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

CORRINO HOLDINGS LLC, Plaintiff, v. EXPEDIA, INC. AND TRIVAGO N.V., Defendants.	)	Civil Action No. 6:20-cv-00309-ADA **JURY TRIAL DEMANDED**

FIRST AMENDED COMPLAINT

Plaintiff Corrino Holdings LLC ("Plaintiff" or "Corrino") hereby brings this Complaint seeking damages and other relief for patent infringement, and, demanding trial by jury, and alleges as follows:

PARTIES

1. Corrino is a Texas limited liability company having a principal place of business at 17330 Preston Rd, Suite 200D, Dallas, Texas, 75252. Corrino is the owner of the entire right, title, and interest of a portfolio of patents covering technologies related to new and improved systems and methods for dynamically communicating linked information, such as geolocation and other contextual information, to users of a network and maintaining the association of that data for improved search, retrieval and review of relevant results, including United States Patent Nos. 6,741,188; 7,716,149; 7,843,332; 7,847,685; 7,958,104; 9,152,734; and 9,262,533 (collectively, the "Patents-in-Suit").

2. Defendant Expedia, Inc. is a Washington corporation ("Expedia") with a principal place of business at 333 108th Avenue NE, Bellevue, Washington 98004. Expedia may be served through its registered agent for service, National Registered Agents, Inc., 3800 N Central Ave Suite 460, Phoenix, Arizona 85012. Expedia provides online travel reservation and related services to consumers and local partners directly through the websites at www.expedia.com and through the Expedia mobile applications.

3. Upon information and belief, Trivago N.V. ("Trivago") is a foreign company organized under the laws of Germany, and may be served with process at its place of business under The Hague Convention at 40221 Dusseldorf, Germany or via substitute service to the Texas Secretary of State under Fed. R. Civ. Proc. 4(h)(1)(A), 4(e)(1), and Tex. Civ. Prac. & Rem. Code § 17.044(b). Trivago sells and offers to sell products and provides services throughout the United States, including in this state and in this judicial district, and introduces products and services that perform infringing processes into the stream of commerce knowing that they will be available in this state and this judicial district.

4. Expedia, including its subsidiary Trivago N.V. and its parent company Expedia Group, ("collectively "Expedia" or "Defendant") is an online travel company, providing business and leisure travelers with instantaneous research, planning, and booking information. Expedia conducts its business and provides online travel reservation and related services to consumers through a large portfolio of travel brands including Trivago (collectively, the "Expedia Brands and Subsidiaries"). Expedia thereby infringes the Patents-in-Suit by implementing, without authorization, Corrino's proprietary technologies in a number of its commercial products and services throughout its brands, including, *inter alia*, the www.expedia.com website and related mobile application, the www.cheaptickets.com website and related mobile application, the

www.hotels.com website and related mobile application, the www.orbitz.com website and related mobile application, the www.travelocity.com website and related mobile application, and the www.trivago.com website and related mobile application, which are marketed, offered, and distributed to users of mobile and other devices by Expedia throughout the United States, including in this District.

5. Upon information and belief, the Expedia Brands and Subsidiaries are operated, owned, and controlled by Expedia either directly or through wholly-owned or majority-owned and controlled subsidiaries.

6. Upon information and belief, Expedia, the Expedia Brands and Subsidiaries, and its "Global Network of Brands" (**Exhibit H** ("Our Brands" listed on Expedia Group website))) operate as a joint enterprise. According to Expedia Group's 10-K, Expedia Group has numerous "travel brands." **Exhibit I** (Expedia Group's 2018 Form 10-K at 1, available at https://ir.expediagroup.com/sec-filings/sec-filing/10-k/0001324424-19-000006). Expedia's "technology platforms" support several of the Expedia's brands, including expedia.com, cheaptickets.com, hotels.com, orbitz.com, travelocity.com, and trivago.com. *Id.* at 7.

7. Thus, upon information and belief, Expedia is jointly responsible for infringement of the asserted patents in the U.S. by each and all of its brands and subsidiaries.

JURISDICTION AND VENUE

8. This action arises under the patent laws of the United States, Title 35 of the United States Code, 35 U.S.C. § 271 et seq. The Court has subject matter jurisdiction over this action pursuant to 28 U.S.C. § 1331 and 1338(a).

9. The Court has general and specific personal jurisdiction over Defendant because it conducts substantial business in the forum, directly and/or through intermediaries, including: (i) at

least a portion of the infringing activity alleged herein; and (ii) regularly doing or soliciting business, engaging in other persistent courses of conduct and/or deriving substantial revenue from goods and services provided to persons in this District, and (iii) having a regular and established place of business in this state and in this judicial district.

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

11. Upon information and belief, Defendant, directly and/or through intermediaries, imports, makes, uses, sells, offers for sale, ships, distributes, advertises, promotes, and/or otherwise commercializes infringing products in this District and the State of Texas. Upon information and belief, 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. Upon information and belief, Defendant conducts a significant, persistent and regular amount of business in this District through sales by its Global Network of Brands, subsidiaries, distributors, customers, and resellers and through online marketing, and derives substantial revenue from such business. **Exhibit H**.

12. Venue for Expedia Inc. is proper in this District pursuant to 28 U.S.C. §§ 1391(b), (c), and 1400(b). Upon information and belief, Expedia Inc. (WA) has a regular and established place of business in this District, including at located at 11800 Domain Blvd., Austin, Texas 78758 and 1920 Alterra Parkway, Austin, Texas 78758. Expedia Inc. (WA) has, through its Global Network of Brands and its partner program that it runs and maintains on behalf and for the benefit of Expedia Group and its subsidiaries, has a regular and established place of business in this District. Upon information and belief, Expedia Inc. (WA), acting as a joint enterprise, has committed substantial acts of infringement in this District. Defendant further has a regular and

established place of business in the state of Texas and in this judicial district. **Exhibit J** (Expedia Austin office), **Exhibit K** (Expedia jobs in Austin), **Exhibit L** (Expedia Austin office description).

13. Venue for Trivago N.V. is proper in this District pursuant to 28 U.S.C. §§ 1391(b) and (c) because venue in a patent infringement action against a foreign defendant is proper in any judicial district. Moreover, upon information and belief, Trivago N.V. has committed substantial acts of infringement in this Trivago N.V.

THE ACCUSED INSTRUMENTALITIES

14. Defendant, as a joint enterprise, manufactures, uses, sells, offers for sale and/or imports websites and mobile apps for each of the Expedia Brands and Subsidiaries, specifically, the www.expedia.com website and related mobile application, the www.cheaptickets.com website and related mobile application, the www.hotels.com website and related mobile application, the www.orbitz.com website and related mobile application, the www.travelocity.com website and related mobile application, and the www.trivago.com website and related mobile application. As used herein, each website and related mobile application is a "Platform," each Platform is an "Accused Product," and the Accused Products are referred to collectively as "Accused Instrumentalities."

COUNT I – INFRINGEMENT OF THE '188 PATENT

15. Plaintiff incorporates by reference the allegations in all preceding paragraphs as if fully set forth herein.

16. U.S. Patent No. 6,741,188 ("the '188 Patent") is entitled "SYSTEM FOR DYNAMICALLY PUSHING INFORMATION TO A USER UTILIZING GLOBAL POSITIONING SYSTEM" and was issued on May 25, 2004. A true and correct copy of the '188 Patent is attached as **Exhibit A**.

17. The ’188 Patent was filed on March 10, 2000 as U.S. Patent Application No. 09/523,022, which is a continuation-in-part of U.S. Patent Application No. 09/426,065, filed October 22, 1999.

18. Corrino is the owner of all rights, title, and interest in and to the ’188 Patent, with the full and exclusive right to bring suit to enforce the ’188 Patent, including the right to recover for past infringement.

19. The ’188 Patent is valid and enforceable under United States Patent Laws.

Technical Description

20. The ’188 Patent recognized several problems with certain conventional technologies. Indeed, the ’188 Patent recognized problems with conventional GPS technology. For instance, the ’188 Patent recognized that, while conventional GPS technology could provide users with “location and directional information, more specific and detailed information related to the location is often needed.” **Exhibit A**, ’188 Patent at 1:29-30. In this regard, the ’188 Patent explains that “[a] more powerful system is therefore necessary to provide mobile users with specific information relating to the point in time the user is at a specific location.” *Id.* at 1:40-43. In other words, the ’188 Patent recognized that, because of the shortcomings of conventional GPS technology, “it would be desirable for a system which can provide relevant information to location-specific users at relevant points in time.” *Id.* at 1:45-47. The ’188 Patent recognized that, at the time of the inventions of the ’188 Patent, “[t]his type of system [was] currently not provided for with conventional systems.” *Id.* at 1:43-44.

21. The ‘188 Patent also recognized problems with conventional Internet-query technology. For instance, the ‘188 Patent recognized that “an internet query of restaurants would normally retrieve thousands of hits on a conventional search engine.” *Id.* at 2:38-40. In contrast,

the '188 Patent explains how its claimed solution was an improvement over conventional query technology of the time: "By relating the search to the user's physical location, only those restaurants associated with the user's identified region[] are provided. Thus, valuable time is saved and considerable convenience is provided by retrieving information related to a particular location." *Id.* at 2:40-45.

22. In this regard, the '188 Patent provided an improvement to the user interface of a hand-held electronic device by facilitating the display of a limited set of search-result information (*e.g.*, the most relevant search results): The present invention also provides a hand-held system which allows users to receive region-specific information directed to the user's particular location. For example, a user may be situated in a new location, and the user may then request and receive information about restaurants within a defined area defined by the user. Using the inventions of the '188 Patent, the user may query for restaurants within three blocks or within the entire city and receive specific audio and/ or display information related to the query. *Id.* at 2:16-25.

23. Similarly, the '188 Patent explains that if its claimed solution is used to "search the Internet for a sushi restaurant" in the "downtown Seattle, Wash." area, the query can be focused on a "one square mile region" such that "[t]he search results will then be limited to websites relating to sushi restaurants originating and/or associated with that particular one square mile region. Thus, the user is able to quickly locate a sushi restaurant within one square mile of his/her present location." **Exhibit A**, '188 Patent at 5:59-6:6. The '188 Patent then explains how its claimed solution is a technological improvement over conventional Internet-query systems of the time: "A similar type of search using conventional systems employing search terms such as 'sushi,' 'Seattle' and 'restaurant' would likely have resulted in thousands of hits—most of which are not of interest to the user." *Id.* at 6:7-10.

24. Thus, the claimed solutions of the '188 Patent provide an improvement over conventional GPS and Internet-query technology of the time at least because the claimed solutions enable "substantially relevant information to a user's time and place" to be "directed to the user while extraneous information that may be retrieved as with conventional systems is substantially removed." *Id.* at 11:44-47.

25. Given the state of the art at the time of the inventions of the '188 Patent, including the deficiencies in GPS and Internet-query technology of the time, the inventive concepts of the '188 Patent cannot be considered to be conventional, well-understood, or routine. *See, e.g.*, **Exhibit A**, '188 Patent at 2:38-45, 5:59-6:10, 11:44-47. The '188 Patent provides an unconventional solution to problems arising in the context of GPS and Internet-query technology—namely, that such technology returned too many search results, much of which was of little to no interest to the user. *See, e.g., id.* at 6:7-10, 11:44-47. In this respect, the '188 Patent offered a technological solution to such problems resulting in location-based search engine technology that facilitated providing more relevant, focused search results to a user than existing search engine systems. *See, e.g., id.* at 5:59-6:6.

26. Indeed, it was not well-understood, routine, or conventional at the time of the inventions of the '188 Patent to have a data information server system comprising (i) a server coupled to the global communications network, (ii) a mass storage medium coupled to the server that includes a client profile database including a plurality of client profiles generated from user activity and/or demographics, (iii) a geographic position filter for relating and dynamically updating information according to a position of a mobile data receiver, and (iv) a wireless transceiver coupled to the server. *See, e.g., id.* at Claim 13. It was also not well-understood, routine, or conventional at the time of the inventions of the '188 Patent to have a data information

server system comprising (i) a geographic position filter for relating and dynamically updating information according to a position of a mobile data receiver, the geographic position filter adapted to relate each of a plurality of web sites having embedded region identifiers with another region identifier associated with a position of a mobile data receiver and (ii) a server configured to search for data over a global communications network in accordance with the position of the mobile data receiver and a plurality of client profiles generated from user activity and/or demographics. *See, e.g., id.* at Claim 13.

27. Likewise, it was not well-understood, routine, or conventional at the time of the inventions of the '188 Patent to have a method comprising the specific combination of (i) determining a position of a mobile data receiver within a geographic region, (ii) automatically inserting a unique region identifier associated with the position of the mobile data receiver, (iii) forming a data search based at least in part on an automatically generated user profile that is based on query history, (iv) identifying a set of data responsive to the data search, (v) identifying and dynamically updating a subset of the set of data based upon the unique region identifier and at least one other region identifier embedded within the data of a plurality of websites, and (vi) transmitting the subset of data to the mobile data receiver. *See, e.g., id.* at Claim 14.

28. Moreover, it was not well-understood, routine, or conventional at the time of the inventions of the '188 Patent to have a method comprising the specific combination of (i) automatically defining a data profile for a user of a mobile data receiver based on the user's prior query history, (ii) determining the position of the mobile data receiver, (iii) automatically inserting a unique region identifier associated with the position of the mobile data receiver, (iv) forming a query based upon the data profile, (v) utilizing a search engine to compile a set of data responsive to the query, (vi) forming and dynamically updating a subset of the set of data based on the unique

region identifier and at least one other region identifier embedded within the data of a plurality of websites, and (vii) transmitting the subset of data to the mobile data receiver. *See, e.g., id.* at Claim 15. It was also not well-understood, routine, or conventional at the time of the inventions of the '188 Patent to have a method comprising the aforementioned specific combination of functions along with (i) monitoring the data reviewed by the user and (ii) defining the data profile based upon the data previously reviewed by the user. *See, e.g., id.* at Claim 16.

29. These are just exemplary reasons why the inventions claimed in the '188 Patent were not well-understood, routine, or conventional at the time of their invention.

30. Additionally, the '188 Patent's more powerful location-based search engine technology improved the user interface of electronics devices (*e.g.*, mobile devices) by removing extraneous information typically returned by conventional search engine systems and providing the user with the most relevant search results related to the user's physical location. *See, e.g.*, **Exhibit A**, '188 Patent at 2:38-45, 5:59-6:10, and 11:44-47. In other words, the '188 Patent's specific improvement over existing technology resulted in a user's electronics device displaying particular search results that are most relevant to a user at a given point in time

Direct Infringement

31. On information and belief, Defendant, without authorization or license from Plaintiff, has been and is presently directly infringing the '188 Patent, either literally or equivalently, as infringement is defined by 35 U.S.C. § 271(a), including through making, using, (including for testing purposes), selling and offering for sale methods and systems infringing one or more claims of the '188 Patent. Defendant is thus liable for direct infringement pursuant to 35 U.S.C. § 271(a). Exemplary infringing instrumentalities include the Expedia platform (collectively the "'188 Accused Products"). The '188 Accused Products specifically include at

least the Cheaptickets.com platform, the Hotels.com platform, the Orbitz platform, the Travelocity platform, and all other substantially similar products.

32. Claim 1 of the '188 Patent recites:

> 1. A system for providing geographically relevant information; comprising:
>
> (a) a plurality of websites, each website identified by a region identifier associated with a geographic region, wherein the region identifier is embedded into data of the plurality of websites; and
>
> (b) a mobile communications system determining a user's location and associated region identifier, and linking information associated with a user's location associated with the region identifier,
>
> (c) the linked information is provided to the user and dynamically updated to correspond to the mobile communications system's current location.

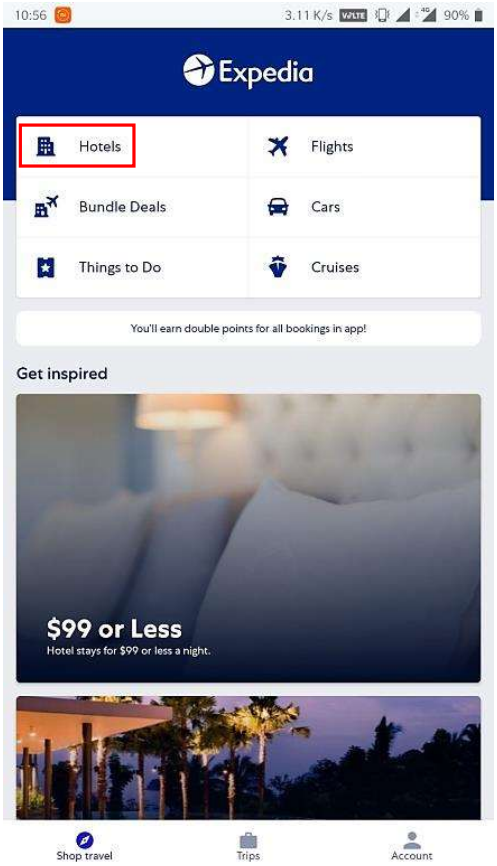
33. Defendant infringes exemplary claim 1, as a non-limiting example only, by its Expedia platform, including website and mobile application ("Expedia Platform"):

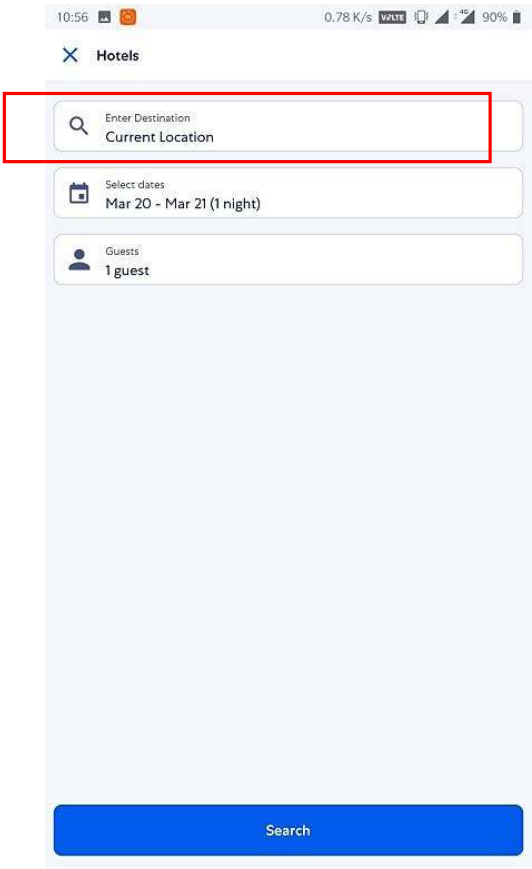
> 1. The Expedia Platform is a system that detects the current location of a user to provide location or "geographically relevant information" such as by providing a list of nearby hotels in the vicinity of a user. "Searching for the closest hotels near your current location? . . . Easily explore your closest lodging options and compare the best room rates."

Exhibit M (https://www.expedia.com/g/u/hotels-near-me).

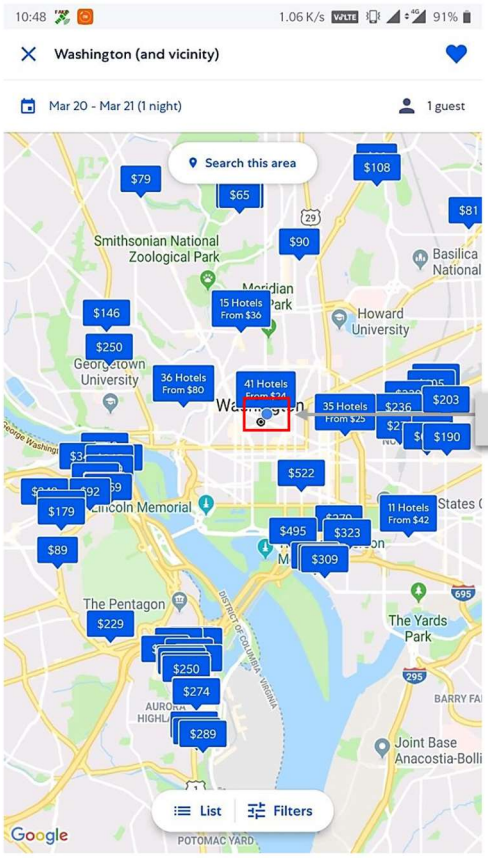
> (a) The Expedia Platform includes a plurality of websites, each identified by a region identifier associated with a geographic region, wherein the region identifier is embedded into data of the plurality of websites. For example, using the Expedia mobile app, the user can search for nearby hotels. The app provides

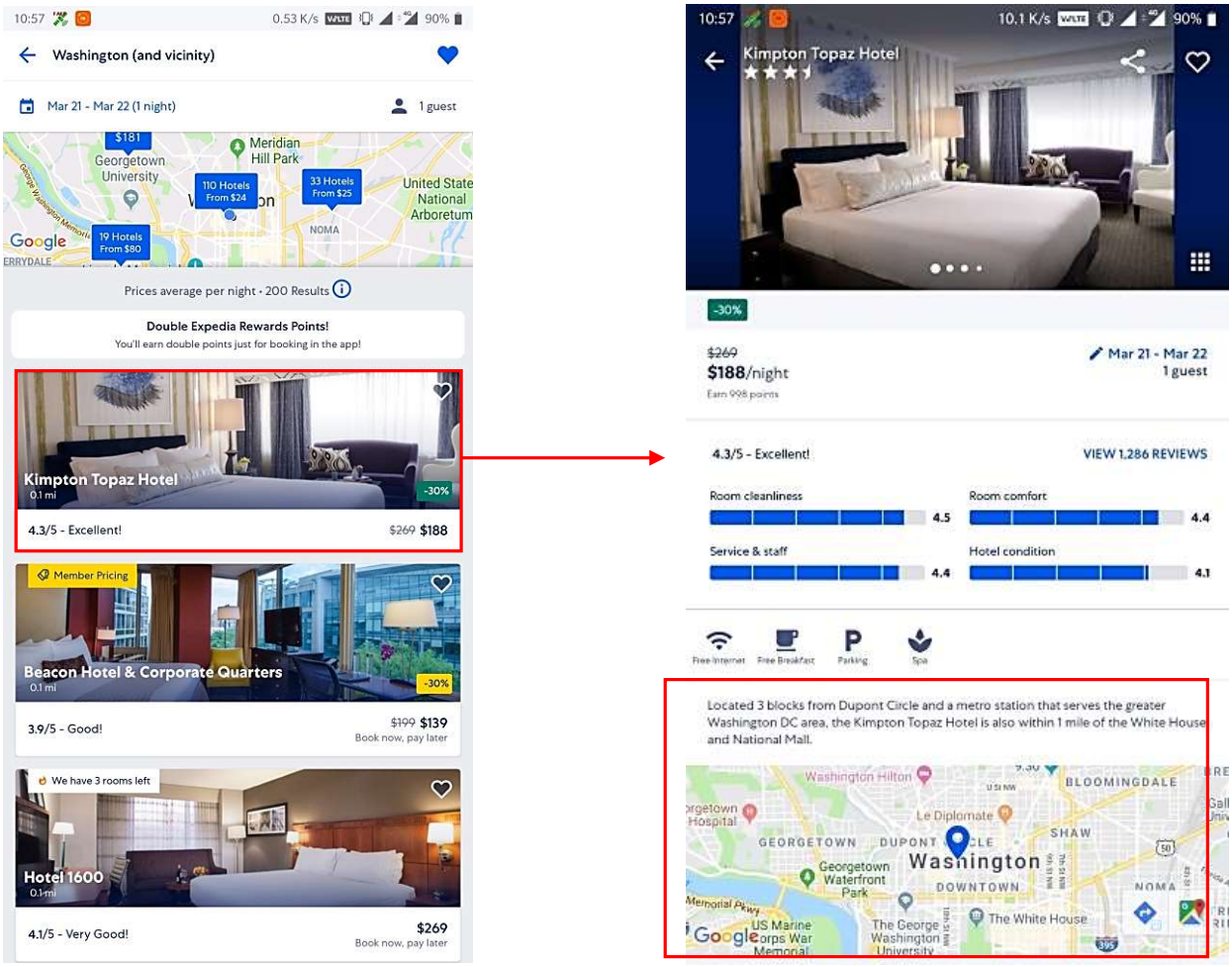
multiple search results ("a plurality of websites") such as hotel websites based on the current location of the user. Each website contains a hotel's location information such as city, country, etc. ("region identifier associated with a geographic region"). As shown in the exemplary case below, a user searches for hotels in the current location in response to which the app provides search results containing multiple hotel websites along with their location information such as name of city, location on map, etc.:





Screenshots taken from Android device

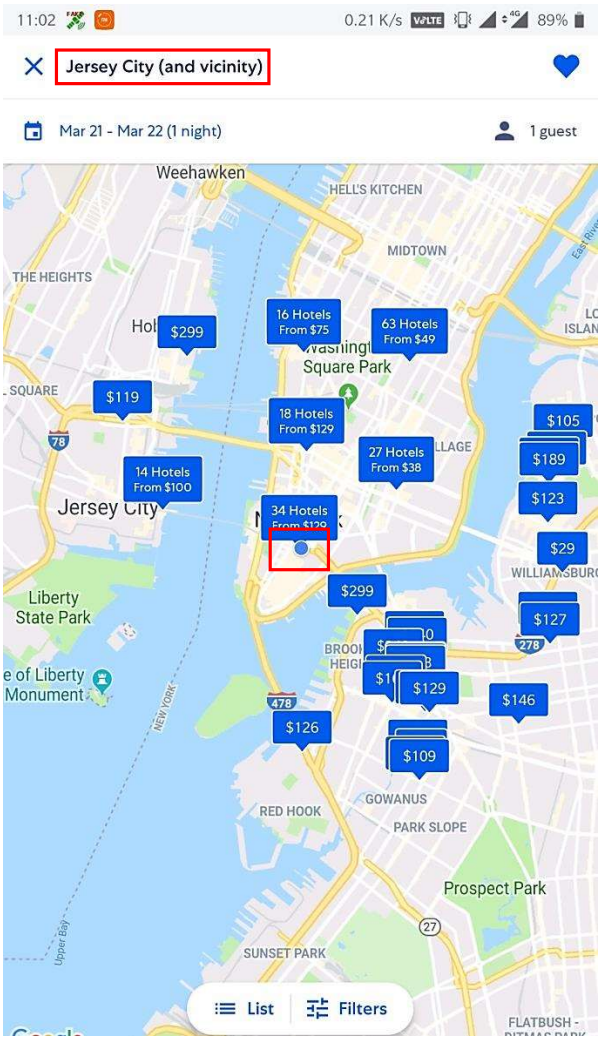

10:48
1.06 K/s
91%
Washington (and vicinity)
Mar 20 - Mar 21 (1 night)
1 guest
Search this area
$79
$65
$108
$81
$90
Smithsonian National Zoological Park
Basilica National
15 Hotels From $36
$146
$250
Howard University
Georgetown University
36 Hotels From $80
41 Hotels
35 Hotels From $25
$203
$236
$190
$522
Lincoln Memorial
11 Hotels From $42
$495
$323
$309
$179
$89
The Pentagon
$229
The Yards Park
$250
$274
$289
Joint Base Anacostia-Bolli
List
Filters
Google
POTOMAC YARD
Current location of the user

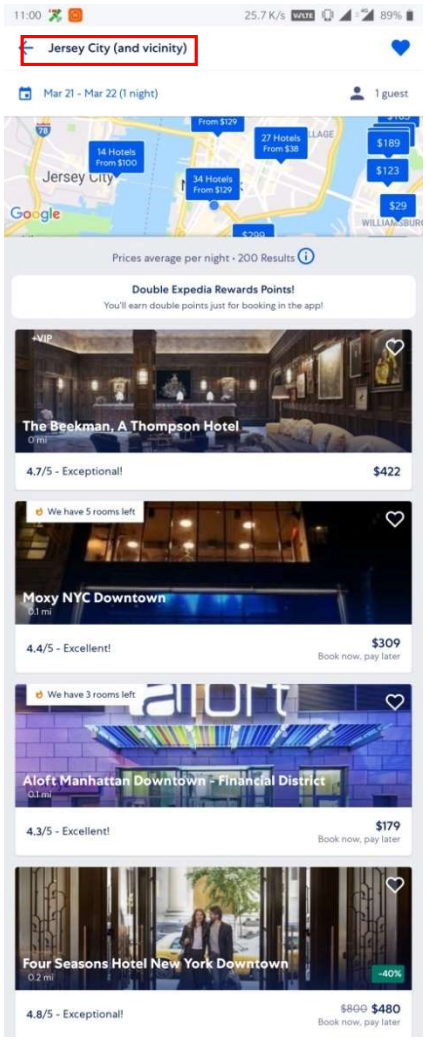


Screenshots taken from Android device

(b) The Expedia Platform determines a user's location and associated region identifier, and links information associated with a user's location associated with the region identifier. For example, the Expedia App determines a user's location by using device GPS or cellular network. The app links the user's current location with the searched hotel's location ("region identifier") to identify hotels at that location. As shown in the screenshots above, the identified hotels are presented to the user based on the current location. Geolocation is collected by the Expedia platform. **Exhibit N** (https://www.expedia.com/lp/lg-privacypolicy).

(c) The Expedia Platform provides the linked information to the user and dynamically updates it to correspond to the mobile communications system's current location. For example, the identified hotels are presented to the user. As the user location changes, the identified hotels are also dynamically updated. As seen in the screenshot below, the hotel list is updated based on the current updated location:





34. The foregoing structure, function, and operation of the exemplary Accused Instrumentality meets all limitations of at least exemplary claim 1 of the '188 Patent.

35. Defendant's acts of making, using, selling, offering for sale and/or importing the Accused Instrumentalities are without Corrino's license or authorization.

36. Defendant's unauthorized actions therefore constitute direct infringement of Corrino's exclusive rights pursuant to 35 U.S.C. § 271(a), either literally or under the doctrine of equivalents, and Corrino is entitled to recover from Defendant the damages sustained as a result of Defendant's infringement of the '188 Patent in an amount to be determined at trial, which amount shall be no less than a reasonable royalty, together with interest and costs as fixed by this Court pursuant to 35 U.S.C. § 284.

37. Defendant's infringement of the '188 Patent has injured Corrino and Corrino is entitled to recover damages from Defendant.

Willful Infringement

38. Defendant has had actual knowledge of the '188 Patent at least as of service of the original Complaint.

39. Notwithstanding this knowledge, Defendant has knowingly or with reckless disregard willfully infringed the '188 Patent. Defendant has thus had actual notice of infringement of the '188 Patent and acted despite an objectively high likelihood that its actions constituted infringement of Plaintiff's valid patent rights, either literally or equivalently.

40. This objective risk was either known or so obvious that it should have been known to Defendant. Accordingly, Plaintiff seeks enhanced damages pursuant to 35 U.S.C. §§ 284 and 285.

Indirect Infringement

41. At least as early as the service of the original Complaint, Defendant indirectly infringes the '188 Patent within the United States by inducement under 35 U.S.C. §271(b). By

failing to cease making, using, selling, importing, or offering for sale the Accused Instrumentalities at least as of the service of the original Complaint, Defendant has knowingly and intentionally induced users of the Accused Instrumentalities to directly infringe one or more claims of the '188 Patent, including, by: (1) providing instructions or information, for example on its publicly available website, to explain how to use the Accused Instrumentalities, including the use of the Accused Instrumentalities in manners described above, which are expressly incorporated herein; and (2) touting these uses of the Accused Instrumentalities in advertisements, including but not limited to, those on its website. Use of the Accused Instrumentalities in the manner intended and/or instructed by Defendant necessarily infringes the '188 Patent.

42. At least as of the service of the original Complaint, Defendant also indirectly infringes the '188 Patent within the United States by contributory infringement under 35 U.S.C. §271(c). Defendant is aware, at least as of the service of the original Complaint, that components of the Accused Instrumentalities are a material and substantial part of the inventions claimed by the '188 Patent, and are designed for a use that is both patented and infringing, and have no substantial non-infringing uses. By failing to cease making, using, selling, importing, or offering for sale the Accused Instrumentalities (and components thereof) at least as of the service of the original Complaint, Defendant has knowingly and intentionally contributed to direct infringement by its customers of one or more claims of the '188 Patent, including, by: (1) providing instructions or information, for example on its publicly available website, to explain how to use the Accused Instrumentalities, including the use of the Accused Instrumentalities in manners described above, which are expressly incorporated herein; and (2) touting these uses of the Accused Instrumentalities in advertisements, including but not limited to, those on its website. Use of the

Accused Instrumentalities in the manner intended by Defendant necessarily infringes the '188 Patent.

43. As a result of Defendant's infringement, Plaintiff has suffered monetary damages, and is entitled to an award of damages adequate to compensate it for such infringement which, by law, can be no less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

COUNT II – INFRINGEMENT OF THE '149 PATENT

44. U.S. Patent No. 7,716,149 ("the '149 Patent") is entitled "METHOD, DEVICE, AND PROGRAM PRODUCT FOR A SOCIAL DASHBOARD ASSOCIATED WITH A PERSISTENT VIRTUAL ENVIRONMENT" and was issued on May 11, 2010. A true and correct copy of the '149 Patent is attached as **Exhibit B**.

45. The '149 Patent was filed on April 11, 2006 as U.S. Patent Application No. 11/402,399.

46. Corrino is the owner of all rights, title, and interest in and to the '149 Patent, with the full and exclusive right to bring suit to enforce the '149 Patent, including the right to recover for past infringement.

47. The '149 Patent is valid and enforceable under United States Patent Laws.

Technical Description

48. The '149 Patent provides "a user interface for monitoring the social health of a persistent virtual environment." **Exhibit B**, '149 Patent at Abstract. The '149 Patent also states that "no diagnostic tools are available to timely measure the social aspects of player interactions in [a] persistent virtual environment or to measure or monitor the health of the online player community in a persistent virtual environment." *Id.* at 1:48-52. In other words, as described in

the ’149 Patent, the conventional “analysis results only reflect the state of the persistent virtual environment at the time the data was collected,” and therefore, “the analysis is not timely, has no capability to forecast problems, and only operates from single source of information.” *Id.* at 1:58-61.

49. In discussing the shortcomings of the prior art, the ’149 Patent recognized that “it would be advantageous to provide a way to timely monitor persistent virtual environments and to measure, monitor, and treat the health of online player communities within persistent virtual environments.” *Id.* at 2:19-22. The claimed inventions of the ’149 Patent provide such a mechanism.

50. Given the state of the art at the time of the inventions of the ’149 Patent, including the deficiencies in monitoring technology for virtual persistent environments, the inventive concepts of the ’149 Patent cannot be considered to be conventional, well-understood, or routine. *See, e.g.*, **Exhibit B**, ’149 Patent at 1:48-52, 1:58-61, and 2:19-22. The ’149 Patent provides an unconventional solution to problems arising in the context of monitoring virtual persistent environments – namely, that existing monitoring tools were untimely, only monitoring certain aspects, and operating on a narrow source of information. *See, e.g., id.* at 1:48-52 and 1:58-61.

51. The ’149 Patent offered a technological solution to such problems resulting in monitoring technology for virtual persistent environments that addressed these problems and also facilitated providing an improved user interface for electronics devices. In particular, the ’149 Patent provided a specific, unconventional solution for monitoring a state of a virtual persistent environment and displaying a limited set of information related to that monitoring to the user which involved displaying a visualization that represents a social aspect of said persistent virtual environment, where the visualization is responsive to a metric and represents an overall

interactivity level, and displaying, responsive to a selection command, a second visualization that represents drill-down information associated with the metric. *See, e.g.*, **Exhibit B**, '149 Patent at Claims 1, 8, and 15.

52. Indeed, it was not well-understood, routine, or conventional at the time of the invention of the '149 Patent for a computer system to display a visualization that represents a social aspect of a persistent virtual environment, where the visualization is responsive to a metric and represents an overall interactivity level within the persistent virtual environment. *See, e.g.*, '149 Patent at Claims 1, 8, and 15. Moreover, it was not well-understood, routine, or conventional at the time of the invention of the '149 Patent for a computer system to (i) display the visualization that represents the social aspect of the persistent virtual environment and (ii) responsive to a selection command, display a second visualization that represents drill-down information associated with the metric. *See, e.g., id.*

53. These are just exemplary reasons why the inventions claimed in the '149 Patent were not well-understood, routine, or conventional at the time of their invention.

54. Indeed, the '149 Patent's virtual persistent environment monitoring system improved the user interface of electronics devices by allowing the user to see the most relevant information related to a particular metric representing an interactivity level within the virtual environment. In this respect, the '149 Patent claims recite a particular manner of summarizing and presenting specific, virtual-environment metric related information in electronic devices.

55. Consistent with the fact that the problems addressed are rooted in monitoring technology for virtual persistent environments—which, because the monitored environment is virtual, requires computer network technology—the '149 Patent's solutions naturally are also rooted in technology that cannot be performed solely by a human. Likewise, at least because the

'149 Patent's claimed solutions address problems rooted in monitoring technology for virtual persistent environments, these solutions are not merely drawn to longstanding human activities.

Direct Infringement

56. On information and belief, Defendant, without authorization or license from Plaintiff, has been and is presently directly infringing the '149 Patent, either literally or equivalently, as infringement is defined by 35 U.S.C. § 271(a), including through making, using, (including for testing purposes), selling and offering for sale methods and systems infringing one or more claims of the '149 Patent. Defendant is thus liable for direct infringement pursuant to 35 U.S.C. § 271(a). Exemplary infringing instrumentalities include the Trivago Hotel Manager and all other substantially similar products (collectively the "'149 Accused Products").

57. Claim 1 of the '149 Patent recites:

> 1. A computer-controlled method for monitoring a persistent virtual environment comprising:
>
> (a) displaying, at a computer system, a visualization that represents a social aspect of said persistent virtual environment, said visualization responsive to a metric, wherein said visualization represents an overall interactivity level;
>
> (b) receiving a selection command at the computer system; and
>
> (c) displaying, at the computer system, responsive to said selection command, a second visualization that represents drill-down information associated with said metric.

58. Defendant infringes exemplary claim 1, as a non-limiting example only, by its Trivago Hotel Manager:

> 1. The Trivago Hotel Manager is a computer-controlled method for monitoring a persistent virtual environment, such as one that enables a user to take control of the

user's Hotel's profile by generating reports showing analytics data related to interactions (such as site visits, clicks, etc.) with the hotel's website.

(a) The Trivago Hotel Manager computer system displays a visualization that represents a social aspect of said persistent virtual environment, said visualization responsive to a metric, wherein said visualization represents an overall interactivity level, such as its "performance analytics" which provides "metrics" or graphs about the number of viewers who visited the hotel website. This metric shows the social aspect and interaction of the viewers towards the hotel website.

Exhibit O (https://hoteliersupport.trivago.com/hc/en-us/articles/115005424949-2-Performance-tracking); *see also* **Exhibit P** (Trivago Basic playbook) at 21.

(b) After displaying metrics of the viewers visited on the hotel website, the Trivago Hotel Manager allows selection of other visual representations, such as, for example, by selecting month, week or day time frame representation.

(c) After receiving the exemplary user selection of the time frame representation for displaying the number of viewers for a month, week, or day basis, a "second visualization" that represents drill-down information associated with the viewers visited the website for the selected time in the metric is displayed. The screenshot below shows an example of drill-down information associated with the metric. When the user selects "day" as the time interval, the system displays a graph showing viewers per day rather than per week (drilling down information from week or month to day).

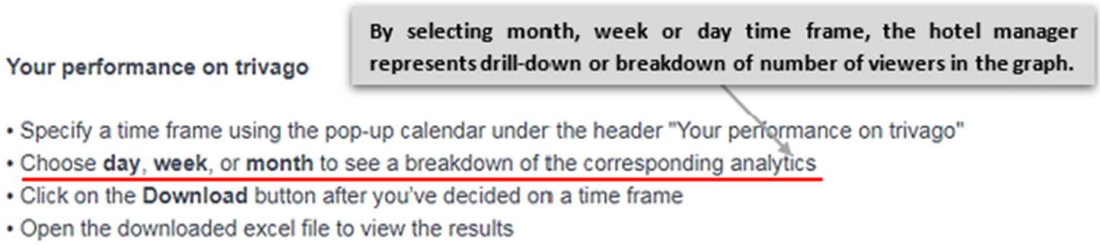


Exhibit Q (Trivago Dashboard), *see also* **Exhibit P** (Trivago Basic playbook) at 21.

59. The foregoing structure, function, and operation of the exemplary Accused Instrumentality meets all limitations of at least exemplary claim 1 of the '149 Patent.

60. Defendant's acts of making, using, selling, offering for sale and/or importing the Accused Instrumentalities are without Corrino's license or authorization.

61. Defendant's unauthorized actions therefore constitute direct infringement of Corrino's exclusive rights pursuant to 35 U.S.C. § 271(a), either literally or under the doctrine of

equivalents, and Corrino is entitled to recover from Defendant the damages sustained as a result of Defendant's infringement of the '149 Patent in an amount to be determined at trial, which amount shall be no less than a reasonable royalty, together with interest and costs as fixed by this Court pursuant to 35 U.S.C. § 284.

62. Defendant's infringement of the '149 Patent has injured Corrino and Corrino is entitled to recover damages from Defendant.

Willful Infringement

63. Defendant has had actual knowledge of the '149 Patent at least as of service of the original Complaint.

64. Notwithstanding this knowledge, Defendant has knowingly or with reckless disregard willfully infringed the '149 Patent. Defendant has thus had actual notice of infringement of the '149 Patent and acted despite an objectively high likelihood that its actions constituted infringement of Plaintiff's valid patent rights, either literally or equivalently.

65. This objective risk was either known or so obvious that it should have been known to Defendant. Accordingly, Plaintiff seeks enhanced damages pursuant to 35 U.S.C. §§ 284 and 285.

Indirect Infringement

66. At least as early as the service of the original complaint, Defendant indirectly infringes the '149 Patent within the United States by inducement under 35 U.S.C. §271(b). By failing to cease making, using, selling, importing, or offering for sale the Accused Instrumentalities at least as of the service of the original complaint, Defendant has knowingly and intentionally induced users of the Accused Instrumentalities to directly infringe one or more claims of the '149 Patent, including, by: (1) providing instructions or information, for example on its publicly

available website, to explain how to use the Accused Instrumentalities, including the use of the Accused Instrumentalities in manners described above, which are expressly incorporated herein; and (2) touting these uses of the Accused Instrumentalities in advertisements, including but not limited to, those on its website. Use of the Accused Instrumentalities in the manner intended and/or instructed by Defendant necessarily infringes the '149 Patent.

67. At least as of the service of the original complaint, Defendant also indirectly infringes the '149 Patent within the United States by contributory infringement under 35 U.S.C. §271(c). Defendant is aware, at least as of the service of the original complaint, that components of the Accused Instrumentalities are a material and substantial part of the inventions claimed by the '149 Patent, and are designed for a use that is both patented and infringing, and have no substantial non-infringing uses. By failing to cease making, using, selling, importing, or offering for sale the Accused Instrumentalities (and components thereof) at least as of the service of the original complaint, Defendant has knowingly and intentionally contributed to direct infringement by its customers of one or more claims of the '149 Patent, including, by: (1) providing instructions or information, for example on its publicly available website, to explain how to use the Accused Instrumentalities, including the use of the Accused Instrumentalities in manners described above, which are expressly incorporated herein; and (2) touting these uses of the Accused Instrumentalities in advertisements, including but not limited to, those on its website. Use of the Accused Instrumentalities in the manner intended by Defendant necessarily infringes the '149 Patent.

68. As a result of Defendant's infringement, Plaintiff has suffered monetary damages, and is entitled to an award of damages adequate to compensate it for such infringement which, by

law, can be no less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

COUNT III – INFRINGEMENT OF THE '332 PATENT

69. Corrino incorporates by reference and re-alleges all the foregoing paragraphs of this Complaint as if fully set forth herein.

70. U.S. Patent No. 7,843,332 ("the '332 Patent") is entitled "SYSTEM FOR DYNAMICALLY PUSHING INFORMATION TO A USER UTILIZING GLOBAL POSITIONING SYSTEM" and was issued on Nov. 30, 2010. A true and correct copy of the '332 Patent is attached as **Exhibit C**.

71. The '332 Patent was filed on Aug. 3, 2005 as U.S. Patent Application No. 11/196,814.

72. Corrino is the owner of all rights, title, and interest in and to the '332 Patent, with the full and exclusive right to bring suit to enforce the '332 Patent, including the right to recover for past infringement.

73. The '332 Patent is valid and enforceable under United States Patent Laws.

Technical Description

74. The invention of the '332 Patent generally relates to "a system for directing information to specific geographic locations at related points in time, and more particularly to dynamically communicating linked information to mobile users at specific geographic locations via a global satellite positioning system." **Exhibit C**, '332 Patent at 1:23-28.

75. The '332 Patent recognized several problems with certain conventional technologies, including that, "while many users of conventional global positioning systems value received location and directional information, more specific and detailed information related to the

location is often needed." *Id.* at 1:38-41. Such information included, for example, opening hours of a particular destination. *Id.* at 1:41-46. Other examples are locating "all known entity types in a certain region." *Id.* at 1:46-47. Another novel example is to find the nearest entity of a given type to the user's location, such as the nearest hospital. *Id.* at 1:47-50.

76. The '332 Patent addressed these technical problems with "a more powerful system . . . to provide mobile users with specific information relating to the point in time the user is at a specific location." *Id.* at 1:50-53.

77. Specifically, the '332 Patent "provides a system for directing and receiving information to and from geographically relevant locations. The system links information from the internet or other relevant databases that is related to region-specific areas and directs the information to users situated near the region-specific areas." *Id.* at 61-66.

78. The '332 Patent also provides "for bidirectional operations. For instance, a query can be made inquiring of all the hospitals located within a square mile of the present." *Id.* at 2:13-15.

79. The '332 Patent further provides an improvement to hand-held systems, "which allows users to receive region-specific information directed to the user's particular location." *Id.* at 2:30-32. The invention further teaches how "information searches and queries may be defined and/or limited by the geographical position of a mobile user." *Id.* at 2:40-42. This is possible because the "system gathers position information from a GPS system and directs information related to the user's physical location based upon the region identifier associated with the individual website." *Id.* at 2:47-50. "By relating the search to the user's physical location, only those [results] associated with the user's identified region are provided." *Id.* at 2:54-57.

80. Given the state of the art at the time of the inventions of the '332 Patent, including the deficiencies in geo-location based on time and location, the inventive concepts of the '332 Patent cannot be considered to be conventional, well-understood, or routine. *See, e.g.*, *id.* at 1:38-41, 1:41-46, 1:46-47, 1:47-50. The '332 Patent provides an unconventional solution to problems arising in geolocation—namely, that of providing data relevant specifically to both time and location of the user. *See, e.g., id.* at 1:38-41, 1:41-46.

81. Indeed, it was not well-understood, routine, or conventional at the time of the inventions of the '332 Patent to have a method comprising receiving a search query from a communications device, the search query comprising a communications device identifier, an indication of the geographic position of the communications device, a search distance, and at least one search term; and initiating the transmission of a list of one or more search results to the communications device identified in the search query, wherein the list of one or more search results comprises at least one search result associated with a predefined geographic region, wherein the geographic position of the communications device indicated in the search query is within the search distance from the predefined geographic region associated with the at least one search result.. *See, e.g., id.* at Claim 1.

82. Likewise, it was not well-understood, routine, or conventional at the time of the inventions of the '332 Patent to have a system comprising a processor configured to receive a search query from a communications device, the search query comprising a communications device identifier, an indication of the geographic position of the communications device, a search distance, and at least one search term; and wherein the processor is configured to initiate the transmission of a list of one or more search results to the communications device identified in the search query, wherein the list of one or more search results comprises at least one search result

associated with a predefined geographic region, wherein the geographic position of the communications device indicated in the search query is within the search distance from the predefined geographic region associated with the at least one search result.. *See, e.g., id.* at Claim 11.

83. These are just exemplary reasons why the inventions claimed in the '332 Patent were not well-understood, routine, or conventional at the time of their invention.

Direct Infringement

84. On information and belief, Defendant, without authorization or license from Plaintiff, has been and is presently directly infringing the '332 Patent, either literally or equivalently, as infringement is defined by 35 U.S.C. § 271(a), including through making, using, (including for testing purposes), selling and offering for sale methods and systems infringing one or more claims of the '332 Patent. Defendant is thus liable for direct infringement pursuant to 35 U.S.C. § 271(a). Exemplary infringing instrumentalities include the Trivago Mobile App and all other substantially similar products (collectively the "'332 Accused Products").

85. Claim 1 of the '332 Patent recites:

1. A method comprising:

(a) receiving a search query from a communications device, the search query comprising a communications device identifier, an indication of the geographic position of the communications device, a search distance, and at least one search term; and

(b) initiating the transmission of a list of one or more search results to the communications device identified in the search query,

(c) wherein the list of one or more search results comprises at least one search result associated with a predefined geographic region, wherein the geographic position of the communications device indicated in the search query is within the search distance from the predefined geographic region associated with the at least one search result.

86. Defendant infringes exemplary claim 1, as a non-limiting example only, by its Trivago Mobile App:

1. The Trivago Mobile App comprises a method which provides the user an interface to search for nearby hotels based on the current location of the user and various filters applied to the search.

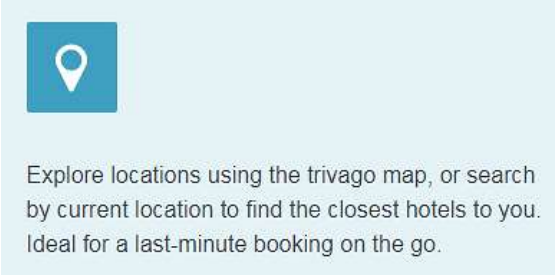


Exhibit R1 (https://www.trivago.com/app).

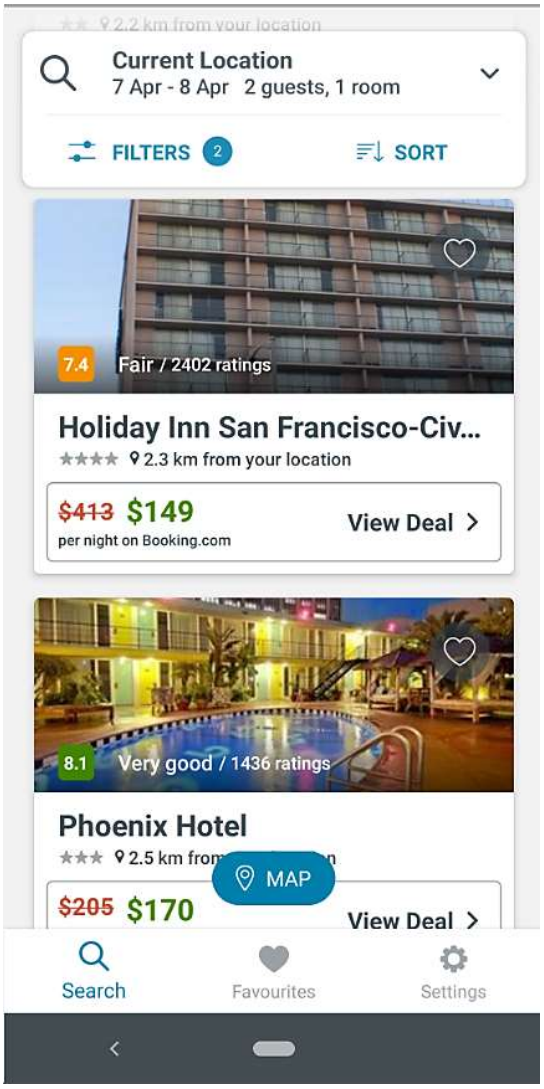
(a) The Trivago Mobile App receives a search query from a communications device, the search query comprising a communications device identifier, an indication of the geographic position of the communications device, a search distance, and at least one search term. For example, the user can send a request to search nearby hotels using the Trivago app. The app takes into account the current location of the device ("an indication of the geographic position of the communications device") and device information. Further, the user can further add filters to the search request like distance from the current location ("search distance").

Find cheap hotels on trivago

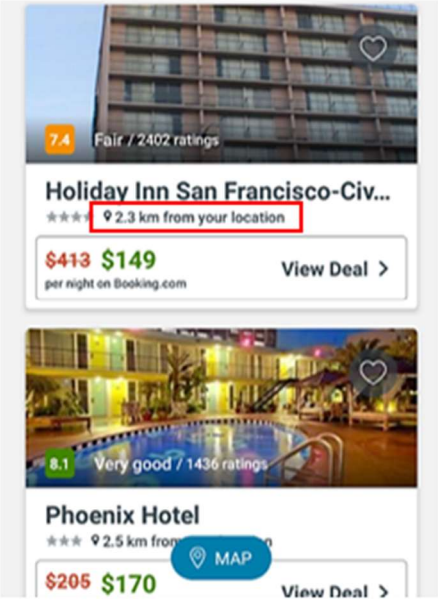
With trivago you can easily **find your ideal hotel and compare prices from different websites**. Simply enter where you want to go and your desired travel dates, and let our hotel search engine compare accommodation prices for you. To refine your search results, simply filter by price, distance (e.g. from the beach), star category, facilities and more. From budget hostels to luxury suites, trivago makes it easy to book online. You can search from a large variety of rooms and locations across the USA, like San Francisco and Chicago to popular cities and holiday destinations abroad!

Exhibit S (https://www.trivago.com/).

(b) The Trivago Mobile App initiates the transmission of a list of one or more search results to the communications device identified in the search query,



(c) The list of one or more search results comprises at least one search result associated with a predefined geographic region, wherein the geographic position of the communications device indicated in the search query is within the search distance from the predefined geographic region associated with the at least one search result. For example, when the user has used a distance filter in the search request, the resultant hotels have their locations ("predefined geographic region") within the search distance mentioned in the filter.



87. The foregoing structure, function, and operation of the exemplary Accused Instrumentality meets all limitations of at least exemplary claim 1 of the '332 Patent.

88. Defendant's acts of making, using, selling, offering for sale and/or importing the Accused Instrumentalities are without Corrino's license or authorization.

89. Defendant's unauthorized actions therefore constitute direct infringement of Corrino's exclusive rights pursuant to 35 U.S.C. § 271(a), either literally or under the doctrine of equivalents, and Corrino is entitled to recover from Defendant the damages sustained as a result

of Defendant's infringement of the '332 Patent in an amount to be determined at trial, which amount shall be no less than a reasonable royalty, together with interest and costs as fixed by this Court pursuant to 35 U.S.C. § 284.

90. Defendant's infringement of the '332 Patent has injured Corrino and Corrino is entitled to recover damages from Defendant.

Willful Infringement

91. Defendant has had actual knowledge of the '332 Patent at least as of service of the original complaint.

92. Notwithstanding this knowledge, Defendant has knowingly or with reckless disregard willfully infringed the '332 Patent. Defendant has thus had actual notice of infringement of the '332 Patent and acted despite an objectively high likelihood that its actions constituted infringement of Plaintiff's valid patent rights, either literally or equivalently.

93. This objective risk was either known or so obvious that it should have been known to Defendant. Accordingly, Plaintiff seeks enhanced damages pursuant to 35 U.S.C. §§ 284 and 285.

Indirect Infringement

94. At least as early as the service of the original complaint, Defendant indirectly infringes the '332 Patent within the United States by inducement under 35 U.S.C. §271(b). By failing to cease making, using, selling, importing, or offering for sale the Accused Instrumentalities at least as of the service of the original complaint, Defendant has knowingly and intentionally induced users of the Accused Instrumentalities to directly infringe one or more claims of the '332 Patent, including, by: (1) providing instructions or information, for example on its publicly available website, to explain how to use the Accused Instrumentalities, including the use of the

Accused Instrumentalities in manners described above, which are expressly incorporated herein; and (2) touting these uses of the Accused Instrumentalities in advertisements, including but not limited to, those on its website. Use of the Accused Instrumentalities in the manner intended and/or instructed by Defendant necessarily infringes the '332 Patent.

95. At least as of the service of the original complaint, Defendant also indirectly infringes the '332 Patent within the United States by contributory infringement under 35 U.S.C. §271(c). Defendant is aware, at least as of the service of the original complaint, that components of the Accused Instrumentalities are a material and substantial part of the inventions claimed by the '332 Patent, and are designed for a use that is both patented and infringing, and have no substantial non-infringing uses. By failing to cease making, using, selling, importing, or offering for sale the Accused Instrumentalities (and components thereof) at least as of the service of the original complaint, Defendant has knowingly and intentionally contributed to direct infringement by its customers of one or more claims of the '332 Patent, including, by: (1) providing instructions or information, for example on its publicly available website, to explain how to use the Accused Instrumentalities, including the use of the Accused Instrumentalities in manners described above, which are expressly incorporated herein; and (2) touting these uses of the Accused Instrumentalities in advertisements, including but not limited to, those on its website. Use of the Accused Instrumentalities in the manner intended by Defendant necessarily infringes the '332 Patent.

96. As a result of Defendant's infringement, Plaintiff has suffered monetary damages, and is entitled to an award of damages adequate to compensate it for such infringement which, by law, can be no less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

COUNT IV – INFRINGEMENT OF THE '685 PATENT

97. Corrino incorporates by reference and re-alleges all the foregoing paragraphs of this Complaint as if fully set forth herein.

98. U.S. Patent No. 7,847,685 ("the '685 Patent") is entitled "SYSTEM FOR DYNAMICALLY PUSHING INFORMATION TO A USER UTILIZING GLOBAL POSITIONING SYSTEM" and was issued on December 7, 2010. A true and correct copy of the '685 Patent is attached as **Exhibit D**.

99. The '685 Patent was filed on August 3, 2005 as U.S. Patent Application No. 11/195,923, which is a continuation of U.S. Patent Application No. 10/824,962, filed on April 15, 2004, which is a continuation of U.S. Patent Application No. 09/523,022, filed on March 10, 2000 and now the '188 Patent, which is a continuation-in-part of U.S. Patent Application No. 09/426,065, filed October 22, 1999.

100. Corrino is the owner of all rights, title, and interest in and to the '685 Patent, with the full and exclusive right to bring suit to enforce the '685 Patent, including the right to recover for past infringement.

101. The '685 Patent is valid and enforceable under United States Patent Laws.

Technical Description

102. Like the inventions claimed in the '188 Patent—an ancestor to the '685 Patent—the inventions claimed in the '685 Patent were not well-understood, routine, or conventional.

103. Indeed, the '685 Patent provided a specific, unconventional solution for returning focused search results that involved (i) processing a specific type of search query comprising a particular combination of an identifier corresponding to a communications device, an indication of the geographic position of the communications device, a search distance, and at least one search

term, and (ii) based on such a specific search query and one or more location codes associated with search results, transmitting one or more focused search results to the communications device. *See, e.g.*, **Exhibit D**, '685 Patent at Claims 1, 19.

104. Moreover, it was not well-understood, routine, or conventional at the time of the invention of the '685 Patent to have a system configured to receive from a user's communications device a search query comprising (i) an identifier corresponding to the communications device, (ii) an indication of the geographic position of the communications device, (iii) a search distance, and (iv) at least one search term. *See, e.g.*, '685 Patent at Claims 1, 17, 19. Moreover, it was not well-understood, routine, or conventional at the time of the invention of the '685 Patent to have a system configured to initiate the transmission of a list of one or more search results to the user's communications device specified in the search query, where the list of search results comprises at least one search result that is associated with a location code corresponding to a geographic region that is a geographic region that is within the specified search distance from the geographic position of the communications device specified in the received search query. *See, e.g.*, **Exhibit D**, '685 Patent at Claims 1, 17, 19.

105. These are just exemplary reasons why the inventions claimed in the '685 Patent were not well-understood, routine, or conventional at the time of their invention.

106. Additionally, the '685 Patent's more powerful location-based search engine system improved the user interface of electronics devices (*e.g.*, mobile devices) by removing extraneous information typically returned by conventional search engine systems and providing the user with the most relevant search results related to the user's physical location. *See, e.g.*, **Exhibit D**, '685 Patent at 2:54-59, 5:60-6:10, 11:30-38. In other words, the '685 Patent's specific improvement

over existing technology resulted in a user's electronics device displaying particular search results that are most relevant to a user at a given point in time.

Direct Infringement

107. On information and belief, Defendant, without authorization or license from Plaintiff, has been and is presently directly infringing the '685 Patent, either literally or equivalently, as infringement is defined by 35 U.S.C. § 271(a), including through making, using, (including for testing purposes), selling and offering for sale methods and systems infringing one or more claims of the '685 Patent. Defendant is thus liable for direct infringement pursuant to 35 U.S.C. § 271(a). Exemplary infringing instrumentalities include the Trivago Mobile App and all other substantially similar products (collectively the "'685 Accused Products").

108. Claim 1 of the '685 Patent recites:

1. A method comprising:

(a) receiving a search query from a communications device, the search query comprising an identifier corresponding to the communications device, an indication of the geographic position of the communications device, a search distance, and at least one search term; and

(b) initiating the transmission of a list of one or more search results to the communications device specified in the search query,

(c) wherein the list of one or more search results comprises at least one search result that is associated with a location code corresponding to a geographic region, wherein the geographic region corresponding to the location code associated with the at least one search result is a geographic region that is within the

specified search distance from the geographic position of the communications device specified in the received search query.

109. Defendant infringes exemplary claim 1, as a non-limiting example only, by its Trivago Mobile App:

1. The Trivago Mobile App comprises a method which allows the users to search for places (such as hotels) nearby to a user's location by simply entering search query in the search bar of the app.

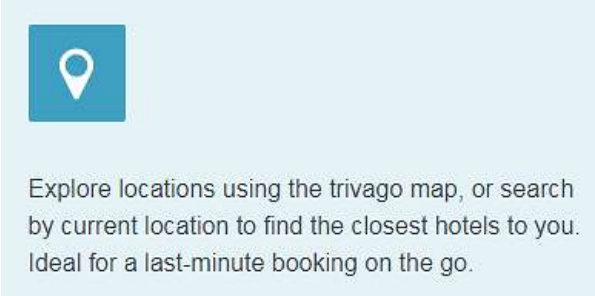


Exhibit R1 (https://www.trivago.com/app).

(a) The Trivago Mobile App allows a user to send a request to search nearby hotels. The app takes into account the current location of the device ("an indication of the geographic position of the communications device") and device information. Further, the user can request to search within a certain radius or distance from his current location ("search distance").

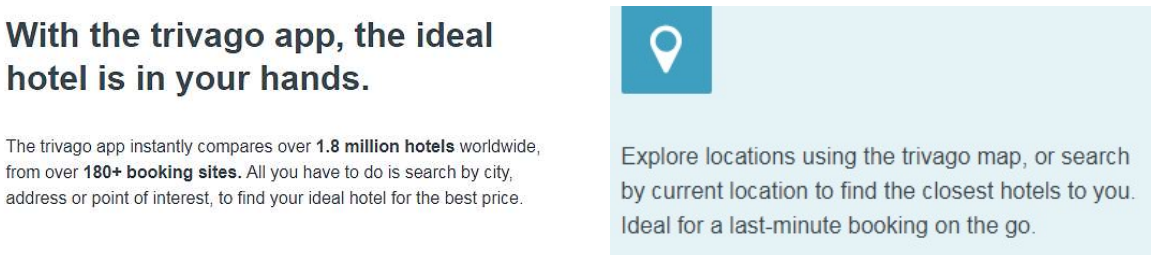
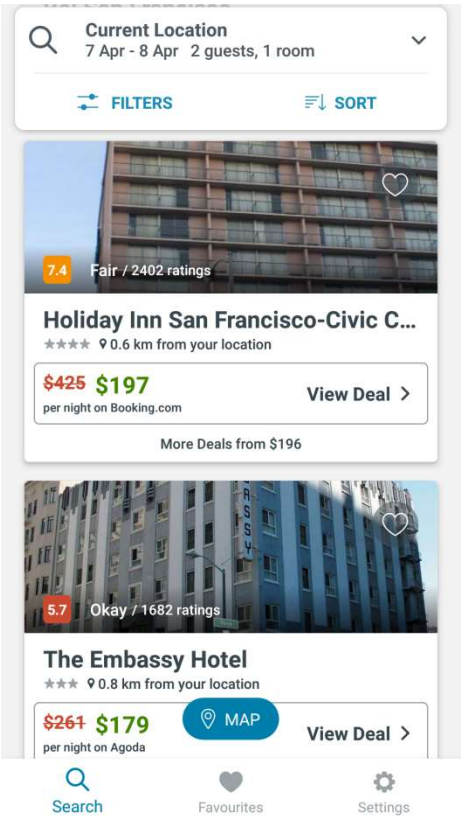


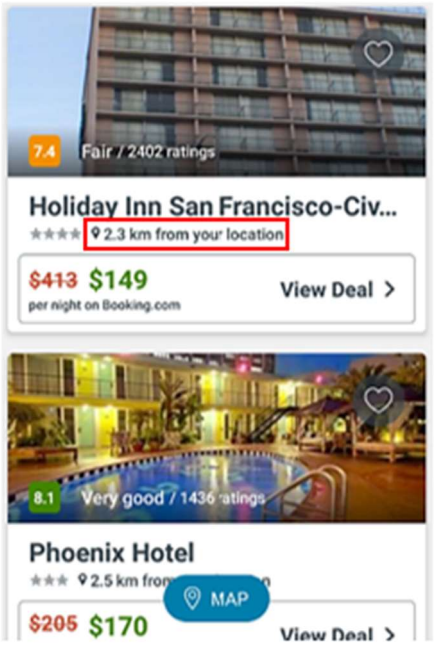
Exhibit R1 (https://www.trivago.com/app).

(b) The Trivago Mobile App initiates the transmission of a list of one or more search results to the communications device specified in the search query. For example, after selecting the filters and selecting 'show result' button, the user is presented with the search results on the user device.



(c) The list of one or more search results comprises at least one search result that is associated with a location code corresponding to a geographic region, wherein the geographic region corresponding to the location code associated with the at least one search result is a geographic region that is within the specified search distance from the geographic position of the communications device specified in the received search query. For example, when the user has specified the distance in the search request, the resultant hotels have their locations ("predefined geographic region") within the search distance

mentioned in the filter. Each hotel in the list of hotels has its location information such as city name, address, etc. (location code corresponding to geographic region").



110. The foregoing structure, function, and operation of the exemplary Accused Instrumentality meets all limitations of at least exemplary claim 1 of the '685 Patent.

111. Defendant's acts of making, using, selling, offering for sale and/or importing the Accused Instrumentalities are without Corrino's license or authorization.

112. Defendant's unauthorized actions therefore constitute direct infringement of Corrino's exclusive rights pursuant to 35 U.S.C. § 271(a), either literally or under the doctrine of equivalents, and Corrino is entitled to recover from Defendant the damages sustained as a result of Defendant's infringement of the '685 Patent in an amount to be determined at trial, which amount shall be no less than a reasonable royalty, together with interest and costs as fixed by this Court pursuant to 35 U.S.C. § 284.

113. Defendant's infringement of the '685 Patent has injured Corrino and Corrino is entitled to recover damages from Defendant.

Willful Infringement

114. Defendant has had actual knowledge of the '685 Patent at least as of service of the original complaint.

115. Notwithstanding this knowledge, Defendant has knowingly or with reckless disregard willfully infringed the '685 Patent. Defendant has thus had actual notice of infringement of the '685 Patent and acted despite an objectively high likelihood that its actions constituted infringement of Plaintiff's valid patent rights, either literally or equivalently.

116. This objective risk was either known or so obvious that it should have been known to Defendant. Accordingly, Plaintiff seeks enhanced damages pursuant to 35 U.S.C. §§ 284 and 285.

Indirect Infringement

117. At least as early as the service of the original complaint, Defendant indirectly infringes the '685 Patent within the United States by inducement under 35 U.S.C. §271(b). By failing to cease making, using, selling, importing, or offering for sale the Accused Instrumentalities at least as of the service of the original complaint, Defendant has knowingly and intentionally induced users of the Accused Instrumentalities to directly infringe one or more claims of the '685 Patent, including, by: (1) providing instructions or information, for example on its publicly available website, to explain how to use the Accused Instrumentalities, including the use of the Accused Instrumentalities in manners described above, which are expressly incorporated herein; and (2) touting these uses of the Accused Instrumentalities in advertisements, including but not

limited to, those on its website. Use of the Accused Instrumentalities in the manner intended and/or instructed by Defendant necessarily infringes the '685 Patent.

118. At least as of the service of the original complaint, Defendant also indirectly infringes the '685 Patent within the United States by contributory infringement under 35 U.S.C. §271(c). Defendant is aware, at least as of the service of the original complaint, that components of the Accused Instrumentalities are a material and substantial part of the inventions claimed by the '685 Patent, and are designed for a use that is both patented and infringing, and have no substantial non-infringing uses. By failing to cease making, using, selling, importing, or offering for sale the Accused Instrumentalities (and components thereof) at least as of the service of the original complaint, Defendant has knowingly and intentionally contributed to direct infringement by its customers of one or more claims of the '685 Patent, including, by: (1) providing instructions or information, for example on its publicly available website, to explain how to use the Accused Instrumentalities, including the use of the Accused Instrumentalities in manners described above, which are expressly incorporated herein; and (2) touting these uses of the Accused Instrumentalities in advertisements, including but not limited to, those on its website. Use of the Accused Instrumentalities in the manner intended by Defendant necessarily infringes the '685 Patent.

119. As a result of Defendant's infringement, Plaintiff has suffered monetary damages, and is entitled to an award of damages adequate to compensate it for such infringement which, by law, can be no less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

COUNT V – INFRINGEMENT OF THE '104 PATENT

120. U.S. Patent No. 7,958,104 ("the '104 Patent") is entitled "CONTEXT BASED DATA SEARCHING" and was issued on June 7, 2011. A true and correct copy of the '104 Patent is attached as **Exhibit E**.

121. The '104 Patent was filed on March 6, 2008 as U.S. Patent Application No. 12/043,889 and claims priority to Provisional Application No. 60/893,831, which was filed on March 8, 2007.

122. Corrino is the owner of all rights, title, and interest in and to the '104 Patent, with the full and exclusive right to bring suit to enforce the '104 Patent, including the right to recover for past infringement.

123. The '104 Patent is valid and enforceable under United States Patent Laws.

Technical Description

124. The '104 Patent recognized problems with conventional approaches to processing search requests over communication networks. In particular, the '104 Patent explains that, at the time of the invention of the '104 Patent, "information and knowledge have been digitally aggregated on a large scale in electronic based repositories." **Exhibit E**, '104 Patent at 1:20-22. Such repositories were typically "globally made available to the human populous via communications networks, such as the Internet," and included collections of electronic documents, such as web pages. *Id.* at 22-25. The '104 Patent explains that although these networks employed some basic level of organization, such as by categorizing web pages by "keywords, subjects, and other relationships," the conventional searching process was insufficient. *Id.* at 24-30. Indeed, as the inventors discovered, "[c]onventional search" techniques "often fail[ed] to properly interpret

or understand the particular information desired by users," and as a result, were "tedious and inconvenient." *Id.* at 26-32.

125. In this regard, the inventors of the '104 Patent recognized the deficiencies with the conventional technological approaches to conducting searches of information repositories across communications networks and sought "to improve the information search techniques" used in certain technological environments, such as "network environments." *Id.* at 30-34. Accordingly, the '104 Patent provides an improvement to the "organizational and computational technique" for carrying out searches across communications networks. *Id.* at 2:50-61. The '104 Patent explains that "[i]n various implementations, a context based search engine in accordance with the present disclosure" can conduct searches that make "more efficient" use of the communication network by first associating specific kinds of data objects with both the information available in the communications network and the network devices in the communications network and then combining the data objects into collective data objects. *Id.* at 2:59-3:5.

126. As the '104 Patent further explains, a "server device may include one or more context based search engines, which may be configured to interact with the user device over the network to facilitate context based network searches by the user . . . the context based search engine works with an account database, a context processing application, a context database, and external databases to provide information to the user and generate responses . . . the context processing application may select contextual information, parameters, and characteristics from the context database to be provided in search results to user. In various implementations, the context processing application may select appropriate contexts for network searches requested by user based on, for example, user identifier, account database, [and] account information." *Id.* at 4:44-52, 5:4-11 (reference numerals omitted).

127. Still further, the '104 Patent explains that, based on the arrangement set forth above, the context-based search engine can process a more efficient search by identifying a chain of contexts and then examining one or more contexts in that chain in order to obtain a relevant search result. *Id.* at 18:30-33 (disclosing that a "server device builds or modifies the context chain related to the user . . . the user's context chain is an array of contexts that may grow or shrink. . ."); 18:40-43 ("During the processing of a subsequent query the query processing module may examine each context on the context chain . . ."); 18:62-63 ("The context based search engine processes one or more queries using the chorus.") (reference numerals omitted).

128. For example, "[r]esponses published to a context may be grouped based on their method of evaluation . . . and evaluated together." *Id.* at 28:33-39. The '104 Patent recognized that because "[s]ome evaluation methods are computationally-intensive," the disclosed technique is advantageous because evaluation and processing "may not be performed for all responses from all Publishers depending on the system and/or context configuration." *Id.* at 28:42-45. As explained, "a context may only evaluate computationally-intensive and/or other responses if the publisher is in a chorus of [the] user (or context chain, depending on the system and/or context configuration) associated with the query." *Id.* at 28:49-52 (reference numerals omitted).

129. Given the state of the art at the time of the inventions of the '104 Patent, including the deficiencies recognized by the inventors with "conventional searching process[es]," the inventive concepts of the '104 Patent cannot be considered to be conventional, well-understood, or routine. *See, e.g., id.* at 1:26-32. The '104 Patent provides an unconventional solution to problems arising in the context of data searching across communications networks –namely, that such systems did not "properly interpret or understand the particular information desired by users." *See, e.g.*, *id.*

130. The '104 Patent offers an unconventional, technological solution to such problems resulting in an approach to conducting searches across communications networks that makes "more efficient and convenient use of the communication network." *See, e.g., id.* at 2:50-61. In particular, the '104 Patent provides an unconventional technological approach to conducting searches across data networks that includes associating specific kinds of data objects with both the information available in the communications network and the network devices in the communications network and combining the data objects into collective data objects (*see, e.g., id.* at 2:59-3:5) using "a context based search engine[], which may be configured to interact with the user device over the network to facilitate context based network searches by the user . . . [and] select[ing] contextual information, parameters, and characteristics from the context database to be provided in search results to user, select[ing] appropriate contexts for network searches requested by user based on, for example, user identifier, account database, [and] account information," (*id.* at 4:44-52, 5:4-11 (reference numerals omitted)), identifying a chain of contexts, and then examining one or more contexts in that chain in order to obtain a relevant search result (*id.* at 18:30-33, 18:40-43, 18:62-63).

131. Indeed, it was not well-understood, routine, or conventional at the time of the inventions of the '104 Patent to (i) receive, from a user device, a search request that includes information related to the user and/or the user device, (ii) process that search request by identifying a context chain related to the user and/or the user device based on the information passed with the search request –where the context chain includes multiple contexts, with each context being a private context, in which content is controlled by a publisher, or a public context, in which content is not controlled by a publisher, and (iii) responding to the search request by (a) obtaining a search

result from at least one context in the context chain and (b) providing the search result to the user device. *See, e.g., id.* at Claims 1, 15, 23.

132. These are just exemplary reasons why the inventions claimed in the '104 Patent were not well-understood, routine, or conventional at the time of their invention.

133. Additionally, the '104 Patent's unique and more efficient search technique improved the operational efficiency of computer systems that issue search requests across communications networks and computer systems that process search requests received across communications networks. Specifically, these techniques allowed for computing systems to conserve processing resources by selectively evaluating responses that are in an identified context chain, rather than all responses, without requiring the user to submit computationally excessive queries; in fact, the disclosed techniques allowed for more efficient use of the communication network while simultaneously allowing users to submit relatively simple common-language queries. *See, e.g., id.* at 2:50-61, 28:33-39, 28:42-45, 28:49-52. In other words, the '104 Patent's specific improvement over existing technology resulted in improved computing systems that processed search requests across communication networks.

134. Consistent with the fact that the problems addressed are rooted in communication network searching technology, the '104 Patent's solutions naturally are also rooted in that same technology and cannot be performed solely by a human. Indeed, at least because the '104 Patent's claimed solutions address problems rooted in communication network searching technology and involve functions not previously performed by humans, these solutions are not merely drawn to longstanding human activities.

Direct Infringement

135. On information and belief, Defendant, without authorization or license from Plaintiff, has been and is presently directly infringing the '104 Patent, either literally or equivalently, as infringement is defined by 35 U.S.C. § 271(a), including through making, using, (including for testing purposes), selling and offering for sale methods and systems infringing one or more claims of the '104 Patent. Defendant is thus liable for direct infringement pursuant to 35 U.S.C. § 271(a). Exemplary infringing instrumentalities include the Hotels.com Platform (including website and mobile app) and all other substantially similar products (collectively the "'104 Accused Products").

136. Claim 15 of the '104 Patent recites:

> 15. A method for facilitating data searching over a network, the method comprising:
>
> (a) receiving a search request from a user device via the network, the search request including information related to the user device;
>
> (b) processing the search request by identifying a context chain related to the user device based on information passed with the search request, the context chain including a plurality of contexts,
>
> (c) each context in the plurality of contexts being a private context in which content is controlled by a publisher, or a public context in which content is not controlled by a publisher;
>
> (d) And responding to the search request by providing at least one search result to the user device, the search result being obtained from at least one context in the plurality of contexts.

137. Defendant infringes exemplary claim 15, as a non-limiting example only, by its Hotels.com Platform:

1. The Hotels.com platform comprises a method for facilitating data searching over a network. For example, Hotels.com facilitates data searching over a network (internet) by providing the user an interface to enter a search query for finding nearby hotels and obtain the search results. A user can enter a search query in the app, in response to which corresponding search results are provided.

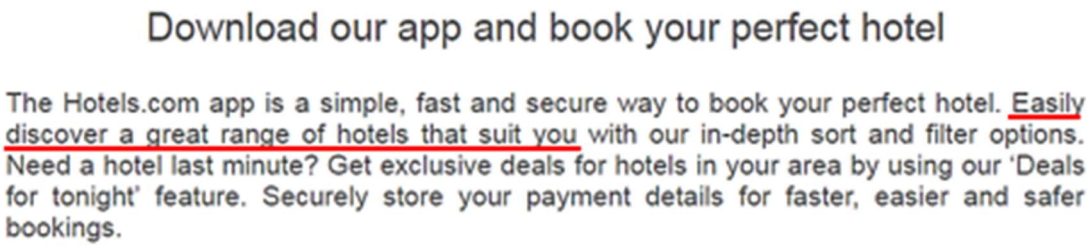
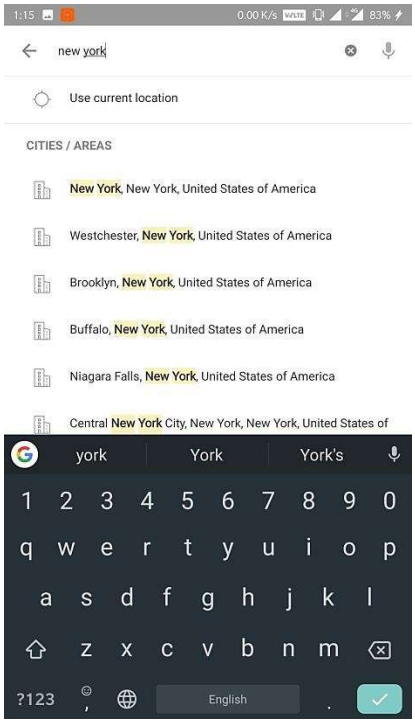


Exhibit R2 (https://www.hotels.com/page/app/).

(a) The Hotels.com server receives the "search request" from the user device via the internet. In the following example the user sends a query (for hotels in New York) by selecting the search button from the device. The subsequent privacy policy shows that the Hotels.com search service obtains user device information, including, for example, the user's device identifier ("information related to the user device").



• *Information that we collect automatically*

Specifically, the information we collect automatically may include, but is not limited to, information like your IP address, device type, unique device identification numbers, browser-type (such as Firefox, Safari, or Internet Explorer), your Internet Service Provider (ISP), your operating system and carrier. For website users, details of any referring website or exit pages as well as broad geographic location (e.g., country or city-level location) may also be collected.

Exhibit T (https://www.hotels.com/customer_care/privacy.html).

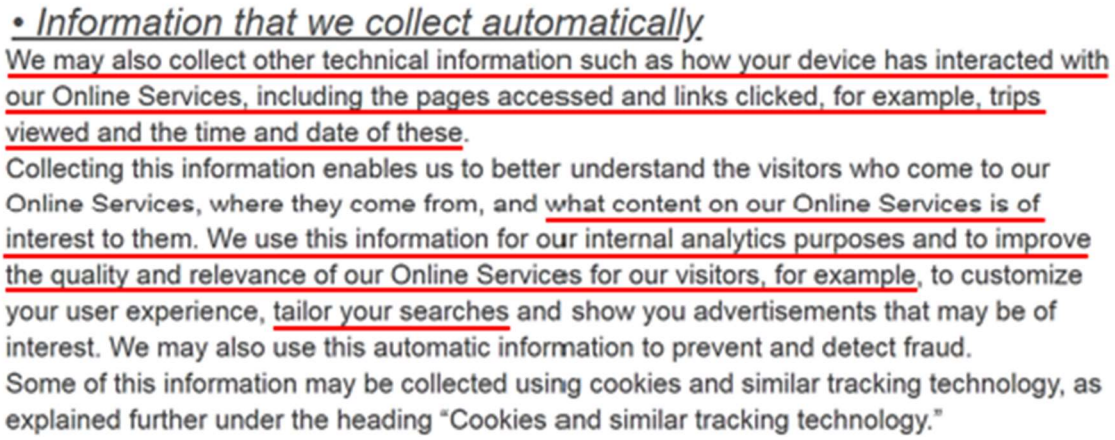
• *Information we collect when you use Apps*

When you use one of your smart phone app, tablet app, or applications for other platforms (collectively "App" or "Apps" as applicable), we may also collect, for example:

- Information about the functionality of the Apps you access and use. This allows us to identify those areas of the Apps that are of interest to our customers so that we can refine and continuously improve the Apps.
- Your device's unique device identifier ("UID"). Each App sends us the device's UID, a sequence of numbers or characters that are unique to your device. We use this on the first opening of the App so that we can confirm to our advertising networks the number of downloads resulting from clicks on their respective ad banners and other marketing tools. When an email address is provided, we associate this with your current UID/cookie ID for the purposes of providing a seamless experience across your devices.
- Information about your current location. When you use an App's 'find hotels near your current location' or similar features that suggest relevant content based on location, or otherwise provide location-based services, we use information about your current location – provided by your device using GPS or similar technologies – to show relevant content or other localized information. We do not collect location data unless you expressly use a location-based feature, and you can switch off location data collection at any time through your phone settings menu.

Id.

(b) The Hotels.com server processes the search request having information such as device identifier and uses this information to identify the context related to the user such as, for example, the previous pages accessed, viewed, links clicked, etc. ("context chain including plurality of contexts") to identify the most relevant results for tailoring the searches.



• *Information that we collect automatically*

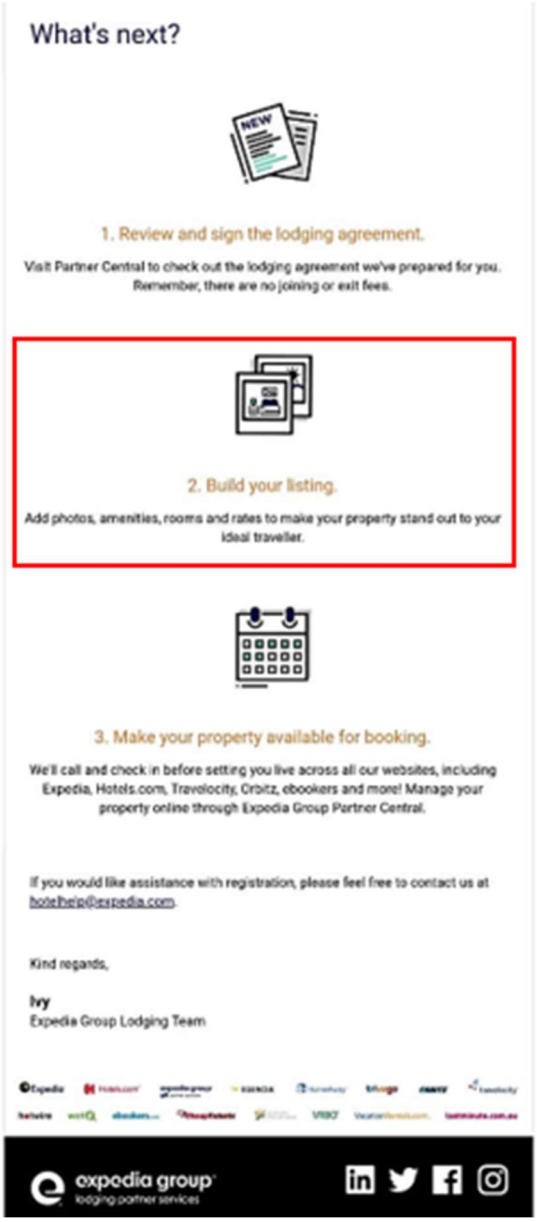
We may also collect other technical information such as how your device has interacted with our Online Services, including the pages accessed and links clicked, for example, trips viewed and the time and date of these.

Collecting this information enables us to better understand the visitors who come to our Online Services, where they come from, and what content on our Online Services is of interest to them. We use this information for our internal analytics purposes and to improve the quality and relevance of our Online Services for our visitors, for example, to customize your user experience, tailor your searches and show you advertisements that may be of interest. We may also use this automatic information to prevent and detect fraud.

Some of this information may be collected using cookies and similar tracking technology, as explained further under the heading "Cookies and similar tracking technology."

Exhibit T (https://www.hotels.com/customer_care/privacy.html).

(c) Hotels.com allows "publishers" or property owners to list their property on Hotels.com and other Expedia Group websites. Hotels.com monitors and keeps records about user interactions regarding these listings, such as pages visited, pages listed on the websites by publishers, links clicked, etc., and uses this information to provide more tailored search results.



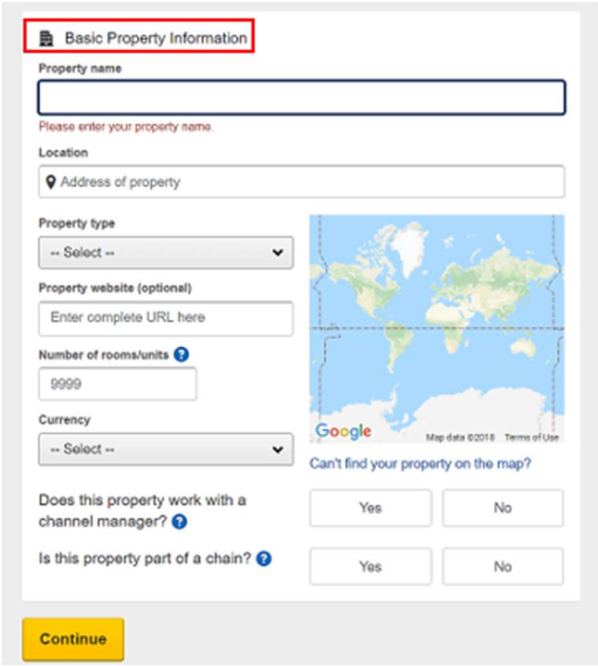
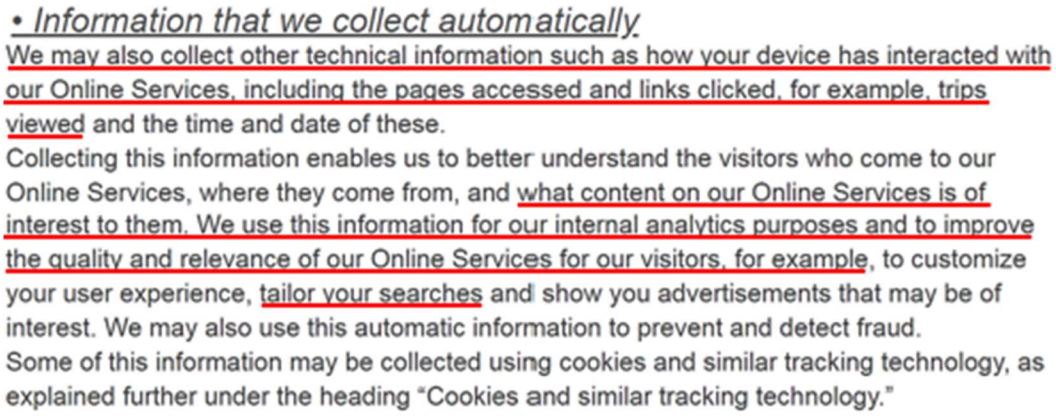


Exhibit U (https://www.syncbnb.com/guides/how-to-create-a-listing-on-expedia/).

(d) Upon receiving the search query, Hotels.com sends the relevant search results to the user device based on the websites accessed, links clicked, *etc*. For example, when a user searches for hotels in New York, tailored results are provided based on the "context" such as pages visited by the user.



• *Information that we collect automatically*

We may also collect other technical information such as how your device has interacted with our Online Services, including the pages accessed and links clicked, for example, trips viewed and the time and date of these.

Collecting this information enables us to better understand the visitors who come to our Online Services, where they come from, and what content on our Online Services is of interest to them. We use this information for our internal analytics purposes and to improve the quality and relevance of our Online Services for our visitors, for example, to customize your user experience, tailor your searches and show you advertisements that may be of interest. We may also use this automatic information to prevent and detect fraud.

Some of this information may be collected using cookies and similar tracking technology, as explained further under the heading "Cookies and similar tracking technology."

Exhibit T (https://www.hotels.com/customer_care/privacy.html).

138. The foregoing structure, function, and operation of the exemplary Accused Instrumentality meets all limitations of at least exemplary claim 15 of the '104 Patent.

139. Defendant's acts of making, using, selling, offering for sale and/or importing the Accused Instrumentalities are without Corrino's license or authorization.

140. Defendant's unauthorized actions therefore constitute direct infringement of Corrino's exclusive rights pursuant to 35 U.S.C. § 271(a), either literally or under the doctrine of equivalents, and Corrino is entitled to recover from Defendant the damages sustained as a result of Defendant's infringement of the '104 Patent in an amount to be determined at trial, which amount shall be no less than a reasonable royalty, together with interest and costs as fixed by this Court pursuant to 35 U.S.C. § 284.

141. Defendant's infringement of the '104 Patent has injured Corrino and Corrino is entitled to recover damages from Defendant.

Willful Infringement

142. Defendant has had actual knowledge of the '104 Patent at least as of service of the original complaint.

143. Notwithstanding this knowledge, Defendant has knowingly or with reckless disregard willfully infringed the '104 Patent. Defendant has thus had actual notice of infringement of the '104 Patent and acted despite an objectively high likelihood that its actions constituted infringement of Plaintiff's valid patent rights, either literally or equivalently.

144. This objective risk was either known or so obvious that it should have been known to Defendant. Accordingly, Plaintiff seeks enhanced damages pursuant to 35 U.S.C. §§ 284 and 285.

Indirect Infringement

145. At least as early as the service this Complaint, Defendant indirectly infringes the '104 Patent within the United States by inducement under 35 U.S.C. §271(b). By failing to cease making, using, selling, importing, or offering for sale the Accused Instrumentalities at least as of the service of the original complaint, Defendant has knowingly and intentionally induced users of the Accused Instrumentalities to directly infringe one or more claims of the '104 Patent, including, by: (1) providing instructions or information, for example on its publicly available website, to explain how to use the Accused Instrumentalities, including the use of the Accused Instrumentalities in manners described above, which are expressly incorporated herein; and (2) touting these uses of the Accused Instrumentalities in advertisements, including but not limited to, those on its website. Use of the Accused Instrumentalities in the manner intended and/or instructed by Defendant necessarily infringes the '104 Patent.

146. At least as of the service of the original complaint, Defendant also indirectly infringes the '104 Patent within the United States by contributory infringement under 35 U.S.C. §271(c). Defendant is aware, at least as of the service of the original complaint, that components of the Accused Instrumentalities are a material and substantial part of the inventions claimed by

the '104 Patent, and are designed for a use that is both patented and infringing, and have no substantial non-infringing uses. By failing to cease making, using, selling, importing, or offering for sale the Accused Instrumentalities (and components thereof) at least as of the service of the original complaint, Defendant has knowingly and intentionally contributed to direct infringement by its customers of one or more claims of the '104 Patent, including, by: (1) providing instructions or information, for example, on its publicly available website, to explain how to use the Accused Instrumentalities, including the use of the Accused Instrumentalities in manners described above, which are expressly incorporated herein; and (2) touting these uses of the Accused Instrumentalities in advertisements, including but not limited to, those on its website. Use of the Accused Instrumentalities in the manner intended by Defendant necessarily infringes the '104 Patent.

147. As a result of Defendant's infringement, Plaintiff has suffered monetary damages, and is entitled to an award of damages adequate to compensate it for such infringement which, by law, can be no less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

COUNT VI – INFRINGEMENT OF THE '734 PATENT

148. Corrino incorporates by reference and re-alleges all the foregoing paragraphs of this Complaint as if fully set forth herein.

149. U.S. Patent No. 9,152,734 ("the '734 Patent") is entitled "SYSTEMS AND METHODS FOR IDENTIFYING INTERSECTIONS USING CONTENT METADATA" and was issued on Oct. 6, 2015. A true and correct copy of the '734 Patent is attached as **Exhibit F**.

150. The '734 Patent was filed on May 24, 2011 as U.S. Patent Application No. 13/114,959.

151. Corrino is the owner of all rights, title, and interest in and to the '734 Patent, with the full and exclusive right to bring suit to enforce the '734 Patent, including the right to recover for past infringement.

152. The '734 Patent is valid and enforceable under United States Patent Laws.

Technical Description

153. The '734 Patent relates to "user-submitted content and, in particular, to an association between user-submitted story content and timeframe and/or location identifying metadata." **Exhibit F**, '734 Patent at 1:15-17. Specifically, the'734 Patent teaches user-submitted content (*e.g.*, stories) which may be associated with descriptive metadata (intersection meta data), such as a timeframe, location, tags, and so on. **Exhibit F**, '734 Patent at abstract. "The user-submitted content may be browsed and/or searched using the descriptive metadata. Intersection criteria comprising a prevailing timeframe, a location, and/or other metadata criteria may be used to identify an intersection space comprising one or more stories. The stories may be ordered according to relative importance, which may be determined (at least in part) by comparing story metadata to the intersection criteria." *Id.*

154. The '734 Patent further recognized several problems with certain conventional technologies. For example, "content submitted to [websites featuring user submitted content] is often transient and can be lost or removed over time. Moreover, given the high volume of user submitted content, it may be difficult to find content of interest to particular users." *Id.* at 2:44-48.

155. In this regard, the '734 Patent provided a technical solution creating an improvement to "the value of user-submitted content . . . by associating the content with descriptive

metadata (including, but not limited to intersection metadata, such as timeframe and location)." *Id.* at 2:49-52.

156. Given the state of the art at the time of the inventions of the '734 Patent, including the deficiencies in synchronized collaborative story-telling, the inventive concepts of the '734 Patent cannot be considered to be conventional, well-understood, or routine. *See, e.g.*, **Exhibit F**, '734 Patent at abstract, 1:15-17, 2:49-53. The '734 Patent provides an unconventional solution to problems arising in interactive storytelling—namely, that user created collaborative content can be incorporated into the real time storytelling by associating the content with descriptive metadata. *See, e.g., id.* at 2:49-52.

157. Indeed, it was not well-understood, routine, or conventional at the time of the inventions of the '734 Patent to have a method for presenting story content relating to a timeframe and location of interest, the method performed by a computing system having one or more hardware computer processors, the method comprising: receiving a query comprising an intersection criteria, the intersection criteria comprising a location and a timeframe of interest; generating an intersection space comprising one or more stories matching the location and the timeframe of the query, said generating comprising: accessing a plurality of stories stored on a non-transitory computer-readable storage medium, each story submitted by a user and comprising one or more content items and having respective intersection meta data, the intersection meta data of each story comprising a location and a timeframe pertaining to the story; selecting stories for inclusion in the intersection space that have intersection metadata corresponding to the location and the timeframe of the intersection criteria; and filtering the stories selected for inclusion in the intersection space so that each remaining story is associated with an indication provided by one or more users that the remaining story is associated with a same one or more participants; calculating

a relative importance of each story in the intersection space, wherein the relative importance of respective stories indicates a relative overlap between the timeframe of interest and a time frame of the respective story; and providing, for presentation on a display, the intersection space comprising indicators of one or more of the stories included in the intersection space in an order based on the relative importance of each respective story in the intersection space.. *See, e.g., id.* at Claim 1.

158. Likewise, it was not well-understood, routine, or conventional at the time of the inventions of the '734 Patent to have a non-transitory computer-readable storage medium comprising instructions to cause a computing device to perform operations comprising: receiving a plurality of user-submitted stories, each story comprising one or more content items and respective intersection metadata defining a location and timeframe pertaining to the story; storing each story in a datastore in association with the respective intersection metadata; receiving a query comprising an intersection criteria, the intersection criteria comprising a location and a timeframe; generating an intersection space responsive to the query by, identifying stories in the datastore for inclusion in the intersection space that have intersection metadata corresponding to the location and the timeframe of the intersection criteria, and filtering the identified stories so that each remaining story is associated with an indication provided by one or more users that the remaining story is associated with a same one or more participants; calculating a relative importance of each story in the intersection space, the relative importance of a respective story indicating a relative overlap between the timeframe of the intersection criteria and a timeframe of the respective story; and providing, for presentation on a display, the intersection space comprising indicators of one or more of the stories included in the intersection space in an order based on the relative importance of each respective story in the intersection space.. *See, e.g., id.* at Claim 19.

159. These are just exemplary reasons why the inventions claimed in the '734 Patent were not well-understood, routine, or conventional at the time of their invention.

Direct Infringement

160. On information and belief, Defendant, without authorization or license from Plaintiff, has been and is presently directly infringing the '734 Patent, either literally or equivalently, as infringement is defined by 35 U.S.C. § 271(a), including through making, using, (including for testing purposes), selling and offering for sale methods and systems infringing one or more claims of the '734 Patent. Defendant is thus liable for direct infringement pursuant to 35 U.S.C. § 271(a). Exemplary infringing instrumentalities include the Expedia Platform (including website and mobile app) (collectively the "'734 Accused Products"). The '734 Accused Products specifically include at least the Cheaptickets.com platform, the Travelocity platform, and all other substantially similar products.

161. Claim 1 of the '734 Patent recites:

> 1. A method for presenting story content relating to a timeframe and location of interest, the method performed by a computing system having one or more hardware computer processors, the method comprising:
>
> (a) receiving a query comprising an intersection criteria, the intersection criteria comprising a location and a timeframe of interest;
>
> (b) generating an intersection space comprising one or more stories matching the location and the timeframe of the query, said generating comprising:
>
> (c) accessing a plurality of stories stored on a non-transitory computer-readable storage medium, each story submitted by a user and comprising one or more content items and having respective intersection metadata, the intersection metadata of each story comprising a location and a timeframe pertaining to the story;
>
> (d) selecting stories for inclusion in the intersection space that have intersection metadata corresponding to the location and the timeframe of the intersection criteria; and

(e) filtering the stories selected for inclusion in the intersection space so that each remaining story is associated with an indication provided by one or more users that the remaining story is associated with a same one or more participants;

(f) calculating a relative importance of each story in the intersection space, wherein the relative importance of respective stories indicates a relative overlap between the timeframe of interest and a timeframe of the respective story; and

(g) providing, for presentation on a display, the intersection space comprising indicators of one or more of the stories included in the intersection space in an order based on the relative importance of each respective story in the intersection space.

162. Defendant infringes exemplary claim 1, as a non-limiting example only, by its Expedia Platform:

1. Expedia method for presenting story content relating to a timeframe and location of interest, the method performed by a computing system having one or more hardware computer processors. For example, Expedia allows users to search flights from the preferred departure airports to the preferred destination airports. This search comprises options for preferred departure or arrival airport ("location of interest") and preferred departure or arrival time ("timeframe").

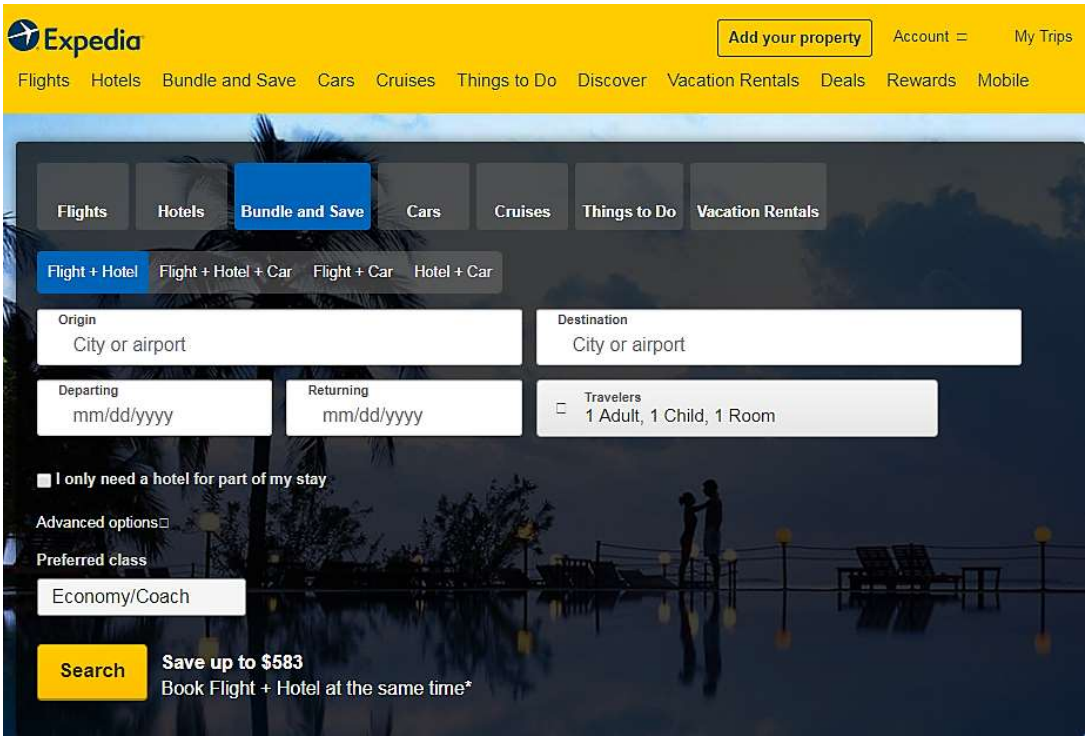


Exhibit V (https://www.expedia.com/).

(a) Expedia enables users to enter a search query for available flight options from the preferred departure airports to destination airports. The search query comprises departure and arrival airport ("location of interest") and departure or

arrival time ("timeframe of interest"). A user can, for example, search for flights from Washington (DCA) within a timeframe of 5 AM to 11.59 AM.

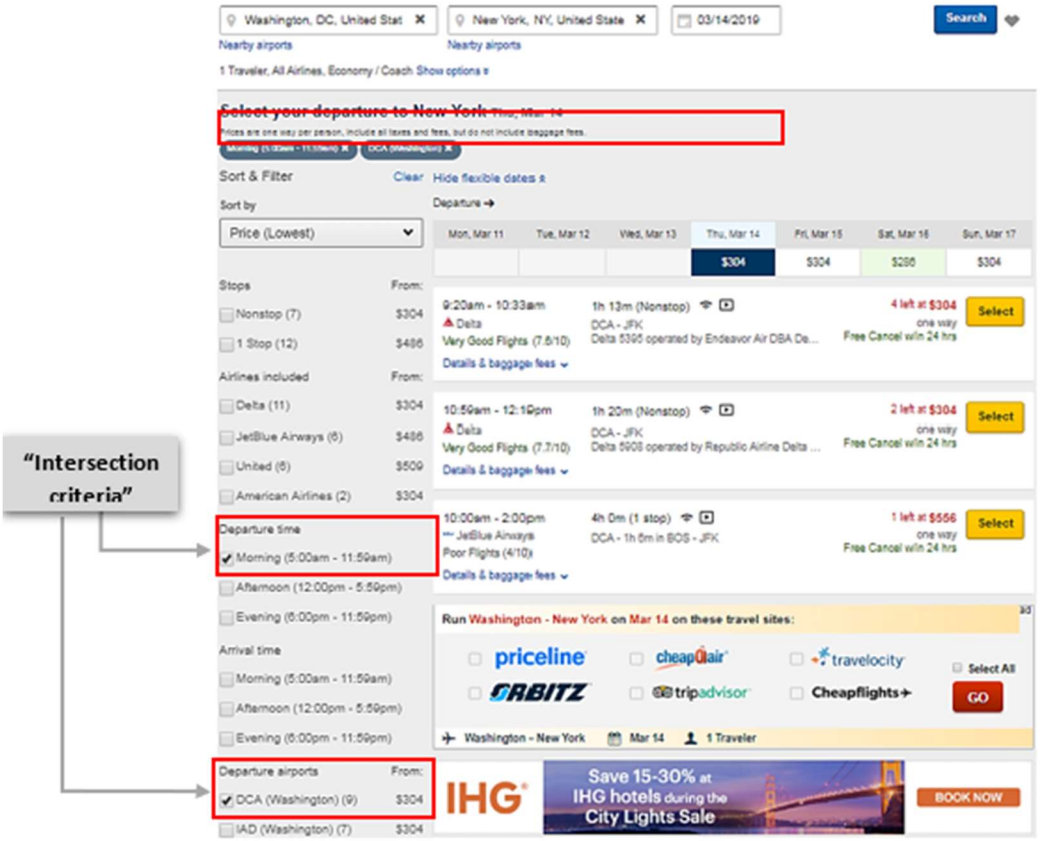


Exhibit W (sample search result on Expedia.com).

(b) Expedia can generate an intersection space comprising one or more stories matching the location and the timeframe of the query. In the referenced example, based on the applied search query with specified intersection criteria,

Expedia generates a page consisting of potential flights ("an intersection space").

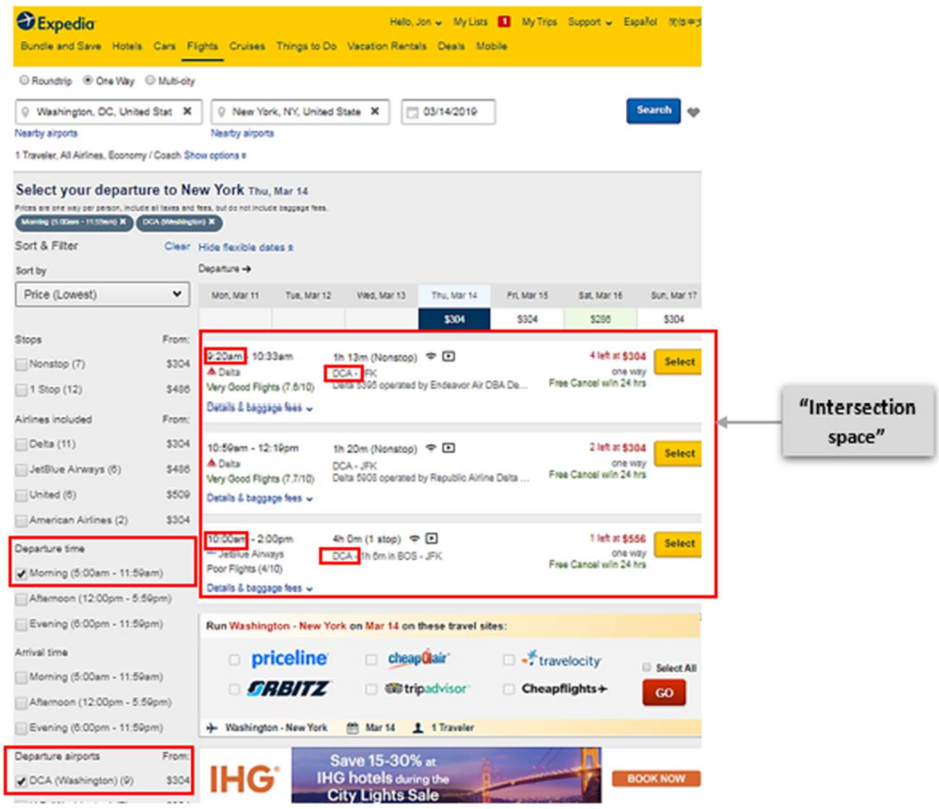


Exhibit W (sample search result on Expedia.com).

(c) Expedia accesses a plurality of stories stored on a non-transitory computer-readable storage medium, each story submitted by a user and comprising one or more content items and having respective intersection metadata, the

intersection metadata of each story comprising a location and a timeframe pertaining to the story;

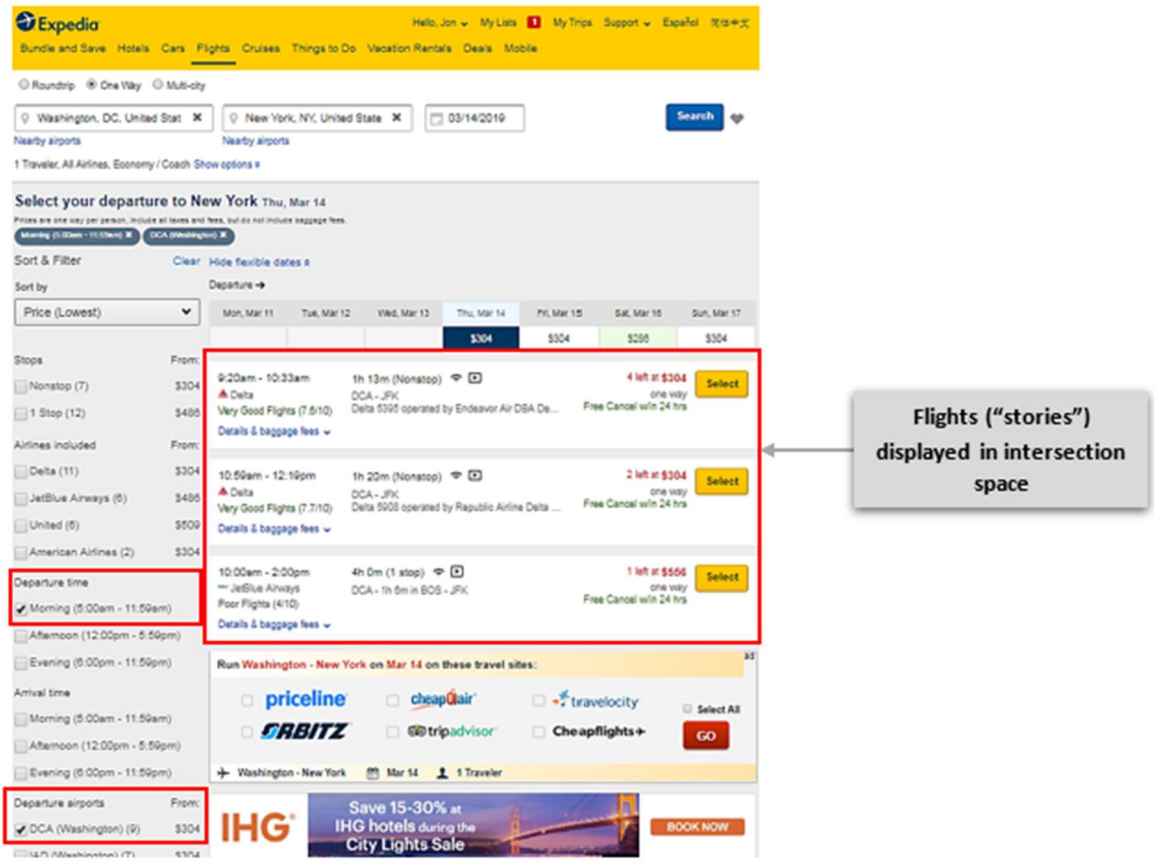


Exhibit W (sample search result on Expedia.com).

(d) Expedia operates by selecting stories for inclusion in the intersection space that have intersection metadata corresponding to the location and the timeframe of the intersection criteria. Search results matching the departure location and time as set in the search filters are selected for displaying to the user. For example, flights departing from location 'Washington, DC' and time between

5 AM to 11.59 AM ("intersection criteria") for the desired date are selected for displaying as results.

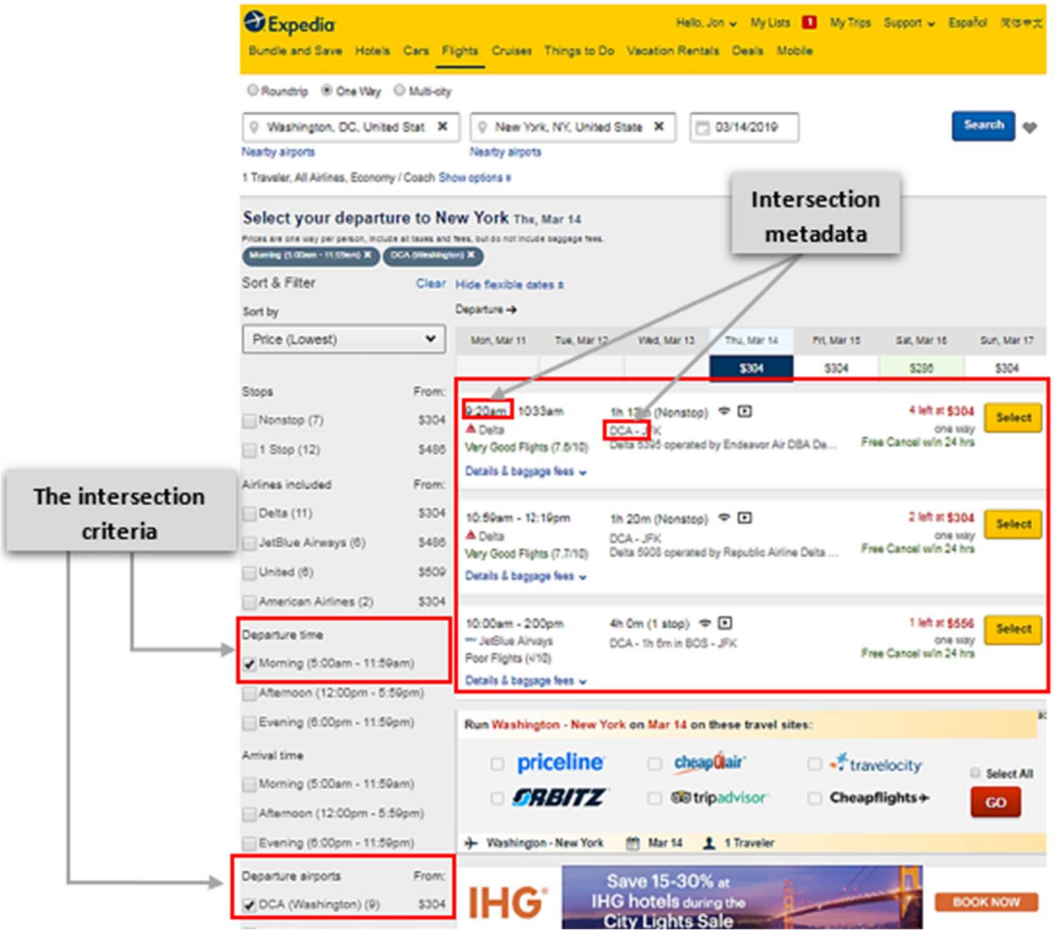


Exhibit W (sample search result on Expedia.com).

(e) Expedia operates by filtering the stories selected for inclusion in the intersection space so that each remaining story is associated with an indication provided by one or more users that the remaining story is associated with a same one or more participants. For example, Expedia filters the results associated with different

airlines ("more participants") such as Delta, JetBlue, etc., to display in the intersection space based on the selected criterias.

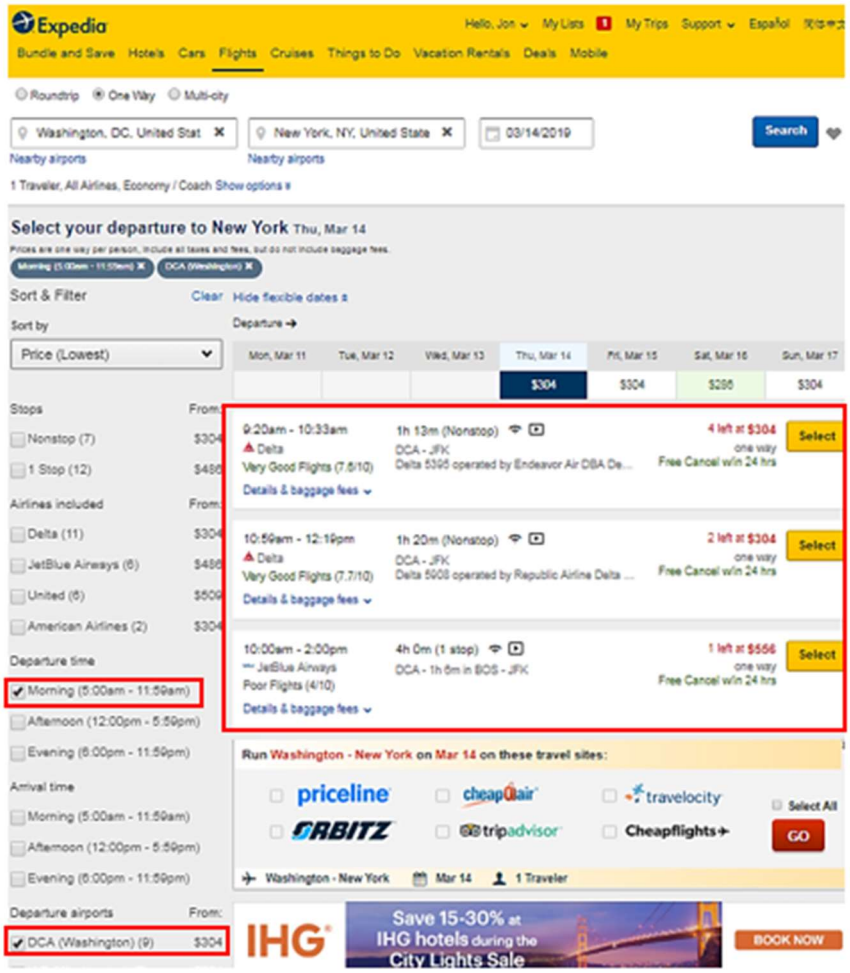
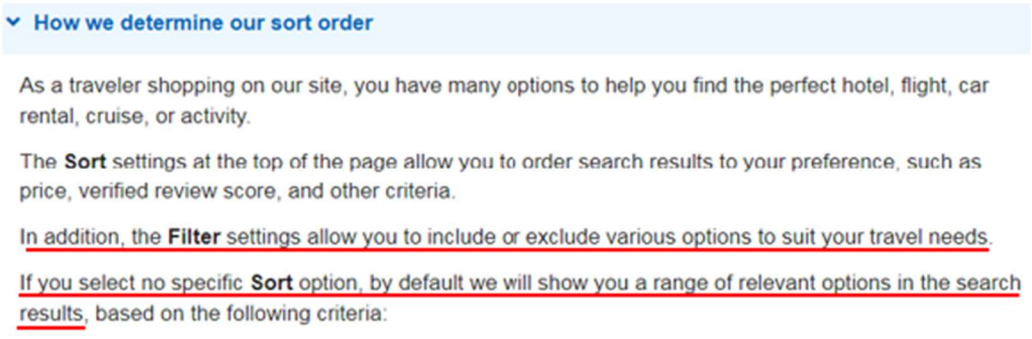


Exhibit W (sample search result on Expedia.com).



How we determine our sort order

As a traveler shopping on our site, you have many options to help you find the perfect hotel, flight, car rental, cruise, or activity.

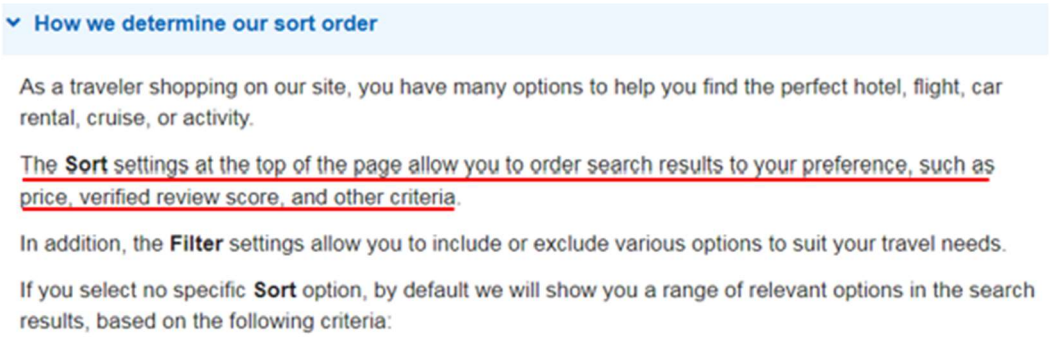
The **Sort** settings at the top of the page allow you to order search results to your preference, such as price, verified review score, and other criteria.

In addition, the **Filter** settings allow you to include or exclude various options to suit your travel needs.

If you select no specific **Sort** option, by default we will show you a range of relevant options in the search results, based on the following criteria:

Exhibit X (https://www.expedia.com/service/#/myTrips/19367).

(f) Expedia operates by calculating a relative importance of each story in the intersection space, wherein the relative importance of respective stories indicates a relative overlap between the timeframe of interest and a timeframe of the respective story. For example, Expedia provides search results based on different sort orders such as by price, earliest arrival, earliest departure etc., which can be selected by the user. In sorting based on earliest departure, one airline can be given a higher priority. All the stories in the results have overlapping timeframes, specifically, the timeframe selected by the user.



How we determine our sort order

As a traveler shopping on our site, you have many options to help you find the perfect hotel, flight, car rental, cruise, or activity.

The **Sort** settings at the top of the page allow you to order search results to your preference, such as price, verified review score, and other criteria.

In addition, the **Filter** settings allow you to include or exclude various options to suit your travel needs.

If you select no specific **Sort** option, by default we will show you a range of relevant options in the search results, based on the following criteria:

Exhibit X (https://www.expedia.com/service/#/myTrips/19367).

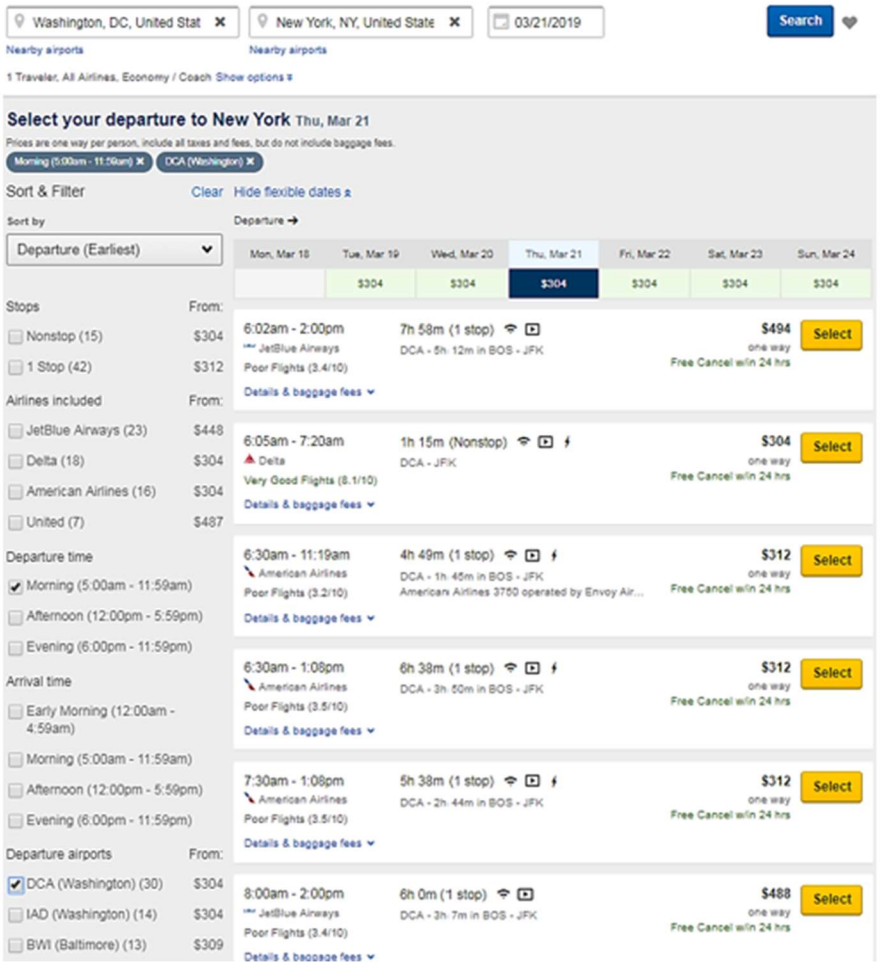


Exhibit W (sample search result on Expedia.com).

(g) Expedia operates by providing, for presentation on a display, the intersection space comprising indicators of one or more of the stories included in the intersection space in an order based on the relative importance of each respective story in the intersection space. For example, the identified search results (flights) are displayed to the user on the search result page with "indicators". An indicator can be a name or description about the contributor

of the story, such as, for example, the names of the airlines listed in the search results.

163. The foregoing structure, function, and operation of the exemplary Accused Instrumentality meets all limitations of at least exemplary claim 1 of the '734 Patent.

164. Defendant's acts of making, using, selling, offering for sale and/or importing the Accused Instrumentalities are without Corrino's license or authorization.

165. Defendant's unauthorized actions therefore constitute direct infringement of Corrino's exclusive rights pursuant to 35 U.S.C. § 271(a), either literally or under the doctrine of equivalents, and Corrino is entitled to recover from Defendant the damages sustained as a result of Defendant's infringement of the '734 Patent in an amount to be determined at trial, which amount shall be no less than a reasonable royalty, together with interest and costs as fixed by this Court pursuant to 35 U.S.C. § 284.

166. Defendant's infringement of the '734 Patent has injured Corrino and Corrino is entitled to recover damages from Defendant.

Willful Infringement

167. Defendant has had actual knowledge of the '734 Patent at least as of service of the original complaint.

168. Notwithstanding this knowledge, Defendant has knowingly or with reckless disregard willfully infringed the '734 Patent. Defendant has thus had actual notice of infringement of the '734 Patent and acted despite an objectively high likelihood that its actions constituted infringement of Plaintiff's valid patent rights, either literally or equivalently.

169. This objective risk was either known or so obvious that it should have been known to Defendant. Accordingly, Plaintiff seeks enhanced damages pursuant to 35 U.S.C. §§ 284 and 285.

Indirect Infringement

170. At least as early as the service of the original complaint, Defendant indirectly infringes the '734 Patent within the United States by inducement under 35 U.S.C. §271(b). By failing to cease making, using, selling, importing, or offering for sale the Accused Instrumentalities at least as of the service of the original complaint, Defendant has knowingly and intentionally induced users of the Accused Instrumentalities to directly infringe one or more claims of the '734 Patent, including, by: (1) providing instructions or information, for example on its publicly available website, to explain how to use the Accused Instrumentalities, including the use of the Accused Instrumentalities in manners described above, which are expressly incorporated herein; and (2) touting these uses of the Accused Instrumentalities in advertisements, including but not limited to, those on its website. Use of the Accused Instrumentalities in the manner intended and/or instructed by Defendant necessarily infringes the '734 Patent.

171. At least as of the service of the original complaint, Defendant also indirectly infringes the '734 Patent within the United States by contributory infringement under 35 U.S.C. §271(c). Defendant is aware, at least as of the service of the original complaint, that components of the Accused Instrumentalities are a material and substantial part of the inventions claimed by the '734 Patent, and are designed for a use that is both patented and infringing, and have no substantial non-infringing uses. By failing to cease making, using, selling, importing, or offering for sale the Accused Instrumentalities (and components thereof) at least as of the service of the original complaint, Defendant has knowingly and intentionally contributed to direct infringement

by its customers of one or more claims of the '734 Patent, including, by: (1) providing instructions or information, for example on its publicly available website, to explain how to use the Accused Instrumentalities, including the use of the Accused Instrumentalities in manners described above, which are expressly incorporated herein; and (2) touting these uses of the Accused Instrumentalities in advertisements, including but not limited to, those on its website. Use of the Accused Instrumentalities in the manner intended by Defendant necessarily infringes the '734 Patent.

172. As a result of Defendant's infringement, Plaintiff has suffered monetary damages, and is entitled to an award of damages adequate to compensate it for such infringement which, by law, can be no less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

COUNT VII – INFRINGEMENT OF THE '533 PATENT

173. Corrino incorporates by reference and re-alleges all the foregoing paragraphs of this Complaint as if fully set forth herein.

174. U.S. Patent No. 9,262,533 ("the '533 Patent") is entitled "CONTEXT BASED DATA SEARCHING" and was issued on February 16, 2016. A true and correct copy of the '533 Patent is attached as **Exhibit G**.

175. The '533 Patent was filed on March 2, 2011 as U.S. Patent Application No. 13/039,133, which is a continuation of U.S. Patent Application No. 12/043,889, filed on March 6, 2008, and now U.S. Patent No. 7,958,104, which claims priority to Provisional Application No. 60/893,831, filed on March 8, 2007.

176. Corrino is the owner of all rights, title, and interest in and to the '533 Patent, with the full and exclusive right to bring suit to enforce the '533 Patent, including the right to recover for past infringement.

177. The '533 Patent is valid and enforceable under United States Patent Laws.

Technical Description

178. Like the inventions claimed in the '104 Patent—the parent to the '533 Patent— the inventions claimed in the '533 Patent were not understood, routine, or conventional, at the time of the invention of the '533 Patent, to receive, from a user device, a search request that includes information related to the user and/or the user device and then process that search request by (i) identifying a context chain related to the user and/or the user device based on the information passed with the search request and (ii) examining contexts in the context chain in a last-in-first out order in which the most recently added contexts are examined before contexts that were added earlier. **Exhibit G**, '533 Patent at Claims 1, 11, 17. Further it was not well-understood, routine, or conventional, at the time of the invention of the '533 Patent, to identify a context chain related to the user and/or the user device based on the information passed with the search request—where the context chain includes (i) multiple contexts that are publishing spaces in which interpretation of the search request takes place by using content published to the publishing spaces by publishers of different viewpoints and (ii) at least one context that is independently searchable with respect to other contexts of the context chain.

179. These are just exemplary reasons why the inventions claimed in the '533 Patent were not well-understood, routine, or conventional at the time of their invention.

Direct Infringement

180. On information and belief, Defendant, without authorization or license from Plaintiff, has been and is presently directly infringing the '533 Patent, either literally or equivalently, as infringement is defined by 35 U.S.C. § 271(a), including through making, using, (including for testing purposes), selling and offering for sale methods and systems infringing one or more claims of the '533 Patent. Defendant is thus liable for direct infringement pursuant to 35 U.S.C. § 271(a). Exemplary infringing instrumentalities include the Hotels.com Platform (including website and mobile app) and all other substantially similar products (collectively the "'533 Accused Products").

181. Claim 11 of the '533 Patent recites:

> 11. A method for facilitating data searching over a network, the method comprising:
>
> (a) receiving a search request from a user device via the network, wherein the search request includes information related to the user device;
>
> (b) processing the search request by identifying a context chain related to the user device based on the information and by using the context chain to obtain a search result in response to the search request,
>
> (c) wherein the context chain includes a plurality of contexts that are publishing spaces in which interpretation of the search request takes place by using content published to the publishing spaces by publishers of different viewpoints,
>
> (d) wherein the processing the search request includes: examining contexts in the context chain in a last-in-first-out order in which the most recently added contexts to the context chain are examined before earlier added contexts,

(e) and wherein at least one context of the context chain is independently searchable with respect to other contexts of the context chain; and

(f) providing the search result to the user device.

182. Defendant infringes exemplary claim 11, as a non-limiting example only, by its Hotels.com Platform:

1. Hotels.com practices a method for facilitating data searching over a network. For example, Hotels.com provides a platform for booking different hotels, holiday packages etc. by "searching over a network" or internet.

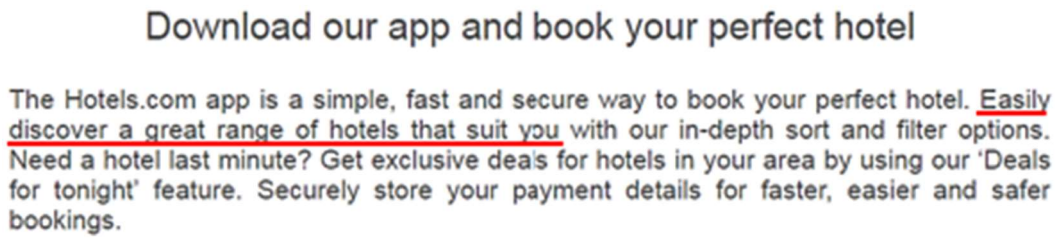
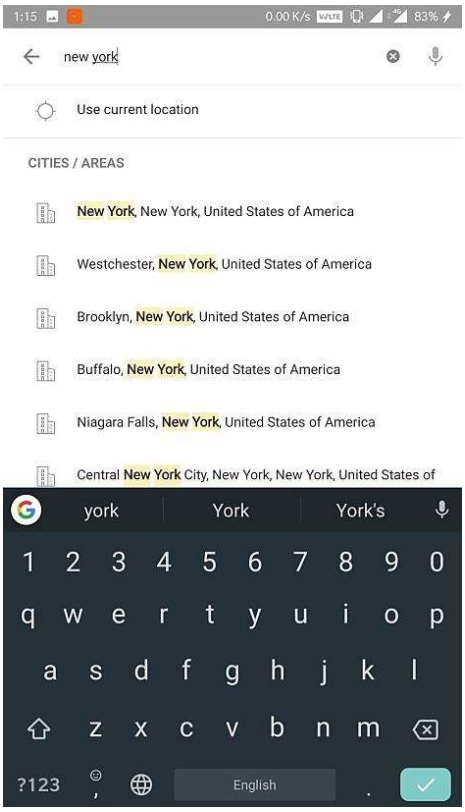


Exhibit R2 (https://www.hotels.com/page/app/).

(a) Hotels.com operates by receiving a search request from a user device via the network, wherein the search request includes information related to the user device. For example, Hotels.com receives a search request from the user which includes the search query and other "information related to the user device," such as device identifier, device location, etc.



• *Information that we collect automatically*

When you visit us on our Online Services, we may collect certain information automatically from your device. In some countries, including countries in the European Economic Area, this information may be considered personal information under applicable data protection laws.

Specifically, the information we collect automatically may include, but is not limited to, information like your IP address, device type, unique device identification numbers, browser-type (such as Firefox, Safari, or Internet Explorer), your Internet Service Provider (ISP), your operating system and carrier. For website users, details of any referring website or exit pages as well as broad geographic location (e.g., country or city-level location) may also be collected.

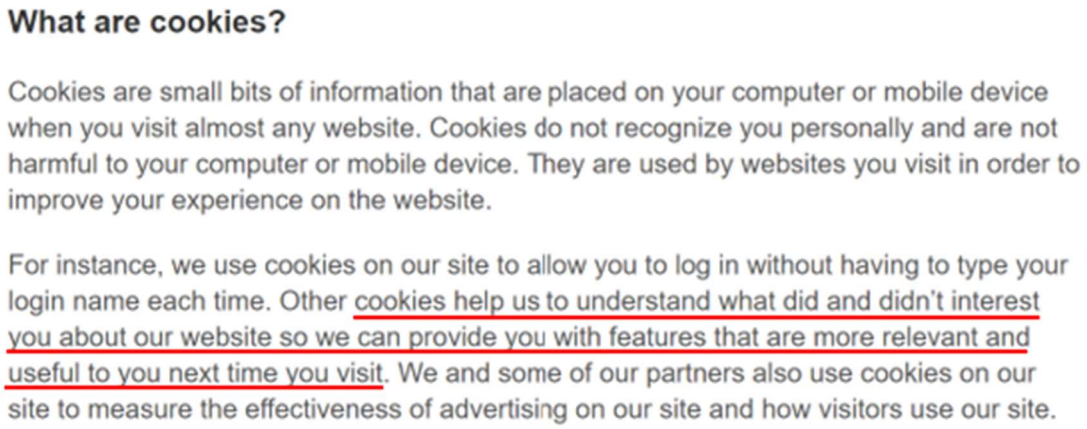
• *Information we collect when you use Apps*

When you use one of your smart phone app, tablet app, or applications for other platforms (collectively "App" or "Apps" as applicable), we may also collect, for example:

- Information about the functionality of the Apps you access and use. This allows us to identify those areas of the Apps that are of interest to our customers so that we can refine and continuously improve the Apps.
- Your device's unique device identifier ("UID"). Each App sends us the device's UID, a sequence of numbers or characters that are unique to your device. We use this on the first opening of the App so that we can confirm to our advertising networks the number of downloads resulting from clicks on their respective ad banners and other marketing tools. When an email address is provided, we associate this with your current UID/cookie ID for the purposes of providing a seamless experience across your devices.
- Information about your current location. When you use an App's 'find hotels near your current location' or similar features that suggest relevant content based on location, or otherwise provide location-based services, we use information about your current location – provided by your device using GPS or similar technologies – to show relevant content or other localized information. We do not collect location data unless you expressly use a location-based feature, and you can switch off location data collection at any time through your phone settings menu.

Exhibit T (https://www.hotels.com/customer_care/privacy.html).

(b) Hotels.com operates by processing the search request by identifying a context chain related to the user device based on the information and by using the context chain to obtain a search result in response to the search request. For example, the search request can be processed considering a context chain (booking information previously used, last hotel searched, etc.) in order to provide tailored/customized search results that are most relevant to the user.

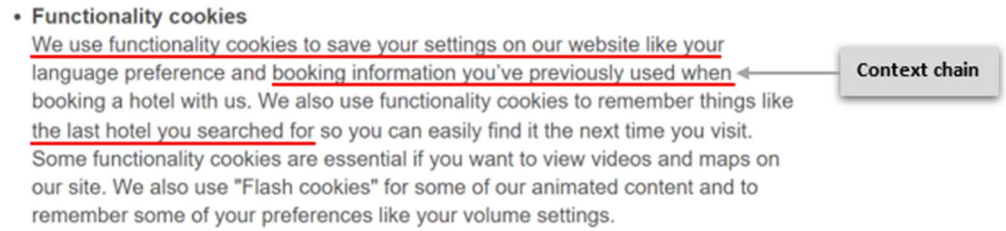


What are cookies?

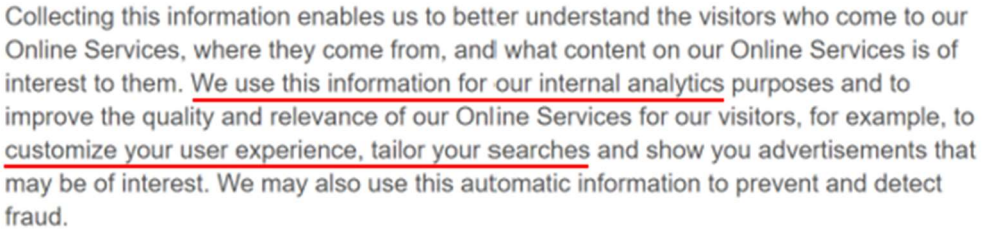
Cookies are small bits of information that are placed on your computer or mobile device when you visit almost any website. Cookies do not recognize you personally and are not harmful to your computer or mobile device. They are used by websites you visit in order to improve your experience on the website.

For instance, we use cookies on our site to allow you to log in without having to type your login name each time. Other cookies help us to understand what did and didn't interest you about our website so we can provide you with features that are more relevant and useful to you next time you visit. We and some of our partners also use cookies on our site to measure the effectiveness of advertising on our site and how visitors use our site.

Exhibit Y (https://www.hotels.com/customer_care/cookie_policy.html).



Id.



Collecting this information enables us to better understand the visitors who come to our Online Services, where they come from, and what content on our Online Services is of interest to them. We use this information for our internal analytics purposes and to improve the quality and relevance of our Online Services for our visitors, for example, to customize your user experience, tailor your searches and show you advertisements that may be of interest. We may also use this automatic information to prevent and detect fraud.

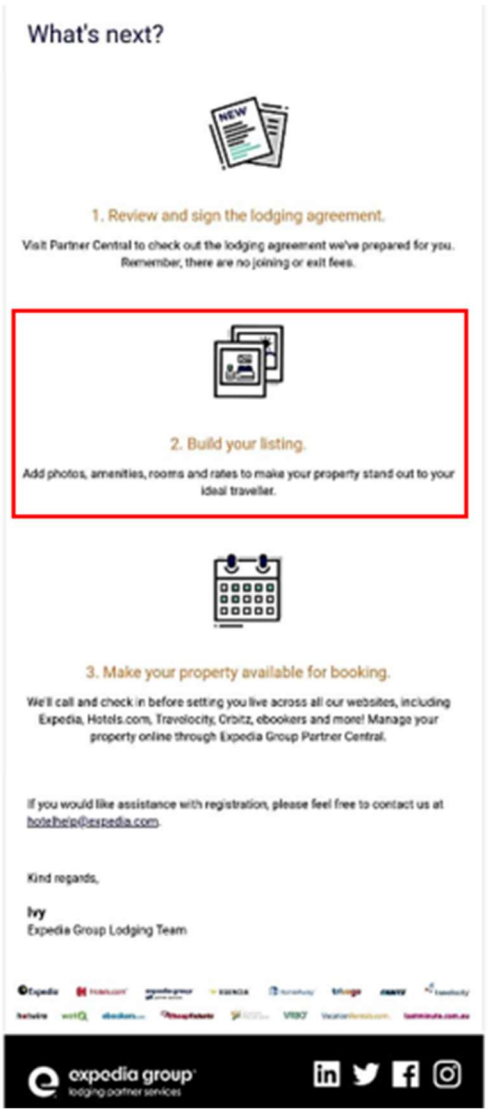
Exhibit T (https://www.hotels.com/customer_care/privacy.html).

(c) The identified context chain includes a plurality of contexts that are publishing spaces in which interpretation of the search request takes place by using content published to the publishing spaces by publishers of different viewpoints. For example, the context chain with respect to a particular user includes multiple contexts of previous searches made (previous booking information, last hotel searched, etc.) by that user.

- **Functionality cookies**
  We use functionality cookies to save your settings on our website like your language preference and booking information you've previously used when booking a hotel with us. We also use functionality cookies to remember things like the last hotel you searched for so you can easily find it the next time you visit. Some functionality cookies are essential if you want to view videos and maps on our site. We also use "Flash cookies" for some of our animated content and to remember some of your preferences like your volume settings.

Exhibit Y (https://www.hotels.com/customer_care/cookie_policy.html).

Moreover, Hotels.com allows "publishers" or property owners to list their property on Hotels.com and other Expedia group websites. Hotels.com monitors and keeps record about user interactions such as pages visited (such as pages listed on the websites by publishers), links clicked, etc., and uses this information to provide more tailored search results.



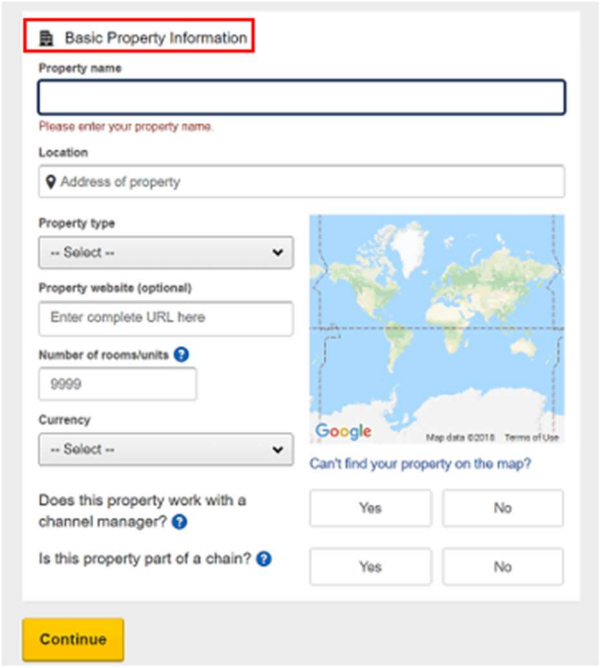


Exhibit U (https://www.syncbnb.com/guides/how-to-create-a-listing-on-expedia/).

(d) Hotels.com operates using search requests, wherein the processing the search request includes: examining contexts in the context chain in a last-in-first-out order in which the most recently added contexts to the context chain are examined before earlier added contexts. For example, the search history of a particular user is processed in such a way that the last searched content (recently searched) becomes the basis of current search results.

- **Functionality cookies**
  We use functionality cookies to save your settings on our website like your language preference and booking information you've previously used when booking a hotel with us. We also use functionality cookies to remember things like the last hotel you searched for so you can easily find it the next time you visit. Some functionality cookies are essential if you want to view videos and maps on our site. We also use "Flash cookies" for some of our animated content and to remember some of your preferences like your volume settings.

Exhibit Y (https://www.hotels.com/customer_care/cookie_policy.html).

> We may also collect other technical information such as how your device has interacted with our Online Services, including the pages accessed and links clicked, for example, trips viewed and the time and date of these.

Exhibit T (https://www.hotels.com/customer_care/privacy.html).

(e) Hotels.com operates context chains wherein at least one context of the context chain is independently searchable with respect to other contexts of the context chain. For example, the context of the context chain (recently searched entities) can be independently searched by a user using the search bar.

Exhibit Y (https://www.hotels.com/customer_care/cookie_policy.html);

(f) Hotels.com provides the search result to the user device.

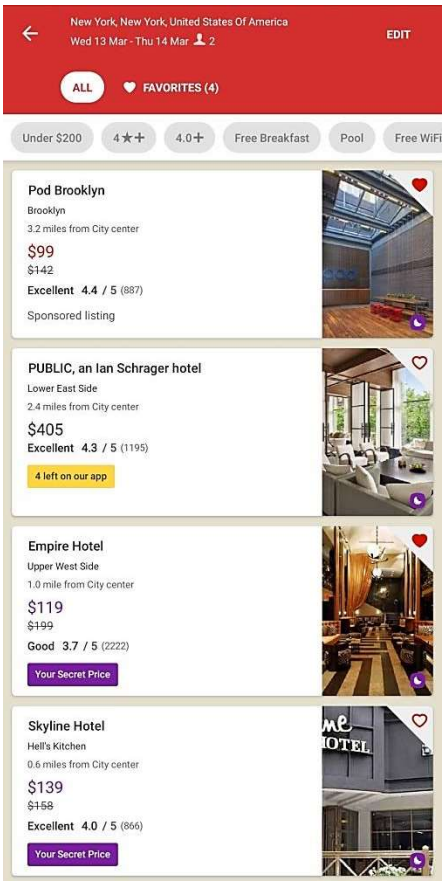


Exhibit Z (screenshot of Hotels.com app on Android device).

183. The foregoing structure, function, and operation of the exemplary Accused Instrumentality meets all limitations of at least exemplary claim 11 of the ’533 Patent.

184. Defendant’s acts of making, using, selling, offering for sale and/or importing the Accused Instrumentalities are without Corrino’s license or authorization.

185. Defendant’s unauthorized actions therefore constitute direct infringement of Corrino’s exclusive rights pursuant to 35 U.S.C. § 271(a), either literally or under the doctrine of equivalents, and Corrino is entitled to recover from Defendant the damages sustained as a result of Defendant’s infringement of the ’533 Patent in an amount to be determined at trial, which amount shall be no less than a reasonable royalty, together with interest and costs as fixed by this Court pursuant to 35 U.S.C. § 284.

186. Defendant's infringement of the '533 Patent has injured Corrino and Corrino is entitled to recover damages from Defendant.

Willful Infringement

187. Defendant has had actual knowledge of the '533 Patent at least as of service of the original complaint.

188. Notwithstanding this knowledge, Defendant has knowingly or with reckless disregard willfully infringed the '533 Patent. Defendant has thus had actual notice of infringement of the '533 Patent and acted despite an objectively high likelihood that its actions constituted infringement of Plaintiff's valid patent rights, either literally or equivalently.

189. This objective risk was either known or so obvious that it should have been known to Defendant. Accordingly, Plaintiff seeks enhanced damages pursuant to 35 U.S.C. §§ 284 and 285.

Indirect Infringement

190. At least as early as the service of the original complaint, Defendant indirectly infringes the '533 Patent within the United States by inducement under 35 U.S.C. §271(b). By failing to cease making, using, selling, importing, or offering for sale the Accused Instrumentalities at least as of the service of the original complaint, Defendant has knowingly and intentionally induced users of the Accused Instrumentalities to directly infringe one or more claims of the '533 Patent, including, by: (1) providing instructions or information, for example on its publicly available website, to explain how to use the Accused Instrumentalities, including the use of the Accused Instrumentalities in manners described above, which are expressly incorporated herein; and (2) touting these uses of the Accused Instrumentalities in advertisements, including but not

limited to, those on its website. Use of the Accused Instrumentalities in the manner intended and/or instructed by Defendant necessarily infringes the '533 Patent.

191. At least as of the service of the original complaint, Defendant also indirectly infringes the '533 Patent within the United States by contributory infringement under 35 U.S.C. §271(c). Defendant is aware, at least as of the service of the original complaint, that components of the Accused Instrumentalities are a material and substantial part of the inventions claimed by the '533 Patent, and are designed for a use that is both patented and infringing, and have no substantial non-infringing uses. By failing to cease making, using, selling, importing, or offering for sale the Accused Instrumentalities (and components thereof) at least as of the service of the original complaint, Defendant has knowingly and intentionally contributed to direct infringement by its customers of one or more claims of the '533 Patent, including, by: (1) providing instructions or information, for example on its publicly available website, to explain how to use the Accused Instrumentalities, including the use of the Accused Instrumentalities in manners described above, which are expressly incorporated herein; and (2) touting these uses of the Accused Instrumentalities in advertisements, including but not limited to, those on its website. Use of the Accused Instrumentalities in the manner intended by Defendant necessarily infringes the '533 Patent.

192. As a result of Defendant's infringement, Plaintiff has suffered monetary damages, and is entitled to an award of damages adequate to compensate it for such infringement which, by law, can be no less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

JURY DEMAND

Corrino hereby demands a trial by jury on all issues so triable.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff Corrino requests that this Court enter judgment against Defendant and any other entity by and through which Defendant make, sell, use, offer for sale or import, or have made, sold, used, offered for sale or imported infringing Accused Instrumentalities as follows:

A. Adjudicating, declaring and entering judgment that Defendant has directly infringed the Asserted Patents either literally or under the doctrine of equivalents;

B. Adjudicating, declaring and entering judgment that Defendant has induced infringement and continues to induce infringement of one or more claims of the Asserted Patents;

C. Adjudicating, declaring and entering judgment that Defendant has contributed to and continue to contribute to infringement of one or more claims of the Asserted Patents;

D. Awarding damages to be paid by Defendant adequate to compensate Corrino for Defendant's past infringement of the Asserted Patents and any continuing or future infringement through the date such judgment is entered, including interest, costs, expenses and an accounting of all infringing acts including, but not limited to, those acts not presented at trial;

E. Awarding Corrino pre-judgment and post-judgment interest; and

F. Awarding Corrino such other and further relief at law or in equity as this Court deems just and proper.

Respectfully submitted,

Date: November 2, 2020

/s/ *Henning Schmidt*
Henning Schmidt

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