

**UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

KAIFI LLC,

Plaintiff,

v.

AMAZON.COM, INC.; AMAZON.COM
SERVICES LLC; and AMAZON WEB
SERVICES, INC.

Defendants.

Case No. 2:24-cv-00542

JURY TRIAL DEMANDED

**PLAINTIFF KAIFI LLC'S P.R. 3-1 AND 3-2 DISCLOSURE OF
ASSERTED CLAIMS AND INFRINGEMENT CONTENTIONS AND
ACCOMPANYING DOCUMENT PRODUCTION**

Pursuant to Local Patent Rules 3-1 and 3-2 and the Court's Scheduling Order, Plaintiff KAIFI LLC ("KAIFI") hereby provides its disclosure of asserted claims and infringement contentions against Defendants Amazon.com, Inc., ("Amazon.com"), Amazon.com Services LLC ("Amazon Services"), and Amazon Web Services, Inc. ("Amazon AWS"), including by reference the entirety of the attached appendices and exhibits, and accompanying document production.

KAIFI makes these disclosures based on the information that is presently known and publicly available, without the benefit of discovery. KAIFI has not completed its preparation for trial and has not received discovery from Defendants or third parties, particularly of confidential, proprietary and/or non-public documents and information that describe the accused instrumentalities, or discovery on past, discontinued or other instrumentalities reasonably similar to the presently accused instrumentalities.

KAIFI's investigations are ongoing. KAIFI reserves the right to amend, supplement or otherwise revise its asserted claims and infringement contentions, including but not limited to identification of infringed patents and claims, and infringing instrumentalities.

I. Asserted claims

Pursuant to P.R. 3-1(a), KAIFI presently identifies each claim of each patent in suit that is infringed by Defendants as follows:

U.S. Patent No. 8,930,196 (the "'196 Patent"): claims 1-20;

U.S. Patent No. 8,040,232 (the "'232 Patent"): claims 1-12;

U.S. Patent No. 11,082,518 (the "'518 patent"): claims 1-20; and

U.S. Patent No. 7,689,001 (the "'001 Patent"): claims 1-3, 5, 7-8, 10-11.

II. Accused Instrumentalities

Pursuant to P.R. 3-1(b), KAIFI presently identifies the accused apparatus, product, device, process, method, act, or other instrumentality of which it is aware. This identification is

as specific as possible. Each product, device, and apparatus is identified by name or model number, if known. Each method or process is identified by name, if known.

The accused instrumentalities for the '196 Patent include at least methods and apparatuses for speech recognition, including but not limited to wake word detection. The accused instrumentalities for the '232 Patent include at least sensor node and network methods, apparatuses, and systems, including but not limited to Ubiquitous Sensor Network (USN) middleware. The accused instrumentalities for the '518 Patent include at least systems for multiple machines, including but not limited to a relation server and relation profile, such as for tasks and routines. The accused instrumentalities for the '001 Patent include at least methods and devices for location recognition, including but not limited to autonomous mobile robotics.

Appendix A provides an exemplary list of accused instrumentalities, as corresponding to each of the '196 Patent, '232 Patent, '518 Patent, and '001 Patent.

The accused instrumentalities may be provided in a variety of configurations, embodiments, or combinations of the claimed components and steps. The accused instrumentalities may incorporate various devices, servers, chips, circuit elements, modules, code, and the like. Different models, versions, or iterations may incorporate or embody the same or substantially similar components or configurations.

KAIFI reserves the right to identify additional accused instrumentalities as discovery commences and its investigation continues. KAIFI anticipates the full scope of configurations or combinations of the accused and reasonably similar instrumentalities will be further identified as discovery commences and investigation continues.

III. Claim Charts

Pursuant to P.R. 3-1(c), KAIFI provides claim charts, which are incorporated by reference as if fully set forth herein, identifying where each element of each asserted claim is

found within each accused instrumentality:

Appendix B – the '196 Patent;

Appendix C – the '232 Patent;

Appendix D – the '518 Patent; and

Appendix E – the '001 Patent.

The accused instrumentalities utilize the same or substantially similar technology as presented in the charts, such that the charts are representative of the manner of infringement by each accused instrumentality. On information and belief, the charting of elements of the asserted claims to the accused instrumentalities is substantially the same. The comparisons made in these contentions are representative of, and apply to, all accused and reasonably similar instrumentalities and their configurations and implementations.

The charts subdivide the asserted claims to better illustrate where each claim element or step may be found within the accused instrumentalities. The annotations to figures are provided solely for illustrative purposes. References and descriptions provided in conjunction with one claim within a chart are applicable to other claims within the chart with respect to the same or similar elements and limitations. These subdivisions or annotations should not be taken as an indication of the boundaries of claim elements or steps with respect to the doctrine of equivalents or any other issue. For example, particular claim structures or functionalities may be embodied by or distributed over one or more elements or functional blocks, including or in addition to those that have been annotated. KAIFI reserves the right to provide alternate claim mapping, and to amend, supplement or otherwise revise these charts as discovery and its investigation continues.

IV. Contentions

A. Direct Infringement

KAIFI contends that Defendants directly infringe the asserted claims by making, using, selling, and/or offering for sale in the United States, and/or importing into the United States, this State, and this District the accused instrumentalities, without authority. KAIFI also contends that Defendants' infringement is literal and/or under the doctrine of equivalents.

For example, on information and belief, and without the benefit of discovery, KAIFI presently contends: Amazon.com directly infringes the '196 Patent, the '232 Patent, the '518 Patent, and the '001 Patent; Amazon Services directly infringes the '196 Patent, the '232 Patent, the '518 Patent, and the '001 Patent; and Amazon AWS directly infringes at least the '196 Patent and the '232 Patent.

Additionally or alternatively, each Defendant directs or controls the performance by others (either another Defendant or third party) of one or more claim limitation(s), such that the performance or use of each claim limitation can be attributed to the Defendant. In particular, Defendants condition participation in an activity or receipt of a benefit upon performance of the step(s) and establish the manner or timing of that performance. For example, Amazon Services directs or controls Amazon AWS's performance of certain steps of the claimed methods. Furthermore, Amazon AWS directs or controls Amazon Service's performance of certain steps of the claimed methods.

Additionally or alternatively, Amazon.com, Amazon Services and/or Amazon AWS act as a joint enterprise whose members can be charged with each other's acts in the enterprise. For example, a joint enterprise exists between or among Defendants by virtue of agreement, express or implied, between or among Defendants with a common purpose to be carried out. There exists a community of pecuniary interest in that there is a common purpose among the members with an equal right among all members to a voice in the direction of the enterprise, giving equal

right to control.

Additionally or alternatively, each Defendant has, at least, used the claimed system or apparatus by putting the system or apparatus as a whole into service, *i.e.*, controlled the system and obtained benefit from it. For example, at least Amazon Services, including its employees, have put systems for multiple devices, machines, or components, including but not limited to local devices and back-end servers, as a whole into service, *i.e.*, controlled the system and obtained benefit from it.

Additionally or alternatively, Defendants have directly infringed by combining all elements of the infringing systems, devices, and other instrumentalities together, including via Defendants' software connecting the claimed devices. Further, Defendants directly infringe because they are the single supplier of the accused system where it comprises multiple devices and software.

B. Indirect Infringement

KAIFI contends that Defendants indirectly infringe by actively, knowingly, and/or intentionally inducing and/or contributing to the direct infringement of the asserted claims.

Defendants have induced and continued to induce infringement of the asserted claims by others (either other Defendants or third parties, including end-users and customers). By way of non-limiting examples, (i) Amazon Services induces Amazon AWS's performance of the claimed method or use of a claimed system or apparatus; (ii) Amazon AWS induces Amazon Service's performance of the claimed method or use of a claimed system or apparatus; (iii) Amazon Services or Amazon AWS induces direct infringement by an end-user or customer; and/or (iv) Amazon.com induces direct infringement by Amazon AWS and/or Amazon Services.

Additionally or alternatively, Defendants' customers and/or end-users have used the claimed systems by putting the claimed system as a whole into service, *i.e.*, controlled the system and obtained benefit from it and were induced to do so by Defendants.

Defendants had knowledge or were on notice of the asserted patents by virtue of pre-suit communications between Amazon and PowerVoice, citations to one or more of the asserted patents during the prosecution of patent applications by Defendants and/or their affiliates, and the filing of the complaint in this case.

The acts of inducement may include making, selling, offering to sell, and/or importing the Accused Instrumentalities to or for others, and providing others with encouragement, instructions and training on how to use the accused instrumentalities in a manner that directly infringes the claims, all while Defendants have knowledge of the asserted patents and asserted claims, and knowledge that such use of the accused instrumentalities would infringe the asserted claims. Defendants affirmatively act with knowledge and specific intent to encourage and facilitate such infringing acts by others. Defendants' tutorials, user guides, and technical and marketing documentation for the accused instrumentalities provide specific instruction for using, and actively encourage others to use, the accused instrumentalities in an infringing manner.

Affirmative acts of inducement include, but are not limited to, any one or combination of encouraging and/or facilitating the infringement of others through advertisement, marketing, and dissemination of the accused instrumentalities and their components; creating and publishing promotional and marketing materials, supporting materials, product manuals, and/or technical support and information relating to the accused instrumentalities; describing to, training, and instructing users on the implementation of the accused instrumentalities and/or its components; and providing product manuals and other technical information that cause other Defendants, Defendants' customers and other third parties to use and/or operate the accused instrumentalities for their ordinary and customary use.

Defendants took active steps to encourage end users to use and operate the accused

instrumentalities despite knowing of the asserted patents, in a manner they knew directly infringements each element of the asserted claims. Defendants specifically intended and were aware that the ordinary and customary use of the accused instrumentalities and/or their components would infringe one or more of the asserted claims.

Defendants knew that the induced conduct would constitute infringement and intended said infringement at the time of committing the aforementioned acts, such that those acts and conduct have been and continue to be committed with the specific intent to induce infringement, or to deliberately avoid learning of the infringing circumstances at the time these acts were committed, so as to be willfully blind to the induced infringement.

Defendants have and continue to contributorily infringe the asserted claims by using, offering to sell, selling, or importing the Accused Instrumentalities. The accused instrumentalities in operation form a component of a machine, manufacture, combination, or composition, constituting a material part of the invention for each of the asserted patents. Defendants know that the Accused Instrumentalities are especially made or adapted for use in an infringement of the asserted claims, and that the Accused Instrumentalities are not a staple article or other system capable of substantial non-infringing use.

C. Doctrine of Equivalents

KAIFI contends that Defendants infringe under the doctrine of equivalents, to the extent that Defendants contend any claim elements or limitations are not found literally. Defendants have not specifically identified which claim elements or limitations they contend are not literally met. Should Defendants contend that any element, step or limitation is literally absent, KAIFI contends and reserves the right to prove that at least the equivalent of the allegedly missing element, step or limitation is nevertheless present and that accused instrumentalities at least infringe under the doctrine of equivalents. KAIFI anticipates that discovery will enable it to set

forth the additional scope of equivalents, and therefore reserves the right to amend, supplement or otherwise revise these contentions, and specifically as to the doctrine of equivalents.

V. Priority Dates

Pursuant to P.R. 3-1(e), Plaintiff identifies the priority date to which each asserted claim is entitled for asserted patents that claim priority to an earlier application.

- The asserted claims of '196 claim priority to PCT Appl. PCT/KR2009/002118 filed April 22, 2009.
- The asserted claims of '232 claim priority to PCT Appl. PCT/KR2006/005715 filed December 26, 2006.
- The asserted claims of '518 claim priority to US Appl. 14/931,213 filed November 3, 2015.
- The asserted claims of '001 claim priority to KR Appl. 10-2005-0114022 filed November 28, 2005.

KAIFI's investigation is continuing. KAIFI reserves the right to supplement its priority claim date (and to assert any applicable prior invention dates).

VI. Plaintiff's Practicing Instrumentalities

Pursuant to P.R. 3-1(f), at this time, KAIFI is not asserting that any apparatus, product, device, process, method, act, or other instrumentality of its own practices any of the claimed inventions. KAIFI's investigation is continuing. To the extent that additional responsive, discoverable information is found, including with respect to third parties, KAIFI reserves the right to and will supplement its response concerning P.R. 3-1(f) as appropriate.

VII. Document Production

Pursuant to P.R. 3-2(a), KAIFI is producing the following non-privileged documents sufficient to evidence each discussion with, disclosure to, or other manner of providing to a third party, or sale of or offer to sell, the claimed invention prior to the date of application for the patent in suit:

Bates Nos. KAIFI0007448 - KAIFI0007495; KAIFI0007509 - KAIFI0007579;
KAIFI0007673 - KAIFI0007691.

Pursuant to P.R. 3-2(b), KAIFI is producing herewith non-privileged documents evidencing the conception, reduction to practice, design, and development of each claimed invention, which were created on or before the date of application for the patent in suit or the priority date identified pursuant to P. R. 3-1(e):

Bates Nos. KAIFI0007448 - KAIFI0007691.

Pursuant to P.R. 3-2(c), KAIFI is producing herewith a copy of the file history for each of the Asserted Patents:

Bates Nos. KAIFI0000001 - KAIFI0001071.

KAIFI reserves the right to amend or supplement this production based on further investigation.

Date: November 14, 2024

/s/ Andrew Choung

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CERTIFICATE OF SERVICE

I certify that the foregoing document was served by electronic mail to counsel for Defendants.

Date: November 14, 2024

/s/ Andrew Choung

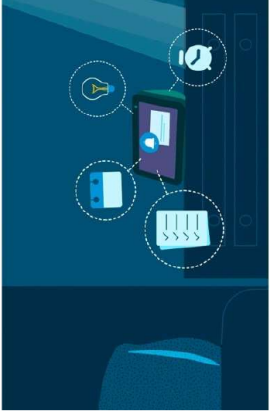
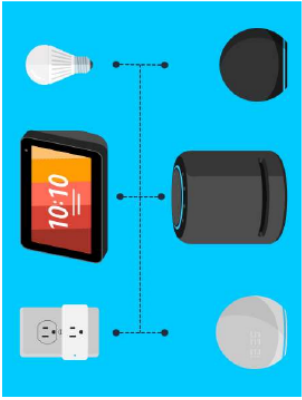
Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 1 of the '518 Patent

Claim 1	Accused Instrumentality(ies)
A system, comprising:	Amazon provides the Alexa Smart Home automation system.¹ Start your smart home From lights and plugs to thermostats and cameras, Alexa can help make your home smarter and more automated by simplifying your everyday routines. Expand your smart home  Lighting Smart lights let you control your connected lights through your phone or by voice when paired with Alexa. You can create timers and routines to automate your entire smart home lighting setup.  Cameras Smart cameras let you monitor activity inside and around your home. After connecting your cameras to Alexa, you can view footage on compatible Echo devices. Relax and be confident that you can keep an eye on what's happening with the Amazon Alexa app, no matter where you are.  Televisions Smart TVs let you use your voice to open streaming apps, change the channel, adjust the volume, and more when paired with an Alexa-enabled device. When you're done watching, just say, "Alexa, turn off the TV."  Thermostats Heating and cooling costs can really add up. Smart thermostats can help you save energy by adjusting your home's temperature when you're away.

¹ See KAIFI0001185 (*Alexa Smart Home*, <https://www.amazon.com/alexa-smart-home/b?ie=UTF8&node=21442899011>).

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 1	Accused Instrumentality(ies)
	Do more with your smart home Routines are shortcuts for Alexa Alexa Routines make several things happen with a single request, so you can do more in fewer steps. For example, in the morning you could have Alexa turn on the lights, read the news, and announce any appointments on your calendar for the day. Learn More About Routines  A simpler way to create your smart home Your smart home should just work, regardless of the smart device brands you choose. That's why Alexa supports multiple ways to connect them, including Wi-Fi, Bluetooth Low Energy, Zigbee, and now Matter, meaning more products than ever work with Alexa. Learn More 
multiple machines; and	The Accused Instrumentalities comprise multiple machines. For example, Alexa Smart Home connects multiple devices.²

² See *id.*

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 1	Accused Instrumentality(ies)
	Expand your smart home  Lighting Smart lights let you control your connected lights through your phone or by voice when paired with Alexa. You can create timers and routines to automate your entire smart home lighting setup.  Cameras Smart cameras let you monitor activity inside and around your home. After connecting your cameras to Alexa, you can view footage on compatible Echo devices. Relax and be confident that you can keep an eye on what's happening with the Amazon Alexa app, no matter where you are.  Televisions Smart TVs let you use your voice to open streaming apps, change the channel, adjust the volume, and more when paired with an Alexa-enabled device. When you're done watching, just say, "Alexa, turn off the TV."  Thermostats Heating and cooling costs can really add up. Smart thermostats can help you save energy by adjusting your home's temperature when you're away. For example, almost any type of device may be connected.³ When you build an Alexa smart home skill, users can voice-control their cloud-connected devices by using your skill. The smart home interfaces use the pre-built voice interaction model. This model gives you a set of predefined utterances that users say to control your device. When a user speaks to Alexa, Alexa interprets the utterance and sends a message to your skill that communicates the request. Your skill reacts to the message by changing the state of the device, such as by dimming a light, or by sending information about device state, such as by telling the user whether a light is on or off. If you want to connect your smart home device to Alexa without a skill, see Smart Home Device Connection Options. If you want to connect your Alexa Built-in device to Alexa, see AVS Device SDK Smart Home Endpoints. If you want to integrate a hardware module into your product to connect to Alexa, see Alexa Connect Kit.

³ See KAIFI0007082 (*Understand Smart Home Skills*, <https://developer.amazon.com/en-US/docs/alexa/smarthome/understand-the-smart-home-skill-api.html>).

Appendix D

Claim Chart for U.S. Patent No. 11,082,518

Claim 1	Accused Instrumentality(ies)
	You can connect almost any type of device to Alexa by using the Smart Home API. You decide how you want the user to interact with your device, and then in your skill, you implement the capability interfaces that enable those interactions. For example, if your device is a lamp, and you want the user to be able to turn the lamp on and off, you implement the Alexa.PowerController interface in your skill. Most devices implement multiple interfaces to enable voice interaction with multiple features. For the full list of smart home interfaces, see List of Alexa Interfaces. Some Alexa interfaces support specific device types, but other interfaces support many kinds of devices. For example, implement the Alexa.ThermostatController interface only for thermostats, but implement interfaces like Alexa.PowerLevelController for many kinds of devices. According to Amazon, the following image shows an overview of the Smart Home with multiple devices.⁴ The diagram illustrates the Smart Home ecosystem. At the top, a 'Smart Device Manufacturer Cloud' (represented by a cloud icon) is connected to a 'Smart Home Skill' (represented by a yellow square with 'AWS Lambda' text). The 'Smart Home Skill' is connected to the 'Alexa Cloud' (represented by a blue cloud icon). The 'Alexa Cloud' is connected to an 'Alexa' device (represented by a blue circle with a white 'A'). The 'Alexa' device is connected to a 'Customer Utterance' (represented by a microphone icon). The 'Smart Device Manufacturer Cloud' is also connected to three smart home devices: a light bulb, a thermostat, and a speaker. The 'Smart Home Skill' is connected to the 'Alexa Cloud' via 'Directives' and 'Synchronous Responses'. The 'Alexa Cloud' is connected to the 'Alexa' device via 'Device Control'. The 'Smart Device Manufacturer Cloud' is connected to the 'Smart Home Skill' via 'Asynchronous Responses, Proactive State Updates'.

⁴ See *id.*

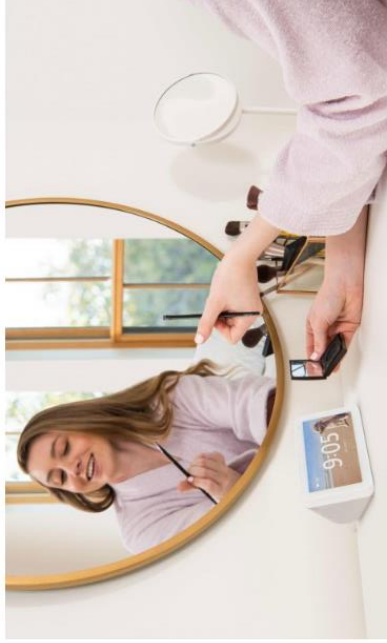
Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 1	Accused Instrumentality(ies)
	According to Amazon, the multiple machines may include any of: Air conditioner (AC) unit, Air purifier, Air quality monitor, Blinds or shades, Camera, Clothes dryer, Color-changing light bulb, Contact sensor, Dimmable light bulb, Dimmer switch, Dishwasher, Fan, Game console, Garage door opener, Guitar amplifier, Lock, Microwave, Motion sensor, Plug or power strip, Printer, Remotes and buttons, Security panel, Soundbar or speaker, Switch, Television, Vacuum cleaner, Wall thermostat, Washing machine, Water heater, and Wi-Fi router.⁵ Amazon has created and promotes the use of “Featured Routines” in the Alexa App that involve “multiple machines.” By way of example, Amazon has created and promotes on its Alexa App a number of “Featured Routines,” including ones called “Morning Shine,” “Appliance Check,” and “Sunset Lights”.⁶

⁵ See KAIFI0002032 (*Get Started with Device Templates*, <https://developer.amazon.com/en-US/docs/alexa/smarthome/get-started-with-device-templates.html>).

⁶ See KAIFI0001094 (*Alexa Routines can organize your day, complete tasks, and make your daily routine more fun, all without you saying a word*, <https://www.aboutamazon.com/news/devices/popular-alexa-routines>).

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 1	Accused Instrumentality(ies)
	Morning  • <u>Morning Shine</u>: Alexa will turn on lights, provide the weather, and play a song when you dismiss an alarm. • <u>Good Morning</u>: Alexa will wish you a good morning, play news from your Flash Briefing, and more when you say, "Good morning." • <u>Morning Music</u>: Kick-start your day with morning tunes at a time of your choice. • <u>NPR Morning Radio</u>: Alexa will start your morning with your local NPR station at a time of your choice.

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 1	Accused Instrumentality(ies)
	Home Monitoring  • Calm My Dog: Alexa can help calm your pup by playing soothing music when dog barking is detected for one minute. • Appliance Check: Alexa will send you a push notification and announcement to check on your appliance when beeping is detected for two minutes.

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 1	Accused Instrumentality(ies)
	Evening  • <u>Sunset Lights</u>: Alexa will turn on your lights when the sun goes down. • <u>Time for Bed</u>: Alexa can turn on a night light, play sleep sounds, and more when you say, "It's bedtime." To explore more ways Alexa Routines can help automate your day, open the Alexa app > More > Routines > Gallery. According to Amazon, "Featured Routines" are "like templates and are ready to enable and start using right away."⁷ The easiest way to get started is with Featured Routines Need inspiration to get going? Check out Featured Routines in the Alexa app. They're like templates and are ready to enable and start using right away. For example, after enabling the Start My Day Routine, when you say "Alexa, start my <i>day</i>" she'll tell you something new,

⁷ See KAIFI0001179 (*Alexa Routines*, <https://www.amazon.com/alexa-routines/b?ie=UTF8&node=21442922011>).

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 1	Accused Instrumentality(ies)
	update you about the weather and traffic, then start your Flash Briefing so you're ready for the day ahead. Additionally, in its product descriptions, Amazon promotes combining “multiple machines” and creating routines as part of a larger home automated system. For instance, the product description page for the Amazon Echo Show 8 promotes the fact that the Echo Show 8 is capable of scheduling routines involving multiple machines, including door locks, security cameras, and lights. The smart home compatible with more Pair and control devices compatible with Zigbee, Matter, and Thread without needing a separate hub. Manage cameras, lights, and more using the touch screen or your voice. Schedule Routines, or start them with your motion. “Alexa, turn on the lights.”

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 1	Accused Instrumentality(ies)
	The smart home compatible with more Pair and control devices compatible with Zigbee, Matter, and Thread without needing a separate hub. Manage cameras, lights, and more using the touch screen or your voice. Schedule Routines, or start them with your motion. "Alexa, show me the backyard." The smart home compatible with more Pair and control devices compatible with Zigbee, Matter, and Thread without needing a separate hub. Manage cameras, lights, and more using the touch screen or your voice. Schedule Routines, or start them with your motion. "Alexa, lock the front door." On its website, Amazon also regularly bundles multiple machines together as part of smart home system. For instance, Amazon bundles the Echo Show 5 with Amazon’s Blink Mini security camera.⁸

⁸ See KAIFI0001303 (*Echo Show 5 (3rd Gen) with Blink Mini* | *Cloud Blue*, <https://www.amazon.com/All-new-Echo-Show-Blink-Cloud/dp/B0BZZXWS874>).

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Claim Chart for U.S. Patent No. 11,082,518

Claim 1	Accused Instrumentality(ies) echoshow 5 + blink mini Roll over image to zoom in Echo Show 5 (3rd Gen) with Blink Mini Cloud Blue Visit the Echo & Alexa Store 4.4 ★★★★★ 36,417 ratings Search this page Amazon's Choice Bundle List Price: \$424.98 Details Bundle Price: \$119.98 You Save: \$5.00 (4%) You're viewing the newest model of this product — see what's new Color: Cloud Blue Price selector showing \$119.98 for Cloud Blue. Configuration: with Blink Mini Bundles with this item with Adjustable Stand \$116.98 Explore bundles with similar options - This bundle contains Echo Show 5 (3rd Gen) and Blink Mini. The product description of the bundled Echo Show 5 and Blink Mini promotes creating routines using multiple machines.⁹ - ALEXA CAN SHOW YOU MORE – Set alarms and timers, sleep soundly with a relaxing playlist, start your morning with a smart home routine, see your calendar or weather clearly - all with your voice.
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⁹ *Id.*

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 1	Accused Instrumentality(ies)
	Small size, big function The all-new Echo Show 5 includes a 5.5" display so you can see news and weather at a glance, make video calls, view compatible cameras, stream music and shows, and more. Set alarms and timers with your voice and create routines so you can personalize how you wake up and wind down. 

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 1	Accused Instrumentality(ies)
	Help keep your home comfortable Our fastest Echo Show 5 speeds up Alexa responses so that you can quickly manage your smart home, like turning off compatible lights around your house without having to get out of bed. You can also schedule Routines or even start them with your motion. When you walk into a room, the lamp can turn on or music can start to play—just like that. Learn more about the different ways you can connect your smart home device. By way of further example, Amazon bundles multiple machines by way of selling the Echo Pop with the Globe Electric Smart Color Bulb. In the product description, Amazon promotes using multiple machine to create routines.¹⁰ • SIMPLIFY DAILY ROUTINES: Using Alexa App Routines, automate your daily routine to have lights turn on or off at the same time everyday or to look like you're home when you're not. Adjust your lights individually or group multiple items together to synchronize lighting for a whole room, and control them anytime, anywhere. Amazon also creates and provides “Featured Routines” to users in the Alexa App, which according to Amazon are “like templates and are ready to enable and start using right away”.¹¹ The easiest way to get started is with Featured Routines Need inspiration to get going? Check out Featured Routines in the Alexa app. They're like templates and are ready to enable and start using right away. For example, after enabling the Start My Day Routine, when you say “Alexa, start my day” she'll tell you something new,

¹⁰ See KAIFI0001299 (*Echo Pop with Globe Electric Smart Color Bulb*, <https://www.amazon.com/Echo-Globe-Electric-Smart-Color/dp/B0DGGQYJDDY/>).

¹¹ See KAIFI0001179 (*Alexa Routines*, <https://www.amazon.com/alexa-routines/b?ie=UTF8&node=21442922011>).

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 1	Accused Instrumentality(ies)
	update you about the weather and traffic, then start your Flash Briefing so you're ready for the day ahead. Amazon also creates routines involving multiple machines through its “hunches” tool, which is enabled by default in the Alexa App.¹² What Are Alexa Hunches? With Hunches, Alexa alerts you by voice or mobile push notification when a connected smart home device isn't in its usual state. For example, if one of your smart lights is on when you say "Good night," Alexa alerts you and offers to turn it off. Alexa can have hunches about a variety of supported smart home device, including lights, thermostats, doors, switches and more. Hunches are enabled by default. You can also turn on automatic actions, so Alexa can proactively act on hunches and automatically address the issue for you. To turn off Hunches, use the Alexa app. You can manage your smart home device status and usage history at any time. To learn more, go to Alexa Privacy Settings. By way of further example, Amazon provides Ring Video Doorbell and Security Cameras.¹³

¹² See KAIFI0007142 (*What Are Alexa Hunches?*, <https://www.amazon.com/gp/help/customer/display.html?nodeId=G7F5F7K93GKSLC4F>).

¹³ See KAIFI0007789 (*Arming and Disarming your Ring Video Doorbell and Security Cameras with Alexa*, <https://ring.com/au/en/support/articles/tu12s/Arming-and-Disarming-Your-Ring-Devices-with-Alexa?srsId=AfmBOoqi5YkqBTi4DpXIDan0ievy2kXhGy-hfNFE8miHO0BRUwKelsh7>).

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

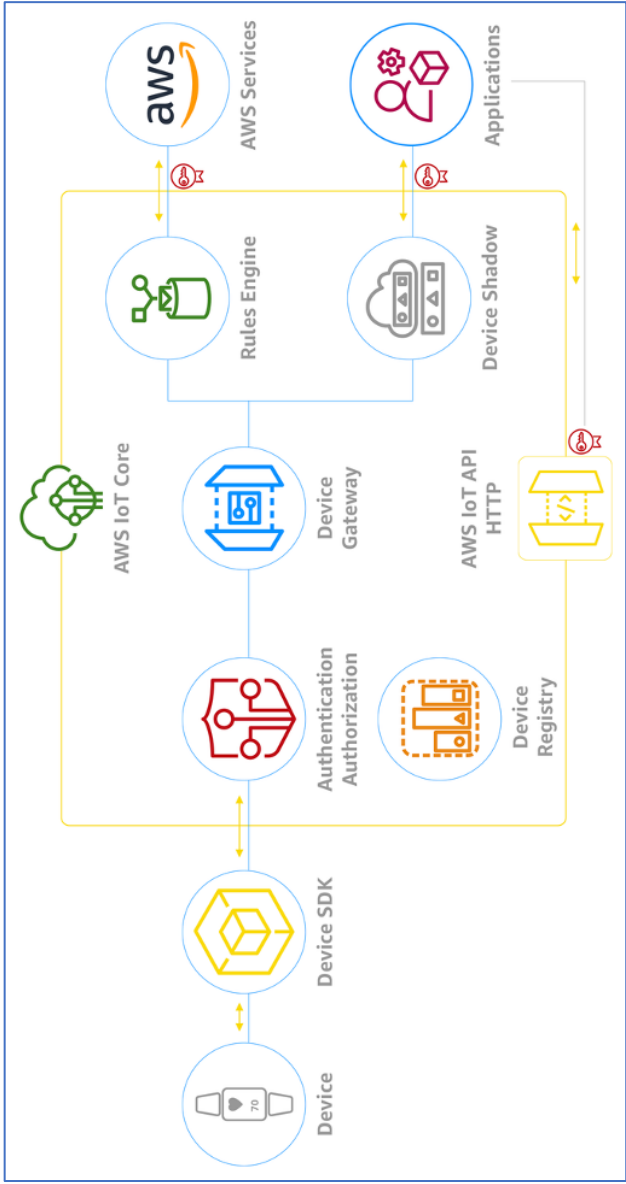
Claim 1	Accused Instrumentality(ies)
	 Arming and disarming your Ring Video Doorbell and Security Cameras with Alexa Conveniently arm and disarm your Video Doorbells and Security Cameras with voice commands for Alexa and a compatible Echo device.¹ Note: You will need to select a four-digit voice code in order to disarm your Ring Video Doorbells and Security Cameras. Once selected, the system can be voice-armed or disarmed by anyone who gives the command to Alexa with the four-digit code. If you are new to Alexa, you must download and install the Alexa app onto your mobile device before you can arm and disarm your Ring devices with Alexa using your voice. Follow these steps for changing modes for your Video Doorbells and Security Cameras with Alexa using your voice. This claim element is literally present, as described herein, but is also satisfied under the doctrine of equivalents because the structure and functionality provided by Amazon is being used to satisfy this claim limitation and therefore there is no vitiation of this element, and the Accused Instrumentalities incorporate structure and functionality that is not substantially different from the requirements of this limitation because they achieve substantially or exactly the same function, in substantially or exactly the same way as set forth in the claim element (as described herein), and achieves substantially or exactly the same result.

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Claim 1	Accused Instrumentality(ies)
a relation server for storing a relation profile including a task processing schedule parameter which defines a sequence of performing multiple processes, and for requesting selected machines of the multiple machines to perform the multiple processes,	The Accused Instrumentalities comprise a relation server, which stores a relation profile including a task processing schedule parameter which defines a sequence of performing multiple processes, and for requesting selected machines of the multiple machines to perform the multiple processes. For example, Amazon provides cloud-based servers.¹⁴ Today, we are announcing that the Amazon Alexa team has migrated the vast majority of their GPU-based machine learning inference workloads to Amazon Elastic Compute Cloud (Amazon EC2) Inf1 instances, powered by AWS Inferentia. This resulted in 25% lower end-to-end latency, and 30% lower cost compared to GPU-based instances for Alexa's text-to-speech workloads. The lower latency allows Alexa engineers to innovate with more complex algorithms and to improve the overall Alexa experience for our customers. AWS built AWS Inferentia chips from the ground up to provide the lowest-cost machine learning (ML) inference in the cloud. They power the Inf1 instances that we launched at AWS re:Invent 2019. Inf1 instances provide up to 30% higher throughput and up to 45% lower cost per inference compared to GPU-based G4 instances, which were, before Inf1, the lowest-cost instances in the cloud for ML inference. Alexa is Amazon's cloud-based voice service that powers Amazon Echo devices and more than 140,000 models of smart speakers, lights, plugs, smart TVs, and cameras. Today customers have connected more than 100 million devices to Alexa. And every month, tens of millions of customers interact with Alexa to control their home devices ("Alexa, increase temperature in living room", "Alexa, turn off bedroom"), to listen to radios and music ("Alexa, start Maxi 80 on bathroom", "Alexa, play Van Halen from Spotify"), to be informed ("Alexa, what is the news?" "Alexa, is it going to rain today?"), or to be educated, or entertained with 100,000+ Alexa Skills.

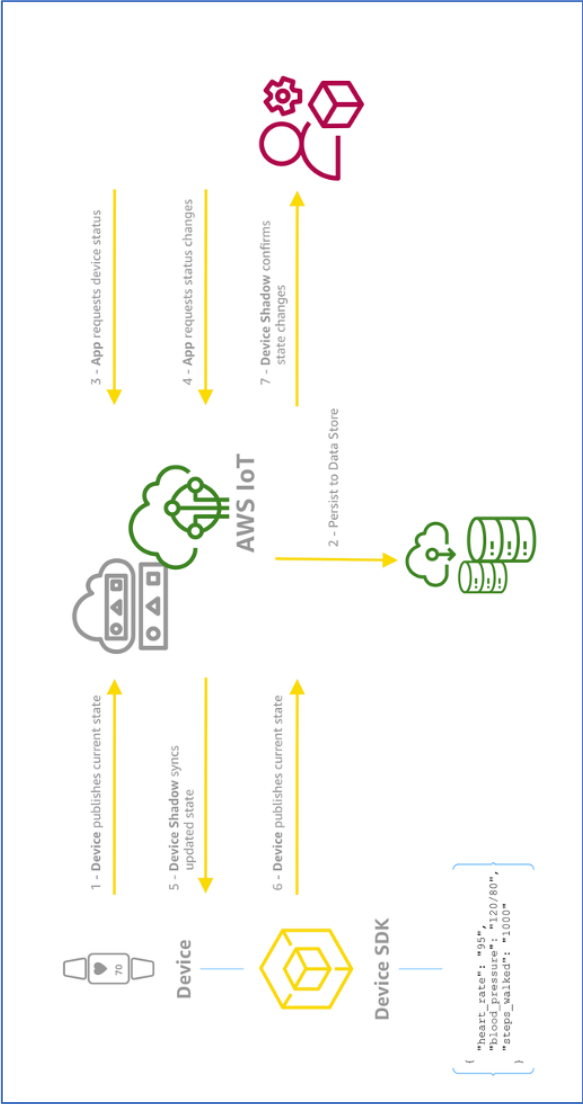
¹⁴ See KAIF10006771 (Sébastien Stormac, *Majority of Alexa Now Running on Faster, More Cost-Effective Amazon EC2 Inf1 Instances* (Nov. 12, 2020), <https://aws.amazon.com/blogs/aws/majority-of-alexa-now-running-on-faster-more-cost-effective-amazon-ec2-inf1-instances/>).

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Claim 1	Accused Instrumentality(ies)
	For example, Amazon provides the AWS IoT Core.¹⁵  The diagram illustrates the AWS IoT Core architecture. It shows a flow from a Device (represented by a smartphone icon) through a Device SDK (represented by a cube icon) to Authentication Authorization (represented by a shield icon). This leads to the Device Gateway (represented by a cloud icon with a gear). The Device Gateway connects to the AWS IoT Core (represented by a cloud icon with a gear). The AWS IoT Core then connects to the Rules Engine (represented by a gear icon) and the Device Shadow (represented by a cloud icon with a gear). The Rules Engine connects to AWS Services (represented by the AWS logo). The Device Shadow connects to Applications (represented by a gear icon). The Device Gateway also connects to the Device Registry (represented by a cloud icon with a gear). The Device Registry connects to the AWS IoT API HTTP (represented by a cloud icon with a gear). The AWS IoT API HTTP connects to the Applications. The Applications also connect to the AWS Services.

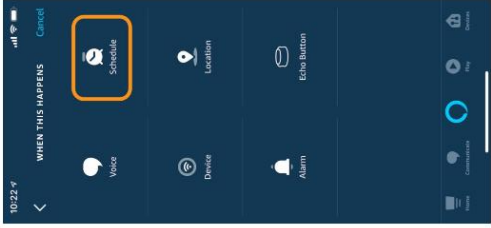
¹⁵ See KAIFI0001590 (*An Introduction to AWS IoT Core* (Apr. 5, 2021), <https://aws.amazon.com/blogs/startups/an-introduction-to-aws-iot-core/>).

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Claim 1	Accused Instrumentality(ies)
	 The diagram illustrates the AWS IoT Device Shadow system architecture and the state synchronization process. On the left, a Device (represented by a pill bottle icon) is connected to a Device SDK (represented by a cube icon). The Device SDK is shown with a JSON payload: <pre>{ "heart_rate": "95", "blood_pressure": "120/80", "steps_walked": "1000" }</pre>. The Device SDK connects to AWS IoT (represented by a cloud icon with a gear). AWS IoT is connected to a Data Store (represented by a database icon). The process is described in seven steps: 1 - Device publishes current state 2 - Persist to Data Store 3 - App requests device status 4 - App requests status changes 5 - Device Shadow syncs updated state 6 - Device publishes current state 7 - Device Shadow confirms state changes For example, a routine may be scheduled for a specific time.¹⁶

¹⁶ See KAIFI0007392 (6 Best Alexa Routines Right Now & Easy Set-Up Guide (Updated For New Features!)) (Jun. 5, 2020), <https://voicebrew.com/alexa-day-30/alexa-routine#schedule>).

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	1. Schedule an Alexa routine for a specific time Schedule is great for a wake-up routine that turns on your lights. A. Tap "Schedule"  B. Set the routine's kick-off time and choose what days you want it to repeat on You can pick a specific time (like 4pm) by tapping "At Time" or sunrise / sunset (a very helpful new feature!). If you select "At Time" you'll then be promoted to select the time and repeat frequency.
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	C. Tap Next to finish This will take you back to the New Routine tab where you can add an action.  For example, Amazon stores information about the status and usage of smart home devices.¹⁷

¹⁷ See KAIFI0006955 (*Personalize your Alexa Privacy Settings*, <https://www.amazon.com/b/?node=23608614011>).

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Claim 1	Accused Instrumentality(ies)
	 Smart home device history The Review Smart Home Device History section of Alexa Privacy Settings shows you information about the status and use of your smart home devices connected to Alexa, such as the state of your smart light (on/off). You can review this information for the most recent 30 days, or request an email with your Alexa smart home device history and insights about your smart home device use. You can also choose to delete from Alexa some or all of your third-party smart home device history. For example, the Smart Home API provides a capability interface that enables description of devices and the properties, events, and directives they support.¹⁸

¹⁸ See KAIFI0007082 (*Understand Smart Home Skills*, <https://developer.amazon.com/en-US/docs/alexa/smarthome/understand-the-smart-home-skill-api.html>).

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Claim 1	Accused Instrumentality(ies)
	The Smart Home API provides <i>capability interfaces</i> that enable you to describe your devices and the <i>properties, events, and directives</i> that they support. You describe your device to Alexa by sending a <code>Discover</code> event after receiving a <code>Discover</code> directive from Alexa during the device discovery process. Alexa uses this description of your device and its capabilities to automatically enable certain functionality, such as: • Pre-built voice interaction model for many common commands. • Contextual targeting, which lets Alexa use context clues, such as device groups, to issue commands that target the proper device even when the customer isn't explicit. • Controlling devices through routines. • Viewing and controlling devices with the Alexa app. In addition to supporting voice requests, the API also enables you to provide updates when the state of a device changes. Proactive updates enable users to ask Alexa about a device and see an up-to-date status of the device in the Alexa app. For example, a customer can use the Alexa app to check the temperature of their home or see if a light is on. For example, Amazon provides an example of a directive.¹⁹

¹⁹ See *id.*

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Claim 1	Accused Instrumentality(ies)
	For example: 1. A customer enables your smart home skill, links the skill to their account with your device cloud, and then asks Alexa to discover devices associated with that account. 2. Later, the customers says, for example, "Alexa, turn the kitchen light to 50 percent", or makes a change to a device setting in the Alexa app. Alexa uses information from the customer's utterance or the app to compose a message that identifies the endpoint and the operation to perform. Alexa sends this message, called a <i>directive</i>, to your skill to control the kitchen light. The directive includes: • The capability message, for example, <code>BrightnessController.SetBrightness</code>, which includes the new setting value. • The endpoint identifier. In this example, the ID representing the endpoint that the customer named "kitchen light". • Information that authenticates the customer. 3. Your skill code, hosted in <code>AWS Lambda</code>, a compute service offered by Amazon Web Services (AWS), receives and parses the directive, and then validates the authentication information. Your skill communicates with your device, or device cloud, using communication channels you've defined, to set the brightness on the customer's kitchen light. 4. Your skill responds to Alexa with a message called an <i>event</i> that indicates whether the operation was successful. You have the option of sending the event synchronously from the Lambda function or asynchronously from the device cloud. Alexa uses this response to provide the appropriate response to the customer. For example, Alexa might say, "OK" to indicate that the requested directive was successfully handled. 5. Later, the customer switches off the kitchen light manually. This action causes your skill to send a change report event to Alexa to indicate that the light is now off. For example, the Smart Home API supports customer scenarios.²⁰

²⁰ See *id.*

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Claim 1	Accused Instrumentality(ies)
	To support these customer scenarios, the Smart Home API has the following features: • Capability interfaces – These interfaces describe a device's functionality. A device, or <i>endpoint</i>, can implement the combination of capability interfaces that best represent its features. For example, a light that you can turn on and off and dim might implement two interfaces: <code>Alexa.PowerController</code> and <code>Alexa.BrightnessController</code>. A similar light that has these two features and also supports tunable white light might also implement <code>Alexa.ColorTemperatureController</code>. • Synchronous and asynchronous messaging – When Alexa sends a directive, your smart home skill responds either synchronously or asynchronously. You're free to choose asynchronous or synchronous responses or a combination of the two, whichever works best for your device and cloud architecture. • Device state change notifications – You can provide proactive state updates to Alexa in event messages. Alexa can then provide this information in the Alexa app and enable customers to take action, if needed. For example, if a door unlocks, you can send this change report to Alexa and the change appears in your customer's Alexa app. • Querying state – Capability interfaces define properties that Alexa can query to enable customers to check the current state of a device by asking Alexa or by using the Alexa app. For example, the Smart Home API supports Alexa routines.²¹

²¹ See *Kaifiroutines*, (Alexa Routines, <https://www.amazon.com/alexa-routines/b?ie=UTF8&node=21442922011>).

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Claim 1	Accused Instrumentality(ies)
	Alexa Routines  Routines are short cuts for Alexa, saving you time by grouping together a bunch of actions so you don't have to ask for each one individually. There are many ways to activate Routines - via voice, time of day, with your smart home devices, when you turn off your alarm, and more. The easiest way to get started is with Featured Routines Need inspiration to get going? Check out Featured Routines in the Alexa app. They're like templates and are ready to enable and start using right away. For example, after enabling the Start My Day Routine, when you say "Alexa, start my day" she'll tell you something new, update you about the weather and traffic, then start your Flash Briefing so you're ready for the day ahead. An example of an Alexa routine is shown below.²²

²² See KAIFI0004410 (Daniel Trock, *How To Use Alexa Routines To Automate Your Smart Home* (May 28, 2023), <https://www.slashgear.com/1295689/how-to-use-alexa-routines-automate-your-smart-home/>).

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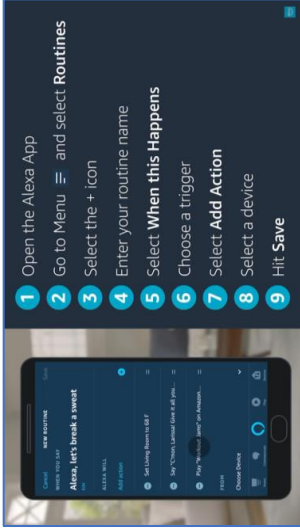
Claim 1	Accused Instrumentality(ies)
	What are Alexa Routines?  In a nutshell, Alexa Routines allows you to set up multiple Alexa-controlled actions in a sequence and spark them off with a single command or schedule. For example, using Alexa Routines, you could set your smart thermostat to automatically lower the temperature to your preferred sleeping heat when you turn off your bedroom lights for the night, then have it return to a neutral setting once the clock strikes 7:30 AM. It's a great way to save yourself a bit of effort around the house, not to mention help you keep track of your daily tasks.

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Claim 1	Accused Instrumentality(ies)
	What's especially cool about Alexa Routines is that you don't necessarily need Echo-branded devices to make them work. Even if you're using off-brand smart devices, as long as they can be connected to the same smart home network, you can use Alexa Routines to activate them in sequence. Routines may have the Alexa name, but that's more of a branding thing than an actual requirement. For example, Amazon provides Alexa-Hosted Skills.²³ When you create an Alexa skill, you store your code and manage backend resources yourself. Instead, you can create an Alexa-hosted skill, and Alexa stores your code and resources on Amazon Web Services (AWS) for you. With an Alexa-hosted skill, you can get started quickly by using one of the skill templates available in the developer console. When you create an Alexa-hosted skill, you develop your skill in an online code editor in the developer console. You can also use the Alexa Skills Kit (ASK) Command Line Interface (CLI) to create and manage Alexa-hosted skills.

²³ See KAIFI0001137 (*About Alexa-Hosted Skills*, <https://developer.amazon.com/en-US/docs/alexa/hosted-skills/build-a-skill-end-to-end-using-an-alexa-hosted-skill.html>).

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Claim 1	Accused Instrumentality(ies)
	With an Alexa-hosted skill, you can build, edit, and publish a skill without leaving the developer console. You use the online code editor to edit the code for your skill and deploy it directly to your AWS Lambda endpoints. When you create an Alexa-hosted skill, Alexa provisions the following AWS resources: • AWS Lambda endpoints in all three Alexa service regions • An Amazon S3 bucket for media storage • An Amazon DynamoDB table for persisting data • An AWS CodeCommit repository You don't need an AWS account to create an Alexa-hosted skill. Alexa provisions the AWS resources that you need directly from the Alexa developer console. Alexa places your files and resources in an individual account, separate from the accounts of other users, and your files are never shared with other users. If you want to use additional AWS services, or if your usage exceeds the usage limits, you can provision the additional resources in your own AWS account. For details, see Use Personal AWS Resources with Your Alexa-hosted Skill. When you create your skill, you get an AWS CodeCommit repository for managing your code, which you can access by using the ASK CLI to edit your skill. For details, see Create and Manage Alexa-hosted Skills Using the ASK CLI. For a video introduction to Alexa-hosted skills, see Setting up an Alexa-hosted skill on YouTube. An example using the Alexa App is shown below.²⁴ 

²⁴ See KAIFI0007812 (How to Set Up Routines with Alexa (Apr. 13, 2020), <https://www.youtube.com/watch?v=I5spW9gHgm8>).

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Claim 1	Accused Instrumentality(ies)
	Amazon’s “hunches” tool, which is enabled by default, is also used for “requesting selected machines of the multiple machines to perform the multiple processes.” According to Amazon:²⁵ With Hunches, Alexa alerts you by voice or mobile push notification when a connected smart home device isn’t in its usual state. For example, if one of your smart lights is on when you say “Good night,” Alexa alerts you and offers to turn it off. Alexa can have hunches about a variety of supported smart home device, including lights, thermostats, doors, switches and more. Hunches are enabled by default. You can also turn on automatic actions, so Alexa can proactively act on hunches and automatically address the issue for you. To turn off Hunches, use the Alexa app. Additionally, Amazon creates and promotes “Featured Routines” in the Alexa App, which can “request[] selected machines of the multiple machines to perform the multiple processes.”²⁶ The easiest way to get started is with Featured Routines Need inspiration to get going? Check out Featured Routines in the Alexa app. They’re like templates and are ready to enable and start using right away. For example, after enabling the Start My Day Routine, when you say “<i>Alexa, start my day</i>” she’ll tell you something new, update you about the weather and traffic, then start your Flash Briefing so you’re ready for the day ahead.

²⁵ See KAIF10007142 (*What Are Alexa Hunches?*, <https://www.amazon.com/gp/help/customer/display.html?nodeId=G7F5F7K93GKSLC4F>).

²⁶ See KAIF10001179 (*Alexa Routines*, <https://www.amazon.com/alexa-routines/b?ie=UTF8&node=21442922011>).

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Claim 1	Accused Instrumentality(ies)
	By way of further example, Ring Video Doorbell and Security Cameras can be armed and disarmed with Alexa.²⁷  Arming and disarming your Ring Video Doorbell and Security Cameras with Alexa Conveniently arm and disarm your Video Doorbells and Security Cameras with voice commands for Alexa and a compatible Echo device.¹ Note: You will need to select a four-digit voice code in order to disarm your Ring Video Doorbells and Security Cameras. Once selected, the system can be voice-armed or disarmed by anyone who gives the command to Alexa with the four-digit code. If you are new to Alexa, you must download and install the Alexa app onto your mobile device before you can arm and disarm your Ring devices with Alexa using your voice. Follow these steps for changing modes for your Video Doorbells and Security Cameras with Alexa using your voice.

²⁷ See KAIF10007789 (*Arming and Disarming your Ring Video Doorbell and Security Cameras with Alexa*, <https://ring.com/au/en/support/articles/tu12s/Arming-and-Disarming-Your-Ring-Devices-with-Alexa?srsId=AfmBOoqi5YkqBTi4DpXIDan0ievy2kXhGy-hfNFE8miHO0BRUwKelsh7>).

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Claim 1	Accused Instrumentality(ies)
	By way of further example, Ring Security Camera light schedules can be used to turn lights off, turn lights on, set dusk-to-dawn schedules, and create custom schedules for the same time/day of the week. How to use Security Camera light schedules This article describes the basic functions of the light schedules feature for the: • Spotlight Cam Battery - supports lights off schedule to preserve the battery • Spotlight Cam Wired/Mount • Floodlight Cam • Floodlight Cam Wired Pro • Floodlight Cam Wired Plus In order to ensure that you have the most updated light features, make sure that you have the latest version of the Ring app. Learn how to update your Ring app. You can use light schedules to: • Turn lights off • Turn lights on • Set dusk-to-dawn schedules • Create custom schedules for the same time/day of the week • Be able to determine if you have light schedules that overlap/conflict. This claim element is literally present, as described herein, but is also satisfied under the doctrine of equivalents because the structure and functionality provided by Amazon is being used to satisfy this claim limitation and therefore there is no violation of this element, and the Accused Instrumentalities incorporate structure and functionality that is not substantially different from the requirements of this limitation because they achieve substantially or exactly the same function, in substantially or exactly the same way as set forth in the claim element (as described herein), and achieves substantially or exactly the same result.

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Claim 1	Accused Instrumentality(ies)
wherein the relation server generates a new relation profile based on an intervention by a user in the relation profile,	In the Accused Instrumentalities, the relation server generates a new relation profile based on an intervention by a user in the relation profile. For example, Smart Home automatically enables certain functionalities and supports device updates.²⁸ The Smart Home API provides <i>capability interfaces</i> that enable you to describe your devices and the <i>properties, events, and directives</i> that they support. You describe your device to Alexa by sending a <code>Discover</code> event after receiving a <code>Discover</code> directive from Alexa during the device discovery process. Alexa uses this description of your device and its capabilities to automatically enable certain functionality, such as: • Pre-built voice interaction model for many common commands. • Contextual targeting, which lets Alexa use context clues, such as device groups, to issue commands that target the proper device even when the customer isn't explicit. • Controlling devices through routines. • Viewing and controlling devices with the Alexa app. In addition to supporting voice requests, the API also enables you to provide updates when the state of a device changes. Proactive updates enable users to ask Alexa about a device and see an up-to-date status of the device in the Alexa app. For example, a customer can use the Alexa app to check the temperature of their home or see if a light is on. For example, according to Amazon, device state change notifications are sent to Alexa when a customer interacts with a device.²⁹

²⁸ See KAIF10007082 (*Understand Smart Home Skills*, <https://developer.amazon.com/en-US/docs/alexa/smarthome/understand-the-smart-home-skill-api.html>).

²⁹ See *id.*

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Claim 1	Accused Instrumentality(ies)
	To support these customer scenarios, the Smart Home API has the following features: • Capability interfaces – These interfaces describe a device's functionality. A device, or <i>endpoint</i>, can implement the combination of capability interfaces that best represent its features. For example, a light that you can turn on and off and dim might implement two interfaces: <code>Alexa.PowerController</code> and <code>Alexa.BrightnessController</code>. A similar light that has these two features and also supports tunable white light might also implement <code>Alexa.ColorTemperatureController</code>. • Synchronous and asynchronous messaging – When Alexa sends a directive, your smart home skill responds either synchronously or asynchronously. You're free to choose asynchronous or synchronous responses or a combination of the two, whichever works best for your device and cloud architecture. • Device state change notifications – You can provide proactive state updates to Alexa in event messages. Alexa can then provide this information in the Alexa app and enable customers to take action, if needed. For example, if a door unlocks, you can send this change report to Alexa and the change appears in your customer's Alexa app. • Querying state – Capability interfaces define properties that Alexa can query to enable customers to check the current state of a device by asking Alexa or by using the Alexa app. For example, Amazon provides an example of a device state change notification sent to Alexa based on a customer interaction with a device.³⁰

³⁰ See *id.*

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Claim 1	Accused Instrumentality(ies)
	For example: 1. A customer enables your smart home skill, links the skill to their account with your device cloud, and then asks Alexa to discover devices associated with that account. 2. Later, the customers says, for example, "Alexa, turn the kitchen light to 50 percent", or makes a change to a device setting in the Alexa app. Alexa uses information from the customer's utterance or the app to compose a message that identifies the endpoint and the operation to perform. Alexa sends this message, called a <i>directive</i>, to your skill to control the kitchen light. The directive includes: • The capability message, for example, <code>BrightnessController.SetBrightness</code>, which includes the new setting value. • The endpoint identifier. In this example, the ID representing the endpoint that the customer named "kitchen light". • Information that authenticates the customer. 3. Your skill code, hosted in AWS Lambda, a compute service offered by Amazon Web Services (AWS), receives and parses the directive, and then validates the authentication information. Your skill communicates with your device, or device cloud, using communication channels you've defined, to set the brightness on the customer's kitchen light. 4. Your skill responds to Alexa with a message called an <i>event</i> that indicates whether the operation was successful. You have the option of sending the event synchronously from the Lambda function or asynchronously from the device cloud. Alexa uses this response to provide the appropriate response to the customer. For example, Alexa might say, "OK" to indicate that the requested directive was successfully handled. 5. Later, the customer switches off the kitchen light manually. This action causes your skill to send a change report event to Alexa to indicate that the light is now off. For example, Amazon provides the AWS IoT Core.³¹

³¹ See KAIFI0001590 (*An Introduction to AWS IoT Core* (Apr. 5, 2021), <https://aws.amazon.com/blogs/startups/an-introduction-to-aws-iot-core/>).

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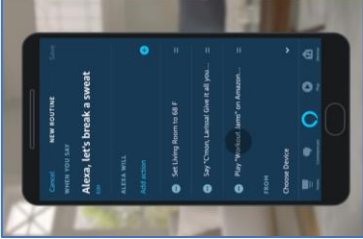
Claim 1	Accused Instrumentality(ies)
	The diagram illustrates the AWS IoT architecture. At the top, a 'Device' (represented by a smartphone icon) is connected to a 'Device SDK' (represented by a cube icon). The 'Device SDK' is connected to 'Authentication Authorization' (represented by a shield icon) and 'Device Registry' (represented by a database icon). 'Authentication Authorization' is connected to 'Device Gateway' (represented by a cloud icon). 'Device Gateway' is connected to 'Rules Engine' (represented by a gear icon) and 'Device Shadow' (represented by a cloud icon). 'Rules Engine' is connected to 'AWS Services' (represented by the AWS logo). 'Device Shadow' is connected to 'Applications' (represented by a person icon). 'AWS IoT Core' (represented by a cloud icon) is connected to 'AWS IoT API HTTP' (represented by a code icon). 'AWS IoT API HTTP' is connected to 'Applications'. The entire system is enclosed in a blue box.

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Claim 1	Accused Instrumentality(ies)
	The diagram illustrates the system architecture and data flow for Claim 1. It shows a Device (represented by a smartwatch icon) connected to a Device SDK (represented by a hexagonal icon). The Device SDK is connected to AWS IoT (represented by a cloud icon with a gear and a cube). The AWS IoT is connected to a Data Store (represented by a cloud icon with three cylinders). The data flow is as follows: 1 - Device publishes current state (Device to AWS IoT) 2 - Persist to Data Store (AWS IoT to Data Store) 3 - App requests device status (App to AWS IoT) 4 - App requests status changes (App to AWS IoT) 5 - Device Shadow syncs updated state (AWS IoT to Device) 6 - Device publishes current state (Device to AWS IoT) 7 - Device Shadow confirms state changes (AWS IoT to App) For example, a routine may be set up in the Alexa App.³²

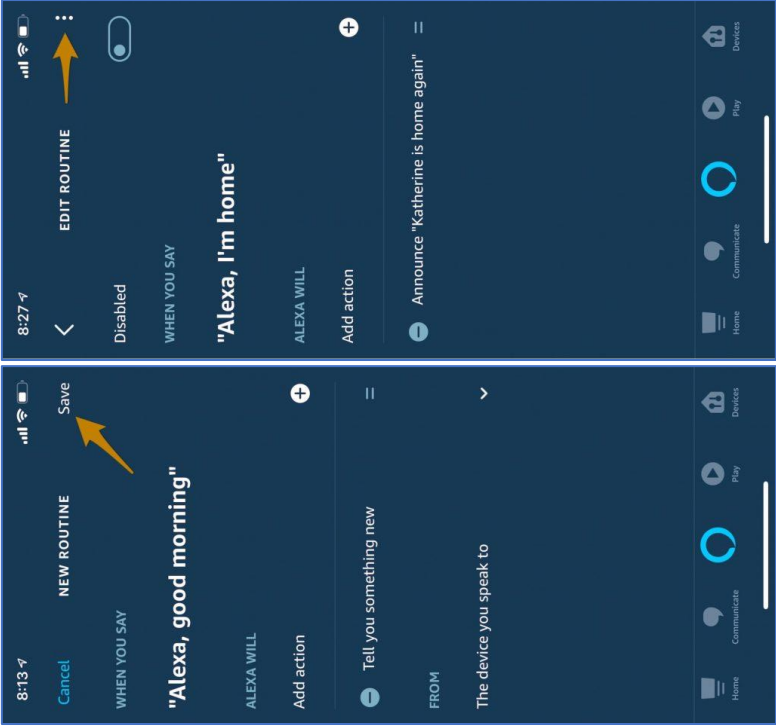
³² See KAIFI0007392 (6 Best Alexa Routines Right Now & Easy Set-Up Guide (Updated For New Features!)) (Jun. 5, 2020), <https://voicebrew.com/alexa-day-30/alexa-routine#schedule>).

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Claim 1	Accused Instrumentality(ies)
	 1 Open the Alexa App 2 Go to Menu ≡ and select Routines 3 Select the + icon 4 Enter your routine name 5 Select When this Happens 6 Choose a trigger 7 Select Add Action 8 Select a device 9 Hit Save For example, routines can be saved and modified.³³

³³ See, e.g., *id.*

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Claim 1	Accused Instrumentality(ies)
	 For example, saved routines can also be copied and used to create new routines.³⁴

³⁴ See KAIF10007390 (*You Can Now Easily Copy Your Alexa Routines* (Jun. 29, 2020), <https://voicebrew.com/newsletter-archive/copy-your-alexa-routines/>; see also KAIF10006992 (*Share and discover new Alexa Routines* (Sep. 28, 2020) <https://www.aboutamazon.com/news/devices/share-and-discover-new-alexa-routines?tag=cnet-buy-button-20&ascsubtag=7a394b571d96460e9707507a2ab79b11%7C-%7Cdt%7Ccn>); see also KAIF10001168 (*Dale Smith, Alexa routines can be*

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Claim 1	Accused Instrumentality(ies)
	The Amazon “hunches” tool, which is enabled by default, is also used to automate a “relation server generat[ing] a new relation profile based on an intervention by a user in the relation profile.” For instance, according to Amazon:³⁵ With Hunches, Alexa alerts you by voice or mobile push notification when a connected smart home device isn't in its usual state. For example, if one of your smart lights is on when you say "Good night," Alexa alerts you and offers to turn it off. Alexa can have hunches about a variety of supported smart home device, including lights, thermostats, doors, switches and more. Hunches are enabled by default. You can also turn on automatic actions, so Alexa can proactively act on hunches and automatically address the issue for you. To turn off Hunches, use the Alexa app. You can manage your smart home device status and usage history at any time. To learn more, go to Alexa Privacy Settings. Additionally, Amazon creates and promotes “Featured Routines” in the Alexa App, which automate a “relation server generat[ing] a new relation profile based on an intervention by a user in the relation profile”.³⁶ The easiest way to get started is with Featured Routines

overwhelming, but these 4 shortcuts make them a breeze (Oct. 8, 2021), <https://www.cnet.com/home/smart-home/alexa-routines-may-feel-overwhelming-but-these-shortcuts-make-them-a-breeze/>).

³⁵ See KAIF10007142 (*What Are Alexa Hunches?*,

<https://www.amazon.com/gp/help/customer/display.html?nodeId=G7F5F7K93GKSLC4F>).

³⁶ See KAIF10001179 (*Alexa Routines*, <https://www.amazon.com/alexa-routines/b?ie=UTF8&node=21442922011>).

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 1	Accused Instrumentality(ies)
	Need inspiration to get going? Check out Featured Routines in the Alexa app. They're like templates and are ready to enable and start using right away. For example, after enabling the Start My Day Routine, when you say "Alexa, start my <i>day</i>" she'll tell you something new, update you about the weather and traffic, then start your Flash Briefing so you're ready for the day ahead. By way of example, Amazon has created and promotes on its Alexa App a number of "Featured Routines," including ones called "Morning Shine," "Appliance Check," and "Sunset Lights".³⁷

³⁷ See KAIFI0001094 (*Alexa Routines can organize your day, complete tasks, and make your daily routine more fun, all without you saying a word*, <https://www.aboutamazon.com/news/devices/popular-alexa-routines>).

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 1	Accused Instrumentality(ies)
	Morning  • <u>Morning Shine</u>: Alexa will turn on lights, provide the weather, and play a song when you dismiss an alarm. • <u>Good Morning</u>: Alexa will wish you a good morning, play news from your Flash Briefing, and more when you say, "Good morning." • <u>Morning Music</u>: Kick-start your day with morning tunes at a time of your choice. • <u>NPR Morning Radio</u>: Alexa will start your morning with your local NPR station at a time of your choice.

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 1	Accused Instrumentality(ies)
	Home Monitoring  • Calm My Dog: Alexa can help calm your pup by playing soothing music when dog barking is detected for one minute. • Appliance Check: Alexa will send you a push notification and announcement to check on your appliance when beeping is detected for two minutes.

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 1	Accused Instrumentality(ies)
	Evening  • <u>Sunset Lights</u>: Alexa will turn on your lights when the sun goes down. • <u>Time for Bed</u>: Alexa can turn on a night light, play sleep sounds, and more when you say, "It's bedtime." To explore more ways Alexa Routines can help automate your day, open the Alexa app > More > Routines > Gallery. By way of further example, Ring Video Doorbell and Security Cameras can be armed and disarmed with Alexa.³⁸

³⁸ See KAIF10007789 (*Arming and Disarming your Ring Video Doorbell and Security Cameras with Alexa*, <https://ring.com/au/en/support/articles/tu12s/Arming-and-Disarming-Your-Ring-Devices-with-Alexa?srsId=AfmBOoqi5YkqBTi4DpXIDan0ievy2kXhGy-hfNFE8miHO0BRUwKelsh7>).

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 1	Accused Instrumentality(ies)
	 Arming and disarming your Ring Video Doorbell and Security Cameras with Alexa Conveniently arm and disarm your Video Doorbells and Security Cameras with voice commands for Alexa and a compatible Echo device.¹ Note: You will need to select a four-digit voice code in order to disarm your Ring Video Doorbells and Security Cameras. Once selected, the system can be voice-armed or disarmed by anyone who gives the command to Alexa with the four-digit code. If you are new to Alexa, you must download and install the Alexa app onto your mobile device before you can arm and disarm your Ring devices with Alexa using your voice. Follow these steps for changing modes for your Video Doorbells and Security Cameras with Alexa using your voice. By way of further example, Ring Security Camera light schedules can be used to turn lights off, turn lights on, set dusk-to-dawn schedules, and create custom schedules for the same time/day of the week.

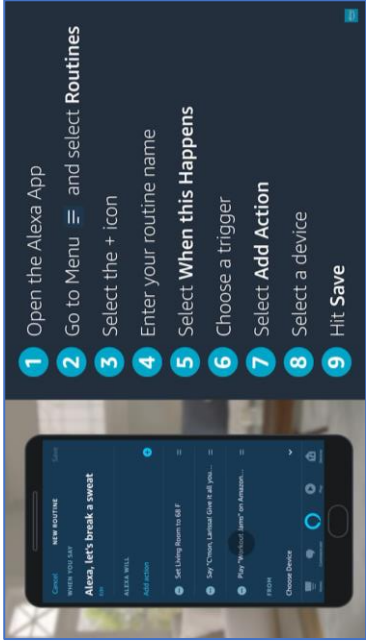
Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 1	Accused Instrumentality(ies)
	How to use Security Camera light schedules This article describes the basic functions of the light schedules feature for the: • Spotlight Cam Battery - supports lights off schedule to preserve the battery • Spotlight Cam Wired/Mount • Floodlight Cam • Floodlight Cam Wired Pro • Floodlight Cam Wired Plus In order to ensure that you have the most updated light features, make sure that you have the latest version of the Ring app. Learn how to update your Ring app. You can use light schedules to: • Turn lights off • Turn lights on • Set dusk-to-dawn schedules • Create custom schedules for the same time/day of the week • Be able to determine if you have light schedules that overlap/conflict. This claim element is literally present, as described herein, but is also satisfied under the doctrine of equivalents because the structure and functionality provided by Amazon is being used to satisfy this claim limitation and therefore there is no vitiation of this element, and the Accused Instrumentalities incorporate structure and functionality that is not substantially different from the requirements of this limitation because they achieve substantially or exactly the same function, in substantially or exactly the same way as set forth in the claim element (as described herein), and achieves substantially or exactly the same result.

Appendix D
 Claim Chart for U.S. Patent No. 11,082,518

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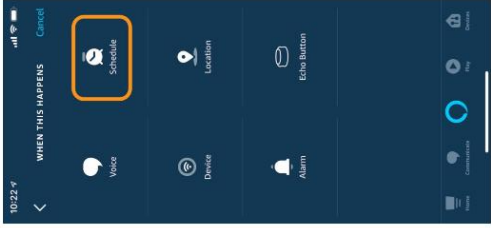
Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 1	Accused Instrumentality(ies)
wherein the task processing schedule parameter configures a start time of at least one process of the multiple processes, and	In the Accused Instrumentalities, the task processing schedule parameter configures a start time of at least one process of the multiple processes. For example, a routine may be set up in the Alexa App.³⁹  The screenshot shows the 'NEW ROUTINE' screen in the Alexa App. It has a dark blue background with white text. At the top, it says 'NEW ROUTINE' and 'WRITE YOUR LIST'. Below that, it says 'Alexa, let's break a sweat' and 'ADD ACTION'. There is a list of actions: 'Set Living Room to 68 F', 'Say "Chloe, Leland Give it all you..."', and 'Play "Bustout" from "on the way..."'. At the bottom, it says 'CHOOSE DEVICE'. To the right of the screenshot is a numbered list of steps: 1. Open the Alexa App, 2. Go to Menu and select Routines, 3. Select the + icon, 4. Enter your routine name, 5. Select When this Happens, 6. Choose a trigger, 7. Select Add Action, 8. Select a device, 9. Hit Save. For example, a routine may be scheduled for a specific time.⁴⁰

³⁹ See KAIFI0007812 (*How to Set Up Routines with Alexa* (Apr. 13, 2020)), https://youtu.be/I5pW9gHgm8?si=l4yZb0R3SL4r_SkF).

⁴⁰ See KAIFI0007392 (*6 Best Alexa Routines Right Now & Easy Set-Up Guide (Updated For New Features!)* (Jun. 5, 2020)), <https://voicebrew.com/alexa-day-30/alexa-routine#schedule>).

Appendix D Claim Chart for U.S. Patent No. 11,082,518

	1. Schedule an Alexa routine for a specific time Schedule is great for a wake-up routine that turns on your lights. A. Tap "Schedule"  B. Set the routine's kick-off time and choose what days you want it to repeat on You can pick a specific time (like 4pm) by tapping "At Time" or sunrise / sunset (a very helpful new feature!). If you select "At Time" you'll then be promoted to select the time and repeat frequency.
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Appendix D

Claim Chart for U.S. Patent No. 11,082,518

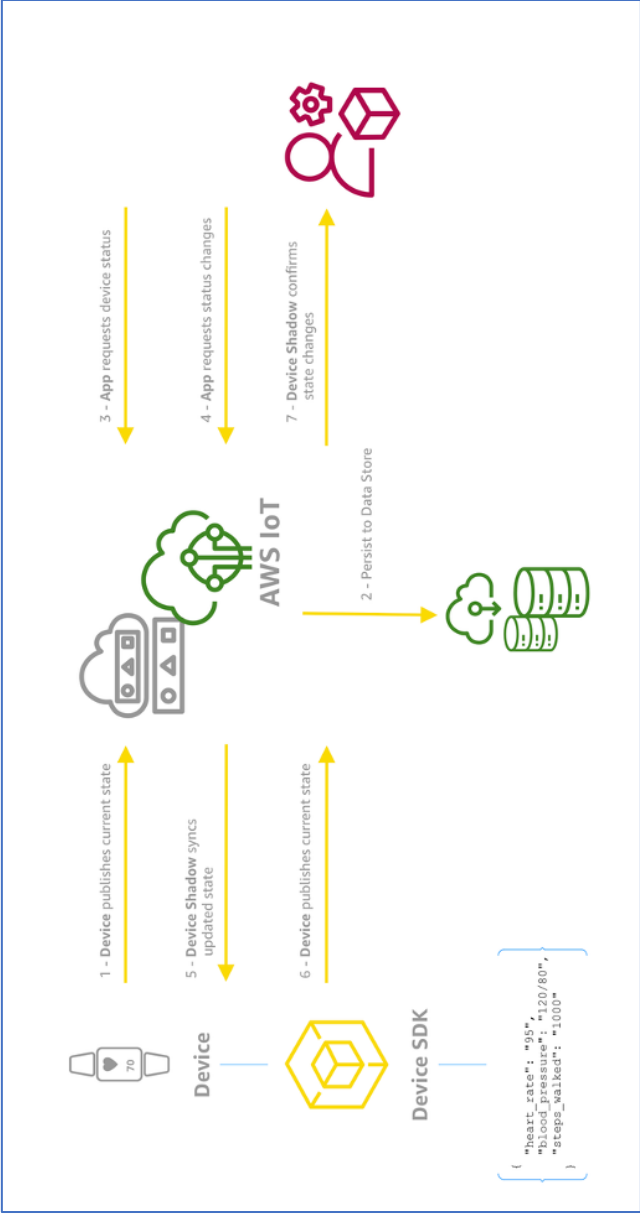
	C. Tap Next to finish This will take you back to the New Routine tab where you can add an action.  For example, Amazon provides the AWS IoT Core.⁴¹
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⁴¹ See KAIFI0001590 (*An Introduction to AWS IoT Core* (Apr. 5, 2021), <https://aws.amazon.com/blogs/startups/an-introduction-to-aws-iot-core/>).

Appendix D
 Claim Chart for U.S. Patent No. 11,082,518

Claim 1	Accused Instrumentality(ies)
	The diagram illustrates the AWS IoT architecture. At the bottom, a 'Device' (represented by a smartwatch icon) connects to a 'Device SDK' (represented by a cube icon). The Device SDK connects to 'Authentication' (represented by a red shield icon) and 'Device Gateway' (represented by a blue gateway icon). Authentication connects to 'Device Registry' (represented by an orange database icon). Device Gateway connects to 'Rules Engine' (represented by a green engine icon). Rules Engine connects to 'AWS Services' (represented by the AWS logo). Device Gateway also connects to 'Device Shadow' (represented by a cloud icon with a shadow). Device Shadow connects to 'Applications' (represented by a person icon with a gear). Applications connects to 'AWS Services'. A yellow box labeled 'AWS IoT API HTTP' (represented by a yellow box with a code icon) is connected to the Device Gateway, Authentication, Device Registry, and Applications. A green cloud icon labeled 'AWS IoT Core' is connected to the Device Gateway and Rules Engine. A red alarm icon is connected to the Rules Engine, Device Shadow, and Applications.

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 1	Accused Instrumentality(ies)
	 The diagram illustrates the AWS IoT Device Shadow process. It shows a Device (represented by a smartwatch icon) interacting with the AWS IoT cloud service (represented by a cloud with a gear icon). The Device publishes its current state to the AWS IoT cloud. The AWS IoT cloud then persists this state to a Data Store (represented by a cloud with database icons). The Device SDK (represented by a yellow cube icon) is shown with a JSON object containing device state information: <code>{ "heart_rate": "95", "blood_pressure": "120/80", "steps_walked": "1000" }</code>. The process flow is as follows: 1 - Device publishes current state; 2 - Persist to Data Store; 3 - App requests device status; 4 - App requests status changes; 5 - Device Shadow syncs updated state; 6 - Device publishes current state; 7 - Device Shadow confirms state changes.
	The Amazon “hunches” tool, which is enabled by default, is also used to automatically practice the limitation: “task processing schedule parameter configures a start time of at least one process of the multiple processes.” For instance, according to Amazon, the “hunches” tool allows for the automatic scheduling and starting of different processes:⁴²

⁴² See KAIFI0007142 (*What Are Alexa Hunches?*, <https://www.amazon.com/gp/help/customer/display.html?nodeId=G7F5F7K93GKSLC4F>).

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 1	Accused Instrumentality(ies)
	With Hunches, Alexa alerts you by voice or mobile push notification when a connected smart home device isn't in its usual state. For example, if one of your smart lights is on when you say "Good night," Alexa alerts you and offers to turn it off. Alexa can have hunches about a variety of supported smart home device, including lights, thermostats, doors, switches and more. Hunches are enabled by default. You can also turn on automatic actions, so Alexa can proactively act on hunches and automatically address the issue for you. To turn off Hunches, use the Alexa app. You can manage your smart home device status and usage history at any time. To learn more, go to Alexa Privacy Settings. By way of further example, Ring Video Doorbell and Security Cameras can be armed and disarmed with Alexa.⁴³

⁴³ See KAIF10007789 (*Arming and Disarming your Ring Video Doorbell and Security Cameras with Alexa*, <https://ring.com/au/en/support/articles/tu12s/Arming-and-Disarming-Your-Ring-Devices-with-Alexa?srsId=AfmBOoqi5YkqBTi4DpXIDan0ievy2kXhGy-hfNFE8miHO0BRUwKelsh7>).

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Claim Chart for U.S. Patent No. 11,082,518

Claim 1	Accused Instrumentality(ies)
	 Arming and disarming your Ring Video Doorbell and Security Cameras with Alexa Conveniently arm and disarm your Video Doorbells and Security Cameras with voice commands for Alexa and a compatible Echo device.¹ Note: You will need to select a four-digit voice code in order to disarm your Ring Video Doorbells and Security Cameras. Once selected, the system can be voice-armed or disarmed by anyone who gives the command to Alexa with the four-digit code. If you are new to Alexa, you must download and install the Alexa app onto your mobile device before you can arm and disarm your Ring devices with Alexa using your voice. Follow these steps for changing modes for your Video Doorbells and Security Cameras with Alexa using your voice. By way of further example, Ring Security Camera light schedules can be used to turn lights off, turn lights on, set dusk-to-dawn schedules, and create custom schedules for the same time/day of the week.

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 1	Accused Instrumentality(ies)
	How to use Security Camera light schedules This article describes the basic functions of the light schedules feature for the: • Spotlight Cam Battery - supports lights off schedule to preserve the battery • Spotlight Cam Wired/Mount • Floodlight Cam • Floodlight Cam Wired Pro • Floodlight Cam Wired Plus In order to ensure that you have the most updated light features, make sure that you have the latest version of the Ring app. Learn how to update your Ring app. You can use light schedules to: • Turn lights off • Turn lights on • Set dusk-to-dawn schedules • Create custom schedules for the same time/day of the week • Be able to determine if you have light schedules that overlap/conflict. This claim element is literally present, as described herein, but is also satisfied under the doctrine of equivalents because the structure and functionality provided by Amazon is being used to satisfy this claim limitation and therefore there is no violation of this element, and the Accused Instrumentalities incorporate structure and functionality that is not substantially different from the requirements of this limitation because they achieve substantially or exactly the same function, in substantially or exactly the same way as set forth in the claim element (as described herein), and achieves substantially or exactly the same result.

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 1	Accused Instrumentality(ies)
wherein the multiple machines includes at least one of a home appliance, a smart phone or a search engine.	In the Accused Instrumentalities, the multiple machines include at least one of a home appliance, a smart phone or a search engine. For example, according to Amazon, virtually any device may be connected to Alexa.⁴⁴ Connect Any Device To Alexa With our developer tools you can connect virtually any device to Alexa, from lights and thermostats, to coffee makers and cameras. You can find resources to get started with common Alexa smart home devices types below. Lighting, Switches, &  Cameras  Thermostats  Kitchen Devices  Door Locks  Routers & Extenders  Smart Toys  Smart Clocks  More Smart Home  Explore More Device Types For example, the multiple machines may include any of: Air conditioner (AC) unit, Air purifier, Air quality monitor, Blinds or shades, Camera, Clothes dryer, Color-changing light bulb, Contact sensor, Dimmable light bulb, Dimmer switch, Dishwasher, Fan, Game console, Garage door opener, Guitar amplifier, Lock, Microwave, Motion sensor, Plug or power strip, Printer, Remotes and buttons, Security

⁴⁴ See KAIFI0001155 (*Alexa Connected Devices*, <https://developer.amazon.com/en-US/alexa/devices/connected-devices>; see also KAIFI0007039 (*Smart Home Skill Types*, <https://developer.amazon.com/en-US/docs/alexa/device-apis/smart-home-skill-types.html>).

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Claim Chart for U.S. Patent No. 11,082,518

Claim 1	Accused Instrumentality(ies)
	panel, Soundbar or speaker, Switch, Television, Vacuum cleaner, Wall thermostat, Washing machine, Water heater, and Wi-Fi router.⁴⁵ For example, the multiple machines may include cooking appliances.⁴⁶ Understand Smart Home Skills for Cooking Appliances Note: Sign in to the developer console to build or publish your skill. You can use the Alexa APIs to create Alexa skills that control Smart Home Kitchen and cooking appliances, such as microwaves and ovens. You create Smart Home cooking skills the same way you create any other Smart Home skill. For details, see Understand Smart Home Skills and Steps to Build a Smart Home Skill. For example, the multiple machines may also include a smart phone to control smart devices and manage routines.⁴⁷

⁴⁵ See KAIFI0002032 (*Get Started with Device Templates*, <https://developer.amazon.com/en-US/docs/alexa/smarthome/get-started-with-device-templates.html>).

⁴⁶ See KAIFI0007082 (*Understand Smart Home Skills*, <https://developer.amazon.com/en-US/docs/alexa/smarthome/understand-the-smart-home-skill-api.html>).

⁴⁷ See KAIFI0001185 (*Alexa Smart Home*, <https://www.amazon.com/alexa-smart-home/b?ie=UTF8&node=21442899011>).

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Claim Chart for U.S. Patent No. 11,082,518

Claim 1	Accused Instrumentality(ies)
	 Lighting Smart lights let you control your connected lights through your phone or by voice when paired with Alexa. You can create timers and routines to automate your entire smart home lighting setup. For example, the multiple machines may also include a search engine.⁴⁸ Alexa uses Microsoft Bing as its default search engine. This is because Amazon and Microsoft have a partnership agreement, and Bing is the default search engine on many Microsoft products, such as Windows and Edge.

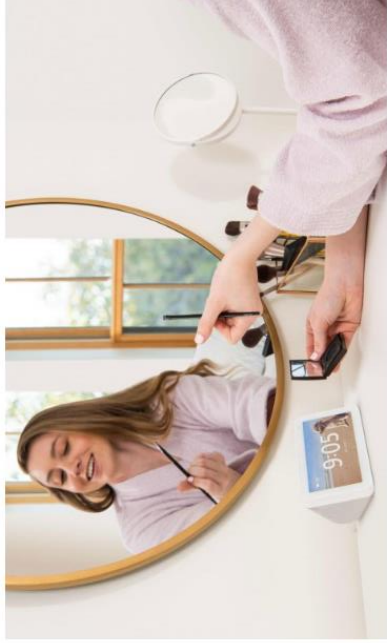
⁴⁸ See KAIFI0007372 (*What search engine does Alexa use?* (Aug. 20, 2023), <https://haidaalrazi.medium.com/what-search-engine-does-alexa-use-18ccd172c880>).

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 1	Accused Instrumentality(ies)
	A number of “Featured Routines” that Amazon has created and included in the Alexa App “include[]” at least one of a home appliance, a smart phone or a search engine.” By way of example, Amazon has created and promotes on its Alexa App a number of “Featured Routines” that “include[]” at least one of a home appliance, a smart phone or a search engine,” such as “Morning Shine,” “Appliance Check,” and “Sunset Lights”.⁴⁹

⁴⁹ See KAIFI0001094 (Alexa Routines can organize your day, complete tasks, and make your daily routine more fun, all without you saying a word, <https://www.aboutamazon.com/news/devices/popular-alexa-routines>).

Appendix D Claim Chart for U.S. Patent No. 11,082,518

Claim 1	Accused Instrumentality(ies)
	Morning  • <u>Morning Shine</u>: Alexa will turn on lights, provide the weather, and play a song when you dismiss an alarm. • <u>Good Morning</u>: Alexa will wish you a good morning, play news from your Flash Briefing, and more when you say, "Good morning." • <u>Morning Music</u>: Kick-start your day with morning tunes at a time of your choice. • <u>NPR Morning Radio</u>: Alexa will start your morning with your local NPR station at a time of your choice.

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 1	Accused Instrumentality(ies)
	Home Monitoring  • Calm My Dog: Alexa can help calm your pup by playing soothing music when dog barking is detected for one minute. • Appliance Check: Alexa will send you a push notification and announcement to check on your appliance when beeping is detected for two minutes.

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 1	Accused Instrumentality(ies)
	Evening  • <u>Sunset Lights</u>: Alexa will turn on your lights when the sun goes down. • <u>Time for Bed</u>: Alexa can turn on a night light, play sleep sounds, and more when you say, "It's bedtime." To explore more ways Alexa Routines can help automate your day, open the Alexa app > More > Routines > Gallery. The Amazon "hunches" tool, which is enabled by default, is capable of working with multiple machines that "includes at least one of a home appliance, a smart phone or a search engine." According to Amazon, "Alexa can have hunches about a variety of supported smart home device, including lights, thermostats, doors, switches and more".⁵⁰

⁵⁰ See KAIFI0007142 (*What Are Alexa Hunches?*, <https://www.amazon.com/gp/help/customer/display.html?nodeId=G7F5F7K93GKSLC4F>).

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 1	Accused Instrumentality(ies)
	With Hunches, Alexa alerts you by voice or mobile push notification when a connected smart home device isn't in its usual state. For example, if one of your smart lights is on when you say "Good night," Alexa alerts you and offers to turn it off. Alexa can have hunches about a variety of supported smart home device, including lights, thermostats, doors, switches and more. Hunches are enabled by default. You can also turn on automatic actions, so Alexa can proactively act on hunches and automatically address the issue for you. To turn off Hunches, use the Alexa app. You can manage your smart home device status and usage history at any time. To learn more, go to Alexa Privacy Settings. By way of further example, Amazon provides Ring Video Doorbell and Security Cameras.⁵¹

⁵¹ See KAIF10007789 (*Arming and Disarming your Ring Video Doorbell and Security Cameras with Alexa*, <https://ring.com/au/en/support/articles/tu12s/Arming-and-Disarming-Your-Ring-Devices-with-Alexa?srsId=AfmBOoqi5YkqBTi4DpXIDan0ievy2kXhGy-hfNFE8miHO0BRUwKelsh7>).

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 1	Accused Instrumentality(ies)
	 Arming and disarming your Ring Video Doorbell and Security Cameras with Alexa Conveniently arm and disarm your Video Doorbells and Security Cameras with voice commands for Alexa and a compatible Echo device.¹ Note: You will need to select a four-digit voice code in order to disarm your Ring Video Doorbells and Security Cameras. Once selected, the system can be voice-armed or disarmed by anyone who gives the command to Alexa with the four-digit code. If you are new to Alexa, you must download and install the Alexa app onto your mobile device before you can arm and disarm your Ring devices with Alexa using your voice. Follow these steps for changing modes for your Video Doorbells and Security Cameras with Alexa using your voice. This claim element is literally present, as described herein, but is also satisfied under the doctrine of equivalents because the structure and functionality provided by Amazon is being used to satisfy this claim limitation and therefore there is no vitiation of this element, and the Accused Instrumentalities incorporate structure and functionality that is not substantially different from the requirements of this limitation because they achieve substantially or exactly the same function, in substantially or exactly the same way as set forth in the claim element (as described herein), and achieves substantially or exactly the same result.

Claim 2 of the '518 Patent

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 2	Accused Instrumentality(ies)
The system of claim 1, wherein: a first machine of the multiple machines forwards a command received from the user to the relation server,	In the Accused Instrumentalities, a first machine of the multiple machines forwards a command received from the user to the relation server. For example, Amazon uses a voice command.⁵² The easiest way to get started is with Featured Routines Need inspiration to get going? Check out Featured Routines in the Alexa app. They're like templates and are ready to enable and start using right away. For example, after enabling the Start My Day Routine, when you say "Alexa, start my day" she'll tell you something new, update you about the weather and traffic, then start your Flash Briefing so you're ready for the day ahead. Try Saying • "Alexa, enable the Good Morning Routine" Alexa will wish you good morning, tell you something new, then play your Flash Briefing. • "Alexa, enable the Start my Day Routine" Alexa will tell you news, traffic, and more. • "Alexa, enable the Screen Time Routine" Alexa will keep track of an hour of screen time. • "Alexa, enable the Weather after Alarm Routine" Alexa will tell you the weather when you dismiss your alarm. • "Alexa, enable the Good Night Routine" Alexa will wish you good night and play sleep sounds. This claim element is literally present, as described herein, but is also satisfied under the doctrine of equivalents because the structure and functionality provided by Amazon is being used to satisfy this claim limitation and therefore there is no vitiation of this element, and the Accused Instrumentalities incorporate

⁵² See *Alexa Routines*, <https://www.amazon.com/alexa-routines/b?ie=UTF8&node=21442922011>).

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Claim Chart for U.S. Patent No. 11,082,518

Claim 2	Accused Instrumentality(ies)
	structure and functionality that is not substantially different from the requirements of this limitation because they achieve substantially or exactly the same function, in substantially or exactly the same way as set forth in the claim element (as described herein), and achieves substantially or exactly the same result.
the relation server controls the selected machines for performing the multiple processes according to the command, and the selected machine includes the first machine.	In the Accused Instrumentalities, the relation server controls the selected machines for performing the multiple processes according to the command, and the selected machine includes the first machine. For example, Amazon provides cloud-based servers. ⁵³

⁵³ See KAIF10006771 (Sébastien Stormac, *Majority of Alexa Now Running on Faster, More Cost-Effective Amazon EC2 Inf1 Instances* (Nov. 12, 2020), <https://aws.amazon.com/blogs/aws/majority-of-alexa-now-running-on-faster-more-cost-effective-amazon-ec2-inf1-instances/>).

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 2	Accused Instrumentality(ies)
	Today, we are announcing that the Amazon Alexa team has migrated the vast majority of their GPU-based machine learning inference workloads to Amazon Elastic Compute Cloud (Amazon EC2) Inf1 instances, powered by AWS Inferentia. This resulted in 25% lower end-to-end latency, and 30% lower cost compared to GPU-based instances for Alexa's text-to-speech workloads. The lower latency allows Alexa engineers to innovate with more complex algorithms and to improve the overall Alexa experience for our customers. AWS built AWS Inferentia chips from the ground up to provide the lowest-cost machine learning (ML) inference in the cloud. They power the Inf1 instances that we launched at AWS re:Invent 2019. Inf1 instances provide up to 30% higher throughput and up to 45% lower cost per inference compared to GPU-based G4 instances, which were, before Inf1, the lowest-cost instances in the cloud for ML inference. Alexa is Amazon's cloud-based voice service that powers Amazon Echo devices and more than 140,000 models of smart speakers, lights, plugs, smart TVs, and cameras. Today customers have connected more than 100 million devices to Alexa. And every month, tens of millions of customers interact with Alexa to control their home devices ("Alexa, increase temperature in living room," "Alexa, turn off bedroom"), to listen to radios and music ("Alexa, start Maxi 80 on bathroom," "Alexa, play Van Halen from Spotify"), to be informed ("Alexa, what is the news?" "Alexa, is it going to rain today?"), or to be educated, or entertained with 100,000+ Alexa Skills. For example, Amazon provides the AWS IoT Core.⁵⁴

⁵⁴ See KAIFI0001590 (*An Introduction to AWS IoT Core* (Apr. 5, 2021), <https://aws.amazon.com/blogs/startups/an-introduction-to-aws-iot-core/>).

Appendix D
 Claim Chart for U.S. Patent No. 11,082,518

Claim 2	Accused Instrumentality(ies)
	The diagram illustrates the AWS IoT architecture and its interactions. It features several key components: Device: Represented by a smartphone icon with a heart and '70'. Device SDK: Represented by a cube icon. Authentication Authorization: Represented by a red icon of two people. Device Gateway: Represented by a blue icon of a building with a signal tower. AWS IoT Core: Represented by a green cloud icon with a signal tower. Rules Engine: Represented by a green icon of a funnel with a signal tower. Device Shadow: Represented by a blue icon of a cloud with a signal tower. AWS Services: Represented by the AWS logo. Applications: Represented by a purple icon of a person with a gear. Device Registry: Represented by an orange icon of a building with a signal tower. AWS IoT API HTTP: Represented by a yellow icon of a document with a signal tower. The interactions are shown as follows: - A double-headed arrow connects the Device and the Device SDK. - A double-headed arrow connects the Device SDK and the Authentication Authorization component. - A double-headed arrow connects the Authentication Authorization component and the Device Gateway. - A double-headed arrow connects the Device Gateway and the AWS IoT Core. - A double-headed arrow connects the AWS IoT Core and the Rules Engine. - A double-headed arrow connects the Rules Engine and the Device Shadow. - A double-headed arrow connects the Device Shadow and the Applications. - A double-headed arrow connects the Applications and the AWS Services. - A double-headed arrow connects the AWS Services and the Rules Engine. - A double-headed arrow connects the Rules Engine and the Device Shadow. - A double-headed arrow connects the Device Shadow and the Device Registry. - A double-headed arrow connects the Device Registry and the AWS IoT API HTTP. - A double-headed arrow connects the AWS IoT API HTTP and the Applications.

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Claim Chart for U.S. Patent No. 11,082,518

Claim 2	Accused Instrumentality(ies)
	The diagram illustrates the architecture and data flow for Claim 2. It features four main components: a Device (represented by a smartwatch icon), a Device SDK (represented by a cube icon), AWS IoT (represented by a cloud with server and gear icons), and a Data Store (represented by a cloud with database cylinder icons). The interactions are as follows: 1 - Device publishes current state: An arrow points from the Device to AWS IoT. 2 - Persist to Data Store: An arrow points from AWS IoT to the Data Store. 3 - App requests device status: An arrow points from the Data Store back to the Device. 4 - App requests status changes: An arrow points from the Data Store to the Device. 5 - Device Shadow syncs updated state: An arrow points from the Data Store to the Device. 6 - Device publishes current state: An arrow points from the Device to AWS IoT. 7 - Device Shadow confirms state changes: An arrow points from the Data Store to the Device. Below the Device SDK icon, a JSON object is shown: <pre>{ "heart_rate": "95", "blood_pressure": "120/80", "steps_walked": "1000" }</pre> For example, according to Amazon, device performs multiple processes Alexa when a customer says.⁵⁵ The easiest way to get started is with Featured Routines Need inspiration to get going? Check out Featured Routines in the Alexa app. They're like templates and are ready to enable and start using right away. For example, after enabling the Start My Day Routine, when you say "Alexa, start my day" she'll tell you something new, update you about the weather and traffic, then start your Flash Briefing so you're ready for the day ahead.

⁵⁵ See KAIFI0001179 (Alexa Routines, <https://www.amazon.com/alexa-routines/b?ie=UTF8&node=21442922011>).

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Claim 2	Accused Instrumentality(ies)
	For example, according to Amazon, customers can connect any device to Alexa.⁵⁶ Connect Any Device To Alexa With our developer tools you can connect virtually any device to Alexa, from lights and thermostats, to coffee makers and cameras. You can find resources to get started with common Alexa smart home devices types below.  Lighting, Switches, & Plugs Learn More  Cameras Learn More  Thermostats Learn More  Kitchen Devices Learn More  Door Locks Learn More  More Smart Home Devices Learn More Explore More Device Types This claim element is literally present, as described herein, but is also satisfied under the doctrine of equivalents because the structure and functionality provided by Amazon is being used to satisfy this claim limitation and therefore there is no violation of this element, and the Accused Instrumentalities incorporate structure and functionality that is not substantially different from the requirements of this limitation because they achieve substantially or exactly the same function, in substantially or exactly the same way as set forth in the claim element (as described herein), and achieves substantially or exactly the same result.

⁵⁶ See *Kaifi Connected Devices*, <https://developer.amazon.com/en-US/alexa/devices/connected-devices>).

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Claim 3 of the '518 Patent

Claim 3	Accused Instrumentality(ies)
The system of claim 2, wherein: the command includes a reservation or a payment.	In the Accused Instrumentalities, the command includes a reservation or a payment. For example, Amazon provides a payment.⁵⁷  The screenshot shows the 'YOUR SKILLS' section of the Alexa app. It lists several skills including 'Daily Challenge', 'Movie Quiz', 'Kids Quiz!', 'Sleep Sounds: Oscillating Fan Sounds', 'Ambients: White Noise', 'Sleep Sounds: Rainforest Sounds', 'The Tonight Show', 'Annex', and 'PayPal'. Each skill has a brief description of its functionality.

⁵⁷ See KAIFI0007392 (6 Best Alexa Routines Right Now & Easy Set-Up Guide (Updated For New Features!)) (Jun. 5, 2020), <https://voicebrew.com/alexa-day-30/alexa-routine#schedule>).

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Claim 3	Accused Instrumentality(ies)
	Amazon also provides for voice purchasing:⁵⁸ Turn Alexa Voice Purchasing On or Off To turn Voice Purchasing on or off for your account, use the Alexa app. 1. Open the Alexa app . 2. Open More  and select Settings. 3. Select Account Settings. 4. Select Voice Purchasing. 5. Turn Voice Purchasing on or off. Note: You can limit purchasing so that only recognized household members can place orders with Alexa. By way of further example, Amazon provides the ability to make reservations:⁵⁹ The voice assistant answered, and after a short back and forth conversation, the human settled on a 7:05 p.m. showtime and asked for two tickets. "That'll be \$21.00," Alexa complied. "Should I book the tickets?"

⁵⁸ See KAIFI0007079 (*Turn Alexa Voice Purchasing On or Off*,
<https://www.amazon.com/gp/help/customer/display.html?nodeId=GPUCQ6PMPMENG8FA>).

⁵⁹ See KAIFI0001142 (Amazon's Alexa will be able to plan your date night by booking tickets, Ubers and dinner,
<https://www.usatoday.com/story/tech/2019/06/06/amazon-alexa-matchmaker-plan-date-nights/1364927001/>).

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Claim Chart for U.S. Patent No. 11,082,518

Claim 3	Accused Instrumentality(ies)
	However, after booking the seats, Alexa did something totally unheard of. "Will you be eating out near Regal Cinebarre Palace Station?" the voice assistant inquired. The voice responded with "Yes, find me a Chinese restaurant." Alexa offered suggestions, made a dinner reservation and asked if the person needed a taxi ride. This claim element is literally present, as described herein, but is also satisfied under the doctrine of equivalents because the structure and functionality provided by Amazon is being used to satisfy this claim limitation and therefore there is no vitiation of this element, and the Accused Instrumentalities incorporate structure and functionality that is not substantially different from the requirements of this limitation because they achieve substantially or exactly the same function, in substantially or exactly the same way as set forth in the claim element (as described herein), and achieves substantially or exactly the same result.

Claim 4 of the '518 Patent

Claim 4	Accused Instrumentality(ies)
The system of claim 2, wherein: the relation profile includes a capability set parameter, and the capability set parameter corresponds to information about	In the Accused Instrumentalities, the relation profile includes a capability set parameter, and the capability set parameter corresponds to information about capabilities required for performing the command. For example, Amazon provides skill connections.⁶⁰

⁶⁰ See KAIFI0006966 (*Pre-Built Routine API Reference*, <https://developer.amazon.com/en-US/docs/alexa/custom-skills/pre-built-routine-api-reference.html>).

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Claim Chart for U.S. Patent No. 11,082,518

Claim 4	Accused Instrumentality(ies)
capabilities required for performing the command.	Pre-Built Routine API Reference Note: Sign in to the developer console to build or publish your skill. To offer an Alexa skill user a pre-built routine, you use skill connections. Skill connections is an Alexa feature that enables a skill to call another skill or service to perform a specific task. In this case, Alexa provides the <code>AMAZON.OfferAutomation</code> managed task. Alexa interacts with the user to offer the routine, and then returns control to your skill. To offer a user a pre-built routine, you must add the following code to your skill: - Initiate the pre-built routine offer flow by sending a <code>Connections.StartConnection</code> directive for <code>AMAZON.OfferAutomation</code> from a request handler. - Implement a <code>SessionResumedRequestHandler</code> to accept a <code>SessionResumedRequest</code> with the <code>offerAutomationResponse</code>. According to Amazon, Skill connections enable an Alexa skill to use another skill to perform a specific task.⁶¹

⁶¹ See KAIFI0007081 (*Understand Skill Connections*, <https://developer.amazon.com/en-US/docs/alexa/custom-skills/understand-skill-connections.html>).

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Claim Chart for U.S. Patent No. 11,082,518

Claim 4	Accused Instrumentality(ies)
	Understand Skill Connections Note: Sign in to the developer console to build or publish your skill. Important: You must not share any protected health information (PHI) or personally identifiable information (PII) when you create a connection between skills. This restriction applies to any information, including information you send in the schema. Child-directed skills and HIPAA skills aren't eligible to use connections between skills. <i>Skill connections</i> enable an Alexa skill to use another skill to perform a specific task. A skill connection lets you offload common tasks to outside providers. For more information about tasks, see Understand Tasks. Skill connections improve the Alexa customer experience by allowing customers to move freely between skills without having to repeat information. For example, a customer who interacts with a recipe skill can say "print this" to print a recipe. The recipe skill can then use a skill connection to forward the request to a printing skill. This claim element is literally present, as described herein, but is also satisfied under the doctrine of equivalents because the structure and functionality provided by Amazon is being used to satisfy this claim limitation and therefore there is no violation of this element, and the Accused Instrumentalities incorporate structure and functionality that is not substantially different from the requirements of this limitation because they achieve substantially or exactly the same function, in substantially or exactly the same way as set forth in the claim element (as described herein), and achieves substantially or exactly the same result.

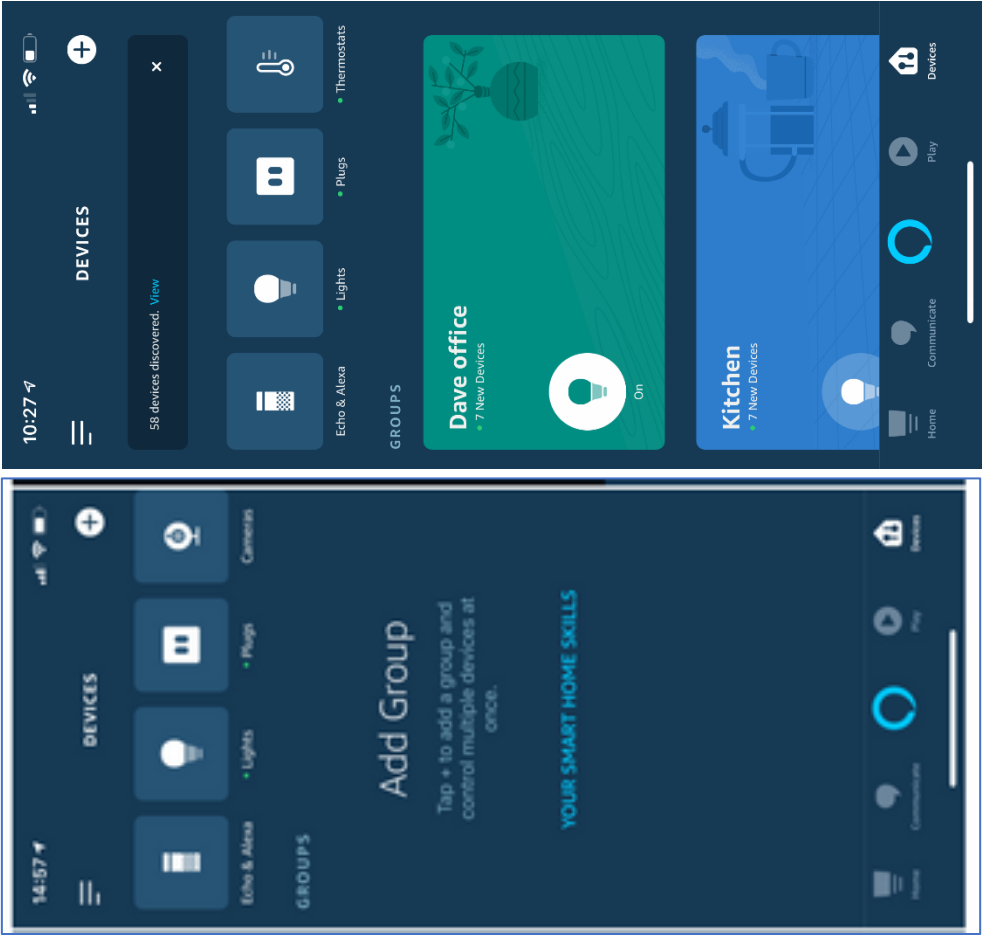
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Claim 5 of the '518 Patent

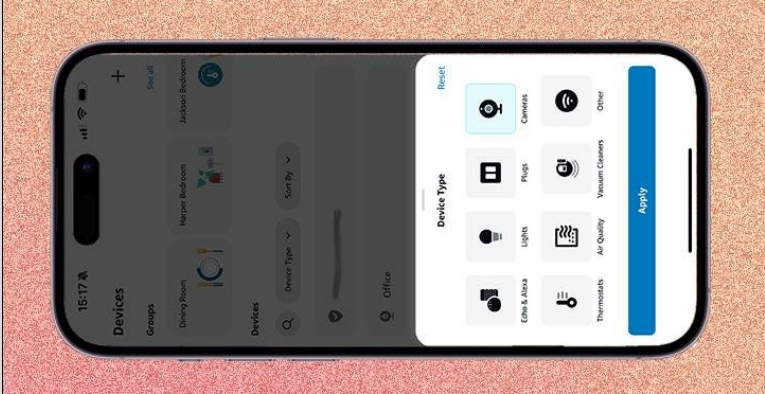
Claim 5	Accused Instrumentality(ies)
The system of claim 2, wherein: the relation profile includes a group parameter, and the group parameter corresponds to identities of machines required for performing the command.	In the Accused Instrumentalities, the relation profile includes a group parameter, and the group parameter corresponds to identities of machines required for performing the command. For example, Amazon includes a number of “groups” in the Alexa App including, for example, “Echo & Alexa,” “Lights,” “Switches,” “Plugs,” “Cameras,” “Find My,” “Thermostats,” and “Other”.⁶²

⁶² See KAIFI0001191(Amazon Echo: What are Alexa Smart Home Groups and how do I create them? (Feb. 14, 2020), <https://www.gearbrain.com/create-alexa-smart-home-groups-2529657553.html>); see KAIFI0004372 (How to set up and use Alexa smart home groups, <https://www.trustedreviews.com/how-to/set-up-alexa-smart-home-groups-3481484>); see KAIFI0004418 (How to use Ring Video Doorbell with Amazon Echo Alexa smart speakers and displays (Sept. 26, 2024), <https://www.the-ambient.com/how-to/how-to-use-ring-video-doorbell-with-alexa-1470/>).

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Claim 5	Accused Instrumentality(ies)
	 The figure consists of two screenshots of the Amazon Alexa mobile application interface. The left screenshot, timestamped 14:57, displays the 'Add Group' screen. It features a dark blue background with a large white text area in the center that reads 'Add Group' and 'Tap + to add a group and control multiple devices at once.' Below this, it says 'YOUR SMART HOME SKILLS'. The top navigation bar includes a menu icon, a plus sign, and a search icon. The bottom navigation bar has icons for Home, Communicate, Play, and Devices. The right screenshot, timestamped 10:27, shows the main dashboard. It features a dark blue background with a grid of device groups. The top group is 'Dave office' with 7 New Devices, showing a light bulb icon and the text 'On'. Below it is the 'Kitchen' group with 7 New Devices, showing a coffee pot icon. The top navigation bar includes a menu icon, a plus sign, and a search icon. The bottom navigation bar has icons for Home, Communicate, Play, and Devices.

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Claim 5	Accused Instrumentality(ies)
	 For example, Amazon controls grouped devices.⁶³

⁶³ See KAIFI0007392 (6 Best Alexa Routines Right Now & Easy Set-Up Guide (Updated For New Features!)) (Jun. 5, 2020), <https://voicebrew.com/alexa-day-30/alexa-routine>)

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Claim 5	Accused Instrumentality(ies)
	B (option 2). Or, if you want to control grouped devices, tap "Control group" I have my living room lights in an Alexa group so I can easily turn them on and off together.  For example, Amazon controls "Lights" group:⁶⁴ 3. Control your devices with your voice When you talk to an Echo that's in a group, you can use simplified commands to control smart devices. Here are a few to get you started:

⁶⁴ KAIF10004372 (*How to set up and use Alexa smart home groups*, <https://www.trustedreviews.com/how-to/set-up-alexa-smart-home-groups-3481484>).

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Claim 5	Accused Instrumentality(ies)
	“Alexa, turn on lights.” “Alexa, turn off lights.” “Alexa, set temperature to 19 degrees.” “Alexa, what is the thermostat temperature?” This type of command is far easier than remembering device or group names. To control other devices from your grouped Echo, you can use the old style of command, naming the smart home device that you want to control, such as “Alexa, turn on office light.” For example, Amazon uses Alexa Smart Plug.⁶⁵ 3 ways to turn on your smart plug Alexa voice command <i>“Alexa, turn on [first plug / your plug name].”</i> If you’re using your smart plug to control a light, remember that you can’t tell Alexa to dim the light because the smart plug functions as an on/off switch (see Pro Tip #3 below for a simple workaround).

⁶⁵ See KAIFI0002016 (*Everything you need to know about the Amazon Alexa Smart Plug*, <https://voicebrew.com/alexa-day-30/amazon-smart-plug#group>).

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Claim 5	Accused Instrumentality(ies)
	#1. Put multiple smart plugs in a group so you can turn them on and off together Say you have 2 smart plugs in your living room connected to 2 lights like me. I put the smart plugs into a group called "living room lights" so that I can say "<i>Alexa, turn off the living room lights</i>" instead of saying "<i>Alexa, turn off the table light</i>" and then "<i>Alexa, turn off the floor light</i>." You can still activate the lights separately with those commands if you want. To create a group: Open the Alexa app, tap Devices on the bottom navigation bar > + icon in the upper left corner > Add Group > write your custom name or pick one and tap Next > (scroll down to) select the smart plugs for the group (under the Devices section) and then once you have checked off the ones you want to include tap the Save button. Now when you go to the Devices tab, you'll see your new group (for me, living room lights) show up under the Groups section. To edit a group (add or remove plugs): Open the Alexa app, tap Devices on the bottom navigation bar > group you want to edit under "Groups" > tap "Edit" in the upper right corner > check off or uncheck plugs > tap the Save button. This claim element is literally present, as described herein, but is also satisfied under the doctrine of equivalents because the structure and functionality provided by Amazon is being used to satisfy this claim limitation and therefore there is no violation of this element, and the Accused Instrumentalities incorporate structure and functionality that is not substantially different from the requirements of this limitation because they achieve substantially or exactly the same function, in substantially or exactly the same way as set forth in the claim element (as described herein), and achieves substantially or exactly the same result.

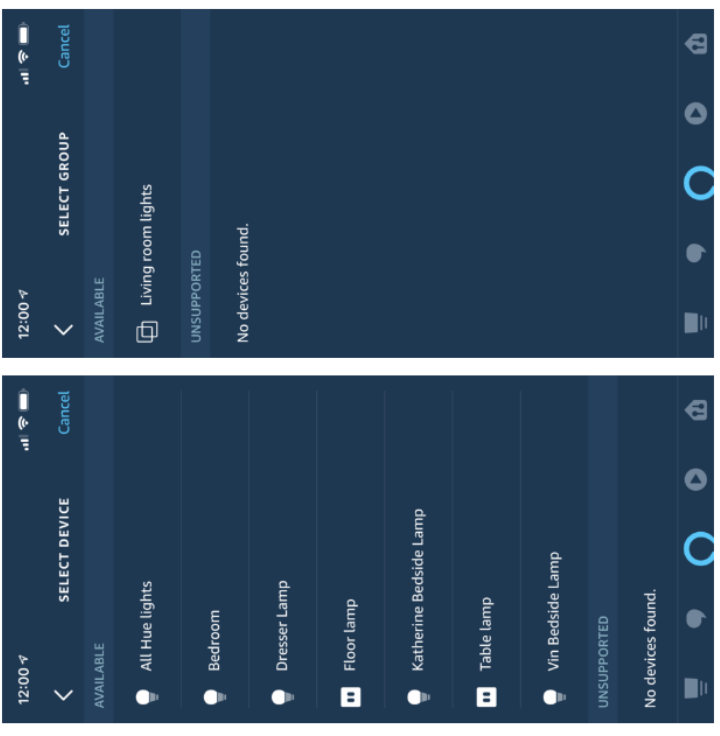
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Claim 6 of the '518 Patent

Claim 6	Accused Instrumentality(ies)
The system of claim 2, wherein: the relation profile includes a group identity parameter, and the group identity parameter corresponds to an identity of a group consisting of machines required for performing the command.	In the Accused Instrumentalities, the relation profile includes a group identity parameter, and the group identity parameter corresponds to an identity of a group consisting of machines required for performing the command. For example, Amazon can select the device or group.⁶⁶

⁶⁶ See KAIFI0007392 (6 Best Alexa Routines Right Now & Easy Set-Up Guide (Updated For New Features!)) (Jun. 5, 2020), <https://voicebrew.com/alexa-day-30/alexa-routine#schedule>).

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Claim 6	Accused Instrumentality(ies)
	C. Select the device or group you want to control You'll see one of the two screens below depending on whether you went with option 1 or option 2 in the previous step.  For example, Amazon provides a “Lights” group that consists of lights that can be controlled as a group:⁶⁷

⁶⁷ See KAIFI0004372 (*How to set up and use Alexa smart home groups*, <https://www.trustedreviews.com/how-to/set-up-alexa-smart-home-groups-3481484>).

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Claim 6	Accused Instrumentality(ies)
	3. Control your devices with your voice When you talk to an Echo that's in a group, you can use simplified commands to control smart devices. Here are a few to get you started: “Alexa, turn on lights.” “Alexa, turn off lights.” “Alexa, set temperature to 19 degrees.” “Alexa, what is the thermostat temperature?” This type of command is far easier than remembering device or group names. To control other devices from your grouped Echo, you can use the old style of command, naming the smart home device that you want to control, such as “Alexa, turn on office light.” This claim element is literally present, as described herein, but is also satisfied under the doctrine of equivalents because the structure and functionality provided by Amazon is being used to satisfy this claim limitation and therefore there is no vitiation of this element, and the Accused Instrumentalities incorporate structure and functionality that is not substantially different from the requirements of this limitation because they achieve substantially or exactly the same function, in substantially or exactly the same way as set forth in the claim element (as described herein), and achieves substantially or exactly the same result.

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Claim 7 of the '518 Patent

Claim 7	Accused Instrumentality(ies)
The system of claim 2, wherein: the relation profile includes a task description parameter, the task description parameter corresponds to information related to the command, and the information is saved in a form of text.	In the Accused Instrumentalities, the relation profile includes a group identity parameter, and the group identity parameter corresponds to an identity of a group consisting of machines required for performing the command. For example, Amazon provides the task description and saves in a form of text.⁶⁸

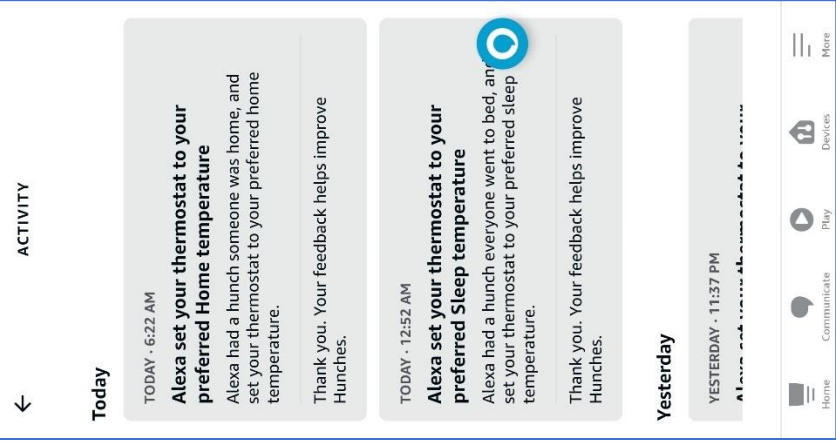
⁶⁸ See KAIFI0007392 (6 Best Alexa Routines Right Now & Easy Set-Up Guide (Updated For New Features!)) (Jun. 5, 2020), <https://voicebrew.com/alexa-day-30/alexa-routine#schedule>).

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Claim 7	Accused Instrumentality(ies)
	For example, Amazon’s “Hunches” tool also provides task descriptions in the form of text:⁶⁹

⁶⁹ See KAIFI0002075 (*Getting hunches to control & Alexa seeing two stats?* <https://www.amazonforum.com/s/question/0D56Q0000AVcWykSQF/getting-hunches-to-control-alexa-seeing-two-stats>).

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Claim 7	Accused Instrumentality(ies)
	 This claim element is literally present, as described herein, but is also satisfied under the doctrine of equivalents because the structure and functionality provided by Amazon is being used to satisfy this claim limitation and therefore there is no violation of this element, and the Accused Instrumentalities incorporate structure and functionality that is not substantially different from the requirements of this limitation because they achieve substantially or exactly the same function, in substantially or exactly the same way as set forth in the claim element (as described herein), and achieves substantially or exactly the same result.

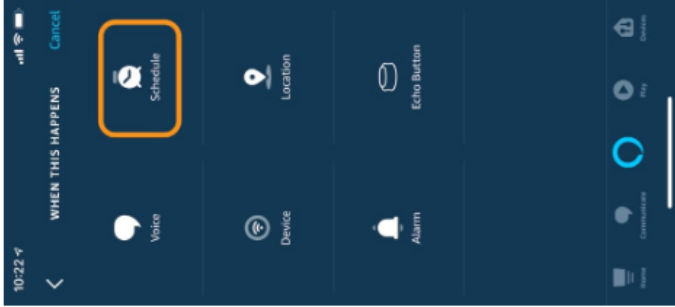
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Claim Chart for U.S. Patent No. 11,082,518

Claim 8 of the '518 Patent

Claim 8	Accused Instrumentality(ies)
The system of claim 1, wherein: the task processing schedule parameter includes a sub-parameter configuring a start condition of at least one process of the multiple processes, or	In the Accused Instrumentalities, the task processing schedule parameter includes a sub-parameter configuring a start condition of at least one process of the multiple processes, or a sub-parameter configuring an allocated machine identity of at least one process of the multiple processes. For example, Amazon provides the task processing schedule parameter includes a sub-parameter configuring a start condition by voice, schedule, device, location, alarm or Echo button.⁷⁰

⁷⁰ See KAIFI0007392 (6 Best Alexa Routines Right Now & Easy Set-Up Guide (Updated For New Features!)) (Jun. 5, 2020), <https://voicebrew.com/alexa-day-30/alexa-routine#schedule>).

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Claim 8	Accused Instrumentality(ies)
	1. Schedule an Alexa routine for a specific time Schedule is great for a wake-up routine that turns on your lights. A. Tap “Schedule”  B. Set the routine's kick-off time and choose what days you want it to repeat on You can pick a specific time (like 4pm) by tapping “At Time” or sunrise / sunset (a very helpful new feature!). If you select “At Time” you'll then be promoted to select the time and repeat frequency.

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Claim 8	Accused Instrumentality(ies)
	Amazon “Hunches” tool also practices the limitation: “the task processing schedule parameter includes a sub-parameter configuring a start condition of at least one process of the multiple processes.” For example, according to Amazon:⁷¹ With Hunches, Alexa alerts you by voice or mobile push notification when a connected smart home device isn’t in its usual state. For example, if one of your smart lights is on when you say “Good night,” Alexa alerts you and offers to turn it off. Alexa can have hunches about a variety of supported smart home device, including lights, thermostats, doors, switches and more. Hunches are enabled by default. You can also turn on automatic actions, so Alexa can proactively act on hunches and automatically address the issue for you. To turn off Hunches, use the Alexa app. You can manage your smart home device status and usage history at any time. To learn more, go to Alexa Privacy Settings. This claim element is literally present, as described herein, but is also satisfied under the doctrine of equivalents because the structure and functionality provided by Amazon is being used to satisfy this claim limitation and therefore there is no vitiation of this element, and the Accused Instrumentalities incorporate structure and functionality that is not substantially different from the requirements of this limitation because they achieve substantially or exactly the same function, in substantially or exactly the same way as set forth in the claim element (as described herein), and achieves substantially or exactly the same result.

⁷¹ See KAIFI0007142 (*What Are Alexa Hunches?*, <https://www.amazon.com/gp/help/customer/display.html?nodeId=G7F5F7K93GKSLC4F>).

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Claim Chart for U.S. Patent No. 11,082,518

Claim 8	Accused Instrumentality(ies)
or a sub-parameter configuring an allocated machine identity of at least one process of the multiple processes.	In the Accused Instrumentalities, a sub-parameter configuring an allocated machine identity of at least one process of the multiple processes. Amazon provides for “a sub-parameter configuring an allocated machine identity of at least one process of the multiple processes” by way of the “Hunches” tool. For example, according to Amazon:⁷² With Hunches, Alexa alerts you by voice or mobile push notification when a connected smart home device isn’t in its usual state. For example, if one of your smart lights is on when you say “Good night,” Alexa alerts you and offers to turn it off. Alexa can have hunches about a variety of supported smart home device, including lights, thermostats, doors, switches and more. Hunches are enabled by default. You can also turn on automatic actions, so Alexa can proactively act on hunches and automatically address the issue for you. To turn off Hunches, use the Alexa app. You can manage your smart home device status and usage history at any time. To learn more, go to Alexa Privacy Settings. Amazon “Featured Routines” also provide for “a sub-parameter configuring an allocated machine identity of at least one process of the multiple processes.”

⁷² *Id.*

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Claim 8	Accused Instrumentality(ies)
	By way of example, Amazon provides “Featured Routines” in the Alexa App such as “Morning Shine,” “Appliance Check,” and “Sunset Lights”.⁷³ Morning  • <u>Morning Shine</u>: Alexa will turn on lights, provide the weather, and play a song when you dismiss an alarm. • <u>Good Morning</u>: Alexa will wish you a good morning, play news from your Flash Briefing, and more when you say, “Good morning.” • <u>Morning Music</u>: Kick-start your day with morning tunes at a time of your choice. • <u>NPR Morning Radio</u>: Alexa will start your morning with your local NPR station at a time of your choice.

⁷³ See KAIFI0001094 (*Alexa Routines can organize your day, complete tasks, and make your daily routine more fun, all without you saying a word*, <https://www.aboutamazon.com/news/devices/popular-alexa-routines>).

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Claim 8	Accused Instrumentality(ies)
	Home Monitoring  • Calm My Dog: Alexa can help calm your pup by playing soothing music when dog barking is detected for one minute. • Appliance Check: Alexa will send you a push notification and announcement to check on your appliance when beeping is detected for two minutes.

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Claim Chart for U.S. Patent No. 11,082,518

Claim 8	Accused Instrumentality(ies)
	Evening  • <u>Sunset Lights</u>: Alexa will turn on your lights when the sun goes down. • <u>Time for Bed</u>: Alexa can turn on a night light, play sleep sounds, and more when you say, "It's bedtime." To explore more ways Alexa Routines can help automate your day, open the Alexa app > More > Routines > Gallery. According to Amazon, "Featured Routines" are "like templates and are ready to enable and start using right away."⁷⁴ The easiest way to get started is with Featured Routines Need inspiration to get going? Check out Featured Routines in the Alexa app. They're like templates and are ready to enable and start using right away. For example, after enabling the Start

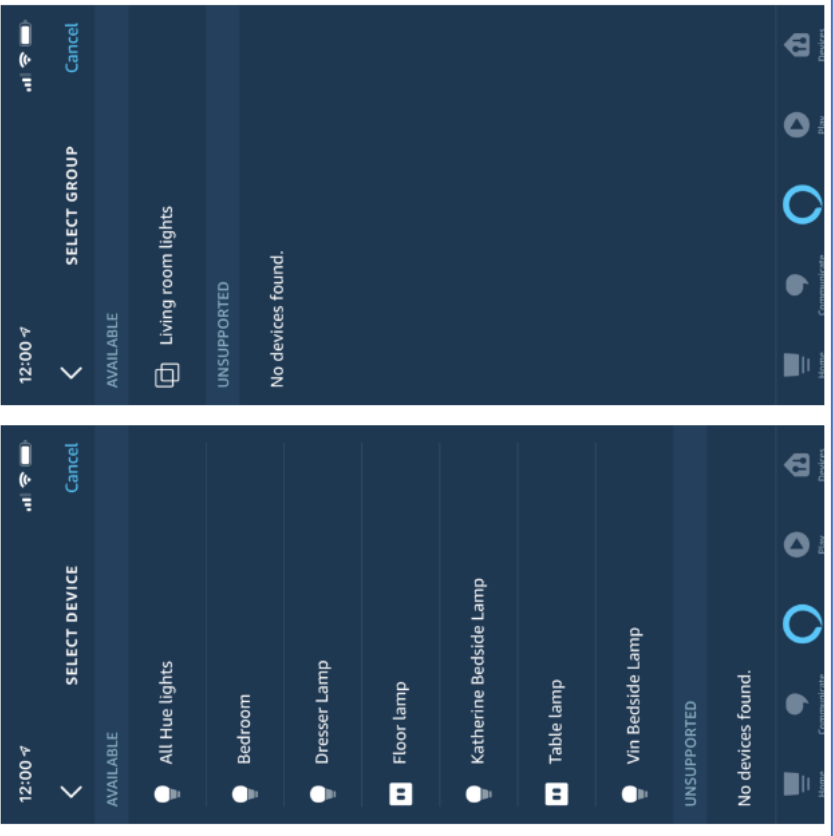
⁷⁴ See *Kaif I0001179 (Alexa Routines)*, <https://www.amazon.com/alexa-routines/b?ie=UTF8&node=21442922011>).

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Claim 8	Accused Instrumentality(ies)
	My Day Routine, when you say "<i>Alexa, start my day</i>" she'll tell you something new, update you about the weather and traffic, then start your Flash Briefing so you're ready for the day ahead. For example, Amazon also provides a sub-parameter configuring an allocated machine identity such as all Hue lights, Bedroom, Dresser Lamp or Floor Lamp, etc.⁷⁵

⁷⁵ See KAIFI0007392 (6 Best Alexa Routines Right Now & Easy Set-Up Guide (Updated For New Features!)) (Jun. 5, 2020), <https://voicebrew.com/alexa-day-30/alexa-routine#schedule>).

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Claim 8	Accused Instrumentality(ies)
	C. Select the device or group you want to control You'll see one of the two screens below depending on whether you went with option 1 or option 2 in the previous step.  This claim element is literally present, as described herein, but is also satisfied under the doctrine of equivalents because the structure and functionality provided by Amazon is being used to satisfy this claim

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Claim 8	Accused Instrumentality(ies)
	limitation and therefore there is no vitiation of this element, and the Accused Instrumentalities incorporate structure and functionality that is not substantially different from the requirements of this limitation because they achieve substantially or exactly the same function, in substantially or exactly the same way as set forth in the claim element (as described herein), and achieves substantially or exactly the same result.

Claim 9 of the '518 Patent

Claim 9	Accused Instrumentality(ies)
The system of claim 1, wherein: the relation server stores multiple machine profiles of the multiple machines.	In the Accused Instrumentalities, the relation server stores multiple machine profiles of the multiple machines. For example, Amazon can send cached values for the properties in a response. ⁷⁶

⁷⁶ See KAIFI0007092 (*Understand State and Change Reporting*, <https://developer.amazon.com/en-US/docs/alexa/smarthome/state-reporting-for-a-smart-home-skill.html>).

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Claim Chart for U.S. Patent No. 11,082,518

Claim 9	Accused Instrumentality(ies)
	Report state in a StateReport When Alexa sends an <code>Alexa.ReportState</code> directive to request the state of an endpoint, you send an <code>Alexa.StateReport</code> response. This response contains the current state of all the properties that are retrievable. For example, a customer might check the Alexa app for the status of a light on a different floor of their house. Alexa sends an <code>Alexa.ReportState</code> directive for the light. You send a response that includes the state of all the retrievable properties for the light, and the app reports the state to the customer. Specify the following information in the <code>Alexa.StateReport</code> response: • Report the state of all the retrievable properties in the <code>context</code> object. • Make sure to identify the endpoint for the report in the <code>endpoint</code> object. • Set the <code>payload</code> to an empty object. • Make sure to include the <code>correlationToken</code> set to the value from the <code>Alexa.ReportState</code> request. For details about the state report properties, see Alexa.StateReport Interface. You send the <code>Alexa.StateReport</code> response synchronously from your skill's Lambda function. Reply within eight seconds. If you poll your endpoints periodically, you can send cached values for the properties in your response. If the endpoint is unreachable, but you cached all property values, return the <code>Alexa.StateReport</code> and include all the property values. However, specify the value of the connectivity property of <code>Alexa.EndpointHealth</code> as <code>UNREACHABLE</code>. If you can't report the state of all the properties because the endpoint is unreachable and you haven't cached the values, send an <code>Alexa.ErrorResponse</code> of type <code>BRIDGE_UNREACHABLE</code> or <code>ENDPOINT_UNREACHABLE</code>. Amazon provides the ability to access machine profiles stored in a relation server remotely using a device running the Alexa App:⁷⁷

⁷⁷ See KAIFI0004347 (*How to Add a Matter Smart Home Device to Amazon Alexa*, <https://www.makeuseof.com/how-to-add-matter-smart-home-device-amazon-alexa/>).

Appendix D

Claim Chart for U.S. Patent No. 11,082,518

Claim 9	Accused Instrumentality(ies)
	 This claim element is literally present, as described herein, but is also satisfied under the doctrine of equivalents because the structure and functionality provided by Amazon is being used to satisfy this claim limitation and therefore there is no violation of this element, and the Accused Instrumentalities incorporate structure and functionality that is not substantially different from the requirements of this limitation because they achieve substantially or exactly the same function, in substantially or exactly the same way as set forth in the claim element (as described herein), and achieves substantially or exactly the same result.

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 10 of the '518 Patent

Claim 10	Accused Instrumentality(ies)
The system of claim 9, wherein: at least one machine profile of the multiple machine profiles includes a status parameter, and	In the Accused Instrumentalities, at least one machine profile of the multiple machine profiles includes a status parameter. For example, Alexa app users can see a list of their smart plugs, and whether each plug is on or off.⁷⁸ Understand State and Change Reporting Note: Sign in to the developer console to build or publish your skill. When you create an Alexa skill that interacts with a smart home device, you include support for state and change reporting. Alexa notifies users about the state of their devices by voice response, in the Alexa app, and on Alexa-enabled devices with a screen. For example, in the Alexa app users can see a list of their smart plugs and whether each plug is on or off. On the Amazon Echo Hub, users can see a quick view about the status of their Alexa-connected smart devices. The visibility of device state makes reliable and accurate state reporting essential to the user experience. For example, Amazon provides AWS IoT Core⁷⁹

⁷⁸ See KAIFI0007092 (*Understand State and Change Reporting*, <https://developer.amazon.com/en-US/docs/alexa/smarthome/state-reporting-for-a-smart-home-skill.html>).

⁷⁹ See KAIFI0001590 (AWS IoT Core, https://aws.amazon.com/iot-core/?nc1=h_ls).

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 10	Accused Instrumentality(ies)
	Message broker Mirror device state Built-in Alexa LoRaWAN devices Amazon sidewalk devices Input Connected mass spectrometer reports its state and readings throughout a multi-hour cycle Intermittent Connection AWS IoT Core The spectrometer goes offline when its cycle completes, but its last-reported state persists in AWS IoT Core REST APIs Output Technicians can use mobile apps to set new desired states (e.g. pause the cycle), or query the last reported state of the spectrometer With Device Shadow, store the latest state of a connected device so it can be read or set at any time, making the device appear to your applications as if it were online all the time. Amazon provides for the ability to access the “at least one machine profile of the multiple machine profiles includes a status parameter” remotely using the Alexa App. For instance, Amazon provides for the ability to remotely determine whether a device is “enabled” in the Alexa App.⁸⁰

⁸⁰ See KAIFI0004347 (*How to Add a Matter Smart Home Device to Amazon Alexa*, <https://www.makeuseof.com/how-to-add-matter-smart-home-device-amazon-alexa/>).

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 10	Accused Instrumentality(ies)
	 For instance, Amazon also provides for the ability to remotely determine whether a device is “online” or “unresponsive” in the Alexa App.⁸¹

⁸¹ See KAIFI0006763 (*LightwaveRF not responding*, <https://uk.amazonforum.com/s/question/0D56Q00008jWxyTSAS/lightwaverf-not-responding>).

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 10	Accused Instrumentality(ies)
	 This claim element is literally present, as described herein, but is also satisfied under the doctrine of equivalents because the structure and functionality provided by Amazon is being used to satisfy this claim

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Claim Chart for U.S. Patent No. 11,082,518

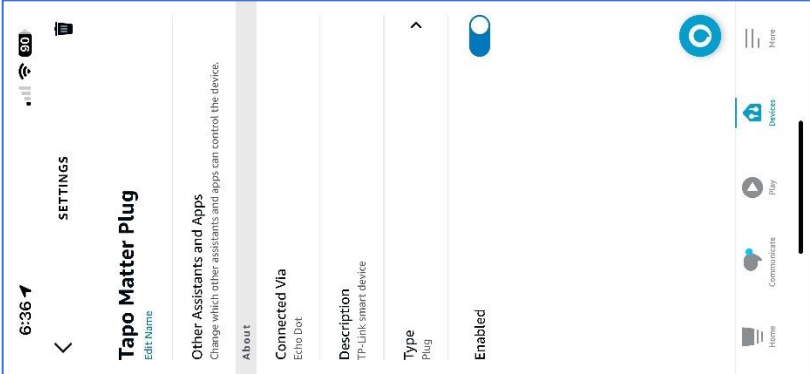
Claim 10	Accused Instrumentality(ies)
	limitation and therefore there is no vitiation of this element, and the Accused Instrumentalities incorporate structure and functionality that is not substantially different from the requirements of this limitation because they achieve substantially or exactly the same function, in substantially or exactly the same way as set forth in the claim element (as described herein), and achieves substantially or exactly the same result.
the status parameter includes at least one sub-parameter of a current operation status sub-parameter, a current availability sub-parameter, a current process sub-parameter, a scheduled termination time of current process sub-parameter, a current sub-parameter, a current execution function sub-parameter, or a scheduled termination time of currently executed function sub-parameter.	In the Accused Instrumentalities, the status parameter includes at least one sub-parameter of a current operation status sub-parameter, a current availability sub-parameter, a current process sub-parameter, a scheduled termination time of current process sub-parameter, a current execution function sub-parameter, or a scheduled termination time of currently executed function sub-parameter. For instance, Amazon provides for the ability to remotely determine whether a device is “online” or “unresponsive” in the Alexa App.⁸²

⁸² See KAIFI0006763 (*LightwaveRF* not responding, <https://uk.amazonforum.com/s/question/0D56Q00008jWxyTSAS/lightwaverf-not-responding>).

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 10	Accused Instrumentality(ies)

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Claim Chart for U.S. Patent No. 11,082,518

Claim 10	Accused Instrumentality(ies)
	For instance, Amazon also provides for whether a device is “enabled” in the Alexa App:⁸³ 

⁸³ See KAIFI0004347 (*How to Add a Matter Smart Home Device to Amazon Alexa*, <https://www.makeuseof.com/how-to-add-matter-smart-home-device-amazon-alexa/>).

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 10	Accused Instrumentality(ies)
	For example, Amazons provides a current operation status sub-parameter.⁸⁴ <pre> "properties": [{ "namespace": "Alexa.BrightnessController", "name": "brightness", "value": 75, "timeOfSample": "2023-07-01T12:01:00.02Z", "uncertaintyInMilliseconds": 1000 }] </pre> For example, Amazons provides a current availability sub-parameter.⁸⁵

⁸⁴ See KAIFI0007092 (*Understand State and Change Reporting*, <https://developer.amazon.com/en-US/docs/alexa/smarthome/state-reporting-for-a-smart-home-skill.html>).

⁸⁵ See KAIFI0001201 (*Alexa.Cooking Interface 3*, <https://developer.amazon.com/en-US/docs/alexa/device-apis/alexa-cooking.html>).

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Claim Chart for U.S. Patent No. 11,082,518

Claim 10	Accused Instrumentality(ies)
	<pre>"properties": [{ "namespace": "Alexa.BrightnessController", "name": "brightness", "value": 75, "timeOfSample": "2023-07-01T12:01:00.00Z", "uncertaintyInMilliseconds": 1000 }, { "namespace": "Alexa.EndpointHealth", "name": "connectivity", "value": { "value": "OK" }, "timeOfSample": "2023-07-05T12:00:00.00Z", "uncertaintyInMilliseconds": 0 }]</pre> For example, Amazons provides a scheduled termination time of current process sub-parameter.⁸⁶

⁸⁶ See KAIFI0001201 (Alexa.Cooking Interface 3, <https://developer.amazon.com/en-US/docs/alexa/device-apis/alexa-cooking.html>).

Appendix D Claim Chart for U.S. Patent No. 11,082,518

```

"properties": [
{
  "namespace": "Alexa.Cooking",
  "name": "cookingMode",
  "value": "PRESET",
  "timeOfSample": "2019-11-11T21:20:52.32Z",
  "uncertaintyInMilliseconds": 0
},
{
  "namespace": "Alexa.Cooking",
  "name": "foodItem",
  "value": {
    "foodName": "Salmon",
    "foodQuantity": {
      "@type": "Weight",
      "value": 5.5,
      "unit": "POUND"
    }
  }
},
{
  "timeOfSample": "2019-11-11T21:20:52.32Z",
  "uncertaintyInMilliseconds": 0
},
{
  "namespace": "Alexa.Cooking",
  "name": "cookingTimeInterval",
  "value": {
    "start": "2019-11-11T21:00:00Z",
    "end": "2019-11-11T22:30:00Z"
  },
  "timeOfSample": "2019-11-11T21:20:52.32Z",
  "uncertaintyInMilliseconds": 0
}
]

```

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 10	Accused Instrumentality(ies)
	<pre> "context":{ "properties":[{ "namespace": "Alexa.Cooking", "name": "cookingMode", "value": "PRESET", "timeOfSample": "2019-11-11T21:20:52.32Z", "uncertaintyInMilliseconds": 0 }] }, </pre> This claim element is literally present, as described herein, but is also satisfied under the doctrine of equivalents because the structure and functionality provided by Amazon is being used to satisfy this claim limitation and therefore there is no vitiation of this element, and the Accused Instrumentalities incorporate structure and functionality that is not substantially different from the requirements of this limitation because they achieve substantially or exactly the same function, in substantially or exactly the same way as set forth in the claim element (as described herein), and achieves substantially or exactly the same result.

Claim 11 of the '518 Patent

Claim 11	Accused Instrumentality(ies)
The system of claim 9, wherein: at least one machine profile of the multiple machine profiles	In the Accused Instrumentalities, at least one machine profile of the multiple machine profiles includes a capability parameter.

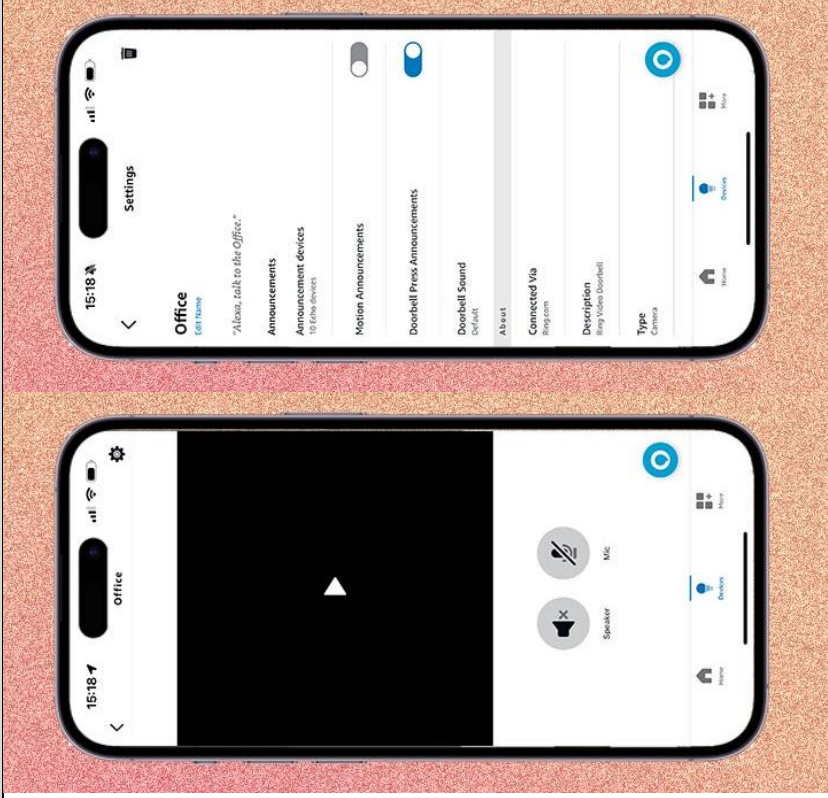
Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 11	Accused Instrumentality(ies)
includes a capability parameter, and	For example, Amazons provides Capability Interfaces.⁸⁷ Key Features of Smart Home Skills Capability Interfaces Use capability interfaces to describe your device's Alexa functionality, such as the ability to dim a light or turn it on and off. See Documentation For example, Amazon provides for the ability to access on the Alexa App machine profiles that include their capabilities in the Alexa App:⁸⁸

⁸⁷ See KAIFI0001198 (*Alexa Smart Home Skills*, <https://developer.amazon.com/en-US/alexa/alexa-skills-kit/get-deeper/smart-home-skills>).

⁸⁸ See KAIFI0004418 (*How to use Ring Video Doorbell with Amazon Echo Alexa smart speakers and displays* (Sept. 26, 2024), <https://www.the-ambient.com/how-to/use-ring-video-doorbell-with-alexa-1470/>).

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 11	Accused Instrumentality(ies)
	 This claim element is literally present, as described herein, but is also satisfied under the doctrine of equivalents because the structure and functionality provided by Amazon is being used to satisfy this claim limitation and therefore there is no violation of this element, and the Accused Instrumentalities incorporate structure and functionality that is not substantially different from the requirements of this limitation because they achieve substantially or exactly the same function, in substantially or exactly the same way as set forth in the claim element (as described herein), and achieves substantially or exactly the same result.

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 11	Accused Instrumentality(ies)												
the capability parameter includes at least one sub-parameter of a title of process sub-parameter, an input parameter sub-parameter, an output parameter sub-parameter, a process processing condition sub-parameter, or a function sub-parameter.	In the Accused Instrumentalities, the capability parameter includes at least one sub-parameter of a title of process sub-parameter, an input parameter sub-parameter, an output parameter sub-parameter, a process processing time sub-parameter, a process processing condition sub-parameter, or a function sub-parameter. For example, Amazons provides a title of process sub-parameter.⁸⁹ • Capability interfaces – These interfaces describe a device's functionality. A device, or <i>endpoint</i>, can implement the combination of capability interfaces that best represent its features. For example, a light that you can turn on and off and dim might implement two interfaces: Alexa.PowerController and Alexa.BrightnessController . A similar light that has these two features and also supports tunable white light might also implement Alexa.ColorTemperatureController . For example, Amazons provides a process processing condition sub-parameter.⁹⁰												
	DoorbellPress event payload <table><tr><th>Property</th><th>Description</th><th>Type</th><th>Required</th></tr><tr><td>cause</td><td>Describes why this event occurred.</td><td>Cause object</td><td>Yes</td></tr><tr><td>timestamp</td><td>Time the endpoint detected the event. Defined in ISO 8601 format, YYYY-MM-DDThh:mm:ssZ .</td><td>String</td><td>Yes</td></tr></table>	Property	Description	Type	Required	cause	Describes why this event occurred.	Cause object	Yes	timestamp	Time the endpoint detected the event. Defined in ISO 8601 format, YYYY-MM-DDThh:mm:ssZ .	String	Yes
Property	Description	Type	Required										
cause	Describes why this event occurred.	Cause object	Yes										
timestamp	Time the endpoint detected the event. Defined in ISO 8601 format, YYYY-MM-DDThh:mm:ssZ .	String	Yes										

⁸⁹ See KAIFI0007092 (*Understand State and Change Reporting*, <https://developer.amazon.com/en-US/docs/alexa/smarthome/state-reporting-for-a-smart-home-skill.html>).

⁹⁰ See KAIFI0007761 (*Alexa.DoorbellEventSource Interface 3*, <https://developer.amazon.com/en-US/docs/alexa/device-apis/alexa-doorbelleventsource.html>).

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 11	Accused Instrumentality(ies)												
	For example, Amazons provides a process processing time sub-parameter.⁹¹ DoorbellPress event payload <table><tr><th>Property</th><th>Description</th><th>Type</th><th>Required</th></tr><tr><td>cause</td><td>Describes why this event occurred.</td><td>Cause object</td><td>Yes</td></tr><tr><td>timestamp</td><td>Time the endpoint detected the event. Defined in ISO 8601 format, YYYY-MM-DDThh:mm:ssZ .</td><td>String</td><td>Yes</td></tr></table> For example, Amazons provides a function sub-parameter.⁹²	Property	Description	Type	Required	cause	Describes why this event occurred.	Cause object	Yes	timestamp	Time the endpoint detected the event. Defined in ISO 8601 format, YYYY-MM-DDThh:mm:ssZ .	String	Yes
Property	Description	Type	Required										
cause	Describes why this event occurred.	Cause object	Yes										
timestamp	Time the endpoint detected the event. Defined in ISO 8601 format, YYYY-MM-DDThh:mm:ssZ .	String	Yes										

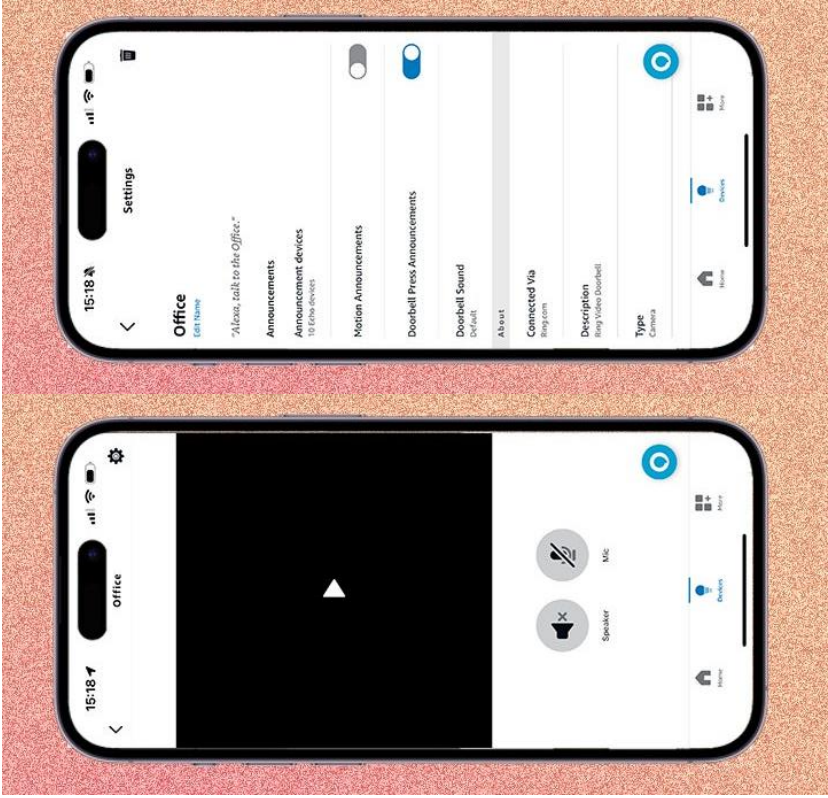
⁹¹ See KAIFI0007761 (*Alexa.DoorbellEventSource Interface 3*, <https://developer.amazon.com/en-US/docs/alexa/device-apis/alexa-doorbelleventsource.html>).

⁹² See KAIFI0007735 (*Alexa.ColorTemperatureController Interface 3*, <https://developer.amazon.com/en-US/docs/alexa/device-apis/alexa-colortemperaturecontroller.html>).

Appendix D Claim Chart for U.S. Patent No. 11,082,518

Claim 11	Accused Instrumentality(ies)
	<pre> "capabilities": [{ "type": "AlexaInterface", "interface": "Alexa.PowerController", "version": "3", "properties": { "supported": [{ "name": "powerState" }], "proactivelyReported": true, "retrievable": true } }, { "type": "AlexaInterface", "interface": "Alexa.ColorTemperatureController", "version": "3", "properties": { "supported": [{ "name": "colorTemperatureInKelvin" }], "proactivelyReported": true, "retrievable": true } }] </pre>

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 11	Accused Instrumentality(ies)
	For example, Amazon also provides a device settings page in the Alexa App:⁹³  This claim element is literally present, as described herein, but is also satisfied under the doctrine of equivalents because the structure and functionality provided by Amazon is being used to satisfy this claim

⁹³ See KAIFI0004418 (*How to use Ring Video Doorbell with Amazon Echo Alexa smart speakers and displays* (Sept. 26, 2024), <https://www.the-ambient.com/how-to/use-ring-video-doorbell-with-alexa-1470/>).

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 11	Accused Instrumentality(ies)
	limitation and therefore there is no vitiation of this element, and the Accused Instrumentalities incorporate structure and functionality that is not substantially different from the requirements of this limitation because they achieve substantially or exactly the same function, in substantially or exactly the same way as set forth in the claim element (as described herein), and achieves substantially or exactly the same result.

Claim 12 of the '518 Patent

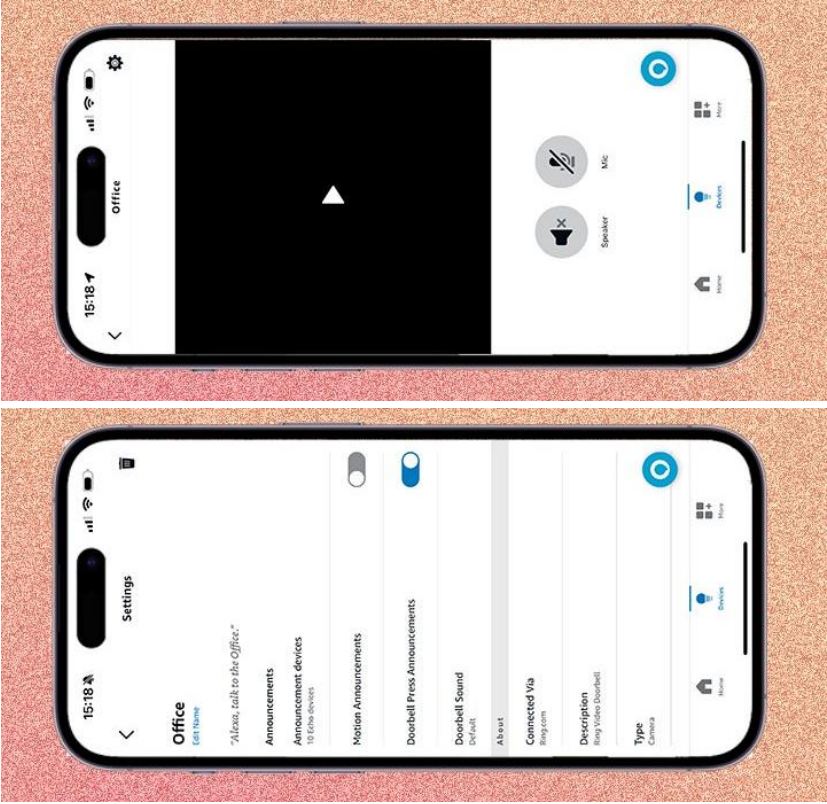
Claim 12	Accused Instrumentality(ies)
The system of claim 9, wherein: at least one machine profile of the multiple machine profiles includes a machine identity parameter.	In the Accused Instrumentalities, at least one machine profile of the multiple machine profiles includes a machine identity parameter. For example, Amazon provides unique ID of the endpoint for a device identity parameter ⁹⁴

⁹⁴ See KAIFI0007761 (*Alexa.DoorbellEventSource Interface 3*, <https://developer.amazon.com/en-US/docs/alexa/device-apis/alexa-doorbelleventsource.html>).

Appendix D Claim Chart for U.S. Patent No. 11,082,518

Claim 12	Accused Instrumentality(ies)
	<pre> "event": { "header": { "namespace": "Alexa.Discovery", "name": "Discover.Response", "payloadVersion": "3", "messageId": "Unique identifier, preferably a version 4 UUID" }, "payload": { "endpoints": [{ "endpointId": "Unique ID of the endpoint", "manufacturerName": "Sample Manufacturer", "description": "Description that appears in the Alexa app", "friendlyName": "Your device name, displayed in the Alexa app", "displayCategories": ["CAMERA", "DOORBELL"], "additionalAttributes": { "manufacturer": "Sample Manufacturer", "model": "Sample Model", "serialNumber": "Serial number of the device", "firmwareVersion": "Firmware version of the device", "softwareVersion": "Software version of the device", "customIdentifier": "Optional custom identifier for the device" }, "cookie": {}, "capabilities": [{ "type": "AlexaInterface", "interface": "Alexa.DoorbellEventSource", "version": "3", "proactivelyReported": true }] } } </pre>

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 12	Accused Instrumentality(ies)
	For example, Amazon also provides for the ability to access a machine identity parameter in the Alexa App.⁹⁵ 

⁹⁵ See KAIFI0004418 (*How to use Ring Video Doorbell with Amazon Echo Alexa smart speakers and displays* (Sept. 26, 2024), <https://www.the-ambient.com/how-to/use-ring-video-doorbell-with-alexa-1470/>).

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 12	Accused Instrumentality(ies)
	This claim element is literally present, as described herein, but is also satisfied under the doctrine of equivalents because the structure and functionality provided by Amazon is being used to satisfy this claim limitation and therefore there is no violation of this element, and the Accused Instrumentalities incorporate structure and functionality that is not substantially different from the requirements of this limitation because they achieve substantially or exactly the same function, in substantially or exactly the same way as set forth in the claim element (as described herein), and achieves substantially or exactly the same result.

Claim 13 of the '518 Patent

Claim 13	Accused Instrumentality(ies)
The system of claim 9, wherein: at least one machine profile of the multiple machine profiles includes a user identity parameter, and	In the Accused Instrumentalities, at least one machine profile of the multiple machine profiles includes a user identity parameter. For example, Amazon provides unique ID of the endpoint for a device identity parameter ⁹⁶

⁹⁶ See KAIFI0007761 (*Alexa.DoorbellEventSource Interface 3*, <https://developer.amazon.com/en-US/docs/alexa/device-apis/alexa-doorbelleventsource.html>).

Appendix D Claim Chart for U.S. Patent No. 11,082,518

Claim 13	Accused Instrumentality(ies)
	<pre> "event": { "header": { "namespace": "Alexa.Discovery", "name": "Discover.Response", "payloadVersion": "3", "messageId": "Unique identifier, preferably a version 4 UUID" }, "payload": { "endpoints": [{ "endpointId": "Unique ID of the endpoint", "manufacturerName": "Sample Manufacturer", "description": "Description that appears in the Alexa app", "friendlyName": "Your device name, displayed in the Alexa app", "displayCategories": ["CAMERA", "DOORBELL"], "additionalAttributes": { "manufacturer": "Sample Manufacturer", "model": "Sample Model", "serialNumber": "Serial number of the device", "firmwareVersion": "Firmware version of the device", "softwareVersion": "Software version of the device", "customIdentifier": "Optional custom identifier for the device" }, "cookie": {}, "capabilities": [{ "type": "AlexaInterface", "interface": "Alexa.DoorbellEventSource", "version": "3", "proactivelyReported": true }] } } </pre>

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 13	Accused Instrumentality(ies)
	For example, according to Amazon, a customer enables a smart home skill, links the skill to their account with a device cloud.⁹⁷ 1. A customer enables your smart home skill, links the skill to their account with your device cloud, and then asks Alexa to discover devices associated with that account. 2. Later, the customers says, for example, "Alexa, turn the kitchen light to 50 percent", or makes a change to a device setting in the Alexa app. Alexa uses information from the customer's utterance or the app to compose a message that identifies the endpoint and the operation to perform. Alexa sends this message, called a <i>directive</i>, to your skill to control the kitchen light. The directive includes: • The capability, for example, <code>BrightnessController.SetBrightness</code>, which includes the new setting value. • The endpoint identifier. In this example, the ID representing the endpoint that the customer named "kitchen light". • Information that authenticates the customer. For example, Amazon also provides for the ability to create multiple "Alexa Profiles".⁹⁸ What Are Alexa Profiles? Alexa Profiles gives each person in your home their own Alexa experience. You can enroll your Amazon Profile in Alexa as an Alexa Profile. Alexa Profiles gives each person in your home their own individual Alexa experience. You can create an Alexa Profile for you and your family members when setting up your device. Alexa Profiles can be created from your device after setup. Select an existing Amazon Profile on your Amazon Account or create a new Amazon Profile. Existing Amazon Profiles include profiles enrolled in other programs, like Prime Video.

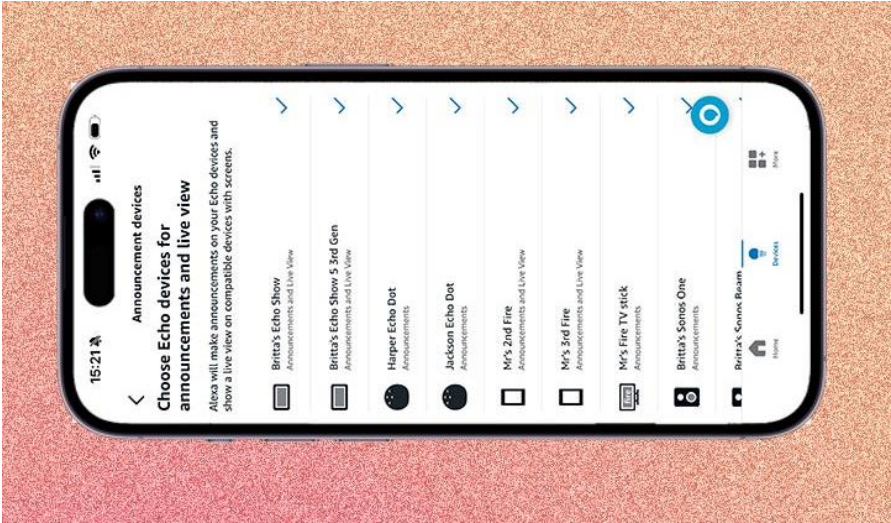
⁹⁷ See KAIF10007082 (*Understand Smart Home Skills*, <https://developer.amazon.com/en-US/docs/alexa/smarthome/understand-the-smart-home-skill-api.html>).

⁹⁸ See KAIF10007806 (*What Are Alexa Profiles?*, <https://www.amazon.com/gp/help/customer/display.html?nodeId=GLE4EVA2VLDLDRQDLC>).

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 13	Accused Instrumentality(ies)
	Important: To receive individualized Alexa experiences on your devices, you must create your Alexa Profiles on the same Alexa Account. Profiles from other Amazon Accounts like Amazon Households won't have individualized experiences on your devices. To create an Alexa Profile in the Alexa app, sign in to the Alexa app with the account credentials used to register your Alexa-enabled device. Once signed in, follow the on-screen instructions. If you are an adult, you can also create profiles for kids. Voice ID You can create an Alexa voice ID for your Alexa Profile. With an Alexa voice ID, you'll get personal content and features when Alexa recognizes your voice. To create an Alexa voice ID, go to Create an Alexa Voice ID. You can also create a voice ID for kids in the Alexa app by going to Settings > Amazon Kids. Visual ID You can create a visual ID for your Alexa Profile. A visual ID personalizes your experience on compatible Echo Show devices. When Alexa recognizes you, you'll see content and recommendations just for you on your Echo Show device. To create a visual ID, go to Enroll in Visual ID on Your Echo Show. Phone ID You can turn on phone ID from your Alexa profile. Phone ID helps Alexa recognize you when you're near an eligible Echo device to deliver personalized experiences. Phone ID also displays personalized content on compatible Echo Show devices. To turn Phone ID on or off, go to Turn Phone ID On or Off.

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 13	Accused Instrumentality(ies)
	For example, Amazon provides a user identity parameter in machine profiles:⁹⁹ 

⁹⁹ See KAIFI0004418 (*How to use Ring Video Doorbell with Amazon Echo Alexa smart speakers and displays* (Sept. 26, 2024), <https://www.the-ambient.com/how-to-use-ring-video-doorbell-with-alexa-1470/>).

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 13	Accused Instrumentality(ies)
	This claim element is literally present, as described herein, but is also satisfied under the doctrine of equivalents because the structure and functionality provided by Amazon is being used to satisfy this claim limitation and therefore there is no vitiation of this element, and the Accused Instrumentalities incorporate structure and functionality that is not substantially different from the requirements of this limitation because they achieve substantially or exactly the same function, in substantially or exactly the same way as set forth in the claim element (as described herein), and achieves substantially or exactly the same result.
the user identity parameter corresponds to an identity of a user being capable of using a machine corresponding to the at least one machine profile.	In the Accused Instrumentalities, the user identity parameter corresponds to an identity of a user being capable of using a machine corresponding to the at least one machine profile. For example, according to Amazon, Alexa can discover devices associated with the account.¹⁰⁰ 1. A customer enables your smart home skill, links the skill to their account with your device cloud, and then asks Alexa to discover devices associated with that account. 2. Later, the customers says, for example, "Alexa, turn the kitchen light to 50 percent", or makes a change to a device setting in the Alexa app. Alexa uses information from the customer's utterance or the app to compose a message that identifies the endpoint and the operation to perform. Alexa sends this message, called a <i>directive</i>, to your skill to control the kitchen light. The directive includes: • The capability, for example, <code>BrightnessController.SetBrightness</code>, which includes the new setting value. • The endpoint identifier. In this example, the ID representing the endpoint that the customer named "kitchen light". • Information that authenticates the customer. For example, Amazon also provides for the ability to create multiple "Alexa Profiles".¹⁰¹ What Are Alexa Profiles?

¹⁰⁰ See KAIF10007082 (*Understand Smart Home Skills*, <https://developer.amazon.com/en-US/docs/alexa/smarthome/understand-the-smart-home-skill-api.html>).

¹⁰¹ See KAIF10007806 (*What Are Alexa Profiles?*, <https://www.amazon.com/gp/help/customer/display.html?nodeId=GLE4EVA2VLDRQDLC>).

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

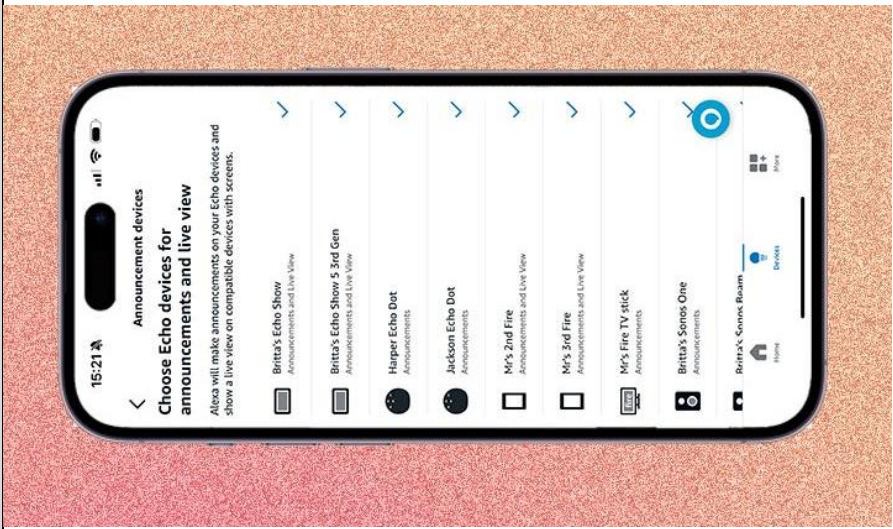
Claim 13	Accused Instrumentality(ies)
	Alexa Profiles gives each person in your home their own Alexa experience. You can enroll your Amazon Profile in Alexa as an Alexa Profile. Alexa Profiles gives each person in your home their own individual Alexa experience. You can create an Alexa Profile for you and your family members when setting up your device. Alexa Profiles can be created from your device after setup. Select an existing Amazon Profile on your Amazon Account or create a new Amazon Profile. Existing Amazon Profiles include profiles enrolled in other programs, like Prime Video. Important: To receive individualized Alexa experiences on your devices, you must create your Alexa Profiles on the same Alexa Account. Profiles from other Amazon Accounts like Amazon Households won't have individualized experiences on your devices. To create an Alexa Profile in the Alexa app, sign in to the Alexa app with the account credentials used to register your Alexa-enabled device. Once signed in, follow the on-screen instructions. If you are an adult, you can also create profiles for kids. Voice ID You can create an Alexa voice ID for your Alexa Profile. With an Alexa voice ID, you'll get personal content and features when Alexa recognizes your voice. To create an Alexa voice ID, go to Create an Alexa Voice ID. You can also create a voice ID for kids in the Alexa app by going to Settings > Amazon Kids. Visual ID You can create a visual ID for your Alexa Profile. A visual ID personalizes your experience on compatible Echo Show devices. When Alexa recognizes you, you'll see content and recommendations just for you on your Echo Show device. To create a visual ID, go to Enroll in Visual ID on Your Echo Show.

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Claim Chart for U.S. Patent No. 11,082,518

Claim 13	Accused Instrumentality(ies)
	Phone ID You can turn on phone ID from your Alexa profile. Phone ID helps Alexa recognize you when you're near an eligible Echo device to deliver personalized experiences. Phone ID also displays personalized content on compatible Echo Show devices. To turn Phone ID on or off, go to Turn Phone ID On or Off. For example, Amazon provides a user identity parameter in machine profiles:¹⁰²

¹⁰² See KAIF10004418 (*How to use Ring Video Doorbell with Amazon Echo Alexa smart speakers and displays* (Sept. 26, 2024), <https://www.the-ambient.com/how-to/how-to-use-ring-video-doorbell-with-alexa-1470/>).

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Claim 13	Accused Instrumentality(ies)
	

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Claim 13	Accused Instrumentality(ies)
	Amazon also automatically creates user identity parameters for users associated with Amazon Kids devices.¹⁰³ This claim element is literally present, as described herein, but is also satisfied under the doctrine of equivalents because the structure and functionality provided by Amazon is being used to satisfy this claim limitation and therefore there is no violation of this element, and the Accused Instrumentalities incorporate structure and functionality that is not substantially different from the requirements of this limitation because they achieve substantially or exactly the same function, in substantially or exactly the same way as set forth in the claim element (as described herein), and achieves substantially or exactly the same result.

Claim 14 of the '518 Patent

Claim 14	Accused Instrumentality(ies)
The system of claim 9, wherein: at least one machine profile of the multiple machine profiles includes a group identity parameter, and the group identity parameter corresponds to an identity of a user group being	In the Accused Instrumentalities, at least one machine profile of the multiple machine profiles includes a group identity parameter, and the group identity parameter corresponds to an identity of a user group being capable of using a machine corresponding to the at least one machine profile.

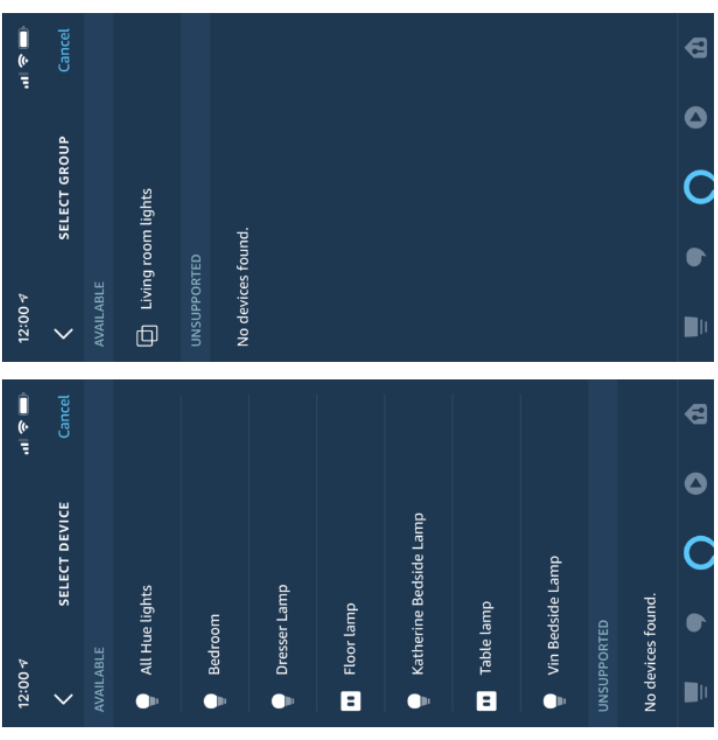
¹⁰³ See KAI10007793 (*Safety First: How to Set Up Your Amazon Echo for Your Kids*, <https://www.pcmag.com/how-to/safety-first-how-to-set-up-an-amazon-echo-for-kids>).

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Claim 14	Accused Instrumentality(ies)
capable of using a machine corresponding to the at least one machine profile.	For example, Amazon can select the device or group. ¹⁰⁴

¹⁰⁴ See KAIF10007392 (6 Best Alexa Routines Right Now & Easy Set-Up Guide (Updated For New Features!)) (Jun. 5, 2020), <https://voicebrew.com/alexa-day-30/alexa-routine#schedule>).

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Claim 14	Accused Instrumentality(ies)
	C. Select the device or group you want to control You'll see one of the two screens below depending on whether you went with option 1 or option 2 in the previous step.  For example, Amazon also provides for the ability to create “Alexa Profiles”:¹⁰⁵

¹⁰⁵ See *Kaif I0007806 (What Are Alexa Profiles?)*, <https://www.amazon.com/gp/help/customer/display.html?nodeId=GLE4EVA2VLDR> QDLC).

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Claim 14	Accused Instrumentality(ies)
	What Are Alexa Profiles? Alexa Profiles gives each person in your home their own Alexa experience. You can enroll your Amazon Profile in Alexa as an Alexa Profile. Alexa Profiles gives each person in your home their own individual Alexa experience. You can create an Alexa Profile for you and your family members when setting up your device. Alexa Profiles can be created from your device after setup. Select an existing Amazon Profile on your Amazon Account or create a new Amazon Profile. Existing Amazon Profiles include profiles enrolled in other programs, like Prime Video. Important: To receive individualized Alexa experiences on your devices, you must create your Alexa Profiles on the same Alexa Account. Profiles from other Amazon Accounts like Amazon Households won't have individualized experiences on your devices. To create an Alexa Profile in the Alexa app, sign in to the Alexa app with the account credentials used to register your Alexa-enabled device. Once signed in, follow the on-screen instructions. If you are an adult, you can also create profiles for kids. Voice ID You can create an Alexa voice ID for your Alexa Profile. With an Alexa voice ID, you'll get personal content and features when Alexa recognizes your voice. To create an Alexa voice ID, go to Create an Alexa Voice ID. You can also create a voice ID for kids in the Alexa app by going to Settings > Amazon Kids. Visual ID You can create a visual ID for your Alexa Profile. A visual ID personalizes your experience on compatible Echo Show devices. When Alexa recognizes you, you'll see content and

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Claim 14	Accused Instrumentality(ies)
	recommendations just for you on your Echo Show device. To create a visual ID, go to Enroll in Visual ID on Your Echo Show. Phone ID You can turn on phone ID from your Alexa profile. Phone ID helps Alexa recognize you when you're near an eligible Echo device to deliver personalized experiences. Phone ID also displays personalized content on compatible Echo Show devices. To turn Phone ID on or off, go to Turn Phone ID On or Off. In the Accused Instrumentalities, the relation profile includes a group parameter, and the group parameter corresponds to identities of machines required for performing the command. For example, Amazon controls grouped devices.¹⁰⁶

¹⁰⁶ See KAIF10007392 (6 Best Alexa Routines Right Now & Easy Set-Up Guide (Updated For New Features!)) (Jun. 5, 2020), <https://voicebrew.com/alexa-day-30/alexa-routine#schedule>).

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Claim 14	Accused Instrumentality(ies)
	B (option 2). Or, if you want to control grouped devices, tap "Control group" I have my living room lights in an Alexa group so I can easily turn them on and off together.  C. Select the device or group you want to control For example, Amazon uses Alexa Smart Plug.¹⁰⁷

¹⁰⁷ See KAIF10002016 (*Everything you need to know about the Amazon Alexa Smart Plug*, <https://voicebrew.com/alexa-day-30/amazon-smart-plug#group>).

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Claim 14	Accused Instrumentality(ies)
	3 ways to turn on your smart plug Alexa voice command <i>"Alexa, turn on [first plug / your plug name]."</i> If you're using your smart plug to control a light, remember that you can't tell Alexa to dim the light because the smart plug functions as an on/off switch (see Pro Tip #8 below for a simple workaround). #1. Put multiple smart plugs in a group so you can turn them on and off together Say you have 2 smart plugs in your living room connected to 2 lights like me. I put the smart plugs into a group called "living room lights" so that I can say "<i>Alexa, turn off the living room lights</i>" instead of saying "<i>Alexa, turn off the table light</i>" and then "<i>Alexa, turn off the floor light</i>." You can still activate the lights separately with those commands if you want. To create a group: Open the Alexa app, tap Devices on the bottom navigation bar > + icon in the upper left corner > Add Group > write your custom name or pick one and tap Next > (scroll down to) select the smart plugs for the group (under the Devices section) and then once you have checked off the ones you want to include tap the Save button. Now when you go to the Devices tab, you'll see your new group (for me, living room lights) show up under the Groups section. To edit a group (add or remove plugs): Open the Alexa app, tap Devices on the bottom navigation bar > group you want to edit under "Groups" > tap "Edit" in the upper right corner > check off or uncheck plugs > tap the Save button.

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Claim 14	Accused Instrumentality(ies)
	This claim element is literally present, as described herein, but is also satisfied under the doctrine of equivalents because the structure and functionality provided by Amazon is being used to satisfy this claim limitation and therefore there is no violation of this element, and the Accused Instrumentalities incorporate structure and functionality that is not substantially different from the requirements of this limitation because they achieve substantially or exactly the same function, in substantially or exactly the same way as set forth in the claim element (as described herein), and achieves substantially or exactly the same result.

Claim 15 of the '518 Patent

Claim 15	Accused Instrumentality(ies)
The system of claim 8, wherein: at least one machine profile of the multiple machine profiles includes an operating system parameter, and the operating system parameter corresponds to a type of an operating system which is used by a machine corresponding to the at least one machine profile.	In the Accused Instrumentalities, at least one machine profile of the multiple machine profiles includes an operating system parameter, and the operating system parameter corresponds to a type of an operating system which is used by a machine corresponding to the at least one machine profile. For example, Amazon uses firmware version and software version. ¹⁰⁸

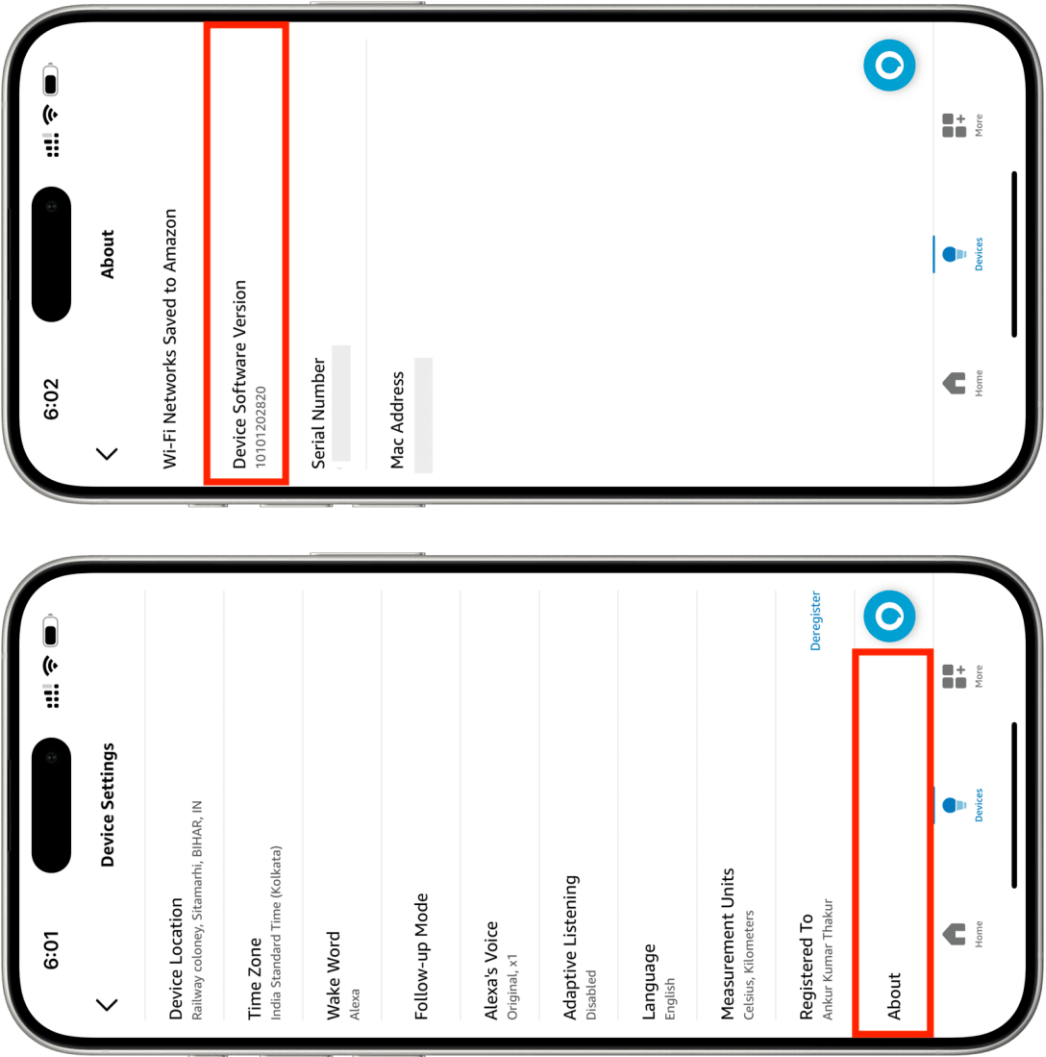
¹⁰⁸ See KAIF10007753 (*Alexa.Discovery Interface 3*, <https://developer.amazon.com/en-US/docs/alexa/device-apis/alexa-discovery.html>).

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Claim 15	Accused Instrumentality(ies)
	<pre> "payload": { "endpoints": [{ "endpointId": "Unique ID of the endpoint", "manufacturerName": "Sample Manufacturer", "description": "Smart Light by Sample Manufacturer", "friendlyName": "Living Room Light", "additionalAttributes": { "manufacturer": "Sample Manufacturer", "model": "Sample Model", "serialNumber": "Serial number of the device", "firmwareVersion": "Firmware version of the device", "softwareVersion": "Software version of the device", "customIdentifier": "Optional custom identifier for the device" }] }, </pre> For example, Amazon provides for software versions of machines.¹⁰⁹

¹⁰⁹ See KAIF10004355 (*How to check for Amazon Echo speaker software updates*, <https://www.idownloadblog.com/2019/03/04/check-amazon-echo-software-updates/>).

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Claim 15	Accused Instrumentality(ies)
	 The figure displays two screenshots of a mobile application interface, likely the Amazon Echo app, showing device settings and information. The left screenshot shows the 'Device Settings' screen with the 'About' option highlighted by a red box. The right screenshot shows the 'About' screen with the 'Device Software Version' field highlighted by a red box.

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Claim 15	Accused Instrumentality(ies)
	This claim element is literally present, as described herein, but is also satisfied under the doctrine of equivalents because the structure and functionality provided by Amazon is being used to satisfy this claim limitation and therefore there is no vitiation of this element, and the Accused Instrumentalities incorporate structure and functionality that is not substantially different from the requirements of this limitation because they achieve substantially or exactly the same function, in substantially or exactly the same way as set forth in the claim element (as described herein), and achieves substantially or exactly the same result.

Claim 16 of the '518 Patent

Claim 16	Accused Instrumentality(ies)
The system of claim 8, wherein: at least one machine profile of the multiple machine profiles includes an interface parameter, and the interface parameter corresponds to an interface protocol between the relation server and a machine corresponding to	In the Accused Instrumentalities, at least one machine profile of the multiple machine profiles includes an interface parameter, and the interface parameter corresponds to an interface protocol between the relation server and a machine corresponding to the at least one machine profile. For example, according to Amazon, Alexa can discover the endpoints associated with a smart home skill, and you send events proactively to add, update or delete endpoints associated with a customer account.¹¹⁰

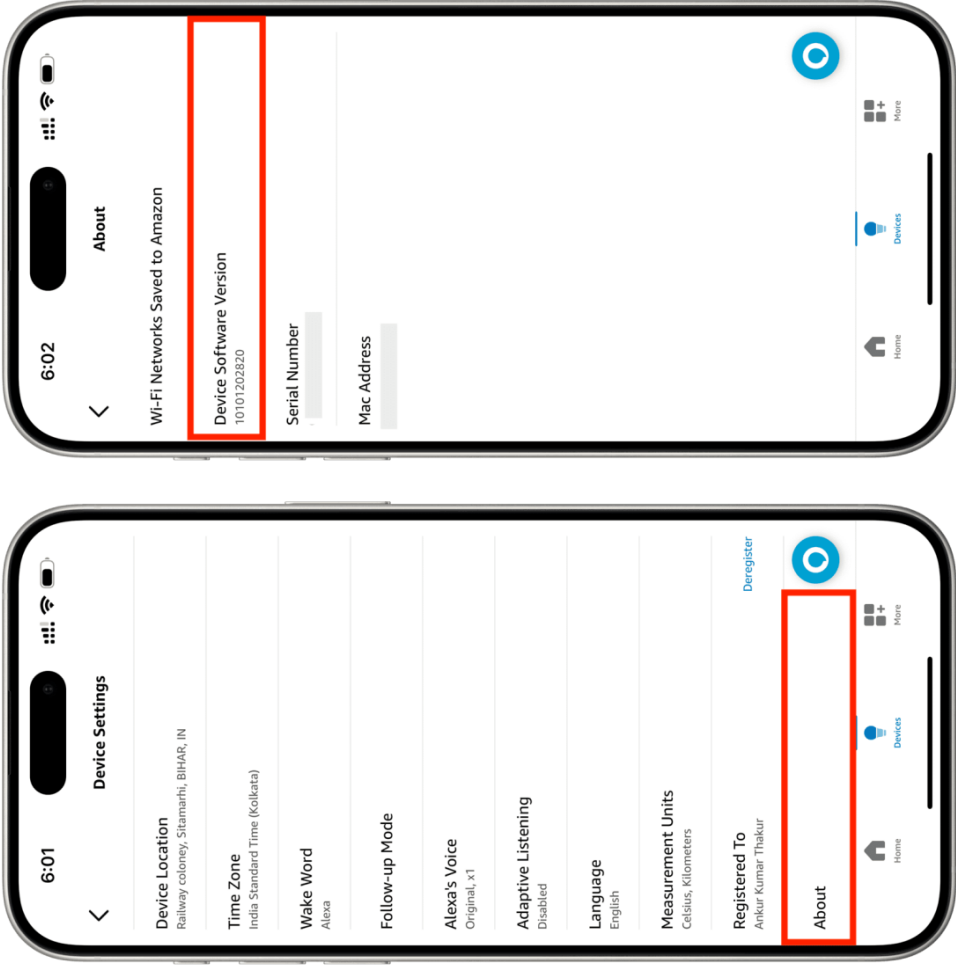
¹¹⁰ See KAIF10007753 (*Alexa.Discovery Interface 3*, <https://developer.amazon.com/en-US/docs/alexa/device-apis/alexa-discovery.html>).

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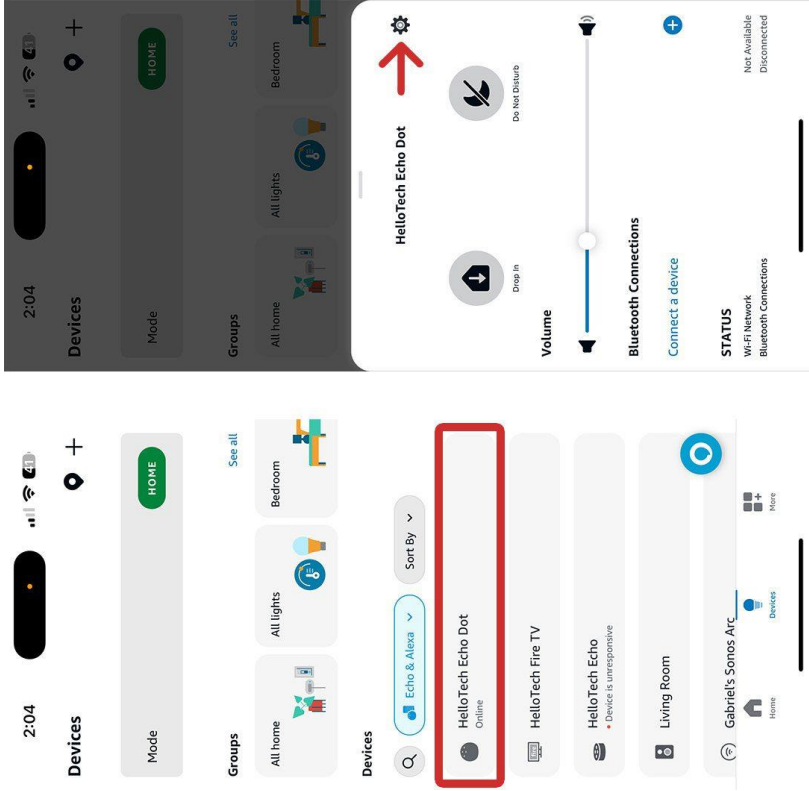
Claim 16	Accused Instrumentality(ies)
the at least one machine profile.	Alexa.Discovery Interface 3 Note: Sign in to the developer console to build or publish your skill. The Alexa.Discovery interface describes messages used to identify the endpoints associated with the customer's device account. You respond to discovery directives so that Alexa can discover the endpoints associated with your smart home skill, and you send events proactively to add, update or delete endpoints associated with a customer account. For an overview of discovery, see About Alexa Discovery. For example, Amazon provides for a device's MAC address.¹¹¹

¹¹¹ See KAIF10004355 (*How to check for Amazon Echo speaker software updates*, <https://www.idownloadblog.com/2019/03/04/check-amazon-echo-software-updates/>).

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Claim 16	Accused Instrumentality(ies)
	 The image displays two screenshots of an Amazon Echo Show device interface. The left screenshot shows the 'Device Settings' menu with the 'About' option highlighted by a red box. The right screenshot shows the 'About' screen with the 'Device Software Version' field highlighted by a red box.

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Claim 16	Accused Instrumentality(ies)
	For example, Amazon also provides for whether a device uses WiFi and bluetooth protocols.¹¹²  This claim element is literally present, as described herein, but is also satisfied under the doctrine of equivalents because the structure and functionality provided by Amazon is being used to satisfy this claim limitation and therefore there is no violation of this element, and the Accused Instrumentalities incorporate structure and functionality that is not substantially different from the requirements of this limitation

¹¹² See *KAIF10004364 (How To Connect an Alexa Device to WiFi)*, <https://www.hellotech.com/guide/for/how-to-connect-alexa-to-wifi>.

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Claim 16	Accused Instrumentality(ies)
	because they achieve substantially or exactly the same function, in substantially or exactly the same way as set forth in the claim element (as described herein), and achieves substantially or exactly the same result.

Claim 17 of the '518 Patent

Claim 17	Accused Instrumentality(ies)
The system of claim 1, wherein: the relation server saves information related to grouping the multiple machines.	In the Accused Instrumentalities, the relation server saves information related to grouping the multiple machines. For example, Amazon provides AWS IoT Device Management. ¹¹³

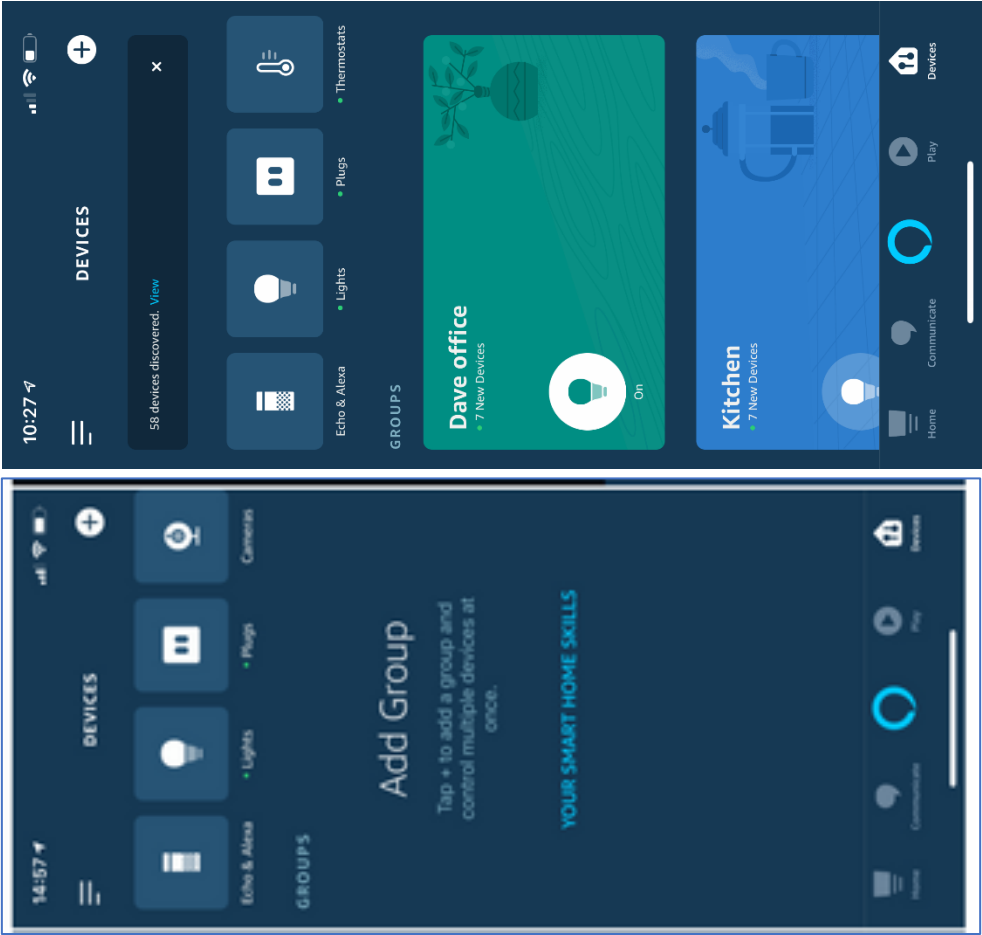
¹¹³ See KAIFI0001738 (AWS IoT Device Management, <https://aws.amazon.com/iot-device-management/features/>).

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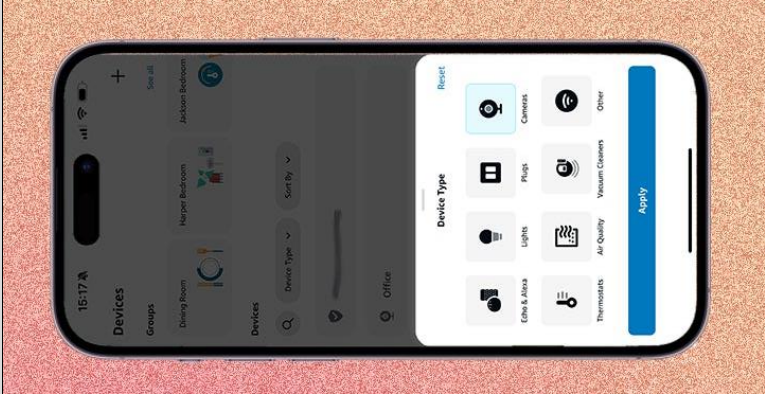
Claim 17	Accused Instrumentality(ies)
	AWS IoT Device Management helps you register, organize, monitor, and remotely manage IoT devices at scale. Integrate with AWS IoT Core to easily connect and manage devices in the cloud and with AWS IoT Device Defender to audit and monitor your fleet's security posture. Broad OverviewSecure TunnelingJobsFleet Hub AWS IoT Device Management AWS IoT Device Management makes it easy to securely register, organize, monitor, and remotely manage IoT devices at scale Register Register a large number of devices using bulk registration Organize Organize devices into groups, which can also be arranged into hierarchies Update Send a device job over-the-air (OTA), such as a firmware update Output End-to-end management of all your devices, including with a fully managed web application Bulk register, organize groups, update over the air, and easily monitor all of your IoT devices. For example, Amazon provides the ability to access groups stored on a relation server remotely via a device using the Alexa App.¹¹⁴

¹¹⁴ See KAIFI0001191(Amazon Echo: What are Alexa Smart Home Groups and how do I create them? (Feb. 14, 2020), <https://www.gearbrain.com/create-alexa-smart-home-groups-2529657553.html>); see KAIFI0004372 (How to set up and use Alexa smart home groups, <https://www.trustedreviews.com/how-to/set-up-alexa-smart-home-groups-3481484>); see KAIFI0004418 (How to use Ring Video Doorbell with Amazon Echo Alexa smart speakers and displays (Sept. 26, 2024), <https://www.the-ambient.com/how-to/how-to-use-ring-video-doorbell-with-alexa-1470/>).

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Claim 17	Accused Instrumentality(ies)
	

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Claim 17	Accused Instrumentality(ies)
	 This claim element is literally present, as described herein, but is also satisfied under the doctrine of equivalents because the structure and functionality provided by Amazon is being used to satisfy this claim limitation and therefore there is no violation of this element, and the Accused Instrumentalities incorporate structure and functionality that is not substantially different from the requirements of this limitation because they achieve substantially or exactly the same function, in substantially or exactly the same way as set forth in the claim element (as described herein), and achieves substantially or exactly the same result.

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Claim 18 of the '518 Patent

Claim 18	Accused Instrumentality(ies)
The system of claim 1, wherein: the relation server generates a capability set required to execute a user command, and generates the task processing schedule parameter according to the capability set, a status parameter of at least one machine of the multiple machines, and a capability parameter of the at least one machine.	In the Accused Instrumentalities, : the relation server generates a capability set required to execute a user command, and generates the task processing schedule parameter according to the capability set, a status parameter of at least one machine of the multiple machines, and a capability parameter of the at least one machine. For example, Amazon provides skill connections.¹¹⁵ Pre-Built Routine API Reference Note: Sign in to the developer console to build or publish your skill. To offer an Alexa skill use a pre-built routine, you use skill connections. Skill connections is an Alexa feature that enables a skill to call another skill or service to perform a specific task. In this case, Alexa provides the <code>AMAZON.OfferAutomation</code> managed task. Alexa interacts with the user to offer the routine, and then returns control to your skill. To offer a user a pre-built routine, you must add the following code to your skill: • Initiate the pre-built routine offer flow by sending a <code>Connections.StartConnection</code> directive for <code>AMAZON.OfferAutomation</code> from a request handler. • Implement a <code>SessionResumedRequestHandler</code> to accept a <code>SessionResumedRequest</code> with the <code>offerAutomationResponse</code>.

¹¹⁵ See KAIF10006966 (*Pre-Built Routine API Reference*, <https://developer.amazon.com/en-US/docs/alexa/custom-skills/pre-built-routine-api-reference.html>).

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Claim Chart for U.S. Patent No. 11,082,518

Claim 18	Accused Instrumentality(ies)
	According to Amazon, Skill connections enable an Alexa skill to use another skill to perform a specific task.¹¹⁶ Understand Skill Connections Note: Sign in to the developer console to build or publish your skill. Important: You must not share any protected health information (PHI) or personally identifiable information (PII) when you create a connection between skills. This restriction applies to any information, including information you send in the schema. Child-directed skills and HIPAA skills aren't eligible to use connections between skills. <i>Skill connections</i> enable an Alexa skill to use another skill to perform a specific task. A skill connection lets you offload common tasks to outside providers. For more information about tasks, see Understand Tasks. Skill connections improve the Alexa customer experience by allowing customers to move freely between skills without having to repeat information. For example, a customer who interacts with a recipe skill can say "print this" to print a recipe. The recipe skill can then use a skill connection to forward the request to a printing skill. According to Amazon, a requester uses a skill connection to request a task.¹¹⁷

¹¹⁶ See KAIF10007081 (*Understand Skill Connections*, <https://developer.amazon.com/en-US/docs/alexa/custom-skills/understand-skill-connections.html>).

¹¹⁷ See KAIF10007117 (*Use Skill Connections to Request Tasks*, <https://developer.amazon.com/en-US/docs/alexa/custom-skills/use-skill-connections-to-request-tasks.html>).

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Claim 18	Accused Instrumentality(ies)
	Requester skills and provider skills A <i>requester skill</i> uses a skill connection to request a task. The task can be handled by Alexa or by a provider skill. Ultimately the task is performed by a skill that is selected by Alexa or by the requester. A <i>provider skill</i> can implement one or more custom tasks, or it can implement predefined tasks created by Amazon. In the preceding example, the recipe skill is the requester skill, and the printing skill is the provider skill. A skill can be both a requester and a provider. However, a skill can't request a task from itself. According to Amazon, Alexa uses status code.¹¹⁸

¹¹⁸ See KAIFI0007117 (*Use Skill Connections to Request Tasks*, <https://developer.amazon.com/en-US/docs/alexa/custom-skills/use-skill-connections-to-request-tasks.html>).

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Claim 18	Accused Instrumentality(ies)
	For managed skill connection Alexa can return any of the following status codes on a task request call. The provider skill that is fulfilling the task request can return any valid HTTP code. • status : Status of the request • code : status code • 200 : Request was successfully fulfilled • 204 : User denied to use the Connection • 227 : Provider was not account linked • 400 : Bad request - request was invalid • 403 : Requester was not allowed to invoke provider • 404 : No providers available at this time • 500 : Server error • message : Plain string message that describes the outcome of the request. For example, this message might be "Ride has been booked successfully." For direct skill connection The requester skill will only receive the following status codes. The provider skill that is fulfilling the task request can only return one of the following status code. • status : Status of the request • code : status code • 200 : Request was successfully fulfilled • 400 : Bad request - request was invalid • 403 : Requester was not allowed to invoke provider • 404 : No providers available at this time • 500 : Server error • message : Plain string message that describes the outcome of the request. For example, this message might be "Ride has been booked successfully."

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Claim 19 of the '518 Patent

Claim 19	Accused Instrumentality(ies)
The system of claim 1, wherein: the intervention includes selecting some processes of the multiple processes.	In the Accused Instrumentalities, the intervention includes selecting some processes of the multiple processes. For example, Amazon can select some processes of the multiple processes by Ⓣ button of 1 process (Bedroom: Turn On, 100%), and can approve by pushing “Save” button.¹¹⁹ 

¹¹⁹ See KAIF10007392 (6 Best Alexa Routines Right Now & Easy Set-Up Guide (Updated For New Features!)) (Jun. 5, 2020), <https://voicebrew.com/alexa-day-30/alexa-routine#schedule>).

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Claim 19	Accused Instrumentality(ies)
	For example, Amazon “Hunches” automatically “select[] some processes of the multiple processes.”¹²⁰ With Hunches, Alexa alerts you by voice or mobile push notification when a connected smart home device isn’t in its usual state. For example, if one of your smart lights is on when you say “Good night,” Alexa alerts you and offers to turn it off. Alexa can have hunches about a variety of supported smart home device, including lights, thermostats, doors, switches and more. Hunches are enabled by default. You can also turn on automatic actions, so Alexa can proactively act on hunches and automatically address the issue for you. To turn off Hunches, use the Alexa app. You can manage your smart home device status and usage history at any time. To learn more, go to Alexa Privacy Settings. For example, Amazon’s “Featured Routines” are also configured to “select[] some processes of the multiple processes.” For example, Amazon provides “Featured Routines” in the Alexa App such as “Morning Shine,” “Appliance Check,” and “Sunset Lights.”¹²¹

¹²⁰ See KAIF10007142 (*What Are Alexa Hunches?*, <https://www.amazon.com/gp/help/customer/display.html?nodeId=G7F5F7K93GKSLC4F>).

¹²¹ See KAIF10001094 (*Alexa Routines can organize your day, complete tasks, and make your daily routine more fun, all without you saying a word*, <https://www.aboutamazon.com/news/devices/popular-alexa-routines>).

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Claim 19	Accused Instrumentality(ies)
	Morning  • <u>Morning Shine</u>: Alexa will turn on lights, provide the weather, and play a song when you dismiss an alarm. • <u>Good Morning</u>: Alexa will wish you a good morning, play news from your Flash Briefing, and more when you say, "Good morning." • <u>Morning Music</u>: Kick-start your day with morning tunes at a time of your choice. • <u>NPR Morning Radio</u>: Alexa will start your morning with your local NPR station at a time of your choice.

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Claim 19	Accused Instrumentality(ies)
	Home Monitoring  • Calm My Dog: Alexa can help calm your pup by playing soothing music when dog barking is detected for one minute. • Appliance Check: Alexa will send you a push notification and announcement to check on your appliance when beeping is detected for two minutes.

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Claim 19	Accused Instrumentality(ies)
	Evening  • <u>Sunset Lights</u>: Alexa will turn on your lights when the sun goes down. • <u>Time for Bed</u>: Alexa can turn on a night light, play sleep sounds, and more when you say, "It's bedtime." To explore more ways Alexa Routines can help automate your day, open the Alexa app > More > Routines > Gallery. This claim element is literally present, as described herein, but is also satisfied under the doctrine of equivalents because the structure and functionality provided by Amazon is being used to satisfy this claim limitation and therefore there is no violation of this element, and the Accused Instrumentalities incorporate structure and functionality that is not substantially different from the requirements of this limitation because they achieve substantially or exactly the same function, in substantially or exactly the same way as set forth in the claim element (as described herein), and achieves substantially or exactly the same result.

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Claim 20 of the '518 Patent

Claim 20	Accused Instrumentality(ies)
The system of claim 1, wherein: the intervention includes approving the multiple processes.	In the Accused Instrumentalities, the intervention includes approving the multiple processes. For example, Amazon can approve by pushing “Save” button.¹²² 

¹²² See KAIF10007392 (6 Best Alexa Routines Right Now & Easy Set-Up Guide (Updated For New Features!)) (Jun. 5, 2020), <https://voicebrew.com/alexa-day-30/alexa-routine#schedule>).

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Claim 20	Accused Instrumentality(ies)
	For example, Amazon “Hunches” practice the limitation “the intervention includes approving the multiple processes.”¹²³ With Hunches, Alexa alerts you by voice or mobile push notification when a connected smart home device isn’t in its usual state. For example, if one of your smart lights is on when you say “Good night,” Alexa alerts you and offers to turn it off. Alexa can have hunches about a variety of supported smart home device, including lights, thermostats, doors, switches and more. Hunches are enabled by default. You can also turn on automatic actions, so Alexa can proactively act on hunches and automatically address the issue for you. To turn off Hunches, use the Alexa app. You can manage your smart home device status and usage history at any time. To learn more, go to Alexa Privacy Settings. For example, Amazon’s “Featured Routines” also practice the limitation “the intervention includes approving the multiple processes.” For example, Amazon provides “Featured Routines” in the Alexa App such as “Morning Shine,” “Appliance Check,” and “Sunset Lights.”¹²⁴

¹²³ See KAIF10007142 (*What Are Alexa Hunches?*, <https://www.amazon.com/gp/help/customer/display.html?nodeId=G7F5F7K93GKSLC4F>).

¹²⁴ See KAIF10001094 (*Alexa Routines can organize your day, complete tasks, and make your daily routine more fun, all without you saying a word*, <https://www.aboutamazon.com/news/devices/popular-alexa-routines>).

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 20	Accused Instrumentality(ies)
	Morning  • <u>Morning Shine</u>: Alexa will turn on lights, provide the weather, and play a song when you dismiss an alarm. • <u>Good Morning</u>: Alexa will wish you a good morning, play news from your Flash Briefing, and more when you say, "Good morning." • <u>Morning Music</u>: Kick-start your day with morning tunes at a time of your choice. • <u>NPR Morning Radio</u>: Alexa will start your morning with your local NPR station at a time of your choice.

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 20	Accused Instrumentality(ies)
	Home Monitoring  • Calm My Dog: Alexa can help calm your pup by playing soothing music when dog barking is detected for one minute. • Appliance Check: Alexa will send you a push notification and announcement to check on your appliance when beeping is detected for two minutes.

Appendix D
Claim Chart for U.S. Patent No. 11,082,518

Claim 20	Accused Instrumentality(ies)
	Evening  • <u>Sunset Lights</u>: Alexa will turn on your lights when the sun goes down. • <u>Time for Bed</u>: Alexa can turn on a night light, play sleep sounds, and more when you say, "It's bedtime." To explore more ways Alexa Routines can help automate your day, open the Alexa app > More > Routines > Gallery. This claim element is literally present, as described herein, but is also satisfied under the doctrine of equivalents because the structure and functionality provided by Amazon is being used to satisfy this claim limitation and therefore there is no violation of this element, and the Accused Instrumentalities incorporate structure and functionality that is not substantially different from the requirements of this limitation because they achieve substantially or exactly the same function, in substantially or exactly the same way as set forth in the claim element (as described herein), and achieves substantially or exactly the same result.