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IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF ARIZONA

Language Technologies, Inc., Plaintiff, v. Microsoft Corporation, Defendant.	Case No. CV-23-00520-TUC-RCC JURY TRIAL DEMANDED **FIRST AMENDED COMPLAINT FOR PATENT INFRINGEMENT**

COMPLAINT

Plaintiff Language Technologies, Inc. ("LTI"), by and through its undersigned attorneys, as and for its Complaint against Defendant Microsoft Corporation ("Microsoft"), alleges as follows:

THE PARTIES

1. Plaintiff LTI is a corporation organized and existing under the laws of the State of Delaware having its principal place of business at 4750 E. Silver Place, Tucson, Arizona 85712.

2. Defendant Microsoft is a corporation organized and existing under the laws of the State of Washington having its principal place of business at 1 Microsoft Way, Redmond, Washington 98052.

3. Microsoft is registered to do business in Arizona and can be served via its registered agent Corporation Service Company at 8825 N. 23rd Avenue, Suite 100, Phoenix, Arizona 85021.

4. Microsoft maintains a permanent physical presence within the District of Arizona, conducting business from at least its locations at: 60 E. Rio Salado Parkway, Suite 1200, Tempe, Arizona 85281; 12901 W. Olive Avenue, El Mirage, Arizona 85335; and 14250 West Broadway Road, Goodyear, Arizona 85338.

5. Microsoft has expanded its presence within the District of Arizona through its recent development of its "West US 3" datacenter region. Microsoft bought three parcels of land for the datacenters in late 2018 through 2019 and successfully had a property in Goodyear, Arizona rezoned to accommodate its plans.[1] The Mirage, AZ data

[1] https://www.azcentral.com/story/news/local/southwest-valley/2018/11/20/microsoft-paid-48-million-goodyear-land/2026701002/; https://www.azcentral.com/story/news/local/southwest-valley/2019/05/01/microsoft-expands-metro-phoenix-pays-20-m-el-mirage-land/3647316002/.

center is 244,666 ft^2 on 250 acres.[2] Site plans for Microsoft's Goodyear, AZ datacenter show one 244,666 ft^2 building and one 242,678 ft^2 building on 279 acres.[3] Microsoft's West US 3 datacenters opened for business in June 2021.[4] As of April 2023, these two facilities employed over 175 people. Microsoft projects 633 full-time employees and contractors will work across its Arizona datacenters by the end of 2026.

6. Microsoft has offered a number of products and services through its West US 3 datacenters including, without limitation, Azure Cognitive Search, Azure AI Language, Language Understanding (LUIS), and Azure AI Speech.[5] Customers of Microsoft Azure can choose to house their resources in West US 3 datacenters in the first instance, or customers of Microsoft Azure can move their resources to the West US 3 datacenters using Azure Resource Mover.[6]

7. Before and after opening its West US 3 datacenters, Microsoft has engaged with the community in this District, including by partnering with two community colleges to offer its Datacenter Academy to students within the District.[7] Through the

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[2] https://www.datacenters.com/microsoft-azure-west-us-3-arizona; https://azbigmedia.com/business/economic-development/microsoft-will-build-3-data-centers-in-the-west-valley/.

[3] https://baxtel.com/data-center/microsoft-phx10#:~:text=The%20project%20will%20have%20at,square%20feet%20of%20office%20space.

[4] https://ktar.com/story/4499461/tech-giant-microsoft-flips-switch-to-on-at-new-west-valley-data-centers/; https://www.azcentral.com/story/news/local/southwest-valley/2021/06/15/microsoft-announces-3-new-metro-phoenix-data-centers-and-100-plus-jobs/7686434002/.

[5] https://azure.microsoft.com/en-us/explore/global-infrastructure/products-by-region/?regions=us-west-3%2cnon-regional&products=all.

[6] https://azure.microsoft.com/en-us/products/resource-mover/.

[7] https://local.microsoft.com/blog/microsoft-phoenix-community-investments/; https://careers.microsoft.com/v2/global/en/datacenteracademy.html.

Datacenter Academy, Microsoft contributes to the colleges' curricula to instruct students in skills applicable to work at Microsoft datacenters; provides datacenter equipment to the colleges' labs; provides Microsoft employees to host Q&A sessions about work at the datacenters, train college instructors in Microsoft's curricula, teach classes, conduct mock interviews, and provide one-on-one mentorship to students; hires students for paid work experience in the datacenters; and funds scholarships—all to develop a workforce for its datacenters in this District.[8]

8. On information and belief, Microsoft has been conducting business through its sales office at 60 E. Rio Salado Parkway, Suite 1200, Tempe, Arizona 85281 for many years before it began development of its West US 3 datacenters.

JURISDICTION AND VENUE

9. This Court has exclusive subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a) because this action arises under the patent laws of the United States.

10. Upon information and belief, Microsoft has submitted to the personal jurisdiction of this Court by, at least, committing the infringing acts described below that establish its legal presence within the State of Arizona including, without limitation, by purposefully using, providing access to, selling, and/or offering for sale, *inter alia*, Bing search, Azure products and services (*e.g.*, Azure Cognitive Services, Cortana, and Translate), and other Natural Language Processing ("NLP") applications and services ("Infringing Applications and Services") within the District; using, selling, offering for sale, and importing within the District computers, tablets, gaming consoles, operating systems, and other products that include Infringing Applications and Services; and providing training within the District in the use of said Infringing Applications and Services.[9]

[8] https://careers.microsoft.com/v2/global/en/datacenteracademy.html.

[9] https://learn.microsoft.com/en-us/search/?terms=cognitive%20search&category=Training;

11. On information and belief, Microsoft has used, sold, and offered for sale Infringing Applications and Services through its sales office located within the District. Microsoft has also used Infringing Applications and Services at its Azure datacenters located within the District, and Microsoft encourages customers in the District and elsewhere to utilize Infringing Applications and Services at its datacenters within the District for infringing purposes.[10]

12. By virtue of its above-described actions, while engaging in the unauthorized infringement of the Patents-in-Suit, Microsoft has transacted business, performed services, contracted to supply services, caused tortious injury, regularly done or solicited business, and/or engaged in a persistent course of conduct within the State of Arizona, and Microsoft has additionally derived substantial revenues from or as the result of its use, sale, offer for sale, and importation of the Infringing Applications and Services in Arizona. In light of Microsoft's aforementioned contacts with the State of Arizona and its purposeful availment of the rights and benefits of Arizona law, maintenance of this suit would not offend traditional notions of fair play and substantial justice.

13. Venue is proper in this judicial district pursuant to 28 U.S.C. §§ 1391(b) and (c), and 1400(b) because, *inter alia*, a substantial part of the events or omissions giving rise to the claims occurred in this judicial district, Microsoft is subject to personal jurisdiction in and therefore resides in this judicial district, and Microsoft has committed acts of patent infringement and has regular and established places of business in this judicial district including at the locations described above.

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https://learn.microsoft.com/en-us/search/?terms=nlp&category=Training.

[10] https://azure.microsoft.com/en-us/explore/global-infrastructure/products-by-region/?regions=us-west-3%2cnon-regional&products=all.

THE PATENTS-IN-SUIT

14. On June 27, 2006, U.S. Patent No. 7,069,508 (the "'508 Patent"), entitled "System and Method for Formatting Text According to Linguistic, Visual and Psychological Variables," was duly and legally issued by the United States Patent and Trademark Office to inventors Thomas G. Bever and John Robbart II. LTI is the sole owner by assignment of the entire rights, title, and interest in and to the '508 Patent including the rights to sue on and recover damages for any past, present, and future infringements thereof. A true and correct copy of the '508 Patent is attached as Exhibit 1.

15. On March 18, 2008, U.S Patent No. 7,346,489 (the "'489 Patent"), entitled "System and Method of Determining Phrasing in Text," was duly and legally issued by the United States Patent and Trademark Office to inventors Thomas G. Bever and John Robbart II. LTI is the sole owner by assignment of the entire rights, title, and interest in and to the '489 Patent including the rights to sue on and recover damages for any past, present, and future infringements thereof. A true and correct copy of the '489 Patent is attached as Exhibit 2.

16. The '508 Patent and the '489 Patent shall hereinafter be referred to collectively as the "Patents-in-Suit." The specifications for the two Patents-in-Suit are largely the same. The '489 Patent is a continuation of the '508 Patent. Both share a common priority date of not later than July 16, 1999 based upon underlying provisional patent application No. 60/144,368.

17. Both Patents-in-Suit are directed to computerized methods for processing text incorporating specific steps for predicting phrase boundaries. The Patents-in-Suit resulted from research led by inventor Dr. Thomas Bever, currently a professor of linguistics, psychology, cognitive science, and neuroscience at the University of Arizona. As explained in the "Background" section of the patents:

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> Linguistic research has enriched our knowledge of what the structure of language entails, and psycholinguistic research has explored which aspects of that structure play a role in language behaviors such as reading. The results of studies show that the intuitively defined "phrase" plays a significant role in normal language comprehension. The manner in which text is formatted can have a significant impact on the speed and comprehension with which it is read.
>
> '508 Patent at 1:27-36.[11]

18. Claim 23 of the '508 Patent is illustrative and reads:

> A computer-implemented method for formatting text, comprising the steps of:
>
> a) providing text input;
>
> b) providing a library of key words and punctuation definitions that identify the beginning or end of a phrase;
>
> c) using said key words and punctuation definitions to determine characteristics that predict boundary punctuation;
>
> d) examining a plurality of words of said text input;
>
> e) using said determined characteristics to predict phrase boundaries within said plurality of words;
>
> f) repeating steps d-e for a next plurality of words until all the text input has been analyzed; and
>
> g) formatting said text input according to the predicted phrase boundaries.

19. Claim 1 of the '489 Patent is illustrative and reads:

> A method for determining phrasing in text, comprising the steps of:
>
> a) providing text input;
>
> b) providing a library of key words and punctuation definitions that identify the beginning or end of a phrase;
>
> c) using said key words and punctuation definitions to determine

[11] The notation "1:27-36" refers to column 1, lines 27-36 of the patent.

characteristics that predict phrase or sentence boundaries;

d) examining a plurality of words of said text input;

e) using said determined characteristics to predict phrase boundaries within said plurality of words; and

f) repeating steps d-e for a next plurality of words until phrase boundaries are predicted for each between word space in the text input.

20. These claims recite specific steps for predicting phrases in a computerized text processing method, and are not directed simply to "the idea of identifying phrases in text by evaluating words and punctuation" as Microsoft contends. Dkt. 24 at 4.

21. The claimed methods of phrase prediction do not automate or replicate the human brain's process of identifying phrases, which is a subjective endeavor. Instead, a computerized method (termed a "Clauseau engine") predicts phrase boundaries using an objective process.

22. The specific methods recited in the claims improve the relevant technology, specifically the operation of various computer-controlled devices that process and present text.

23. The patents are not directed to methods that simply use computers as tools to perform an abstract idea, such as analyzing and displaying information, but instead are directed to methods that alter the operation of the devices themselves.

24. Similarly, the patents are not directed to methods that simply identify phrases in text and use conventional computers to display or present such phrases, but rather methods that improve their functionality.

25. The focus of the claimed methods is thus on an improvement in the functioning of computers, and not an abstract idea. *E.g. Core Wireless Licensing S.A.R.L. v. LG Elecs., Inc.*, 880 F.3d 1356, 1362-63 (Fed. Cir. 2018) (claims "directed to a particular improvement in the computer's functionality," such as improving how the "computer stores and retrieves data in memory" or "display[s] information to the user"

are not directed to an abstract idea) (citing *Enfish, LLC* v. Microsoft Corp., 822 F.3d 1327, 1336 (Fed. Cir. 2016)).

26. The claimed methods, considered in light of the patent specifications, are directed to an "inventive device or technique for displaying information," which is not an abstract idea. *Elec. Power Group, LLC v. Alstom SA*, 830 F.3d 1350, 1355 (Fed. Cir. 2016) (citing *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1257 (Fed. Cir. 2014)).

27. The patent claims do not simply specify the methods using result-oriented language, but instead identify *how* the result of predicting phrases is achieved by specifying concrete action, specifically (for claim 23 of the '508 Patent), "providing a library of key words and punctuation definitions that identify the beginning or end of a phrase;" "using said key words and punctuation definitions to determine characteristics that predict boundary punctuation," and then "using said determined characteristics to predict phrase boundaries within said plurality of words."

28. Claim 1 of the '489 Patent similarly specifies the concrete steps of "providing a library of key words and punctuation definitions that identify the beginning or end of a phrase;" "using said key words and punctuation definitions to determine characteristics that predict phrase or sentence boundaries," and then "using said determined characteristics to predict phrase boundaries within said plurality of words."

29. A further level of concreteness is specified in additional claims of the patents. For example, claim 3 of the '489 patent (Exh. 2) depends from claim 1 and states:

> 3. The method of claim 1, wherein the characteristics include a pattern of key and non-key words, further comprising between steps d and e: identifying each word of said plurality as one of the key words in the library or a non-key word; and extracting a pattern from said plurality of the key and non-key words, and then using the pattern to predict phrase boundaries for each between word space within said plurality of words.

30. Claim 3 thus further specifies that the claimed characteristics include a pattern of key and non-key words, and that patterns of key and non-key words are then used to predict phrase boundaries.

31. Claim 5 of the '489 patent also specifies a further level of concreteness:

> 5. The method of claim 1, wherein the phrase boundaries are predicted using a neural network.

"Key Words" Include Function Words That Indicate the Beginning or End of a Phrase in the Absence of Punctuation

32. In its decision granting Microsoft's motion to dismiss LTI's original complaint, the Court stated that "[b]ecause 'key words' have not been further defined for this Court, the Court will take them to mean well-established vocabulary in the English language." Dkt. 24 at 11 ("Order").

33. The term "key words" as used in the claims and specification of the patents has a specific meaning in the context of the patents—it does not simply refer to "well-established vocabulary." "Key words" must be construed in accordance with its ordinary meaning to a person of ordinary skill in the art in the context of the entire patent. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) (en banc). In this regard, "the [patent] specification is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term." *Vitronics Corp. v. Conceptronic, Inc.*, 90 F. 3d 1576, 1582 (Fed. Cir. 1996).

34. The patents describe a computerized "text formatting system 10" that includes an electronic "library 25." The patents' specification initially indicates that the "library 25 contains data about text such as punctuation and key words identifying the beginning or end of a phrase." Exh. 1 at 3:14-16: Exh. 2 at 3:16-19. The specification subsequently elaborates on the contents of the library, stating that it "has an installed vocabulary of function words and punctuation data." Exh. 1 at 4:5-7; Exh. 2 at 4:7-9.

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35. The specification further explains the meaning of "key words" and how they are used in the inventive methods as follows:

> If the Clauseau engine finds no punctuation, then the Clauseau engine looks for an article or stored function word indicating the beginning or end of a phrase or sentence, block 125. If the Clauseau engine finds an article or function word, it takes note of the first and third word in the sequence, block 115, and adds the information to the data models in the library, block 120. If the Clauseau engine finds no article or function word as the second word of the sequence, it examines the data models for phrase data, block 130. Based on the outcome of the examination of the three word sequence, the Clauseau engine assigns values to the spaces between the words. The value assigned is the likelihood that the word is the beginning or end of a phrase.

Exh. 1 at 4:29-41: Exh. 2 at 4:31-43 (emphasis added).

36. A person of skill in the art would understand the term "function word" to refer to a specific class of words "that have little lexical meaning or have ambiguous meaning and express grammatical relationships among other words within a sentence."[12] "Function words might be prepositions, pronouns, auxiliary verbs, conjunctions, grammatical articles or particles, all of which belong to the group of closed-class words." *Id.*

37. As set forth above, the patents explicitly state that the inventive methods use function words "indicating the beginning or end of a phrase or sentence" where "no punctuation" is found.

38. The meaning of "key word" is an issue of claim construction that bears on the Court's assessment of patent eligibility. As was briefly mentioned during the oral argument on Microsoft's motion to dismiss the original complaint, the "key words" of the Patents play an important role in the patented methods of phrase prediction. In its Order, the Court acknowledged that "LTI explained that phrase prediction using the Patents did

[12] https://en.wikipedia.org/wiki/Function_word

not just relate to punctuation – like grammar editing – but it instead suggested that the 'key words' referenced in the Patents and throughout the pleadings may signal phrase boundaries where there is no corresponding punctuation. However, no further information as given about the 'key words.'" Order at 5.

39. As noted above, the Patents explain that "key words" is used to refer to articles or function words, i.e., *specific types of words* as understood by a person of skill in the art, and not simply "well-established vocabulary" as Microsoft alleged, and the Court accepted. *See* Order at 11.

40. Contrary to Microsoft's contention that "the patents do not identify a single key word (portending the breadth of the claims) let alone an example of how such a key word signals a phrase" (Dkt. 19 at 5), to a person of ordinary skill in the art, the patents identify a specific set of words (articles and function words) that "indicat[e] the beginning or end of a phrase." Exh. 1 at 4:29-31; Exh. 2 at 4:31-33.

41. For example, consider the sentence, "She looked around the living room for the cat." A person of skill in the art would understand that "around" and "for" are function words, specifically prepositions. Each of "around the living room" and "for the cat" are phrases that are signaled by the prepositions "around" and "for."

42. The "library" required by the claims of the patents requires *both* "key words" and "punctuation definitions," and further that these elements "identify the beginning or end of a phrase." Exh. 1, claim 23; Exh. 2 claim 1.

43. Further, the claimed methods require use of the library contents to "determine characteristics that predict boundary punctuation" (Exh. 1, claim 23) or "determine characteristics that predict phrase or sentence boundaries." Exh. 2, claim 1. These characteristics include, for example, "a pattern of key and non-key words." Exh. 2, claim 3.

44. A proper construction of "key words" as used in the patents thus further demonstrates that the patents are directed to a *specific*, concrete method of phrase

prediction in computerized text processing, not simply any method using punctuation and vocabulary.

The Patent Claims are Directed to a Technological Solution to Problems in Computerized Text Processing/Formatting; Not an Abstract Idea

45. The patents are directed to solving technology-based problems in the field of computerized text processing. The "SUMMARY OF THE INVENTION" portion of the '508 Patent explicitly states that "problems of formatting text for maximum readability are solved by the present invention." Exh. 1 at 2:10-11.

46. The patents leverage "[a]dvances in the technology of desktop publishing" to optimize text display for readability. Exh. 1 at 1: 22-48; Exh. 2 at 2:30-56.

47. The invention is implemented in a computerized text formatting system 10 that "may be independent or may be included in a word processing system or a document layout system." Exh. 1 at 2:63-66; Exh. 2 at 2:65-3:1.

48. The inventive method of the patents applies to "formatting text appearing on paper and other media (*e.g.*, video and computer display screens, LCD panels, etc.) for the greatest degree of readability." Exh. 1 at 1:54-57; Exh. 2 at 1:61-64.

49. A person of ordinary skill in the art would understand that at the time of the invention of the patents, the formatting of text for display, whether in word processing systems, printers, video and computer displays, LCD panels or closed-captioning devices, was performed using computerized text processing devices and methods.

50. A person of ordinary skill in the art would thus understand that the patents describe and are directed to technological improvements in computerized methods of text processing.

51. The inventions of the patents improve upon the computerized text processing methods used in these various devices by solving the problem of formatting the text for maximum readability. Exh. 1 at 2:10-13.

52. For example, as explicitly taught by the patents, a problem in computerized text processing used in closed-captioning systems at the time of the invention was that "words are presented without being grouped in a manner which would assist their comprehension." Exh. 1 at 7:35-37; Exh. 2 at 7:36-38.

53. The invention of the patents solves this problem in computerized text processing by "enhanc[ing] the operation of a closed-captioning system by identifying phrases which are then presented as a unit to be read." Exh. 1 at 7:44-47; Exh. at 7:45-48.

54. For context, on information and belief, in 1998, the Consumer Technology Association ("CTA") issued a detailed technological standard for Digital Television Closed Captioning, designated CTA-708. The current version of that standard is designated ANSI/CTA-708-E. (Exhibit 3) The standard "defines a method for coding text with associated parameters to control its display." Exh. 3, Foreword.

55. The standard includes a high level description and diagram of a computerized text processing system used for closed captioning (Exh. 3 at 95):

> **10.1 Caption Authoring and Encoding**
> High quality captioning starts with the creation of the captioning intentions. This is a high level, generally editable, representation of how and when the captions should appear when rendered on the consumer receiver. SMPTE 12M **…** time code is generally used for synchronization with frames and fields. The output of the initial authoring process is generally a computer file that contains a list of time codes and the intention as to what the receiver should render when the frame, with the corresponding time code, appears on the display device. This computer file is typically editable. The file may be stored on a hard disc or floppy disc, and distributed by either computer networking techniques, or via floppy net. This process is illustrated in Figure 23.

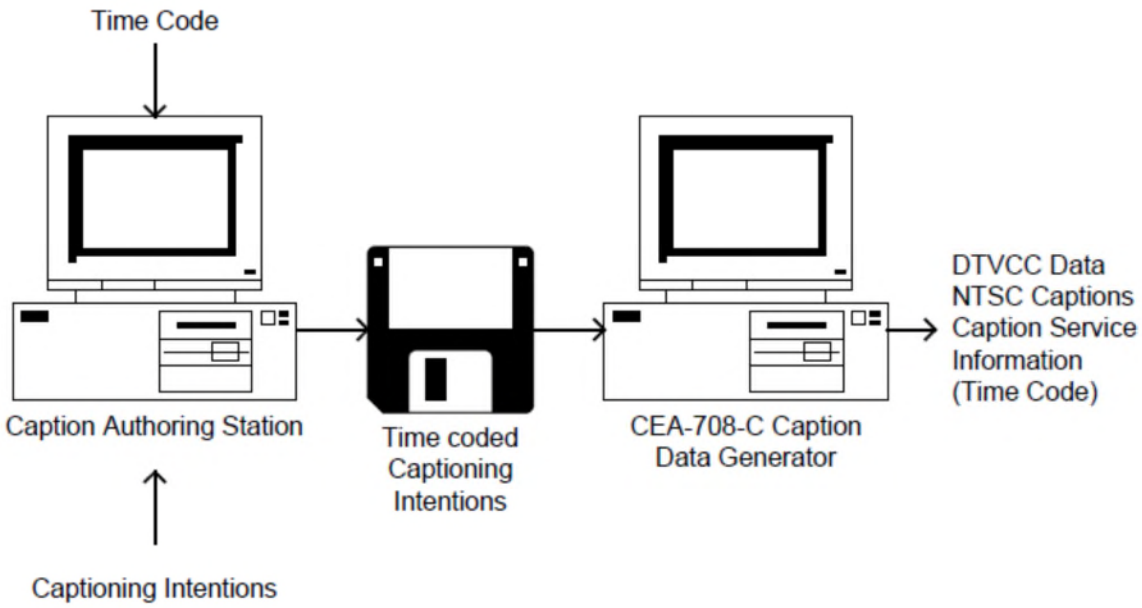

Figure 23 Caption Authoring and Encoding into Caption Channel Packets

56. A person of skill in the art would understand that the computerized text processing system described in the CTA-708 specification is exemplary of the closed caption technology described in the Patents-in-Suit that is improved by the methods described and claimed therein.

57. As expressly described in the patents, the claims are directed to inventive methods incorporated in the above-described computerized text processing system, which suffers from the problem of presenting words "without being grouped in a manner which would assist their comprehension." The inventive methods thus provide a technological improvement to the operation of a closed caption system, specifically "by identifying phrases [in the closed caption text] which are then presented as a unit to be read." Exh. 1 at 7:36-47; Exh. 2 at 7:37-48. "[I]nventions with specific applications or improvements to technologies in the marketplace are not likely to be so abstract that they override the statutory language and framework of the Patent Act." *Research Corp. Techs. v. Microsoft Corp.*, 627 F.3d 859, 869 (Fed. Cir. 2010) (cited by the Federal Circuit post-

Alice in *BASCOM Global Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1350-51 (Fed. Cir. 2016))

58. The patents further reiterate that the "inventive method" of the patents specifically pertains to "the art of computerized text formatting" as it "can be readily incorporated" into a variety of devices that utilize computerized text processing, including "a word processing system or a page layout system," or "a printer having a program to effect the formatting scheme output from the present invention." Exh. 1 at 7:48-55; Exh. 2 at 7:49-56.

59. Simply put, the inventions of the patents improve upon the then-existing computerized text processing systems and methods by making them more effective for their intended purpose – controlling the manner in which textual information is presented.

60. The claimed inventions of the Patents-in-Suit are directed to improved computerized methods for text processing because of the inclusion of specific steps, specifically: i) providing a library of key words and punctuation definitions, ii) using the key words and punctuation definitions to determine characteristics that predict phrase boundaries, and iii) using the determined characteristics to predict phrase boundaries.

61. As discussed below in paragraphs 75 to 102, the inclusion of these steps was the basis for allowance of the claimed inventions over prior art computerized text processing systems during prosecution of the patents. This further demonstrates that the focus of the claims "is not an abstract idea, but a particular improvement in the functioning of prior art [computerized text processing systems]." *Uniloc USA Inc. v. ADP LLC*, 772 Fed.Appx. 890, 897-98 (Fed. Cir. 2019).

62. The inclusion of these specific steps as the basis for allowance of the claimed inventions over prior art computerized text processing systems during prosecution of the patents similarly demonstrates that the claims are "directed to a solution to a computer-functionality problem: an improvement in computer functionality that has 'the specificity required to transform a claim from one claiming only a result to

one claiming a way of achieving it.'" *Ancora Technologies, Inc. v. HTC America, Inc.*, 908 F.3d 1343, 1349 (2018) (quoting *SAP America, Inc. v. InvestPic*, LLC, 898 F.3d 1161, 1167 (Fed. Cir. 2018).

63. The specific methods for phrase prediction described and claimed in the Patents-in-Suit do not simply automate a mental process, but are in lieu of a "process . . . driven by subjective determinations" such as where an individual reader would pause when reading a sentence aloud. *McRO, Inc. v. Bandai Namco Games Am., Inc.*, 837 F.3d 1299, 1314 (Fed. Cir. 2016); Exh. 1 at 3:9-11; Exh. 2 at 3:12-14.

64. The specific methods for phrase prediction described and claimed in the patents have been proven to achieve a technological improvement in the operation of devices that perform computerized text processing to display text.

65. For example, LTI has incorporated the inventive patented technology into a product called ReadSmart. ReadSmart is a computerized text processing method that automates and applies phrased-based processing of text through software algorithms. Based on the linguistic, psychological, and informational properties of the text, ReadSmart incorporates phrase-based processing to make improvements by adjusting the spacing between words, the size of words, and line endings. Computerized text processing systems that have incorporated the ReadSmart patented method provide documented improvements in the operation of the device controlling the printing or display of the text: reading speed is increased up to 23%, reading comprehension up to 24%, reading enjoyment up to 38%, and persuasiveness is increased up to 39%.

66. The patented technology, as embodied in ReadSmart, has been tested and proven to improve reading in a variety of media and across many different reader populations. For example, in 2005, Dr. Bever, along with a professor at Shandung University in China, were awarded a prize for the best paper of 2004 in educational research by the Society for Foreign Language Teaching in China. The paper describes the positive effects of ReadSmart on reading in students learning English in China. In

addition, the use of ReadSmart in direct mail solicitations resulted in a 50% increase in financial returns.

67. LTI has commercially deployed the patented technology through two different offerings. ReadSmart Format is a computerized typesetting tool that integrates and applies multiple text-formatting algorithms to improve the readability and memorability of books, documents, letters, and brochures. Prominent authors and university professors have required their books and textbooks to be published using this tool once they learned of its benefits. ReadSmart Mobile is a system for aggregating and publishing easier-to-read documents to mobile devices. It has been offered on a "freemium" or "try before you buy" model via Apple's app store, which has resulted in downloads of more than 3.6 million books. LTI also partnered with Learning A to Z ("LAZ") to deliver LAZ titles via the iTunes App Store as book apps and library apps.

68. The commercial and academic recognition of the benefits of the patented technology further demonstrate that the claimed inventions are not directed to an abstract idea. *See Data Engine Technologies LLC v. Google LLC*, 906 F.3d 999, 1004 and 1007-8 (Fed. Cir. 2018) (citing industry accolades for commercial embodiment in concluding that three-dimensional spreadsheet invention was not directed to an abstract idea).

69. The use of conventional *hardware* does not negate the technological improvement achieved by the claimed inventions. Rather, "the claims[' key] limitation[s] necessarily require[] that these generic components operate in an unconventional manner to achieve an improvement in computer functionality." *Amdocs (Israel) Ltd. v. Openet Telecom, Inc.*, 841 F. 3d 1288, 1300-01 (Fed. Cir. 2016).

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The Claimed Methods Supply An "Inventive Concept" Because They Include Steps That Are Not Well-Understood, Routine, or Conventional

70. In addition to being directed to a solution to a known problem in the field of computerized text processing, and thus not directed to an abstract idea under step one of the *Alice* inquiry, the claimed inventions of the Patents-in-Suit supply an "inventive step" under step two of the inquiry.

71. In particular, the claimed methods provide concrete technological improvements in methods for predicting phrase boundaries in text distinct from: i) the processes used by linguists to identify phrases by hand in the prior art; and ii) computerized text processing methods known at the time of the inventions. *BASCOM Global Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1348 (Fed. Cir. 2016) ("[A]n analysis of whether there are arguably concrete improvements in the recited computer technology could take place under step two.")

72. The claimed inventions of the Patents-in-Suit are directed to computerized methods for text processing that were not well-understood, routine or conventional because of the inclusion of certain key steps, both alone and as an ordered combination, specifically: i) providing a library of key words and punctuation definitions, ii) using the key words and punctuation definitions to determine characteristics that predict phrase boundaries, and iii) using the determined characteristics to predict phrase boundaries.

73. As described above, the claimed methods provide proven improvements in the computer-related technology discussed in the patents, specifically computerized text processing for, e.g., word processing systems, printers, video and computer displays, LCD panels and closed-captioning devices.

74. For example, the claimed methods of the Patents-in-Suit enable the presentation of phrases as a unit, which improves the operation of closed captioning systems, further demonstrating that the methods go beyond well-understood, routine, conventional activities.

The Prosecution History of the '508 Patent Confirms That the Claimed Methods Supply an "Inventive Concept" Because They Are Not Well-Understood, Routine, or Conventional

75. The Prosecution History of the '508 Patent confirms that the combination of the steps of: i) "providing a library of key words and punctuation definitions that identify the beginning or end of a phrase," ii) "using said key words and punctuation definitions to determine characteristics that predict boundary punctuation," and iii) using the determined characteristics to predict phrase boundaries supply an "inventive concept" because they are not well-understood, routine, or conventional.

76. During prosecution of the application that led to issuance of the '508 Patent, the applicants successfully distinguished the Walker patent (Exhibit 4, U.S. Patent No. 6,279,017) that had been relied upon by the patent examiner to reject the pending claims.

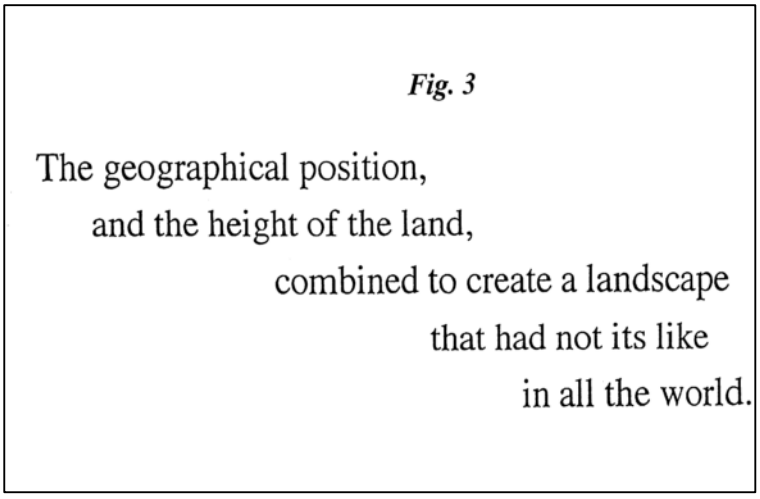
77. In response to the originally filed patent application, the patent examiner issued an office action on February 26, 2004, rejecting a number of the originally filed claims under 35 U.S.C. §103 as obvious over the Walker patent. Exhibit 5 (Patent prosecution history for '508 Patent) at Tab A, 139-146.[13] The examiner pointed to the Walker patent's use of "folding rules" as teaching the step (in original claim 1 of the patent application) of determining whether a plurality of words includes a phrase. *Id.* at 141-42.

78. Walker is directed to a method of presenting computer displayed text by displaying sentences "in cascading text segments down and across the screen. The segmentation and horizontal displacement is determined by applying rules which utilize parts of speech, punctuation, and reader preferences." Exh. 4 at 2:64-3:1. "The enhanced sentence cascades down the page in a pattern of meaningful phrases determined by text content and reader preferences, the eyes moving a short distance from phrase to phrase."

[13] The prosecution histories attached as Exhibits 5 and 6 are presented in reverse chronological order.

Id. at 3:17-20.

79. Walker's "cascading text" method for text display is illustrated in Fig. 3 of the Walker patent:



80. Walker uses "folding points" to divide the text. "Primary folding points" are used to define "super-phrases" and "secondary folding points" are used to define "mini-phrases." *Id.* at 13:41-53 and 14:21-24.

81. In response to the initial rejection of the claims by the Patent Office, the applicants pointed out several improvements/distinctions in the phrase prediction methods of the Patents-in-Suit. Exh. 5 at 112-134 (Tab B).

82. First, the applicants noted that Walker's method requires a "new and different structure for presenting text" that, unlike applicants' method, fails to "maintain[] the aesthetics accepted within the mainstream print community for text." *Id.* at 125.

83. The applicants further noted that a "key distinction" as compared to Walker is that the claimed method "uses the function words and punctuation definitions from the library to determine phrases. The occurrence and/or pattern of these function words and punctuation definitions in the first plurality of words determine the existence of a phrase. By comparison Walker takes each word and uses the reader specified word sets and external sources to assign it a number of attributes including classifying the part of

speech, noun, verb, etc. (Step 126) (Col. 11, line 61 to Col. 12, line 15)." *Id.* at 126.

84. The applicants further noted that in Walker's method, "[t]he emphasis is on the attributes of each word and the patterns of the attributes, not the occurrence of specified function words and punctuation definitions in an installed input vocabulary." *Id.* at 127.

85. On June 28, 2005, the patent examiner responded, and reiterated his position that Walker taught a method of phrase prediction that prevented allowance of the applicants' claims. The examiner thus finally rejected the pending claims as obvious over Walker, either alone or in combination with another patent. *Id.* at 90-105 (Tab C).

86. The applicants then filed a Request for Continuing Examination ("RCE") on August 16, 2005, and provided additional claim amendments and arguments in response to the final rejection. *Id.* at 65-86 (Tab D).

87. Specifically, the applicants amended the claims on August 16, 2005, including application claim 14, as follows, with deletions struck and additions underlined (*Id.* at 69):

14. (currently amended) A computer-implemented method for formatting text, comprising the steps of:

a) providing text input;

b) providing a library of ~~function~~ key words and punctuation definitions that identify the beginning or end of a phrase;

c) using said key words and punctuation definitions to determine characteristics that predict boundary punctuation;

d) examining a first plurality of words of said text input;

~~ed~~) ~~determining with a neural network,~~ using said ~~function~~ key words and said determined characteristics ~~punctuation definitions, whether~~ to predict phrase boundaries within said first plurality of words ~~includes a phrase~~;

~~e) marking said phrase;~~

f) repeating steps ~~ed~~-e until all the text input has been analyzed; and

g) formatting said text input ~~except for between words containing a punctuation mark~~ according to the predicted phrase boundaries ~~said determined phrases, whereby the text input is formatted to enhance readability;~~

~~h) examining the word before and after a word that is determined to be at an end of a phrase;~~

~~i) determining whether the examined words are phrase indicators; and,~~

~~j) storing information resulting from steps g and h in said library, whereby said neural network is trained to recognize phrases in said text input~~.

88. Together with the amendment, the applicants again distinguished the Walker patent that had been applied by the patent examiner to reject claim 14 as obvious (*Id.* at 81):

> Claim 14 as amended recites "using said key words and punctuation definitions to determine characteristics that predict boundary punctuation" (p. 5, l. 18-22) and "using said key words and said determined characteristics to predict phrase boundaries within said first plurality of words" (p. 5, l. 18-22). Walker uses the folding rules to determine the best breakpoint in the window. Walker does not use key words and punctuation definitions to first determine characteristics that predict boundary punctuation and then apply the key words and characteristics to a specific plurality of words to predict phrase boundaries.

89. As reflected in the changes made to claim 14, at this point in the prosecution the claim language was very close to the final language of what became claim 23 of the '508 Patent.

90. Importantly, the applicants highlighted steps of the claimed method that distinguished and improved upon the Walker method. First, the step of "using said key words and punctuation definitions to determine characteristics that predict boundary punctuation." And second, the step of "using said key words and said determined characteristics to predict phrase boundaries within said first plurality of words."

91. The applicants explicitly noted that "Walker does not use" either of these steps, and instead uses "folding rules to determine the best breakpoint in the window" reflecting a line length of text.

92. On November 16, 2005, the Patent Office issued a non-final rejection of the claims. *Id.* at 47-62 (Tab E). However, the applicants pointed out in their December 12,

2005, response (*id.* at 28-46 (Tab F)) that the November 16, 2005, office action did not address the substantive amendments to the claims that been made in the RCE, and in a teleconference with the patent examiners that same day, the examiners withdrew the rejection based on Walker and indicated that the claims presented on August 16, 2005, were allowable. *Id.* at 45.

93. The examiner's withdrawal of his rejection of the claims under 35 U.S.C. §103 necessarily meant that the examiner was satisfied that the claims were nonobvious.

94. Anticipation under §102 and obviousness under §103 are two grounds under which patent claims can be found invalid based on what was already known in the art. Anticipation is a question of fact, and obviousness is a question of law based on underlying facts.

95. Although §§102 and 103 are statutory requirements for patentability distinct from eligibility under §101, both the Supreme Court and the Federal Circuit have noted that there is overlap between the factual inquires under §§102 and 103, and the *Alice* step 2 inquiry under §101 of whether the claims include an inventive step, *i.e.*, whether they include steps that are not "well-understood, routine or conventional." *Mayo Collaborative Servs. v. Prometheus Labs.,Inc,*, 566 U.S. 66, 73, 90 (2012) ("in evaluating the significance of additional steps, the § 101 patent-eligibility inquiry and, say, the § 102 novelty inquiry might sometimes overlap."); *Aatrix Software Inc. v. Green Shades Software Inc*., 890 F.3d 1354, 1360 (Fed. Cir. 2018) (Lourie, C.J., concurring with Newman, C.J.) (*Mayo* decision "analyz[es] abstract ideas and natural phenomena with a two-step test, including looking for an 'inventive concept' at step two, thereby bringing aspects of §§ 102 and 103 into the eligibility analysis.")

96. In the December 12, 2005, response, the applicants also made the final amendments to claim 14 of the application (which became claim 23 of the '508 Patent), as shown below with the deletions struck and the additions underlined:

14. (currently amended) A computer-implemented method for formatting text, comprising the steps of:

a) providing text input;

b) providing a library of key words and punctuation definitions that identify the beginning or end of a phrase;

c) using said key words and punctuation definitions to determine characteristics that predict boundary punctuation;

d) examining a ~~first~~ plurality of words of said text input;

e) using said ~~key words and said~~ determined characteristics to predict phrase boundaries within said ~~first~~ plurality of words;

f) repeating steps d-e for a next plurality of words until all the text input has been analyzed; and

g) formatting said text input according to the predicted phrase boundaries.

Exh. 5, Tab F at 34.

97. This claim issued as claim 23 of the '508 Patent, set forth above in paragraph 18.

98. Given the overlap in the factual inquiries underlying obviousness under §103 and step two of the *Alice* inquiry, the applicants' successful reliance on the key steps in the claimed methods to overcome the rejection of claim 23 of the '508 Patent as obvious over the Walker patent further demonstrates that these steps also supply an inventive concept under step two.

99. Claim 1 of the '489 Patent, which is a continuation of the '508 Patent, includes similar key steps that also supply an inventive concept under step two for the same reasons.

100. Claim 1 of the '489 Patent issued in the same form it was originally filed.

The patent examiner who allowed the claims of the '489 Patent explicitly pointed to the key steps of claim 1 as the reason for allowance.

101. In particular, the examiner stated that:

> "With respect to claims 1, 14 and 16, Walker, the closest prior art found, uses 'folding rules' to determine the best breakpoint in the window. Walker does not use keywords and punctuation definitions to first determine characteristics that predict boundary punctuation and then apply the key words and characteristics to a specific plurality of words to predict phrase boundaries." Exhibit 6, Tab A (Notice of Allowance) at 10.

102. The patent examiner's statements concerning the reasons for allowance of claim 1 of the '489 Patent further demonstrates that these steps supply an inventive concept under step two.

103. The technological improvement in predicting phrase-based boundaries in text claimed by the Patents-in-Suit is not only useful for improving comprehension and enjoyment for human readers of displayed text. Another real-world application of the technological innovation claimed by the Patents-in-Suit is in "tokenization." "Tokenization" generally refers to the process of splitting text into constituent elements, such as sentences, phrases, and words. These "tokens" are then used in further processing of the text, such as in NLP applications.

104. The use of sentence tokenization, such as that provided by the claimed inventions, provides technical improvements in the operation of computer-implemented technologies. One example is Internet searching. By parsing text into sentences or phrases, search engines are able to much more accurately rank results based on relevance, rather than simply the frequency of individual search terms.

105. Improvements in the operation of search engines that incorporate tokenization have been demonstrated. For example, researchers have demonstrated a greater than 6% improvement over baseline in search result relevance by weighting terms

based on their location within a sentence in a target document.[14] Another team of researchers demonstrated improvements of up to 14% by sentence-based models over term-based models in ranking search results.[15]

106. The specific and concrete technological solution and improvements recited and captured by the claims of the Patents-in-Suit as exemplified above prevent those claims from preempting or otherwise disproportionately tying up the use of all computer-based methods for phrase prediction.

MICROSOFT'S KNOWLEDGE OF LTI AND THE PATENTS-IN-SUIT

107. LTI and its patented technology have been known to Microsoft since at least 2010. Dr. Keith Rayner, a psychology professor at the University of California San Diego, was known for pioneering modern eye-tracking methodology in reading and visual perception. Dr. Rayner became interested in the work of Dr. Bever and LTI. Dr. Rayner served on LTI's advisory board, during which time he connected Dr. Bever and Lee Berendt of LTI to Microsoft (which already had a relationship with Dr. Rayner's lab at UCSD). Dr. Rayner shared information concerning LTI's technology with Dr. Kevin Larson, a Principal Researcher at Microsoft.

108. On October 28, 2010, Dr. Larson told Dr. Bever and Mr. Berendt that he had been attempting to locate a customer within Microsoft for their technology. He stated "[w]e're still looking as there are parts of the company that we don't have good contacts (Bing in particular)."

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[14] Baiyan Liu, *et al.*, *Using Term Location Information to Enhance Probabilistic Information Retrieval*, *in* PROCEEDINGS OF THE 38TH INTERNATIONAL ACM SIGIR CONFERENCE ON RESEARCH AND DEVELOPMENT IN INFORMATION RETRIEVAL, 883, 883-86 (2015).

[15] Jung-Tae Lee, *et al.*, *Sentence-Based Relevance Flow Analysis for High Accuracy Retrieval*, 62(9) JOURNAL OF THE AMERICAN SOCIETY FOR INFORMATION SCIENCE AND TECHNOLOGY 1666, 1666-75 (2011).

109. In 2015, Dr. Larson told LTI that he was "a fan of ReadSmart" and convinced of its benefits. He reported that Dr. Rayner had previously proposed to Microsoft that it investigate LTI's technology, which Dr. Larson stated he "enthusiastically supported." Notwithstanding Dr. Larson's enthusiasm, Microsoft never inquired about licensing LTI's patented technology.

110. In 2018, LTI retained Howard Fisher of the Fisher Company, a consulting firm that provides strategic advice to publishers. On or about May 2018, Mr. Fisher provided information about LTI and its patented ReadSmart technology to Microsoft, among other companies. The materials included information about all of LTI's patents, including the '508 and '489 patents, identified by patent number. The slide deck was sent to at least Peggy Johnson, then an executive Vice President for Business Development at Microsoft, and Mike Bennett of Microsoft's Advanced Reading Technologies Team. Still, Microsoft did not seek to license LTI's patents or patented technology.

MICROSOFT'S INFRINGING PRODUCTS AND SERVICES

111. Upon information and belief, Microsoft has infringed, directly and/or indirectly, one or more claims of the Patents-in-Suit during the terms of each of said Patents-in-Suit, through, as non-limiting examples: use of its Bling FIRE tokenizer in Bing search and other of Microsoft's NLP products and services, and making, using, offering for sale, selling, and importing products and services utilizing, *inter alia*, its Bling FIRE tokenizer. On April 25, 2019, Microsoft announced its release of its "Bling FIRE" tokenizer to open source.[16] "Bling" stands for Beyond Language and Understanding, and "FIRE" refers to Finite state machine and Regular Expression manipulation. As described above, "tokenization" is the process of splitting text into constituent elements, such as sentences, phrases, and words. The announcement noted

[16] https://blogs.bing.com/Engineering-Blog/2019-04/bling-fire-tokenizer-released-to-open-source.

that Bling FIRE is the tokenizer "used internally by Bing [Microsoft's Internet search engine] for all its Deep Learning based projects." Upon information and belief, Microsoft began using the Bling FIRE tokenizer in its Bing search engine long before the April 25, 2019 announcement. Initial examination of the Bling FIRE library and supporting documentation published by Microsoft[17] reveals that Bling FIRE infringed at least Claim 23 of the '508 Patent and Claims 1-3 of the '489 Patent.

112. An exemplary limitation-by-limitation explanation of Microsoft's infringement of Claim 23 of the '508 Patent through its Bling FIRE tokenizer is attached as Exhibit 7.

113. An exemplary limitation-by-limitation explanation of Microsoft's infringement of Claim 1 of the '489 Patent through its Bling FIRE tokenizer is attached as Exhibit 8.

114. LTI expects that discovery will reveal additional unauthorized infringement of the Patents-in-Suit including through incorporation of Bling FIRE into other of Microsoft's NLP products and services. Upon information and belief, Microsoft also has used in the past and continues to use Bling FIRE in other NLP products including, but not limited to, Azure Cognitive Services such as Search, Dictate, AI Language, and AI Speech; Language Understanding (LUIS); Cortana; and Translate. Microsoft's web browser Microsoft Edge and its predecessor Internet Explorer also utilize Bing search as the default search engine. Microsoft Edge further includes AI-powered Bing Chat, which, upon information and belief, also uses the infringing Bling FIRE tokenizer.[18] Microsoft Edge can be obtained from Microsoft's website and is the default web browser on Windows 10, Windows 10 Mobile, and Windows 11 operating systems, and Xbox One, Xbox Series X, and Xbox Series S gaming consoles. Microsoft Edge, with Bing as the

[17] https://github.com/microsoft/BlingFire.

[18] https://www.microsoft.com/en-us/edge/learning-center/how-to-use-bing-in-sidebar?form=MA13I2.

default search engine, is also available as an app for mobile phones using iOS and Android operating systems.

115. The foregoing paragraphs provide one example of Microsoft's infringement, and only as to a single patent claim from each Patent-in-Suit. The full extent of Microsoft's infringing activity will be revealed in discovery.

FIRST CAUSE OF ACTION

(Infringement of U.S. Patent No. 7,069,508)

116. LTI repeats and realleges the allegations set forth in the foregoing paragraphs of this Complaint as if fully set forth herein.

117. Microsoft has directly infringed one or more claims of the '508 Patent, including at least Claim 23 under 35 U.S.C. § 271(a), literally and/or under the doctrine equivalents, by without authority making, using, making available for use, selling, offering for sale, and/or importing the non-limiting examples of the above-described accused products and services that use the Bling FIRE tokenizer.

118. Microsoft has had actual knowledge of the '508 Patent since at least May 2018.

119. With knowledge of the '508 Patent, Microsoft has indirectly infringed one or more claims thereof under 35 U.S.C. § 271(b) through the active inducement of direct infringement by intending to encourage, and in fact encouraging, use of the non-limiting examples of the above-described accused products and services that use the Bling FIRE tokenizer within the United States in an infringing manner that practiced the inventions of one or more claims of the '508 Patent, including at least Claim 23. Microsoft has actively induced such direct infringement by providing, *inter alia*, functionality, instructions, training modules, and other assistance that have served to facilitate, promote, and cause its users/customers to make infringing use of the Bling FIRE tokenizer. Upon information and belief, Microsoft has performed the acts that constitute inducement of infringement with the knowledge and specific intent or willful blindness that the resulting acts induced

thereby would constitute direct infringement by its users/customers.

120. With knowledge of the ’508 Patent, Microsoft has also indirectly infringed one or more claims thereof under 35 U.S.C. § 271(c) by making, selling, offering for sale, using, making available for use, and/or importing within or into the United States its products and services that, as a non-limiting example, utilize the Bling FIRE tokenizer, knowing that such functionality is especially made or especially adapted for use in direct infringements of the ’508 Patent, including at least Claim 23, and knowing that such functionality is not a staple article or commodity of commerce suitable for substantial non-infringing use.

121. Upon information and belief, Microsoft’s acts of infringing the ’508 Patent have been willful and undertaken in knowing and deliberate disregard of LTI’s patent rights.

122. LTI has been damaged by Microsoft’s infringements of the ’508 Patent in an amount to be determined at trial.

123. Upon information and belief, Microsoft’s willful infringements, together with its other potential conduct in this action, have or will render this case exceptional under 35 U.S.C. § 285 and thereby entitle LTI to recovery of its attorneys’ fees and costs incurred in prosecuting this action.

SECOND CAUSE OF ACTION

(Infringement of U.S. Patent No. 7,346,489)

124. LTI repeats and realleges the allegations set forth in the foregoing paragraphs of this Complaint as if fully set forth herein.

125. Microsoft has directly infringed one or more claims of the ’489 Patent, including at least Claim 1 under 35 U.S.C. § 271(a), literally and/or under the doctrine equivalents, by without authority making, using, making available for use, selling, offering for sale, and/or importing the non-limiting examples of above-described accused products and services that use the Bling FIRE tokenizer.

126. Microsoft has had actual knowledge of the ’489 Patent since at least May 2018.

127. With knowledge of the ’489 Patent, Microsoft has indirectly infringed one or more claims thereof under 35 U.S.C. § 271(b) through the active inducement of direct infringement by intending to encourage, and in fact encouraging, use of the non-limiting examples of the above-described accused products and services that use the Bling FIRE tokenizer within the United States in an infringing manner that practiced the inventions of one or more claims of the ’489 Patent, including at least Claim 1. Microsoft has actively induced such direct infringement by providing, *inter alia*, functionality, instructions, training modules, and other assistance that have served to facilitate, promote, and cause its users/customers to make infringing use of the Bling FIRE tokenizer. Upon information and belief, Microsoft has performed the acts that constitute inducement of infringement with the knowledge and specific intent or willful blindness that the resulting acts induced thereby would constitute direct infringement by its users/customers.

128. With knowledge of the ’489 Patent, Microsoft has also indirectly infringed one or more claims thereof under 35 U.S.C. § 271(c) by making, selling, offering for sale, using, making available for use, and/or importing within or into the United States its products and services that, as a non-limiting example, utilize the Bling FIRE tokenizer, knowing that such functionality is especially made or especially adapted for use in direct infringements of the ’489 Patent, including at least Claim 1, and knowing that such functionality is not a staple article or commodity of commerce suitable for substantial non-infringing use.

129. Upon information and belief, Microsoft’s acts of infringing the ’489 Patent have been willful and undertaken in knowing and deliberate disregard of LTI’s patent rights.

130. LTI has been damaged by Microsoft’s infringements of the ’489 Patent in an amount to be determined at trial.

131. Upon information and belief, Microsoft's willful infringements, together with its other potential conduct in this action, have or will render this case exceptional under 35 U.S.C. § 285 and thereby entitle LTI to recovery of its attorneys' fees and costs incurred in prosecuting this action.

PRAYER FOR RELIEF

WHEREFORE, LTI respectfully requests that this Court enter a judgment in its favor and against Microsoft as follows:

(a) Declaring that Microsoft has directly infringed, induced others to infringe, and/or committed acts of contributory infringement with regard to one or more claims of the Patents-in-Suit;

(b) Awarding damages adequate to fully compensate LTI within the meaning of 35 U.S.C. § 284 for the acts of infringement committed by Microsoft, as well as any applicable prejudgment and post-judgment interest thereon at the maximum rates allowed by law;

(c) Awarding treble or otherwise enhanced damages to LTI pursuant to 35 U.S.C. § 284 for the acts of willful infringement committed by Microsoft, as well as any applicable prejudgment and post-judgment interest thereon at the maximum rates allowed by law;

(d) Performing an accounting to determine the damages to be awarded to LTI as a result of Microsoft's infringing activities, including an accounting for infringing conduct not presented at trial and an award of additional damages for any such infringing activities;

(e) Declaring that this action is exceptional within the meaning of 35 U.S.C. § 285, and concomitantly awarding LTI its attorneys' fees as the prevailing party in this action, as well as any applicable prejudgment and post-judgment interest thereon at the maximum rates allowed by law;

(f) Awarding LTI its costs and expenses incurred in this action; and

(g) Awarding any further relief to LTI that this Court deems just and proper.

DEMAND FOR JURY TRIAL

LTI demands a jury trial as to all issues arising in this action that are so triable.

Date: April 26, 2024

Respectfully submitted,

/s/ Steven Rizzi

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