&hvptwo=&hvqmt=e&hvdev=c&hvdvcmdl=&hvlocint=&hvlocphy=1018127&hvtargid=kwd-295921616770&ref=pd_sl_2g7cb1h5ze_e.

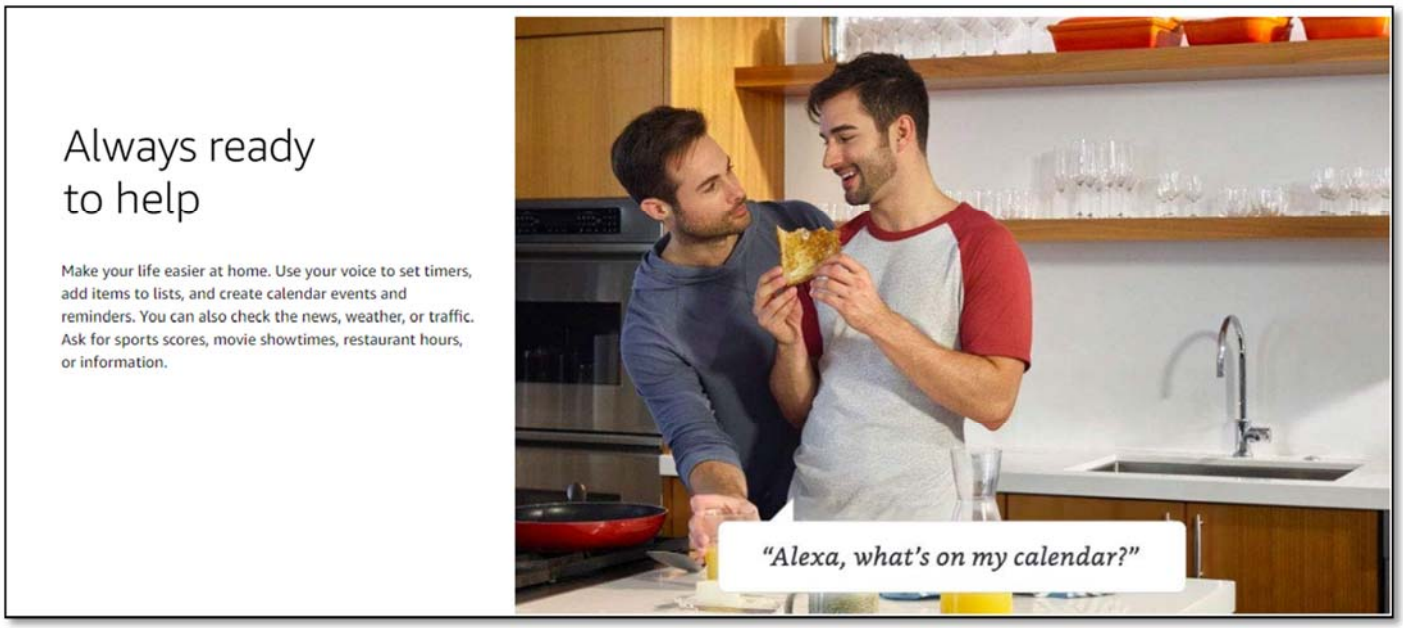


See, e.g., https://developer.amazon.com/alexa-voice-service/what-is-avs?linkCode=w61&imprToken= r0iiuJ6M7dIbzmX940rclw&slotNum=1



See, *e.g.*, https://www.amazon.com/b/ref=aeg_lp_comm_d/ref=s9_acss_bw_cg_aegflp_1b1_w?node= 17934681011&pf_rd_m=ATVPDKIKX0DER&pf_rd_s=merchandised-search-6&pf_rd_r= JCEXPV9CF AK9TVXXVEKA&pf_rd_t=101&pf_rd_p=02147624-e148-4901-b449-773097cfa62e&pf_rd_i=17934672011.

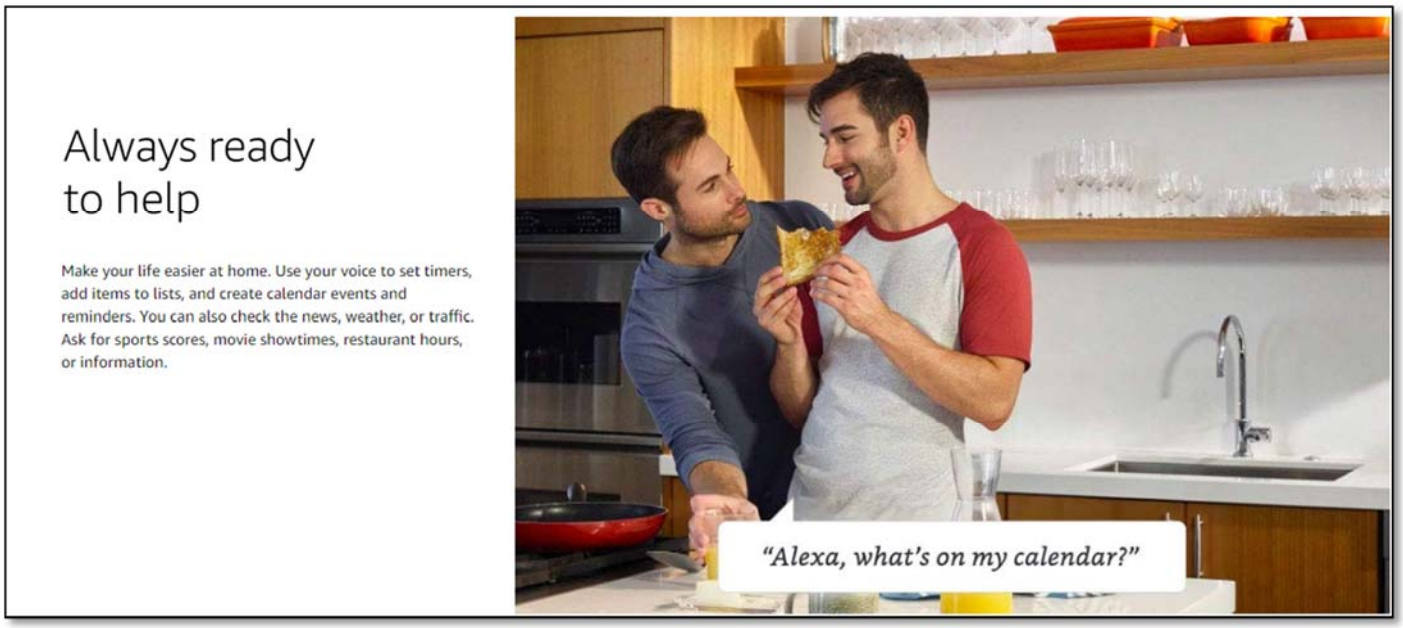
109. The retrieved information is in an audio form via said voice enabled device as Amazon indicates that one can "use voice to set timers, add items to lists, and create calendar events and reminders. [One] can also check the news, weather or traffic."



See, e.g., https://www.amazon.com/All-new-Echo-Plus-2nd-built/dp/B0794W1SKP/ref=sr_1_2?keywords =echo&qid=1562871943&s=gateway&sr=8-2.

110. The speech synthesis devices of the Amazon Accused Products in conjunction with Alexa are further configured to transmit the audio message to the users via the voice-enabled device.

111. For example, the retrieved information is in an audio form via said voice enabled device as Amazon indicates that one can "use voice to set timers, add items to lists, and create calendar events and reminders. [One] can also check the news, weather or traffic."



See, e.g., https://www.amazon.com/All-new-Echo-Plus-2nd-built/dp/B0794W1SKP/ref=sr_1_2?keywords =echo&qid=1562871943&s=gateway&sr=8-2.

112. In addition to directly infringing the '084 Patent, Amazon indirectly infringes the '084 Patent pursuant to 35 U.S.C. § 271(b) and (c). Amazon has had knowledge of the '084 Patent since at least the filing of the original complaint, and has been on constructive notice of the '084 Patent due to Parus' marking since at least February 21, 2018. By the time of trial, Amazon will have known and intended (since receiving such notice) that their continued actions would actively induce the infringement of the claims of the '084 Patent.

113. Amazon indirectly infringes the '084 Patent by instructing, directing and/or requiring others, including customers, purchasers, users and developers, to perform one or more of the steps of the method claims, either literally or under the doctrine of equivalents, of the '084 Patent, where all the steps of the method claims are performed by either Amazon, its customers, purchasers, users, and developers, or some combination thereof. Amazon knew or should have known that it was inducing others, including customers, purchasers, users, and developers, to

infringe by practicing, either themselves or in conjunction with Amazon, one or more method claims of the ’084 Patent.

114. Upon information and belief, Amazon knowingly and actively aided and abetted the direct infringement of the ’084 Patent by instructing and encouraging its customers, purchasers, users, and developers to use the ’084 Patent methods and technology. These instructions of encouragement include, but are not limited to, using the accused products as described in the claims of the ’084 Patent, in advertising and promoting the use of the ’084 Patent’s claimed technology, and as further described in above.

115. Amazon has also infringed, and continues to infringe, claims of the ’084 Patent by offering to commercially distribute, commercially distributing, making and/or importing the Amazon Accused Products, which are used in practicing the process, or using the systems, of the ’084 Patent, and constitute a material part of the invention. Amazon knew the components in the Amazon Accused Products to be especially made or especially adapted for use in infringement of the ’084 Patent, not a staple article, and not a commodity of commerce suitable for substantial noninfringing use. For example, the ordinary way of using the Amazon Accused Products infringes the patent claims, and as such, is especially adapted for use in infringement as set forth above. Accordingly, Amazon has been, and currently is, contributorily infringing the ’084 Patent, in violation of 35 U.S.C. § 271(c).

PRAYER FOR RELIEF

WHEREFORE, Parus requests the Court grant the relief set forth below:

A. Enter judgment that Defendant has infringed, and continues to infringe, one or more claims of the ’431 Patent and/or the ’084 Patent;

B. Enter judgment that Defendant’s acts of patent infringement are willful;

C. Temporarily, preliminarily, or permanently enjoin Defendant, its parents, subsidiaries, affiliates, divisions, officers, agents, servants, employees, directors, partners, representatives, all individuals and entities in active concert and/or participation with Defendant, and all individuals and/or entities within Defendant's control from engaging in the aforesaid unlawful acts of patent infringement;

D. Order Defendant to account for and pay damages caused to Parus by Defendant's unlawful acts of patent infringement;

E. Award Parus increased damages and attorney fees pursuant to 35 U.S.C. §§ 284 and 285;

F. Award Parus the interest and costs incurred in this action; and

G. Grant Parus such other and further relief, including equitable relief, as the Court deems just and proper.

DEMAND FOR JURY TRIAL

Plaintiff demands a jury trial for all issues deemed to be triable by a jury.

Dated: October 28, 2019

Respectfully submitted,

/s/ Michael J. McNamara w/permission
Andrea L. Fair

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Counsel for Plaintiff Parus Holdings Inc.

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a true and correct copy of the foregoing document has been served on October 28, 2019 to all counsel of record who are deemed to have consented to electronic service via the Court's CM/ECF system.

/s/ *Andrea L. Fair*
Andrea L. Fair

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