UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

DIALECT, LLC, *Plaintiff*, v. MICROSOFT CORPORATION., *Defendant*.	Civil Action No. **JURY TRIAL DEMANDED**

COMPLAINT FOR PATENT INFRINGEMENT AND DAMAGES
AND DEMAND FOR JURY TRIAL

Plaintiff Dialect, LLC ("Dialect" or "Plaintiff") files this Complaint for Patent Infringement and Damages against Microsoft Corporation ("Microsoft" or "Defendant") and alleges as follows:

INTRODUCTION

1. The novel inventions disclosed in U.S. Patent Nos. 9,734,825 (the "'825 Patent"); 7,398,209 (the "'209 Patent"); 8,195,468 (the "'468 Patent"); 9,626,959 (the "'959 Patent"); 7,634,409 (the "'409 Patent"); 8,015,006 (the "'006 Patent"); 7,809,570 (the "'570 Patent"); 7,917,367 (the "'367 Patent"); 8,620,659 (the "'659 Patent") (collectively, the "Asserted Patents") in this case were invented by VoiceBox Technologies ("VoiceBox"). VoiceBox was a key pioneer in the fields of voice recognition technology and natural language understanding ("NLU") technology. These technologies power a wide variety of applications and platforms used in smart phones, tablets, TVs, Internet of Things ("IoT") devices, and vehicle multimedia and navigation

systems. VoiceBox spent more than a decade developing and building key early NLU inventions, producing one of the most valuable patent portfolios in the industry, according to the Institute of Electrical and Electronics Engineers ("IEEE") in 2013. The Asserted Patents in this case are the result of this substantial investment and research.

2. Over the years, the inventions claimed in the Asserted Patents have been licensed to key companies in the industry.

3. The Asserted Patents, along with other former VoiceBox patents now owned by Dialect, are presently the subject of infringement lawsuits filed by Dialect against Bank of America, N.A. (pending in this District, asserting the '468 patent, among others). Dialect also previously asserted the '825 and '468 patents in this District against Samsung Electronics Co., Ltd., *et al*.; the lawsuit dismissed before Samsung filed a responsive pleading.[1]

THE PARTIES

4. Plaintiff is the current owner and assignee of the Asserted Patents.

5. Plaintiff is a Texas limited liability company with its principal place of business located at 133 E. Tyler St., Longview, TX 75601-7216.

6. Defendant Microsoft is a Delaware corporation with a principal place of business at One Microsoft Way, Redmond, WA 98052. Microsoft has been registered to do business in the State of Texas since March 13, 1995, and may be served with process via its registered agent: Corporation Service Company d/b/a CSC - Lawyers Incorporating Service Company, 211 E. 7th Street, Suite 620, Austin, TX 78701.

[1] *See* Redacted Public Order Dismissing All Claims, ECF No. 18-1, *Dialect, LLC v. Samsung Elecs. Co., Ltd.*, No. 2:23-cv-00061-JRG (E.D. Tex. Aug. 30, 2023).

7. On information and belief, Defendant directly and/or indirectly develops, designs, manufactures, uses, distributes, markets, and offers infringing products and/or services, including Defendant's Cortana virtual assistant, Copilot virtual assistant, Azure AI services, and Azure OpenAI Services (the "Accused Products") in the United States and within the Eastern District of Texas, and otherwise directs infringing activities to this District in connection with its products and/or services as set forth in this Complaint.

JURISDICTION AND VENUE

8. This civil action arises under the patent laws of the United States, 35 U.S.C. § 1 *et seq.*, including without limitation 35 U.S.C. §§ 271, 281, 283, 284, and 285. Accordingly, this Court has subject matter jurisdiction under, *inter alia*, 28 U.S.C. §§ 1331 and 1338(a).

9. This District has general and specific personal jurisdiction over Defendant because Defendant has committed acts, directly or through intermediaries, in this District, giving rise to this action; is present in and transacts and conducts business in this District and the State of Texas; and transacts and conducts business with residents of this District and the State of Texas.

10. Plaintiff's causes of action arise, at least in part, from Defendant's contacts with and activities in this District and the State of Texas.

11. Defendant has infringed the Asserted Patents within this District and the State of Texas by making, using, distributing, marketing, offering, and/or importing in or into this District and elsewhere in the State of Texas, products and/or services that infringe the Asserted Patents, including the Accused Products. Defendant, directly and through intermediaries, makes, uses, offers, imports, distributes, advertises, promotes, and/or otherwise commercializes such infringing products in or into this District and the State of Texas. Defendant regularly conducts and solicits

business in, engages in other persistent courses of conduct in, and/or derives substantial revenue from goods and services provided to residents of this District and the State of Texas.

12. This Court has personal jurisdiction over Defendants pursuant to TEX. CIV. PRAC. & REM. CODE § 17.041 *et seq*.

13. Personal jurisdiction exists over Defendant because Defendant has minimum contacts with this forum as a result of business regularly conducted within this District and the State of Texas, and, on information and belief, specifically as a result of, at least, committing the tort of patent infringement within this District and the State of Texas.

14. This Court also has personal jurisdiction over Defendant, in part, because Defendant does continuous and systematic business in this District, including by providing infringing products and services to the residents of this District that Defendant knew would be used within this District, and by soliciting business from the residents of this District.

15. This Court also has personal jurisdiction over Defendant because Defendant has made its products and services available for, at least, downloading and use within this District.

16. Accordingly, this Court's jurisdiction over the Defendant comports with the constitutional standards of fair play and substantial justice and arises directly from Defendant's purposeful minimum contacts with the State of Texas.

17. Venue is appropriate in this Court pursuant to 28 U.S.C. § 1400(b) because Microsoft has regular and established physical places of business in this District and has committed acts of patent infringement in the District.

18. For example, Defendant offers its products and services throughout Texas, including this District, by shipping, distributing, offering for sale, selling, and advertising its

products and services through its website, accessible within this District, and through its physical business locations within this District.

19. Among other things, Microsoft has seven corporate offices in the State of Texas, employing hundreds of persons. Microsoft represents that one of those offices is in Frisco, Texas, within this District.

Microsoft U.S. office locations

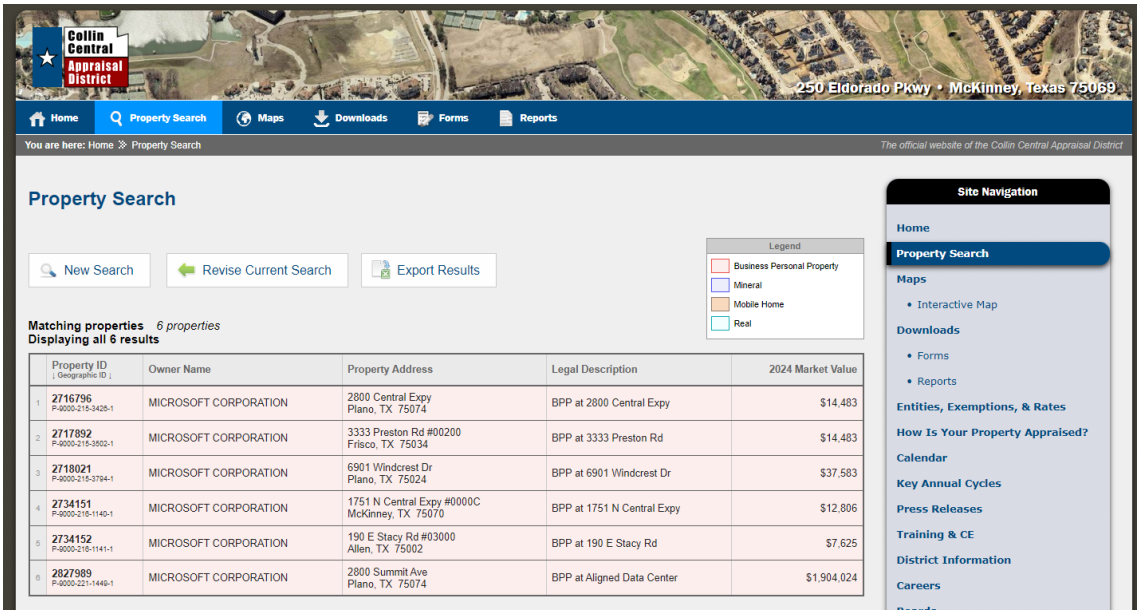
Microsoft reaches customers at sales offices, support centers and technology centers throughout the country. Use the clickable map or the location links for more information.

Texas

Austin
Houston
San Antonio
Dallas
Friendswood
Frisco
The Woodlands

Source: Microsoft, *Microsoft U.S. office locations*, https://www.microsoft.com/en-us/about/officelocator/all-offices (last accessed December 13, 2024).

20. In addition, Microsoft maintains millions of dollars of business personal property in Collin County, within this District:



	Property ID (Geographic ID)	Owner Name	Property Address	Legal Description	2024 Market Value
1	2716796 P-9000-215-3425-1	MICROSOFT CORPORATION	2800 Central Expy Plano, TX 75074	BPP at 2800 Central Expy	$14,483
2	2717892 P-9000-215-3502-1	MICROSOFT CORPORATION	3333 Preston Rd #00200 Frisco, TX 75034	BPP at 3333 Preston Rd	$14,483
3	2718021 P-9000-215-3794-1	MICROSOFT CORPORATION	6901 Windcrest Dr Plano, TX 75024	BPP at 6901 Windcrest Dr	$37,583
4	2734151 P-9000-216-1140-1	MICROSOFT CORPORATION	1751 N Central Expy #0000C McKinney, TX 75070	BPP at 1751 N Central Expy	$12,806
5	2734152 P-9000-216-1141-1	MICROSOFT CORPORATION	190 E Stacy Rd #03000 Allen, TX 75002	BPP at 190 E Stacy Rd	$7,625
6	2827989 P-9000-221-1449-1	MICROSOFT CORPORATION	2800 Summit Ave Plano, TX 75074	BPP at Aligned Data Center	$1,904,024

Source: Collin Central Appraisal District, *Property Search*, https://collincad.org/alt-property-search/ (last accessed December 13, 2024) (search results for "Microsoft").

21. Microsoft similarly maintains significant business personal property in Denton County, within this District:

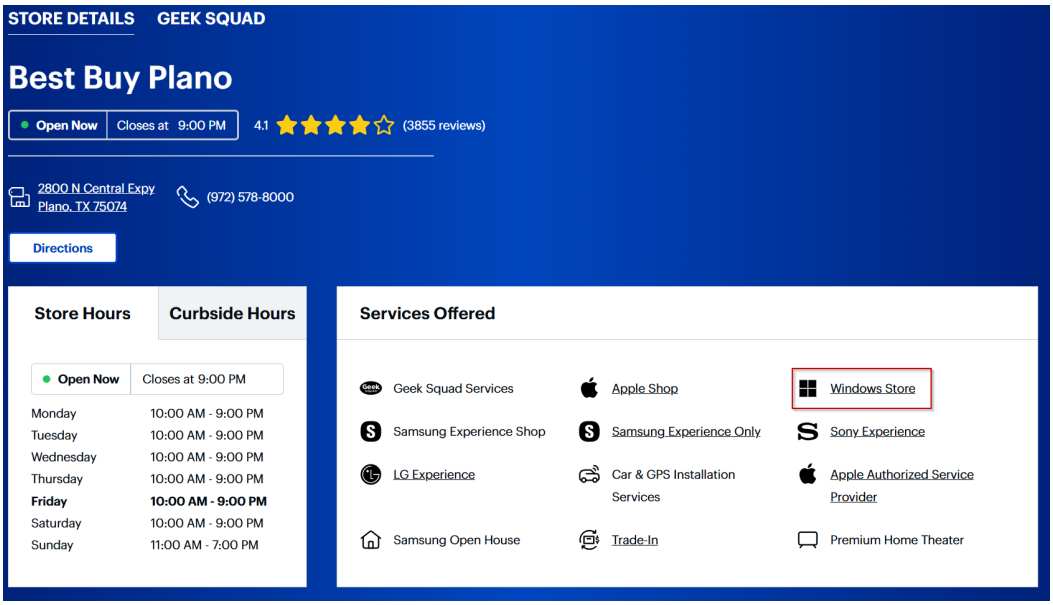
1 - 4 of 4 items

Property ID	Geo ID	Type	Owner Name	Owner ID	Address	Appraised
668435		Personal	MICROSOFT CORPORATION	905426	2601 S STEMMONS FWY LEWISVILLE, TX 75067	$12,179
668581		Personal	MICROSOFT CORPORATION	906416	1800 S LOOP 288 102 DENTON, TX 76205	$12,179
682720		Personal	MICROSOFT CORPORATION	926784	5299 ELDORADO PKWY FRISCO, TX	$6,920
685248		Personal	MICROSOFT CORPORATION	932431	6060 LONG PRAIRIE RD 500 FLOWER MOUND, TX	$6,920

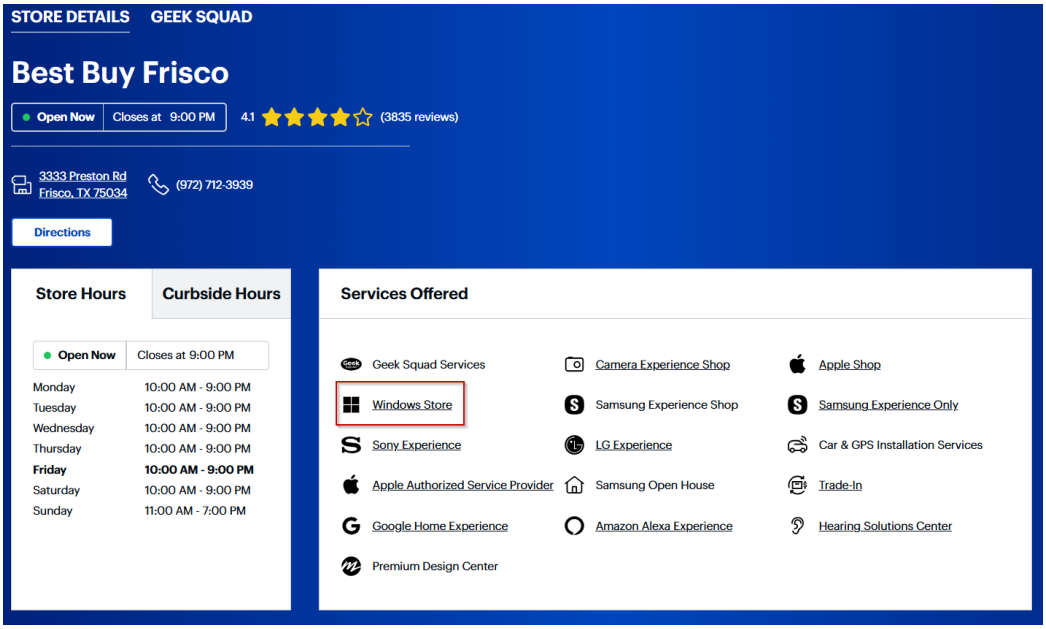
1 - 4 of 4 items

Source: Denton CAD, *Property Search*, https://www.dentoncad.com/property-search (last accessed December 13, 2024) (search results for "Microsoft").

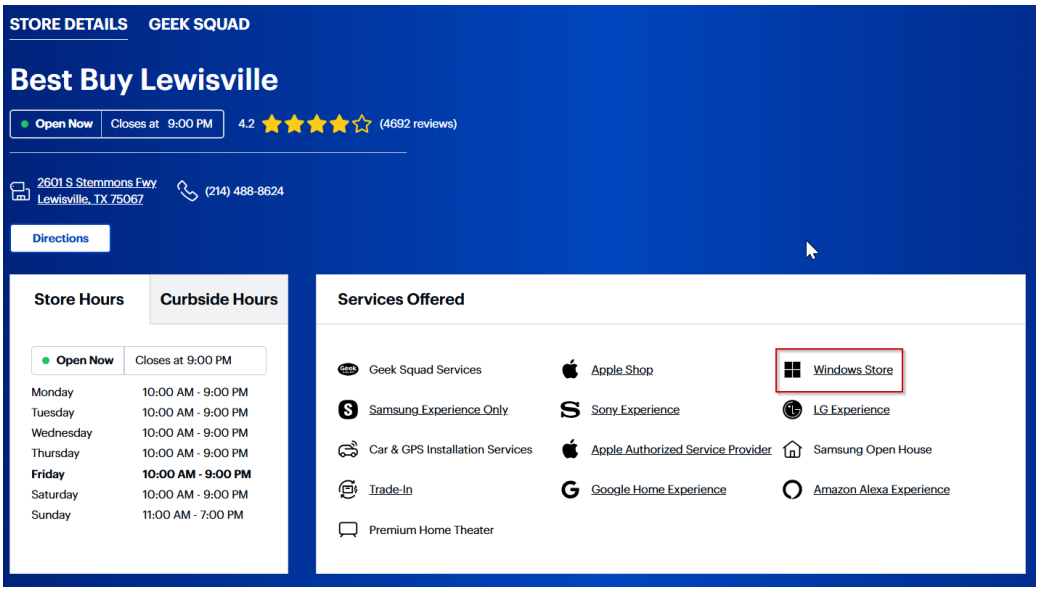
22. For example, Microsoft operates Microsoft Windows Stores within Best Buy retail locations located throughout this District. The following are three examples of such stores: 2800 N Central Expy, Plano, TX 75074; 3333 Preston Rd Suite 200, Frisco, TX 75034; and 2601 S Stemmons Fwy, Ste 300, Lewisville, TX 75067.



Source: Best Buy, *Locations*, https://stores.bestbuy.com/tx/plano/2800-n-central-expy-202.html (last accessed December 13, 2024) (showing "Windows Store" at Plano Best Buy).



Source: Best Buy, *Locations*, https://stores.bestbuy.com/tx/frisco/3333-preston-rd-180.html (last accessed December 13, 2024) (showing "Windows Store" at Frisco Best Buy).



Source: Best Buy, *Locations*, https://stores.bestbuy.com/tx/lewisville/2601-s-stemmons-fwy-258.html (last accessed December 13, 2024) (showing "Windows Store" at Lewisville Best Buy).

23. The Microsoft Windows Stores operated by Microsoft within Best Buy stores are regular and established places of business for Microsoft. Microsoft rents the space. They are, as Microsoft itself touts, Microsoft stores within Best Buy, or a "store-within-a-store." *See* Brandon LeBlanc, *Talking Retail: The New Windows Store Only at Best Buy* (June 13, 2023), https://blogs.windows.com/windowsexperience/2013/06/13/talking-retail-the-new-windows-store-only-at-best-buy/ ("Today, we announced a strategic partnership to create the Windows Store only at Best Buy, a comprehensive store-within-a-store in 500 Best Buy locations across the United States and more than 100 Best Buy and Future Shop locations in Canada. The stores within Best Buy will range in size from 1,500 square feet to 2,200 square feet and will be the premier destination for consumers to see, try, compare and purchase a range of products and accessories . . . "); Thomas Lee, *Best Buy bets big on store-within-store concepts*, The Minneapolis Star Tribune (July 14, 2013), https://www.startribune.com/best-buy-bets-big-on-store-within-store-concepts/215301161/ ("Microsoft and Samsung are essentially leasing their spaces from Best Buy . . . .").

24. Microsoft is responsible for and controls the day-to-day operations of such stores. Microsoft is responsible, *inter alia*, for its "own pricing and merchandise." Thomas Lee, *Best Buy bets big on store-within-store concepts*, The Minneapolis Star Tribune (July 14, 2013), https://www.startribune.com/best-buy-bets-big-on-store-within-store-concepts/215301161/. Microsoft employs Microsoft "Specialists" to "manage and support the training, merchandising, events, and operations of the Microsoft product ecosystem within Best Buy." Microsoft, *Careers*, https://jobs.careers.microsoft.com/global/en/job/1622416/Partner-Stores-Specialist (last accessed December 13, 2024). They "[m]aintain Microsoft merchandising standards in accordance with Microsoft brand guidelines." Microsoft, *Careers*,

https://jobs.careers.microsoft.com/us/en/job/1385093/ (last accessed December 13, 2024). Stated differently, they "[s]upport and manage the Microsoft business for up to 5 [Best Buy] stores; including aligning training and other store business needs." *Id.* Microsoft also employs "Partner Activations & Readiness Leads" who "support[] the in-store Windows Store Specialists." Microsoft, *Careers*, https://jobs.careers.microsoft.com/us/en/job/1417570/Partner-Activations-Readiness-Lead (last accessed December 13, 2024). These individuals "[d]eliver store design updates," "[e]nsure proper planning, prototype, shakedown, and training steps are taken to deliver near-flawless execution for large-scale transformations," and "[p]rovide operational support to field team with store list management, ordering, and replenishment of supplies, training sessions and mentorship." *Id.*

25. In addition to maintaining Microsoft Windows Stores within Best Buy retail locations, Microsoft has approximately $2 million of property at Aligned Data Center, at 2800 Summit Ave, Plano, TX 75074, within this District. On information and belief, Microsoft maintains data servers at this location.

Source: Google Street View of 2800 Summit Ave, Plano, TX 75074

26. As detailed in later sections, this case accuses the Microsoft Azure AI system of infringement. There is a Microsoft point of presence (POP)[2] location for the Azure network in Plano, Texas, within this District (likely at the data center discussed in the preceding paragraphs).

Expand table

Region	Cities
North America	Etobicoke, Canada (2) Montreal, Canada Vancouver, Canada (2) Querétaro, Mexico (2) Atlanta, GA, USA (3) Boydton, VA, USA (2) Chaska, MN, USA (2) Cheyenne, WY, USA (2) Chicago, IL, USA (4) Dallas, TX, USA (4) Des Moines,IA, USA (3) Detroit, MI, USA Englewood, CO, USA (2) Honolulu, HI, USA Houston, TX, USA (3) Jacksonville, FL, USA (2) Las Vegas, NV, USA (3) Los Angeles, CA, USA (2) Manassas, VA, USA (3) Memphis, TN, USA Miami, FL, USA (4) Minneapolis, MN, USA (2) Needham Heights, MA, USA (2) Nashville, TN, USA Newark, NJ, USA New York, NY, USA (2) Philadelphia, PA, USA Phoenix, AZ, USA Plano, TX, USA Portland, OR, USA Quincy, WA, USA (3) San Antonio, TX, USA (4) San Jose, CA, USA (4) Salt Lake City, UT, USA (3) Seattle, WA, USA (2) Secaucus, NJ, USA (2) Southfield, MI, USA

Source: Microsoft, *Azure Content Delivery Network Coverage by Metro*, https://learn.microsoft.com/en-us/azure/cdn/cdn-pop-locations (last accessed December 13, 2024) (emphasis added)

27. Microsoft, as shown below, also lists "Dallas" as one of the locations for an Azure public MEC site. Microsoft describes these site as follows: "Azure public multi-access edge

[2] POPs are part of content delivery networks—"a distributed network of servers that can efficiently deliver web content to users. A content delivery network store[s] cached content on edge servers in point of presence (POP) locations that are close to end users, to minimize latency." Microsoft, *What is a content delivery network on Azure?*, https://learn.microsoft.com/en-us/azure/cdn/cdn-overview, (last accessed December 13, 2024).

compute (MEC) sites are small-footprint extensions of Azure. They're placed in or near mobile operators' data centers in metro areas, and are designed to run workloads that require low latency while being attached to the mobile network . . . . Azure public MEC provides secure, reliable, high-bandwidth connectivity between applications that run close to the user while being served by the Microsoft global network." Microsoft, *What is Azure Public MEC?*, https://learn.microsoft.com/en-us/azure/public-multi-access-edge-compute-mec/overview (last accessed December 13, 2024).

Parent Azure regions

Every Azure public MEC site is associated with a parent Azure region. This region hosts all the control plane functions associated with the services running in the Azure public MEC. The following table lists active Azure public MEC sites, along with their Edge Zone ID and associated parent region:

Expand table

Telco provider	Azure public MEC name	Edge Zone ID	Parent region
AT&T	ATT Atlanta A	attatlanta1	East US 2
AT&T	ATT Dallas A	attdallas1	South Central US
AT&T	ATT Detroit A	attdetroit1	Central US

Source: Microsoft, *Key concepts for Azure public MEC*, https://learn.microsoft.com/en-us/previous-versions/azure/public-multi-access-edge-compute-mec/key-concepts (last accessed December 13, 2024).

28. Microsoft further has a 470,000 square foot Azure data center at 5150 Rogers Rd., San Antonio, TX.

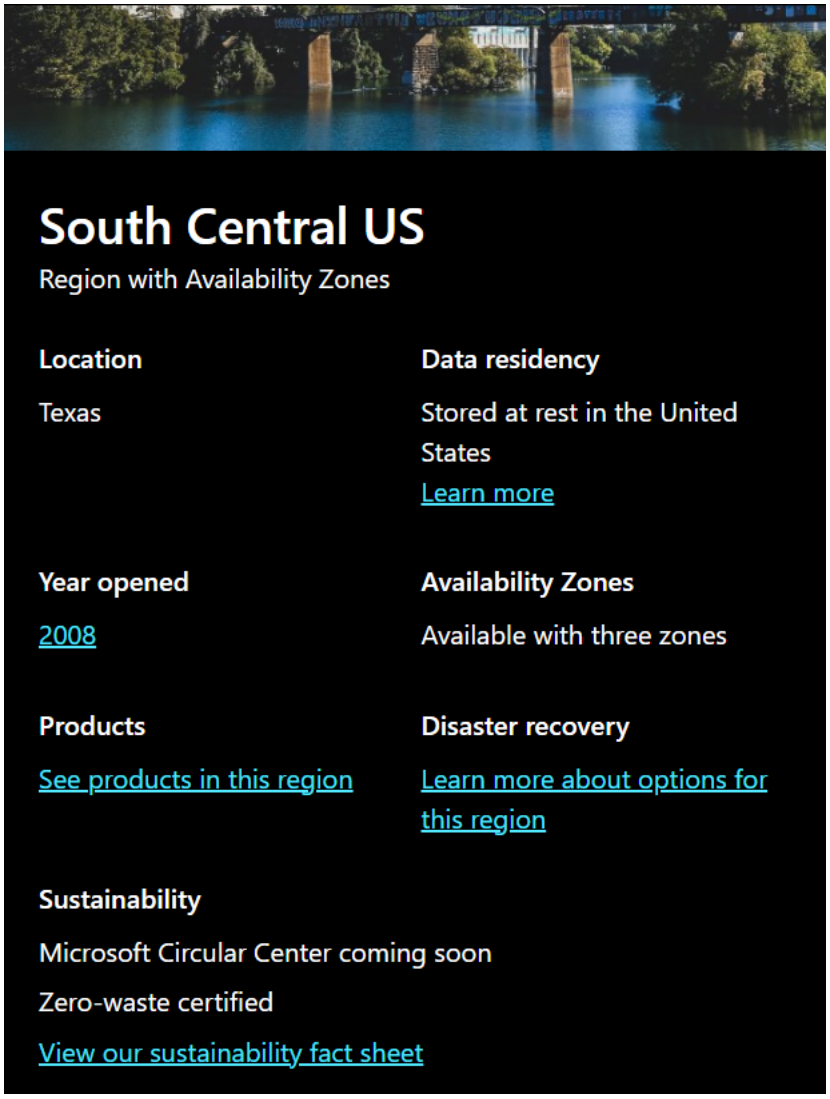
Home › All Data Centers › United States › Texas › South Central US-Texas

Microsoft Azure: South Central US-Texas

Microsoft Azure South Central US-Texas is located at 5150 Rogers Rd, San Antonio, TX, USA. The data center is 470000 sqft. The gross colocation space is not available for this data center. No power information has been offered for this location. We found 11 data center locations within 50 miles of this facility. Certifications for this location include HIPAA, ISO 22301, ISO 27001, ISO 9001, PCI DSS, SOC 1, SOC 2, SOC 3.

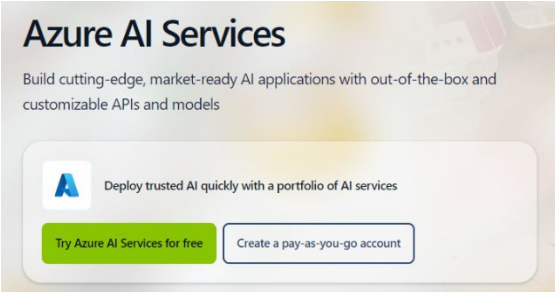
Source: DataCenters.com, *Microsoft Azure: South Central US-Texas* https://www.datacenters.com/microsoft-azure-south-central-us-texas (last accessed December 13, 2024).

29. Microsoft's "South Central US" Azure region is centered in Texas and has been since 2008.



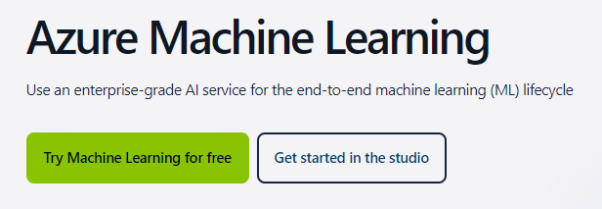
Source: Microsoft, *Microsoft Datacenters*, https://datacenters.microsoft.com/globe/explore?info=region_southcentralus (last accessed December 13, 2024).

30. Beyond purposefully locating infringing facilities hardware in the State of Texas and this District, Microsoft, directly and/or through subsidiaries and agents (including distributors, retailers, and others), makes, imports, ships, distributes, offers for sale, sells, uses, and advertises (including offering products and services through its websites) its Cortana, Copilot, Azure AI, and Azure OpenAI services and products in the United States, the State of Texas, and this District. For example, Microsoft, through its website, purposefully and knowingly offers and sells its Azure AI services—which run on and rely on its Azure AI system and infrastructure—to customers within this District:



Source: Microsoft, *Azure AI Services*, https://azure.microsoft.com/en-us/products/ai-services/ (last accessed on December 13, 2024 in Longview, Texas).

31. As another example, Microsoft, through its website, purposefully and knowingly sells and offers its Azure Machine Learning services—which also use the Microsoft Azure AI infrastructure—to customers within this District:

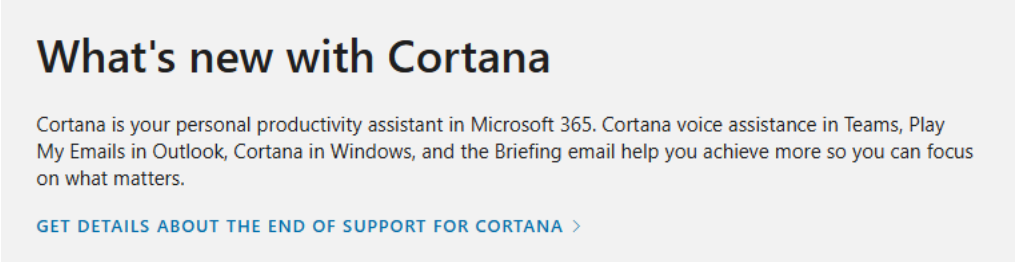


Source: Microsoft, *Azure Machine Learning*, https://azure.microsoft.com/en-us/products/machine-learning/ (last accessed on December 13, 2024 in Longview, Texas).

32. As another example, Microsoft, through its website, purposefully and knowingly offered and sold its Cortana personal assistant—to customers within this District:

Source: Microsoft, *Copilot*, https://www.microsoft.com/en-us/microsoft-copilot/personal-ai-assistant (last accessed on December 13, 2024 in Longview, Texas).

33. As another example, Microsoft, through its website, purposefully and knowingly offers and sells its Cortana personal assistant—to customers within this District:



Source: Microsoft, *Cortana help &* learning, https://support.microsoft.com/en-us/cortana (last accessed on December 13, 2024 in Longview, Texas).

34. At minimum, Microsoft, directly and/or through its subsidiaries and agents (including distributors, retailers, and others), has purposefully and voluntarily put its Cortana, Copilot, Azure AI, Azure OpenAI services and products into the stream of commerce with the expectation that they will be purchased and used by consumers in this District in an infringing manner. These infringing products and/or services have been and continue to be purchased and used by consumers in this District.

35. Finally, Microsoft last year announced a multi-billion-dollar deal with specialist cloud provider CoreWeave to use its datacenters for some of its Azure AI workloads. *See* Sebastian Moss, *CoreWeave plans $1.6bn AI cloud data center in Plano, Texas*, DCD (July 25, 2023) https://www.datacenterdynamics.com/en/news/coreweave-plans-16bn-ai-cloud-data-center-in-plano-texas/; Sebastian Moss, *Microsoft signs multi-billion dollar deal with GPU cloud provider CoreWeave to meet AI needs*, DCD (June 2, 2023) https://www.datacenterdynamics.com/en/news/microsoft-signs-multi-billion-dollar-deal-with-gpu-cloud-provider-coreweave-to-meet-ai-needs/. One of those datacenters is a $1.6 billion datacenter in Plano, within this District. *See* Sebastian Moss, *CoreWeave plans $1.6bn AI cloud data center in Plano, Texas*, DCD (July 25, 2023) https://www.datacenterdynamics.com/en/news/coreweave-plans-16bn-ai-cloud-data-center-in-plano-texas/. Microsoft also recently announced a $1.5 billion investment in the Condor Galaxy 3 AI supercomputer being built in Dallas, Texas, by the Abu Dhabi, United Arab Emirates-based technology holding group G42.

BACKGROUND

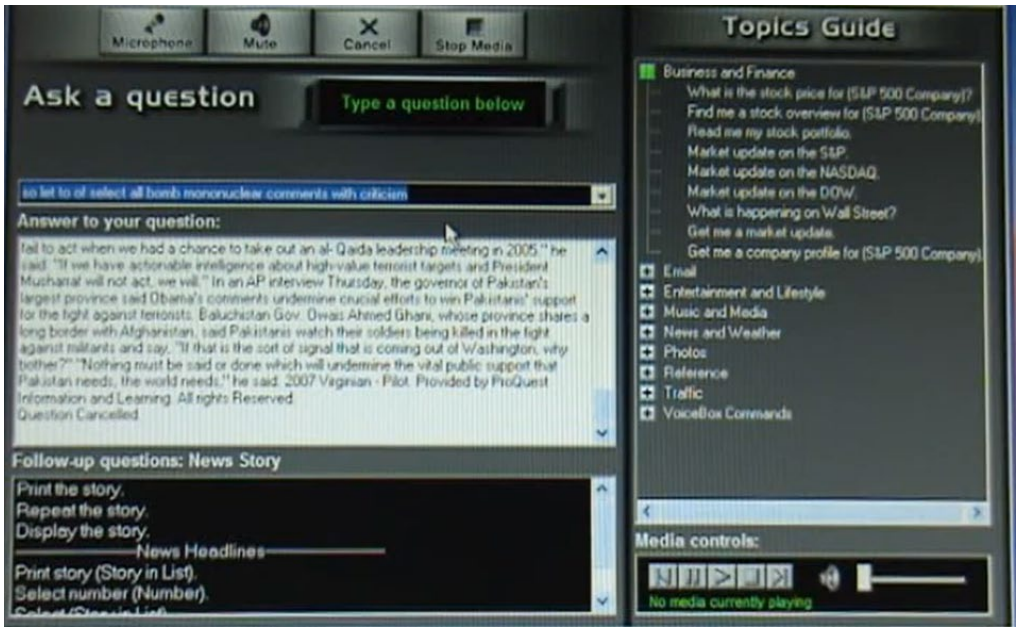
36. In 2001, three brothers, Mike, Rich, and Bob Kennewick, founded VoiceBox to bring NLU to a wide array of computer applications. They recognized that the typical computer

speech-recognition systems forced human operators to adhere to a limited number of rigid speech prompts, typically through verbal menus of a so-called "Command and Control" system. These rigid prompts limited how systems were used and inhibited the widespread adoption of speech-recognition systems. The brothers believed that VoiceBox could become the first company to improve voice recognition systems to enable people to interact with computer speech systems naturally and effectively.

37. From its inception, VoiceBox engaged in intense research efforts to develop its NLU technology. As part of these efforts, VoiceBox Technologies achieved a significant milestone when it developed an early prototype called "Cybermind." As demonstrated on Seattle-area television news,[3] Cybermind was a voice-controlled speaker that could provide weather, recipes, sports scores, calendar updates, or play a song.

38. In addition, Cybermind enabled multi-modal user interactions. For example, Cybermind technology was used in desktop applications that could understand and respond to speech user input as well as non-speech user input.

[3] https://www.youtube.com/watch?v=DDcRyPnvWhw



39. On information and belief, consumer focus groups being introduced to VoiceBox conversational voice technology described it as "cool," "unbelievable," "so fast," "it makes you feel like you're in the future already," and "I feel like I'm in the Jetsons."[4]

40. Throughout its research and development efforts, VoiceBox realized that its technology could be deployed in a wide range of applications from connected home to mobile personal assistants.

41. VoiceBox's groundbreaking work did not go unrecognized. By January 2012, VoiceBox had become a leader in NLU and conversational voice technology. Leading companies throughout the world, including Samsung, Toyota, Lexus, TomTom, Pioneer, Chrysler, Dodge, and Magellan used VoiceBox's award-winning and patented natural language understanding technology. VoiceBox had software applications that ran on smart speakers, in-car systems, smartphones, smart TVs, computers, tablets, e-readers, and personal navigation devices. As noted above, in November 2023, a Delaware jury determined that Amazon's "*Alexa*" platform,

[4] https://www.youtube.com/watch?v=WCOGNnH-Bws

accessible through over 500 million devices throughout the world, including Amazon's *Echo* devices and the *Alexa* application for iOS and Android, also utilized VoiceBox's patented technology.

42. In 2013, the Institute of Electrical and Electronics Engineers ("IEEE") ranked VoiceBox number 13 in patent power for the computer software industry, ranking between SAP AG and Sony Computer Entertainment Inc.

IEEE Patent Power Rankings

Computer Software

Rank	Company / Organization	Country of Headquarters	2012 U.S. Patents	Pipeline Growth Index	Pipeline Impact	Self-Citations (%)	Adjusted Pipeline Impact	Pipeline Generality	Pipeline Originality	Pipeline Power
1	Microsoft Corp.	United States	2665	1.14	1.07	0.22	1.07	1.19	1.01	3909.67
2	VMware Inc.	United States	106	1.89	3.07	0.16	3.07	3.02	1.06	1966.63
3	Citrix Systems Inc.	United States	112	1.56	2.83	0.27	2.83	2.62	1.12	1441.86
4	Symantec Corp.	United States	379	1.34	1.54	0.16	1.54	1.63	1.01	1297.47
5	Digimarc Corp.	United States	94	0.9	5	0.88	2.08	4.8	1.12	944.96
6	Oracle Corp.	United States	913	0.92	1	0.12	1	1.13	0.98	930.36
7	CommVault Systems Inc.	United States	52	1.3	5	0.88	2.1	5	1.22	866.39
8	Cadence Design Systems Inc.	United States	158	1.15	2.45	0.15	2.45	1.76	0.89	699.87
9	Adobe Systems Inc.	United States	332	1.13	1.14	0.18	1.14	1.24	1	526.88
10	Rovi Corp.	United States	97	1.47	1.85	0.25	1.85	1.91	1.02	514.34
11	TeleCommunication Systems Inc.	United States	57	1.36	2.35	0.42	2.06	2.52	1.12	451.72
12	SAP AG	Germany	601	1.1	0.74	0.23	0.74	0.85	1.02	424.91
13	**Voicebox Technologies Inc.**	**United States**	**11**	**1.83**	**5**	**0.65**	**3.26**	**5**	**1.29**	**423.56**
14	Sony Computer Entertainment Inc.	Japan	220	1.33	1.1	0.36	1.03	1.26	1.08	409.7
15	Bally Technologies Inc.	United States	98	1.78	1.46	0.38	1.35	1.83	0.9	388.27
16	Smith Micro Software Inc.	United States	18	3	2.8	0.17	2.8	2.41	0.97	353.44
17	McAfee Inc.	United States	84	1.33	2.02	0.39	1.85	1.61	1.04	347.02
18	Nuance Communications Inc.	United States	160	1.15	1.19	0.3	1.19	1.56	1.02	345.99
19	Synopsys Inc.	United States	148	0.95	1.61	0.08	1.61	1.17	1.06	280.46
20	Infosys Ltd.	India	29	1.93	2.52	0.04	2.52	1.75	1.02	253.69

Source: IEEE Spectrum Patent Power 2013

43. After learning about VoiceBox's technology, Toyota hired VoiceBox to build a sophisticated NLU speech interface for its Lexus automobiles. VoiceBox built the voice and NLU capability for Toyota's award-winning Entune multimedia system[5].

[5] PRLOG Press Release Distribution, *Atlantic Toyota and Huntington Toyota Customers: Entune Wins Two Awards at CES in Las Vegas* (Jan. 31, 2011) https://www.prlog.org/11264790-atlantic-toyota-and-huntington-toyota-customers-entune-wins-two-awards-at-ces-in-las-

44. Some of the most well-known technology companies and automotive companies in the world have paid, in the aggregate, hundreds of millions of dollars for access to VoiceBox's patented technology, through licensing of VoiceBox patents, including the Asserted Patents, and through adoption and deployment of VoiceBox's software platform and functionality in their products and services.

THE ASSERTED PATENTS

45. The VoiceBox inventions claimed in the Asserted Patents relate to groundbreaking improvements to voice recognition and NLU and have particular application in Microsoft's Accused Products, including the Cortana virtual assistant, Copilot virtual assistant, and Azure AI and Azure OpenAI services.

U.S. PATENT NO. 9,734,825

46. On August 15, 2017, the U.S. Patent Office duly and legally issued the '825 Patent, entitled "Methods and Apparatus for Determining a Domain Based on the Content and Context of a Natural Language Utterance." A true and correct copy of the '825 Patent is attached hereto as Exhibit 1.

47. Dialect is the owner and assignee of all right, title, and interest in and to the '825 Patent, including the right to assert all causes of action arising under the '825 Patent and the right to sue and obtain any remedies for past, present, or future infringement.

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vegas.html; BusinessWire, *VoiceBox and Toyota Form Strategic Relationship to Deliver In-car Voice Technology Innovations* (Jan. 9, 2012) https://www.businesswire.com/news/home/20120109006490/en/VoiceBox-and-Toyota-Form-Strategic-Relationship-to-Deliver-In-car-Voice-Technology-Innovations#:~:text=LAS%20VEGAS%2D%2D(BUSINESS%20WIRE,car%20voice%20products%20and%20capabilities.

48. The ’825 Patent describes, among other things, novel and inventive methods for receiving user generated natural language utterances. ’825 Patent, Abstract. The methods enable obtaining information from a wide range of disciplines and presenting the information in a natural manner, even when the questions asked are incomplete, ambiguous, or subjective. *Id.* at 1:32-40.

49. The novel inventions of the ’825 Patent are recited in the claims. For example, claim 5 of the ’825 Patent recites:

> 5. A method for responding to a user generated natural language speech utterance, the method comprising:
>
> recognizing, by a speech recognition engine, one or more words in the user generated natural language speech utterance;
>
> receiving, at a parser, keyword and associated prior probabilities or fuzzy possibilities from a system agent or an active domain agent of a plurality of autonomous executable domain agents;
>
> determining, for the natural language speech utterance, a score for each of at least two possible contexts, wherein the scores are determined based on the received keyword and associated prior probabilities or fuzzy possibilities;
>
> determining by the parser, a domain for the user generated natural language utterance based on the recognized one or more words of the natural language utterance and the determined scores for each of the at least two possible contexts;
>
> selecting at least one of the plurality of autonomous executable domain agents based, at least in part, on the determined domain, wherein each of the plurality of domain agents is configured to respond to queries and/or commands within a particular domain, wherein the particular domain indicates an area of expertise within which the domain agent is capable of responding to the queries and/or commands;
>
> providing at least one query and/or command based on the natural language utterance to the selected at least one of the plurality of domain agents;
>
> creating, by the selected at least one of the plurality of domain agents, one or more queries based on the at least one query and/or command;
>
> sending, by the selected at least one of the plurality of domain agents, the one or more queries in an asynchronous manner to one or more local or external information sources.

50. In explaining the reasons for allowability of the claims of the ’825 Patent, the United States Patent and Trademark Office described how the closest existing prior art did not

disclose or teach the claimed combination of inventive elements, noting that the closest prior art references do not disclose or reasonably suggest the claimed combination of inventive elements:

> [T]he prior art of record does not disclose or reasonably suggest a system and method responsive to a user generated natural language speech utterance, comprising a plurality of autonomous executable domain agents, each of which is configured to respond to queries and/or commands within a particular domain, wherein the particular domain indicates an area of expertise within which the domain agent is configured to respond to the queries and/or commands, a speech recognition engine configured to recognize one or more words in the user generated natural language speech utterance, and a parser configured to receive from a system agent or an active domain agent of the plurality of autonomous executable domain agents, keyword and associated prior probabilities or fuzzy probabilities, determine for the natural language speech utterance, a score for each of at least two possible contexts, wherein the scores are determined based on the received keyword and associated prior probabilities or fuzzy probabilities, determine a domain for the user generated natural language utterance based on the recognized one or more words of the natural language utterance and determined scores for each of the at least two possible contexts, select at least one of the plurality of domain agents based, at least in part, on the determined domain, and provide at least one query and/or command based on the natural language utterance to the selected at least one of the plurality of domain agents, wherein each of the selected at least one of the plurality of domain agents is configured to create one or more queries based on the at least one query and/or command and send the one or more queries in an asynchronous manner to one or more local or external information sources . . . .

'825 File History, Notice of Allowance and Fee(s) Due (April 12, 2017), Notice of Allowability at 2-3 (attached as Exhibit 2).

U.S. PATENT NO. 7,398,209

51. On July 8, 2008, the U.S. Patent and Trademark Office duly and legally issued the '209 Patent, entitled "Systems And Methods For Responding To Natural Language Speech Utterance." A true and correct copy of the '209 Patent is attached hereto as Exhibit 3.

52. Dialect is the owner and assignee of all right, title, and interest in and to the '209 Patent, including the right to assert all causes of action arising under the '209 Patent and the right to sue and obtain any remedies for past, present, or future infringement.

53. The ’209 Patent describes, among other things, novel systems and methods for receiving natural language queries and/or commands. ’209 Patent, Abstract. The claimed invention makes significant use of context, prior information, domain knowledge, and user specific profile data to achieve a natural environment for one or more users. *Id*. As the ’209 Patent explains, prior to its inventions, a machine’s ability to communicate with humans in a natural manner was a difficult technical problem in need of a technical solution. As described in the specification, in the prior art “human questions and machine processing of queries may be fundamentally incompatible,” because “a person asking a question or giving a command typically relies heavily on context and the domain knowledge of the person answering,” whereas “machine-based queries” are “highly structured and are not inherently natural to the human user.” *Id.* at 1:27–35. The inventions described and claimed in the ’209 Patent overcome these challenges in various embodiments, for example by providing a system that uses domain agents to organize domain specific behavior and information. *Id.* at 2:48–59. The inventions in various embodiments further include a system capable of parsing and interpreting the natural language query to “determine the domain of expertise required and context, invoking the proper resources, including agents.” *Id.* at 3:53–54.

54. The novel features of the invention are recited in the claims. For example, Claim 1 of the ’209 Patent recites:

> 1. A method responsive to a user generated natural language speech utterance, comprising:
>
> receiving the user generated natural language speech utterance, the received user utterance containing at least one request;
>
> maintaining a dynamic set of prior probabilities or fuzzy possibilities usable at each stage of processing the received user utterance;
>
> recognizing words and phrases contained in the received utterance using information in one or more dictionary and phrase tables;

parsing the recognized words and phrases to determine a meaning of the utterance, wherein determining the meaning includes determining a context for the at least one request contained in the utterance based on one or more keywords contained in the recognized words and phrases;

selecting at least one domain agent based on the determined meaning, the selected domain agent being an autonomous executable that receives, processes, and responds to requests associated with the determined context;

formulating the at least one request contained in the utterance in accordance with a grammar used by the selected domain agent to process requests associated with the determined context;

invoking the selected domain agent to process the formulated request; and

presenting results of the processed request to the user, the presented results generated as a result of the invoked domain agent processing the formulated request.

'209 Patent at Claim 1.

55. Figure 6 of the '209 Patent, reproduced below, shows a block diagram of a process for determining the proper domain agents to invoke and properly formatting queries for the agents according to one embodiment of the invention.

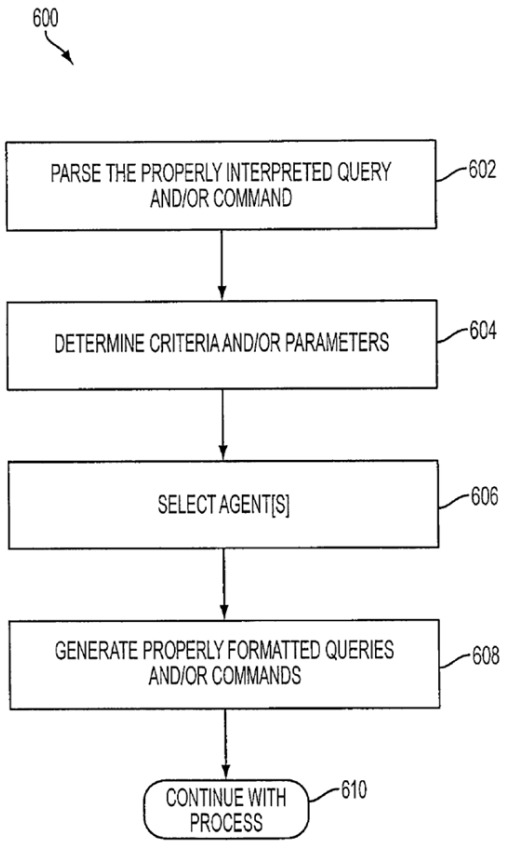


FIG. 6

'209 Patent, Fig. 6.

56. In explaining the reasons for allowing the claims, the United States Patent and Trademark Office described how the closest existing prior art did not disclose or teach the claimed combination of inventive elements.

> [T]he prior art of record does not disclose or reasonably suggest recognizing words using information from phrase tables in combination with the limitations of parsing to determine a meaning based on keywords, selecting a domain agent, and formulating a request in accordance with a grammar used by a selected domain agent . . . . *Halverson et al.* omits a grammar used by a domain agent associated with the determined context and one or more dictionary and phrase tables. *Kuhn et al.* teaches a natural language parser that returns a probability score for retrieved information in response to a user request, and predefined grammars that are constructed based on goal-oriented tasks, but omits recognizing words based on a dictionary and phrase tables. While it is known to recognize words based on a vocabulary defined by a dictionary for speech recognition, the prior art of record does not disclose or reasonably suggest additionally utilizing phrase tables for speech recognition.

’209 File History, Notice of Allowance and Fee(s) Due (May 21, 2008), Notice of Allowability at 2 (attached as Exhibit 4).

57. In April 2024, Google filed a petition for *inter partes* review of the ’209 Patent. In October 2024, the Patent Trial and Appeal Board denied institution of *inter partes* review of the ’209 Patent.

U.S. PATENT NO. 8,195,468

58. On June 5, 2012, the U.S. Patent Office duly and legally issued the ’468 Patent, entitled “Mobile Systems And Methods Of Supporting Natural Language Human-Machine Interactions”. A true and correct copy of the ’468 Patent is attached hereto as Exhibit 5.

59. Dialect is the owner and assignee of all right, title, and interest in and to the ’468 Patent, including the right to assert all causes of action arising under the ’468 Patent and the right to sue and obtain any remedies for past, present, or future infringement.

60. As the ’468 Patent explains, a machine’s ability to communicate with humans in a natural manner was a difficult technical problem. The inventors of the ’468 Patent conceived novel software techniques and structures to solve the technical problem.

61. For example, claim 19 recites a novel method of processing a combination of speech and non-speech inputs that receives multimodal natural language input from a user including a natural language utterance and a non-speech input, identifies the user, creates and merges transcripts of the inputs using a speech recognition engine and a semantic knowledge-based model that includes personalized and general models derived from prior interactions with the identified user and multiple users, and an environmental model derived from the identified user’s environment. The method identifies entries in a context stack matching information in the

merged transcription, and determines the most likely context from the matched entries. It then identifies a domain agent associated with the most likely context, communicates a request to the domain agent and generates a response to the user from content provided by the domain agent:

> 19. A method for processing multi-modal natural language inputs, comprising:
>
> receiving a multi-modal natural language input at a conversational voice user interface, the multi-modal input including a natural language utterance and a non-speech input provided by a user, wherein a transcription module coupled to the conversational voice user interface transcribes the non-speech input to create a non-speech-based transcription;
>
> identifying the user that provided the multi-modal input;
>
> creating a speech-based transcription of the natural language utterance using a speech recognition engine and a semantic knowledge-based model, wherein the semantic knowledge-based model includes a personalized cognitive model derived from one or more prior interactions between the identified user and the conversational voice user interface, a general cognitive model derived from one or more prior interactions between a plurality of users and the conversational voice user interface, and an environmental model derived from an environment of the identified user and the conversational voice user interface;
>
> merging the speech-based transcription and the non-speech-based transcription to create a merged transcription;
>
> identifying one or more entries in a context stack matching information contained in the merged transcription;
>
> determining a most likely context for the multi-modal input based on the identified entries;
>
> identifying a domain agent associated with the most likely context for the multi-modal input;
>
> communicating a request to the identified domain agent; and
>
> generating a response to the user from content provided by the identified domain agent as a result of processing the request.

’468 Patent, Cl. 19.

62. Embodiments of these claimed elements are shown and described in the specification. For example, Figure 8 illustrates one exemplary embodiment:

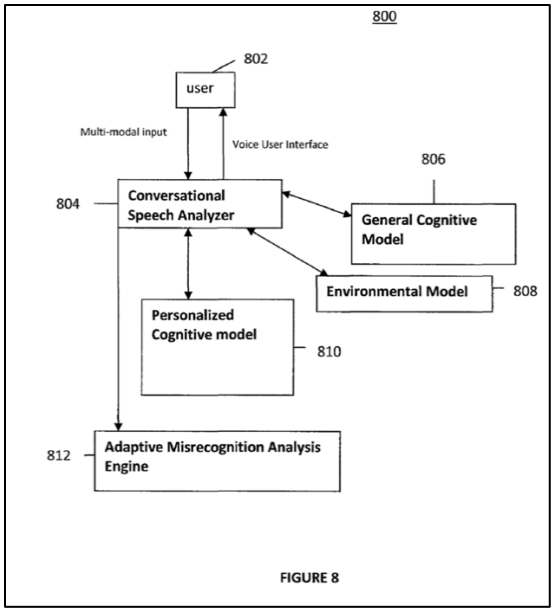


FIGURE 8

63. In explaining the reasons for allowing the claims, the United States Patent and Trademark Office described how the closest existing prior art did not disclose or teach the claimed combination of inventive elements:

> The prior art of record does not teach the combination of limitations in independent claims . . . , including multi-modal natural language speech and non-speech input being transcribed and merged, identifying a user with a conversational speech analysis engine which uses a semantic knowledge-based model including a personalized cognitive model derived from one or more prior interactions between the identified user and the mobile device, a general cognitive model derived from one or more prior interactions between a plurality of users and the mobile device, and an environmental model derived from an environment of the identified user and the mobile device, and a knowledge-enhanced speech recognition engine that identifies one or more entries in a context stack matching information contained in the merged transcription and determines a most likely context for the multi-modal natural language input based on the identified entries, and response generation by a domain agent associated with the most likely context identified by the system, where the domain agent receives a request.

'468 File History, Notice of Allowance and Fee(s) Due (November 3, 2011), Notice of Allowability at 2 (attached as Exhibit 6).

U.S. PATENT NO. 9,626,959

64. On April 18, 2017, the U.S. Patent Office duly and legally issued the ’959 Patent, entitled “Systems And Methods Of Supporting Adaptive Misrecognition in Conversational Speech.” A true and correct copy of the ’959 Patent is attached hereto as Exhibit 7.

65. Dialect is the owner and assignee of all right, title, and interest in and to the ’959 Patent, including the right to assert all causes of action arising under the ’959 Patent and the right to sue and obtain any remedies for past, present, or future infringement.

66. The ’959 Patent describes novel systems and methods for receiving speech and/or non-speech communications of natural language questions and/or commands and executing the questions and/or commands. ’959 Patent, Abstract. The claimed invention makes significant use of a personalized cognitive model to select a different interpretation of a natural language command in response to an indication from the user that a first interpretation is not correct. ’959 Patent, Cl. 1.

67. The novel features of the invention are recited in the claims. For example, Claim 1 of the ’959 Patent recites:

> 1. A method of processing natural language command, the method being implemented by a computer system that comprises one or more physical processors executing one or more computer program instructions which, when executed, perform the method, the method comprising:
>
> receiving, by the computer system, a natural language command from a user;
>
> generating, by the computer system, a first interpretation of the natural language command based on one or more recognized words of the natural language command;
>
> performing, by the computer system, a first action specified by the natural language command based on the first interpretation;
>
> accessing, by the computer system, a personalized cognitive model to proactively select a second interpretation of the natural language command responsive to an indication from the user that the first interpretation is not correct; and

> proactively performing, by the computer system, a second action specified by the natural language command based on the second interpretation.

'959 Patent at Claim 1.

68. In explaining the reasons for allowing the claims, the United States Patent and Trademark Office described how the closest existing prior art did not disclose or teach the claimed combination of inventive elements.

> None of the references discloses selecting a different interpretation based on a personalized cognitive model which is derived from a user's interaction pattern.

'959 File History, Notice of Allowance and Fee(s) Due (December 12, 2016), Notice of Allowability at 4-5 (attached as Exhibit 8).

U.S. PATENT NO. 7,634,409

69. On December 15, 2009, the U.S. Patent Office duly and legally issued the '409 Patent, entitled "Dynamic Speech Sharpening." A true and correct copy of the '409 Patent is attached hereto as Exhibit 9.

70. Dialect is the owner and assignee of all right, title, and interest in and to the '409 Patent, including the right to assert all causes of action arising under the '409 Patent and the right to sue and obtain any remedies for past, present, or future infringement.

71. The '409 Patent describes novel systems and methods for speech interpretation. '409 Patent, Abstract. The novel features of the invention are recited in the claims. For example, Claim 1 of the '409 Patent recites:

> 1. A method for providing out-of-vocabulary interpretation capabilities and for tolerating noise when interpreting natural language speech utterances, the method comprising:
>
> receiving an utterance from a user;
>
> recognizing a stream of phonemes contained in the utterance on an electronic device;
>
> mapping the recognized stream of phonemes to an acoustic grammar that phonemically represents one or more syllables, the recognized stream of

phonemes mapped to a series of one or more of the phonemically represented syllables; and

generating at least one interpretation of the utterance, wherein the generated interpretation includes the series of syllables mapped to the recognized stream of phonemes.

'409 Patent at Claim 1.

72. In explaining the reasons for allowing the claims, the United States Patent and Trademark Office described how the closest existing prior art did not disclose or teach the claimed combination of inventive elements.

> Hunt fails to specifically disclose mapping the recognized stream of phonemes to an acoustic grammar that phonemically represents one or more syllables, the recognized stream of phonemes mapped to a series of one or more of the phonemically represented syllables; and wherein the generated interpretation includes the series of syllables mapped to the recognized stream of phonemes. In other words, Hunt fails to teach matching phonemes against syllable grammars. Furthermore, it would have not been obvious to one of ordinary skill in the art at the time of invention to modify Hunt in order to derive the claimed invention.

'409 File History, Notice of Allowance and Fee(s) Due (August 24, 2009), Notice of Allowability at 2-3 (attached as Exhibit 10).

U.S. PATENT NO. 8,015,006

73. On September 6, 2011, the U.S. Patent Office duly and legally issued the '006 Patent, entitled "Systems And Methods For Processing Natural Language Speech Utterances With Context-Specific Domain Agents." A true and correct copy of the '006 Patent is attached hereto as Exhibit 11.

74. Dialect is the owner and assignee of all right, title, and interest in and to the '006 Patent, including the right to assert all causes of action arising under the '006 Patent and the right to sue and obtain any remedies for past, present, or future infringement.

75. As described in the ’006 Patent, “[a] machine’s ability to communicate with humans in a natural manner remains a difficult problem,” in part because “machine-based queries (e.g., questions, commands, requests, and/or other types of communications) may be highly structured and are not inherently natural to the human user.” ‘006 Patent at 1:33–41. Similarly, “[t]he fact that most natural language queries are incomplete in their definition is a significant barrier to natural human query-response interaction between humans and machines,” and “many natural language questions are ambiguous or subjective,” such that “the formation of a machine processable query and returning of a natural language response may be difficult at best.” ‘006 Patent at 9:11–21.

76. Thus, while “speech recognition” (i.e., transcribing human speech into text) had “steadily improved in accuracy” and was “successfully used in a wide range of applications,” (*id*. at 1:46–48) simply translating uttered speech from a user into machine-readable text form, alone, did not and does not overcome the additional challenges of creating a natural language query and response system. Instead, existing systems were “generally unable to provide a complete environment for users to make natural language speech queries and receive natural-sounding responses” and “[t]here remain[ed] a number of significant barriers to creation of a complete natural language speech-based query and response environment.” *Id.* at 1:50–55.

77. To overcome these barriers, the inventors of the ’006 Patent conceived novel software techniques and structures (and novel combinations and ordering of techniques and structures) not found in existing systems. The claimed invention “makes significant use of context, prior information, domain knowledge, and user specific profile data to achieve a natural environment for one or more users making queries or commands in multiple domains.” ’006 Patent, Abstract. The inventions described and claimed in the ’006 Patent overcome these

challenges in various embodiments, for example by providing a system that uses domain agents to organize domain specific behavior and information. *Id.* at 2:53–3:7. The inventions in various embodiments further include a system that can "determine the user's identity by voice and name for each utterance," so that "[r]ecognized words and phrases may be tagged with this identity in all further processing" for security and other purposes. *Id.* at 16:60–17:4.

78. The novel features of the invention are recited in the claims. For example, Claim 1 of the '006 Patent recites a novel combination of parsing to determine a meaning and a context of speech associated with a request involving a grammar by a domain agent, satisfying a predetermined confidence level, updating dictionaries or phrase tables, and determining an identity of a user based on voice characteristics:

> 1. A method for processing natural language speech utterances with context-specific domain agents, comprising:
>
> receiving, at a speech unit coupled to a processing device, a natural language speech utterance that contains a request;
>
> recognizing, at a speech recognition engine coupled to the processing device, one or more words or phrases contained in the utterance using information in one or more dictionary and phrase tables, wherein recognizing the one or more words or phrases contained in the utterance includes:
>
> dynamically updating the information in the one or more dictionary and phrase tables based on a dynamic set of prior probabilities or fuzzy possibilities;
>
> determining an identity associated with a user that spoke the utterance based on voice characteristics associated with the utterance; and
>
> associating the one or more recognized words or phrases and a pronunciation associated with the one or more recognized words or phrases with the determined identity and the request contained in the utterance in response to the one or more recognized words or phrases satisfying a predetermined confidence level;
>
> parsing, at a parser coupled to the processing device, the one or more recognized words or phrases to determine a meaning associated with the utterance and a context associated with the request contained in the utterance, wherein the one or more recognized words or phrases are further associated with the determined context in response to the one or

more recognized words or phrases satisfying the predetermined confidence level;

formulating, at the parser, the request contained in the utterance in accordance with a grammar used by a domain agent associated with the determined context;

processing the formulated request with the domain agent associated with the determined context to generate a response to the utterance; and

presenting the generated response to the utterance via the speech unit.

’006 Patent at Claim 1.

79. Embodiments of these claimed elements are shown and described in the specification. For example, Figure 1 shows an overall diagrammatic view of the interactive natural language speech processing system according to one embodiment:

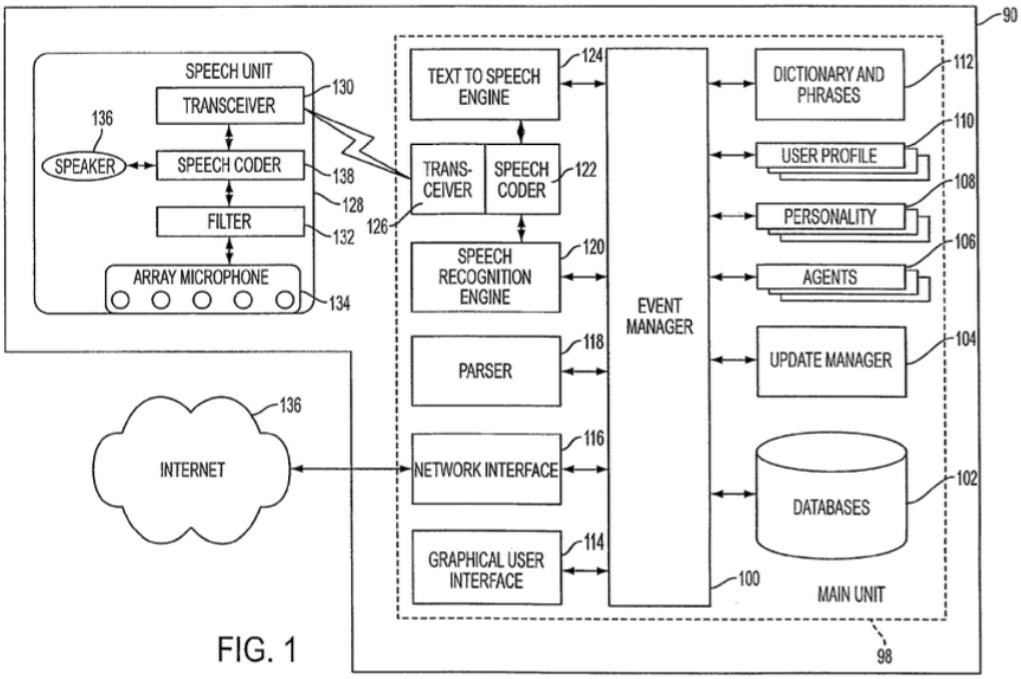


FIG. 1

80. The specification of the ’006 Patent describes how these claim elements help the overall system overcome the technical limitations of existing speech recognition systems. *See e.g.*,

id. at 10:56–12:18 (describing domain agents, system agents, and their interactions); 17:13–18:49 (describing the use of the speech recognition system and the dictionary and phrase entries, parser and domain agents to determine context and criteria); 18:50–21:25 (describing the interactions between system and domain agents in processing questions or commands).

81. In explaining the reasons for allowing the claims, the United States Patent and Trademark Office described how the closest existing prior art did not disclose or teach the claimed combination of inventive elements:

> Independent Claim [5] is allowable because the prior art of record does not disclose or reasonably suggest a combination of parsing to determine a meaning and a context of speech associated with a request involving a grammar by a domain agent, satisfying a predetermined confidence level, updating user specific vocabularies or dictionaries, and determining an identity of a user based on voice characteristics. *Sabourin* (U.S. Patent No. 6,208,964) teaches updating user specific vocabularies or dictionaries, but not in combination with satisfying a predetermined confidence level and determining an identity of the user based on voice characteristics of the user. Although determining an identity of a user based on voice characteristics is known individually for a voice profile, the prior art of record does not disclose or reasonably suggest that feature in combination with updating a user specific vocabulary when a predetermined confidence level is not met.

'006 File History, Notice of Allowance and Fee(s) Due (May 9, 2011), Notice of Allowability at 2 (attached as Exhibit 12).

82. In April 2024, Google filed a petition for *inter partes* review of the '006 Patent. In October 2024, the Patent Trial and Appeal Board denied institution of *inter partes* review of the '006 Patent.

U.S. PATENT NO. 7,809,570

83. On October 5, 2010, the U.S. Patent Office duly and legally issued the '570 Patent, entitled "Systems And Methods For Responding To Natural Language Speech Utterance." A true and correct copy of the '570 Patent is attached hereto as Exhibit 13.

84. Dialect is the owner and assignee of all right, title, and interest in and to the ’570 Patent, including the right to assert all causes of action arising under the ’570 Patent and the right to sue and obtain any remedies for past, present, or future infringement.

85. The claimed invention of the ’570 Patent “overcomes the deficiencies of prior art speech query and response systems through the application of a complete speech-based information query, retrieval, presentation and command environment.” ’570 Patent, Abstract. “This environment makes significant use of context, prior information, domain knowledge, and user specific profile data to achieve a natural environment for one or more users making queries or commands in multiple domains.” *Id*.

86. The novel features of the invention of the ’570 Patent are recited in the claims. For example, Claim 1 of the ’570 Patent recites a novel method of interpreting a meaning of a natural language speech utterance that contains multiple request:

> 1. A method for responding to natural language speech utterances, comprising:
>
> > receiving a natural language speech utterance at a speech unit connected to a computer device, wherein the speech unit converts the received natural language speech utterance into an electronic signal;
> >
> > recognizing one or more words in the electronic signal with a speech recognition engine that operates on the computer device;
> >
> > interpreting a meaning for the natural language speech utterance with a parser that further operates on the computer device, wherein interpreting the meaning for the natural language speech utterance includes:
> >
> > > identifying multiple requests contained in the natural language speech utterance from the one or more words recognized in the electronic signal; and
> > >
> > > determining one or more contexts for the multiple requests contained in the natural language speech utterance; and
> >
> > processing the multiple requests contained in the natural language speech utterance in a multi-threaded environment with an event manager that further operates on the computer device, wherein processing the multiple requests with the event manager includes:

> sending a first event to a first domain agent configured to process requests in the one or more contexts, wherein the first domain agent creates a first plurality of asynchronous queries to process a first one of the multiple requests in response to receiving the first event from the event manager;
>
> sending a second event to a second domain agent configured to process requests in the one or more contexts, wherein the second domain agent creates a second plurality of asynchronous queries to process a second one of the multiple requests in response to receiving the second event from the event manager;
>
> receiving one or more response events that include information from one or more of the first domain agent processing the first one of the multiple requests or the second domain agent processing the second one of the multiple requests; and
>
> creating a response to the multiple requests contained in the natural language speech utterance from the one or more response events.

'570 Patent at Claim 1.

87. In explaining the reasons for allowing the claims, the United States Patent and Trademark Office described how the closest existing prior art did not disclose or teach the claimed combination of inventive elements:

> Concerning independent claims 1 and 8, the prior art of record does not disclose or reasonably suggest the limitations of processing multiple requests with an event manager by sending a first event to a first domain agent and sending a second event to a second domain agent, in combination with a natural language speech recognition and interpreting system, where multiple requests are processed in a multi-threaded environment, and the first and second domain agents create asynchronous queries . . . . The prior art of record does not disclose or reasonably suggest an event manager that sends a first event to a first domain agent and a second event to a second domain agent, in combination with a natural language speech recognition and interpreting system, where multiple requests are processed in a multi-threaded environment, and the first and second domain agents create asynchronous queries.

'570 File History, Notice of Allowance and Fee(s) Due (July 26, 2010), Notice of Allowability at 2 (attached as Exhibit 14).

U.S. PATENT NO. 7,917,367

88. On March 29, 2011, the U.S. Patent Office duly and legally issued the '367 Patent, entitled "Systems And Methods For Responding To Natural Language Speech Utterance." A true and correct copy of the '367 Patent is attached hereto as Exhibit 15.

89. Dialect is the owner and assignee of all right, title, and interest in and to the '367 Patent, including the right to assert all causes of action arising under the '367 Patent and the right to sue and obtain any remedies for past, present, or future infringement.

90. The claimed invention of the '367 Patent "applies context, prior information, domain knowledge, and user specific profile data to achieve a natural environment for one or more users presenting questions or commands across multiple domains." '367 Patent, Abstract.

91. The novel features of the invention of the '367 Patent are recited in the claims. For example, Claim 11 of the '367 Patent recites a novel method of interpreting a meaning of a natural language speech utterance that contains multiple request:

> 11. A method for processing multi-modal natural language inputs, comprising:
>
> registering a plurality of mobile devices with a context manager in response to a registration module associated with the context manager receiving a communication from the plurality of mobile devices;
>
> subscribing the plurality of mobile devices registered with the context manager to one or more context events;
>
> receiving, at the context manager, a context input from one or more of the plurality of mobile devices registered with the context manager, wherein the context input includes a context change event; and
>
> informing the plurality of mobile devices registered with the context manager of the context change event, wherein informing the plurality of mobile devices registered with the context manager of the context change event synchronizes a context across the plurality of mobile devices.

'367 Patent at Claim 11.

92. In explaining the reasons for allowing the claims, the United States Patent and Trademark Office described how the closest existing prior art did not disclose or teach the claimed combination of inventive elements:

> In this sense, therefore, the synchronization of a navigation state as taught by Mumick et al. cannot be said to teach or suggest the claimed synchronization of context across the plurality of devices. The additional prior art of record also does not disclose or suggest, in combination with the other limitations of the claim, a context manager that receives a context input from one or more of a plurality of mobile devices, wherein the context input includes a context change event, and synchronizes the context across the plurality of devices.

'367 File History, Notice of Allowance and Fee(s) Due (November 1, 2010), Notice of Allowability at 2 (attached as Exhibit 16).

U.S. PATENT NO. 8,620,659

93. On December 31, 2013, the U.S. Patent Office duly and legally issued the '659 Patent, entitled "Systems And Methods Of Supporting Adaptive Misrecognition in Conversational Speech." A true and correct copy of the '659 Patent is attached hereto as Exhibit 17.

94. Dialect is the owner and assignee of all right, title, and interest in and to the '659 Patent, including the right to assert all causes of action arising under the '659 Patent and the right to sue and obtain any remedies for past, present, or future infringement.

95. The claimed invention of the '659 Patent uses domain agents, a personalized cognitive model, and a generalized cognitive model to process natural language utterances. *E.g.*, '659 Patent, Cl. 42. The novel features of the invention of the '659 Patent are recited in the claims. For example, Claim 42 of the '659 Patent recites a novel method of interpreting a meaning of a natural language speech utterance that contains multiple requests:

> 42. A method of processing natural language utterances, the method being implemented by a computer system that includes one or more processors executing one or more computer program instructions which, when executed, perform the method, the method comprising:

receiving a first input of a user that comprises a natural language utterance;

generating an interpretation of the natural language utterance based on one or more recognized words of the natural language utterance;

generating a request based on the interpretation;

transmitting the request to a domain agent for processing;

determining whether a personalized cognitive model associated with the user includes sufficient information for predicting one or more subsequent actions associated with the user, wherein the personalized cognitive model is generated based on a tracking of a pattern of interactions between the user and the system, and wherein the one or more subsequent actions include one or more actions predicted to occur after receiving the first input; and

predicting the one or more subsequent actions based on a generalized cognitive model in response to a determination that the personalized cognitive model does not include the sufficient information, wherein the generalized cognitive model is generated based on a tracking of patterns of interactions between a plurality of users and the system.

'659 Patent at Claim 42.

MICROSOFT'S KNOWLEDGE OF VOICEBOX'S TECHNOLOGY AND THE ASSERTED PATENTS

96. Microsoft has a long history of interactions with prior owners of the Asserted Patents, including VoiceBox and Nuance Communications, Inc. ("Nuance").

97. Mike Kennewick, the CEO of VoiceBox, had been an early employee at Microsoft in the 1980s. From that work experience, Mr. Kennewick knew Steve Ballmer, who served as the CEO of Microsoft from 2000 to 2014. In 2006, Mr. Ballmer came to the VoiceBox offices to meet with Mr. Kennewick and to learn more about VoiceBox's technology. Approximately a week after Mr. Ballmer and Mr. Kennewick met, other members of the VoiceBox and Microsoft teams met again to discuss VoiceBox's technology, and Mr. Ballmer promised to follow up after discussing it with his team.

98. VoiceBox continued to discuss a potential acquisition with Microsoft—including in emails with Mr. Ballmer himself—through 2007. In July 2007, the Microsoft and VoiceBox teams again met in person to discuss a potential acquisition. VoiceBox specifically informed

Microsoft about its intellectual property, including its patent portfolio. After the meeting, the Microsoft team asked for a copy of the PowerPoint slides VoiceBox had presented. VoiceBox provided the slides by email, which included reference to VoiceBox's "7 patents filed" and "11 pending." At that time, VoiceBox's filed patent applications included the '209 patent, one of the Asserted Patents.

99. In March 2012, Microsoft and VoiceBox resumed their discussions, and Microsoft employees, including Don Holtzinger, then the Senior Director of Business Development for speech technology, again came to VoiceBox's offices to discuss a potential partnership or acquisition. VoiceBox presented PowerPoint slides that highlighted its "21 patents for contextual speech."

100. A week after that March 2012 meeting, Mr. Holtzinger requested another meeting between the VoiceBox team and a larger group at the Microsoft offices. To prepare for that meeting, Mr. Holtzinger had a phone call with Rich Kennewick, an executive at VoiceBox. In a follow-up email, Mr. Holtzinger described the communications between VoiceBox and Microsoft as an "exploratory discussion about a possible acquisition." He asked for information about VoiceBox, including an "Overview of IP."

101. On April 20, 2012, VoiceBox sent back an attached "Patent Status Chart." That chart listed the titles, statuses, and patent numbers of VoiceBox's patents and patent applications, including specifically the '209, '409, '006, '570, and '367 patents asserted in this case, and the applications to which the later issued '825, '468, '959, and '659 patents claim priority. Mr. Holtzinger acknowledged receipt of those materials.

102. The Microsoft and VoiceBox teams met again on April 27, 2012. Microsoft brought seven people to the meeting, a group characterized as "very, very senior" by a fellow Microsoft

employee. The meeting lasted approximately two hours and covered VoiceBox's intellectual property at length.

103. The extensive discussion between VoiceBox and Microsoft during this time coincided with Microsoft's early development of the Accused Products, the Cortana personal assistant in the early 2010s. *See, e.g.*, Microsoft, *Anticipating More from Cortana*, https://www.microsoft.com/en-us/research/blog/anticipating-more-from-cortana/#:~:text=Rather%20than%20just%20performing%20voice,tasks%20at%20the%20right%20time (last accessed December 11, 2024). As detailed in this Complaint, Cortana personal assistant utilized the voice recognition and natural language understanding technologies taught in the Asserted Patents. On information and belief, Cortana is the first of the Accused Products that utilized such technologies, and Microsoft subsequently developed more Accused Products that built on such technologies, including Copilot, Azure AI, and Azure OpenAI. Microsoft is one of the largest and most successful technology companies in the world. On information and belief, Microsoft likely has closely studied VoiceBox's technology and patents for its development of the Accused Products. On information and belief, Microsoft was aware that the Asserted Patents relate to the technology of Accused Products, and that the Accused Products infringed on the Asserted Patents.

104. Later interactions between Microsoft and VoiceBox provide further evidence that Microsoft was aware of the Asserted Patents and its infringement of those patents.

105. On January 6, 2015, VoiceBox sold some of its patents and patent applications, including the Asserted Patents in this case, to Nuance. VoiceBox retained other patents covering related technology in the voice recognition and natural language understanding fields.

106. In January 2017, Mike Kennewick emailed Satya Nadella, the CEO of Microsoft. Mr. Kennewick had met Mr. Nadella through Mr. Ballmer and emailed him to see whether Microsoft might be interested in acquiring VoiceBox. Mr. Kennewick's email to Mr. Nadella again specifically highlighted VoiceBox's "deep portfolio of technology and IP, including a large number of significant patents," including "IP" that VoiceBox believed would "make more sense with Microsoft."

107. Around the same time, VoiceBox also contacted Marc Brown, the Global Head of M&A and Strategic Investments at Microsoft, again highlighting VoiceBox's "rich patent portfolio" including "early patents in voice and natural language."

108. In October 2017, Phil Cohen, VoiceBox's Chief Scientist for Artificial Intelligence, had lunch with Xuedong Huang, a senior executive at Microsoft who went on to become the Microsoft CTO. VoiceBox and Microsoft coordinated an introductory meeting between Mr. Huang and Mike Kennewick, which led to several further meetings between other members of the VoiceBox and Microsoft teams in fall 2017 and winter 2018.

109. These 2017 and 2018 meetings again covered VoiceBox's patent portfolio. For example, in January 2018, VoiceBox presented PowerPoint slides to Microsoft's team discussing VoiceBox's "40 key patents in voice & speech recognition" and its "powerful patent portfolio,"

which won an award in 2013 from the Institute of Electrical and Electronics Engineers:

Powerful Patent Portfolio

IEEE Names Voicebox 2013 Patents Number 13 in The World!

Rank	Company / Organization	Country of Headquarters	2012 U.S. Patents	Pipeline Growth Index	Pipeline Impact	Self-Citations (%)	Adjusted Pipeline Impact	Pipeline Generality	Pipeline Originality	Pipeline Power
1	Microsoft Corp.	United States	2665	1.14	1.07	0.22	1.07	1.19	1.01	3909.67
2	VMware Inc.	United States	106	1.89	3.07	0.16	3.07	3.02	1.06	1966.63
3	Citrix Systems Inc.	United States	112	1.56	2.83	0.27	2.83	2.62	1.12	1441.86
4	Symantec Corp.	United States	379	1.34	1.54	0.16	1.54	1.63	1.01	1297.47
5	Digimarc Corp.	United States	94	0.9	5	0.88	2.08	4.8	1.12	944.96
6	Oracle Corp.	United States	913	0.92	1	0.12	1	1.13	0.98	930.36
7	CommVault Systems Inc.	United States	52	1.3	5	0.88	2.1	5	1.22	866.39
8	Cadence Design Systems Inc.	United States	158	1.15	2.45	0.15	2.45	1.76	0.89	699.87
9	Adobe Systems Inc.	United States	332	1.13	1.14	0.18	1.14	1.24	1	526.88
10	Rovi Corp.	United States	97	1.47	1.85	0.25	1.85	1.91	1.02	514.34
11	TeleCommunication Systems Inc.	United States	57	1.36	2.35	0.42	2.06	2.52	1.12	451.72
12	SAP AG	Germany	601	1.1	0.74	0.23	0.74	0.85	1.02	424.91
13	Voicebox Technologies Inc.	United States	11	1.83	5	0.65	3.26	5	1.29	423.56
14	Sony Computer Entertainment Inc.	Japan	220	1.33	1.1	0.36	1.03	1.26	1.08	409.7
15	Bally Technologies Inc.	United States	96	1.78	1.46	0.38	1.35	1.83	0.9	388.27
16	Smith Micro Software Inc.	United States	18	3	2.8	0.17	2.8	2.41	0.97	353.44
17	McAfee Inc.	United States	84	1.33	2.02	0.39	1.85	1.61	1.04	347.02
18	Nuance Communications Inc.	United States	160	1.15	1.19	0.3	1.19	1.56	1.02	345.99

Multi-Modal NLU, Cooperative Conversations, Multi-Device Context and Voice Ad/Commerce

Voicebox Confidential 2018

34

110. In February 2018, however—after learning about VoiceBox's patent portfolio—Microsoft declined to move forward with VoiceBox.

111. Microsoft's meetings with VoiceBox in 2017 and 2018 would have again brought the Asserted Patents to Microsoft's attention. Microsoft had considered acquiring VoiceBox in 2012, when VoiceBox owned the Asserted Patents, and considered acquiring VoiceBox again in 2017-18, after VoiceBox had sold part of its patent portfolio. In its discussion with VoiceBox, Microsoft likely learned about the sold patents. Further, some of the slides that VoiceBox presented to Microsoft in 2018 explicitly mentioned an *earlier* award for VoiceBox's patent portfolio (the 2013 award from the Institute of Electrical and Electronics Engineers).

112. Nuance sold the Asserted Patents to a third party in December 2020. A few months later, in April 2021, Microsoft announced its acquisition of Nuance. On information and belief,

Microsoft would likely have learned about the patents Nuance had purchased from VoiceBox in the process of negotiating and conducting diligence on its acquisition of Nuance.

113. The Microsoft-Nuance acquisition was completed in March 2022. From that point forward, Nuance has been a subsidiary of Microsoft. Nuance is certainly aware of the Asserted Patents; it is the prior owner of those patents. Further, through its acquisition of Nuance, Microsoft is in privity with Nuance and is estopped from challenging the validity of the Asserted Patents.

114. Accordingly, Microsoft became aware of the Asserted Patents and its infringement of those patents since its development of the Accused Products. At a minimum, on information and belief, Microsoft subjectively believed that there was a high probability that the Asserted Patents existed and that its Accused Products infringed those patents, and took deliberate action to avoid learning of these facts.

MICROSOFT'S INFRINGING TECHNOLOGY

115. Microsoft is one of the largest and most successful technology companies in the world, with a market capitalization of more than $3 trillion and an annual revenue of more than $245 billion as of October 2024.

116. On information and belief, Microsoft first made Cortana virtual assistant available in 2014. In 2015, Microsoft integrated Cortana into Windows operating system for desktops and mobile devices, and later on Android and iOS platforms. *See, e.g.*, Windows Central, *A brief history of Cortana, Microsoft's trusty digital assistant* (Apr. 24, 2017), https://www.windowscentral.com/history-cortana-microsofts-digital-assistant; Avram Piltch, *How to Change Cortana's Voice and Language in Windows 10*, Laptop Mag (July 21, 2015), https://www.laptopmag.com/articles/change-cortanas-voice-windows-10.

117. On information and belief, by October 2015, Windows 10 has been installed on more than 110 million devices. Sean O'Kane, *Microsoft says there are 110 million devices with Windows 10*, The Verge (Oct. 6, 2015), https://www.theverge.com/2015/10/6/9442377/microsoft-windows-10-download-numbers-surface-users. By 2020, there were 1 billion active devices running Windows 10. Tom Warren, *Microsoft hits its goal of 1 billion devices running Windows 10*, The Verge (Mar. 16, 2020), https://www.theverge.com/2020/3/16/21116762/microsoft-windows-10-active-devices-billion-7-support. As of 2022, there were more than 1.4 billion active devices running Windows 10 and 11. Microsoft, *Annual Report 2022*, https://www.microsoft.com/investor/reports/ar22/index.html (last accessed Nov. 22, 2024).

118. On information and belief, the use of Cortana grew rapidly with the deployment of the Windows operating system. For example, it was reported in 2017 that Cortana had 145 million monthly active users. Gurpreet Singh Pall, *Cortana Skills Kit empowers developers to build intelligent experiences for millions of users*, Microsoft (May 10, 2017), https://blogs.windows.com/windowsdeveloper/2017/05/10/cortana-skills-kit-empowers-developers-build-intelligent-experiences-millions-users/; Bret Kinsella, *Surprise! Microsoft Cortana Has a Larger User Base Than Amazon Alexa*, voicebot.ai (Mar. 23, 2017), https://voicebot.ai/2017/03/23/surprise-microsoft-cortana-larger-user-base-amazon-alexa/. It was also reported that the number of Microsoft Cortana skills grew by 35% to a total of 235 in 2018. Bret Kinsella, *Microsoft Cortana Skills Grow 35% Last Two Months of 2017*, voicebot.ai (Jan. 26, 2018), https://voicebot.ai/2018/01/26/microsoft-cortana-skills-grow-35-last-two-months-2017/#:~:text=Microsoft%20Cortana%20is%20often%20overlooked,for%20Cortana%20across%20the%20board.

119. On information and belief, in 2023, Microsoft retired Cortana and replaced it with Copilot as the new virtual assistant in Windows. *See, e.g.*, Microsoft, *End of support for Cortana*, https://support.microsoft.com/en-us/topic/end-of-support-for-cortana-d025b39f-ee5b-4836-a954-0ab646ee1efa#:~:text=Cortana%20voice%20assistance%20in%20Windows,in%20the%20fall%20of%202023 (last accessed Nov. 22, 2024).

120. Copilot experienced significant growth since its debut in 2023. In early 2024, it was reported that Copilot was available on more than 75 million Windows PCs. David Ramel, *Copilot by the Numbers: Microsoft's Big AI Bet Paying Off*, Visual Studio Magazine (Feb. 5, 2024) https://visualstudiomagazine.com/Articles/2024/02/05/copilot-numbers.aspx. In August 2024, it was reported that the number of Copilot customers increased by 60% from quarter to quarter. Daniel Howley, *Microsoft's AI software is gaining traction with enterprise customers*, Yahoo! Finance (Aug. 28, 2024) https://finance.yahoo.com/news/microsofts-ai-software-is-gaining-traction-with-enterprise-customers-192145981.html.

121. Microsoft Azure AI encompasses a wide range of AI services provided by Microsoft. On information and belief, in 2016 Microsoft launched Azure Bot services, which enabled developers to build and deploy conversational AI bots. *See, e.g.*, Lili Cheng, *Microsoft Azure Announces Industry's First Cloud Bot-as-a Service*, Microsoft (Nov. 15, 2016), https://azure.microsoft.com/en-us/blog/microsoft-azure-announces-industry-s-first-cloud-bot-as-a-service/. In 2021, Microsoft launched Azure OpenAI Service, which is a computing service that allows users to leverage AI models from OpenAI in their own applications. *See, e.g.*, Tom Warren, *Microsoft launches Azure OpenAI service with ChatGPT coming soon*, The Verge, (Jan. 17, 2023), https://www.theverge.com/2023/1/17/23558530/microsoft-azure-openai-chatgpt-service-launch. Azure OpenAI Service is expected to generate $1 billion of annual revenue in 2024. Sebastian

Moss, *TikTok spent $20m a month on Microsoft's Azure OpenAI Service – report*, DCD, (July 31, 2024), https://www.datacenterdynamics.com/en/news/tiktok-spent-20m-a-month-on-microsofts-azure-openai-service-report/#:~:text=TikTok%20spent%20nearly%20$20%20million,or%20$83%20million%20per%20month.&text=It%20is%20not%20known%20how,%2C%20market%20reports%2C%20and%20more. Major customers of Azure OpenAI service include Walmart and Intuit. *See, e.g.*, *id*.

FIRST COUNT
(Infringement of U.S. Patent No. 9,734,825)

122. Dialect incorporates by reference the allegations set forth in Paragraphs 1-121 of the Complaint as though fully set forth herein.

123. The claims of the ’825 Patent are valid and enforceable.

124. The claims of the ’825 Patent are directed to patentable subject matter. The ’825 Patent is directed to innovations that improve systems and methods for responding to user speech utterance by receiving keyword and associated prior probabilities or fuzzy possibilities, determining scores for possible contexts, determining a domain for the user utterance, selecting and using domain agents. The claimed inventions provide specific concrete solutions to the problem of natural language processing and understanding in existing systems.

125. On information and belief, in violation of 35 U.S.C. § 271(a), Defendant has directly infringed and continues to directly infringe one or more claims of the ’825 Patent, including at least claim 5 of the ’825 Patent, in the state of Texas, in this District, and elsewhere in the United States by, among other things, making, using, selling, offering for sale, and/or importing into the United States products and services that embody one or more of the inventions claimed in the ’825 Patent, including the Accused Products.

126. Each of the Accused Products incorporates and/or implements elements that are identical or equivalent to each claimed element of the patented invention claimed by at least Claim 5 of the ’825 Patent.

127. Claim 5 of the ’825 Patent recites:

> 5. A method for responding to a user generated natural language speech utterance, the method comprising:
>
> recognizing, by a speech recognition engine, one or more words in the user generated natural language speech utterance;
>
> receiving, at a parser, keyword and associated prior probabilities or fuzzy possibilities from a system agent or an active domain agent of a plurality of autonomous executable domain agents;
>
> determining, for the natural language speech utterance, a score for each of at least two possible contexts, wherein the scores are determined based on the received keyword and associated prior probabilities or fuzzy possibilities;
>
> determining by the parser, a domain for the user generated natural language utterance based on the recognized one or more words of the natural language utterance and the determined scores for each of the at least two possible contexts;
>
> selecting at least one of the plurality of autonomous executable domain agents based, at least in part, on the determined domain, wherein each of the plurality of domain agents is configured to respond to queries and/or commands within a particular domain, wherein the particular domain indicates an area of expertise within which the domain agent is capable of responding to the queries and/or commands;
>
> providing at least one query and/or command based on the natural language utterance to the selected at least one of the plurality of domain agents;
>
> creating, by the selected at least one of the plurality of domain agents, one or more queries based on the at least one query and/or command;
>
> sending, by the selected at least one of the plurality of domain agents, the one or more queries in an asynchronous manner to one or more local or external information sources.

’825 Patent, Cl. 5.

128. On information and belief, each of the Accused Products implements a method recited in claim 5. *See* Appendix A. Fact and expert discovery are expected to confirm that the

Accused Products infringe the ’825 Patent, for which further evidence may lie in whole or in part in source code and technical documents to which Dialect does not presently have access.

129. Further, on information and belief, Defendant has actively induced and/or contributed to infringement of at least Claim 5 of the ’825 Patent in violation of at least 35 U.S.C. § 271(b), (c), and (f).

130. Users of the Accused Products directly infringe at least Claim 5 of the ’825 Patent when they use the Accused Products in the ordinary, customary, and intended way.

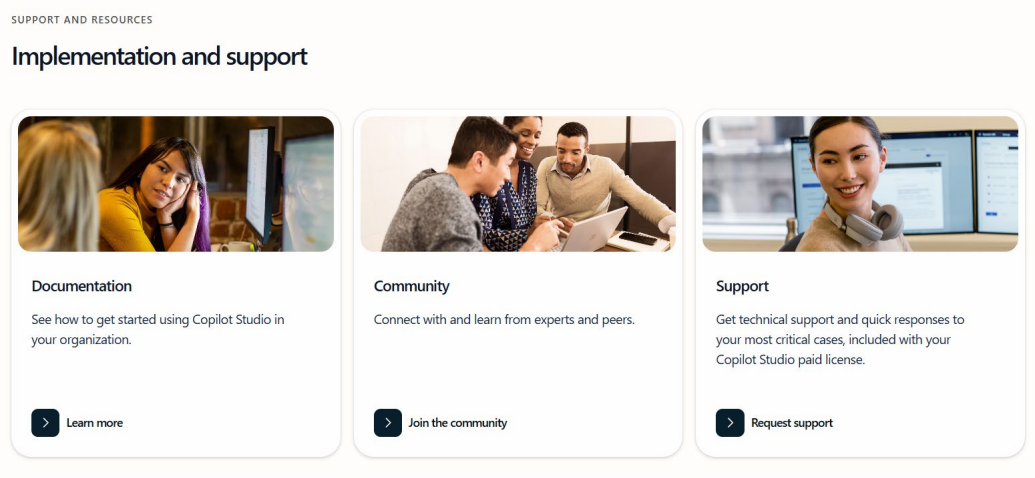
131. On information and belief, Defendant’s inducements in violation of 35 U.S.C. § 271(b) include, without limitation and with specific intent to encourage infringement, knowingly inducing consumers to use the Products within the United States in the ordinary, customary, and intended way by, directly or through intermediaries, supplying the Accused Products to consumers within the United States and instructing and encouraging such customers to use the Accused Products in the ordinary, customary, and intended way, which Defendant knew infringes at least Claim 5 of the ’825 Patent, or, alternatively, was willfully blind to the infringement.

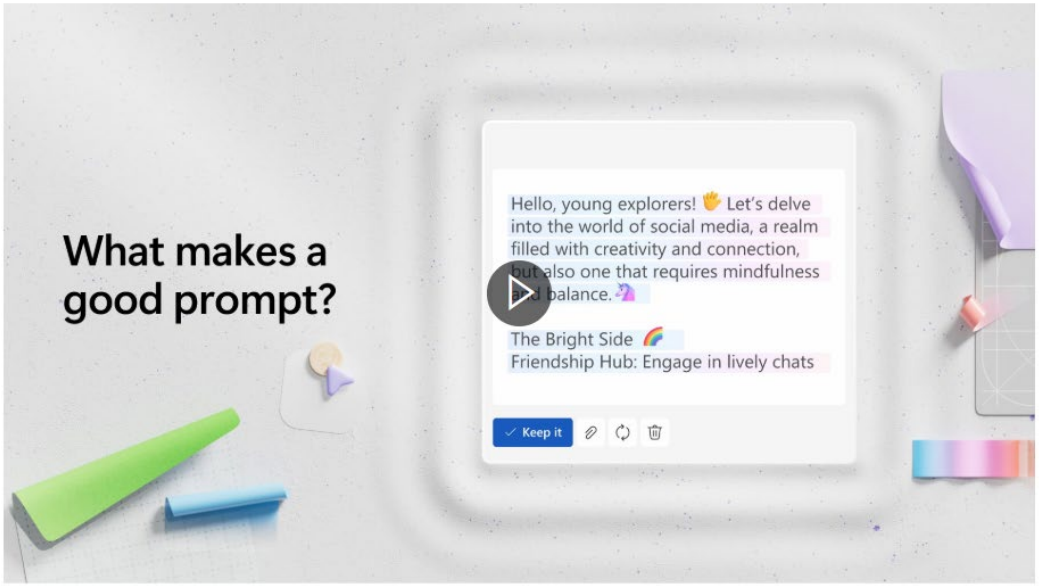
132. On information and belief, Defendant’s inducements in violation of 35 U.S.C. § 271(b) further include, without limitation and with specific intent to encourage the infringement, knowingly inducing customers to commit acts of infringement with respect to the Accused Products within the United States, by, directly or through intermediaries, instructing and encouraging such customers to import, make, use, sell, offer to sell, or otherwise commit acts of infringement with respect to the Accused Products in the United States, which Defendant knew infringes at least Claim 5 of the ’825 Patent, or, alternatively, was willfully blind to the infringement.

133. For example, on information and belief, Defendant actively advertised the Accused Products with detailed instructions to users to encourage infringement.

134. For example, Defendant describes Cortana Skills Kit and Cortana Devices SDK on its websites. *See, e.g.*, Microsoft, *Cortana to open up to new devices and developers with Cortana Skills Kit and Cortana Devices SDK* (Dec. 13, 2016), https://blogs.windows.com/windowsdeveloper/2016/12/13/cortana-skills-kit-cortana-devices-sdk-announcement/ (last accessed December 10, 2024). On information and belief, Defendant actively encourages the users to use the Cortana features shown on Defendant's websites, which features closely match the claim elements the '825 Patent. That supports a reasonable inference that Defendant encourages its users to infringe the '825 Patent.

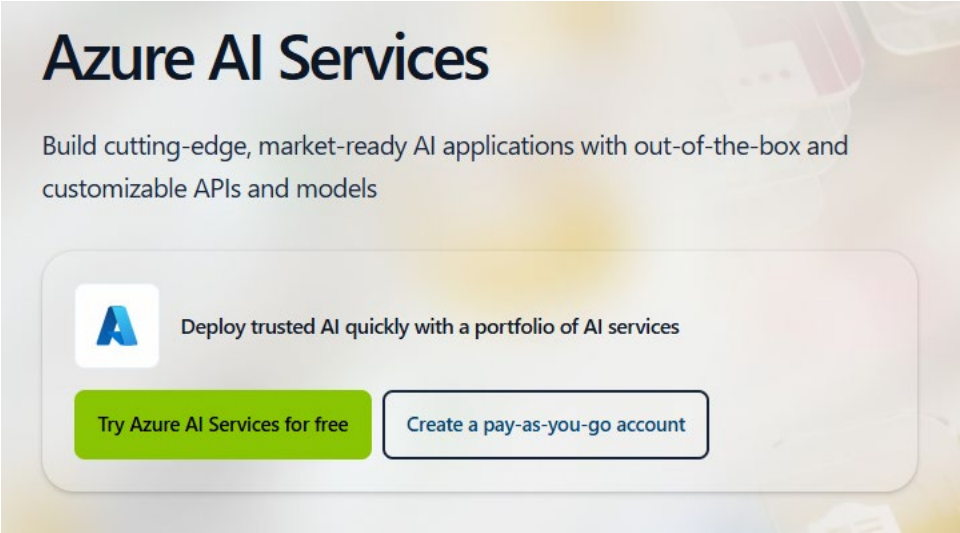
135. For example, Defendant describes Copilot features on its websites. *See, e.g.*, Microsoft, *Microsoft Copilot Studio*, https://www.microsoft.com/en-us/microsoft-copilot/microsoft-copilot-studio (last accessed Nov. 22, 2024); Microsoft, *Get better results with Copilot prompting*, https://support.microsoft.com/en-us/topic/get-better-results-with-copilot-prompting-77251d6c-e162-479d-b398-9e46cf73da55 (last accessed December 10, 2024). On information and belief, the Defendant actively encourages the users to Cortana features shown on Defendant's website, which features closely match the claim elements the '825 Patent. That supports a reasonable inference that Defendant encourages its users to infringe the '825 Patent.

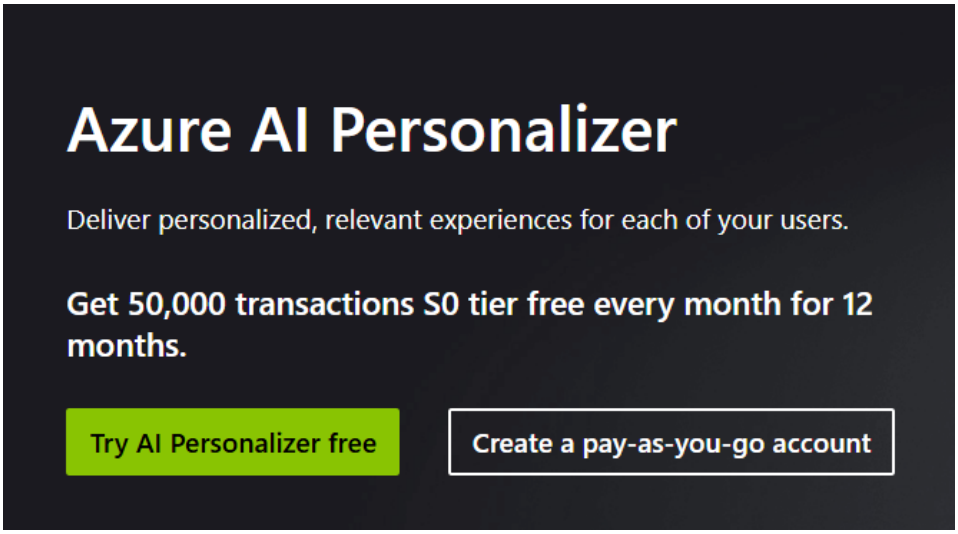




136. For example, Defendant describes Azure AI's features on its websites and actively encourages third parties including developers to use such features. *See, e.g.*, Microsoft, *Azure AI Services*, https://azure.microsoft.com/en-us/products/ai-services (last accessed December 13, 2024); Microsoft, *Azure AI Personalizer*, https://azure.microsoft.com/en-us/products/ai-

services/ai-personalizer (last accessed Dec. 10, 2024). On information and belief, Defendant actively encourages the users to use the Azure AI features shown on Defendant's websites, which features closely match the claim elements the '825 Patent. That supports a reasonable inference that Defendant encourages its users to infringe the '825 Patent.





137. On information and belief, in violation of 35 U.S.C. § 271, Defendant's contributory infringement further includes offering to sell or selling within the United States, or importing into the United States, components of the patented invention of and/or a material or apparatus for use in practicing at least Claim 5 of the '825 Patent, constituting a material part of

the invention. On information and belief, Defendant knows and has known the same to be especially made or especially adapted for use in an infringement of the ’825 Patent, and such components are not a staple article or commodity of commerce suitable for substantial non-infringing use. For example, on information and belief, the Accused Products are not a staple article of commerce suitable for substantial non-infringing use, at least because they are especially designed and produced by Defendant to understand and respond to user speech utterances in a manner claimed by the ’825 Patent, and they are not capable of substantial non-infringing use.

138. For example, the Accused Products understand user speech using keywords and contextual information.

Learn / Microsoft Copilot Studio /

Optimizing trigger phrases and natural language understanding

Article • 07/02/2024 • 3 contributors

Feedback

In this article

What are trigger phrases in Copilot Studio
The importance of the triggering context
On punctuation
Creating new trigger phrases
Show 3 more

What are trigger phrases in Copilot Studio

- Trigger phrases train your copilot's natural language understanding (NLU) model.
- Trigger phrases are configured at the topic level and indicate to the copilot for what typical user utterances a specific topic should be triggered.
- Trigger phrases typically capture the way an end-user would ask about a problem or issue. For example, *"problem with weeds in lawn"*

The importance of the triggering context

Copilot Studio NLU behaves differently based on the conversation state, which can sometimes lead to different behaviors for the same user utterance.

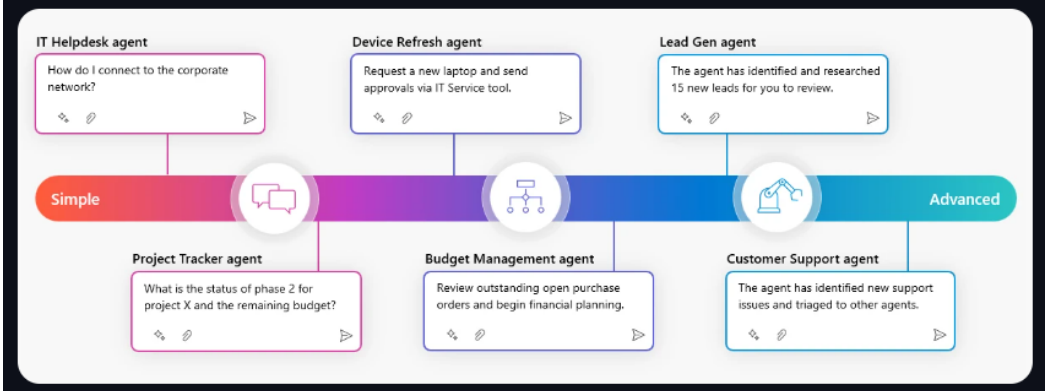
The following are the different conversation states:

- **Start of the conversation**: the copilot has no context, so a user utterance is expected to either: trigger a topic directly (intent recognition), trigger a "did you mean" (Multiple Topics Matched) disambiguation question among intent candidates if there are multiple matching topics, or go to a fallback topic if the intent isn't recognized.
- **After a "did you mean" (Multiple Topics Matched) is triggered**: NLU optimizes to match one of the suggested topics, with higher thresholds to move out of the presented options.
- **Switching out from a current topic**: If the NLU Is trying to fill a slot In a topic, and the user is giving a user query that could trigger another topic (topic switching).

https://learn.microsoft.com/en-us/microsoft-copilot-studio/guidance/trigger-phrases-best-practices

139. For example, the Accused Products process user speech using domain agents.

Agents come in all shapes and sizes. They help you retrieve information from grounding data and reason over it to summarize or answer questions. More capable agents take actions when asked and the most advanced agents are autonomous, operating independently to create and perform plans, orchestrate other agents, and learn when to escalate to an employee for help.



https://www.microsoft.com/en-us/microsoft-copilot/blog/copilot-studio/unveiling-copilot-agents-built-with-microsoft-copilot-studio-to-supercharge-your-business/

140. Defendant is not licensed or otherwise authorized to practice the claims of the ’825 Patent.

141. Thus, by its acts, Defendant has injured Dialect and is liable to Dialect for directly and/or indirectly infringing one or more claims of the ’825 Patent, whether literally or under the doctrine of equivalents, including without limitation claim 5.

142. As detailed in Paragraphs 96-114, on information and belief, Microsoft became aware of the infringement of the ’825 Patent in as early as 2017 when ’825 Patent was issued.

143. At a minimum, Defendant has knowledge of the ’825 Patent and its infringement at least as of the filing of the Complaint. Defendant has had, and continues to have, the specific intent to infringe, through its deliberate and intentional infringement or, alternatively, through its willfully blind disregard of the ’825 Patent by knowing there was a high probability of infringement but taking deliberate actions to avoid confirming that infringement. The filing of this action has also made Defendant aware of the unjustifiably high risk that its actions constituted and continue to constitute infringement of the ’825 Patent. On information and belief, discovery will reveal additional facts and circumstances from which Defendant’s knowledge and intent to infringe (or willful indifference), both before and after the filing of this action, may be inferred.

144. Accordingly, Defendant’s infringement of the ’825 Patent has been and continues to be deliberate, intentional, and willful, and this is therefore an exceptional case warranting an award of enhanced damages and attorneys’ fees and costs pursuant to 35 U.S.C. §§ 284 and 285.

145. As a result of Defendant’s infringement of the ’825 Patent, Dialect has suffered monetary damages, and seeks recovery, in an amount to be proven at trial, adequate to compensate for Defendant’s infringement, but in no event less than a reasonable royalty with interest and costs.

146. On information and belief, Defendant will continue to infringe the ’825 Patent unless enjoined by this Court. Defendant’s infringement of Dialect’s rights under the ’825 Patent

will continue to damage Dialect, causing irreparable harm for which there is no adequate remedy at law, unless enjoined by this Court.

SECOND COUNT
(Infringement of U.S. Patent No. 7,398,209)

147. Dialect incorporates by reference the allegations set forth in Paragraphs 1-146 of the Complaint as though fully set forth herein.

148. The claims of the ’209 Patent are valid and enforceable. In April 2024, Google filed a petition for *inter partes* review of the ’209 Patent. In October 2024, the Patent Trial and Appeal Board (“PTAB”) denied the institution of *inter partes* review.

149. The claims of the ’209 Patent are directed to patentable subject matter. The ’209 Patent is directed to innovations that improve systems and methods for responding to natural language utterances by, among other things, maintaining a dynamic set of prior probabilities or fuzzy possibilities, recognizing words and words and phrases contained in the received utterance using information in one or more dictionary and phrase tables, determining a context of the user utterance, and selecting and invoking domain agents. The inventive claimed steps of the ’209 Patent improve on the processing of a natural language utterance by a user. The claimed inventions provide specific concrete solutions to the problem of natural language processing and understanding in existing systems.

150. On information and belief, in violation of 35 U.S.C. § 271(a), Defendant has directly infringed and continues to directly infringe one or more claims of the ’209 Patent, including at least claim 1 of the ’209 Patent, in the state of Texas, in this District, and elsewhere in the United States by, among other things, making, using, selling, offering for sale, and/or importing into the United States products and services that embody one or more of the inventions claimed in the ’209 Patent, including the Accused Products.

151. Each of the Accused Products incorporates and/or implements elements that are identical or equivalent to each claimed element of the patented invention claimed by at least Claim 1 of the ’209 Patent.

152. Claim 1 of the ’209 Patent recites:

> 1. A method responsive to a user generated natural language speech utterance, comprising:
>
> receiving the user generated natural language speech utterance, the received user utterance containing at least one request;
>
> maintaining a dynamic set of prior probabilities or fuzzy possibilities usable at each stage of processing the received user utterance;
>
> recognizing words and phrases contained in the received utterance using information in one or more dictionary and phrase tables;
>
> parsing the recognized words and phrases to determine a meaning of the utterance, wherein determining the meaning includes determining a context for the at least one request contained in the utterance based on one or more keywords contained in the recognized words and phrases;
>
> selecting at least one domain agent based on the determined meaning, the selected domain agent being an autonomous executable that receives, processes, and responds to requests associated with the determined context;
>
> formulating the at least one request contained in the utterance in accordance with a grammar used by the selected domain agent to process requests associated with the determined context;
>
> invoking the selected domain agent to process the formulated request; and
>
> presenting results of the processed request to the user, the presented results generated as a result of the invoked domain agent processing the formulated request.

’209 Patent, Cl. 1.

153. On information and belief, each of the Accused Products implements a method recited in claim 1. *See* Appendix B. Fact and expert discovery are expected to confirm that the Accused Products infringe the ’209 Patent, for which further evidence may lie in whole or in part in source code and technical documents to which Dialect does not presently have access.

154. Further, on information and belief, Defendant has actively induced and/or contributed to infringement of at least Claim 1 of the ’209 Patent in violation of at least 35 U.S.C. § 271(b), (c), and (f).

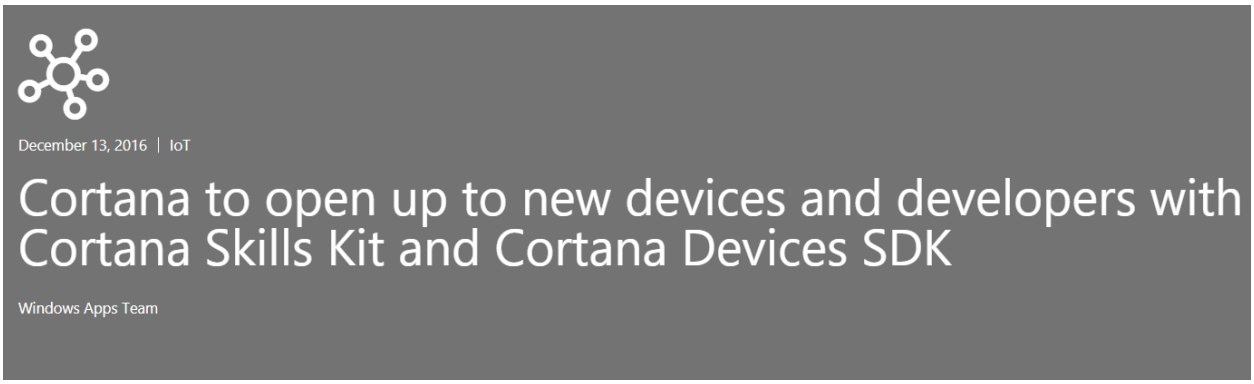
155. Users of the Accused Products directly infringe at least Claim 1 of the ’209 Patent when they use the Accused Products in the ordinary, customary, and intended way.

156. On information and belief, Defendant’s inducements in violation of 35 U.S.C. § 271(b) include, without limitation and with specific intent to encourage infringement, knowingly inducing consumers to use the Products within the United States in the ordinary, customary, and intended way by, directly or through intermediaries, supplying the Accused Products to consumers within the United States and instructing and encouraging such customers to use the Accused Products in the ordinary, customary, and intended way, which Defendant knew infringes at least Claim 1 of the ’209 Patent, or, alternatively, was willfully blind to the infringement.

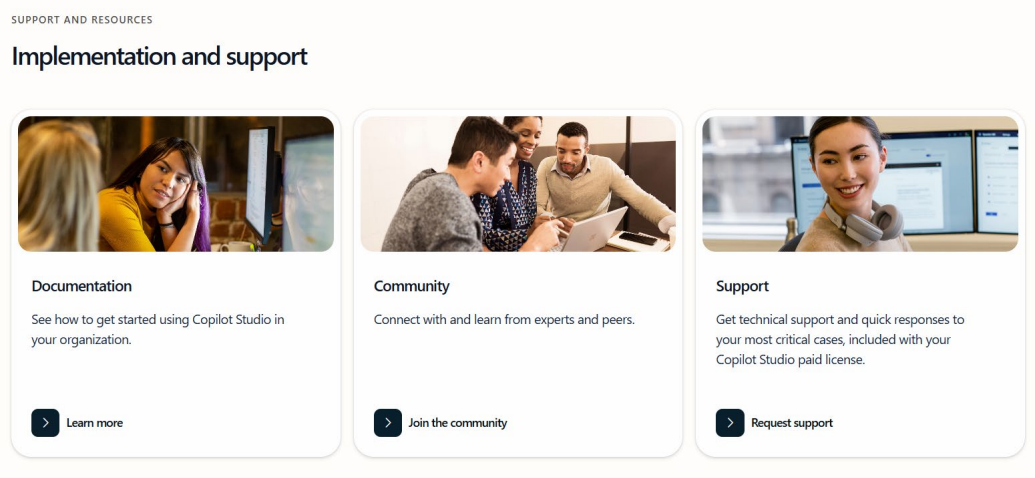
157. On information and belief, Defendant’s inducements in violation of 35 U.S.C. § 271(b) further include, without limitation and with specific intent to encourage the infringement, knowingly inducing customers to commit acts of infringement with respect to the Accused Products within the United States, by, directly or through intermediaries, instructing and encouraging such customers to import, make, use, sell, offer to sell, or otherwise commit acts of infringement with respect to the Accused Products in the United States, which Defendant knew infringes at least Claim 1 of the ’209 Patent, or, alternatively, was willfully blind to the infringement.

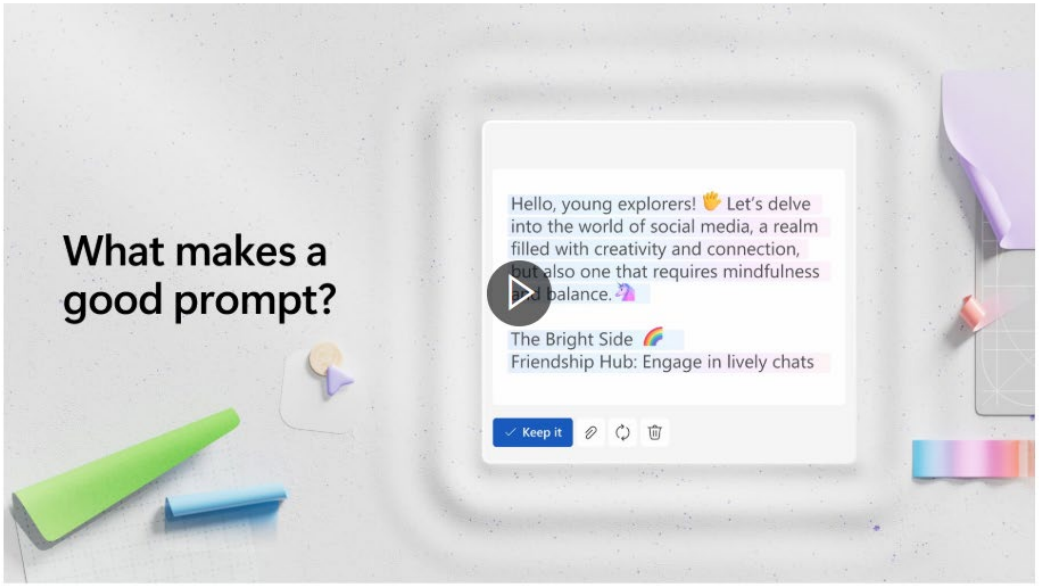
158. For example, on information and belief, Defendant actively advertised the Accused Products with detailed instructions to users to encourage infringement.

159. For example, Defendant describes Cortana Skills Kit and Cortana Devices SDK on its websites. *See, e.g.*, Microsoft, *Cortana to open up to new devices and developers with Cortana Skills Kit and Cortana Devices SDK* (Dec. 13, 2016), https://blogs.windows.com/windowsdeveloper/2016/12/13/cortana-skills-kit-cortana-devices-sdk-announcement/ (last accessed December 10, 2024). On information and belief, Defendant actively encourages the users to use the Cortana features shown on Defendant's websites, which features closely match the claim elements the '209 Patent. That supports a reasonable inference that Defendant encourages its users to infringe the '209 Patent.



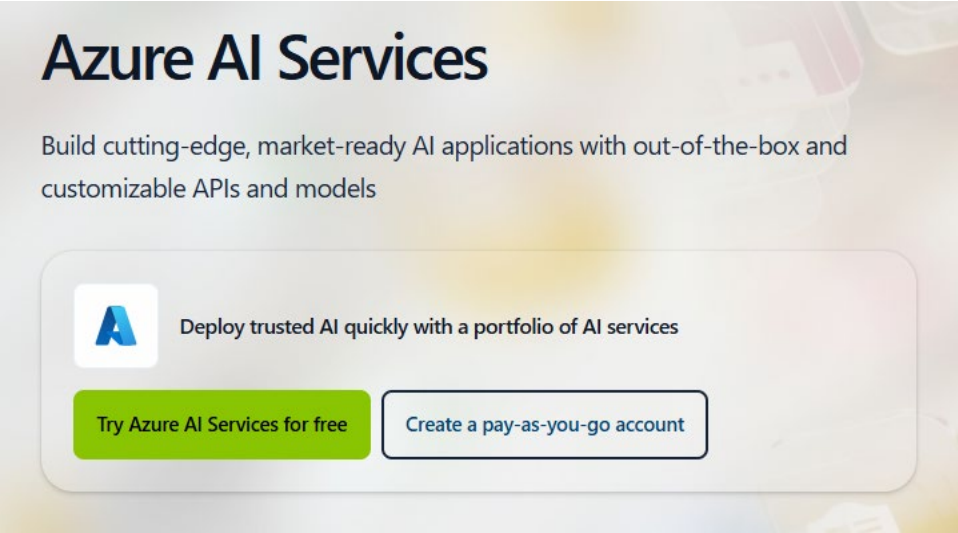
160. For example, Defendant describes Copilot features on its websites. *See, e.g.*, Microsoft, *Microsoft Copilot Studio*, https://www.microsoft.com/en-us/microsoft-copilot/microsoft-copilot-studio (last accessed Nov. 22, 2024); Microsoft, *Get better results with Copilot prompting*, https://support.microsoft.com/en-us/topic/get-better-results-with-copilot-prompting-77251d6c-e162-479d-b398-9e46cf73da55 (last accessed December 10, 2024). On information and belief, the Defendant actively encourages the users to Cortana features shown on Defendant's website, which features closely match the claim elements the '209 Patent. That supports a reasonable inference that Defendant encourages its users to infringe the '209 Patent.

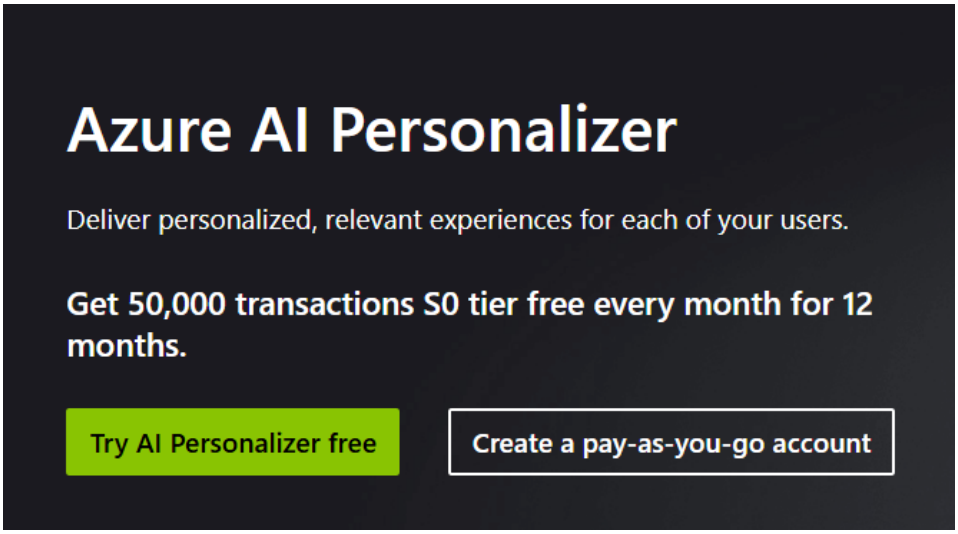




161. For example, Defendant describes Azure AI's features on its websites and actively encourages third parties including developers to use such features. *See, e.g.*, Microsoft, *Azure AI Services*, https://azure.microsoft.com/en-us/products/ai-services (last accessed December 13, 2024); Microsoft, *Azure AI Personalizer*, https://azure.microsoft.com/en-us/products/ai-

services/ai-personalizer (last accessed Dec. 10, 2024). On information and belief, Defendant actively encourages the users to use the Azure AI features shown on Defendant's websites, which features closely match the claim elements the '209 Patent. That supports a reasonable inference that Defendant encourages its users to infringe the '209 Patent.





162. On information and belief, in violation of 35 U.S.C. § 271, Defendant's contributory infringement further includes offering to sell or selling within the United States, or importing into the United States, components of the patented invention of and/or a material or apparatus for use in practicing at least Claim 1 of the '209 Patent, constituting a material part of

the invention. On information and belief, Defendant knows and has known the same to be especially made or especially adapted for use in an infringement of the ’209 Patent, and such components are not a staple article or commodity of commerce suitable for substantial non-infringing use. For example, on information and belief, the Accused Products are not a staple article of commerce suitable for substantial non-infringing use, at least because they are especially designed and produced by Defendant to understand and respond to user speech utterances in a manner claimed by the ’209 Patent, and they are not capable of substantial non-infringing use.

163. For example, the Accused Products understands user input using keywords and contextual information.

Learn / Microsoft Copilot Studio /

Optimizing trigger phrases and natural language understanding

Article • 07/02/2024 • 3 contributors

Feedback

In this article

What are trigger phrases in Copilot Studio
The importance of the triggering context
On punctuation
Creating new trigger phrases
Show 3 more

What are trigger phrases in Copilot Studio

- Trigger phrases train your copilot's natural language understanding (NLU) model.
- Trigger phrases are configured at the topic level and indicate to the copilot for what typical user utterances a specific topic should be triggered.
- Trigger phrases typically capture the way an end-user would ask about a problem or issue. For example, *"problem with weeds in lawn"*

The importance of the triggering context

Copilot Studio NLU behaves differently based on the conversation state, which can sometimes lead to different behaviors for the same user utterance.

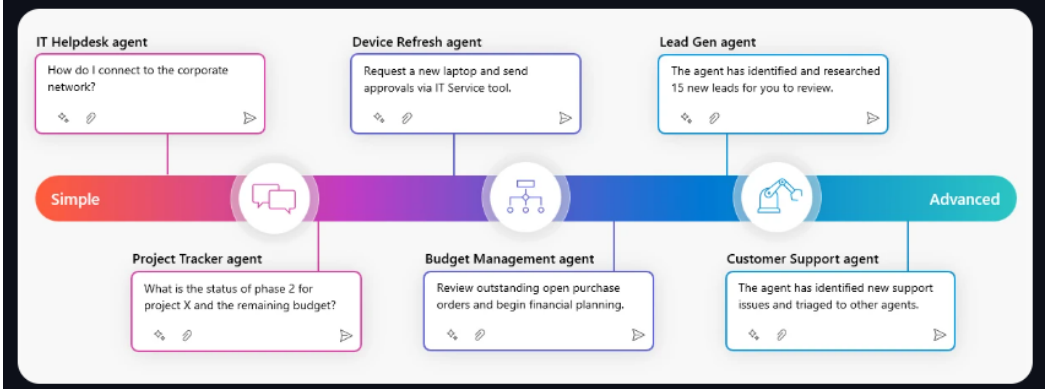
The following are the different conversation states:

- **Start of the conversation**: the copilot has no context, so a user utterance is expected to either: trigger a topic directly (intent recognition), trigger a "did you mean" (Multiple Topics Matched) disambiguation question among intent candidates if there are multiple matching topics, or go to a fallback topic if the intent isn't recognized.
- **After a "did you mean" (Multiple Topics Matched) is triggered**: NLU optimizes to match one of the suggested topics, with higher thresholds to move out of the presented options.
- **Switching out from a current topic**: If the NLU Is trying to fill a slot In a topic, and the user is giving a user query that could trigger another topic (topic switching).

https://learn.microsoft.com/en-us/microsoft-copilot-studio/guidance/trigger-phrases-best-practices

164. For example, the Accused Products processes user speech using domain agents.

Agents come in all shapes and sizes. They help you retrieve information from grounding data and reason over it to summarize or answer questions. More capable agents take actions when asked and the most advanced agents are autonomous, operating independently to create and perform plans, orchestrate other agents, and learn when to escalate to an employee for help.



https://www.microsoft.com/en-us/microsoft-copilot/blog/copilot-studio/unveiling-copilot-agents-built-with-microsoft-copilot-studio-to-supercharge-your-business/

165. Defendant is not licensed or otherwise authorized to practice the claims of the ’209 Patent.

166. Thus, by its acts, Defendant has injured Dialect and is liable to Dialect for directly and/or indirectly infringing one or more claims of the ’209 Patent, whether literally or under the doctrine of equivalents, including without limitation claim 1.

167. As detailed in Paragraphs 96-114, on information and belief, Microsoft became aware of the infringement of the ’209 Patent in as early as 2012 when VoiceBox sent a list of its patents including the ’209 Patent to Microsoft as a part of the acquisition discussion.

168. At a minimum, Defendant has knowledge of the ’209 Patent and its infringement at least as of the filing of the Complaint. Defendant has had, and continues to have, the specific intent to infringe, through its deliberate and intentional infringement or, alternatively, through its willfully blind disregard of the ’209 Patent by knowing there was a high probability of infringement but taking deliberate actions to avoid confirming that infringement. The filing of this action has also made Defendant aware of the unjustifiably high risk that its actions constituted and continue to constitute infringement of the ’209 Patent. On information and belief, discovery will reveal additional facts and circumstances from which Defendant’s knowledge and intent to infringe (or willful indifference), both before and after the filing of this action, may be inferred.

169. Accordingly, Defendant’s infringement of the ’209 Patent has been and continues to be deliberate, intentional, and willful, and this is therefore an exceptional case warranting an award of enhanced damages and attorneys’ fees and costs pursuant to 35 U.S.C. §§ 284 and 285.

170. As a result of Defendant’s infringement of the ’209 Patent, Dialect has suffered monetary damages, and seeks recovery, in an amount to be proven at trial, adequate to compensate for Defendant’s infringement, but in no event less than a reasonable royalty with interest and costs.

171. On information and belief, Defendant will continue to infringe the ’209 Patent unless enjoined by this Court. Defendant’s infringement of Dialect’s rights under the ’209 Patent

will continue to damage Dialect, causing irreparable harm for which there is no adequate remedy at law, unless enjoined by this Court.

THIRD COUNT
(Infringement of U.S Patent No. 8,195,468)

172. Dialect incorporates by reference the allegations set forth in Paragraphs 1-171 of the Complaint as though fully set forth herein.

173. The claims of the ’468 Patent are valid and enforceable.

174. The claims of the ’468 Patent are directed to patentable subject matter. The ’468 Patent is directed to innovations improve systems and methods for responding to multi-modal user input by using a personalized cognitive model, a general cognitive model, and an environmental model, by determining a context for the multi-modal user input, and by invoking domain agents. The claimed inventions provide specific concrete solutions to the problem of speech recognition in existing systems.

175. On information and belief, in violation of 35 U.S.C. § 271(a), Defendant has directly infringed and continues to directly infringe one or more claims of the ’468 Patent, including at least Claim 19 of the ’468 Patent, in the state of Texas, in this judicial district, and elsewhere in the United States by, among other things, making, using, selling, offering for sale, and/or importing into the United States products and services that embody one or more of the inventions claimed in the ’468 Patent, including the Accused Products.

176. Each of the Accused Products incorporates and/or implements elements that are identical or equivalent to each claimed element of the patented invention claimed by at least Claim 19 of the ’468 Patent:

177. Claim 19 of the ’468 Patent recites:

19. A method for processing multi-modal natural language inputs, comprising:

receiving a multi-modal natural language input at a conversational voice user interface, the multi-modal input including a natural language utterance and a non-speech input provided by a user, wherein a transcription module coupled to the conversational voice user interface transcribes the non-speech input to create a non-speech-based transcription;

identifying the user that provided the multi-modal input;

creating a speech-based transcription of the natural language utterance using a speech recognition engine and a semantic knowledge-based model, wherein the semantic knowledge-based model includes a personalized cognitive model derived from one or more prior interactions between the identified user and the conversational voice user interface, a general cognitive model derived from one or more prior interactions between a plurality of users and the conversational voice user interface, and an environmental model derived from an environment of the identified user and the conversational voice user interface;

merging the speech-based transcription and the non-speech-based transcription to create a merged transcription;

identifying one or more entries in a context stack matching information contained in the merged transcription;

determining a most likely context for the multi-modal input based on the identified entries;

identifying a domain agent associated with the most likely context for the multi-modal input;

communicating a request to the identified domain agent; and

generating a response to the user from content provided by the identified domain agent as a result of processing the request.

’468 Patent, Cl. 19.

178. Each of the Accused Products implements a method recited in claim 19. *See* Appendix C. Fact and expert discovery are expected to confirm that the Accused Products infringe the ’468 Patent, for which further evidence may lie in whole or in part in source code and technical documents to which Dialect does not presently have access.

179. Further, on information and belief, Defendant has actively induced and/or contributed to infringement of at least Claim 19 of the ’468 Patent in violation of at least 35 U.S.C. § 271(b), (c), and (f).

180. Users of the Accused Products directly infringe at least Claim 19 of the ’468 Patent when they use the Accused Products in the ordinary, customary, and intended way.

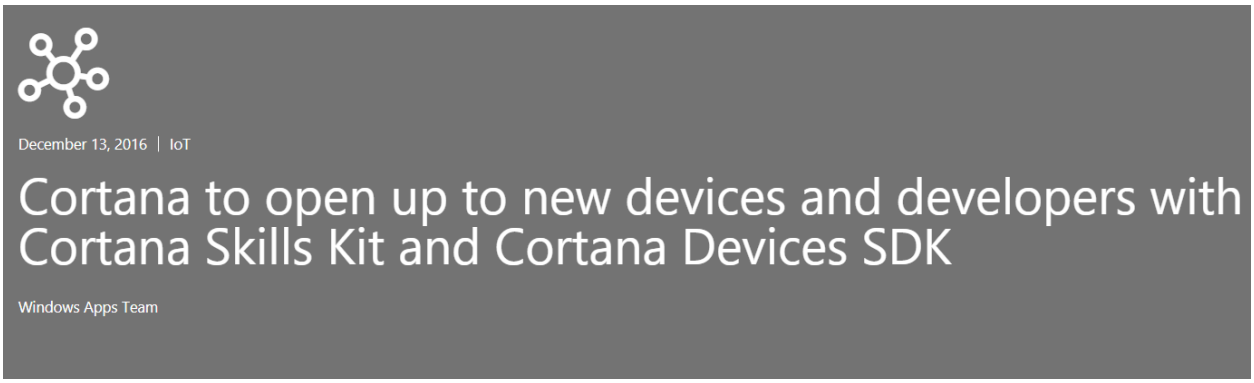
181. On information and belief, Defendant’s inducements in violation of 35 U.S.C. § 271(b) include, without limitation and with specific intent to encourage infringement, knowingly inducing consumers to use the ’468 Accused Products within the United States in the ordinary, customary, and intended way by, directly or through intermediaries, supplying the Accused Products to consumers within the United States and instructing and encouraging such customers to use the Accused Products in the ordinary, customary, and intended way, which Defendant knew infringes at least Claim 19 of the ’468 Patent, or, alternatively, was willfully blind to the infringement.

182. On information and belief, Defendant’s inducements in violation of 35 U.S.C. § 271(b) further include, without limitation and with specific intent to encourage the infringement, knowingly inducing customers to commit acts of infringement with respect to the Accused Products within the United States, by, directly or through intermediaries, instructing and encouraging such customers to import, make, use, sell, offer to sell, or otherwise commit acts of infringement with respect to the Accused Products in the United States, which Defendant knew infringes at least Claim 19 of the ’468 Patent, or, alternatively, was willfully blind to the infringement.

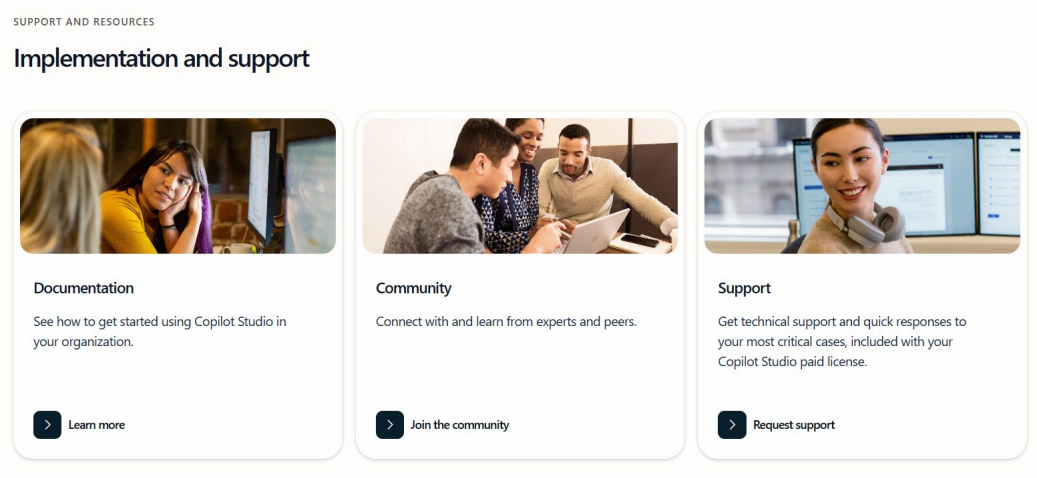
183. On information and belief, Defendant actively advertised the Accused Products with instructions to users to encourage infringement.

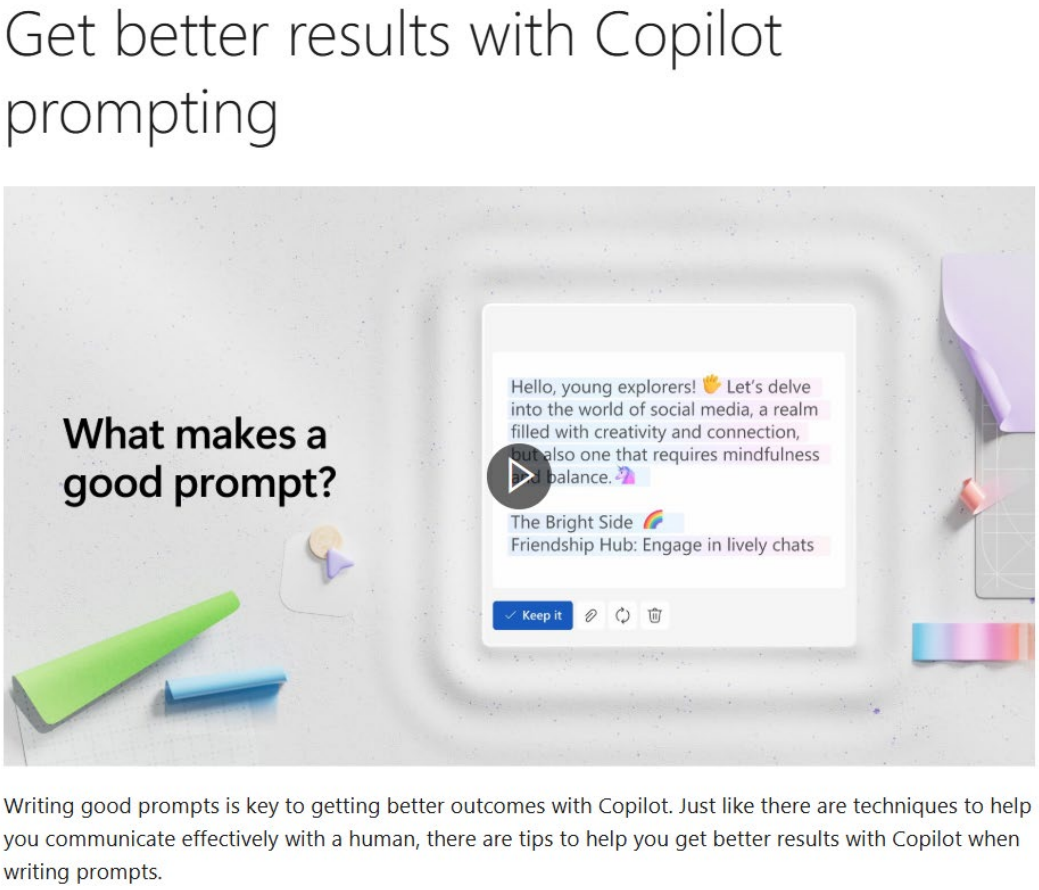
184. For example, Defendant describes Cortana Skills Kit and Cortana Devices SDK on its websites. *See, e.g.*, Microsoft, *Cortana to open up to new devices and developers with Cortana Skills Kit and Cortana Devices SDK* (Dec. 13, 2016),

https://blogs.windows.com/windowsdeveloper/2016/12/13/cortana-skills-kit-cortana-devices-sdk-announcement/ (last accessed December 10, 2024). On information and belief, Defendant actively encourages the users to use the Cortana features shown on Defendant's websites, which features closely match the claim elements the '468 Patent. That supports a reasonable inference that Defendant encourages its users to infringe the '468 Patent.



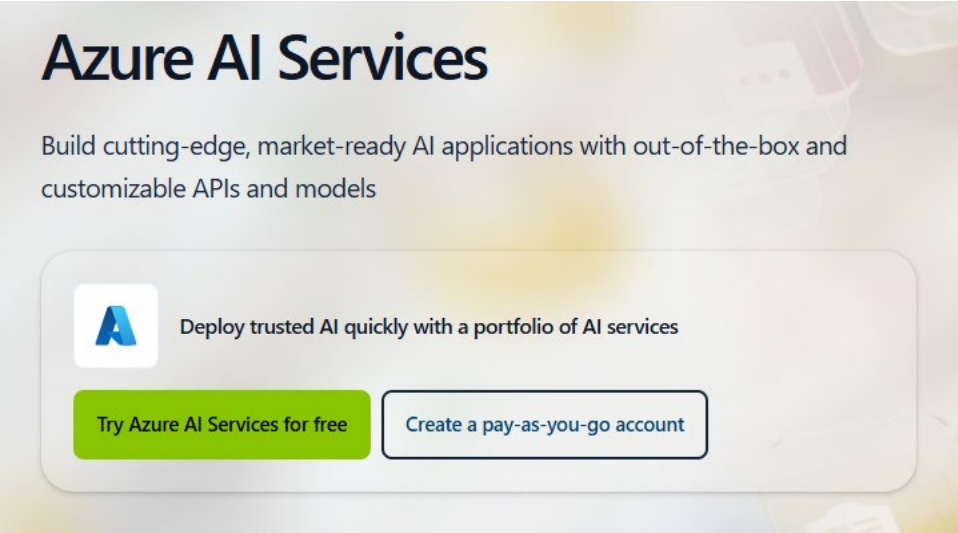
185. For example, Defendant describes Copilot features on its websites. *See, e.g.*, Microsoft, *Microsoft Copilot Studio*, https://www.microsoft.com/en-us/microsoft-copilot/microsoft-copilot-studio (last accessed Nov. 22, 2024); Microsoft, *Get better results with Copilot prompting*, https://support.microsoft.com/en-us/topic/get-better-results-with-copilot-prompting-77251d6c-e162-479d-b398-9e46cf73da55 (last accessed December 10, 2024). On information and belief, the Defendant actively encourages the users to Cortana features shown on Defendant's website, which features closely match the claim elements the '468 Patent. That supports a reasonable inference that Defendant encourages its users to infringe the '468 Patent.

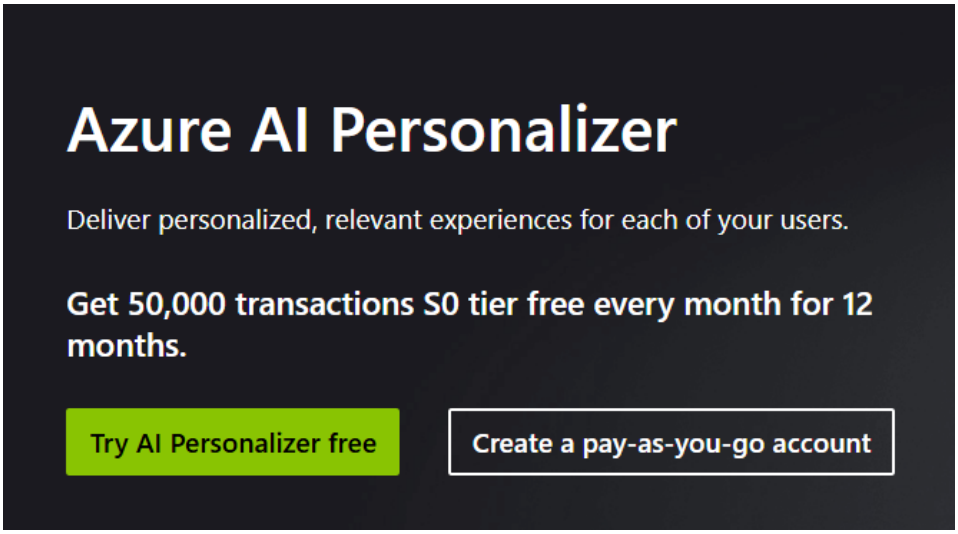




186. For example, Defendant describes Azure AI's features on its websites and actively encourages third parties including developers to use such features. *See, e.g.*, Microsoft, *Azure AI Services*, https://azure.microsoft.com/en-us/solutions/ai (last accessed December 13, 2024); Microsoft, *Azure AI Personalizer*, https://azure.microsoft.com/en-us/products/ai-services/ai-

personalizer (last accessed Dec. 10, 2024). On information and belief, Defendant actively encourages the users to use the Azure AI features shown on Defendant's websites, which features closely match the claim elements the '468 Patent. That supports a reasonable inference that Defendant encourages its users to infringe the '468 Patent.





187. On information and belief, in violation of 35 U.S.C. § 271(c), Defendant's contributory infringement further includes offering to sell or selling within the United States, or importing into the United States, components of the patented invention of and/or a material or apparatus for use in practicing at least Claim 19 of the '468 Patent, constituting a material part of

the invention. On information and belief, Defendant knows and has known the same to be especially made or especially adapted for use in an infringement of the ’468 Patent, and such components are not a staple article or commodity of commerce suitable for substantial non-infringing use. For example, on information and belief, the Accused Products are not a staple article of commerce suitable for substantial non-infringing use, at least because they are especially designed and produced by Defendant to understand and respond to user speech utterances in a manner claimed by the ’468 Patent, and they are not capable of substantial non-infringing use.

188. For example, the Accused Products understand user input using personal and contextual information.

> Reddy says he is now working on helping make user conversations with Cortana more personal and contextual. Sometimes, people ask Cortana follow-up questions, and the team is working on making sure she handles those as skillfully as the initial query.

https://news.microsoft.com/life/why-cortanas-awesome-and-she-knows-it/ (emphasis added)

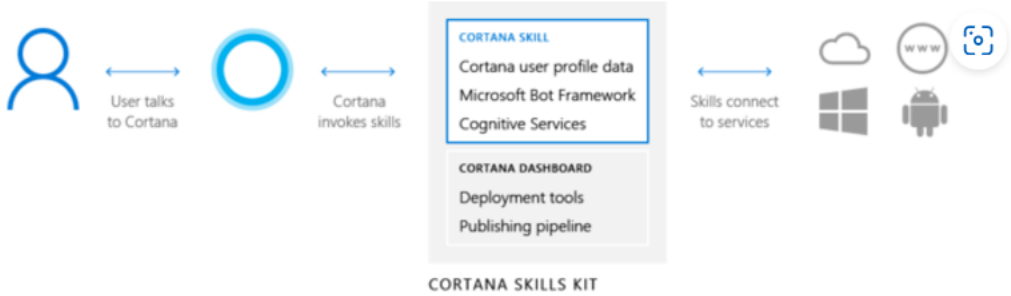
189. For example, the Accused Products use context stack to understand and process user input.

> **The dialog stack**
>
> A dialog context contains information about all active dialogs and includes a *dialog stack*, which acts as a *call stack* for all the active dialogs. Each container dialog has an inner set of dialogs that it's controlling, and so each active container dialog introduces an inner dialog context and dialog stack as part of its state.
>
> While you won't access the stack directly, understanding that it exists and its function will help you understand how various aspects of the dialogs library work.

https://learn.microsoft.com/en-us/azure/bot-service/bot-builder-concept-dialog?view=azure-bot-service-4.0

190. For example, the Accused Products use domain agents to process user input.

How Cortana skills work



How Cortana skills tie into Cognitive Services (click to enlarge)

A Cortana skill is essentially a channel of artificial intelligence accessed through Cortana. There are built-in skills like Search, setting reminders, or launching applications; and there are add-in skills built by third parties. Add-in skills are accessed via invocations, key phrases which are registered with Microsoft, so that when the user says, for example, "Ask <invocation Name> <something>", the question is passed to the registered service rather than being handled by built-in skills. There are currently 17 words you can use before the invocation name, though these are language specific. Unfortunately the only language available in the preview is US English, though if you are in the UK or elsewhere, you can easily set Cortana to US English in order to test a Cortana skill.

https://www.theregister.com/2017/07/26/hands_on_with_cortana_skills/

191. Defendant is not licensed or otherwise authorized to practice the claims of the '468 Patent.

192. Thus, by its acts, Defendant has injured Dialect and is liable to Dialect for directly and/or indirectly infringing one or more claims of the '468 Patent, whether literally or under the doctrine of equivalents, including without limitation Claim 19.

193. As detailed in Paragraphs 96-114, on information and belief, Microsoft became aware of the infringement of the '468 Patent in as early as 2012 when VoiceBox sent a list of its patents including the '468 Patent to Microsoft as a part of the acquisition discussion.

194. At a minimum, Defendant has knowledge of the '468 Patent and its infringement at least as of the filing of the Complaint. Defendant has had, and continues to have, the specific

intent to infringe, through its deliberate and intentional infringement or, alternatively, through its willfully blind disregard of the ’468 Patent by knowing there was a high probability of infringement but taking deliberate actions to avoid confirming that infringement. The filing of this action has also made Defendant aware of the unjustifiably high risk that its actions constituted and continue to constitute infringement of the ’468 Patent. On information and belief, discovery will reveal additional facts and circumstances from which Defendant’s knowledge and intent to infringe (or willful indifference), both before and after the filing of this action, may be inferred.

195. Accordingly, Defendant’s infringement of the ’468 Patent has been and continues to be deliberate, intentional, and willful, and this is therefore an exceptional case warranting an award of enhanced damages and attorneys’ fees and costs pursuant to 35 U.S.C. §§ 284 and 285.

196. As a result of Defendant’s infringement of the ’468 Patent, Dialect has suffered monetary damages, and seeks recovery, in an amount to be proven at trial, adequate to compensate for Defendant’s infringement, but in no event less than a reasonable royalty with interest and costs.

197. On information and belief, Defendant will continue to infringe the ’468 Patent unless enjoined by this Court. Defendant’s infringement of Dialect’s rights under the ’468 Patent will continue to damage Dialect, causing irreparable harm for which there is no adequate remedy at law, unless enjoined by this Court.

FOURTH COUNT
(Infringement of U.S Patent No. 9,626,959)

198. Dialect incorporates by reference the allegations set forth in Paragraphs 1-197 of the Complaint as though fully set forth herein.

199. The claims of the ’959 Patent are valid and enforceable.

200. The claims of the ’959 Patent are directed to patentable subject matter. The ’959 Patent is directed to innovations improve systems for processing natural language command by

switching from a first interpretation of a natural language command to a second interpretation based on a personalized cognitive model. The claimed inventions provide specific concrete solutions to the problem of natural language processing in existing systems.

201. On information and belief, in violation of 35 U.S.C. § 271(a), Defendant has directly infringed and continues to directly infringe one or more claims of the ’959 Patent, including at least Claim 1 of the ’959 Patent, in the state of Texas, in this judicial district, and elsewhere in the United States by, among other things, making, using, selling, offering for sale, and/or importing into the United States products and services that embody one or more of the inventions claimed in the ’959 Patent, including the Accused Products.

202. Each of the Accused Products incorporates and/or implements elements that are identical or equivalent to each claimed element of the patented invention claimed by at least Claim 1 of the ’959 Patent:

203. Claim 1 of the ’959 Patent recites:

> 1. A method of processing natural language command, the method being implemented by a computer system that comprises one or more physical processors executing one or more computer program instructions which, when executed, perform the method, the method comprising:
>
> receiving, by the computer system, a natural language command from a user;
>
> generating, by the computer system, a first interpretation of the natural language command based on one or more recognized words of the natural language command;
>
> performing, by the computer system, a first action specified by the natural language command based on the first interpretation;
>
> accessing, by the computer system, a personalized cognitive model to proactively select a second interpretation of the natural language command responsive to an indication from the user that the first interpretation is not correct; and
>
> proactively performing, by the computer system, a second action specified by the natural language command based on the second interpretation.

’959 Patent, Cl. 1.

204. On information and belief, each of the Accused Products implements a method recited in claim 1. *See* Appendix D. Fact and expert discovery are expected to confirm that the Accused Products infringe the ’959 Patent, for which further evidence may lie in whole or in part in source code and technical documents to which Dialect does not presently have access.

205. Further, on information and belief, Defendant has actively induced and/or contributed to infringement of at least Claim 1 of the ’959 Patent in violation of at least 35 U.S.C. § 271(b), (c), and (f).

206. Users of the Accused Products directly infringe at least Claim 1 of the ’959 Patent when they use the Accused Products in the ordinary, customary, and intended way.

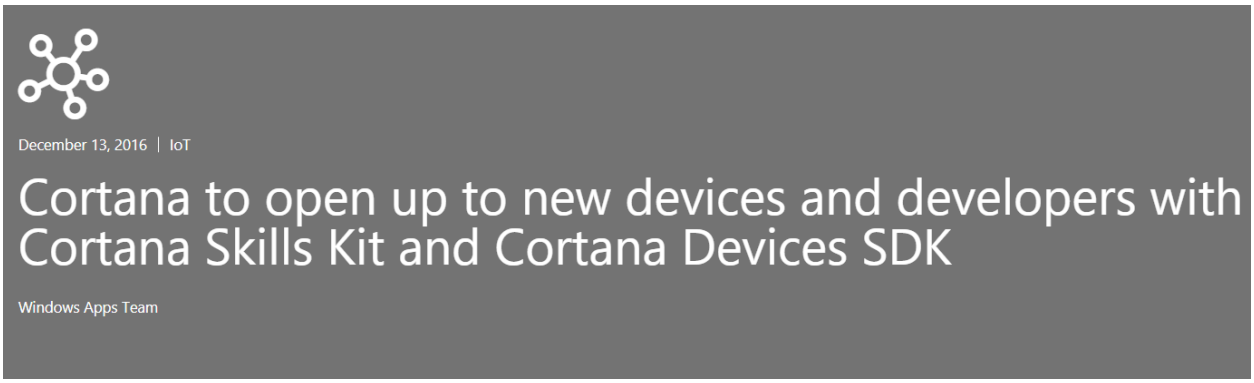
207. On information and belief, Defendant’s inducements in violation of 35 U.S.C. § 271(b) include, without limitation and with specific intent to encourage infringement, knowingly inducing consumers to use the ’959 Accused Products within the United States in the ordinary, customary, and intended way by, directly or through intermediaries, supplying the Accused Products to consumers within the United States and instructing and encouraging such customers to use the Accused Products in the ordinary, customary, and intended way, which Defendant knew infringes at least Claim 1 of the ’959 Patent, or, alternatively, was willfully blind to the infringement.

208. On information and belief, Defendant’s inducements in violation of 35 U.S.C. § 271(b) further include, without limitation and with specific intent to encourage the infringement, knowingly inducing customers to commit acts of infringement with respect to the Accused Products within the United States, by, directly or through intermediaries, instructing and encouraging such customers to import, make, use, sell, offer to sell, or otherwise commit acts of infringement with respect to the Accused Products in the United States, which Defendant knew

infringes at least Claim 1 of the ’959 Patent, or, alternatively, was willfully blind to the infringement.

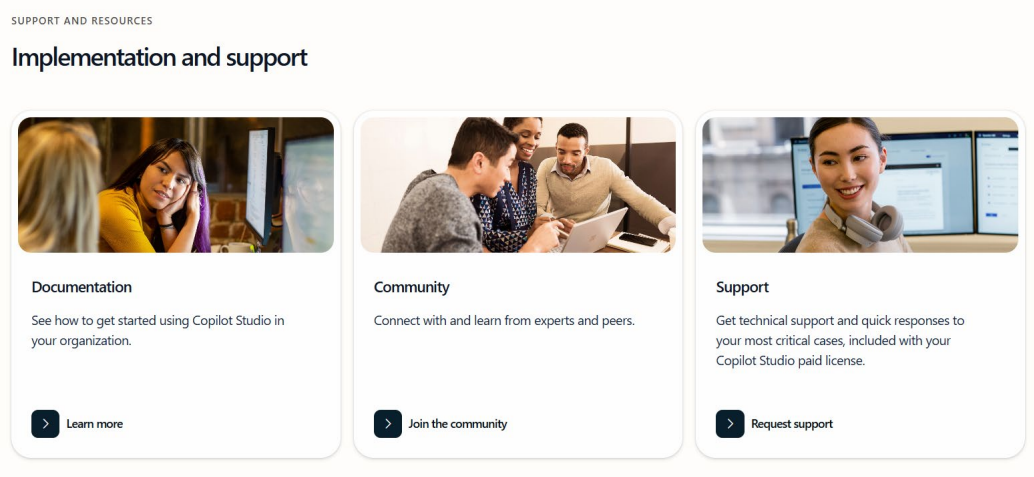
209. On information and belief, Defendant actively advertised the Accused Products with instructions to users to encourage infringement.

210. For example, Defendant describes Cortana Skills Kit and Cortana Devices SDK on its websites. *See, e.g.*, Microsoft, *Cortana to open up to new devices and developers with Cortana Skills Kit and Cortana Devices SDK* (Dec. 13, 2016), https://blogs.windows.com/windowsdeveloper/2016/12/13/cortana-skills-kit-cortana-devices-sdk-announcement/ (last accessed December 10, 2024). On information and belief, Defendant actively encourages the users to use the Cortana features shown on Defendant’s websites, which features closely match the claim elements the ’959 Patent. That supports a reasonable inference that Defendant encourages its users to infringe the ’959 Patent.

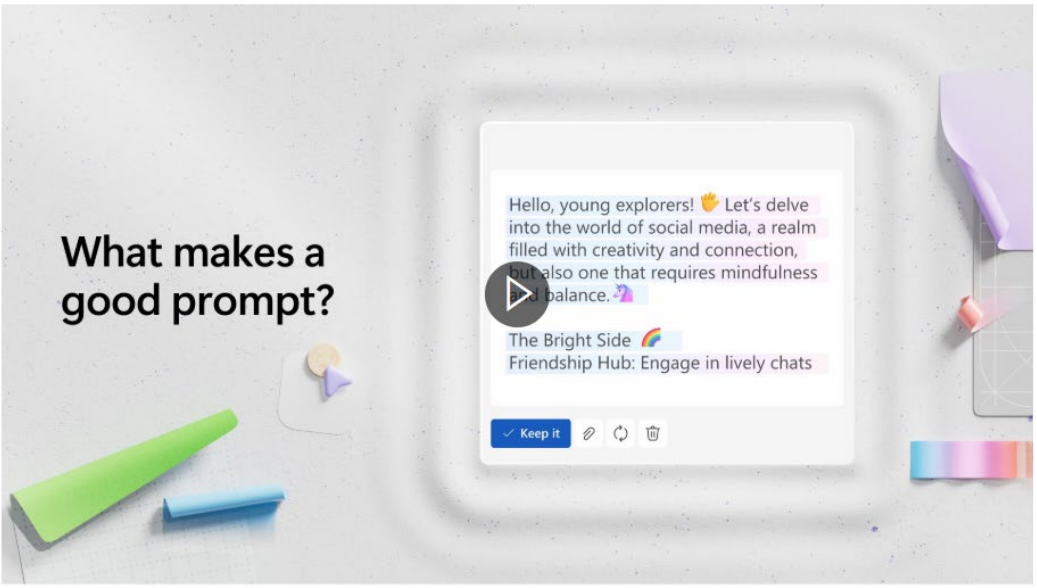


211. For example, Defendant describes Copilot features on its websites. *See, e.g.*, Microsoft, *Microsoft Copilot Studio*, https://www.microsoft.com/en-us/microsoft-copilot/microsoft-copilot-studio (last accessed December 10, 2024); Microsoft, *Get better results with Copilot prompting*, https://support.microsoft.com/en-us/topic/get-better-results-with-copilot-prompting-77251d6c-e162-479d-b398-9e46cf73da55 (last accessed December 10, 2024). On information and belief, the Defendant actively encourages the users to Cortana features shown on

Defendant's website, which features closely match the claim elements the '959 Patent. That supports a reasonable inference that Defendant encourages its users to infringe the '959 Patent.



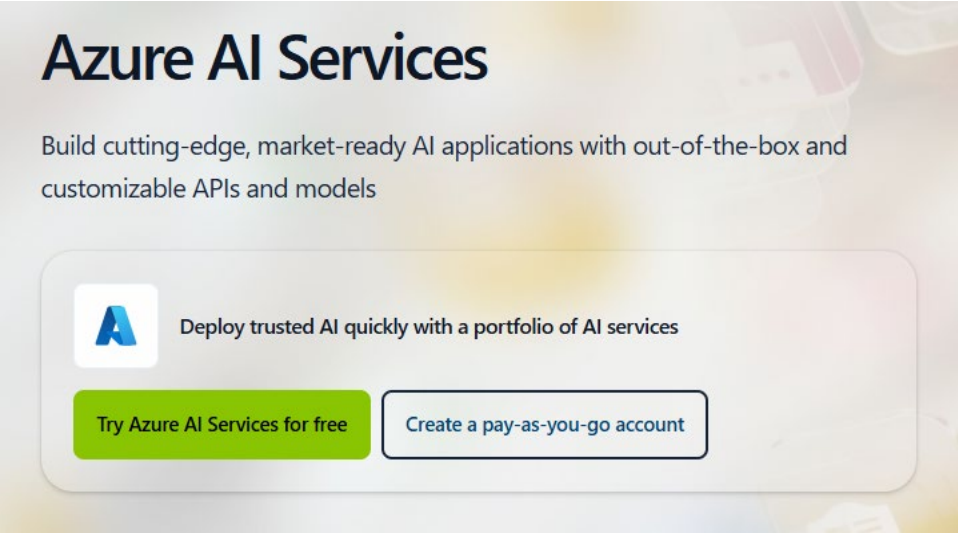
Get better results with Copilot prompting

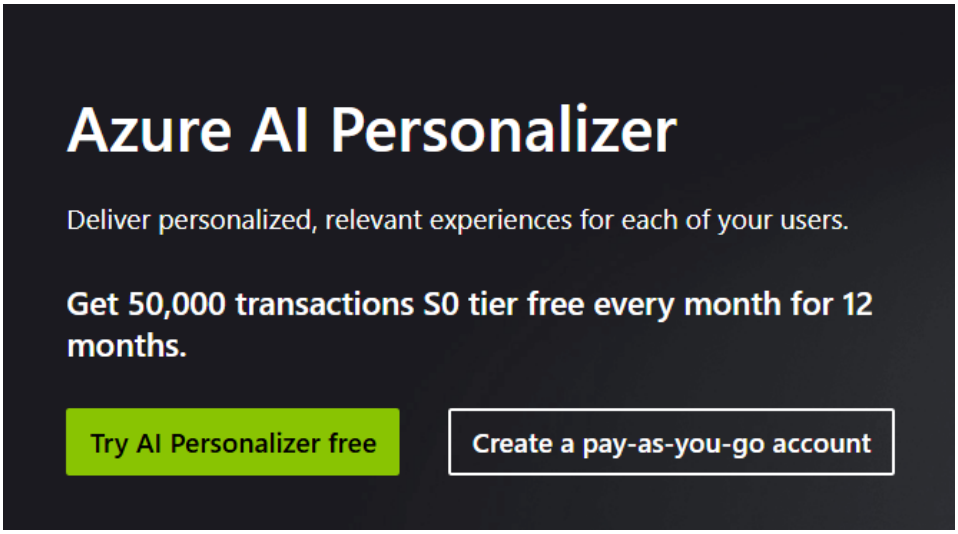


Writing good prompts is key to getting better outcomes with Copilot. Just like there are techniques to help you communicate effectively with a human, there are tips to help you get better results with Copilot when writing prompts.

212. For example, Defendant describes Azure AI's features on its websites and actively encourages third parties including developers to use such features. *See, e.g.*, Microsoft, *Azure AI*

Services, https://azure.microsoft.com/en-us/products/ai-services (last accessed December 13, 2024); Microsoft, *Azure AI Personalizer*, https://azure.microsoft.com/en-us/products/ai-services/ai-personalizer (last accessed Dec. 10, 2024). On information and belief, Defendant actively encourages the users to use the Azure AI features shown on Defendant's websites, which features closely match the claim elements the '959 Patent. That supports a reasonable inference that Defendant encourages its users to infringe the '959 Patent.





213. On information and belief, in violation of 35 U.S.C. § 271(c), Defendant's contributory infringement further includes offering to sell or selling within the United States, or

importing into the United States, components of the patented invention of and/or a material or apparatus for use in practicing at least Claim 1 of the ’959 Patent, constituting a material part of the invention. On information and belief, Defendant knows and has known the same to be especially made or especially adapted for use in an infringement of the ’959 Patent, and such components are not a staple article or commodity of commerce suitable for substantial non-infringing use. For example, on information and belief, the Accused Products are not a staple article of commerce suitable for substantial non-infringing use, at least because they are especially designed and produced by Defendant to understand and respond to user speech utterances in a manner claimed by the ’959 Patent, and they are not capable of substantial non-infringing use.

214. For example, Defendant describes how the Accused Products uses a personalized cognitive model to interpret user input.

> The Copilot website and app (available on iOS and Android) is the core of the consumer Copilot experience. Within this core experience, users can search the web, create text, images, songs, or other outputs, or engage with other features, such as plugins. On the website and in the app, users enter “prompts” that provide instructions to Copilot (e.g. “Give me recommendations for a restaurant that accommodates parties of 10 near me”). In order to provide a relevant response, Copilot will use this prompt, along with the user’s location, language and similar settings, to formulate a helpful response. In some markets, authenticated users can choose to allow Copilot to have access to prior prompt history to better personalise the product. The consumer Copilot product uses the data collected to provide and improve the Copilot services, including to provide relevant advertising. Users who are signed-in to their account can manage their prompt history in product and on the Microsoft Privacy Dashboard, and can adjust their location, language, and other settings in the product.

https://www.microsoft.com/en-ca/privacy/privacystatement

215. Defendant is not licensed or otherwise authorized to practice the claims of the ’959 Patent.

216. Thus, by its acts, Defendant has injured Dialect and is liable to Dialect for directly and/or indirectly infringing one or more claims of the ’959 Patent, whether literally or under the doctrine of equivalents, including without limitation Claim 1.

217. As detailed in Paragraphs 96-114, on information and belief, Microsoft became aware of the infringement of the ’959 Patent in as early as 2017 when the patent was issued.

218. At a minimum, Defendant has knowledge of the ’959 Patent and its infringement at least as of the filing of the Complaint. Defendant has had, and continues to have, the specific intent to infringe, through its deliberate and intentional infringement or, alternatively, through its willfully blind disregard of the ’959 Patent by knowing there was a high probability of infringement but taking deliberate actions to avoid confirming that infringement. The filing of this action has also made Defendant aware of the unjustifiably high risk that its actions constituted and continue to constitute infringement of the ’959 Patent. On information and belief, discovery will reveal additional facts and circumstances from which Defendant’s knowledge and intent to infringe (or willful indifference), both before and after the filing of this action, may be inferred.

219. Accordingly, Defendant’s infringement of the ’959 Patent has been and continues to be deliberate, intentional, and willful, and this is therefore an exceptional case warranting an award of enhanced damages and attorneys’ fees and costs pursuant to 35 U.S.C. §§ 284 and 285.

220. As a result of Defendant’s infringement of the ’959 Patent, Dialect has suffered monetary damages, and seeks recovery, in an amount to be proven at trial, adequate to compensate for Defendant’s infringement, but in no event less than a reasonable royalty with interest and costs.

221. On information and belief, Defendant will continue to infringe the ’959 Patent unless enjoined by this Court. Defendant’s infringement of Dialect’s rights under the ’959 Patent will continue to damage Dialect, causing irreparable harm for which there is no adequate remedy at law, unless enjoined by this Court.

FIFTH COUNT
(Infringement of U.S Patent No. 7,634,409)

222. Dialect incorporates by reference the allegations set forth in Paragraphs 1-221 of the Complaint as though fully set forth herein.

223. The claims of the ’409 Patent are valid and enforceable.

224. The claims of the ’409 Patent are directed to patentable subject matter. The ’409 Patent is directed to innovations that improve systems for speech interpretation. The claimed inventions provide specific concrete solutions to the problem of speech recognition in existing systems.

225. On information and belief, in violation of 35 U.S.C. § 271(a), Defendant has directly infringed and continues to directly infringe one or more claims of the ’409 Patent, including at least Claim 1 of the ’409 Patent, in the state of Texas, in this judicial district, and elsewhere in the United States by, among other things, making, using, selling, offering for sale, and/or importing into the United States products and services that embody one or more of the inventions claimed in the ’409 Patent, including the Accused Products.

226. Each of the Accused Products incorporates and/or implements elements that are identical or equivalent to each claimed element of the patented invention claimed by at least Claim 1 of the ’409 Patent:

227. Claim 1 of the ’409 Patent recites:

> 1. A method for providing out-of-vocabulary interpretation capabilities and for tolerating noise when interpreting natural language speech utterances, the method comprising:
>
> receiving an utterance from a user;
>
> recognizing a stream of phonemes contained in the utterance on an electronic device;
>
> mapping the recognized stream of phonemes to an acoustic grammar that phonemically represents one or more syllables, the recognized stream

of phonemes mapped to a series of one or more of the phonemically represented syllables; and

generating at least one interpretation of the utterance, wherein the generated interpretation includes the series of syllables mapped to the recognized stream of phonemes.

’409 Patent, Cl. 1.

228. On information and belief, each of the Accused Products implements a method recited in claim 1. *See* Appendix E. Fact and expert discovery are expected to confirm that the Accused Products infringe the ’409 Patent, for which further evidence may lie in whole or in part in source code and technical documents to which Dialect does not presently have access.

229. Further, on information and belief, Defendant has actively induced and/or contributed to infringement of at least Claim 1 of the ’409 Patent in violation of at least 35 U.S.C. § 271(b), (c), and (f).

230. Users of the Accused Products directly infringe at least Claim 1 of the ’409 Patent when they use the Accused Products in the ordinary, customary, and intended way.

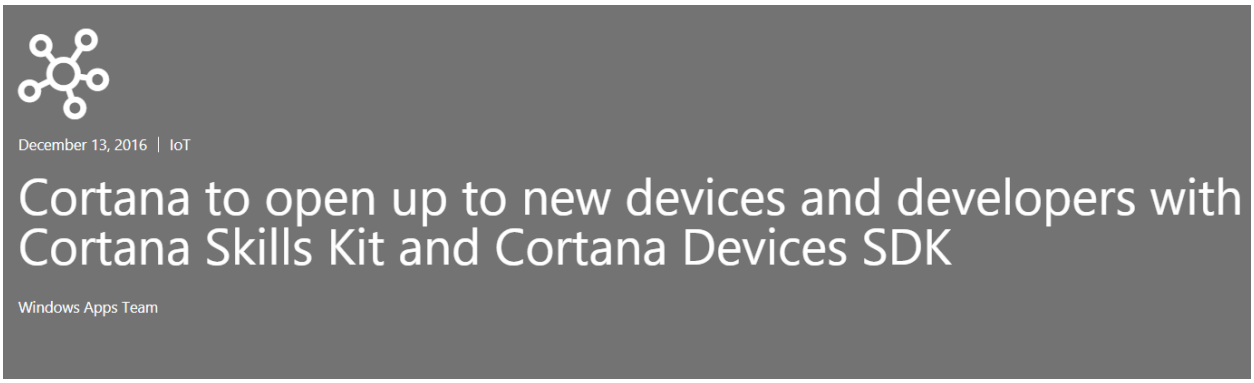
231. On information and belief, Defendant’s inducements in violation of 35 U.S.C. § 271(b) include, without limitation and with specific intent to encourage infringement, knowingly inducing consumers to use the ’409 Accused Products within the United States in the ordinary, customary, and intended way by, directly or through intermediaries, supplying the Accused Products to consumers within the United States and instructing and encouraging such customers to use the Accused Products in the ordinary, customary, and intended way, which Defendant knew infringes at least Claim 1 of the ’409 Patent, or, alternatively, was willfully blind to the infringement.

232. On information and belief, Defendant’s inducements in violation of 35 U.S.C. § 271(b) further include, without limitation and with specific intent to encourage the infringement,

knowingly inducing customers to commit acts of infringement with respect to the Accused Products within the United States, by, directly or through intermediaries, instructing and encouraging such customers to import, make, use, sell, offer to sell, or otherwise commit acts of infringement with respect to the Accused Products in the United States, which Defendant knew infringes at least Claim 1 of the ’409 Patent, or, alternatively, was willfully blind to the infringement.

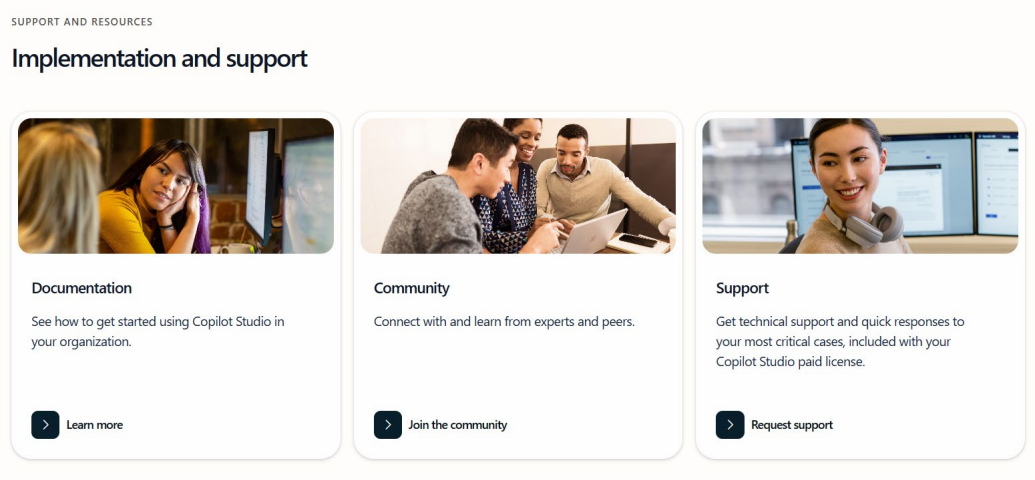
233. On information and belief, Defendant actively advertised the Accused Products with instructions to users to encourage infringement.

234. For example, Defendant describes Cortana Skills Kit and Cortana Devices SDK on its websites. *See, e.g.*, Microsoft, *Cortana to open up to new devices and developers with Cortana Skills Kit and Cortana Devices SDK* (Dec. 13, 2016), https://blogs.windows.com/windowsdeveloper/2016/12/13/cortana-skills-kit-cortana-devices-sdk-announcement/ (last accessed Dec. 13, 2024). On information and belief, Defendant actively encourages the users to use the Cortana features shown on Defendant’s websites, which features closely match the claim elements the ’409 Patent. That supports a reasonable inference that Defendant encourages its users to infringe the ’409 Patent.

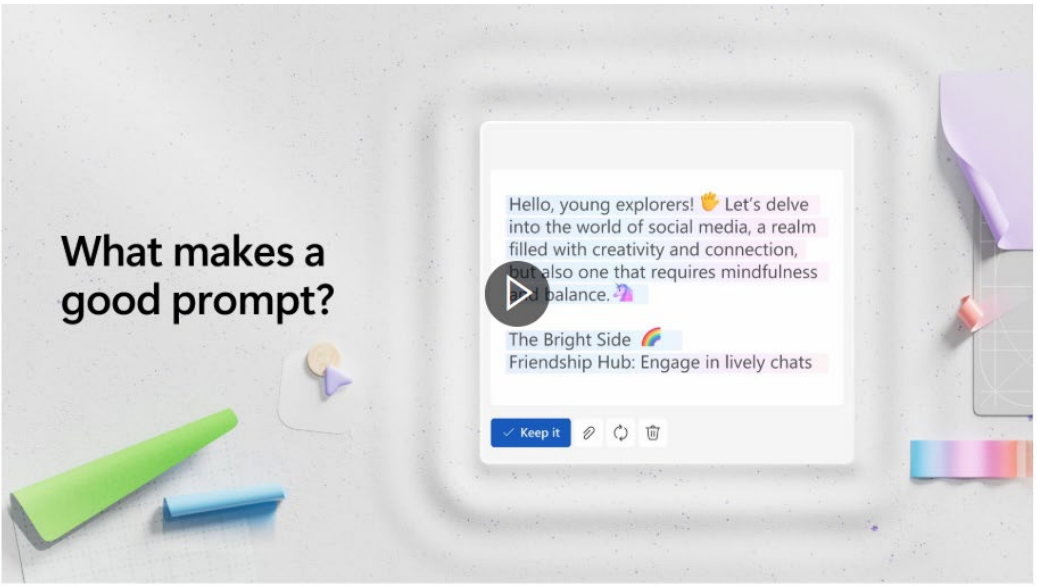


235. For example, Defendant describes Copilot features on its websites. *See, e.g.*, Microsoft, *Microsoft Copilot Studio*, https://www.microsoft.com/en-us/microsoft-

copilot/microsoft-copilot-studio (last accessed Dec. 13, 2024); Microsoft, *Get better results with Copilot prompting*, https://support.microsoft.com/en-us/topic/get-better-results-with-copilot-prompting-77251d6c-e162-479d-b398-9e46cf73da55 (last accessed December 10, 2024). On information and belief, the Defendant actively encourages the users to Cortana features shown on Defendant's website, which features closely match the claim elements the '409 Patent. That supports a reasonable inference that Defendant encourages its users to infringe the '409 Patent.

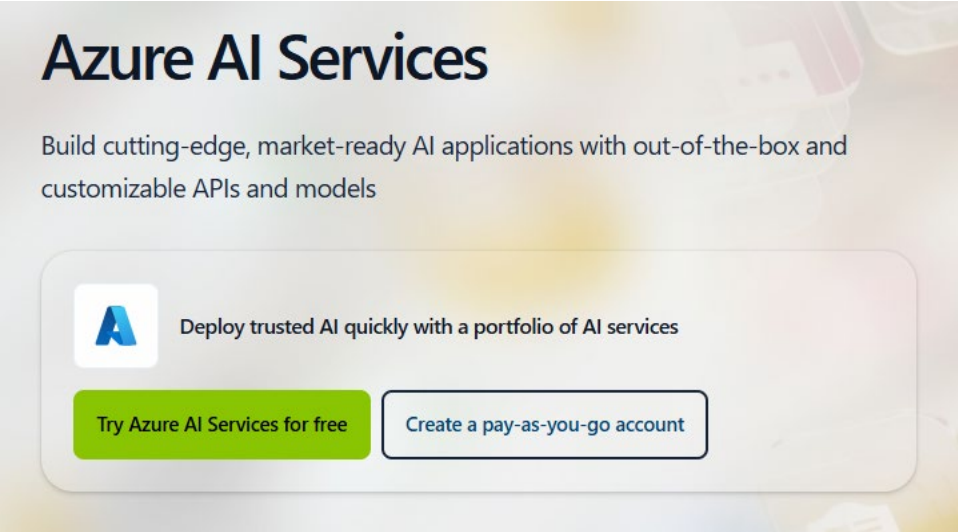


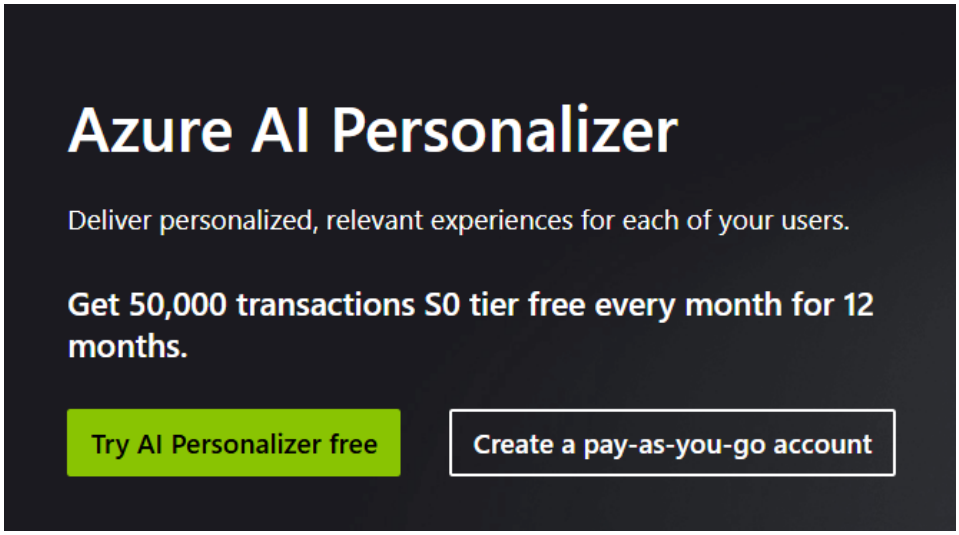
Get better results with Copilot prompting



Writing good prompts is key to getting better outcomes with Copilot. Just like there are techniques to help you communicate effectively with a human, there are tips to help you get better results with Copilot when writing prompts.

236. For example, Defendant describes Azure AI's features on its websites and actively encourages third parties including developers to use such features. *See, e.g.*, Microsoft, *Azure AI Services*, https://azure.microsoft.com/en-us/products/ai-services (last accessed December 13, 2024); Microsoft, *Azure AI Personalizer*, https://azure.microsoft.com/en-us/products/ai-services/ai-personalizer (last accessed Dec. 10, 2024). On information and belief, Defendant actively encourages the users to use the Azure AI features shown on Defendant's websites, which features closely match the claim elements the '409 Patent. That supports a reasonable inference that Defendant encourages its users to infringe the '409 Patent.





237. On information and belief, in violation of 35 U.S.C. § 271(c), Defendant's contributory infringement further includes offering to sell or selling within the United States, or importing into the United States, components of the patented invention of and/or a material or apparatus for use in practicing at least Claim 1 of the '409 Patent, constituting a material part of the invention. On information and belief, Defendant knows and has known the same to be especially made or especially adapted for use in an infringement of the '409 Patent, and such components are not a staple article or commodity of commerce suitable for substantial non-infringing use. For example, on information and belief, the Accused Products are not a staple

article of commerce suitable for substantial non-infringing use, at least because they are especially designed and produced by Defendant to understand and respond to user speech utterances in a manner claimed by the ’409 Patent, and they are not capable of substantial non-infringing use.

238. For example, on information and belief, the Accused Products provide out-of-vocabulary interpretation for user input.

Microsoft | Research Our research Programs & events Connect & learn About Register: Research Forum All Microsoft Search

Confidence Estimation, OOV Detection and Language ID Using Phone-to-Word Transduction and Phone-Level Alignments

Chris White, Geoffrey Zweig
In Proceedings of ICASSP | January 2008

Download BibTex

Automatic Speech Recognition (ASR) systems continue to make errors during search when handling various phenomena including noise, pronunciation variation, and out of vocabulary (OOV) words. Predicting the probability that a word is incorrect can prevent the error from propagating and perhaps allow the system to recover. This paper addresses the problem of detecting errors and OOVs for read Wall Street Journal speech when the word error rate (WER) is very low. It augments a traditional confidence estimate by introducing two novel methods: phone-level comparison using Multi-String Alignment (MSA) and word-level comparison using phone-to-word transduction. We show that features from phone and word string comparisons can be added to a standard maximum entropy framework thereby substantially improving performance in detecting both errors and OOVs. Additionally we show an extension to detecting English and accented English for the Language Identification (LID) task.

Publication

Projects

Acoustic Modeling

Research Areas

Human language technologies

https://www.microsoft.com/en-us/research/publication/confidence-estimation-oov-detection-and-language-id-using-phone-to-word-transduction-and-phone-level-alignments/

239. Defendant is not licensed or otherwise authorized to practice the claims of the ’409 Patent.

240. Thus, by its acts, Defendant has injured Dialect and is liable to Dialect for directly and/or indirectly infringing one or more claims of the ’409 Patent, whether literally or under the doctrine of equivalents, including without limitation Claim 1.

241. As detailed in Paragraphs 96-114, on information and belief, Microsoft became aware of the infringement of the ’409 Patent in as early as 2012 when VoiceBox sent a list of its patents to Microsoft as a part of the acquisition discussion, which list includes the ’409 Patent.

242. At a minimum, Defendant has knowledge of the ’409 Patent and its infringement at least as of the filing of the Complaint. Defendant has had, and continues to have, the specific intent to infringe, through its deliberate and intentional infringement or, alternatively, through its

willfully blind disregard of the ’409 Patent by knowing there was a high probability of infringement but taking deliberate actions to avoid confirming that infringement. The filing of this action has also made Defendant aware of the unjustifiably high risk that its actions constituted and continue to constitute infringement of the ’409 Patent. On information and belief, discovery will reveal additional facts and circumstances from which Defendant’s knowledge and intent to infringe (or willful indifference), both before and after the filing of this action, may be inferred.

243. Accordingly, Defendant’s infringement of the ’409 Patent has been and continues to be deliberate, intentional, and willful, and this is therefore an exceptional case warranting an award of enhanced damages and attorneys’ fees and costs pursuant to 35 U.S.C. §§ 284 and 285.

244. As a result of Defendant’s infringement of the ’409 Patent, Dialect has suffered monetary damages, and seeks recovery, in an amount to be proven at trial, adequate to compensate for Defendant’s infringement, but in no event less than a reasonable royalty with interest and costs.

245. On information and belief, Defendant will continue to infringe the ’409 Patent unless enjoined by this Court. Defendant’s infringement of Dialect’s rights under the ’409 Patent will continue to damage Dialect, causing irreparable harm for which there is no adequate remedy at law, unless enjoined by this Court.

SIXTH COUNT
(Infringement of U.S Patent No. 8,015,006)

246. Dialect incorporates by reference the allegations set forth in Paragraphs 1-245 of the Complaint as though fully set forth herein.

247. The claims of the ’006 Patent are valid and enforceable.

248. The claims of the ’006 Patent are directed to patentable subject matter. The ’006 Patent is directed to innovations that improve systems for natural language processing. The

claimed inventions provide specific concrete solutions to the problem of natural language processing in existing systems.

249. On information and belief, in violation of 35 U.S.C. § 271(a), Defendant has directly infringed and continues to directly infringe one or more claims of the ’006 Patent, including at least Claim 1 of the ’006 Patent, in the state of Texas, in this judicial district, and elsewhere in the United States by, among other things, making, using, selling, offering for sale, and/or importing into the United States products and services that embody one or more of the inventions claimed in the ’006 Patent, including the Accused Products.

250. Each of the Accused Products incorporates and/or implements elements that are identical or equivalent to each claimed element of the patented invention claimed by at least Claim 1 of the ’006 Patent:

251. Claim 1 of the ’006 Patent recites:

> 1. A method for processing natural language speech utterances with context-specific domain agents, comprising:
>
> receiving, at a speech unit coupled to a processing device, a natural language speech utterance that contains a request;
>
> recognizing, at a speech recognition engine coupled to the processing device, one or more words or phrases contained in the utterance using information in one or more dictionary and phrase tables, wherein recognizing the one or more words or phrases contained in the utterance includes:
>
> dynamically updating the information in the one or more dictionary and phrase tables based on a dynamic set of prior probabilities or fuzzy possibilities;
>
> determining an identity associated with a user that spoke the utterance based on voice characteristics associated with the utterance; and
>
> associating the one or more recognized words or phrases and a pronunciation associated with the one or more recognized words or phrases with the determined identity and the request contained in the utterance in response to the one or more recognized words or phrases satisfying a predetermined confidence level;
>
> parsing, at a parser coupled to the processing device, the one or more recognized words or phrases to determine a meaning associated with the utterance and a context associated with the request contained in the utterance, wherein the one

or more recognized words or phrases are further associated with the determined context in response to the one or more recognized words or phrases satisfying the predetermined confidence level;

formulating, at the parser, the request contained in the utterance in accordance with a grammar used by a domain agent associated with the determined context;

processing the formulated request with the domain agent associated with the determined context to generate a response to the utterance; and

presenting the generated response to the utterance via the speech unit.

'006 Patent, Cl. 1.

252. Each of the Accused Products implements a method recited in claim 1. *See* Appendix F. Fact and expert discovery are expected to confirm that the Accused Products infringe the '006 Patent, for which further evidence may lie in whole or in part in source code and technical documents to which Dialect does not presently have access.

253. Further, on information and belief, Defendant has actively induced and/or contributed to infringement of at least Claim 1 of the '006 Patent in violation of at least 35 U.S.C. § 271(b), (c), and (f).

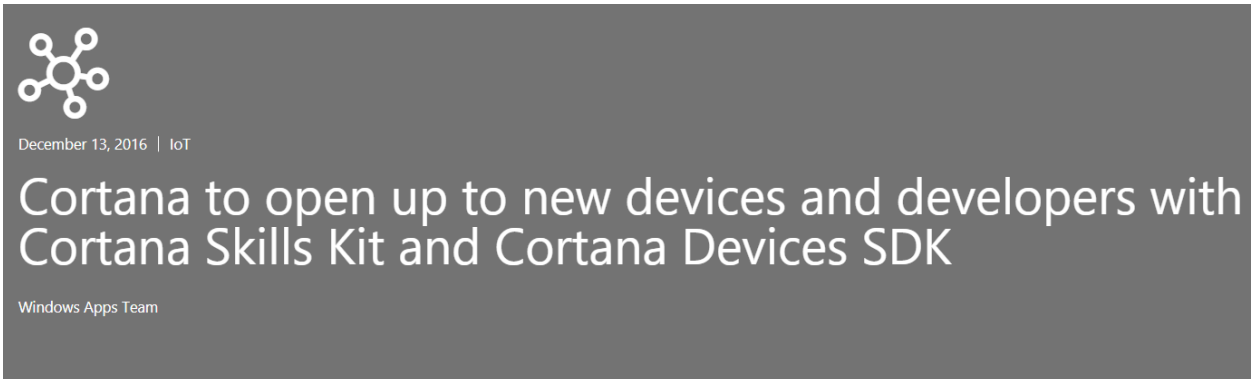
254. Users of the Accused Products directly infringe at least Claim 1 of the '006 Patent when they use the Accused Products in the ordinary, customary, and intended way.

255. On information and belief, Defendant's inducements in violation of 35 U.S.C. § 271(b) include, without limitation and with specific intent to encourage infringement, knowingly inducing consumers to use the '006 Accused Products within the United States in the ordinary, customary, and intended way by, directly or through intermediaries, supplying the Accused Products to consumers within the United States and instructing and encouraging such customers to use the Accused Products in the ordinary, customary, and intended way, which Defendant knew infringes at least Claim 1 of the '006 Patent, or, alternatively, was willfully blind to the infringement.

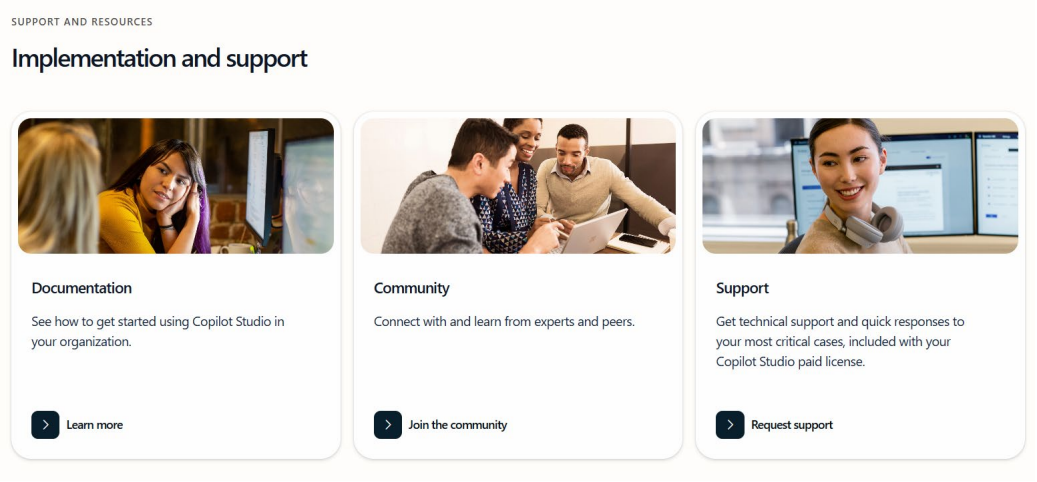
256. On information and belief, Defendant's inducements in violation of 35 U.S.C. § 271(b) further include, without limitation and with specific intent to encourage the infringement, knowingly inducing customers to commit acts of infringement with respect to the Accused Products within the United States, by, directly or through intermediaries, instructing and encouraging such customers to import, make, use, sell, offer to sell, or otherwise commit acts of infringement with respect to the Accused Products in the United States, which Defendant knew infringes at least Claim 1 of the '006 Patent, or, alternatively, was willfully blind to the infringement.

257. On information and belief, Defendant actively advertised the Accused Products with instructions to users to encourage infringement.

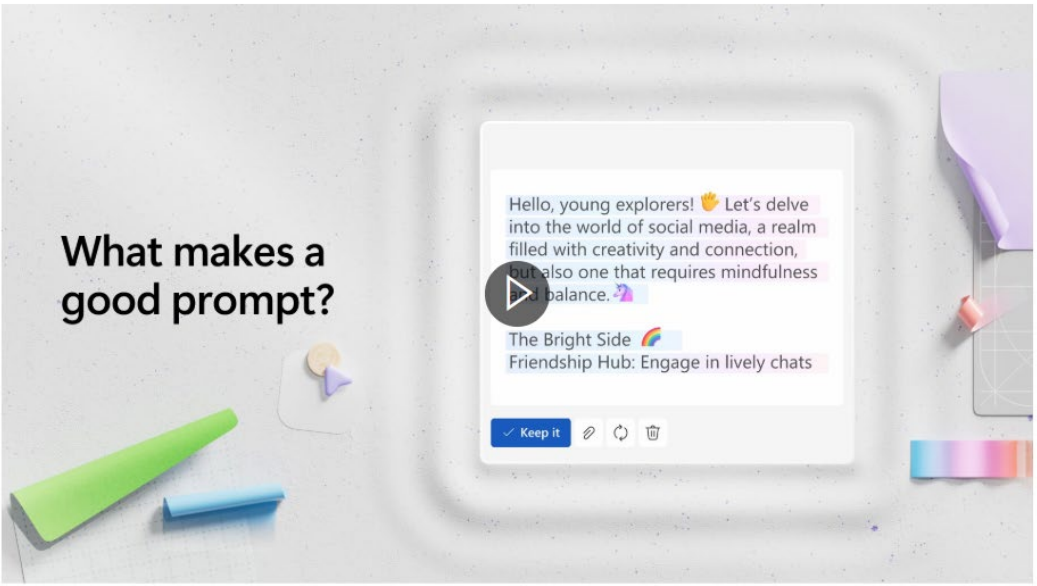
258. For example, Defendant describes Cortana Skills Kit and Cortana Devices SDK on its websites. *See, e.g.*, Microsoft, *Cortana to open up to new devices and developers with Cortana Skills Kit and Cortana Devices SDK* (Dec. 13, 2016), https://blogs.windows.com/windowsdeveloper/2016/12/13/cortana-skills-kit-cortana-devices-sdk-announcement/ (last accessed December 13, 2024). On information and belief, Defendant actively encourages the users to use the Cortana features shown on Defendant's websites, which features closely match the claim elements the '006 Patent. That supports a reasonable inference that Defendant encourages its users to infringe the '006 Patent.



259. For example, Defendant describes Copilot features on its websites. *See, e.g.*, Microsoft, *Microsoft Copilot Studio*, https://www.microsoft.com/en-us/microsoft-copilot/microsoft-copilot-studio (last accessed Nov. 22, 2024); Microsoft, *Get better results with Copilot prompting*, https://support.microsoft.com/en-us/topic/get-better-results-with-copilot-prompting-77251d6c-e162-479d-b398-9e46cf73da55 (last accessed December 10, 2024). On information and belief, the Defendant actively encourages the users to Cortana features shown on Defendant's website, which features closely match the claim elements the '006 Patent. That supports a reasonable inference that Defendant encourages its users to infringe the '006 Patent.

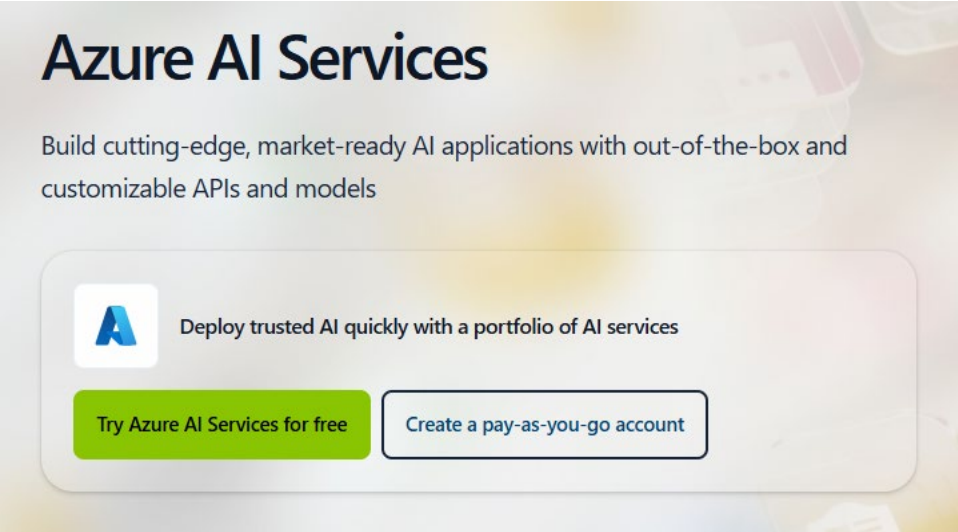


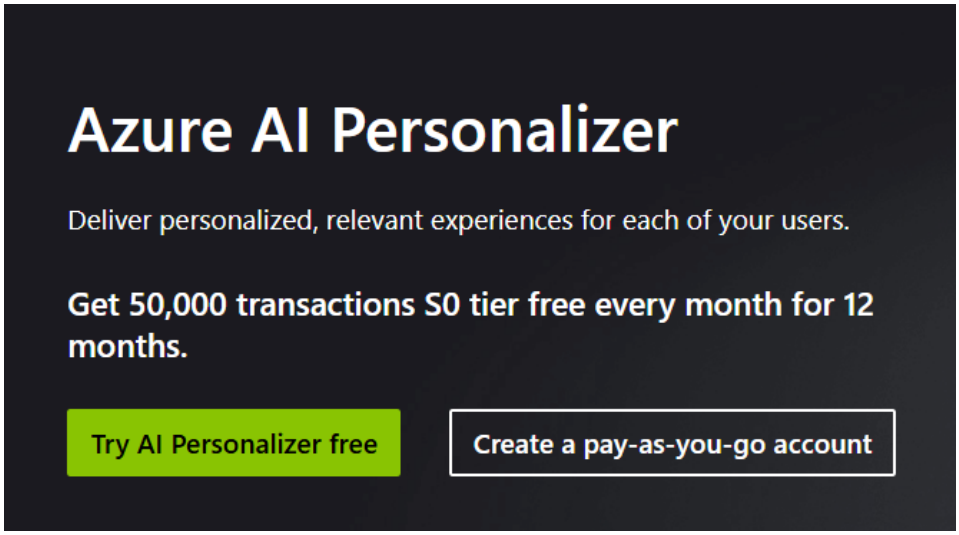
Get better results with Copilot prompting



Writing good prompts is key to getting better outcomes with Copilot. Just like there are techniques to help you communicate effectively with a human, there are tips to help you get better results with Copilot when writing prompts.

260. For example, Defendant describes Azure AI's features on its websites and actively encourages third parties including developers to use such features. *See, e.g.*, Microsoft, *Azure AI Services*, https://azure.microsoft.com/en-us/products/ai-services (last accessed December 13, 2024); Microsoft, *Azure AI Personalizer*, https://azure.microsoft.com/en-us/products/ai-services/ai-personalizer (last accessed Dec. 10, 2024). On information and belief, Defendant actively encourages the users to use the Azure AI features shown on Defendant's websites, which features closely match the claim elements the '006 Patent. That supports a reasonable inference that Defendant encourages its users to infringe the '006 Patent.





261. On information and belief, in violation of 35 U.S.C. § 271(c), Defendant's contributory infringement further includes offering to sell or selling within the United States, or importing into the United States, components of the patented invention of and/or a material or apparatus for use in practicing at least Claim 1 of the '006 Patent, constituting a material part of the invention. On information and belief, Defendant knows and has known the same to be especially made or especially adapted for use in an infringement of the '006 Patent, and such components are not a staple article or commodity of commerce suitable for substantial non-infringing use. For example, on information and belief, the Accused Products are not a staple

article of commerce suitable for substantial non-infringing use, at least because they are especially designed and produced by Defendant to understand and respond to user speech utterances in a manner claimed by the ’006 Patent, and they are not capable of substantial non-infringing use.

262. For example, the Accused Products interpret user input using dynamically updated information.

The dialog stack

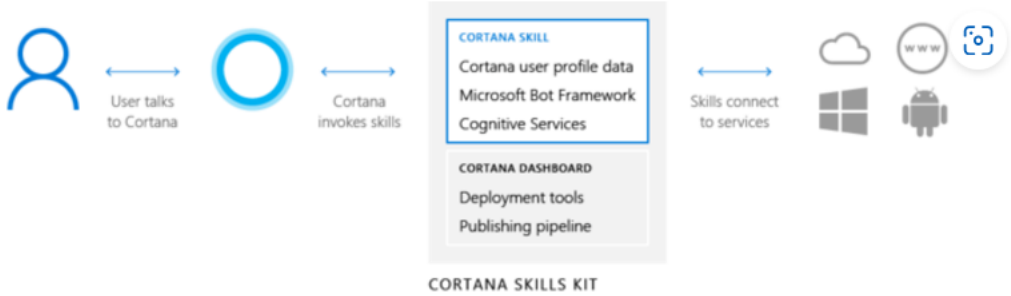
A dialog context contains information about all active dialogs and includes a *dialog stack*, which acts as a *call stack* for all the active dialogs. Each container dialog has an inner set of dialogs that it's controlling, and so each active container dialog introduces an inner dialog context and dialog stack as part of its state.

While you won't access the stack directly, understanding that it exists and its function will help you understand how various aspects of the dialogs library work.

https://learn.microsoft.com/en-us/azure/bot-service/bot-builder-concept-dialog?view=azure-bot-service-4.0

263. For example, the Accused Products use domain agents to process user input.

How Cortana skills work



How Cortana skills tie into Cognitive Services (click to enlarge)

A Cortana skill is essentially a channel of artificial intelligence accessed through Cortana. There are built-in skills like Search, setting reminders, or launching applications; and there are add-in skills built by third parties. Add-in skills are accessed via invocations, key phrases which are registered with Microsoft, so that when the user says, for example, "Ask <invocation Name> <something>", the question is passed to the registered service rather than being handled by built-in skills. There are currently 17 words you can use before the invocation name, though these are language specific. Unfortunately the only language available in the preview is US English, though if you are in the UK or elsewhere, you can easily set Cortana to US English in order to test a Cortana skill.

https://www.theregister.com/2017/07/26/hands_on_with_cortana_skills/

264. Defendant is not licensed or otherwise authorized to practice the claims of the '006 Patent.

265. Thus, by its acts, Defendant has injured Dialect and is liable to Dialect for directly and/or indirectly infringing one or more claims of the '006 Patent, whether literally or under the doctrine of equivalents, including without limitation Claim 1.

266. As detailed in Paragraphs 96-114, on information and belief, Microsoft became aware of the infringement of the '006 Patent in as early as 2012 when VoiceBox sent a list of its patents to Microsoft as a part of the acquisition discussion, which list includes the '006 Patent.

267. At a minimum, Defendant has knowledge of the '006 Patent and its infringement at least as of the filing of the Complaint. Defendant has had, and continues to have, the specific

intent to infringe, through its deliberate and intentional infringement or, alternatively, through its willfully blind disregard of the ’006 Patent by knowing there was a high probability of infringement but taking deliberate actions to avoid confirming that infringement. The filing of this action has also made Defendant aware of the unjustifiably high risk that its actions constituted and continue to constitute infringement of the ’006 Patent. On information and belief, discovery will reveal additional facts and circumstances from which Defendant’s knowledge and intent to infringe (or willful indifference), both before and after the filing of this action, may be inferred.

268. Accordingly, Defendant’s infringement of the ’006 Patent has been and continues to be deliberate, intentional, and willful, and this is therefore an exceptional case warranting an award of enhanced damages and attorneys’ fees and costs pursuant to 35 U.S.C. §§ 284 and 285.

269. As a result of Defendant’s infringement of the ’006 Patent, Dialect has suffered monetary damages, and seeks recovery, in an amount to be proven at trial, adequate to compensate for Defendant’s infringement, but in no event less than a reasonable royalty with interest and costs.

270. On information and belief, Defendant will continue to infringe the ’006 Patent unless enjoined by this Court. Defendant’s infringement of Dialect’s rights under the ’006 Patent will continue to damage Dialect, causing irreparable harm for which there is no adequate remedy at law, unless enjoined by this Court.

SEVENTH COUNT
(Infringement of U.S Patent No. 7,809,570)

271. Dialect incorporates by reference the allegations set forth in Paragraphs 1-270 of the Complaint as though fully set forth herein.

272. The claims of the ’570 Patent are valid and enforceable.

273. The claims of the ’570 Patent are directed to patentable subject matter. The ’570 Patent is directed to innovations that improve systems for natural language processing. The

claimed inventions provide specific concrete solutions to the problem of natural language processing in existing systems.

274. On information and belief, in violation of 35 U.S.C. § 271(a), Defendant has directly infringed and continues to directly infringe one or more claims of the ’570 Patent, including at least Claim 1 of the ’570 Patent, in the state of Texas, in this judicial district, and elsewhere in the United States by, among other things, making, using, selling, offering for sale, and/or importing into the United States products and services that embody one or more of the inventions claimed in the ’570 Patent, including the Accused Products.

275. Each of the Accused Products incorporates and/or implements elements that are identical or equivalent to each claimed element of the patented invention claimed by at least Claim 1 of the ’570 Patent:

276. Claim 1 of the ’570 Patent recites:

1. A method for responding to natural language speech utterances, comprising:

receiving a natural language speech utterance at a speech unit connected to a computer device, wherein the speech unit converts the received natural language speech utterance into an electronic signal;

recognizing one or more words in the electronic signal with a speech recognition engine that operates on the computer device;

interpreting a meaning for the natural language speech utterance with a parser that further operates on the computer device, wherein interpreting the meaning for the natural language speech utterance includes:

identifying multiple requests contained in the natural language speech utterance from the one or more words recognized in the electronic signal; and

determining one or more contexts for the multiple requests contained in the natural language speech utterance; and

processing the multiple requests contained in the natural language speech utterance in a multi-threaded environment with an event manager that further operates on the computer device, wherein processing the multiple requests with the event manager includes:

sending a first event to a first domain agent configured to process requests in the one or more contexts, wherein the first domain agent creates a first plurality of asynchronous queries to process a first one of the multiple requests in response to receiving the first event from the event manager;

sending a second event to a second domain agent configured to process requests in the one or more contexts, wherein the second domain agent creates a second plurality of asynchronous queries to process a second one of the multiple requests in response to receiving the second event from the event manager;

receiving one or more response events that include information from one or more of the first domain agent processing the first one of the multiple requests or the second domain agent processing the second one of the multiple requests; and

creating a response to the multiple requests contained in the natural language speech utterance from the one or more response events.

'570 Patent at Claim 1.

277. Each of the Accused Products implements a method recited in claim 1. *See* Appendix G. Fact and expert discovery are expected to confirm that the Accused Products infringe the '570 Patent, for which further evidence may lie in whole or in part in source code and technical documents to which Dialect does not presently have access.

278. Further, on information and belief, Defendant has actively induced and/or contributed to infringement of at least Claim 1 of the '570 Patent in violation of at least 35 U.S.C. § 271(b), (c), and (f).

279. Users of the Accused Products directly infringe at least Claim 1 of the '570 Patent when they use the Accused Products in the ordinary, customary, and intended way.

280. On information and belief, Defendant's inducements in violation of 35 U.S.C. § 271(b) include, without limitation and with specific intent to encourage infringement, knowingly inducing consumers to use the '570 Accused Products within the United States in the ordinary, customary, and intended way by, directly or through intermediaries, supplying the Accused Products to consumers within the United States and instructing and encouraging such customers

to use the Accused Products in the ordinary, customary, and intended way, which Defendant knew infringes at least Claim 1 of the ’570 Patent, or, alternatively, was willfully blind to the infringement.

281. On information and belief, Defendant’s inducements in violation of 35 U.S.C. § 271(b) further include, without limitation and with specific intent to encourage the infringement, knowingly inducing customers to commit acts of infringement with respect to the Accused Products within the United States, by, directly or through intermediaries, instructing and encouraging such customers to import, make, use, sell, offer to sell, or otherwise commit acts of infringement with respect to the Accused Products in the United States, which Defendant knew infringes at least Claim 1 of the ’570 Patent, or, alternatively, was willfully blind to the infringement.

282. On information and belief, Defendant actively advertised the Accused Products with instructions to users to encourage infringement.

283. For example, Defendant describes Cortana Skills Kit and Cortana Devices SDK on its websites. *See, e.g.*, Microsoft, *Cortana to open up to new devices and developers with Cortana Skills Kit and Cortana Devices SDK* (Dec. 13, 2016), https://blogs.windows.com/windowsdeveloper/2016/12/13/cortana-skills-kit-cortana-devices-sdk-announcement/ (last accessed December 10, 2024). On information and belief, Defendant actively encourages the users to use the Cortana features shown on Defendant’s websites, which features closely match the claim elements the ’570 Patent. That supports a reasonable inference that Defendant encourages its users to infringe the ’570 Patent.

December 13, 2016 | IoT

Cortana to open up to new devices and developers with Cortana Skills Kit and Cortana Devices SDK

Windows Apps Team

284. For example, Defendant describes Copilot features on its websites. *See, e.g.*, Microsoft, *Microsoft Copilot Studio*, https://www.microsoft.com/en-us/microsoft-copilot/microsoft-copilot-studio (last accessed Nov. 22, 2024); Microsoft, *Get better results with Copilot prompting*, https://support.microsoft.com/en-us/topic/get-better-results-with-copilot-prompting-77251d6c-e162-479d-b398-9e46cf73da55 (last accessed December 10, 2024). On information and belief, the Defendant actively encourages the users to Cortana features shown on Defendant's website, which features closely match the claim elements the '570 Patent. That supports a reasonable inference that Defendant encourages its users to infringe the '570 Patent.

SUPPORT AND RESOURCES

Implementation and support

Documentation

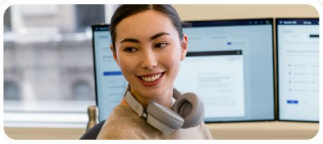
See how to get started using Copilot Studio in your organization.

Learn more

Community

Connect with and learn from experts and peers.

Join the community

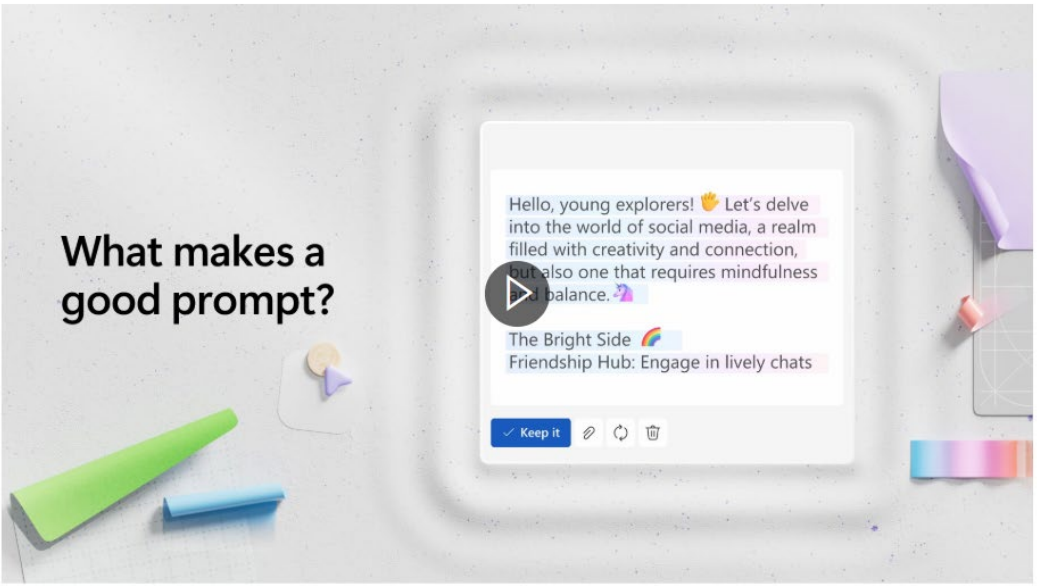


Support

Get technical support and quick responses to your most critical cases, included with your Copilot Studio paid license.

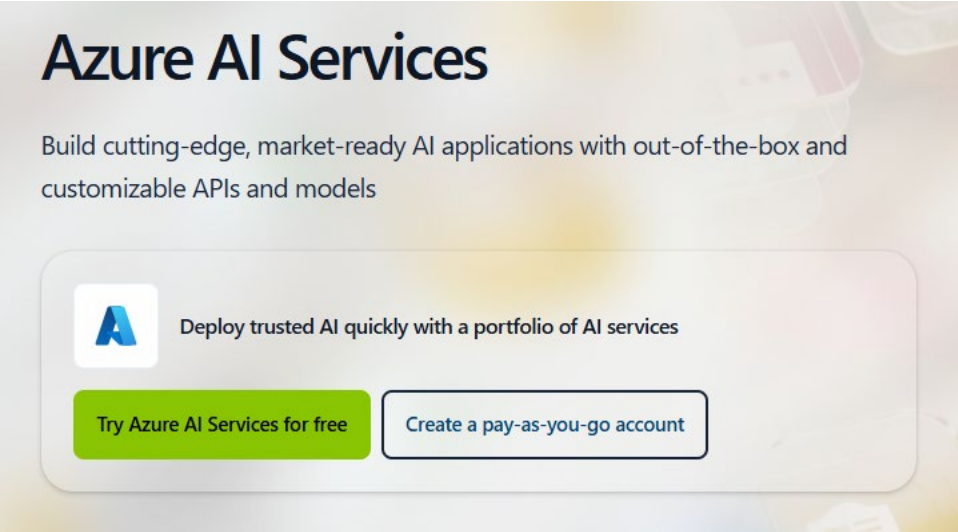
Request support

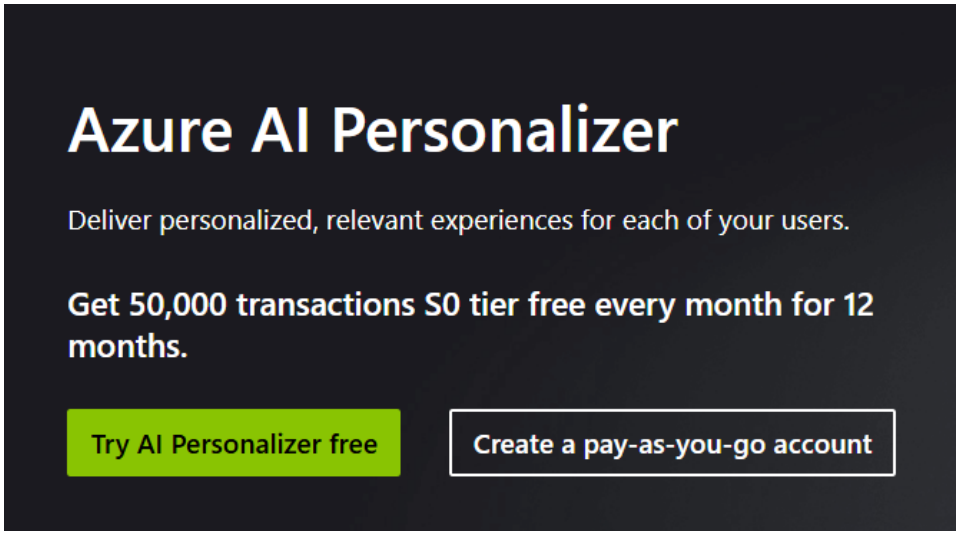
Get better results with Copilot prompting



Writing good prompts is key to getting better outcomes with Copilot. Just like there are techniques to help you communicate effectively with a human, there are tips to help you get better results with Copilot when writing prompts.

285. For example, Defendant describes Azure AI's features on its websites and actively encourages third parties including developers to use such features. *See, e.g.*, Microsoft, *Azure AI Services*, https://azure.microsoft.com/en-us/products/ai-services (last accessed December 13, 2024); Microsoft, *Azure AI Personalizer*, https://azure.microsoft.com/en-us/products/ai-services/ai-personalizer (last accessed Dec. 10, 2024). On information and belief, Defendant actively encourages the users to use the Azure AI features shown on Defendant's websites, which features closely match the claim elements the '570 Patent. That supports a reasonable inference that Defendant encourages its users to infringe the '570 Patent.





286. On information and belief, in violation of 35 U.S.C. § 271(c), Defendant's contributory infringement further includes offering to sell or selling within the United States, or importing into the United States, components of the patented invention of and/or a material or apparatus for use in practicing at least Claim 1 of the '570 Patent, constituting a material part of the invention. On information and belief, Defendant knows and has known the same to be especially made or especially adapted for use in an infringement of the '570 Patent, and such components are not a staple article or commodity of commerce suitable for substantial non-infringing use. For example, on information and belief, the Accused Products are not a staple

article of commerce suitable for substantial non-infringing use, at least because they are especially designed and produced by Defendant to understand and respond to user speech utterances in a manner claimed by the ’570 Patent, and they are not capable of substantial non-infringing use.

287. For example, the Accused Products use contextual information to interpret user input.

The importance of the triggering context

Copilot Studio NLU behaves differently based on the conversation state, which can sometimes lead to different behaviors for the same user utterance.

The following are the different conversation states:

- **Start of the conversation**: the agent has no context, so a user utterance is expected to either: trigger a topic directly (intent recognition), trigger a "did you mean" (Multiple Topics Matched) disambiguation question among intent candidates if there are multiple matching topics, or go to a fallback topic if the intent isn't recognized.
- **After a "did you mean" (Multiple Topics Matched) is triggered**: NLU optimizes to match one of the suggested topics, with higher thresholds to move out of the presented options.
- **Switching out from a current topic**: If the NLU Is trying to fill a slot In a topic, and the user is giving a user query that could trigger another topic (topic switching).

https://learn.microsoft.com/en-us/microsoft-copilot-studio/guidance/trigger-phrases-best-practices

288. For example, the Accused Products use multiple domain agents to process user input.

How Copilot's orchestrator matches plugins to user queries

When a user submits a query to your agent, the orchestrator searches the agent's full catalog of skills (*functions*) from installed plugins to identify up to five skills that best match the query. The orchestrator first tries to match on exact words (**lexical match**) and expands its search scope as needed to include matches on descriptive meanings (**semantic match**), working from specific function names to general plugin descriptions, until all five function candidate slots are filled. Specifically, the following list shows the hierarchy of matching mechanisms for Copilot plugin function selection:

1. Lexical match on function name.
2. Semantic match on function description.
3. Lexical match on plugin name (adds all plugin functions to candidate list).
4. Semantic match on plugin name (adds all plugin functions to candidate list).

The orchestrator works through this list until all five function candidate slots are filled.

https://learn.microsoft.com/en-us/microsoft-365-copilot/extensibility/orchestrator

289. Defendant is not licensed or otherwise authorized to practice the claims of the ’570 Patent.

290. Thus, by its acts, Defendant has injured Dialect and is liable to Dialect for directly and/or indirectly infringing one or more claims of the ’570 Patent, whether literally or under the doctrine of equivalents, including without limitation Claim 1.

291. As detailed in Paragraphs 96-114, On information and belief, Microsoft became aware of the infringement of the ’570 Patent in as early as 2012 when VoiceBox sent a list of its patents including the ’570 Patent to Microsoft.

292. At a minimum, Defendant has knowledge of the ’570 Patent and its infringement at least as of the filing of the Complaint. Defendant has had, and continues to have, the specific intent to infringe, through its deliberate and intentional infringement or, alternatively, through its willfully blind disregard of the ’570 Patent by knowing there was a high probability of

infringement but taking deliberate actions to avoid confirming that infringement. The filing of this action has also made Defendant aware of the unjustifiably high risk that its actions constituted and continue to constitute infringement of the ’570 Patent. On information and belief, discovery will reveal additional facts and circumstances from which Defendant’s knowledge and intent to infringe (or willful indifference), both before and after the filing of this action, may be inferred.

293. Accordingly, Defendant’s infringement of the ’570 Patent has been and continues to be deliberate, intentional, and willful, and this is therefore an exceptional case warranting an award of enhanced damages and attorneys’ fees and costs pursuant to 35 U.S.C. §§ 284 and 285.

294. As a result of Defendant’s infringement of the ’570 Patent, Dialect has suffered monetary damages, and seeks recovery, in an amount to be proven at trial, adequate to compensate for Defendant’s infringement, but in no event less than a reasonable royalty with interest and costs.

295. On information and belief, Defendant will continue to infringe the ’570 Patent unless enjoined by this Court. Defendant’s infringement of Dialect’s rights under the ’570 Patent will continue to damage Dialect, causing irreparable harm for which there is no adequate remedy at law, unless enjoined by this Court.

EIGHTH COUNT
(Infringement of U.S Patent No. 7,917,367)

296. Dialect incorporates by reference the allegations set forth in Paragraphs 1-295 of the Complaint as though fully set forth herein.

297. The claims of the ’367 Patent are valid and enforceable.

298. The claims of the ’367 Patent are directed to patentable subject matter. The ’367 Patent is directed to innovations that improve systems for natural language processing. The claimed inventions provide specific concrete solutions to the problem of natural language processing in existing systems.

299. On information and belief, in violation of 35 U.S.C. § 271(a), Defendant has directly infringed and continues to directly infringe one or more claims of the ’367 Patent, including at least Claim 11 of the ’367 Patent, in the state of Texas, in this judicial district, and elsewhere in the United States by, among other things, making, using, selling, offering for sale, and/or importing into the United States products and services that embody one or more of the inventions claimed in the ’367 Patent, including the Accused Products.

300. Each of the Accused Products incorporates and/or implements elements that are identical or equivalent to each claimed element of the patented invention claimed by at least Claim 11 of the ’367 Patent:

301. Claim 11 of the ’367 Patent recites:

11. A method for processing multi-modal natural language inputs, comprising:

> registering a plurality of mobile devices with a context manager in response to a registration module associated with the context manager receiving a communication from the plurality of mobile devices;
>
> subscribing the plurality of mobile devices registered with the context manager to one or more context events;
>
> receiving, at the context manager, a context input from one or more of the plurality of mobile devices registered with the context manager, wherein the context input includes a context change event; and
>
> informing the plurality of mobile devices registered with the context manager of the context change event, wherein informing the plurality of mobile devices registered with the context manager of the context change event synchronizes a context across the plurality of mobile devices.

’367 Patent at Claim 11.

302. On information and belief, each of the Accused Products implements a method recited in claim 11. *See* Appendix H. Fact and expert discovery are expected to confirm that the Accused Products infringe the ’367 Patent, for which further evidence may lie in whole or in part in source code and technical documents to which Dialect does not presently have access.

303. Further, on information and belief, Defendant has actively induced and/or contributed to infringement of at least Claim 11 of the ’367 Patent in violation of at least 35 U.S.C. § 271(b), (c), and (f).

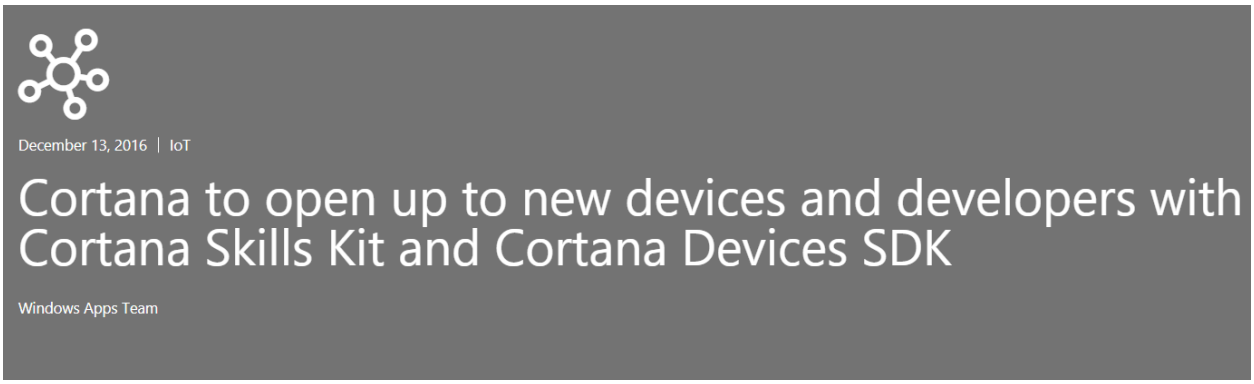
304. Users of the Accused Products directly infringe at least Claim 11 of the ’367 Patent when they use the Accused Products in the ordinary, customary, and intended way.

305. On information and belief, Defendant’s inducements in violation of 35 U.S.C. § 271(b) include, without limitation and with specific intent to encourage infringement, knowingly inducing consumers to use the ’367 Accused Products within the United States in the ordinary, customary, and intended way by, directly or through intermediaries, supplying the Accused Products to consumers within the United States and instructing and encouraging such customers to use the Accused Products in the ordinary, customary, and intended way, which Defendant knew infringes at least Claim 11 of the ’367 Patent, or, alternatively, was willfully blind to the infringement.

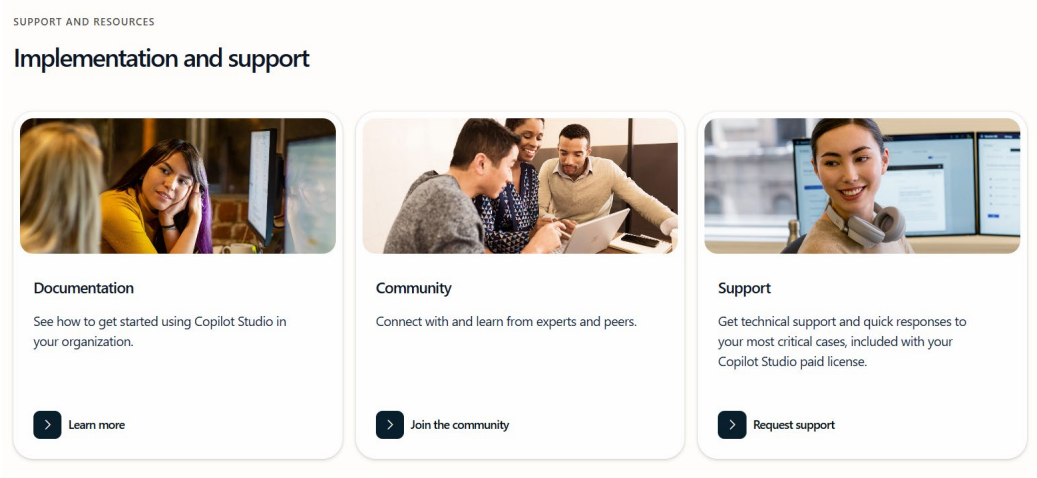
306. On information and belief, Defendant’s inducements in violation of 35 U.S.C. § 271(b) further include, without limitation and with specific intent to encourage the infringement, knowingly inducing customers to commit acts of infringement with respect to the Accused Products within the United States, by, directly or through intermediaries, instructing and encouraging such customers to import, make, use, sell, offer to sell, or otherwise commit acts of infringement with respect to the Accused Products in the United States, which Defendant knew infringes at least Claim 11 of the ’367 Patent, or, alternatively, was willfully blind to the infringement.

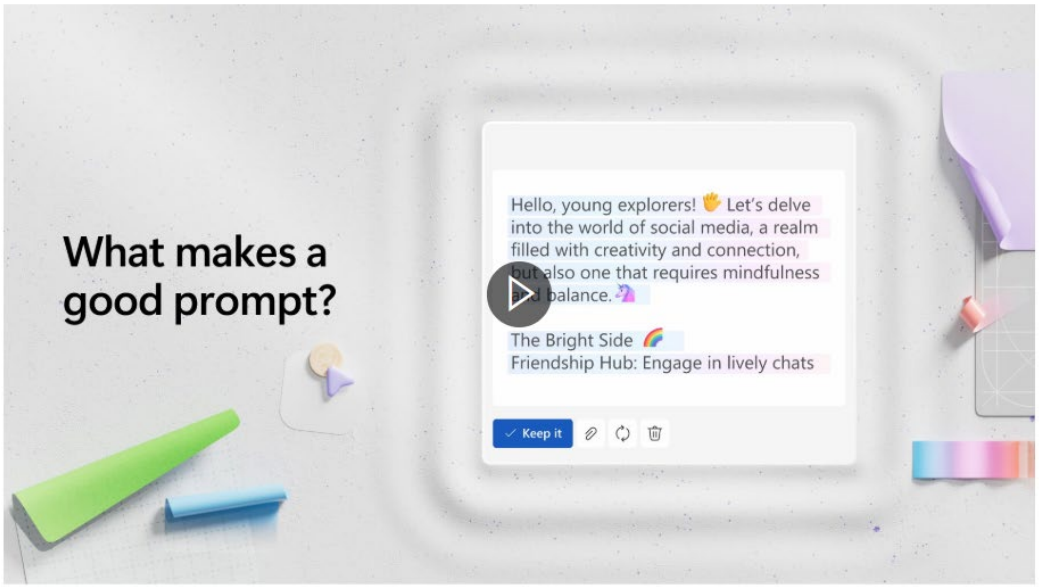
307. On information and belief, Defendant actively advertised the Accused Products with instructions to users to encourage infringement.

308. For example, Defendant describes Cortana Skills Kit and Cortana Devices SDK on its websites. *See, e.g.*, Microsoft, *Cortana to open up to new devices and developers with Cortana Skills Kit and Cortana Devices SDK* (Dec. 13, 2016), https://blogs.windows.com/windowsdeveloper/2016/12/13/cortana-skills-kit-cortana-devices-sdk-announcement/ (last accessed December 10, 2024). On information and belief, Defendant actively encourages the users to use the Cortana features shown on Defendant's websites, which features closely match the claim elements the '367 Patent. That supports a reasonable inference that Defendant encourages its users to infringe the '367 Patent.



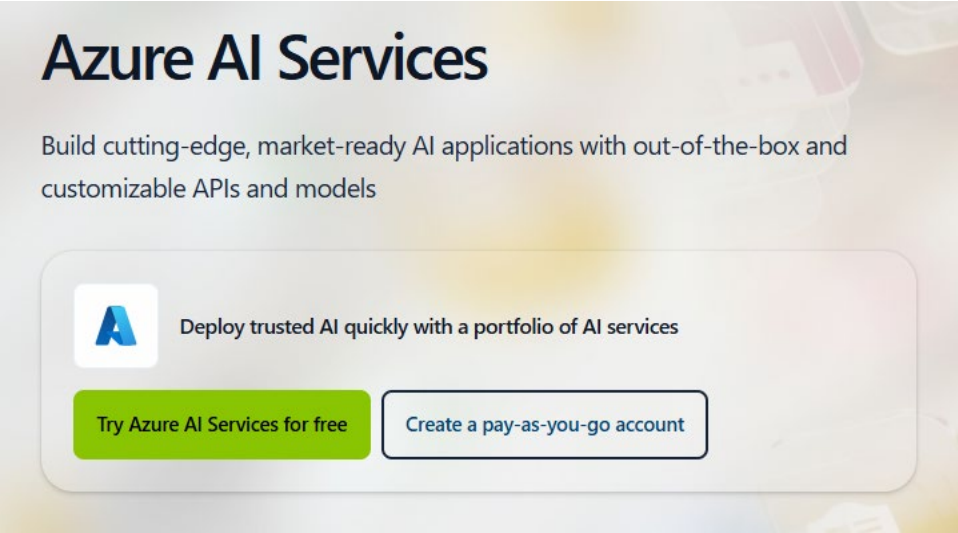
309. For example, Defendant describes Copilot features on its websites. *See, e.g.*, Microsoft, *Microsoft Copilot Studio*, https://www.microsoft.com/en-us/microsoft-copilot/microsoft-copilot-studio (last accessed Nov. 22, 2024); Microsoft, *Get better results with Copilot prompting*, https://support.microsoft.com/en-us/topic/get-better-results-with-copilot-prompting-77251d6c-e162-479d-b398-9e46cf73da55 (last accessed December 10, 2024). On information and belief, the Defendant actively encourages the users to Cortana features shown on Defendant's website, which features closely match the claim elements the '367 Patent. That supports a reasonable inference that Defendant encourages its users to infringe the '367 Patent.

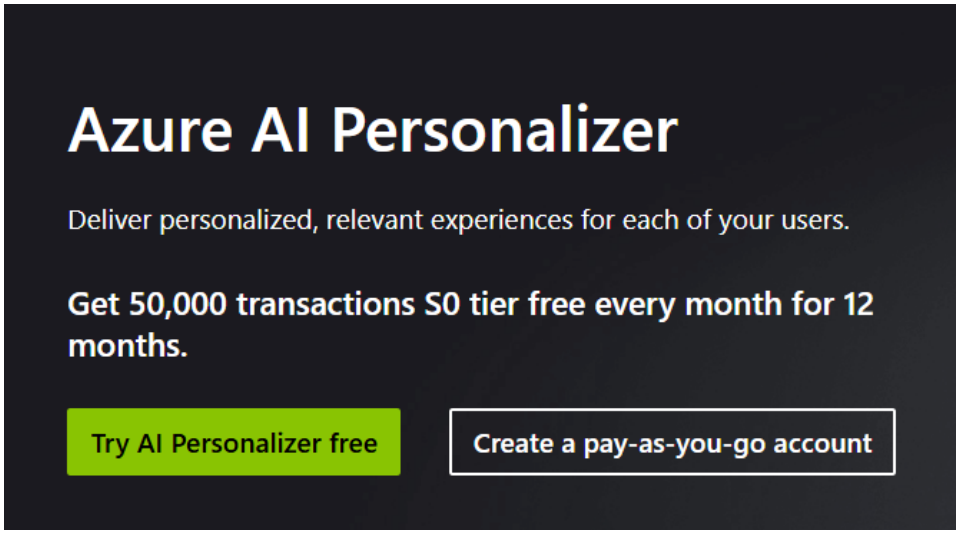




310. For example, Defendant describes Azure AI's features on its websites and actively encourages third parties including developers to use such features. *See, e.g.*, Microsoft, *Azure AI Services*, https://azure.microsoft.com/en-us/products/ai-services (last accessed December 13, 2024); Microsoft, *Azure AI Personalizer*, https://azure.microsoft.com/en-us/products/ai-

services/ai-personalizer (last accessed Dec. 10, 2024). On information and belief, Defendant actively encourages the users to use the Azure AI features shown on Defendant's websites, which features closely match the claim elements the '367 Patent. That supports a reasonable inference that Defendant encourages its users to infringe the '367 Patent.





311. On information and belief, in violation of 35 U.S.C. § 271(c), Defendant's contributory infringement further includes offering to sell or selling within the United States, or importing into the United States, components of the patented invention of and/or a material or apparatus for use in practicing at least Claim 11 of the '367 Patent, constituting a material part of

the invention. On information and belief, Defendant knows and has known the same to be especially made or especially adapted for use in an infringement of the ’367 Patent, and such components are not a staple article or commodity of commerce suitable for substantial non-infringing use. For example, on information and belief, the Accused Products are not a staple article of commerce suitable for substantial non-infringing use, at least because they are especially designed and produced by Defendant to understand and respond to user speech utterances in a manner claimed by the ’367 Patent, and they are not capable of substantial non-infringing use.

312. For example, on information and belief, the Accused Products synchronize contexts across multiple mobile devices.

Accessing Microsoft Copilot Across Devices

Desktop

Before accessing Copilot on your desktop, you must ensure that Microsoft 365 is installed and updated on all relevant devices (Windows or macOS). If you don't already have Microsoft 365 apps (such as Word, Excel, PowerPoint, Outlook, or Teams), download them from the official Microsoft 365 website. The latest updates will include Copilot features, which you can enable once your license is active.

Open any Microsoft 365 app (Word, Excel, PowerPoint, Outlook, or Teams) and locate the Copilot panel on the sidebar, which will appear after installation. At this point, you can use Copilot for document drafting, retrieving and analyzing data, inbox management, and preparing meeting summaries.

Mobile

Copilot is also available through Microsoft 365 mobile apps. Download the app from the App Store (iOS) or Google Play Store (Android) and log in with your organization's Microsoft 365 account. Then, Access Copilot through the mobile app interface for on-the-go productivity, email management, and document editing.

Web

If you’re working remotely or across multiple locations, you can access Copilot via the web versions of Microsoft 365 applications. Just log in to your account at office.com and open any of the supported apps.

https://www.newhorizons.com/resources/blog/how-to-get-microsoft-copilot

313. Defendant is not licensed or otherwise authorized to practice the claims of the ’367 Patent.

314. Thus, by its acts, Defendant has injured Dialect and is liable to Dialect for directly and/or indirectly infringing one or more claims of the ’367 Patent, whether literally or under the doctrine of equivalents, including without limitation Claim 11.

315. As detailed in Paragraphs 96-114, on information and belief, Microsoft became aware of the infringement of the ’367 Patent in as early as 2012, when VoiceBox sent a list of its patents including the ’367 Patent to Microsoft as a part of the acquisition discussion.

316. At a minimum, Defendant has knowledge of the ’367 Patent and its infringement at least as of the filing of the Complaint. Defendant has had, and continues to have, the specific intent to infringe, through its deliberate and intentional infringement or, alternatively, through its willfully blind disregard of the ’367 Patent by knowing there was a high probability of infringement but taking deliberate actions to avoid confirming that infringement. The filing of this action has also made Defendant aware of the unjustifiably high risk that its actions constituted and continue to constitute infringement of the ’367 Patent. On information and belief, discovery will reveal additional facts and circumstances from which Defendant’s knowledge and intent to infringe (or willful indifference), both before and after the filing of this action, may be inferred.

317. Accordingly, Defendant’s infringement of the ’367 Patent has been and continues to be deliberate, intentional, and willful, and this is therefore an exceptional case warranting an award of enhanced damages and attorneys’ fees and costs pursuant to 35 U.S.C. §§ 284 and 285.

318. As a result of Defendant’s infringement of the ’367 Patent, Dialect has suffered monetary damages, and seeks recovery, in an amount to be proven at trial, adequate to compensate for Defendant’s infringement, but in no event less than a reasonable royalty with interest and costs.

319. On information and belief, Defendant will continue to infringe the ’367 Patent unless enjoined by this Court. Defendant’s infringement of Dialect’s rights under the ’367 Patent

will continue to damage Dialect, causing irreparable harm for which there is no adequate remedy at law, unless enjoined by this Court.

NINTH COUNT
(Infringement of U.S Patent No. 8,620,659)

320. Dialect incorporates by reference the allegations set forth in Paragraphs 1-319 of the Complaint as though fully set forth herein.

321. The claims of the ’659 Patent are valid and enforceable.

322. The claims of the ’659 Patent are directed to patentable subject matter. The ’659 Patent is directed to innovations that improve systems for natural language processing. The claimed inventions provide specific concrete solutions to the problem of natural language processing in existing systems.

323. On information and belief, in violation of 35 U.S.C. § 271(a), Defendant has directly infringed and continues to directly infringe one or more claims of the ’659 Patent, including at least Claim 42 of the ’659 Patent, in the state of Texas, in this judicial district, and elsewhere in the United States by, among other things, making, using, selling, offering for sale, and/or importing into the United States products and services that embody one or more of the inventions claimed in the ’659 Patent, including the Accused Products.

324. Each of the Accused Products incorporates and/or implements elements that are identical or equivalent to each claimed element of the patented invention claimed by at least Claim 42 of the ’659 Patent:

325. Claim 42 of the ’659 Patent recites:

> 42. A method of processing natural language utterances, the method being implemented by a computer system that includes one or more processors executing one or more computer program instructions which, when executed, perform the method, the method comprising:

receiving a first input of a user that comprises a natural language utterance;

generating an interpretation of the natural language utterance based on one or more recognized words of the natural language utterance;

generating a request based on the interpretation;

transmitting the request to a domain agent for processing;

determining whether a personalized cognitive model associated with the user includes sufficient information for predicting one or more subsequent actions associated with the user, wherein the personalized cognitive model is generated based on a tracking of a pattern of interactions between the user and the system, and wherein the one or more subsequent actions include one or more actions predicted to occur after receiving the first input; and

predicting the one or more subsequent actions based on a generalized cognitive model in response to a determination that the personalized cognitive model does not include the sufficient information, wherein the generalized cognitive model is generated based on a tracking of patterns of interactions between a plurality of users and the system.

'659 Patent at Claim 42.

326. On information and belief, each of the Accused Products implements a method recited in claim 42. *See* Appendix I. Fact and expert discovery are expected to confirm that the Accused Products infringe the '659 Patent, for which further evidence may lie in whole or in part in source code and technical documents to which Dialect does not presently have access.

327. Further, on information and belief, Defendant has actively induced and/or contributed to infringement of at least Claim 42 of the '659 Patent in violation of at least 35 U.S.C. § 271(b), (c), and (f).

328. Users of the Accused Products directly infringe at least Claim 42 of the '659 Patent when they use the Accused Products in the ordinary, customary, and intended way.

329. On information and belief, Defendant's inducements in violation of 35 U.S.C. § 271(b) include, without limitation and with specific intent to encourage infringement, knowingly inducing consumers to use the '659 Accused Products within the United States in the ordinary,

customary, and intended way by, directly or through intermediaries, supplying the Accused Products to consumers within the United States and instructing and encouraging such customers to use the Accused Products in the ordinary, customary, and intended way, which Defendant knew infringes at least Claim 42 of the ’659 Patent, or, alternatively, was willfully blind to the infringement.

330. On information and belief, Defendant’s inducements in violation of 35 U.S.C. § 271(b) further include, without limitation and with specific intent to encourage the infringement, knowingly inducing customers to commit acts of infringement with respect to the Accused Products within the United States, by, directly or through intermediaries, instructing and encouraging such customers to import, make, use, sell, offer to sell, or otherwise commit acts of infringement with respect to the Accused Products in the United States, which Defendant knew infringes at least Claim 42 of the ’659 Patent, or, alternatively, was willfully blind to the infringement.

331. On information and belief, Defendant actively advertised the Accused Products with instructions to users to encourage infringement.

332. For example, Defendant describes Cortana Skills Kit and Cortana Devices SDK on its websites. *See, e.g.*, Microsoft, *Cortana to open up to new devices and developers with Cortana Skills Kit and Cortana Devices SDK* (Dec. 13, 2016), https://blogs.windows.com/windowsdeveloper/2016/12/13/cortana-skills-kit-cortana-devices-sdk-announcement/ (last accessed December 10, 2024). On information and belief, Defendant actively encourages the users to use the Cortana features shown on Defendant’s websites, which features closely match the claim elements the ’659 Patent. That supports a reasonable inference that Defendant encourages its users to infringe the ’659 Patent.

December 13, 2016 | IoT

Cortana to open up to new devices and developers with Cortana Skills Kit and Cortana Devices SDK

Windows Apps Team

333. For example, Defendant describes Copilot features on its websites. *See, e.g.*, Microsoft, *Microsoft Copilot Studio*, https://www.microsoft.com/en-us/microsoft-copilot/microsoft-copilot-studio (last accessed Nov. 22, 2024); Microsoft, *Get better results with Copilot prompting*, https://support.microsoft.com/en-us/topic/get-better-results-with-copilot-prompting-77251d6c-e162-479d-b398-9e46cf73da55 (last accessed December 10, 2024). On information and belief, the Defendant actively encourages the users to Cortana features shown on Defendant's website, which features closely match the claim elements the '659 Patent. That supports a reasonable inference that Defendant encourages its users to infringe the '659 Patent.

SUPPORT AND RESOURCES

Implementation and support

Documentation

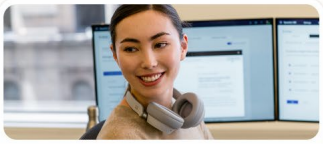
See how to get started using Copilot Studio in your organization.

Learn more

Community

Connect with and learn from experts and peers.

Join the community

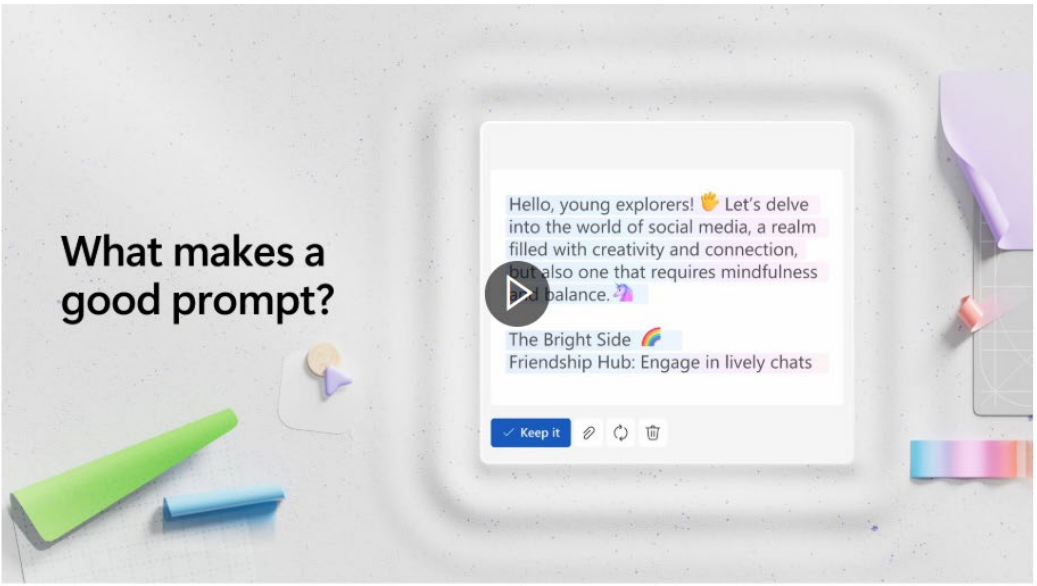


Support

Get technical support and quick responses to your most critical cases, included with your Copilot Studio paid license.

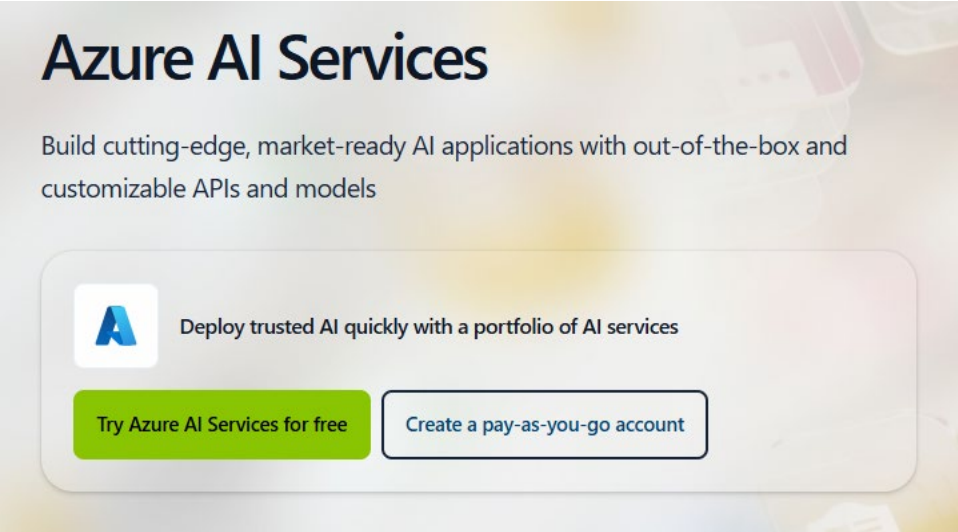
Request support

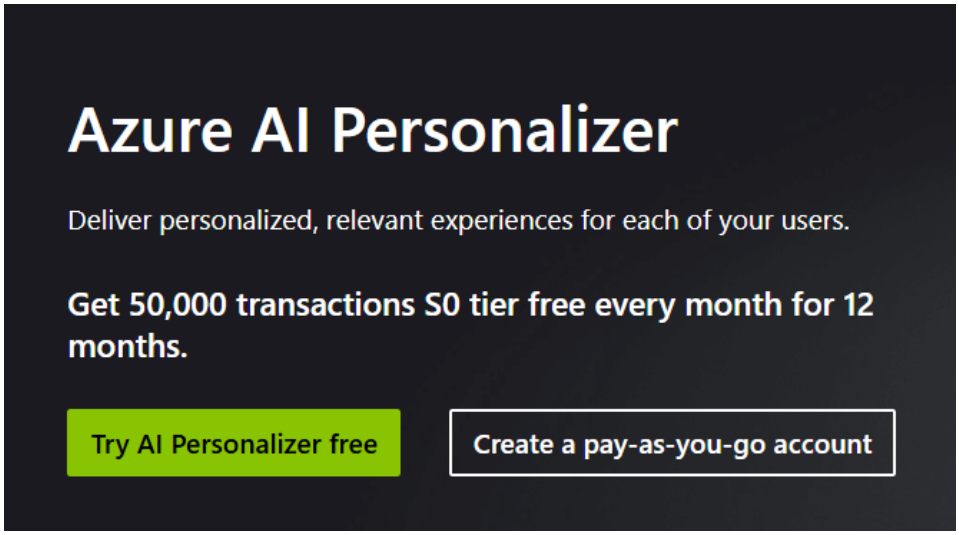
Get better results with Copilot prompting



Writing good prompts is key to getting better outcomes with Copilot. Just like there are techniques to help you communicate effectively with a human, there are tips to help you get better results with Copilot when writing prompts.

334. For example, Defendant describes Azure AI's features on its websites and actively encourages third parties including developers to use such features. *See, e.g.*, Microsoft, *Azure AI Services*, https://azure.microsoft.com/en-us/products/ai-services (last accessed December 13, 2024); Microsoft, *Azure AI Personalizer*, https://azure.microsoft.com/en-us/products/ai-services/ai-personalizer (last accessed Dec. 10, 2024). On information and belief, Defendant actively encourages the users to use the Azure AI features shown on Defendant's websites, which features closely match the claim elements the '659 Patent. That supports a reasonable inference that Defendant encourages its users to infringe the '659 Patent.





335. On information and belief, in violation of 35 U.S.C. § 271(c), Defendant's contributory infringement further includes offering to sell or selling within the United States, or importing into the United States, components of the patented invention of and/or a material or apparatus for use in practicing at least Claim 42 of the '659 Patent, constituting a material part of the invention. On information and belief, Defendant knows and has known the same to be especially made or especially adapted for use in an infringement of the '659 Patent, and such components are not a staple article or commodity of commerce suitable for substantial non-infringing use. For example, on information and belief, the Accused Products are not a staple

article of commerce suitable for substantial non-infringing use, at least because they are especially designed and produced by Defendant to understand and respond to user speech utterances in a manner claimed by the ’659 Patent, and they are not capable of substantial non-infringing use.

336. For example, the Accused Products use a personalized cognitive model and a general cognitive model to interpret user input.

> The Copilot website and app (available on iOS and Android) is the core of the consumer Copilot experience. Within this core experience, users can search the web, create text, images, songs, or other outputs, or engage with other features, such as plugins. On the website and in the app, users enter “prompts” that provide instructions to Copilot (e.g. “Give me recommendations for a restaurant that accommodates parties of 10 near me”). In order to provide a relevant response, Copilot will use this prompt, along with the user’s location, language and similar settings, to formulate a helpful response. In some markets, authenticated users can choose to allow Copilot to have access to prior prompt history to better personalise the product. The consumer Copilot product uses the data collected to provide and improve the Copilot services, including to provide relevant advertising. Users who are signed-in to their account can manage their prompt history in product and on the Microsoft Privacy Dashboard, and can adjust their location, language, and other settings in the product.

https://www.microsoft.com/en-ca/privacy/privacystatement (emphasis added)

> AI systems like Bing and Microsoft Copilot (web) are as good as they are because they continuously learn and improve from people’s interactions. Since the early 2000s, user clicks on search result pages have fueled the continuous improvements of search engines. Recently, reinforcement learning from human feedback (RLHF) brought step-function improvements to response quality of generative AI models. Bing has a rich history of success in improving its AI offerings by learning from user interactions. For example, Bing pioneered the idea of improving search ranking and personalizing search using short- and long-term user behavior data.

https://www.microsoft.com/en-us/research/blog/learning-from-interaction-with-microsoft-copilot-web/(emphasis added)

337. Defendant is not licensed or otherwise authorized to practice the claims of the ’659 Patent.

338. Thus, by its acts, Defendant has injured Dialect and is liable to Dialect for directly and/or indirectly infringing one or more claims of the ’659 Patent, whether literally or under the doctrine of equivalents, including without limitation Claim 42.

339. As detailed in Paragraphs 96-114, on information and belief, Microsoft became aware of the infringement of the ’659 Patent in as early as 2013 when the ’659 Patent was issued.

340. At a minimum, Defendant has knowledge of the ’659 Patent and its infringement at least as of the filing of the Complaint. Defendant has had, and continues to have, the specific intent to infringe, through its deliberate and intentional infringement or, alternatively, through its willfully blind disregard of the ’659 Patent by knowing there was a high probability of infringement but taking deliberate actions to avoid confirming that infringement. The filing of this action has also made Defendant aware of the unjustifiably high risk that its actions constituted and continue to constitute infringement of the ’659 Patent. On information and belief, discovery will reveal additional facts and circumstances from which Defendant’s knowledge and intent to infringe (or willful indifference), both before and after the filing of this action, may be inferred.

341. Accordingly, Defendant’s infringement of the ’659 Patent has been and continues to be deliberate, intentional, and willful, and this is therefore an exceptional case warranting an award of enhanced damages and attorneys’ fees and costs pursuant to 35 U.S.C. §§ 284 and 285.

342. As a result of Defendant’s infringement of the ’659 Patent, Dialect has suffered monetary damages, and seeks recovery, in an amount to be proven at trial, adequate to compensate for Defendant’s infringement, but in no event less than a reasonable royalty with interest and costs.

343. On information and belief, Defendant will continue to infringe the ’659 Patent unless enjoined by this Court. Defendant’s infringement of Dialect’s rights under the ’659 Patent will continue to damage Dialect, causing irreparable harm for which there is no adequate remedy at law, unless enjoined by this Court.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff prays for judgment and seeks relief from Defendant as follows:

a. For judgment that Defendant has infringed and continues to infringe the claims of the Asserted Patents;

b. For a permanent injunction against Defendant and its respective officers, directors, agents, servants, affiliates, employees, divisions, branches, subsidiaries, parents, and all other acting in active concert therewith from infringement of the Asserted Patents;

c. For an accounting of all damages sustained by Plaintiff as a result of Defendant's acts of infringement;

d. For a mandatory future royalty payable by Defendant in relation to each use of an Accused Product that is found to infringe one or more of the Asserted Patents and all future products which are not colorably different from products found to infringe;

e. For a judgment and order finding that Defendant's infringement is willful and/or egregious and awarding to Plaintiff enhanced damages pursuant to 35 U.S.C. § 284;

f. For a judgment and order requiring Defendant to pay Plaintiff's damages, costs, expenses, and pre- and post-judgment interest for its infringement of the Asserted Patents as provided under 35 U.S.C. § 284;

g. For a judgment and order finding that this is an exceptional case within the meaning of 35 U.S.C. § 285 and awarding to Plaintiff its reasonable attorneys' fees; and

h. For such other and further relief in law and in equity as the Court may deem just and proper.

DEMAND FOR JURY TRIAL

Pursuant to Rule 38(b) of the Federal Rules of Civil Procedure, Plaintiff demands a trial by jury in this action for all issues triable by a jury.

Dated: December 20, 2024

Respectfully Submitted,

/s/ Garland Stephens by permission Charles Everingham IV
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