

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

EXPRESS MOBILE, INC.)	
)	
Plaintiff,)	Civil Action No. 6:20-cv-00801-ADA
)	
v.)	
)	JURY TRIAL DEMANDED
EXPEDIA GROUP, INC., EXPEDIA,)	
INC., and HOMEAWAY.COM, INC.)	
)	
Defendant.		

COMPLAINT

Plaintiff Express Mobile, Inc. (“Express Mobile” or “Plaintiff”), by and through its undersigned counsel, brings this action for patent infringement against defendants Expedia Group, Inc., Expedia, Inc., and Homeaway.com, Inc. (“Expedia” or “Defendants”) and alleges as follows:

NATURE OF THE ACTION

1. This is a civil action arising under 35 U.S.C. § 271 for Expedia’s infringement of Express Mobile’s United States Patent Nos. 6,546,397 (“the ‘397 patent”), 7,594,168 (“the ‘168 patent”), 9,063,755 (“the ‘755 patent”), 9,471,287 (“the ‘287 patent”), and 9,928,044 (“the ‘044 patent”) (collectively the “Patents-In-Suit”).

THE PARTIES

2. Plaintiff Express Mobile, Inc. is a Delaware corporation with a place of business at 38 Washington Street, Novato, CA 94947.

3. Upon information and belief, defendant Expedia Group, Inc. is a Delaware corporation with physical locations in Austin, Houston, and Dallas, Texas, including at 11920 Alterra Parkway, Austin, TX 78758, from which it regularly conducts business related to this

action. On information and belief, Expedia Group, Inc. is responsible for the operations and activities of Expedia, Inc. and Homeaway.com, Inc., at least as an agent, and in joint enterprise therewith.

4. Upon information and belief, defendant Expedia, Inc., a wholly-owned subsidiary of Expedia Group, Inc., is a Washington corporation with a place of business 11920 Alterra Parkway, Austin, TX 78758. On information and belief, Expedia, Inc. is responsible for the operations of the www.expedia.com website and related mobile application (“Expedia.com”), the www.hotels.com website and related mobile application (“Hotels.com”), the www.orbitz.com website and related mobile application (“Orbitz”), the www.travelocity.com website and related mobile application (“Travelocity”), and the www.vrbo.com website and related mobile application (“Vrbo”), at least as an agent, and in joint enterprise therewith.

5. Upon information and belief, defendant Homeaway.com, Inc., a wholly-owned subsidiary of VRBO Holdings, Inc., which is a wholly-owned subsidiary of Expedia, Inc., which is a wholly-owned subsidiary of Expedia Group, Inc., is a Delaware corporation with a place of business at 11920 Alterra Parkway, Austin, TX 78758. On information and belief, Homeaway.com, Inc. is responsible for the operations and activities of Vrbo.

6. Upon information and belief, Expedia Group Inc., Expedia, Inc., and Homeaway.com Inc. act as alter egos for each other, as they do not observe corporate formalities, do not maintain separate identities, have common business departments, share common offices and employees, and control and influence each other’s operations under the common “Expedia Group” business name.

7. Expedia is an online travel company providing business and leisure travelers with tools and services to research, plan, and book travel. Expedia conducts its business and provides

its tools and services to consumers through a large portfolio of travel brands and businesses (collectively, the “Expedia Brands and Subsidiaries”), including those operated by Expedia, Inc. and Homeaway.com, Inc. Expedia infringes the Patents-In-Suit by implementing, without authorization, Express Mobile’s patented technologies in a number of its products and services throughout the Expedia Brands and Subsidiaries, including, *inter alia*, Expedia.com, Hotels.com, Orbitz, and Travelocity (collectively the “Expedia Group products”), and Vrbo (the “Vrbo products”), which are marketed, offered, and distributed to users of mobile and other devices by Expedia throughout the United States, including in this Judicial District.

8. Upon information and belief, the Expedia Brands and Subsidiaries are operated, owned, and controlled by and through wholly-owned and controlled subsidiaries of Expedia.

9. Upon information and belief, Defendants operate as alter egos, agents and in a joint enterprise for the operations and activities of Defendants’ “Global Network of Brands” (Exhibit I (“Our Brands” listed on the Expedia Group, Inc. website)). For example, Expedia Group, Inc.’s 2019 Form 10-K indicates that Expedia Group, Inc. has numerous travel brands in its portfolio, including [Expedia.com](https://www.expedia.com), Hotels.com, Orbitz, Travelocity, and Vrbo. Exhibit J (Expedia Group, Inc.’s 2019 Form 10-K at 1, available at <https://ir.expediagroup.com/static-files/46fd5c30-a786-4de4-8dd4-d2859c6523e6>). Furthermore, Expedia Group, Inc.’s “technology platforms” support several of Expedia Group, Inc.’s brands and businesses, including [Expedia.com](https://www.expedia.com), Hotels.com, Orbitz, Travelocity, and Vrbo, which are operated by Expedia, Inc. and/or Homeaway.com, Inc. *Id.* at 7.

10. Thus, upon information and belief, Defendants operate at least as alter egos and agents for each other, and are also jointly responsible, for infringement of the Patents-In-Suit in the U.S. by each and all of the Expedia Brands and Subsidiaries.

JURISDICTION AND VENUE

11. This is a civil action for patent infringement arising under 35 U.S.C. § 271.

12. This Court has subject matter jurisdiction over the matters pleaded herein under 28 U.S.C. §§ 1331 and 1338(a).

13. This Court has general and specific personal jurisdiction over Defendants because they conduct 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 Judicial District, and (iii) having a regular and established place of business in this state and in this Judicial District.

14. Plaintiff's cause of action arises, at least in part, from Defendants' presence in, and contacts with and activities in this Judicial District and the State of Texas. Upon information and belief, Defendants regularly conduct and solicit business in, engage in other persistent courses of conduct in, and/or derive substantial revenue from goods and services provided to residents of this Judicial District and the State of Texas. Upon information and belief, Defendants conduct a significant, persistent and regular amount of business in this Judicial District through sales by their respective Global Network of Brands, subsidiaries, distributors, customers, and resellers and through online marketing, and derives substantial revenue from such business. Exhibit I.

15. In particular, Defendants operate as alter egos of each other, and act as agents and in joint enterprise with each other. For example, Expedia Group, Inc.'s 2019 Form 10-K states that it provides an ecommerce platform infrastructure to support its various brands, which include those operated by Expedia, Inc. and Homeaway.com, Inc. Exhibit J at 7. Expedia Group, Inc. also provides "24-hour-a-day, seven-day-a-week traveler sales and support by telephone or via e-mail,"

and houses its systems infrastructure and web and database servers, including computer hardware for operating the websites for its brands in various locations in the United States. *Id.*

16. Furthermore, Defendants operate as alter egos of each other and as agents for and in a joint enterprise with each other, by providing a common website building platform (the “Expedia platform”) at <https://welcome.expediagroup.com/en> (the “Expedia Group” website) and subsequently at <https://www.expediapartnercentral.com/> (the “Partner Central” website) where property listers can create property listing websites for the various Expedia Brands and Subsidiaries. On information and belief, both websites are operated by Expedia Group, Inc. and/or Expedia, Inc., and consistently refer to “Expedia Group” as the entity providing the products and services on those websites for the various Expedia Brands and Subsidiaries, including those operated by Expedia, Inc. and Homeaway.com, Inc. On information and belief, “Expedia Group” is a trade name for Expedia, Inc.

17. For example, the Expedia Group website claims to connect “travelers with every purpose, taste and budget” with “the perfect place to stay.” In other words, the Expedia Group website connects travelers having specific preferences or budgets with the Expedia Brands and Subsidiaries that it deems most suitable.

Bringing the right guests within reach

Serving travelers with every purpose, taste and budget, we help connect them with the perfect place to stay.



<https://welcome.expediagroup.com/en>

18. In addition, the Expedia Group website provides a “family of websites” through which “travelers connect with the world’s best travel suppliers,” including Expedia.com, Hotels.com, Travelocity, Orbitz, and Vrbo, which are operated by Expedia, Inc. and Homeaway.com, Inc.

Join us

Through our family of websites, travelers connect with the world’s best travel suppliers. This is our marketplace—a thriving community, passionate about the mind-expanding, soul-filling power of travel. Connect with your best guests today!



<https://welcome.expediagroup.com/en>

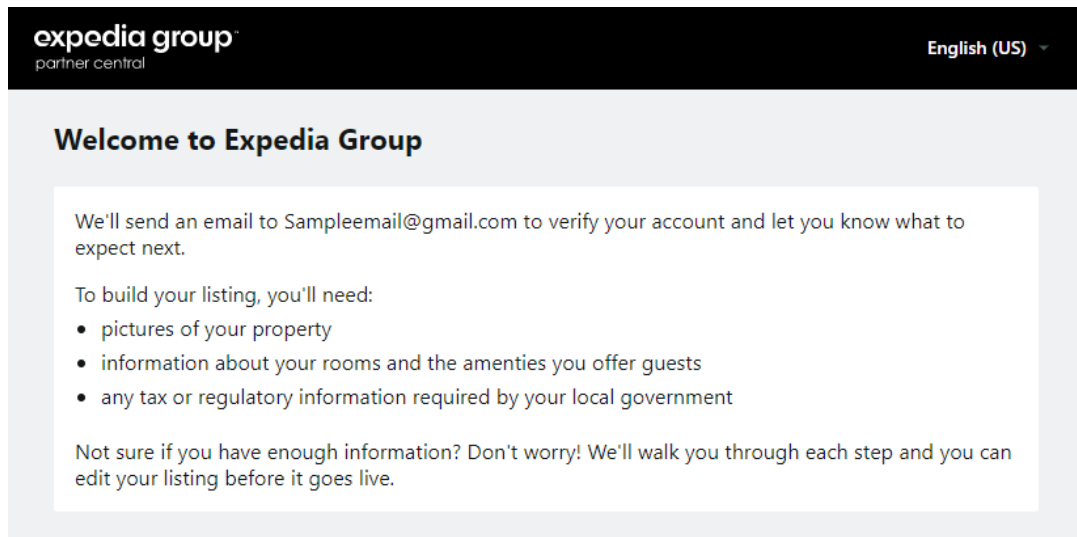
19. When a property lister clicks on “List your property” on the Expedia Group website, the property lister is led to the Partner Central website, where, under the Expedia Group

heading shown in the figures below, the property lister can enter contact details and basic information about the property to be listed.

The screenshot shows the 'Tell us a little about you' form. At the top, the Expedia Group logo and 'partner central' are on the left, and 'English (US)' is on the right. The form title is 'Tell us a little about you'. Under the heading 'Contact details', there are input fields for 'First name', 'Last name', 'Email' (with an envelope icon), 'Country/region code' (a dropdown menu with 'Select' as the current value), and 'Phone number'. Below this, a question asks 'How many properties with different addresses are you adding?' with an input field containing the number '1'. At the bottom left is a blue 'Submit' button. To its right is a disclaimer: 'By continuing, you agree to allow Expedia to contact you regarding your property registration, including via text message.'

The screenshot shows the 'Tell us a little about your first property' form. At the top, the Expedia Group logo and 'partner central' are on the left, and 'English (US)' is on the right. The form title is 'Tell us a little about your first property'. The form contains several input fields: 'Property name' (with a character count of 0/40 and an information icon), 'Address of property' (with a location pin icon), 'Property type' (a dropdown menu with 'Select' as the current value), 'Number of rooms/units' (with an information icon), 'Website (optional)', and 'Currency' (a dropdown menu with 'Select' as the current value). Below these are two questions with radio button options: 'Does this property work with a channel manager?' (Yes/No) and 'Is this property part of a chain?' (Yes/No). At the bottom left is a blue 'Continue' button.

20. Upon entering the basic contact and property information, the Partner Central website, still under the Expedia Group header shown in the figure below, informs the property lister that an email will be sent to the property lister providing the next steps for creating the property listing website.



21. The property lister then receives an email from Expedia Group, Inc. and/or Expedia, Inc. informing the property lister that the property has been approved to be listed on one of the various Expedia Brands and Subsidiaries. In connecting the property to specific Expedia Brands and Subsidiaries, Expedia Group, Inc. and Expedia, Inc. operate as agents for and in a joint enterprise with the Expedia Brands and Subsidiaries, including those operated by Homeaway.com, Inc.

22. As an example of the continued overlap between the various defendant entities, if the property being listed is a hotel, the email sent by Expedia Group provides a private link to an Expedia Group Partner Central website, as shown in the figure below, where the property lister can sign an Expedia Lodging Agreement and continue creating the property listing website for “all our websites, including Expedia, Hotels.com, Travelocity, Orbitz, ebookers and more!” by

entering additional information and images for the property. The Expedia Lodging Agreement notes that it is between the user and Expedia, Inc.

Hi Sample

You've made the first step towards making Willow Inn available for booking on **200+ Expedia Group websites in 75 countries** around the world.

Username: **SampleContact**

Get started today

What's next?



1. Review and sign the lodging agreement.

Visit Partner Central to check out the lodging agreement we've prepared for you. Remember, there are no joining or exit fees.



2. Build your listing.

Add photos, amenities, rooms and rates to make your property stand out to your ideal traveller.



3. Make your property available for booking.

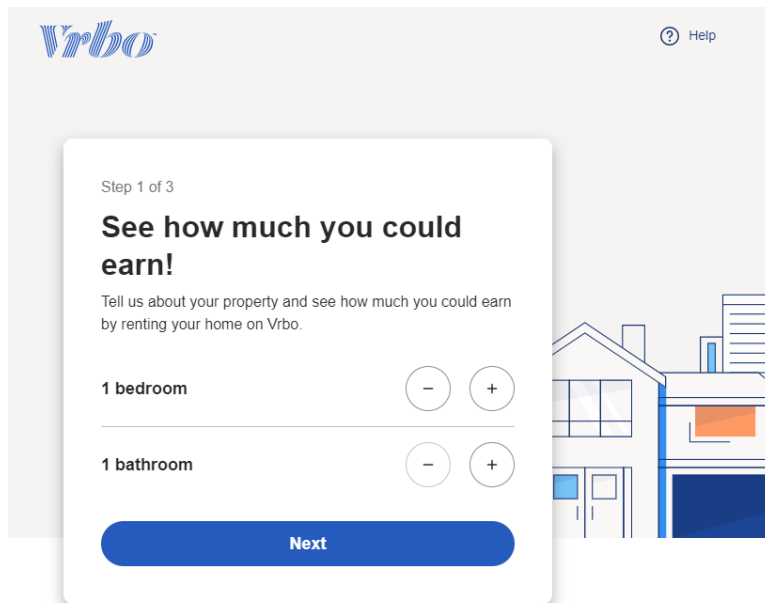
We'll call and check in before setting you live across all our websites, including Expedia, Hotels.com, Travelocity, Orbitz, ebookers and more! Manage your property online through Expedia Group Partner Central.

Need help with administration, reservations, finance, or Partner Central? Reach out to our [support team](#).



“**Expedia**” means the following entities, as applicable to the type of bookings and property location: (a) for Expedia Collect Bookings, Package Bookings and Opaque Bookings worldwide: Travelscape, LLC, a Nevada limited liability company (d/b/a Expedia Travel); VacationSpot S.L., a Spanish private company; Hotels.com, L.P., a Texas limited partnership; and BEX Travel Asia Pte., Ltd., a Singapore private company; and (b) for Hotel Collect Bookings: **Expedia, Inc.**, a Washington corporation (U.S.A.); Expedia do Brasil Agencia de Viagens e Turismo Ltda, a Brazil limited liability company (Brazil); and Expedia Lodging Partner Services, Sàrl, a Switzerland limited liability company (worldwide except U.S.A. and Brazil). Expedia may update this definition at its sole discretion, with notice to you.

23. Similarly, if the property is a vacation rental, the email sent by Expedia Group provides a link to the Vrbo platform as shown below, where the property lister can continue creating a website for Vrbo.



24. Of note, the email received from Expedia Group, Inc. with the link to the Vrbo platform states that “This email was sent by or on behalf of: Expedia Group, Inc.” as shown at the end of the email screenshot below.

Welcome to Expedia Group

Dear Test,

Thank you for your interest in partnering with Expedia Group. Your application has been reviewed and we see an opportunity for you to list Sample Inn on our VRBO site, part of the HomeAway family.

HomeAway®, the global leader in vacation home rentals for more than a decade, partners with over one million properties in 190 countries. We believe that HomeAway is the perfect vacation rental marketplace for your property --- providing easy to use tools to help maximize your income and simplify managing your rental activity.

List Your Property

If you have any questions, please do not hesitate to contact HA_Sales@homeaway.com

Expedia Group Lodging Team

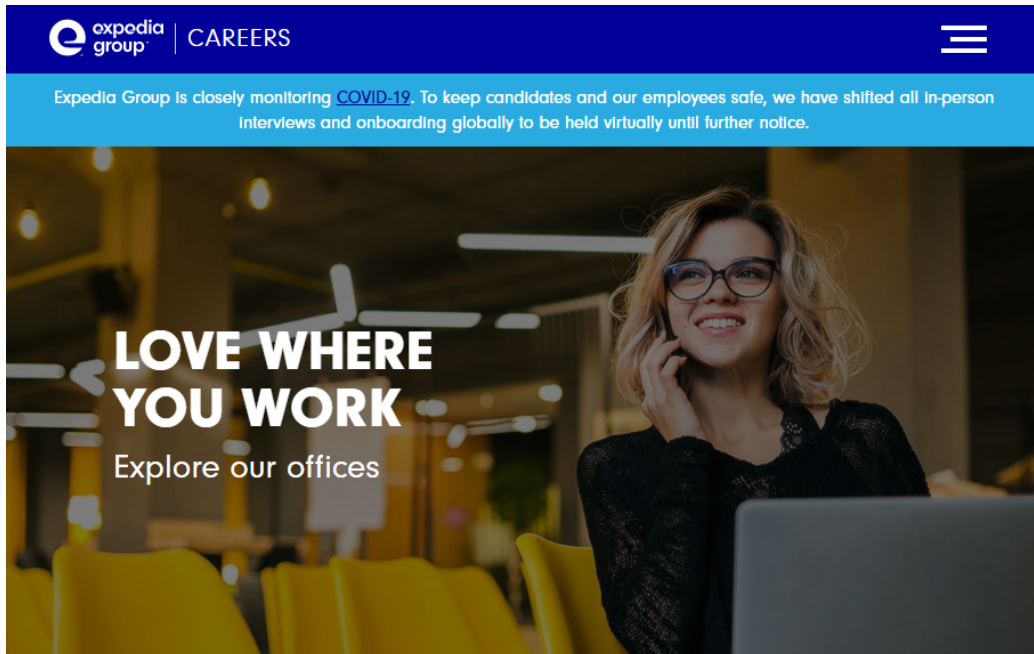




This email was sent by or on behalf of: Expedia Group, Inc.
333 108th Avenue NE Bellevue, WA 98004 USA.

25. Venue is proper for all Defendants in this Judicial District under 28 U.S.C. §§ 1391(b), (c), and 1400(b). Upon information and belief, Defendants have committed substantial acts of infringement in this Judicial District.

26. Venue is proper in this Judicial District because Defendants have committed substantial acts of infringement in this Judicial District by operating as alter egos of each other, and by directly, as agents, or in joint enterprise, operating the Expedia Brands and Subsidiaries. Defendants run and maintain an established place of business in this Judicial District at 11920 Alterra Parkway, Austin, TX 78758 (the “Expedia/Vrbo office”). While the Expedia/Vrbo office is, on information and belief, leased by Homeaway.com, Inc., it is a commonly shared office for all Defendants. For example, Defendants hold themselves out as having a location in this Judicial District by indicating on the website <https://lifeatexpediagroup.com/locations> (figures shown

below) that the Expedia/Vrbo office is an “Expedia Group” office location that houses the Vrbo team. *See also* Exhibit K (screenshot from <https://www.builtinaustin.com/company/expedia-group>, indicating that Expedia Group has three offices in Austin).

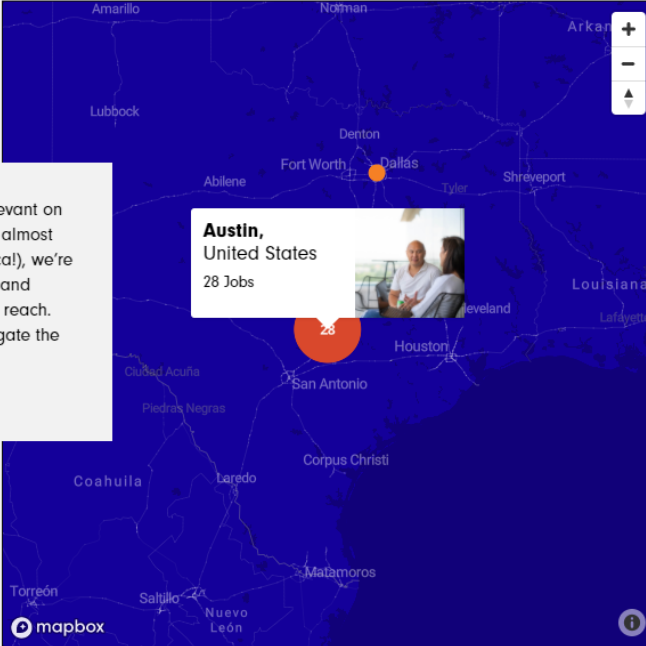


 CAREERS 

Expedia Group is closely monitoring [COVID-19](#). To keep candidates and our employees safe, we have shifted all in-person interviews and onboarding globally to be held virtually until further notice.


We work everywhere.

We believe in being locally relevant on a global basis. With offices on almost every continent (sorry, Antarctica!), we're growing to help our customers and partners bring the world within reach. Explore our locations and navigate the next step in your career.



Austin, United States
28 Jobs


mapbox

 CAREERS ☰

Expedia Group is closely monitoring [COVID-19](#). To keep candidates and our employees safe, we have shifted all in-person interviews and onboarding globally to be held virtually until further notice.


featured offices

Austin, Texas



228 days of sunshine, lakes, music festivals, the world's best breakfast tacos and a job you love. You can have it all with the Vrbo team in Austin. With two campuses in south and north Austin, our offices are outfitted for the perfect mix of work and play. From Friday breakfast in the bistro to taking your work outdoors on the terrace, every day can be different. Take your career and personal life to the next level in the heart of Texas.

[VIEW JOBS AT THIS OFFICE](#) 7



<https://lifeatexpediagroup.com/locations>

27. Furthermore, the job postings available at the Expedia/Vrbo office include a significant number of jobs for “Expedia Group,” as well as a significant number of jobs for working on the Vrbo products described as either for “Expedia Group” or for “Vrbo [as] part of... Expedia Group,” indicating that Defendants operate as alter egos of each other and that Defendants share the Expedia/Vrbo office as a common office. In particular, out of the 28 positions that were available at the Expedia/Vrbo office as of September 17, 2020, 20 positions, including various principal and senior software engineer positions, were indicated in their job descriptions as being for “Expedia Group,” while 7 positions were indicated as being for working on the Vrbo products, either for “Expedia Group” or for “Vrbo [as] part of... Expedia Group,” Exhibit L (Expedia Austin office jobs, from <https://lifeatexpediagroup.com/jobs?location=United%20States%20->

[%20Texas%20-%20Austin](#)).

28. In addition, as shown in the Google Maps image below, the Expedia/Vrbo office displays, on the exterior of the building, company logos for both “Expedia Group” and “Vrbo,” indicating that both “Expedia Group” (Expedia Group, Inc. and Expedia, Inc.) and “Vrbo” (Homeaway.com, Inc.) hold themselves out as having an office in this location, and that they operate as alter egos of, agents of, and in joint enterprise with each other.



THE PATENTS-IN-SUIT

29. On April 8, 2003, United States Patent No 6,546,397 entitled “Browser Based

Web Site Generation Tool and Run Time Engine,” was duly and legally issued to Steven H. Rempell after full and fair examination. Plaintiff is the lawful owner of all right, title, and interest in and to the ‘397 patent, including the right to recover for infringement thereof. A copy of the ‘397 patent is attached as Exhibit A.

30. The claimed inventions of the ‘397 patent solve technical problems related to the creation and generation of websites. For example, the inventions enable the creation of websites through browser-based visual editing tools, for example, selectable settings that describe website elements, with one or more settings corresponding to commands. These features are implemented utilizing computer technology, including a virtual machine.

31. The claims of the ‘397 patent do not merely describe performing some known business practice on the Internet. Instead, the claims of the ‘397 patent recite inventive concepts that are rooted in computerized website creation technology and overcome problems specific to this realm.

32. The claimed inventions of the ‘397 patent do not merely apply routine or conventional technologies for website creation and generation. Instead, the claims describe a browser-based website creation system and method in which information representing user-selected settings for a website are stored in a database, and the stored information is retrieved to generate the website.

33. The claims in the ‘397 patent do not preempt all ways of creating and generating websites or web pages, all uses of website authoring tools, nor any other well-known prior art technology.

34. Each claim of the ‘397 patent thus recites a combination of elements sufficient to ensure that the claim amounts to significantly more than a patent- ineligible concept.

35. On September 22, 2009, United States Patent No 7,594,168 entitled “Browser Based Web Site Generation Tool and Run Time Engine,” was duly and legally issued to Steven H. Rempell after full and fair examination. Plaintiff is the lawful owner of all right, title, and interest in and to the ‘168 patent, including the right to recover for infringement thereof. A copy of the ‘168 patent is attached as Exhibit B.

36. The claimed inventions of the ‘168 patent solve technical problems related to the creation and generation of websites. For example, the inventions utilize browser-based build tools and a user interface to enable the creation of websites. These inventions greatly improve the productivity of the designer utilizing an innovative implementation for styles. These features are implemented utilizing computer technology.

37. The claimed inventions of the ‘168 patent do not perform a known business practice on the Internet. Instead, the claims of the ‘168 patent recite inventive concepts rooted in computerized website creation technology, and overcome problems specifically arising in this realm.

38. The claimed inventions of the ‘168 patent do not merely apply routine or conventional technologies for website creation and generation. Instead, the inventions describe a browser-based website creation system including a server comprising a build engine configured to create and apply styles to, for example, a website with web pages comprised of objects.

39. The claims in the ‘168 patent do not preempt all ways of creating and generating websites or web pages, all uses of website authoring tools, nor any other well-known or prior art technology.

40. Each claim of the ‘168 patent thus recites a combination of elements sufficient to

ensure that the claim amounts to significantly more than a patent-ineligible concept.

41. In Case No. 3:18-CV-04679-RS, an infringement action filed by Plaintiff in the Northern District of California, the defendant in that action, Code and Theory LLC, brought a Motion to Dismiss Plaintiff's Complaint, asserting that the '397 and '168 patents do not claim patent-eligible subject matter under 35 U.S.C. § 101 as a matter of law. (Case No. 3:18-CV-04679-RS D.I. 35.) Subsequent briefing included Plaintiff Express Mobile, Inc.'s Opposition to Defendant Code and Theory LLC's Motion to Dismiss Plaintiff's Complaint (Case No. 3:18-CV-04679-RS D.I. 40), and Motion to Dismiss Plaintiff's Complaint [sic] (Case No. 3:18-CV-04679-RS D.I. 41). Each of those filings is incorporated by reference into this Complaint.

42. In Case No. 3:18-CV-04688-RS, an infringement action filed by Plaintiff in the Northern District of California, the defendant in that action, Pantheon Systems, Inc., brought a Motion to Dismiss Counts I and II of Plaintiff's First Amended Complaint asserting that the '397 and '168 patents were directed to the abstract idea of creating and displaying webpages based upon information from a user with no further inventive concept, and purportedly ineligible for patenting under 35 U.S.C. § 101. (Case No. 3:18-CV-04688-RS D.I. 26.) Subsequent briefing included Plaintiff's Answering Brief in Opposition of Defendant's Motion to Dismiss (Case No. 3:18-CV-04688-RS D.I. 32), and Reply in Support of Defendant's Motion to Dismiss Counts I and II of Plaintiff's First Amended Complaint (Case No. 3:18-CV-04688-RS D.I. 34). Each of those filings is incorporated by reference into this Complaint.

43. After a motion hearing and a consideration of the respective pleadings, the Hon. Richard Seeborg denied both motions with respect to both patents in a joint order, because "the patents purport to describe a novel technological approach to creating websites on the internet." (Case No. 3:18-CV-04679-RS D.I. 45; Case No. 3:18-CV-04688-RS D.I. 40; attached as Exhibit

F.) In denying the motions, Judge Seeborg made several findings:

- “The patents here are directed at a purportedly revolutionary technological solution to a technological problem—how to create webpages for the internet in a manner that permits ‘what you see is what you get’ editing, and a number of other alleged improvements over the then-existing methodologies.” *Id.* at 5.
- The claims of the ‘397 and ‘168 patents are “directed to a specific improvement to the way computers operate,” and “it simply cannot be said on the present record that the claims are drawn so broadly as to be divorced from the potentially patent-eligible purported technological improvements described in the specification.” *Id.* at 5-6.

44. In C.A. 2:17-00128, an infringement action filed by Plaintiff in the Eastern District of Texas, the defendant in that action, KTree Computer Solutions, brought a Motion for Judgement on the Pleadings, asserting that the ‘397 and ‘168 patents were invalid as claiming abstract subject matter under 35 U.S.C. § 101. (C.A. 2:17-00128 D.I. 9.) Subsequent briefing included Plaintiff’s Response and related Declarations and Exhibits (C.A. 2:17-00128 D.I. 17, 22-24), KTree’s Reply (C.A. 2:17-00128 D.I. 25), and Plaintiff’s Sur-Reply and related Declarations and Exhibits (C.A. 2:17-00128 D.I. 26-27). Each of those filings is incorporated by reference into this Complaint.

45. After consideration of the respective pleadings, Magistrate Judge Payne recommended denial of KTree’s motion, without prejudice, holding that “the claims appear to address a problem particular to the internet: dynamically generating websites and displaying web pages based on stored user-selected settings” and further stating “the asserted claims do not bear all of the hallmarks of claims that have been invalidated on the pleadings by other courts in the past. For example, the claims are not merely do-it-on-a-computer claims.” (C.A. 2:17-00128 D.I. 29, attached as Exhibit G.) No objection was filed to the Magistrate Judge’s report and recommendation and the decision therefore became final.

46. In Case Nos. 1:18-CV-01173-RGA and 1:18-CV-01175-RGA, infringement

actions filed by Plaintiff in the District of Delaware, the respective defendants in those actions, Dreamhost LLC and Hostway Services, Inc., brought Motions to Dismiss claims of the ‘397 and ‘168 patents on the basis of invalidity under 35 U.S.C. § 101. (Case No. 1:18-CV-01173-RGA D.I. 14; Case No. 1:18-CV-01175-RGA D.I. 14.) Subsequent briefing included Plaintiff’s Responses and related Declarations and Exhibits (Case No. 1:18-CV-01173-RGA D.I. 18-21; Case No. 1:18-CV-01175-RGA D.I. 17-19), and defendants’ Replies (Case No. 1:18-CV-01173-RGA D.I. 24; Case No. 1:18-CV-01175-RGA D.I. 23). Each of these filings is incorporated by reference.

47. After consideration of the respective pleadings, Judge Andrews denied both motions in a joint order, pointing to factual allegations of inventiveness identified by the Plaintiff, and an expert declaration explaining inventiveness of the claims, noting that such factual issues preclude a finding of invalidity on a motion to dismiss. (Case No. 1:18-CV-01173-RGA D.I. 43; Case No. 1:18-CV-01175-RGA D.I. 42; attached as Exhibit H.)

48. On June 23, 2015, United States Patent No 9,063,755 entitled “Systems and methods for presenting information on mobile devices,” was duly and legally issued to Steven H. Rempell, David Chrobak and Ken Brown after full and fair examination. Plaintiff is the lawful owner of all right, title, and interest in and to the ‘755 patent, including the right to recover for infringement thereof. A copy of the ‘755 patent is attached as Exhibit C.

49. The inventions of the ‘755 patent utilize inventive concepts to solve technical problems, such as those associated with methods and systems for displaying dynamic content on displays of devices, providing more efficient ways of generating code for more uniformly displaying dynamic content across different kinds of devices. For example, the inventions of the ‘755 patent allow a data-efficient and flexible association between a symbolic name and a UI

object (e.g., a UI object for a widget), corresponding to a web component of a web service, that is defined for presentation on a display of a device. A device-independent application including the symbolic name is produced and provided to the device, together with a device-platform-dependent player.

50. The claimed inventions of the '755 patent allow the UI object to be efficiently displayed across different kinds of devices (e.g., PC, mobile or tablet; or different browsers, operating systems, and applications, including also for example both native and browser-based applications). In turn, a user can enter an input value to the UI object, and obtain an output value based on a web service associated with the UI object, the input value and output value also being communicated through symbolic names to provide an additional level of efficiency. These inventive features are implemented utilizing computer technology and solve technical problems in the prior art.

51. The claims of the '755 patent do not recite merely the performance of a known business practice on the Internet. Instead, the claims of the '755 patent recite inventive concepts concerning the computerized, data-efficient generation of content (e.g., a UI object for providing dynamic content) on displays for different types of devices, such as PC, tablet, or mobile devices, or different browsers and applications. For example, the claims of the '755 patent utilize symbolic name associations and provide device-independent applications including those symbolic names, together with device-platform-dependent players, to devices. Further, input values and output values for the defined content are also communicated as symbolic names. Such features are specifically grounded in, and overcome problems with data efficiency and flexibility specifically arising in, the realm of computerized content generation and display technologies, and are not well-understood, routine, and conventional elements.

52. For example, the claimed inventions of the '755 patent recite innovative, technical improvements that associate symbolic names with defined UI objects (e.g., UI objects for a widget) corresponding to web components of web services, and produce device-independent applications including those symbolic names, together with device-dependent players, to provide more uniform, data-efficient content display across different types of devices.

53. The technology claimed in the '755 patent does not preempt all ways for the computerized generation of code for a display of a device, nor any other well-known or prior art technology. For example, the specific, innovative technical improvements claimed in the '755 patent do not preempt well-known methods of generating code for a display of a device by programming in HTML or JavaScript code.

54. Each claim of the '755 patent thus recites a combination of elements sufficient to ensure that the claim amounts to significantly more than a patent on an ineligible concept.

55. On October 18, 2016, United States Patent No 9,471,287 entitled "Systems and Methods for Integrating Widgets on Mobile Devices," was duly and legally issued to Steven H. Rempell, David Chrobak and Ken Brown after full and fair examination. Plaintiff is the lawful owner of all right, title, and interest in and to the '287 patent, including the right to recover for infringement thereof. A copy of the '287 patent is attached as Exhibit D.

56. The inventions of the '287 patent solve technical problems, such as those associated with methods and systems for displaying dynamic content on displays of devices by providing more efficient ways of generating code for more uniformly displaying dynamic content across different kinds of devices. For example, the inventions of the '287 patent allow a data-efficient and flexible association between a symbolic name and a UI object (e.g., a UI object for a widget) corresponding to a web component of a web service, that is defined for presentation

on a display of a device. The defined UI object can be selected by a user of an authoring tool or automatically selected by a system based on a web component selected by the user. Further, the symbolic name has a data format type corresponding to a subclass of UI objects that support the data format type of the symbolic name. A device-independent application including the symbolic name is then produced and provided to the device together with a device-platform-dependent player. Such operations provide a user-friendly platform allowing the UI object to be efficiently defined and more uniformly displayed across different kinds of devices (e.g., PC, mobile or tablet; or different browsers, operating systems, and applications, including also for example both native and browser-based applications). These features are implemented utilizing computer technology and solve technical problems in the prior art.

57. The claims of the '287 patent do not recite merely the performance of a known business practice on the Internet. Instead, the claims of the '287 patent recite inventive concepts grounded in the computerized, data-efficient definition and generation of content (e.g., a UI object for providing dynamic content) on displays for different types of devices, such as PC, tablet, or mobile devices, or different browsers and applications. Such features are specifically grounded in, and overcome problems with data efficiency and flexibility specifically arising in, the realm of computerized content generation and display technologies, and are not well-understood, routine, and conventional elements.

58. For example, the claimed inventions of the '287 patent recite innovative, technical improvements that associate symbolic names with UI objects (e.g., UI objects for a widget) corresponding to web components of web services that are manually or automatically selected, and defined based on, for example, data format type, and produce device-independent applications including those symbolic names, together with device-dependent players, to provide

more uniform, data-efficient content display across different types of devices.

59. The technology claimed in the '287 patent does not preempt all ways for the computerized generation of code for a display of a device nor any other well-known or prior art technology. For example, the specific, innovative technical improvements do not preempt well-known methods of generating code for a display of a device by programming in HTML or JavaScript code.

60. Each claim of the '287 patent thus recites a combination of elements sufficient to ensure that the claim amounts to significantly more than a patent on an ineligible concept.

61. On March 27, 2018, United States Patent No 9,928,044 entitled "Systems and Methods for Integrating Widgets on Mobile Devices," was duly and legally issued to Steven H. Rempell, David Chrobak and Ken Brown after full and fair examination. Plaintiff is the lawful owner of all right, title, and interest in and to the '044 patent, including the right to recover for infringement thereof. A copy of the '044 patent is attached as Exhibit E.

62. The inventions of the '044 patent solve technical problems, such as those associated with methods and systems for displaying dynamic content on displays of devices by providing more efficient ways of generating, storing, and retrieving code for displaying dynamic content more uniformly across different kinds of devices. For example, the inventions of the '044 patent allow a data-efficient and flexible association between a symbolic name with a UI object (e.g., a UI object for a widget) corresponding to a web component of a web service, that is manually or automatically selected. The symbolic name has a data format type corresponding to a subclass of UI objects that support the data format type of the symbolic name, and is only available to UI objects that support the data format of the symbolic name. Information representative of the defined UI object can be stored in a database, and subsequently retrieved

from the database to build an application consisting of at least a portion of the database using a player, which uses the information to generate one or more web pages for display across different kinds of devices (e.g., PC, mobile or tablet; or different browsers, operating systems, and applications, including also for example both native and browser-based applications). These features are implemented utilizing computer technology and solve technical problems in the prior art.

63. The claims of the '044 patent do not recite merely the performance of a known business practice on the Internet. Instead, the claims of the '044 patent recite inventive concepts grounded in the computerized, data-efficient definition, selection, storage and generation of content (e.g., a UI object providing dynamic content) on displays for different types of devices, such as PC, tablet, or mobile devices, or different browsers and applications. Such features are specifically grounded in, and overcome problems with data efficiency and flexibility specifically arising in, the realm of computerized content generation and display technologies, and are not well-understood, routine, and conventional elements.

64. For example, the claimed inventions of the '044 patent recite innovative, technical improvements that select and associate symbolic names with defined UI objects (e.g., UI objects for a widget) corresponding to web components of web services based on, for example, data format type, storing information representative of such settings in a database, and building applications, which together with players, generate more uniform, data-efficient content display across different types of devices.

65. The technology claimed in the '044 patent does not preempt all ways for the computerized generation of code for a display of a device nor any other well-known or prior art technology. For example, the specific, innovative technical improvements do not preempt well-

known methods of generating code for a display of a device by programming in HTML or JavaScript code.

66. Each claim of the '044 patent thus recites a combination of elements sufficient to ensure that the claim amounts to significantly more than a patent on an ineligible concept.

COUNT I – INFRINGEMENT OF U.S. PATENT NO. 6,546,397

67. Plaintiff incorporates by reference paragraphs 1 to 66 above as if fully set forth herein.

68. On information and belief, Expedia has infringed the '397 patent under 35 U.S.C. § 271, either literally and/or under the doctrine of equivalents, directly and/or indirectly.

69. On information and belief, Expedia has infringed the '397 patent by performing, without authority, one or more of the following acts during relevant time periods: making, using, offering to sell, selling within, and importing into, the United States products and services that practice the claimed inventions of the '397 patent, including but not limited to the Expedia Group website builder platform for the Expedia Group products (the "Expedia platform"), and the Vrbo website builder platform, also known as the HomeAway platform, for the Vrbo products (the "Vrbo platform") (collectively the "Accused Instrumentalities").

The Expedia Platform

70. The Expedia platform infringed claim 1 of the '397 patent through a combination of features that collectively practiced each limitation of claim 1. By way of example, the Expedia platform provided a browser-based platform for creating property listing websites for hotels and other lodgings where travelers could view and book accommodations.



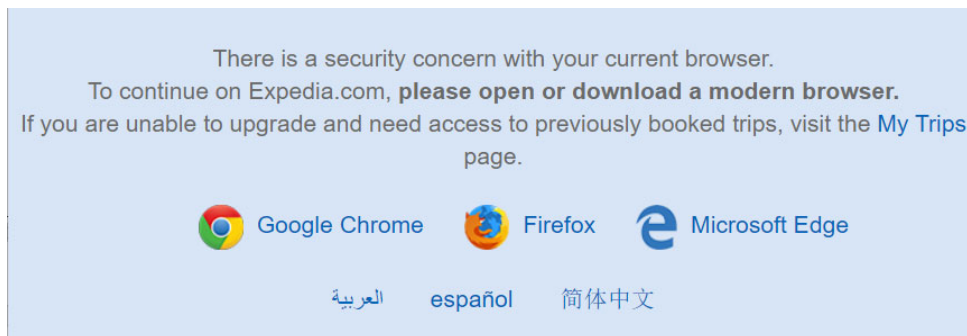
Listing your property is fast, easy and free. We'll help you target the guests you want, sharing market insights and tools so you can confidently make decisions to grow your business. Like you, we're passionate about travel and the human connections that bring the world closer together.



1

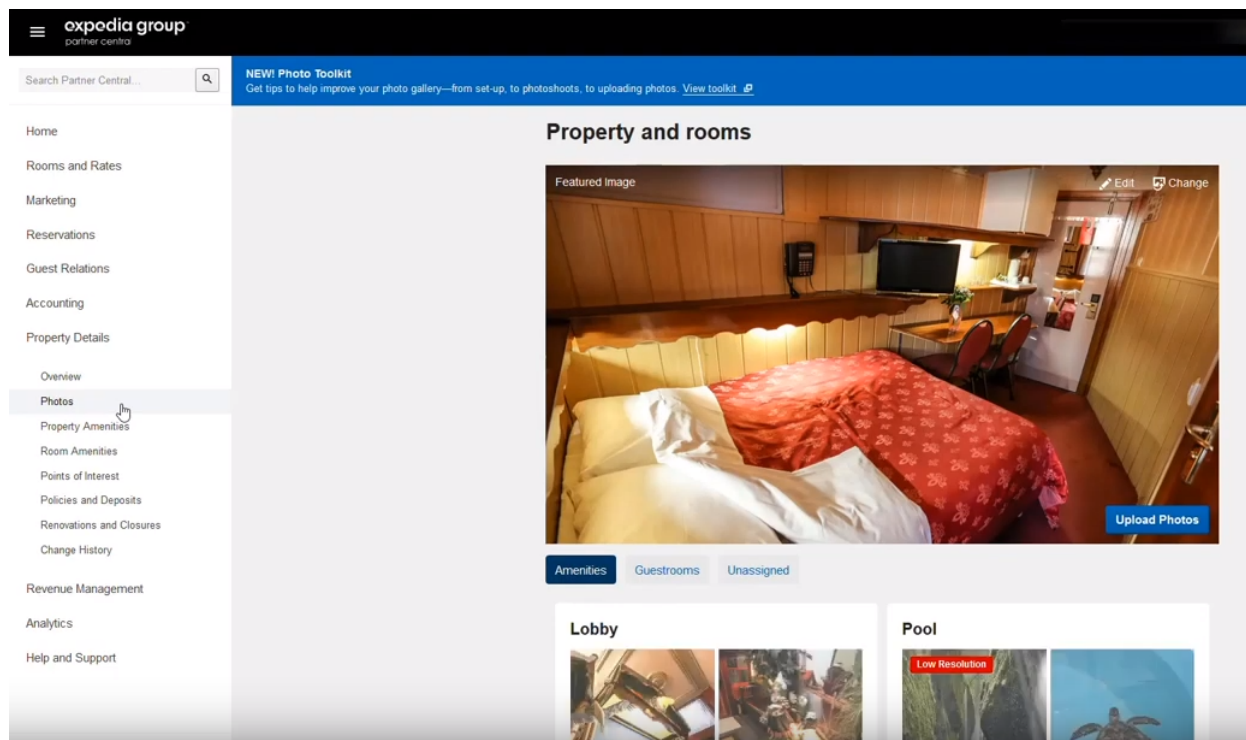
71. The property listing websites were created on and for computers having a browser and a virtual machine capable of generating displays. For example, the Expedia platform displayed content through modern browsers such as Google Chrome, Mozilla Firefox, and Microsoft Edge, which used browser engines (i.e., virtual machines) capable of generating a display by interpreting and executing code such as JavaScript and HTML to render web pages on a computer.

¹ Unless otherwise noted, the images presented in this Complaint were generated for investigative purposes by testing the Accused Instrumentalities on <https://welcome.expediagroup.com/en>, <https://www.expedia.com/>, and <https://www.vrbo.com/>.

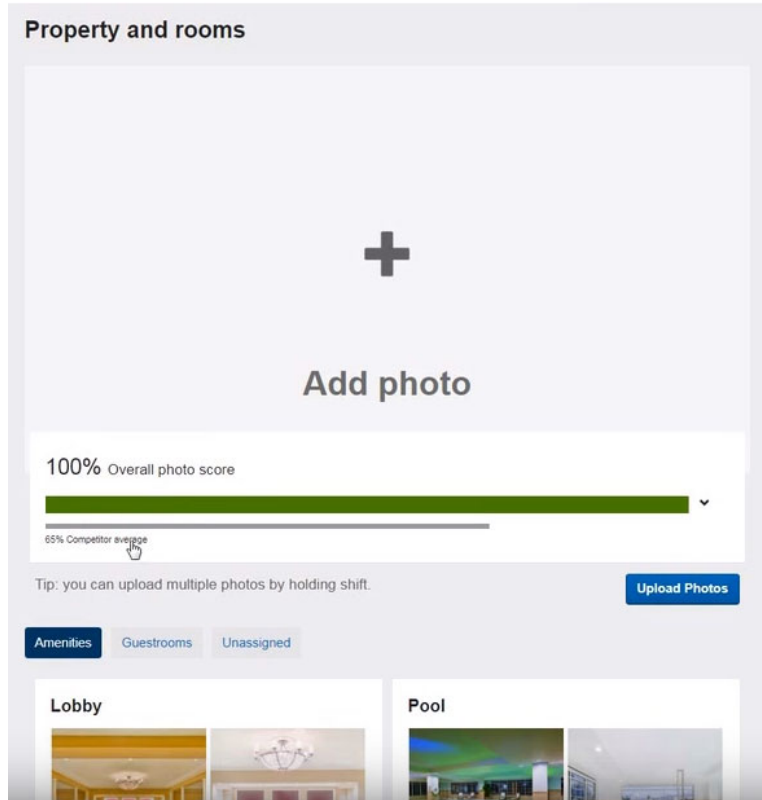


<https://www.expedia.com/upgradebrowser>

72. The Expedia platform allowed customization of the location, amenities, prices, policies, descriptions, images, and rules for guests for a property listing website, by presenting a menu with a panel of settings where a user could select settings describing elements for the website.

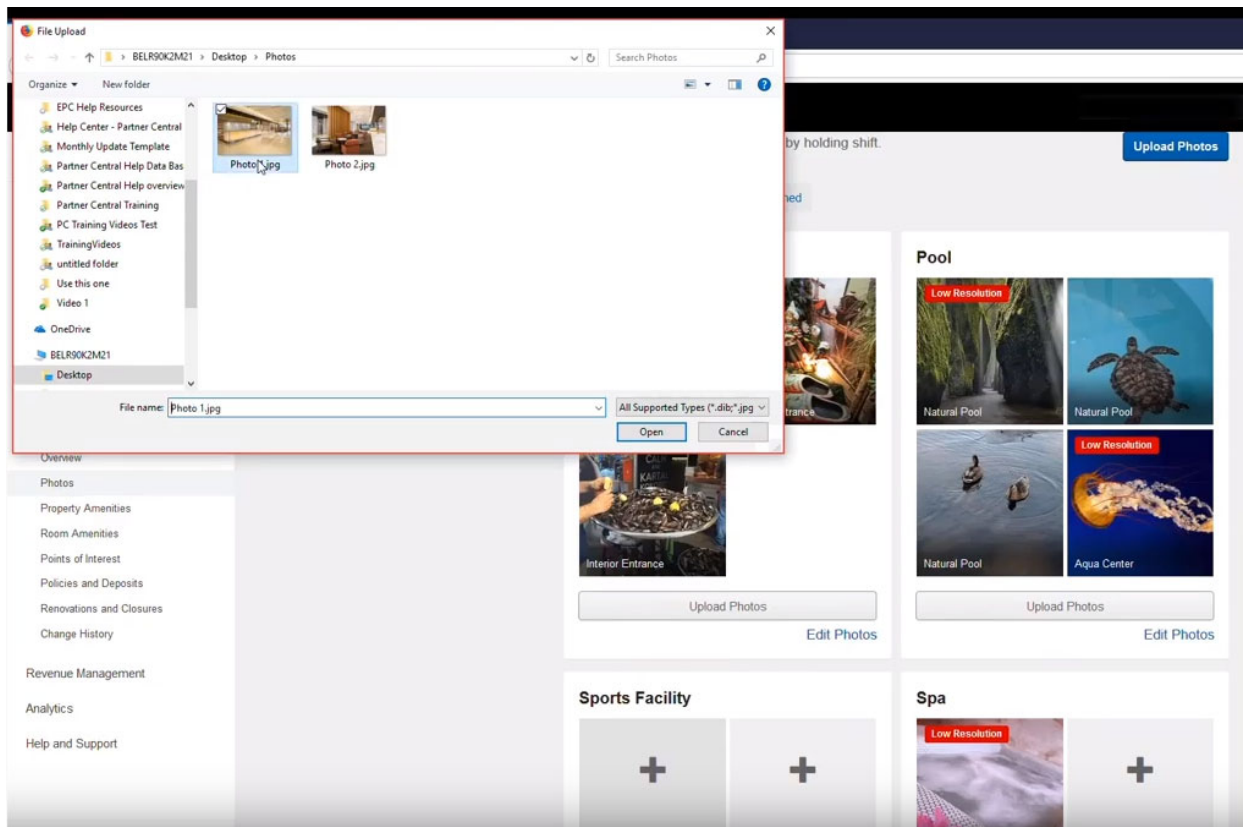
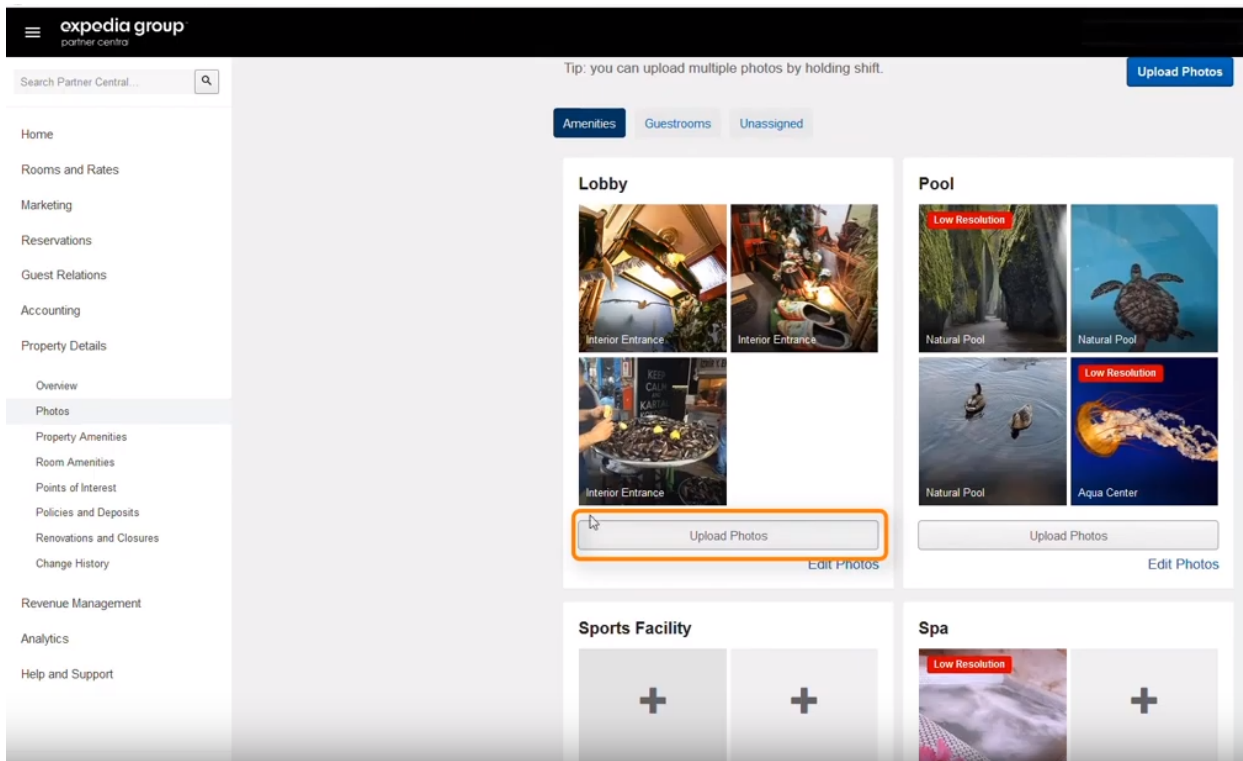


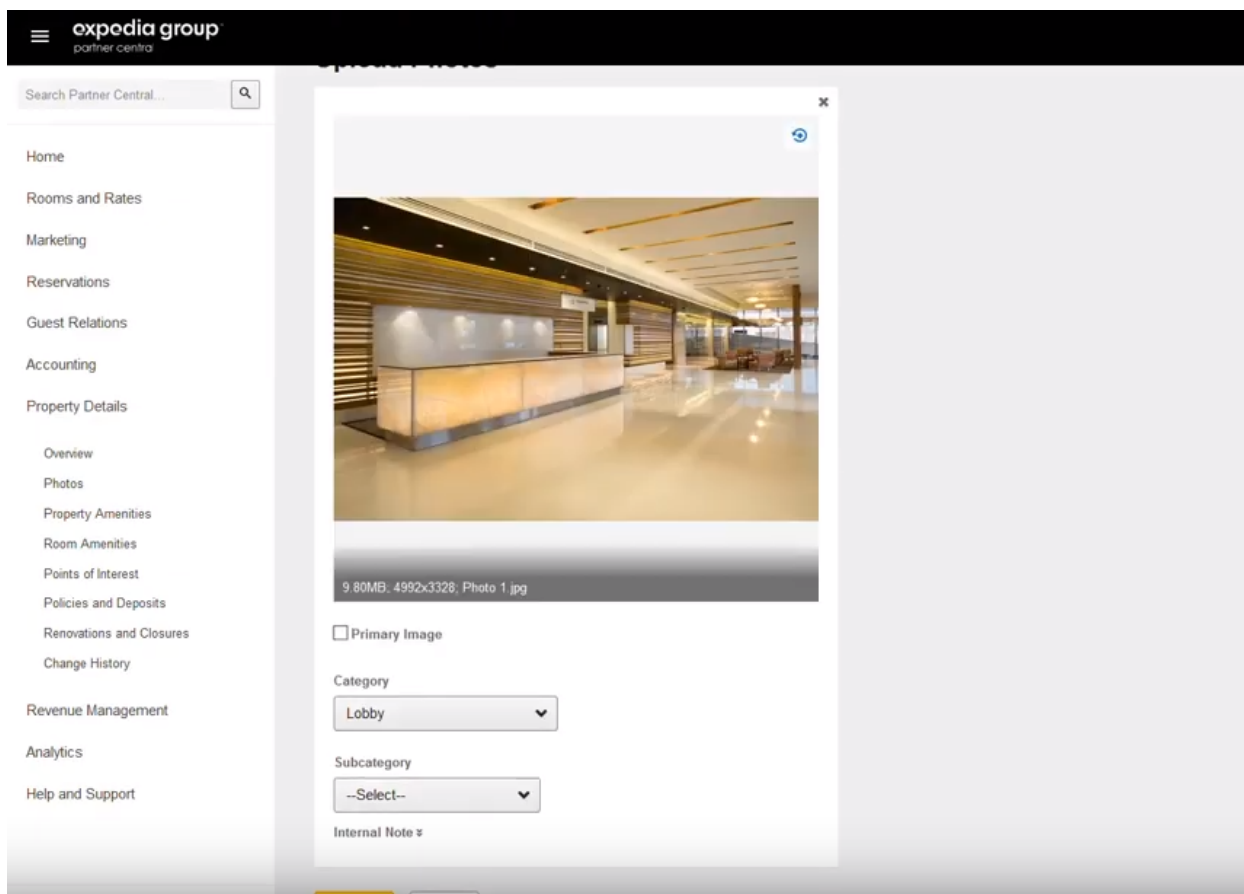
73. For example, a user could select images for different areas of the property, such as the lobby and pool.



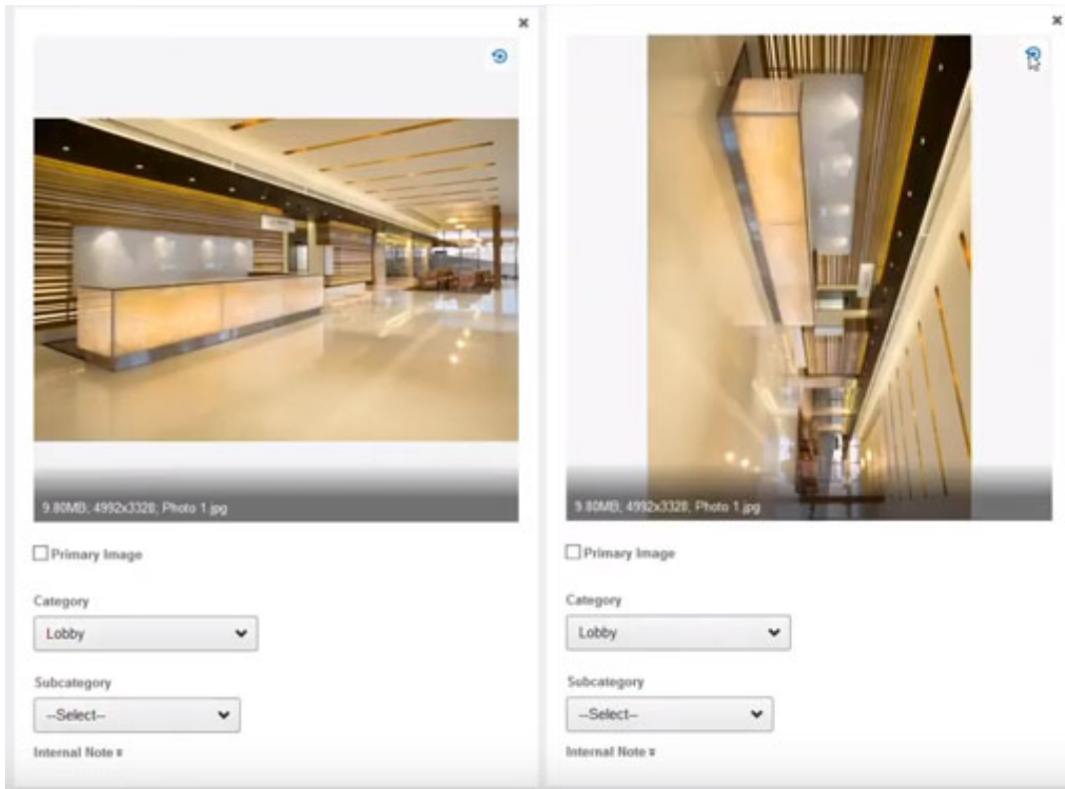
74. As described above, the Expedia platform comprised a browser-based platform, and presented a user selectable panel of settings through a browser of a computer. Websites were rendered by browser engines (i.e., virtual machines), based on commands to the browser engines, for display on browsers.

75. When a desired setting was selected, a display in accordance with that selection was generated substantially contemporaneously with the selection. In the example below, when an image for a property's photo gallery is selected, the image is displayed substantially contemporaneously with the selection of the image. On information and belief, this functionality was present during relevant time periods of infringement.





76. As shown in another example below, when a user selected a setting for rotating an uploaded image, the rotated image is displayed substantially contemporaneously with the selection thereof. On information and belief, this functionality was present during relevant time periods of infringement.



77. Upon selection of the desired setting, information representative of the selected setting was stored in an Amazon Web Services (AWS) database that supported the property listing website.

Expedia Group Increases Agility and Resiliency by Going All In on AWS

2018

Expedia Group is all in on AWS, with plans to migrate 80 percent of its mission-critical apps from its on-premises data centers to the cloud in the next two to three years. By using AWS, Expedia Group has become more resilient. Expedia Group's developers have been able to innovate faster while saving the company millions of dollars. Expedia Group provides travel-booking services across its flagship site Expedia.com and about 200 other travel-booking sites around the world.

<https://aws.amazon.com/solutions/case-studies/expedia/>

78. AWS provided cloud services, and among other things, allowed the Expedia

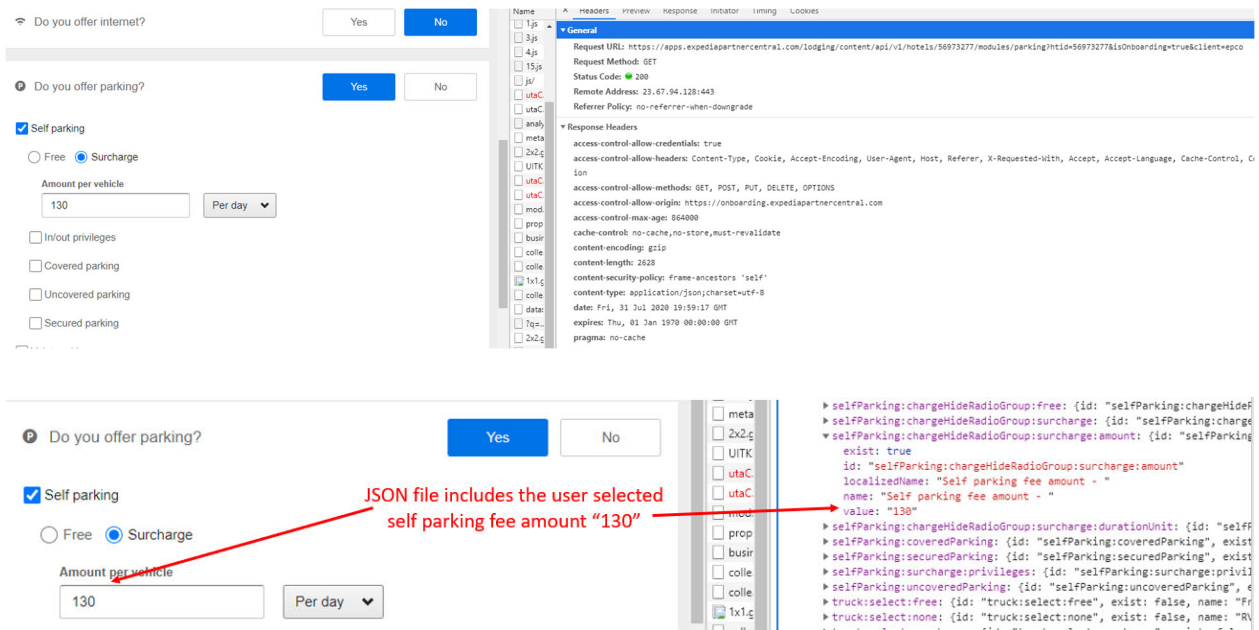
platform to store files relating to websites on a cloud, using managed databases such as MySQL and a Content Delivery Network (CDN).

In simple words AWS allows you to do the following things-

1. Running web and application servers in the cloud to host dynamic websites.
2. Securely store all your files on the cloud so you can access them from anywhere.
3. Using managed databases like MySQL, PostgreSQL, Oracle or SQL Server to store information.
4. Deliver static and dynamic files quickly around the world using a Content Delivery Network (CDN).
5. Send bulk email to your customers.

<https://blog.usejournal.com/what-is-aws-and-what-can-you-do-with-it-395b585b03c>

79. A website for the property listing was generated in part by retrieving the information and files from a MySQL database or a Content Delivery Network (CDN) used by AWS. As shown in the example below, if a user sets a “Self parking” charge fee to “130 per day” and the charge fee “130” was previously stored in an AWS database, a browser can load the website by sending a HTTP GET request to fetch the stored setting information from the server “https://apps.expediapartnercentral.com.” In particular, the “Self parking” charge fee “130” is stored in a JSON dataset which is transferred from the server to the browser in response to the HTTP GET request. On information and belief, this functionality was present during relevant time periods of infringement.




80. The Expedia platform built the property listing website comprising one or more web pages from the data stored in the database. Run time files (including CSS files and Javascript files) used the stored data and files to generate commands for the browser engine of a device to display the one or more web pages. In particular, the Expedia platform relied on a browser engine to generate a website comprising one or more web pages based on settings data extracted from at least a portion of the Expedia platform’s database and at least one run time file. In the example below, the Expedia platform downloads an HTML file from the Expedia platform’s servers. When the browser build engine parses the HTML file, the web browser also makes a request (GET method) to fetch the embedded CSS and Javascript run time files. The image files displayed in the photo gallery for the property website (“Photos” section) are downloaded from an AWS S3 server, via AWS’s CDN provider “CloudFront.” On information and belief, this functionality was present during relevant time periods of infringement.

Property overview

Below you'll find a summary of your property details. Please confirm that all of your information is correct before you submit.

Sample Inn
8014 E Black Horse Pike, Pleasantville, NJ, 08232, USA
Phone: 5164232347

Photos



Rooms and rates

- Basic Double or Twin Room

Property amenities

- Check-in / check-out
- Check-in time starts at 6:00 AM
- Check-out time is 2:00 PM

Name	Uri	Status	Type	Initiator	Server
confirmation.html?htid=56973277&_ga=2.180302948.191470625.1596219954-1209719919.1596219954	https://onboarding.../confirmation.html?htid=56973277&_ga=2.180302948.191470625.1596219954-1209719919.1596219954	200	document	appsexpediapartnercentral.com	
uitk-noquery-core-bundle-min.js	https://b.travel-ast...	200	script	confirmation.html?htid=56973277	AmazonS3
dateTimeFormats.js?module=exp_datatimeformats	https://www.expedia...	200	script	confirmation.html?htid=56973277	Akamai Resource O...
confirmationPagestate.min.js	https://apps.expedia...	200	script	confirmation.html?htid=56973277	AmazonS3
confirmation.min.css	https://apps.expedia...	200	stylesheet	confirmation.html?htid=56973277	AmazonS3
data:image/gif;base...	data:image/gif;base...	200	gif	confirmation.html?htid=56973277	
clientLoggingWithTTL.min.js	https://apps.expedia...	200	script	confirmation.html?htid=56973277	AmazonS3
confirmationBench.min.js	https://apps.expedia...	200	script	confirmation.html?htid=56973277	AmazonS3
GlanceCobrowseLoader_4.3.0M.js?group=20085&site=production	https://apps.expedia...	200	script	confirmation.html?htid=56973277	AmazonS3
detector-dom.min.js	https://cd.glassbo...	200	script	confirmation.html?htid=56973277	cloudflare
googleAnalytics.min.js	https://apps.expedia...	200	script	confirmation.html?htid=56973277	AmazonS3
epc_onboarding_header.min.js	https://apps.expedia...	200	script	confirmation.html?htid=56973277	AmazonS3
expedia-responsive.css	https://a.travel-ast...	200	stylesheet	confirmation.html?htid=56973277	AmazonS3
analytics.js	https://www.googl...	200	script	GoogleAnalytics.js201	Golfe2
UITKIcons.woff	https://a.travel-ast...	200	font	expediaresponsive.css	AmazonS3
utaConfig.json	https://api.expedia... (failed)	xhr	detector-dom.min.js:63		
utaConfig.json	https://api.expedia...	200	Other		
metadata?htid=56973277¤tPage=CONFIRMATION	https://api.expedia...	200	fetch	detector-dom.min.js:63	
2x2.gif?browser=Chrome&browserVersion=84&platform=...RDING&isMeta...	https://www.expedia...	202	gif	epc_onboarding_header.min.js:11	Apache-Coyote/1.1
confirmation.json?htid=56973277	https://onboarding...	200	xhr	detector-dom.min.js:63	
loadNavigationModel.json?htid=56973277	https://onboarding...	200	xhr	detector-dom.min.js:63	
basicInfo.json?htid=56973277	https://onboarding...	200	xhr	detector-dom.min.js:63	
getPhotos.json?htid=56973277	https://onboarding...	200	xhr	detector-dom.min.js:63	
getRoomsAndRates.json?htid=56973277	https://onboarding...	200	xhr	detector-dom.min.js:63	
amenitiesRoom.json?htid=56973277	https://onboarding...	200	xhr	detector-dom.min.js:63	
amenitiesProperty.json?htid=56973277	https://onboarding...	200	xhr	detector-dom.min.js:63	
propertyPolicy.json?htid=56973277	https://onboarding...	200	xhr	detector-dom.min.js:63	
propertySettings.json?htid=56973277	https://onboarding...	200	xhr	detector-dom.min.js:63	
collective=1&_v=838a=645841050&=pageview&_s=1&di=...cd26=e7ac4e...	https://www.googl...	200	gif	analytics.js25	Golfe2
collective=1&_v=838a=645841050&=event&_s=2&di=htt...cd26=e7ac4e...	https://www.googl...	200	gif	analytics.js25	Golfe2
cls_report?clsjv=6.3.1008144&_cls_s=72b5c233-be18...d20-49a5-91b8-3f5...	https://report.bexj...	200	xhr	detector-dom.min.js:63	GlassBox Cligate
1x1.gif?browser=Chrome&browserVersion=84&platform=...8329801&page...	https://www.expedia...	204	text/html	epc_onboarding_header.min.js:11	Apache-Coyote/1.1

Name	Uri	Status	Type	Initiator	Server
confirmation.html?htid=56973277&_ga=2.180302948.191470625.1596219954-1209719919.1596219954	https://onboarding.../confirmation.html?htid=56973277&_ga=2.180302948.191470625.1596219954-1209719919.1596219954	200	document	appsexpediapartnercentral.com	

General

Request URL: https://onboarding.expediapartnercentral.com/onboarding/confirmation.html?htid=56973277&_ga=2.180302948.191470625.1596219954-1209719919.1596219954

Request Method: GET

Status Code: 200

Remote Address: 23.47.26.191:443

Referrer Policy: no-referrer-when-downgrade

Response Headers

activity-id: 969a1d99-c710-449a-9ef4-94d83b65b515

cache-control: no-store

content-encoding: gzip

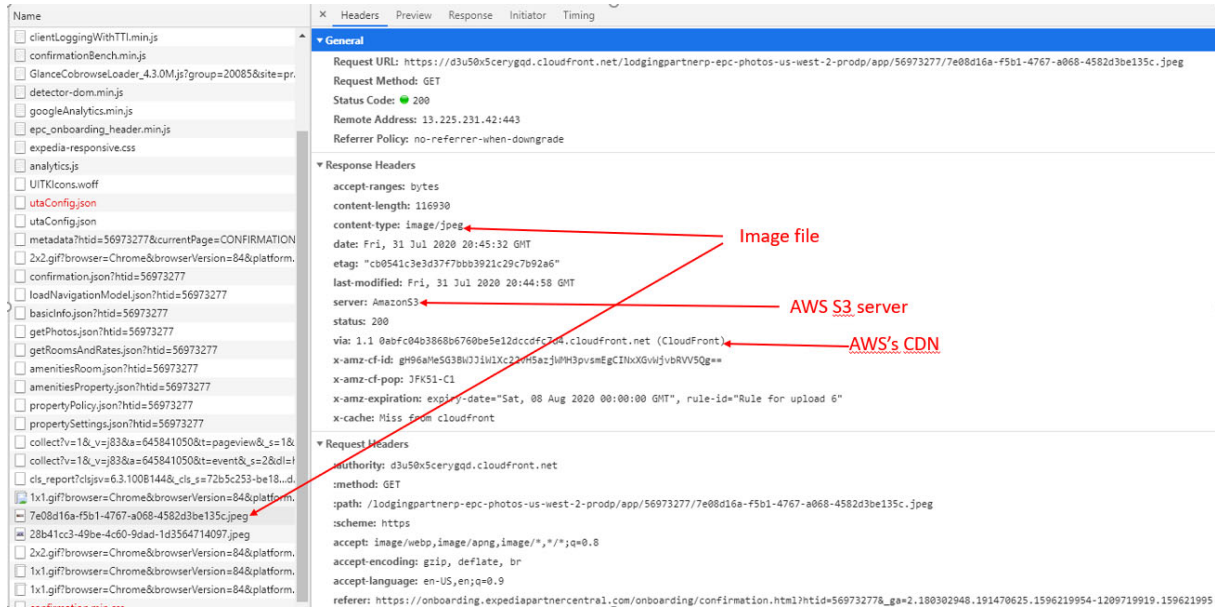
content-language: en-US

content-length: 17665

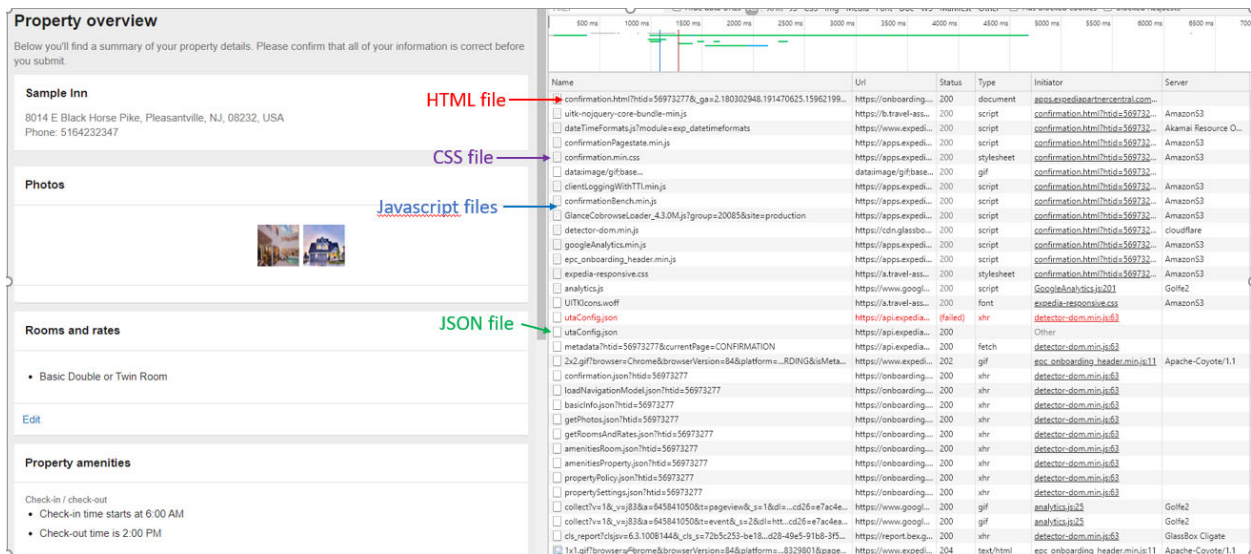
content-security-policy: frame-ancestors 'self'

content-type: text/html; charset=utf-8

date: Fri, 31 Jul 2020 20:45:30 GMT

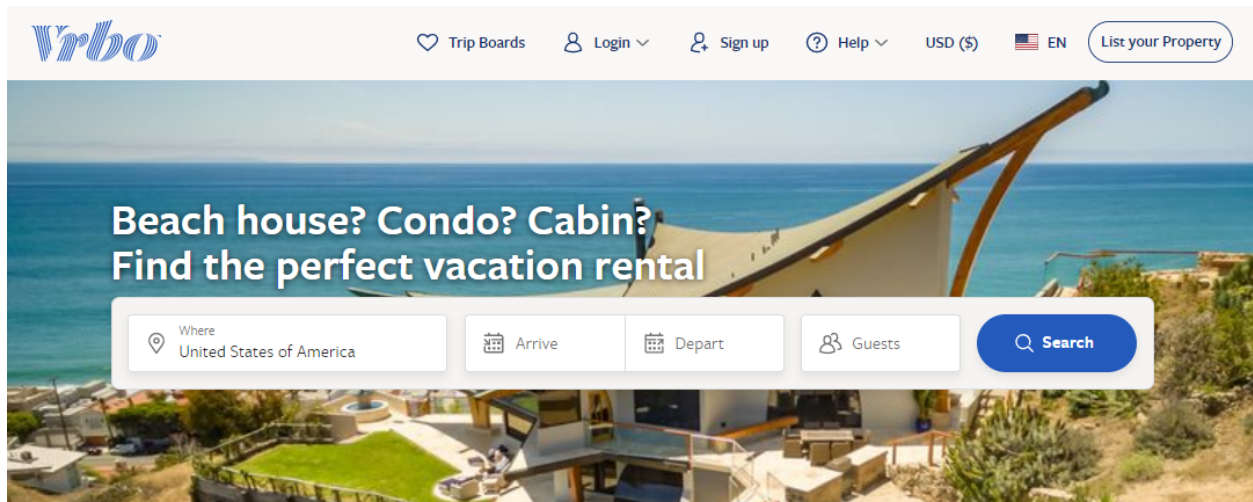


81. The Expedia platform fetched HTML (*.html) files, CSS (*.css) files, and Javascript (*.js) files from Expedia’s AWS servers and converted them with additional contents (e.g. JSON files and image files) into content that could be displayed on a website. In the example below, the Expedia platform’s source code, such as the HTML files, run time files (including CSS files, and Javascript files), and JSON files are fetched from the Expedia’s AWS servers to build a “Property Overview” web page for display. On information and belief, this functionality was present during relevant time periods of infringement.



The Vrbo Platform:

82. The Vrbo platform infringed claim 1 of the '397 patent through a combination of features which collectively practiced each limitation of claim 1. By way of example, the Vrbo platform provided a browser-based platform to produce property listing websites for vacation rentals where travelers could view and book accommodations.



83. The property listing websites were, during relevant times, created on and for computers having a browser and a virtual machine capable of generating displays. For example, the Vrbo platform displayed content through modern browsers such as Google Chrome, Mozilla Firefox, Microsoft Edge, Internet Explorer, iOS Safari, and Android Chrome, which use browser engines (i.e., virtual machines) capable of generating a display by interpreting and executing code such as JavaScript and HTML to render web pages on a computer.

The screenshot shows the Vrbo website's help center. At the top left is the Vrbo logo. To the right are links for 'Trip Boards', 'Login', and a menu icon. Below the logo is a search bar with the text 'Search Help' and a magnifying glass icon. To the left of the search bar is a 'FILTERS +' button. To the right is a 'TRAVELER CHAT' button with a notification badge showing '1'. Below the search bar is a navigation menu with the following items: 'Find Help by Category', 'Find a Property', 'Book a Property', 'Your Stay', 'Your Review', 'Getting Started', 'Your Safety', 'Your Account', 'Your Listing', and 'Manage Reservations'. The main content area is titled 'What web browsers are supported by the site?' and contains the following text:

We strive to provide our customers with modern, fast, safe and secure web browsing experience.

In order to provide you with a great user experience, we officially support the following browsers:

- Internet Explorer / Edge 16 or higher
- Firefox 59 or higher
- Chrome 64 or higher
- Safari 10 or higher

On mobile devices, we officially support the following:

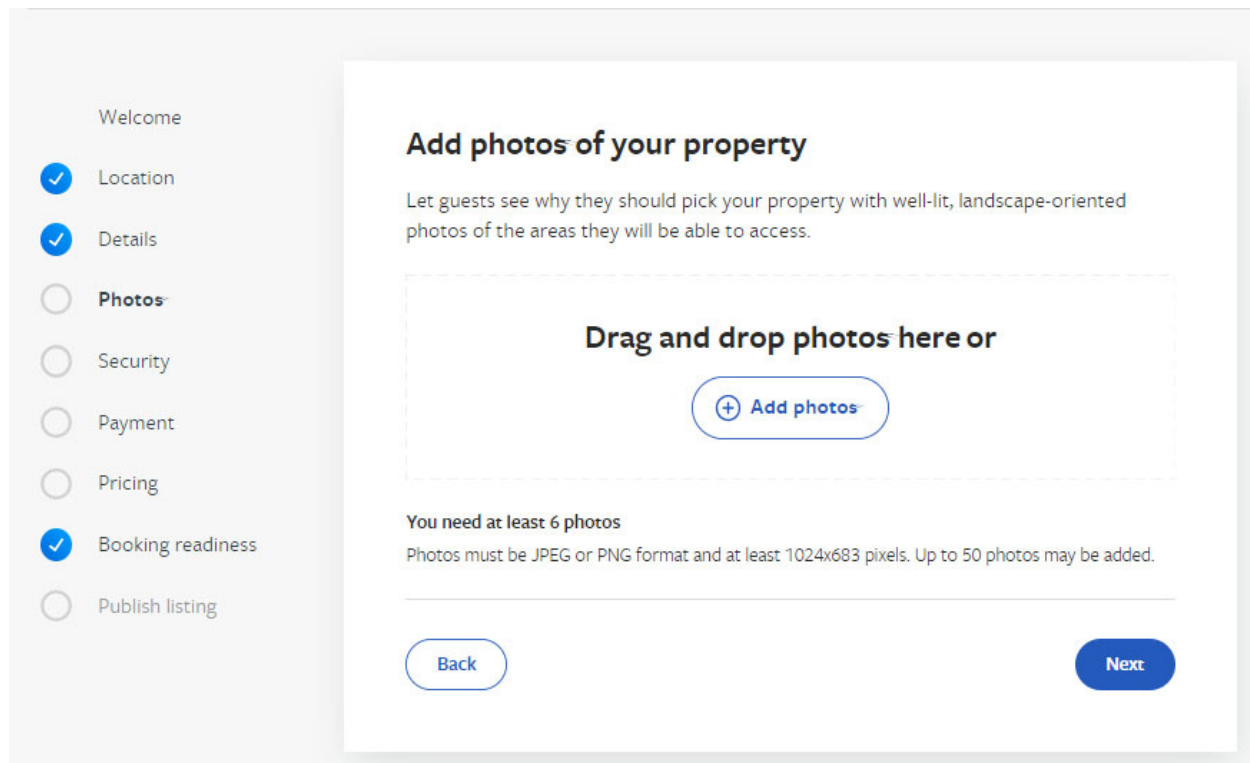
- iOS Safari 9 or higher (iPhone and iPad)
- Android Chrome 65 or higher (Android Phones and Tablets)

While our sites may continue to function on other devices and in other browsers than those listed, occasionally you may see a warning if you are using a browser or device with known issues. While we do our best to support browsers that are most commonly in use, it is not possible to support all, and therefore we recommend upgrading to one of the above-mentioned browsers.

To view instructions on how to upgrade your internet browser, visit <http://browsehappy.com/>.

<https://help.vrbo.com/articles/What-web-browsers-are-supported-by-the-site>

84. The Vrbo platform allowed customization of the location, amenities, headline, prices, policies, descriptions, and images for a property listing website, by presenting a menu with a panel of settings where a user could select settings describing elements for the website. For example, a user could select images for a photo gallery for the property listing.



85. As described above, the Vrbo platform provided a browser-based platform, and presented a user selectable panel of settings through a browser of a computer. Websites were generated, for example, by browser engines (i.e., virtual machines), based on commands to the browser engines.

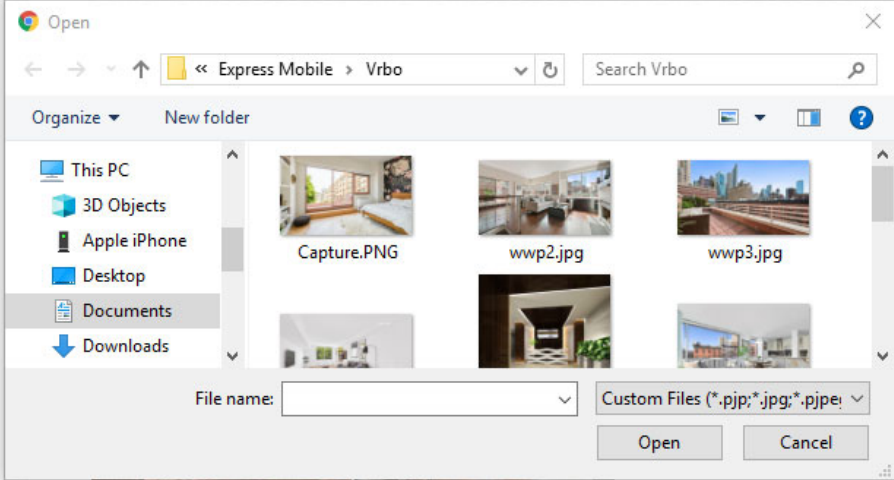
86. When a desired setting was selected, a display in accordance with that selection was generated substantially contemporaneously with the selection. In the example below, when an image for the property listing's photo gallery is selected, the image is displayed substantially contemporaneously with the selection of the image. Other examples include adding a caption to the image, or rotating the image, both of which are displayed contemporaneously with the selections thereof. On information and belief, these functionalities were present during relevant time periods of infringement.

Welcome

- Location
- Details
- Photos**
- Security
- Payment
- Pricing
- Booking readiness
- Publish listing

Add photos of your property

Let guests see why they should pick your property with well-lit, landscape-oriented photos of the areas they will be able to access.



The screenshot shows a Windows File Explorer window titled "Open" with the address bar set to "<< Express Mobile >> Vrbo". The left sidebar shows the navigation pane with "Downloads" selected. The main pane displays a grid of six photos: "Capture.PNG", "wvp2.jpg", "wvp3.jpg", and three other unlabeled photos. The "File name:" field is empty, and the file type is set to "Custom Files (*.pjp;*.jpg;*.jpeg)". "Open" and "Cancel" buttons are visible at the bottom.

Photos must be JPEG or PNG format and at least 1024x683 pixels. Up to 50 photos may be added.

[Back](#) [Next](#)

Welcome

- Location
- Details
- Photos**
- Security
- Payment
- Pricing
- Booking readiness
- Publish listing

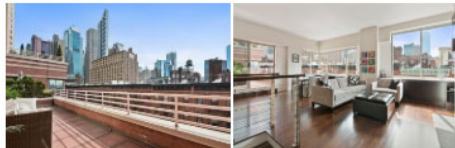
Add photos of your property

Let guests see why they should pick your property with well-lit, landscape-oriented photos of the areas they will be able to access.

Drag and drop photos here or

[+ Add photos](#)

You need at least 4 more photos
These can be rotated and reordered once your listing is published.

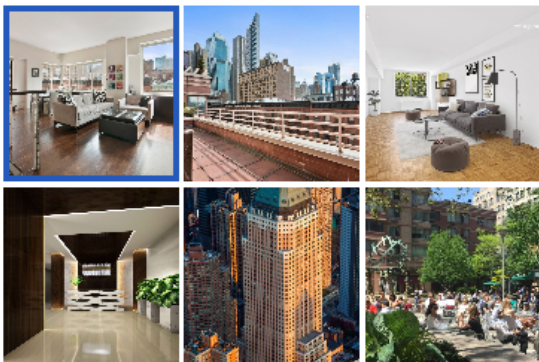


Photos must be JPEG or PNG format and at least 1024x683 pixels. Up to 50 photos may be added.

[Back](#) [Next](#)

Photos

[Add](#)



[+](#)
Add photos
44 remaining

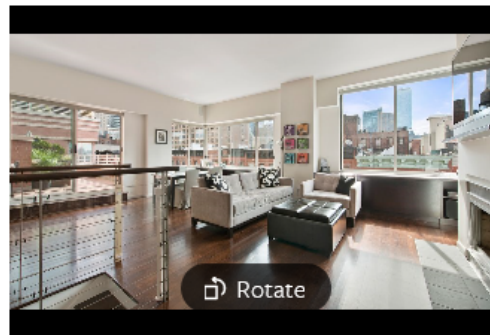


Photo Caption

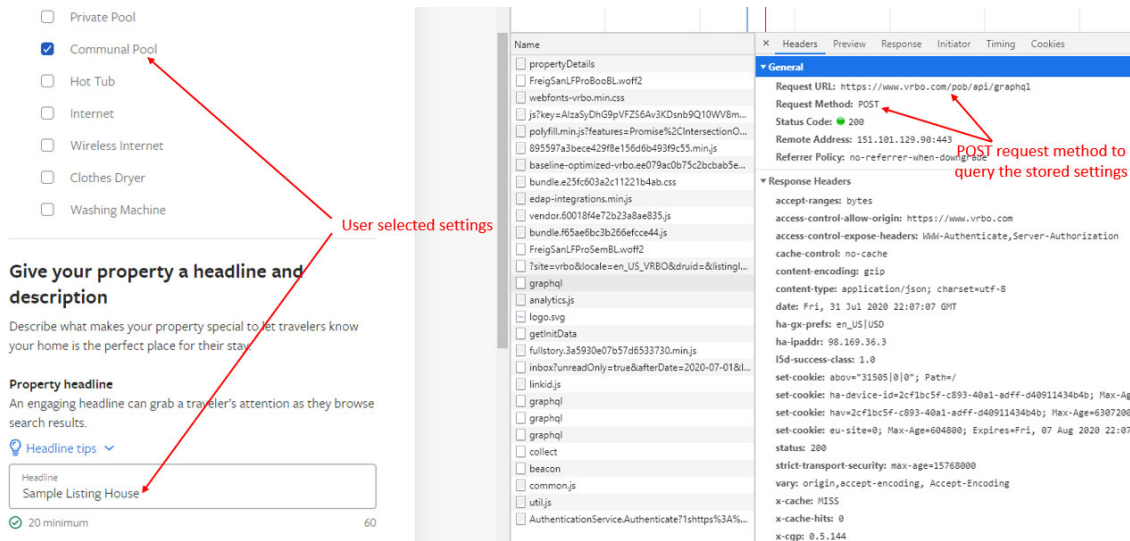
Living room

69 characters remaining

87. Upon selection of the desired setting, information representative of the selected

setting was stored in a database that supported the property listing website. On information and belief, information representative of selected settings for Vrbo property listing websites were stored in a database in a Vrbo server located at “odis.homeaway.com.” See <https://www.phocuswire.com/expedia-group-vrbo-homeaway-consolidation>.

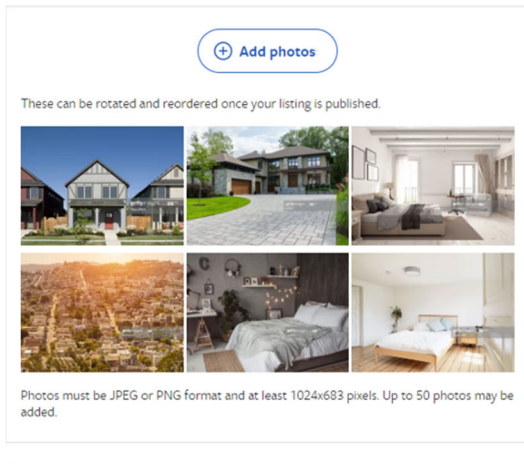
88. A website for the property listing was then generated in part by retrieving the information for the user selected settings stored in the database in Vrbo’s server. In the example below, if user selectable settings such as an amenity “Communal Pool” and a property headline “Sample Listing House” were previously stored in the Vrbo database, a browser can load the website by sending a “graphql” POST requesting the stored settings from the database in Vrbo’s server. Specifically, the “graphql” POST method sends a query message to Vrbo’s server for listing details. The Vrbo server responds to the query by sending back a JSON file, which includes the amenity “Communal Pool” and the property headline “Sample Listing House.” On information and belief, this functionality was present during relevant time periods of infringement.



pages from the data for the selected settings stored in the database, and run time files that used the data stored in the database to generate commands for the browser engine to display the one or more web pages. In particular, the Vrbo platform relied on a browser engine to generate a website comprising one or more web pages based on settings data extracted from at least a portion of the Vrbo platform’s database and at least one run time file. In the example below, the Vrbo platform’s HTML file “photos” fetched from the Vrbo server embeds various run time files (including CSS files, and Javascript files). When the browser engine parses the HTML file, the web browser also makes a request (through the GET method) to fetch the embedded CSS and Javascript run time files. The image files are then downloaded from the Vrbo platform’s database via an HTTP GET request. On information and belief, this functionality was present during relevant time periods of infringement.

Add photos of your property

Let guests see why they should pick your property with well-lit, landscape-oriented photos of the areas they will be able to access.

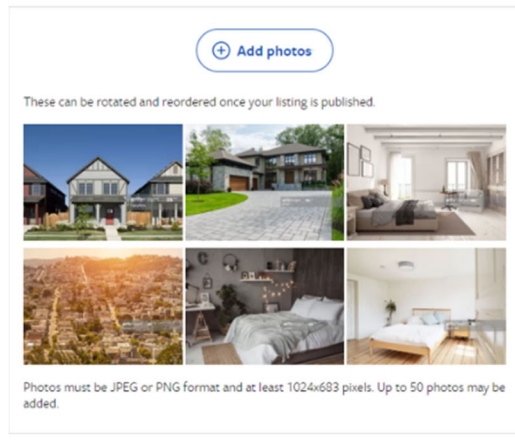


Name	Url	Status	Type
photos	https://www.vrbo.com...	200	document
FreigSanLFProBooBLwoF2	https://csvcus.homeaw...	200	font
webfonts-vrbo.min.css	https://csvcus.homeaw...	200	stylesheet
js?key=AlzaSyDhG9pVFZ56Av3KDsnb9Q10WV8mntlXUGY&channel=ha-onboarding-ch...	https://maps.googlelea...	200	script
property-no-thumbnail.gif	https://csvcus.homeaw...	200	gif
baseline-optimized-vrbo.ee079ac0b75c2bccab5eb2c7f1ae0af7.css	https://csvcus.homeaw...	200	stylesheet
bundle.e25fc603a2c11221b44b.css	https://csvcus.homeaw...	200	stylesheet
polyfill.min.js?features=Promise%2CIntersectionObserver%2CIntersectionObserverEntry	https://polyfill.io/v3/p...	200	script
895597a3bece429f8e156d6b493f9c55.min.js	https://jsentry-cdn.co...	200	script
edap-integrations.min.js	https://csvcus.homeaw...	200	script
vendor.60018f4e72b23a8ae835.js	https://csvcus.homeaw...	200	script
bundle.f65ae6bc3b266efcce44.js	https://csvcus.homeaw...	200	script
a44bc60c-47a7-4265-b4dc-4d7fae53f604.f6.webp?attempt=0	https://odis.homeaway...	200	webp
e15a245f-027e-4537-88f7-dc28c2733d96.f6.webp?attempt=0	https://odis.homeaway...	200	webp
6b92a7d7-5bdd-44d0-871c-bfc8f056edf1.f6.webp?attempt=0	https://odis.homeaway...	200	webp
1cf27abd-1716-43c6-9406-ad0641e4b0c7.f6.webp?attempt=0	https://odis.homeaway...	200	webp
69df5a16-be8b-4875-9390-d00dab45d379.f6.webp?attempt=0	https://odis.homeaway...	200	webp
b993ba86-e33c-45cf-8a43-13884e93b26f.f6.webp?attempt=0	https://odis.homeaway...	200	webp
FreigSanLFProSemBLwoF2	https://csvcus.homeaw...	200	font
?site=vrbo&locale=en_US_VRBO&druuid=&listingId=3211...=7.2.1&appName=node-che...	https://www.vrbo.com...	200	xhr
analytics.js	https://www.google-a...	200	script
getInitData	https://www.vrbo.com...	200	xhr
fullstory.3a5930e07b57d6533730.min.js	https://csvcus.homeaw...	200	script
linkid.js	https://www.google-a...	200	script
logo.svg	https://csvcus.homeaw...	200	svg+xml
inbox?unreadOnly=true&afterDate=2020-07-01&listing...ist-ui&druuid=1742b798-9d83-...	https://www.vrbo.com...	200	xhr
common.js	https://maps.googlelea...	200	script
util.js	https://maps.googlelea...	200	script
AuthenticationService.Authenticate?1shttps%3A%2F%2...XUGY&channel=ha-onboardin...	https://maps.googlelea...	200	script

infringement.

Add photos of your property

Let guests see why they should pick your property with well-lit, landscape-oriented photos of the areas they will be able to access.



Name	Uri	Status	Type
photos	https://www.vrbo.com...	200	document
FreigSanLFProBooBLwof2	https://csvgus.homeaw...	200	font
webfonts-vrbo.min.css	https://csvgus.homeaw...	200	stylesheet
js?key=Alza5yDhG9pVFZ56Av3KDbn9Q10WV6mntIXUGY&channel=ha-onboarding-ch...	https://maps.googlelea...	200	script
property-no-thumbnail.gif	https://csvgus.homeaw...	200	gif
baseline-optimized-vrbo.ee079ac0b75c2bccab5eb2c7f1ae0af7.css	https://csvgus.homeaw...	200	stylesheet
bundle.e25f603a2c11221b4ab.css	https://csvgus.homeaw...	200	stylesheet
polyfill.min.js?Features=Promise%2CIntersectionObserver%2CIntersectionObserverEntry	https://polyfill.io/v3/p...	200	script
895597a3bec429f8e156d6b493f9c55.min.js	https://js.sentry-cdn.co...	200	script
edap-integrations.min.js	https://csvgus.homeaw...	200	script
vendor.600184e72b23a8ae835.js	https://csvgus.homeaw...	200	script
bundle.f65ae6bc3b266efccea44.js	https://csvgus.homeaw...	200	script
a44bc60c-47a7-4265-b4dc-4d7fae53f604.f6.webp?attempt=0	https://odis.homeaway...	200	webp
e15a245f-027e-4537-88f7-dc28c273d96.f6.webp?attempt=0	https://odis.homeaway...	200	webp
6b92a7df-5bdd-44d0-871c-bfc8f056edf1.f6.webp?attempt=0	https://odis.homeaway...	200	webp
1cf27abd-1716-43c6-9406-ad0641e4b0c7.f6.webp?attempt=0	https://odis.homeaway...	200	webp
69df5a16-be8b-4875-9390-d00dab45d379.f6.webp?attempt=0	https://odis.homeaway...	200	webp
b993ba86-e33c-45cf-8a43-13884e93b26f.f6.webp?attempt=0	https://odis.homeaway...	200	webp
FreigSanLFProSemBLwof2	https://csvgus.homeaw...	200	font
?site=vrbo&locale=en_US_VRBO&druid=&listingId=321...=7.2.1&appName=node-che...	https://www.vrbo.com...	200	xhr
analytics.js	https://www.google-a...	200	script
getInitData	https://www.vrbo.com...	200	xhr
fullstory.3a5930e07b57d6533730.min.js	https://csvgus.homeaw...	200	script
linkid.js	https://www.google-a...	200	script
logo.svg	https://csvgus.homeaw...	200	svg+xml
inbox?unreadOnly=true&afterDate=2020-07-01&listing...ist-ui&druid=1742b798-9d83-...	https://www.vrbo.com...	200	xhr
common.js	https://maps.googlelea...	200	script
util.js	https://maps.googlelea...	200	script
AuthenticationService.Authenticate?1https%3A%2F%2...XUGY&channel=ha-onboardin...	https://maps.googlelea...	200	script

91. The presence of the above referenced features is demonstrated, by way of example, by testing the Accused Instrumentalities for investigative purposes on <https://www.expediagroup.com/>, <https://www.expediapartnercentral.com/>, <https://www.expedia.com/>, and <https://www.vrbo.com/>, and by reference to publicly available information, including <https://www.expediagroup.com/>, <https://welcome.expediagroup.com/en>, <https://expediainconnectivity.com/apis/product-management/property-api/api-definition.html>, <https://expediainconnectivity.com/apis/product-management/property-api/video.html>, <https://www.youtube.com/watch?v=NSVzEoqYLxI>, <https://welcome.expediagroup.com/en/how-it-works>, <https://aws.amazon.com/solutions/case-studies/expedia/>, <https://www.vrbo.com/>, <https://help.vrbo.com/articles/How-do-I-list-my-property-HA>, https://help.vrbo.com/category/List_Your_Property, <https://www.homeaway.com/platform/developer-api>, and https://help.vrbo.com/category/Your_Listing. On information and belief, the above referenced features were present during relevant time periods of infringement.

92. On information and belief, Expedia has had knowledge of the ‘397 patent and its infringement thereof at least as early as July 28, 2019, and no later than August 31, 2020, when Plaintiff provided notices of the ‘397 patent and Expedia’s infringement of the ‘397 patent.

93. On information and belief, Expedia has contributed to the infringement of the ‘397 patent because Expedia knew that the infringing aspects of its infringing products and services, including but not limited to the Accused Instrumentalities, were made for use in an infringement, and were not staple articles of commerce suitable for substantial non-infringing uses.

94. On information and belief, Expedia has induced the infringement of the ‘397 patent, with knowledge of the ‘397 patent and that its acts, including without limitation using, offering to sell, selling within, and importing into the United States, the Accused Instrumentalities, would aid and abet and induce infringement by customers, clients, partners, developers, and end users of the foregoing.

95. In particular, Expedia’s actions that aided and abetted others such as customers, clients, partners, developers, and end users to infringe included advertising and distributing the Accused Instrumentalities, and providing instructional materials, training, and other services regarding the Accused Instrumentalities. Expedia actively encouraged the adoption of the Accused Instrumentalities and provided support sites for the vast network of developers working with the Accused Instrumentalities, emphasizing the simple and user-friendly nature of the Accused Instrumentalities and explaining that “[a]s an Expedia Group Partner, you’ll have instant access to Partner Central, our platform offering a host of innovative tools to help make day-to-day management of your business quick and simple” (*see, e.g.,* <https://welcome.expediagroup.com/en/about-us/list-on-expedia>) and “[s]et your price, dates, rules, and more. We give you the tools to make sure you’re in control... We’re here for you, 24/7... A

dedicated support team is ready around the clock to make sure that everything runs smoothly” (*see, e.g.,* https://www.vrbo.com/en-us/list?icid=IL___O_Text___top_nav_link_hp). On information and belief, Expedia engaged in such actions with specific intent to cause infringement or with willful blindness to the resulting infringement because Expedia had actual knowledge of the ‘397 patent and knowledge that their acts were inducing infringement of the ‘397 patent since at least the date Expedia received notice that its activities infringed the ‘397 patent.

96. Expedia’s acts of infringement have caused damage to Plaintiff, and Plaintiff is entitled to recover damages from Expedia in an amount subject to proof at trial.

97. On information and belief, Expedia has acted with disregard of Plaintiff’s patent rights, without any reasonable basis for doing so, and has willfully infringed the ‘397 patent.

98. The foregoing is illustrative of Expedia’s infringement of the ‘397 patent. Plaintiff reserves the right to identify additional claims and Accused Instrumentalities in accordance with the Court’s local rules and applicable scheduling orders.

COUNT II – INFRINGEMENT OF U.S. PATENT NO. 7,594,168

99. Plaintiff incorporates by reference paragraphs 1 to 98 above as if fully set forth herein.

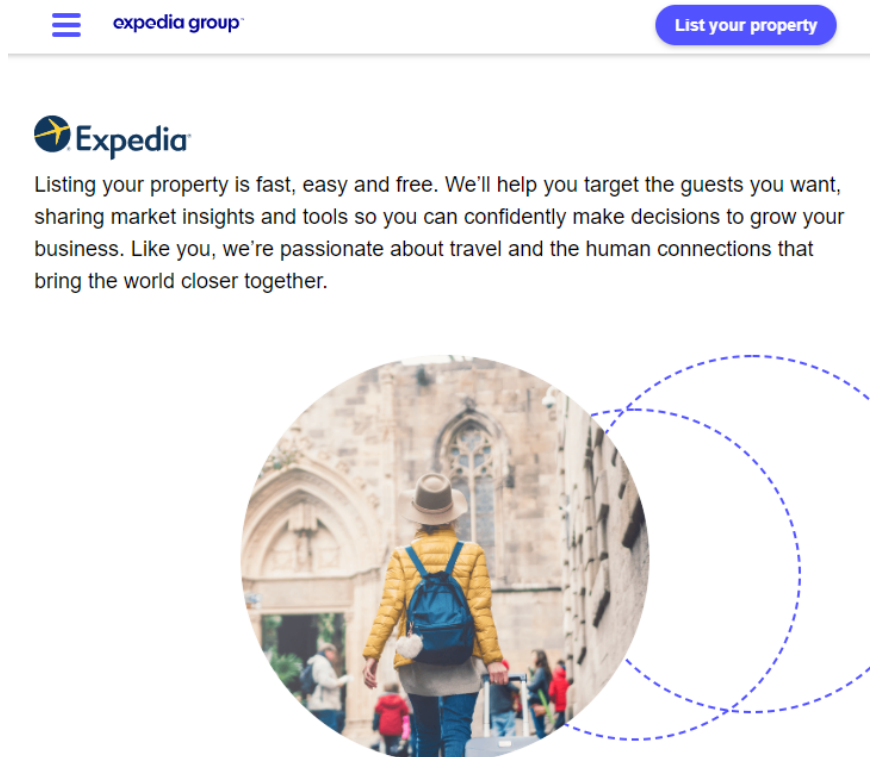
100. On information and belief, Expedia has infringed and is infringing the ‘168 patent under 35 U.S.C. § 271, either literally and/or under the doctrine of equivalents, directly and/or indirectly.

101. On information and belief, Expedia has infringed and is infringing the ‘168 patent by performing, without authority, one or more of the following acts: making, using, offering to sell, selling within, and importing into, the United States products and services that practice the

claimed inventions of the '168 patent, including but not limited to the Expedia Group website builder platform for the Expedia Group products (the "Expedia platform"), and the Vrbo website builder platform, also known as the HomeAway platform, for the Vrbo products (the "Vrbo platform") (collectively the "Accused Instrumentalities").

The Expedia platform:

102. The Expedia platform infringes at least claim 1 of the '168 patent through a combination of features that collectively practice each limitation of claim 1. By way of example, the Expedia platform provides a platform to produce property listing websites on the Expedia Group products, for hotels and other lodging providers where travelers can view and book accommodations.



103. On information and belief, the Expedia platform is supported by Amazon Web

Services (AWS).

Expedia Group Increases Agility and Resiliency by Going All In on AWS

2018

Expedia Group is all in on AWS, with plans to migrate 80 percent of its mission-critical apps from its on-premises data centers to the cloud in the next two to three years. By using AWS, Expedia Group has become more resilient. Expedia Group's developers have been able to innovate faster while saving the company millions of dollars. Expedia Group provides travel-booking services across its flagship site Expedia.com and about 200 other travel-booking sites around the world.

<https://aws.amazon.com/solutions/case-studies/expedia/>

104. AWS provides cloud services through servers, and among other things, allows the Expedia platform to store files relating to websites on a cloud, using managed databases such as MySQL or a Content Delivery Network (CDN). *Id.*

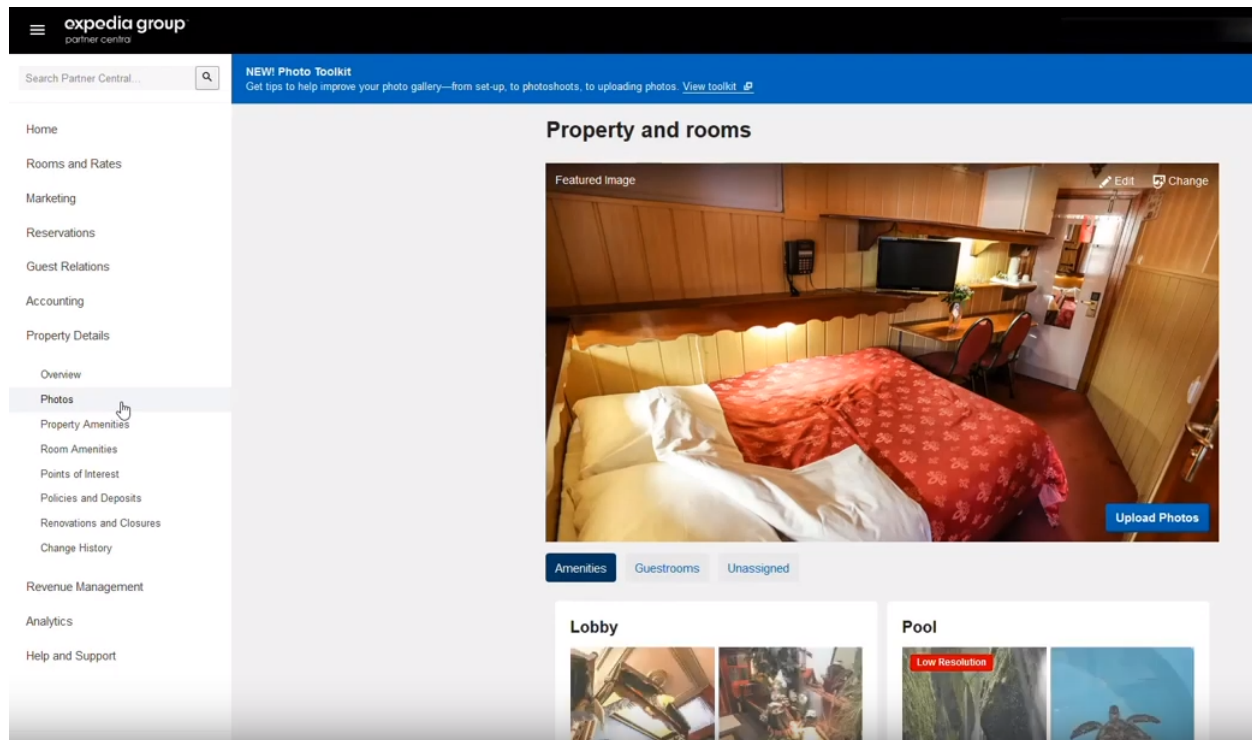
In simple words AWS allows you to do the following things-

1. Running web and application servers in the cloud to host dynamic websites.
2. Securely store all your files on the cloud so you can access them from anywhere.
3. Using managed databases like MySQL, PostgreSQL, Oracle or SQL Server to store information.
4. Deliver static and dynamic files quickly around the world using a Content Delivery Network (CDN).
5. Send bulk email to your customers.

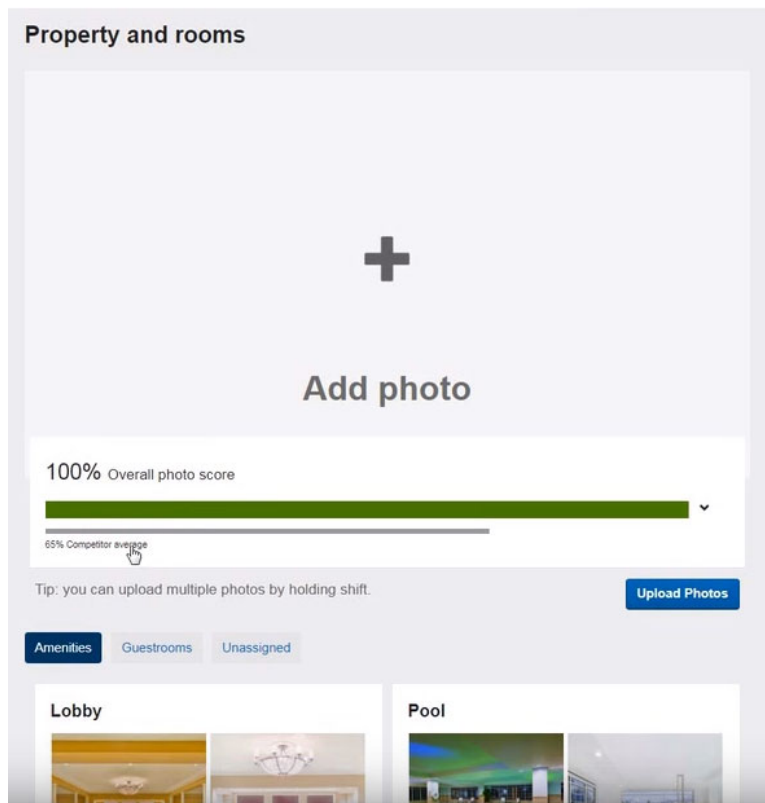
<https://blog.usejournal.com/what-is-aws-and-what-can-you-do-with-it-395b585b03c>

105. The Expedia platform's AWS server includes a build engine configured to accept

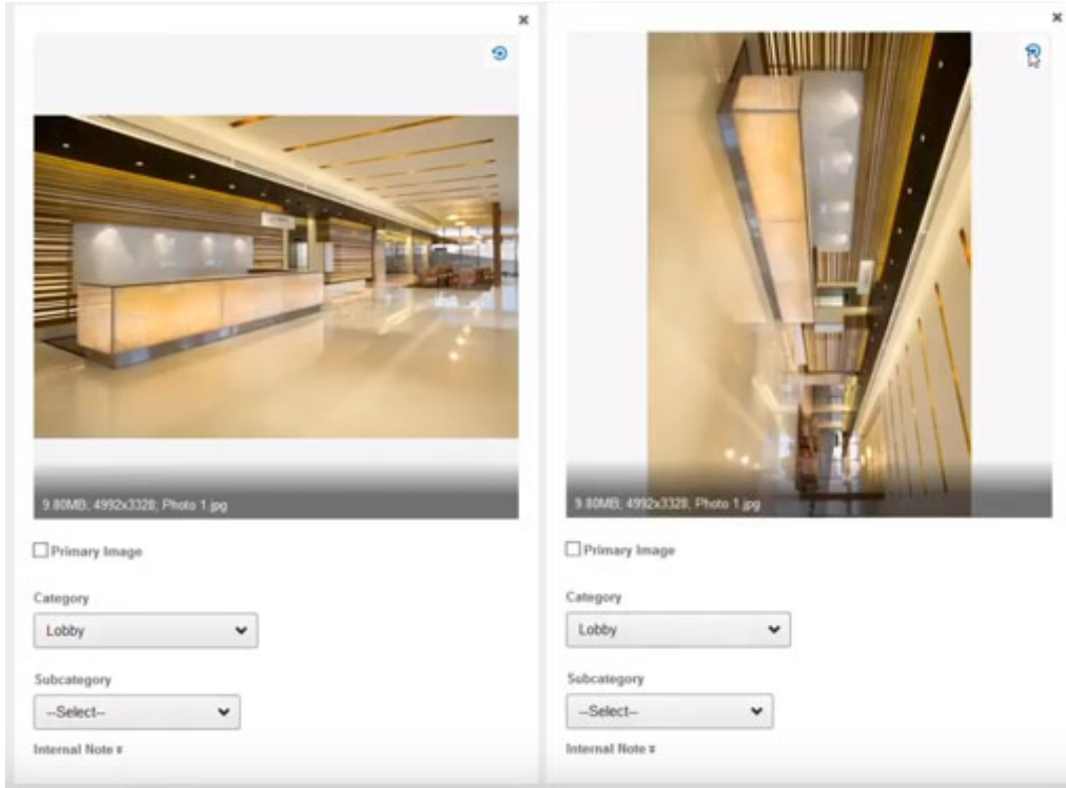
user input to create a website comprising a plurality of web pages that each include objects. User input for a website may include specification of the location, amenities, prices, policies, descriptions, images, and rules for guests for a property listing website.



106. For example, a user can input image selections for photo galleries for different areas of the property, such as the lobby and pool.



107. Upon input of an image, a user may associate a particular style to be associated with the image object. For example, a user may associate an orientation style for the image by rotating the image, or a caption style by entering a caption for the image.



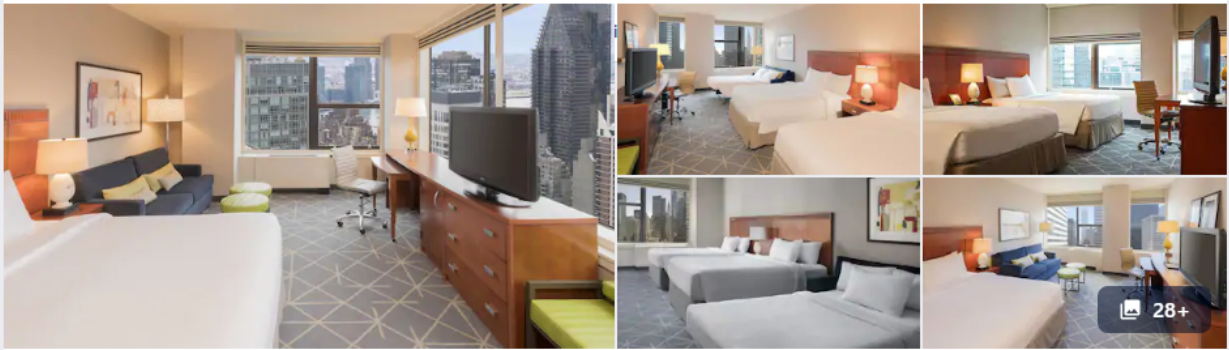
108. An image object input by a user for an Expedia website is associated with styles defining transformations and time lines for the image. For example, when a thumbnail image in the photo gallery for a property on an Expedia website is clicked on, the thumbnail image transforms into an enlarged image including a black background and an image caption at the bottom of screen. Further, the forward arrow on an enlarged image can be clicked on to transform the current enlarged image into the next enlarged image in the photo gallery, providing a photo slideshow.

Courtyard by Marriott New York City Manhattan Midtown East

Save

Reserve a room

★★★★



4.3/5 Excellent

2,572 reviews >

Guests rated this property 4.5/5 for cleanliness.

Popular amenities

- Free WiFi
 - Air Conditioning
 - Restaurant
 - Gym
 - Breakfast Available
 - Business Services
- [All amenities >](#)



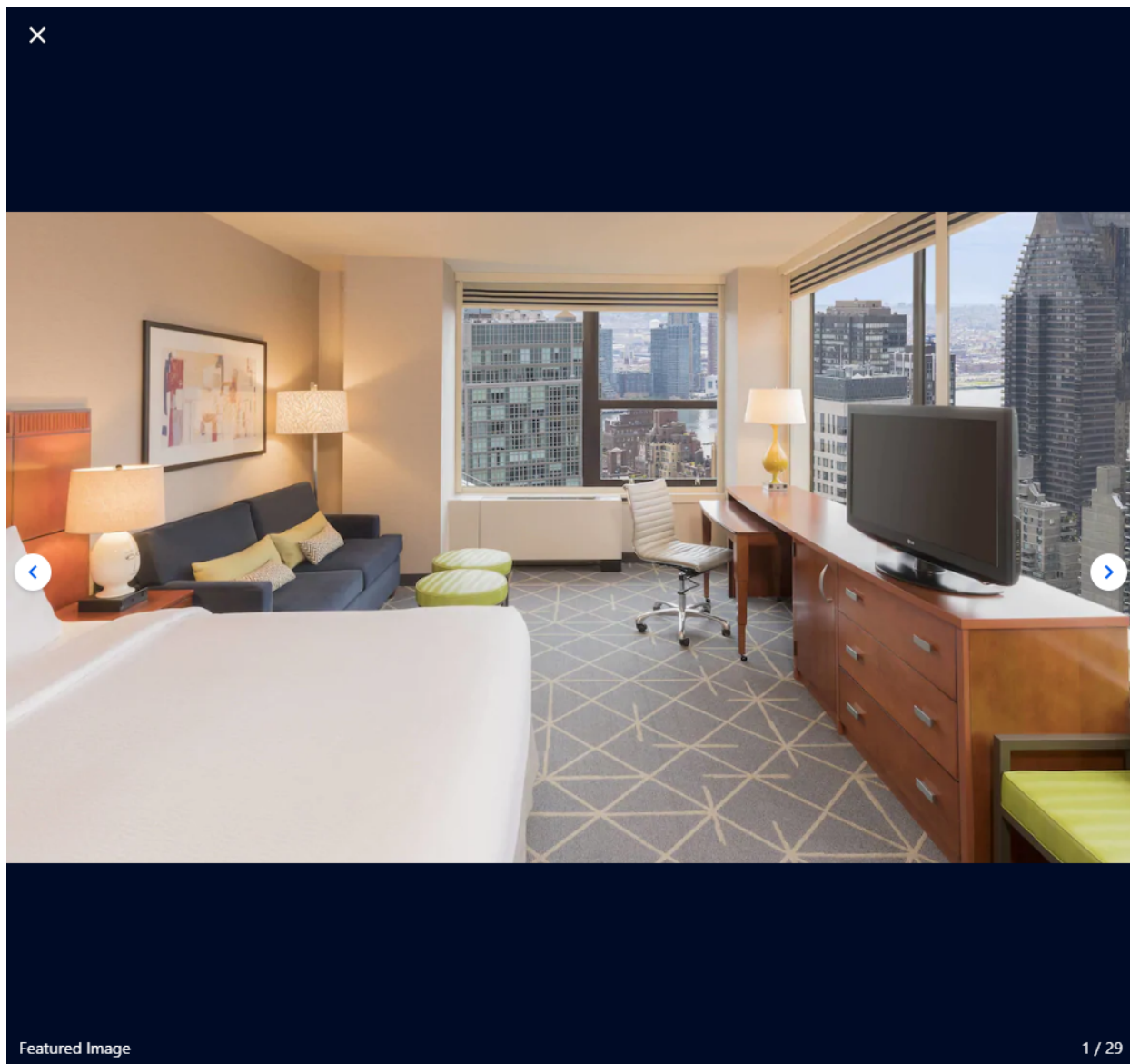
866 3rd Avenue, New York, NY

[View in a map >](#)

Explore the area

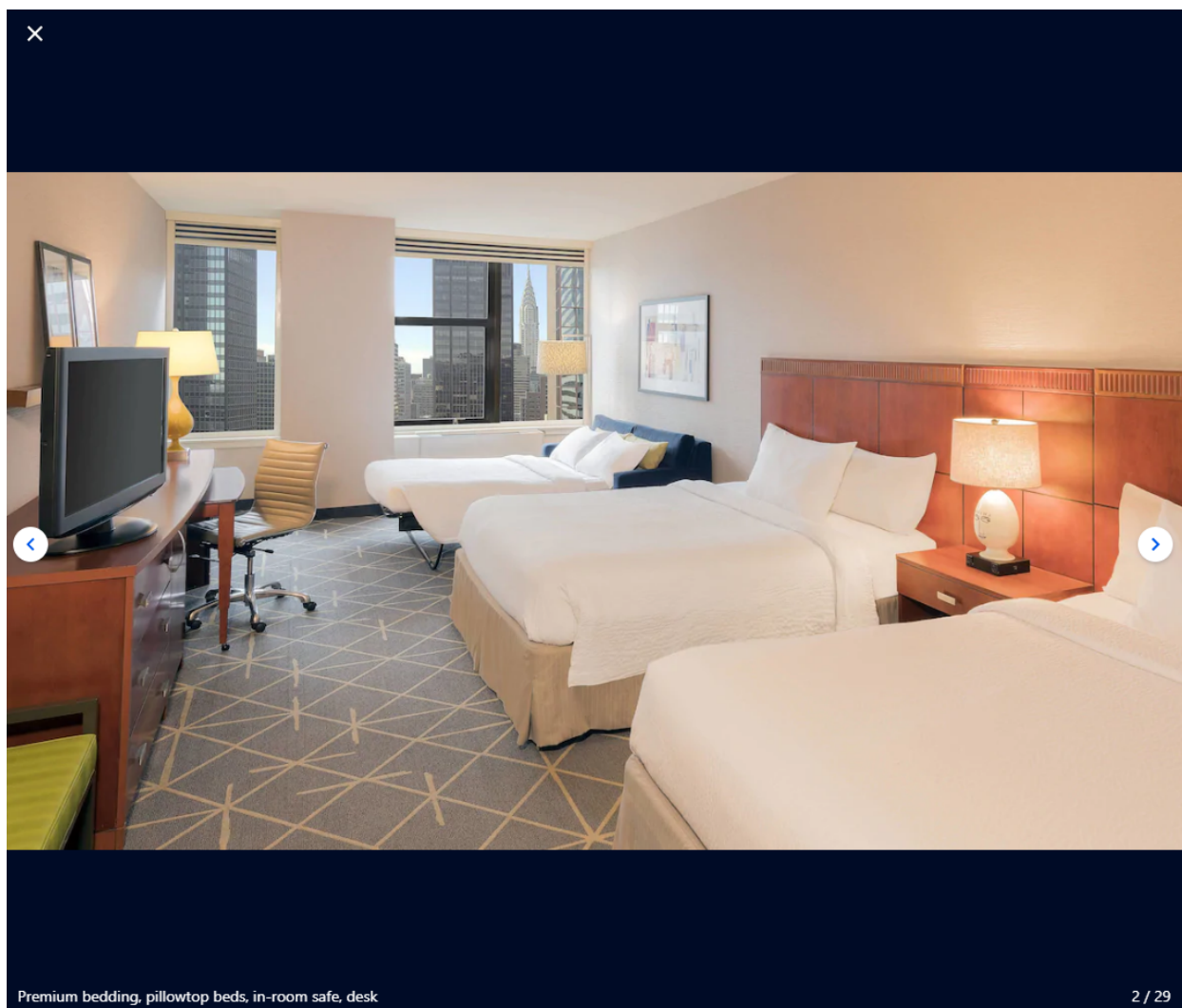
- Museum of Modern Art 11 min walk
- Rockefeller Center 12 min walk
- Grand Central Terminal 14 min walk
- New York, NY (LGA-LaGuardia) 21 min drive

Cleaning and safety practices



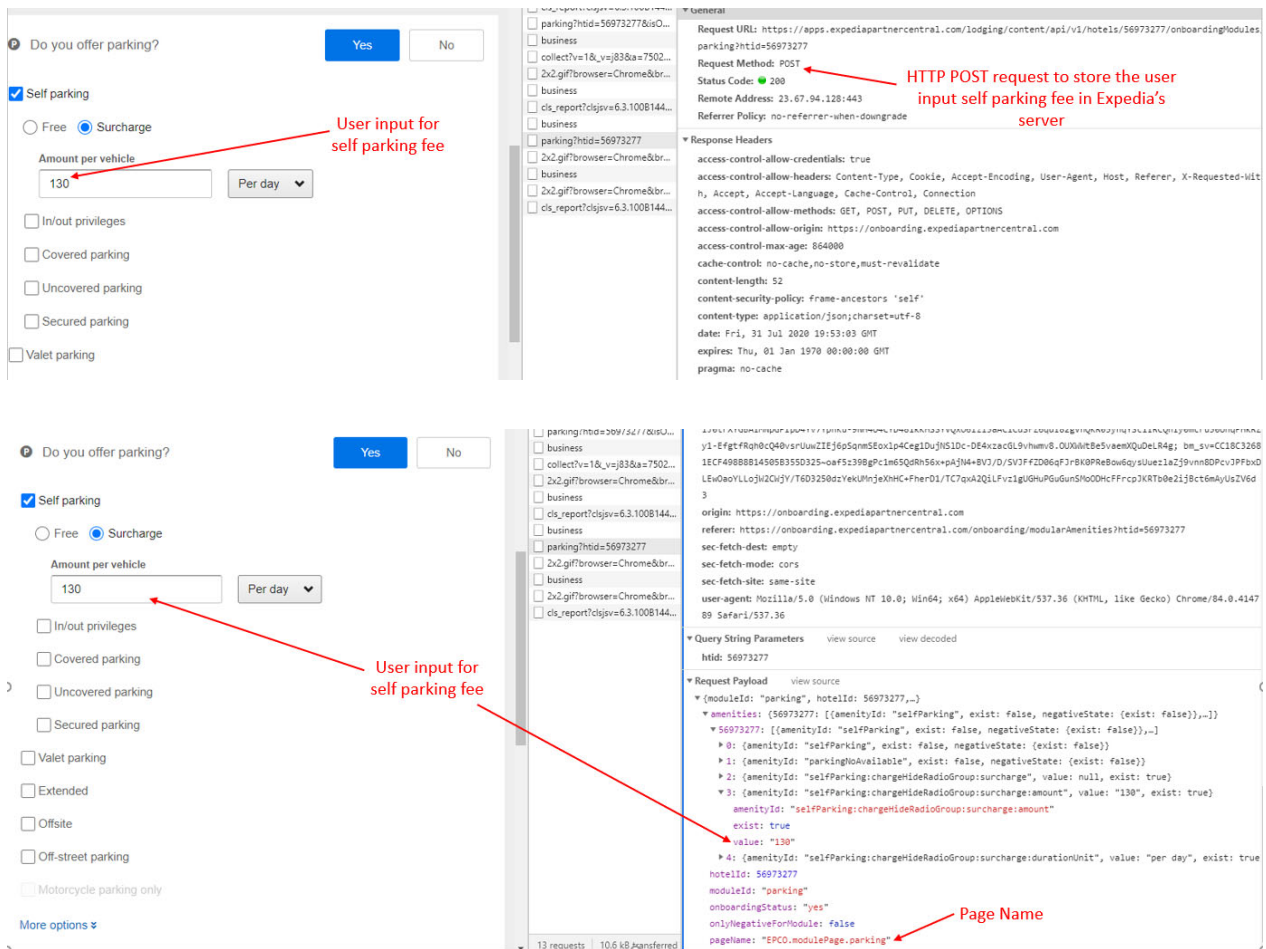
Featured Image

1 / 29



109. The Expedia platform is configured to produce a database with multidimensional array comprising the objects that comprise the website. As described above, user inputs for Expedia websites are stored in AWS MySQL databases, which comprise multidimensional array databases. Further, Expedia websites are rendered using JSON dataset, which are multidimensional in nature—for each website object, its JSON dataset includes object style, object identifiers, and an indication of the web page that the object is part of. This data is provided to the Expedia AWS server, accessible to a web browser to generate a website with the user inputs. In the example below, a user configures a “parking” object (i.e., module in Expedia websites) by

providing a “Self parking” option and sets a surcharge fee to “130 per day” when listing a property. The “Self parking” option and the user input surcharge fee “130” are sent to the server via an HTTP POST request “parking?htid=56973277” and are further stored in Expedia’s database. In particular, the “Self parking” option and the surcharge fee “130” are sent to the server in the format of JSON data, in which the JSON data also includes the identification of the object (in this example, moduleId: “parking”) and an indication of the web page that the object is part of (in this example, pageName: “EPCO.modulePage.parking”).



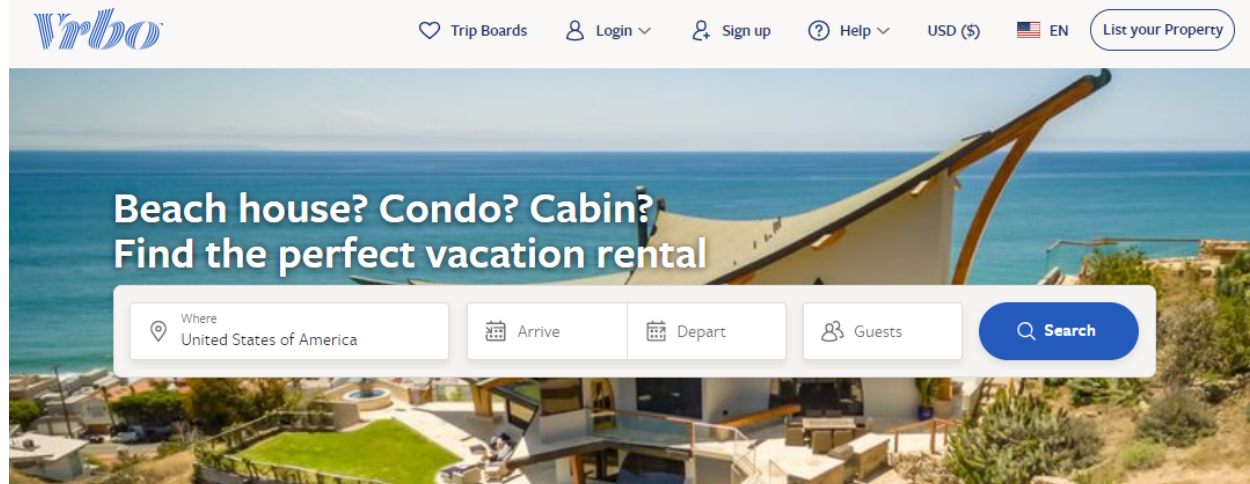
110. A web browser with access to a runtime engine can then generate the user configured website including the user input objects and style data extracted from the database. For example, a browser can send an HTTP GET request to fetch the stored “parking” object from the

Expedia server “https://apps.expediapartnercentral.com.” The “parking” object is stored in the format of JSON data, in which the JSON data includes the type of the parking “Self parking” and the user selected surcharging fee “130.”

The image shows a web form on the left and browser developer tools on the right. The form has two questions: "Do you offer internet?" (Yes/No) and "Do you offer parking?" (Yes/No). Under "Do you offer parking?", the "Self parking" option is selected. Within "Self parking", the "Surcharge" radio button is chosen, and the "Amount per vehicle" is set to "130" with a "Per day" frequency. Other options like "In/out privileges", "Covered parking", "Uncovered parking", and "Secured parking" are unchecked. The developer tools show the "Response Headers" for a GET request to the Expedia server. The response headers include "Content-Type: application/json; charset=utf-8" and "date: Fri, 31 Jul 2020 19:59:17 GMT". A red arrow points from the "130" value in the form to the JSON response, which contains a nested object: `selfParking:chargeHideRadioGroup:surcharge:amount` with a `value` of `"130"`.

The Vrbo Platform:

111. The Vrbo platform infringes at least claim 1 of the ‘168 patent through a combination of features that collectively practice each limitation of claim 1. By way of example, the Vrbo platform provides a browser-based platform to produce property listing websites for vacation rental providers where travelers can view and book accommodations.



112. Website building platforms require a server supporting a build engine to build websites. On information and belief, the Vrbo platform includes a server located at “odis.homeaway.com” comprising a build engine configured to accept user input to create a website comprising a plurality of web pages that each include objects displaying different elements of the website. See <https://www.phocuswire.com/expedia-group-vrbo-homeaway-consolidation>.

113. A Vrbo website includes objects for displaying the listed property’s location, prices, policies, descriptions, and images, and a user may enter inputs to associate styles with objects. For example, a user may define an orientation style of the image by rotating an image, or define a caption style by entering a caption for an image.

Welcome

- Location
- Details
- Photos**
- Security
- Payment
- Pricing
- Booking readiness
- Publish listing


Add photos of your property

Let guests see why they should pick your property with well-lit, landscape-oriented photos of the areas they will be able to access.

Drag and drop photos here or

[+ Add photos](#)

You need at least 4 more photos
These can be rotated and reordered once your listing is published.

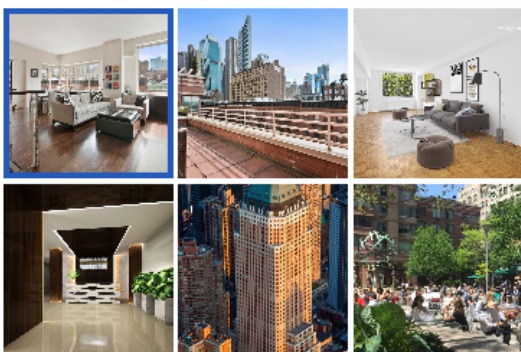


Photos must be JPEG or PNG format and at least 1024x683 pixels. Up to 50 photos may be added.

[Back](#) [Next](#)

Photos

[Add](#)



[+](#)
Add photos
44 remaining

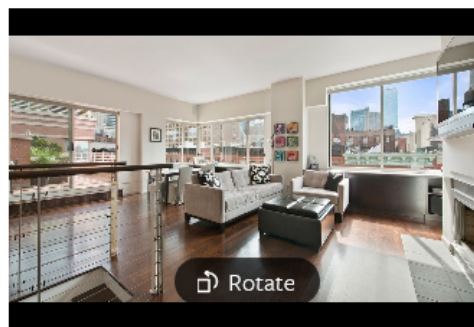
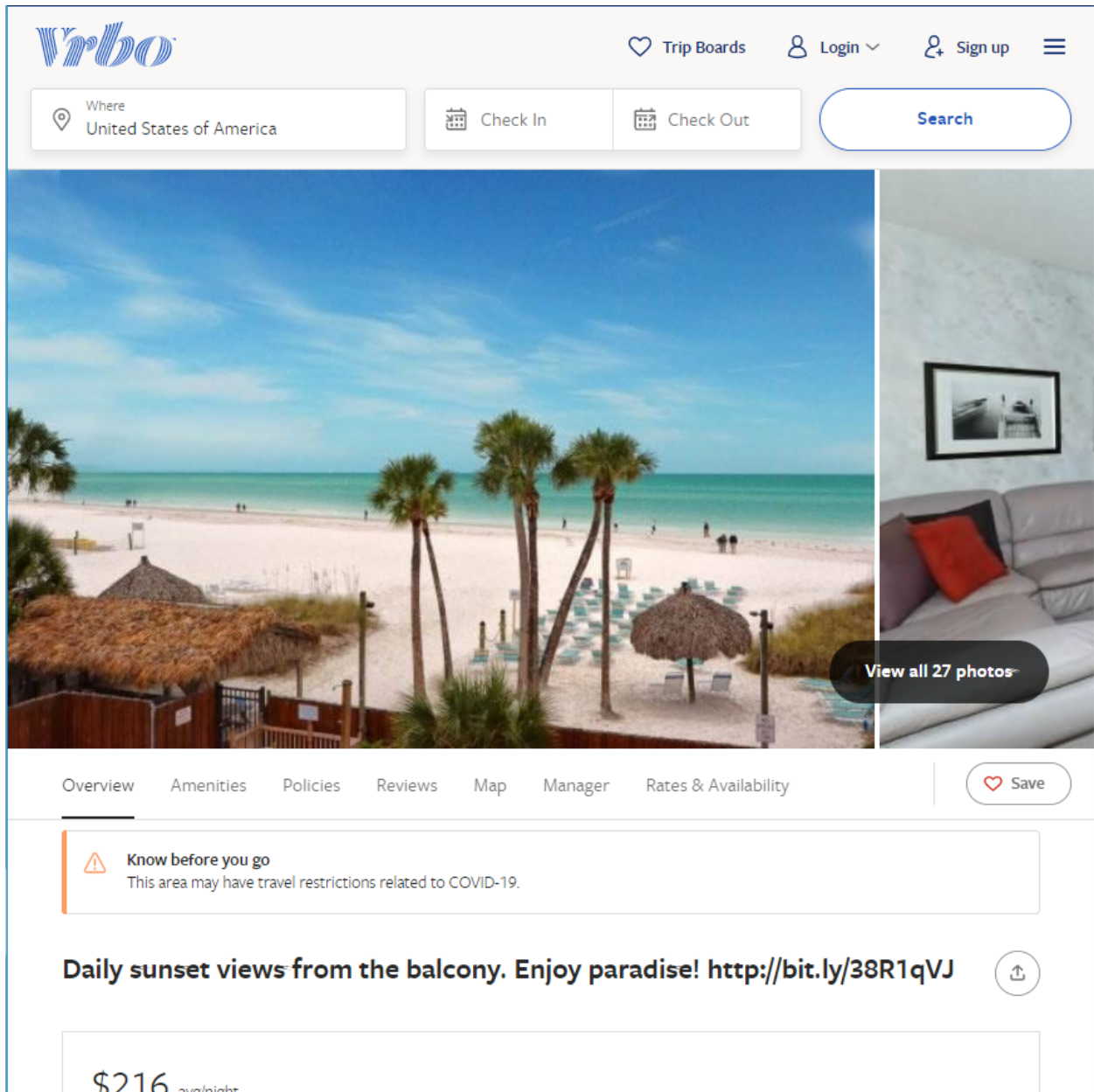
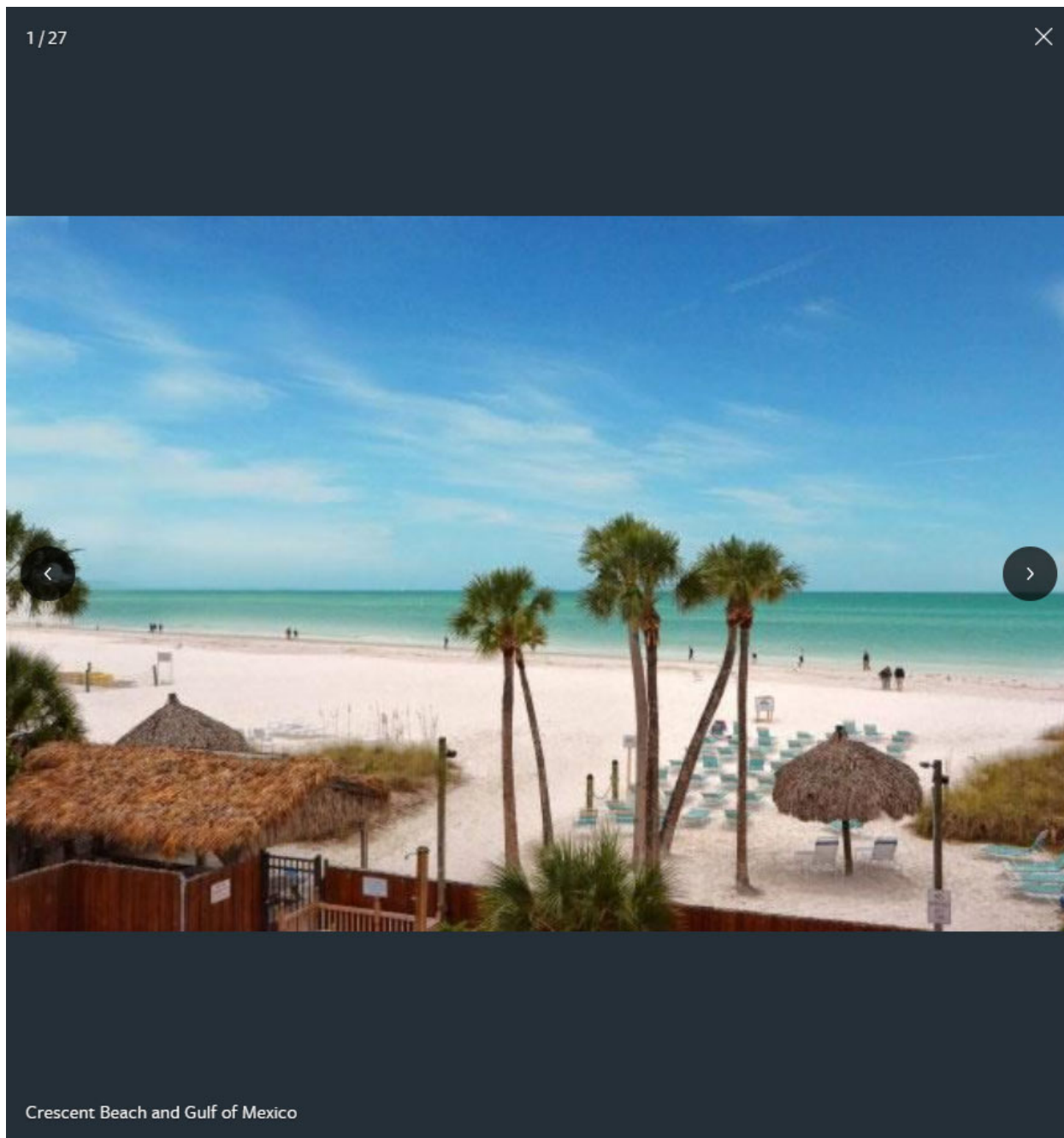


Photo Caption
Living room

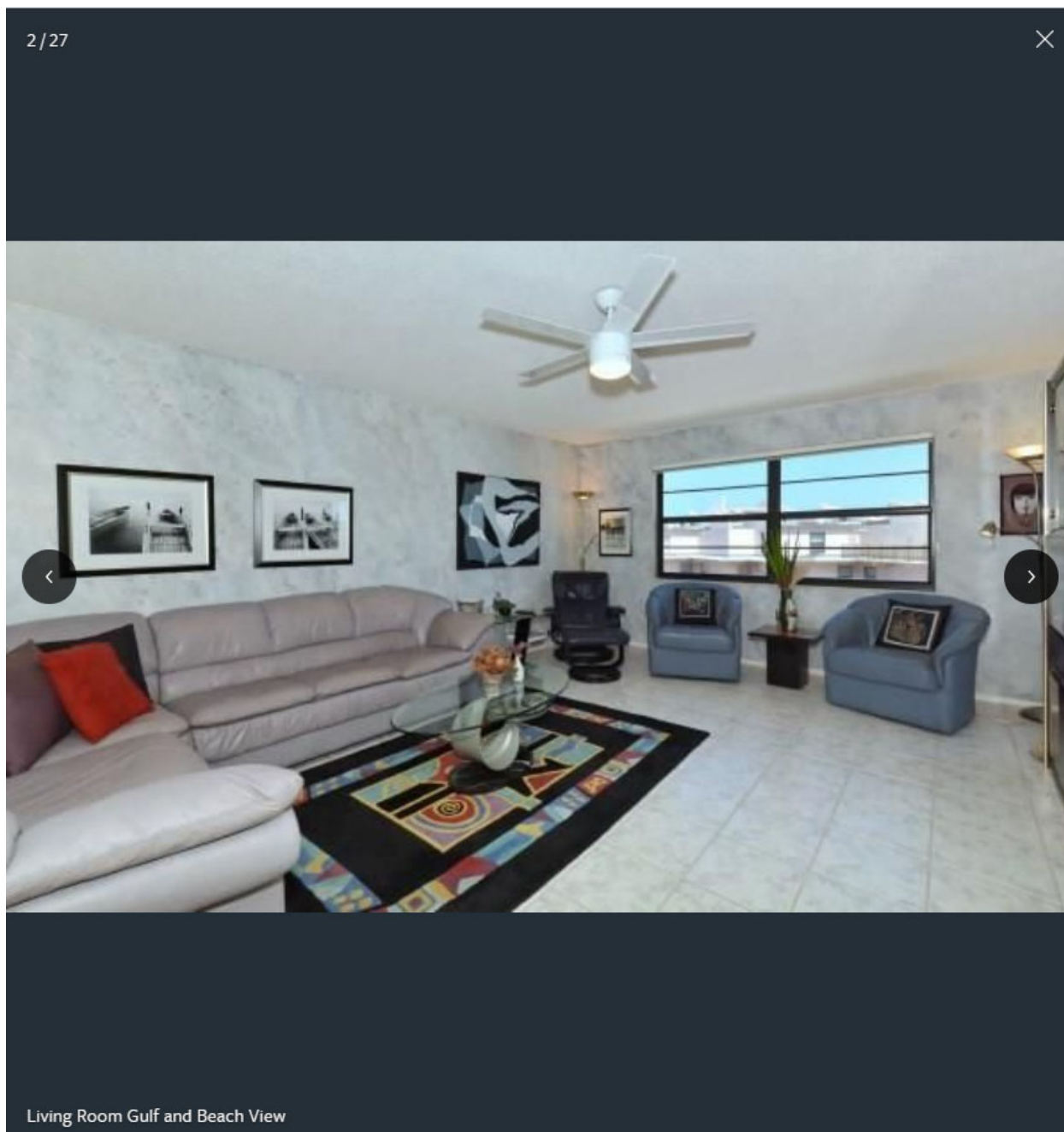
69 characters remaining

114. An image object uploaded by a user for a Vrbo website is associated with styles defining transformations and time lines for the image. For example, when an image in the photo gallery for a property on a Vrbo website is clicked on, the image transforms into an enlarged image including a black background and an image caption at the bottom of screen. Further, the forward arrow on the enlarged image can be clicked on to transform the current enlarged image into the next enlarged image of the photo gallery, providing a photo slideshow.





Crescent Beach and Gulf of Mexico



115. On information and belief, the Vrbo platform is configured to produce a database with a multidimensional array including the objects that comprise the website. Vrbo websites are rendered using JSON dataset, which are multidimensional in nature. The JSON dataset for an object on a Vrbo website includes object style, object identifiers, and an indication of the web page that the object is part of. This data is provided to the Vrbo server, accessible to a web browser to

generate a website with the user inputs. In the example below, a user configures the amenity object in the “Describe your property” web page by selecting a “Communal Pool” option and adding the property headline “Sample Listing House.” The selected settings are sent to and stored in the database in Vrbo’s server in the format of JSON data via an “addAmenities” POST request and a “graphql” POST request, respectively.

Describe your property

What amenities does your property have?

These are the top amenities travelers search for in your area. You'll be able add more later with the property editor.

- Heated Pool
- Indoor Pool
- Outdoor Pool
- Private Pool
- Communal Pool
- Internet
- Wireless Internet
- Garage
- Parking

Store in Vrbo server via a “addAmenities” POST request

User selected “Communal Pool” option

The screenshot shows the developer tools interface with the 'Network' tab selected. A list of requests is shown on the left, with 'addAmenities' highlighted. The details pane on the right shows the following information:

- Name:** addAmenities
- Request URL:** https://www.vrbo.com/pob/graphql/addAmenities
- Request Method:** POST
- Status Code:** 200
- Remote Address:** 151.101.193.90:443
- Referrer Policy:** no-referrer-when-downgrade
- Response Headers:**
 - accept-ranges: bytes
 - cache-control: no-cache
 - content-encoding: gzip
 - content-length: 356
 - content-type: application/json; charset=utf-8
 - date: Tue, 04 Aug 2020 13:53:39 GMT
 - ha-gx-prefs: en_US|USD
 - ha-ipaddr: 98.169.36.3
 - ISd-success-class: 1.0
 - set-cookie: abov="29027|0|0:35126|0|0"; Path=
 - set-cookie: ha-device-id=2cf1bc5f-c893-40a1-adff-d40911434b4b;
 - set-cookie: hav=2cf1bc5f-c893-40a1-adff-d40911434b4b; Max-Age=6
 - set-cookie: eu-site=0; Max-Age=604800; Expires=Tue, 11 Aug 2020

116. A web browser with access to a runtime engine can then generate the user configured website including the user input objects and style data extracted from the database. For example, when a browser loads the “Describe your property” web page, a “graphql” POST requests the amenity object from the Vrbo server “https://www.vrbo.com.” The Vrbo server responds with a JSON data comprising the user selected “Communal Pool” option and “Sample Listing House” headline. In addition, the JSON data includes the type name “ListingDetails,” amenity type “UNIT” and additional meta-information that describe the amenity object.

The image shows a web form on the left and browser developer tools on the right. The form, titled "Give your property a headline and description", has a list of amenities where "Communal Pool" is selected. Below this, there is a "Property headline" section with a text input field containing "Sample Listing House". A red arrow labeled "User selected settings" points from the "Communal Pool" checkbox and the headline input to the developer tools. The developer tools show a network request to "https://www.vrbo.com/pob/api/graphql" with a POST method. A red arrow points from the text "graphql POST request to query the stored settings" to the request details. The response headers are visible, including "access-control-allow-origin: https://www.vrbo.com" and "status: 200".

example, by testing the Accused Instrumentalities for investigative purposes on <https://www.expediagroup.com/>, <https://www.expediapartnercentral.com/>, <https://www.expedia.com/>, and <https://www.vrbo.com/>, and by reference to publicly available information, including <https://www.expediagroup.com/>, <https://welcome.expediagroup.com/en>, <https://expediainconnectivity.com/apis/product-management/property-api/api-definition.html>, <https://expediainconnectivity.com/apis/product-management/property-api/video.html>, <https://www.youtube.com/watch?v=NSVzEoqYLxI>, <https://welcome.expediagroup.com/en/how-it-works>, <https://aws.amazon.com/solutions/case-studies/expedia/>, <https://www.vrbo.com/>, <https://help.vrbo.com/articles/How-do-I-list-my-property-HA>, https://help.vrbo.com/category/List_Your_Property, <https://www.homeaway.com/platform/developer-api>, and https://help.vrbo.com/category/Your_Listing.

118. On information and belief, Expedia has had knowledge of the ‘168 patent and its infringement thereof at least as early as July 28, 2019, and no later than August 31, 2020, when Plaintiff provided notices of the ‘168 patent and Expedia’s infringement of the ‘168 patent. Furthermore, Expedia has been aware of the ‘168 patent and its infringement thereof since at least the filing of this complaint.

119. On information and belief, Expedia has contributed and is contributing to the infringement of the ‘168 patent because Expedia knows that the infringing aspects of its infringing products and services, including but not limited to the Accused Instrumentalities, are made for use in an infringement, and are not staple articles of commerce suitable for substantial non-infringing uses.

120. On information and belief, Expedia has induced and is inducing the infringement

of the '168 patent, with knowledge of the '168 patent and that its acts, including without limitation using, offering to sell, selling within, and importing into the United States, the Accused Instrumentalities, would aid and abet and induce infringement by customers, clients, partners, developers, and end users of the foregoing.

121. In particular, Expedia's actions that aid and abet others such as customers, clients, partners, developers, and end users to infringe include advertising and distributing the Accused Instrumentalities, and providing instructional materials, training, and other services regarding the Accused Instrumentalities. Expedia actively encourages the adoption of the Accused Instrumentalities and provides support sites for the vast network of developers working with the Accused Instrumentalities, emphasizing the simple and user-friendly nature of the Accused Instrumentalities and explaining that "[a]s an Expedia Group Partner, you'll have instant access to Partner Central, our platform offering a host of innovative tools to help make day-to-day management of your business quick and simple" (*see, e.g.*, <https://welcome.expediagroup.com/en/about-us/list-on-expedia>) and "[s]et your price, dates, rules, and more. We give you the tools to make sure you're in control... We're here for you, 24/7... A dedicated support team is ready around the clock to make sure that everything runs smoothly" (*see, e.g.*, https://www.vrbo.com/en-us/list?icid=IL__O_Text__top_nav_link_hp). On information and belief, Expedia has engaged in such actions with specific intent to cause infringement or with willful blindness to the resulting infringement because Expedia has had actual knowledge of the '168 patent and knowledge that their acts were inducing infringement of the '168 patent since at least the date Expedia received notice that its activities infringed the '168 patent.

122. Expedia's acts of infringement have caused damage to Plaintiff, and Plaintiff is entitled to recover damages from Expedia in an amount subject to proof at trial.

123. Expedia's infringement of Plaintiff's rights under the '168 patent will continue to damage Plaintiff's business, causing irreparable harm, for which there is no adequate remedy at law, unless enjoined by this Court.

124. On information and belief, Expedia has acted with disregard of Plaintiff's patent rights, without any reasonable basis for doing so, and has willfully infringed and does willfully infringe the '168 patent.

125. The foregoing is illustrative of Expedia's infringement of the '168 patent. Plaintiff reserves the right to identify additional claims and Accused Instrumentalities in accordance with the Court's local rules and applicable scheduling orders.

COUNT III – INFRINGEMENT OF U.S. PATENT NO. 9,063,755

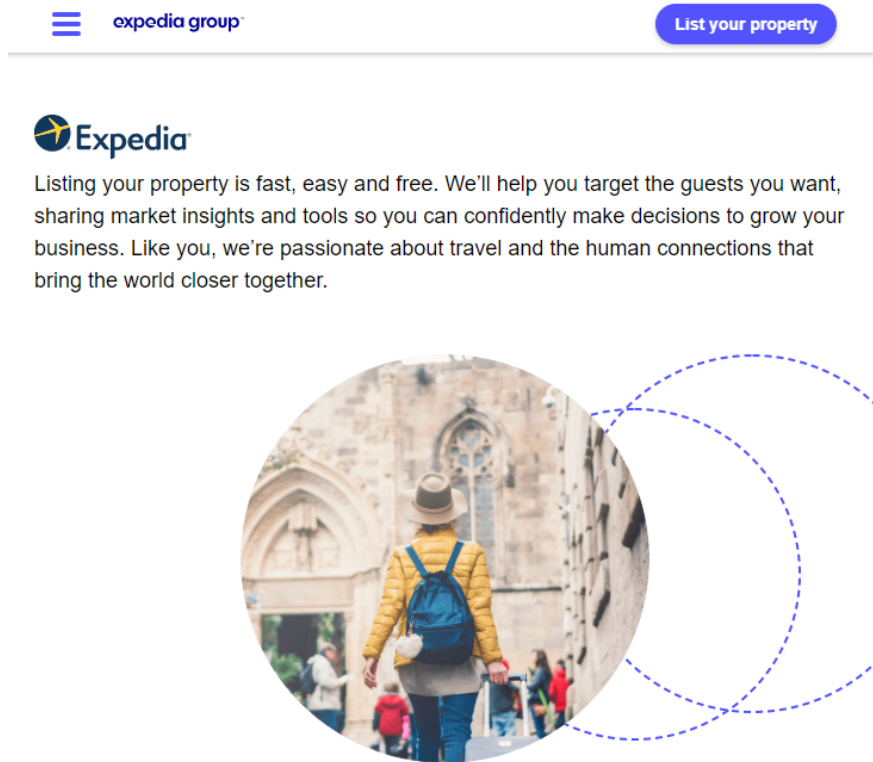
126. Plaintiff incorporates by reference paragraphs 1 to 125 above as if fully set forth herein.

127. On information and belief, Expedia has infringed and is infringing the '755 patent under 35 U.S.C. § 271, either literally and/or under the doctrine of equivalents, directly and/or indirectly.

128. On information and belief, Expedia has infringed and is infringing the '755 patent by performing, without authority, one or more of the following acts: making, using, offering to sell, selling within, and importing into, the United States products and services that practice the claimed inventions of the '755 patent, including but not limited to the Expedia Group website builder platform for the Expedia Group products (the "Expedia platform"), and the Vrbo website builder platform, also known as the HomeAway platform, for the Vrbo products (the "Vrbo platform") (collectively the "Accused Instrumentalities").

The Expedia Platform:

129. The Expedia Platform infringes at least claim 12 of the '755 patent through a combination of features that collectively practice each claimed limitation of claim 12. By way of example, the Expedia platform provides a platform to produce property listings for hotels and other lodgings to be displayed on a display of a device.



130. The Expedia platform utilizes a registry of web components related to inputs and outputs of web services, with each web component including a plurality of corresponding symbolic names for inputs and outputs. Web services available on the Expedia platform include various Application Programming Interfaces (APIs) that may be integrated on a property listing.



Developers

Integrate with the Expedia Marketplace with our advanced connectivity technology. You'll find everything you need to connect via a full suite of hospitality APIs. Get started by reviewing our documentation and samples, and get your test account.

- ✓ Proven APIs that automate the management of property availability, rates, and reservations
- ✓ Powerful feature solutions that provide additional value by automating the process of managing property descriptions and images

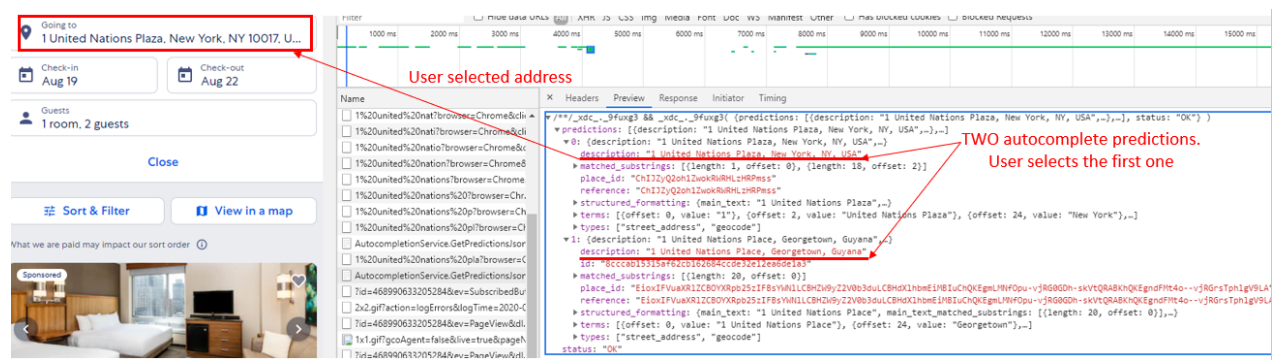
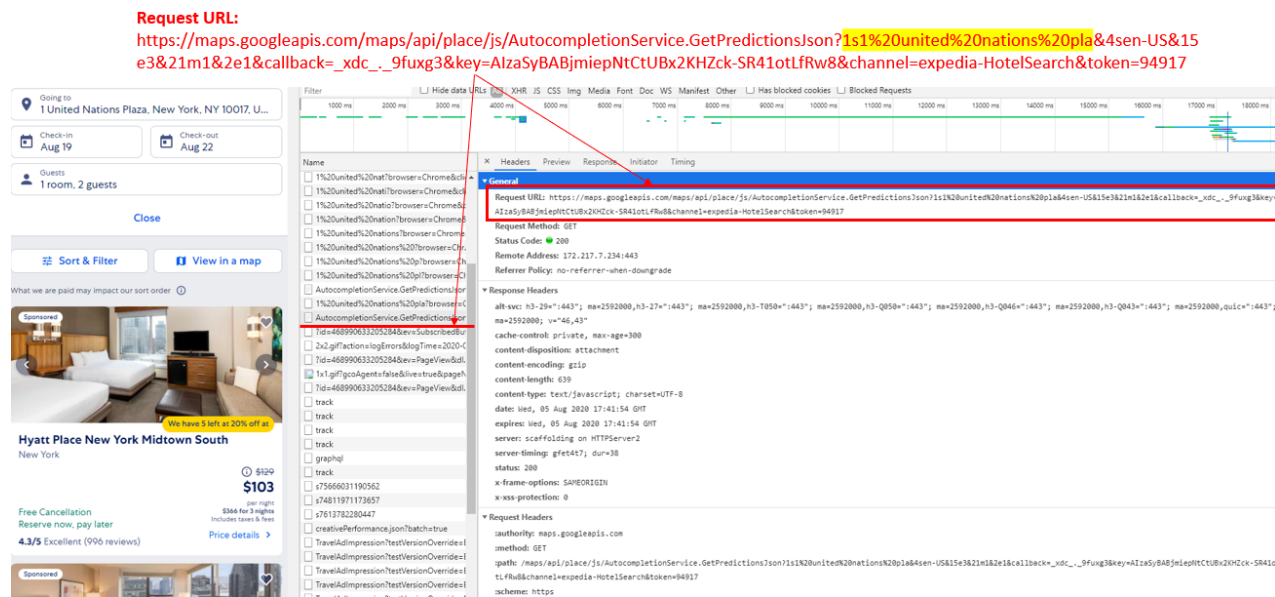
[View Connectivity APIs →](#)

<https://expediaconnectivity.com/>

131. On information and belief, the Expedia platform utilizes JSON data to evoke web components for the APIs and to communicate inputs and outputs for the APIs. JSON data comprise key/value pairs that are essentially character strings (i.e., symbolic names) with no persistent address or pointer. For example, the Expedia platform can embed an interactive map on a property listing to display the location of the property by integrating the Google Maps API and setting the location of the property with a simple HTTP request. To this end, the Google Maps API utilizes JSON data to communicate the location information for the property.

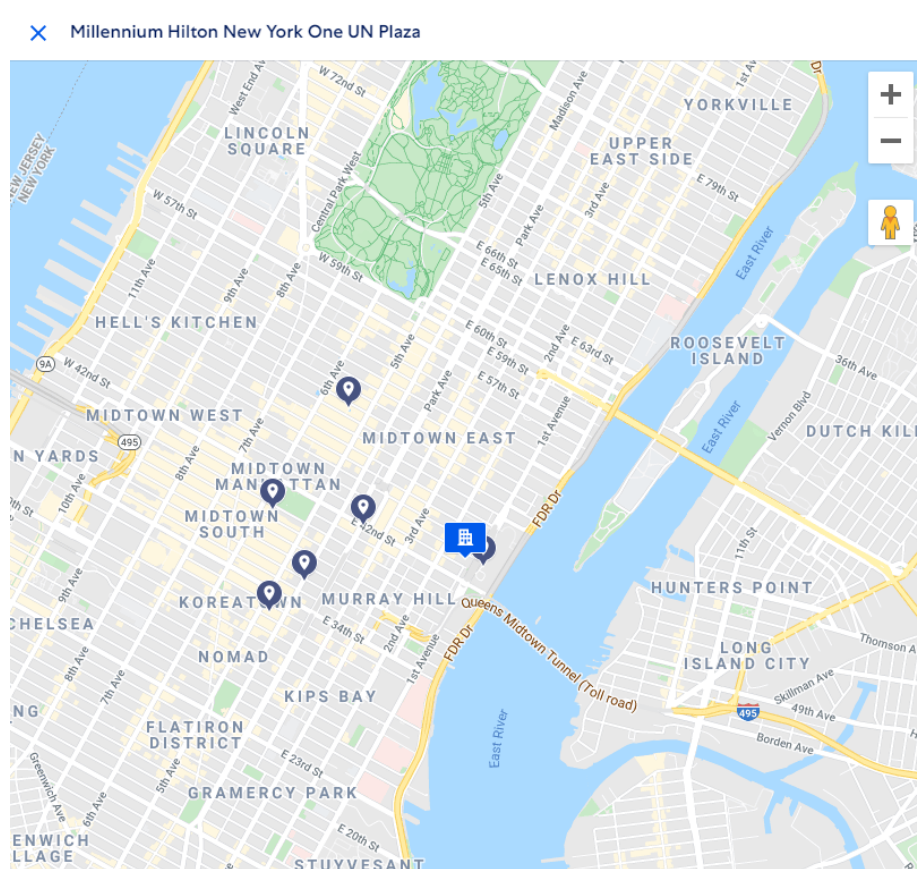
132. The registry for the Expedia platform also includes addresses for the web services where the input and output JSON data (i.e., symbolic names) can be sent to and received from. For example, the screenshot below shows a request URL including an address of the Google Maps web service when a user inputs a partial address for a property to initiate an autocomplete service. The user-input address “1 united nations pla” (a partial address for the “Millennium Hilton

New York One UN Plaza”) is embedded in the request URL and sent to the Google Maps API via an HTTP GET request to initiate an autocomplete service and retrieve predicted locations on the partial address. The autocomplete service provided by Google Maps API responds with autocomplete predictions (e.g., “1 United Nations Plaza, New York, NY, USA” and “1 United Nations Place, Georgetown, Guyana”) in the format of JSON data, in which “description” and “place_id” are output symbolic names associated with the predicted address and identification of the address.



133. The Expedia platform is configured to allow definition of a UI object corresponding to a web component for an input or output of a web service, for presentation on the display. For

example, when the Google Maps API described above is embedded onto a property listing, UI objects for web components such as a map image, zoom-in and zoom-out buttons, and pins for nearby attractions and points of interest are defined for the Google Map web service.



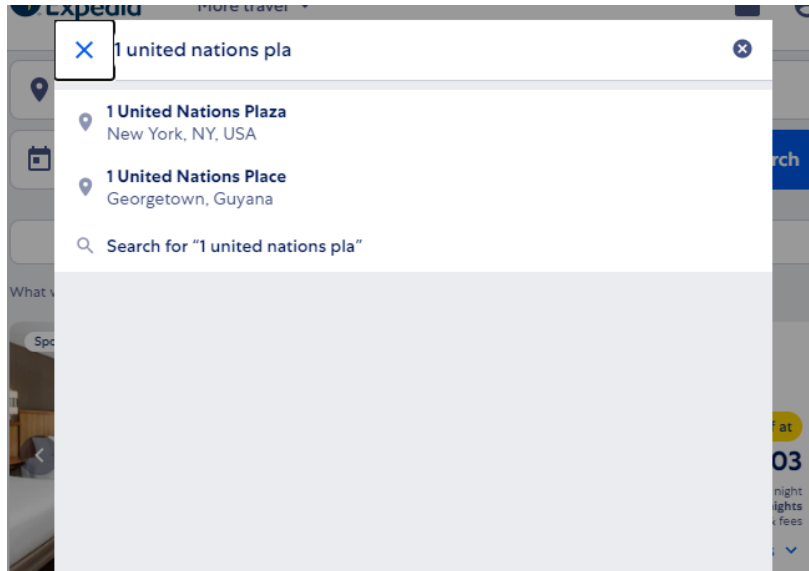
134. When a UI object is defined, a symbolic name (e.g., JSON data) from the web component corresponding to the defined UI object is selected and associated with the defined UI object. The Expedia platform then produces a device-independent application that includes the JSON data, as well as standard HTML, CSS and Javascript code. The application is executed on a device together with a device-dependent player, such as a browser engine for a browser, or an operating system or application for a particular kind of device. *See, e.g., Shopify Inc. v. Express Mobile, Inc.*, Case No. 1:19-cv-00439-RGA, D. Del., D.I. 137. In the exemplary screenshots below, the Expedia platform converts HTML, CSS, Javascript, JSON, and other files into an active

website.

The screenshot displays the Expedia website interface for a search in New York City. On the right, a network traffic analysis tool shows a list of resources. Red arrows point from labels to specific entries:

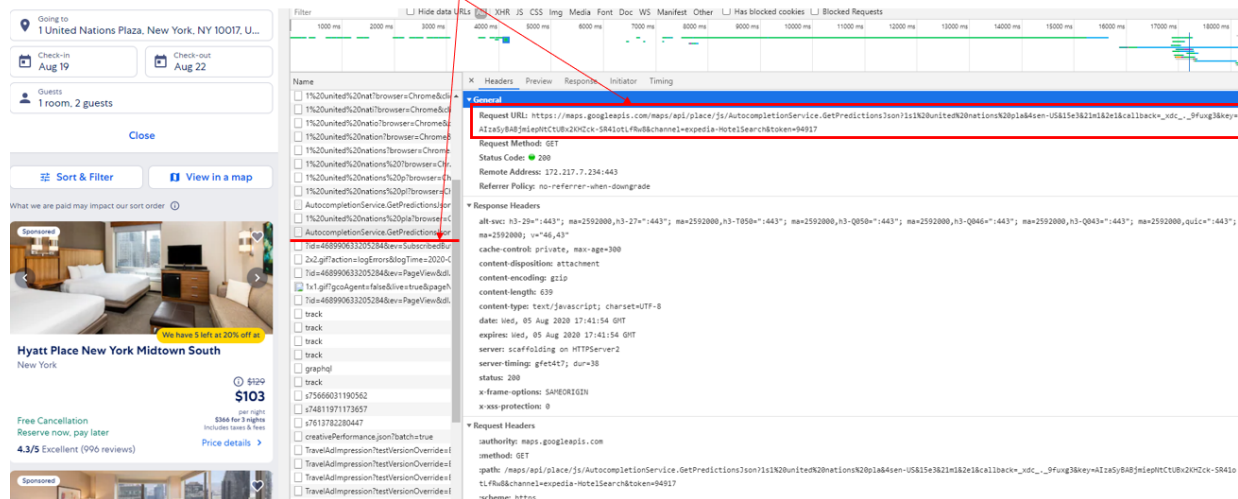
- Javascript files:** Points to entries like `Hotel_Search7adultz=2&destination=1%20United%20Nat..._Date=2020-08-19&theme=SuzeRewards=true...` and `en_US_Ecc3b55b0294409693c.js`.
- HTML file:** Points to `Hotel_Search7adultz=2&destination=1%20United%20Nat..._Date=2020-08-19&theme=SuzeRewards=true...`.
- CSS file:** Points to `ultrk-2729207a076496a16c.js`.
- JSON files:** Points to `exitUnitEventText_unit_event_type=supported_userS..._0&altvc=false&nocache=15966522...`.

135. When the application and player are executed on the device, an input value for the web service can be provided by a user. The device then provides the input value and a corresponding input symbolic name to the web service, which in turn generates an output value and a corresponding symbolic name for the output. By way of example, the Expedia platform's Google Maps API can accept an input value such as a partial address from a user, as described above. The input partial address "1 united nations pla" is sent to the autocomplete service in the Google Maps API with an HTTP GET request. The address of the property is embedded in the request URL, with "1s" as a corresponding input symbolic name associated with the input value.



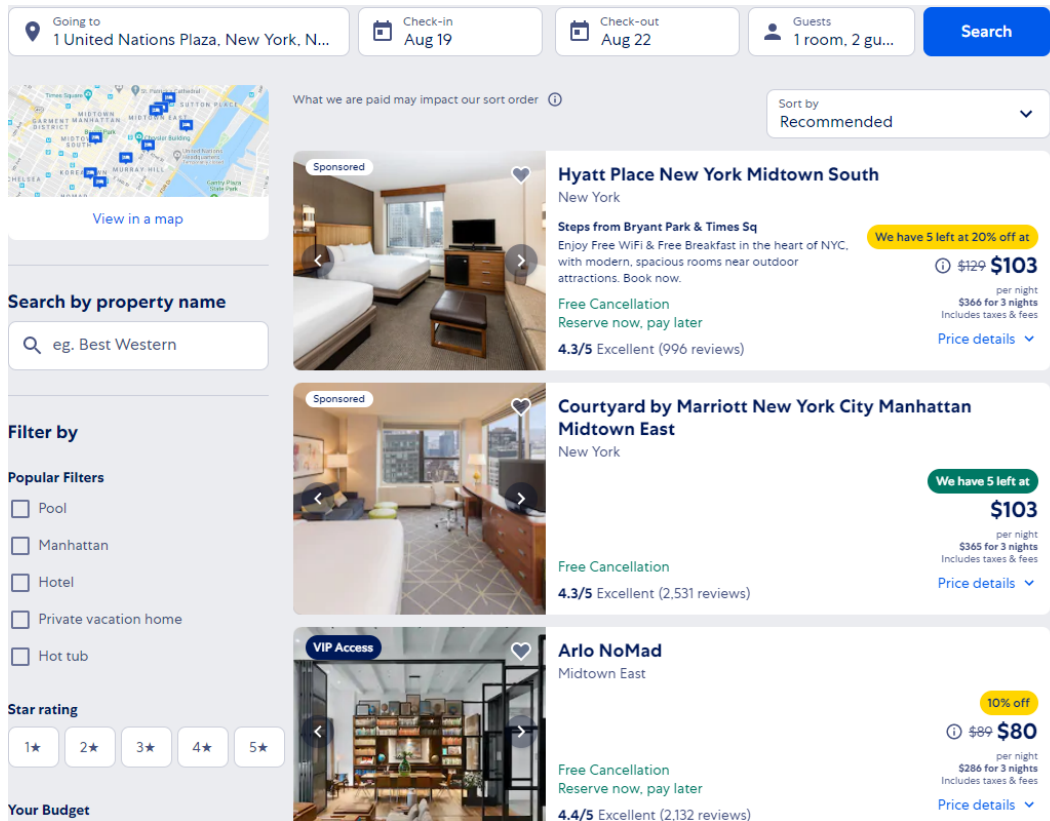
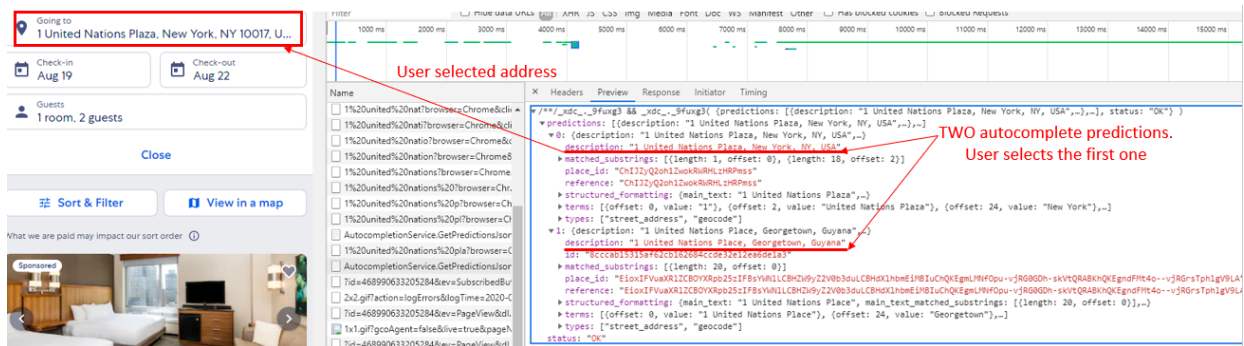
Request URL:

https://maps.googleapis.com/maps/api/place/js/AutoCompletionService.GetPredictionsJson?1s1%20united%20nations%20pla&4sen-US&15e3&21m1&2e1&callback=_xdc_._9fuxg3&key=AlzaSyBABjmiePntCtUBx2KHZck-SR41otLfrw8&channel=expedia-HotelSearch&token=94917



136. The input symbolic name is utilized by the Google Maps web service to generate an output value with an associated output symbolic name (e.g., JSON data for the output). The player then provides instructions to the display of the device to present the output value in the API. For example, after the input partial address is received as described above, the autocomplete service generates and transmits corresponding autocomplete predictions (e.g., “1 United Nations Plaza, New York, NY, USA” and “1 United Nations Place, Georgetown, Guyana”) in the format of JSON data, in which “description” and “place_id” are output symbolic names associated with

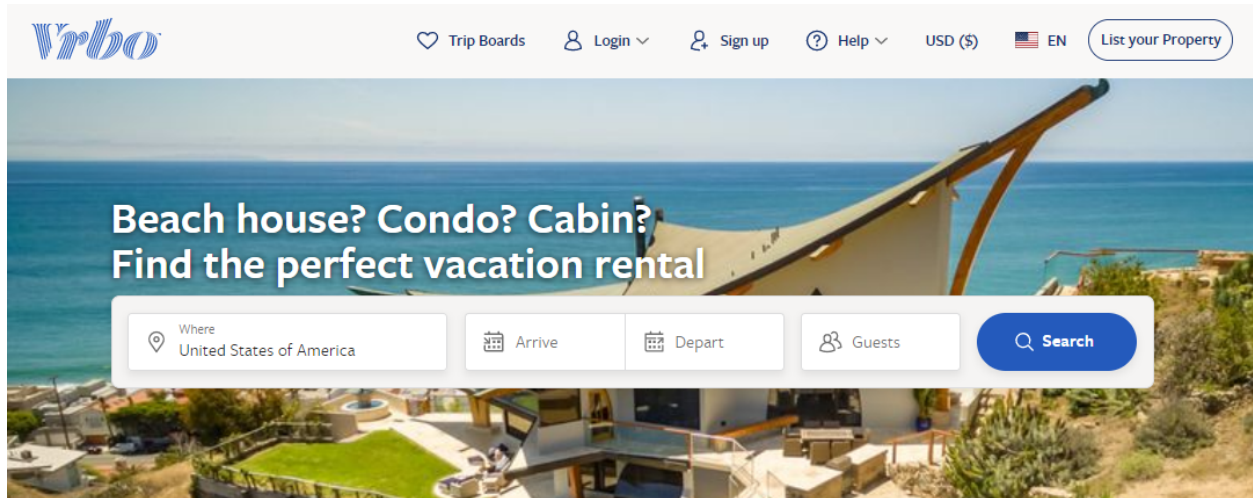
the predicted address and identification of the address. From these autocomplete predictions, the user can select a complete address and request the server to display other properties located around that address.



The Vrbo Platform:

137. The Vrbo platform infringes at least claim 12 of the '755 patent through a combination of features that collectively practice each claimed limitation of claim 12. By way of

example, the Vrbo platform provides a platform to produce property listings for vacation rentals to be displayed on a display of a device.



138. The Vrbo platform utilizes a registry of web components related to inputs and outputs of web services, with each web component including a plurality of corresponding symbolic names for inputs and outputs. Web services available on the Vrbo platform include various Application Programming Interfaces (APIs) (also known as “Homeaway APIs”) that may be integrated on the property listings.



BUILD WITH HOMEAWAY



LISTING INFO

Access to over a million vacation rental listings



USER ACCOUNTS

HomeAway users can grant your app access to their info



MESSAGING

Communicate through our secure notification system



SCALE

100+ integration partners,
100+ business development partners

<https://www.homeaway.com/platform/developer-api>

139. On information and belief, the Vrbo platform utilizes JSON data to evoke web components for the APIs and to communicate inputs and outputs for the APIs. JSON data comprise key/value pairs that are essentially character strings (i.e., symbolic names) with no persistent address or pointer. For example, each Vrbo property listing can embed an interactive map on a property listing to display the location of the property by integrating Google Maps API on the listing and by setting the location of the property with a simple HTTP request. In particular, the Google Maps API utilizes JSON data to communicate the location information for the property.

140. The registry for the Vrbo platform also includes addresses for the web services where the input and output JSON data (i.e., symbolic names) can be sent to and received from. For example, the screenshot below shows a request URL including an address of the Google Maps

web service when an address is input into the API. The user input property address is embedded in the request URL and is sent to the Google Maps API via an HTTP GET request for Geocoding service, which converts the address into geographic coordinates and places a marker on the map to indicate the property’s location. The Geocoding service in the Google Maps API responds to the input address with corresponding geographic coordinates (e.g., latitude and longitude) in the format of JSON data, in which “formatted_address,” “lat,” and “lng” correspond to output symbolic names generated in response to the user input property address.

Request URL:
https://maps.googleapis.com/maps/api/js/GeocodeService.Search?4s11920%20Alterra%20Pkw%202009%20Austin%20TX%20US%2078758%20Address&7sUS&9sen-US&callback=__xdc__&key=AlzaSyDhG9pVFZ56Av3KDsbn9Q10WV8mntXUGY&channel=ha-onboarding-checklist&token=52363

Verify the location of your property

Your listing will include a map, but not your address. Your address is only shared with guests who have booked your property.

You entered:
 11920 Alterra Pkwy, 200
 Austin, TX, 78758, US
[Edit address](#)

If needed, drag the map pin to adjust its location.

Developer Console:

```

Name
  [7] id=781087591914833&ev=PageView&...
  [8] bundleOrId=1EPS18/UserId=48329...
  [9] bundleOrId=1EPS18/UserId=48329...
  [10] collect
  [11] beacon
  [12] GeocodeService.Search?4s11920%20Alterra
  [13] validateAddress
  [14] errors
  [15] location
  [16] id=781087591914833&ev=PageView&...
  [17] ViewportInfoService.GetViewportInfo?7...
  [18] fs.js
  [19] fs.js
  [20] vt@pb=1m51m4111712299571353906425
  [21] vt@pb=1m51m4111712299561353906425
  [22] vt@pb=1m51m4111712299561353905425
  [23] vt@pb=1m51m4111712299571353905425
  [24] vt@pb=1m51m4111712299581353906425
  [25] vt@pb=1m51m41117122995813539051m
  [26] dataimage/svg+xml...
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Developer Console:

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  [9] bundleOrId=1EPS18/UserId=48329...
  [10] collect
  [11] beacon
  [12] GeocodeService.Search?4s11920%20Alterra
  [13] validateAddress
  [14] errors
  [15] location
  [16] id=781087591914833&ev=PageView&...
  [17] ViewportInfoService.GetViewportInfo?7...
  [18] fs.js
  [19] fs.js
  [20] vt@pb=1m51m4111712299571353906425
  [21] vt@pb=1m51m4111712299561353906425
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  [7] id=781087591914833&ev=PageView&...
  [8] bundleOrId=1EPS18/UserId=48329...
  [9] bundleOrId=1EPS18/UserId=48329...
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  [13] validateAddress
  [14] errors
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  [58] dataimage/svg+xml...
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  [98] dataimage/svg+xml...
  [99] dataimage/svg+xml...
  [100] dataimage/svg+xml...
  
```

141. The Vrbo platform is configured to allow definition of a UI object corresponding

to a web component for an input or output of a web service, for presentation on the display. For example, when the Google Maps API described above is embedded onto a property listing, UI objects for web components such as a map image, zoom-in and zoom-out buttons, and pins for nearby attractions and points of interest are defined for the Google Map web service.

Verify the location of your property

 Your listing will include a map, but not your address. Your address is only shared with guests who have booked your property.

You entered:

11920 Alterra Pkwy, 200
Austin, TX, 78758, US
[Edit address](#)

If needed, drag the map pin to adjust its location.



[Back](#)

[Next](#)

142. When a UI object is defined, a symbolic name (e.g., JSON data) from the web component corresponding to the defined UI object is selected and associated with the defined UI object. The Vrbo platform then produces a device-independent application that includes the JSON data, as well as standard HTML, CSS and Javascript code. The application is executed on a device together with a device-dependent player, such as a browser engine for a browser, or an operating

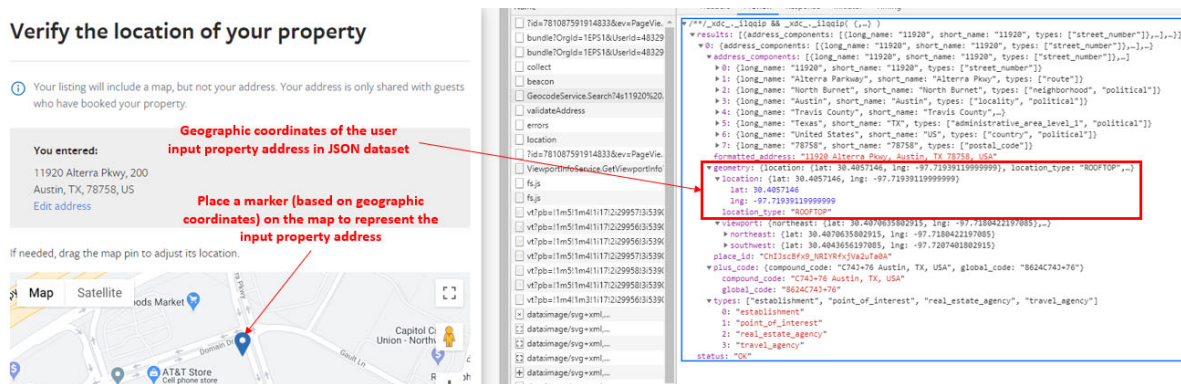
system or application for a particular kind of device. *See, e.g., Shopify Inc. v. Express Mobile, Inc.*, Case No. 1:19-cv-00439-RGA, D. Del., D.I. 137. In the example below, the Vrbo platform converts HTML, CSS, Javascript, JSON, and other files into an active “Verify the location of your property” web page.

The screenshot shows a web browser interface for the Vrbo platform. The main content area displays the title "Verify the location of your property" and a map of Austin, TX. The map shows a pin at 11920 Alterra Pkwy, Austin, TX, 78758, US. Below the map, there is a text input field with the address "11920 Alterra Pkwy, 200 Austin, TX, 78758, US" and an "Edit address" link. The network resource list on the right side of the browser shows various files loaded by the page, categorized into HTML, CSS, Javascript, and JSON files. Red arrows point from the labels to the corresponding files in the network list.

name	url	status	type	initiator
verify	https://www.vrbo.co...	200	document	Owner
FreigSanLPfroBooBLwoff2	https://civicus.home...	200	font	verify
webfonts-vrbo.min.css	https://civicus.home...	200	stylesheet	verify
baseline-optimized-vrbo-ee079ac0b75c2bcbab5eb2c711ae0a7.css	https://civicus.home...	200	stylesheet	verify
bundle.a23f693a2c11221b4ab.css	https://civicus.home...	200	stylesheet	verify
js?key=Alta5yDh09yVF256Aw3KDn9Q10WV8mrtXU0Y&channel=ha-onboarding-checklist&v=quar...	https://maps.google...	200	script	verify
polyfill.min.js?features=Promise%2CIntersectionObserver%2CIntersectionObserverEntry	https://polyfill.io/v3/...	200	script	verify
895597a2bece429f8e156d6b4939c55.min.js	https://js.sentry-cdn...	200	script	verify
vendor.600184e72b2348ae835.js	https://civicus.home...	200	script	verify
bundle.165ae6bc3b266efccc44.js	https://civicus.home...	200	script	verify
edap-integrations.min.js	https://civicus.home...	200	script	verify
895597a2bece429f8e156d6b4939c55.min.js	https://js.sentry-cdn...	200	text/javascript	verify
analytics.js	https://www.google-...	200	script	dombehoers.js:248
getinData	https://www.vrbo.co...	200	xhr	verify:22
?site=vrbo&locale=en_US_VRBO&druid=&listingId=3211...=7.2.1&appName=node-checklist-uid&hidet...	https://www.vrbo.co...	200	xhr	verify:22
common.js	https://maps.google...	200	script	js?key=Alta5yDh09yVF256Aw3KD...
util.js	https://maps.google...	200	script	js?key=Alta5yDh09yVF256Aw3KD...
geocoder.js	https://maps.google...	200	script	js?key=Alta5yDh09yVF256Aw3KD...
beacon	https://www.vrbo.co...	200	text/plain	dombehoers.js:232
beacon	https://www.vrbo.co...	200	text/plain	dombehoers.js:232
beacon	https://www.vrbo.co...	200	text/plain	dombehoers.js:232
fulistory.3a5930e07b57d6533730.min.js	https://civicus.home...	200	script	verify:62
Bootstrap.js	https://nevus.enight...	200	script	dombehoers.js:248
FreigSanLPfroSemBLwoff2	https://civicus.home...	200	font	webfonts-vrbo.min.css
map.js	https://maps.google...	200	script	js?key=Alta5yDh09yVF256Aw3KD...
marker.js	https://maps.google...	200	script	js?key=Alta5yDh09yVF256Aw3KD...
linkid.js	https://www.google...	200	script	VWZ522_analytics.js:79
fs.js	https://fulistory.com...	301	script	fulistory.js:293line_min.js:1
AuthenticationService.Authenticate?1=https%3A%2F%2...0UGY&channel=ha-onboarding-checklist&to...	https://maps.google...	200	script	common.js:21

143. When the application and player are executed on the device, an input value for the web service can be provided by a user. The device then provides the input value and a corresponding input symbolic name to the web service, which in turn generates an output value and a corresponding symbolic name. By way of example, the Vrbo platform can accept an input value (e.g., typed address of the property) from a user, as described above. When the user clicks on the “Save and continue” button, the input value is sent to the Geocoding service in the Google Maps API with an HTTP GET request. The address of the property is then embedded in the request URL with “4s” as a corresponding input symbolic name associated with the input address.

144. The input symbolic name is utilized by the Google Map web service to generate an output value with an associated output symbolic name (e.g., JSON data for the output). The player then provides instructions to the display of the device to present the output value in the API. For example, after the input address is received as described above, the Geocoding service generates and transmits corresponding geographic coordinates (e.g., latitude and longitude) in the format of JSON data to the Vrbo platform. The JSON data includes “formatted_address,” “lat,” and “lng,” which represent symbolic names associated with the property address, and latitude and longitude coordinates. The geographic coordinates are then utilized to place a marker on the map indicating the address of property.



145. The presence of the above referenced features is demonstrated, by way of example, by testing the Accused Instrumentalities for investigative purposes on <https://www.expediagroup.com/>, <https://www.expediagroup.com/>, <https://www.expediagroup.com/>, and <https://www.vrbo.com/>, and by reference to publicly available information, including <https://www.expediagroup.com/>, <https://welcome.expediagroup.com/en,> <https://expediainconnectivity.com,> <https://expediainconnectivity.com/apis/product-management/property-api/api-definition.html,> <https://expediainconnectivity.com/apis/product-management/property-api/video.html,> <https://www.youtube.com/watch?v=NSVzEoqYLxI,> <https://welcome.expediagroup.com/en/how-it-works,> [84](https://aws.amazon.com/solutions/case-</p>
</div>
<div data-bbox=)

[studies/expedia/](#), <https://www.vrbo.com/>, <https://help.vrbo.com/articles/How-do-I-list-my-property-HA>, https://help.vrbo.com/category/List_Your_Property, <https://www.homeaway.com/platform/developer-api>, <https://developers.google.com/maps/documentation/javascript/geocoding>, and https://help.vrbo.com/category/Your_Listing.

146. On information and belief, Expedia has had knowledge of the ‘755 patent and its infringement thereof at least as early as July 28, 2019, and no later than August 31, 2020, when Plaintiff provided notices of the ‘755 patent and Expedia’s infringement of the ‘755 patent. Furthermore, Expedia has been aware of the ‘755 patent and its infringement thereof since at least the filing of this complaint.

147. On information and belief, Expedia has contributed and is contributing to the infringement of the ‘755 patent because Expedia knows that the infringing aspects of its infringing products and services, including but not limited to the Accused Instrumentalities, are made for use in an infringement, and are not staple articles of commerce suitable for substantial non-infringing uses.

148. On information and belief, Expedia has induced and is inducing the infringement of the ‘755 patent, with knowledge of the ‘755 patent and that its acts, including without limitation using, offering to sell, selling within, and importing into the United States, the Accused Instrumentalities, would aid and abet and induce infringement by customers, clients, partners, developers, and end users of the foregoing.

149. In particular, Expedia’s actions that aid and abet others such as customers, clients, partners, developers, and end users to infringe include advertising and distributing the Accused Instrumentalities, providing instructional materials, training, and other services regarding the

Accused Instrumentalities, and providing free listings for the Accused Instrumentalities. Expedia actively encourages the adoption of the Accused Instrumentalities and provides support sites for the vast network of developers working with the Accused Instrumentalities, emphasizing the simple and user-friendly nature of the Accused Instrumentalities and explaining that “[l]isting is free and it’s easy to get started. Just tell us about your property (Is it an inn? A vacation home? A ryokan?) and we’ll set up your account” (*see, e.g.*, <https://welcome.expediagroup.com/en/how-it-works>.) and “[s]et your price, dates, rules, and more. We give you the tools to make sure you’re in control... We’re here for you, 24/7... A dedicated support team is ready around the clock to make sure that everything runs smoothly” (*see, e.g.*, https://www.vrbo.com/en-us/list?icid=IL___O_Text___top_nav_link_hp). On information and belief, Expedia has engaged in such actions with specific intent to cause infringement or with willful blindness to the resulting infringement because Expedia has had actual knowledge of the ‘755 patent and knowledge that their acts were inducing infringement of the ‘755 patent since at least the date Expedia received notice that its activities infringed the ‘755 patent.

150. Expedia’s acts of infringement have caused damage to Plaintiff, and Plaintiff is entitled to recover damages from Expedia in an amount subject to proof at trial.

151. Expedia’s infringement of Plaintiff’s rights under the ‘755 patent will continue to damage Plaintiff’s business, causing irreparable harm, for which there is no adequate remedy at law, unless enjoined by this Court.

152. On information and belief, Expedia has acted with disregard of Plaintiff’s patent rights, without any reasonable basis for doing so, and has willfully infringed and does willfully infringe the ‘755 patent.

153. The foregoing is illustrative of Expedia’s infringement of the ‘755 patent.

Plaintiff reserves the right to identify additional claims and Accused Instrumentalities in accordance with the Court's local rules and applicable scheduling orders.

COUNT IV – INFRINGEMENT OF U.S. PATENT NO. 9,471,287

154. Plaintiff incorporates by reference paragraphs 1 to 153 above as if fully set forth herein.

155. On information and belief, Expedia has infringed and is infringing the '287 patent under 35 U.S.C. § 271, either literally and/or under the doctrine of equivalents, directly and/or indirectly.

156. On information and belief, Expedia has infringed and is infringing the '287 patent by performing, without authority, one or more of the following acts: making, using, offering to sell, selling within, and importing into, the United States products and services that practice the claimed inventions of the '287 patent, including but not limited to the Expedia Group website builder platform for the Expedia Group products (the "Expedia platform"), and the Vrbo website builder platform, also known as the HomeAway platform, for the Vrbo products (the "Vrbo platform") (collectively the "Accused Instrumentalities").

The Expedia Platform:

157. The Expedia platform infringes at least claim 15 of the '287 patent through a combination of features that collectively practice each claimed limitation of claim 15. By way of example, the Expedia platform provides a platform to produce property listings for hotels and other lodgings to be displayed on a display of a device.






Listing your property is fast, easy and free. We'll help you target the guests you want, sharing market insights and tools so you can confidently make decisions to grow your business. Like you, we're passionate about travel and the human connections that bring the world closer together.



158. The Expedia platform displays content through a device that has a device-dependent player, such as a browser engine for a specific browser, or an operating system or application for a particular kind of device. *See, e.g., Shopify Inc. v. Express Mobile, Inc.*, Case No. 1:19-cv-00439-RGA, D. Del., D.I. 137. For example, the Expedia platform displays content through modern browsers such as Google Chrome, Mozilla Firefox, and Microsoft Edge.

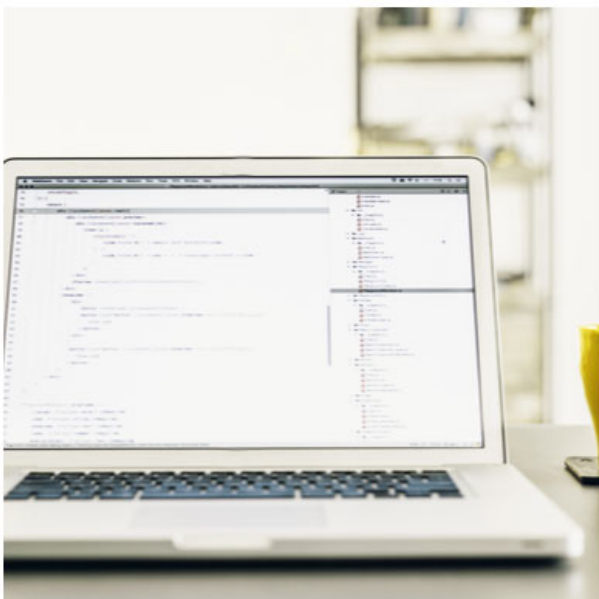
There is a security concern with your current browser.
To continue on Expedia.com, **please open or download a modern browser.**
If you are unable to upgrade and need access to previously booked trips, visit the [My Trips](#) page.

 Google Chrome  Firefox  Microsoft Edge

العربية [español](#) 简体中文

<https://www.expedia.com/upgradebrowser>

159. The Expedia platform defines a UI object for presentation on the display, the UI object corresponding to a web component included in a registry of one or more web components selected from an input of a web service and an output of a web service. Web services available on the Expedia platform include various Application Programming Interfaces (APIs) that may be integrated on a property listing.



Developers

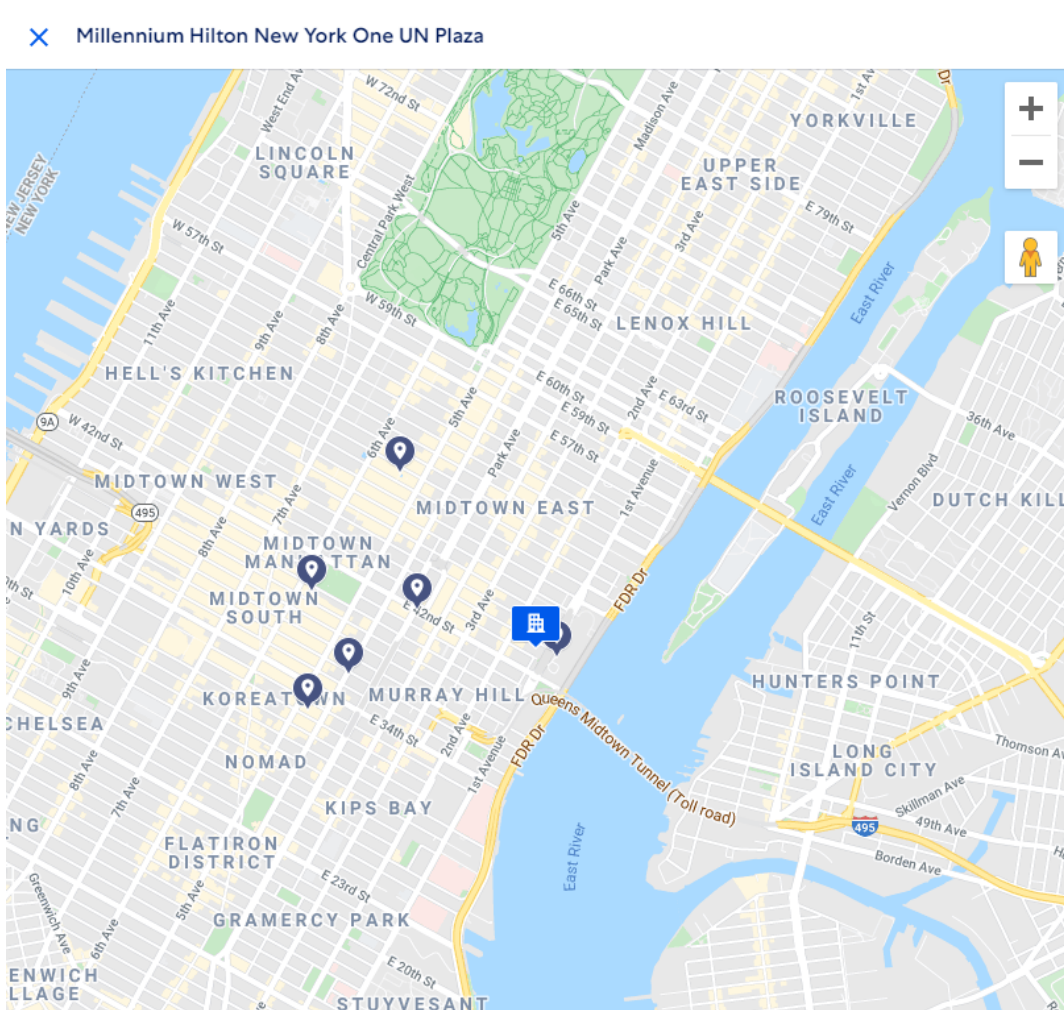
Integrate with the Expedia Marketplace with our advanced connectivity technology. You'll find everything you need to connect via a full suite of hospitality APIs. Get started by reviewing our documentation and samples, and get your test account.

- ✓ Proven APIs that automate the management of property availability, rates, and reservations
- ✓ Powerful feature solutions that provide additional value by automating the process of managing property descriptions and images

[View Connectivity APIs →](#)

<https://expediaconnectivity.com/>

160. By way of example, when an interactive map is embedded on the property listing to integrate the Google Maps API, UI objects for input and output web components such as a map image, zoom-in and zoom-out buttons, and pin drops for nearby attractions and points of interest, are defined for the Google Maps web service.



161. In order to store and transmit data for the APIs, the Expedia platform employs JSON data to evoke web components and to communicate inputs and outputs for the APIs. JSON data comprise key/value pairs that are essentially character strings (i.e., symbolic names) with no persistent address or pointer. For example, when the Google Maps API is embedded on a property listing, the Expedia platform sets the location of the property with a simple HTTP request, employing JSON data to communicate the location information for the property with the Expedia platform.

162. The Expedia platform's web components and symbolic names (e.g., JSON data) described above, are located in a MySQL registry used by Amazon Web Services (AWS), a cloud

computing service for the Expedia platform.

Expedia Group Increases Agility and Resiliency by Going All In on AWS

2018

Expedia Group is all in on AWS, with plans to migrate 80 percent of its mission-critical apps from its on-premises data centers to the cloud in the next two to three years. By using AWS, Expedia Group has become more resilient. Expedia Group's developers have been able to innovate faster while saving the company millions of dollars. Expedia Group provides travel-booking services across its flagship site Expedia.com and about 200 other travel-booking sites around the world.

<https://aws.amazon.com/solutions/case-studies/expedia/>

In simple words AWS allows you to do the following things-

1. Running web and application servers in the cloud to host dynamic websites.
2. Securely store all your files on the cloud so you can access them from anywhere.
3. Using managed databases like MySQL, PostgreSQL, Oracle or SQL Server to store information.
4. Deliver static and dynamic files quickly around the world using a Content Delivery Network (CDN).
5. Send bulk email to your customers.

<https://blog.usejournal.com/what-is-aws-and-what-can-you-do-with-it-395b585b03c>

163. The registry for the Expedia platform also includes addresses for the web services where input and output JSON data (i.e., symbolic names) can be sent to and received from. For example, the screenshot below shows a request URL including an address of the Google Maps web service when a user inputs a partial address for a property to initiate an autocompletion

service. The user-input property address “1 united nations pla” (e.g., address for the “Millennium Hilton New York One UN Plaza”) is embedded in the request URL and is sent to the Google Maps API via an HTTP GET request to initiate an autocomplete service and retrieve predicted locations based on the partial address. The autocomplete service provided by Google Maps API responds with autocomplete predictions (e.g., “1 United Nations Plaza, New York, NY, USA” and “1 United Nations Place, Georgetown, Guyana”) in the format of JSON data, in which “description” and “place_id” are output symbolic names associated with the predicted address and identification of the address.

Request URL:
https://maps.googleapis.com/maps/api/place/js/AutocompletionService.GetPredictionsJson?1s1%20united%20nations%20pla&4sen-US&15e3&21m1&2e1&callback=_%xdc_%9fuxg3&key=AlzaSyBAbjmiePntCtUBx2KHZck-SR41otLfrw8&channel=expedia-HotelSearch&token=94917

User selected address

TWO autocomplete predictions. User selects the first one

164. The defined UI objects described above are either selected by a user of an

authoring tool or automatically selected by the Expedia platform as preferred UI objects. For example, when the Google Maps API is integrated onto a property listing as described above, UI objects for web components such as the zoom-in and zoom-out buttons are automatically selected by the Expedia platform as preferred UI objects.

165. When a UI object is so defined, a symbolic name (e.g., JSON data) from the web component corresponding to the defined UI object is selected and associated with the defined UI object. The symbolic name has an associated data format class type corresponding to a subclass of UI objects that support the data format type of the symbolic name, and has the preferred UI object. For example, as shown below, a user can configure a “parking” object (i.e., a module in Expedia websites) by providing a “Self parking” option and set a surcharge fee to “130 per day” when listing his/her property. The “Self parking” option and the user input surcharge fee “130” are sent to the Expedia server in the format of JSON data via a HTTP POST request “parking?htid=56973277” and are further stored in the Expedia’s database. In particular, “AmenityId” is a symbolic name associated with the “Self parking” option and “value” is a symbolic name associated with the amount of the surcharge fee “130.”

The image displays a user interface for configuring parking options and the corresponding HTTP request and response headers. The form on the left shows the following configuration:

- Do you offer parking? Yes No
- Self parking
 - Free Surcharge
 - Amount per vehicle:
 - In/out privileges
 - Covered parking
 - Uncovered parking
 - Secured parking
 - Valet parking

A red arrow points from the text "User input for self parking fee" to the "130" input field.

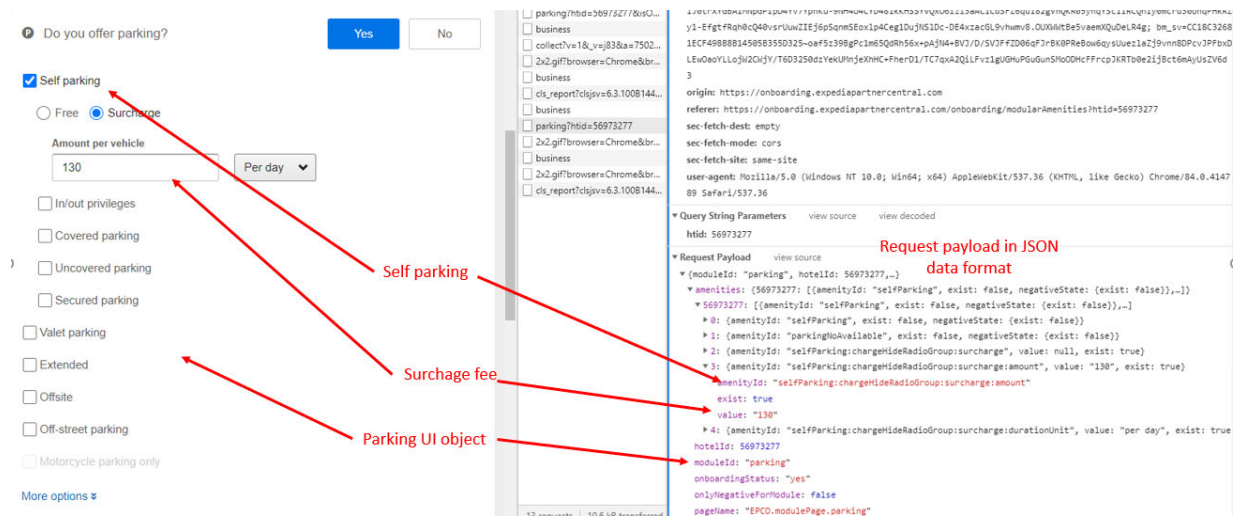
The HTTP request and response headers are shown on the right:

```

Request URL: https://apps.expediapartnercentral.com/lodging/content/api/v1/hotels/56973277/onboarding/modules/parking?htid=56973277
Request Method: POST
Status Code: 200
Remote Address: 23.67.94.128:443
Referrer Policy: no-referrer-when-downgrade

Response Headers
access-control-allow-credentials: true
access-control-allow-headers: Content-Type, Cookie, Accept-Encoding, User-Agent, Host, Referer, X-Requested-With, Accept, Accept-Language, Cache-Control, Connection
access-control-allow-methods: GET, POST, PUT, DELETE, OPTIONS
access-control-allow-origin: https://onboarding.expediapartnercentral.com
access-control-max-age: 864000
cache-control: no-cache, no-store, must-revalidate
content-length: 52
content-security-policy: frame-ancestors 'self'
content-type: application/json;charset=utf-8
date: Fri, 31 Jul 2020 19:53:03 GMT
expires: Thu, 01 Jan 1970 00:00:00 GMT
pragma: no-cache
  
```

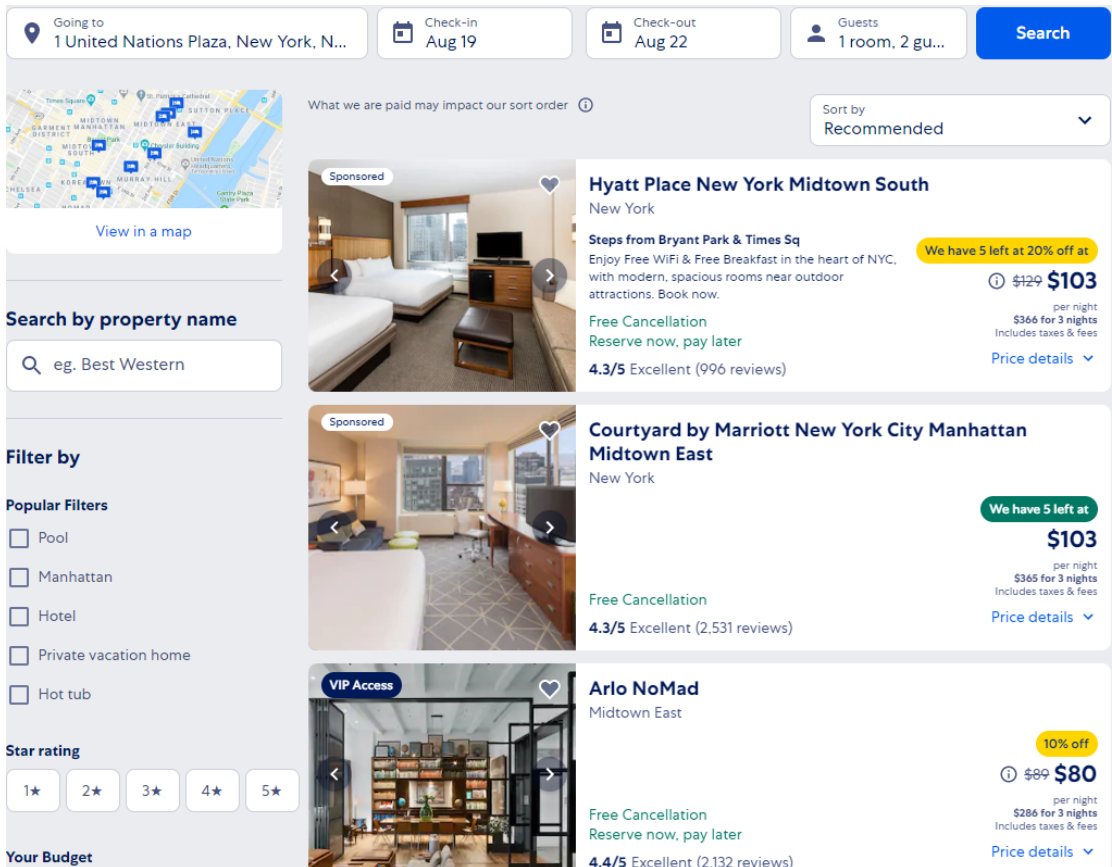
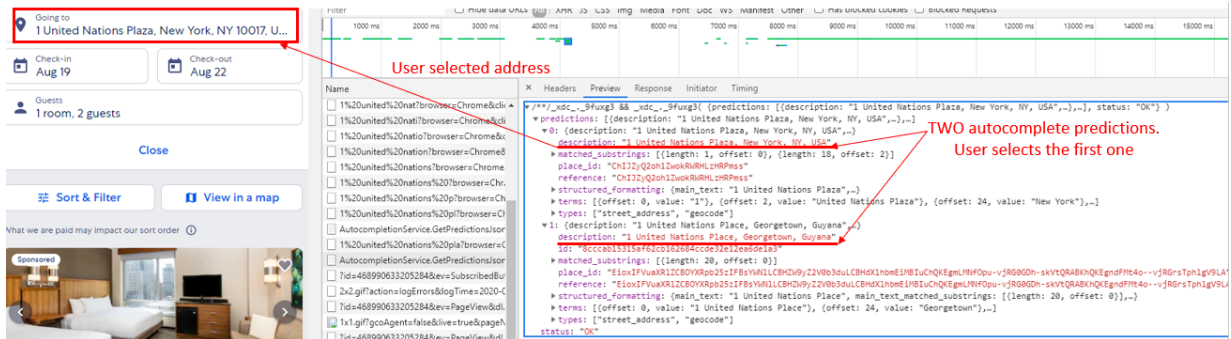
A red arrow points from the text "HTTP POST request to store the user input self parking fee in Expedia's server" to the "200" status code.



166. The Expedia platform then produces a device-independent application that includes the JSON data, as well as standard HTML, CSS and Javascript code. The application is executed on a device together with a device-dependent player, such as a browser engine for a specific browser, or an operating system or application for a particular kind of device. *See, e.g., Shopify Inc. v. Express Mobile, Inc.*, Case No. 1:19-cv-00439-RGA, D. Del., D.I. 137. In the example below, the Expedia platform converts HTML, CSS, Javascript, JSON, and other files into an active property listing.

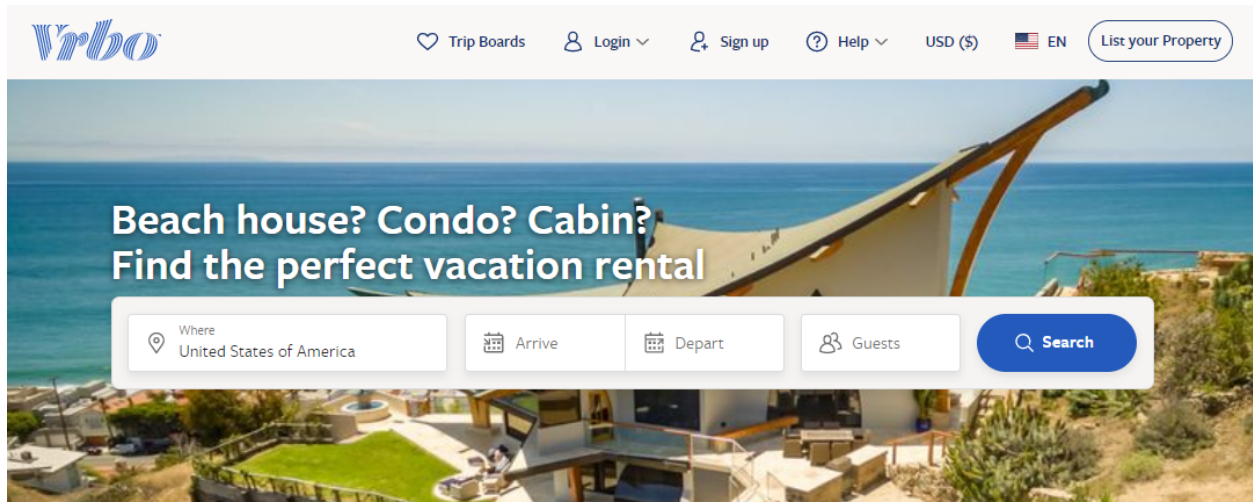
167. When the application and player are executed on the device, an input value for the web service can be provided by a user. The device then provides the input value and a corresponding input symbolic name to the web service, which in turn generates an output value and a corresponding symbolic name for the output. By way of example, the Expedia platform’s Google Maps API can accept an input value such as a partial address from a user, as described above. As shown below, the input partial address “1 united nations pla” is sent to the autocomplete service in the Google Maps API with an HTTP GET request. The address of the property is embedded views in the request URL, with “1s” as a corresponding input symbolic name associated with the input value.

Plaza, New York, NY, USA” and “1 United Nations Place, Georgetown, Guyana”) in the format of JSON data, in which “description” and “place_id” are output symbolic names associated with the predicted address and identification of the address. From these autocomplete predictions, the user can select the complete address and request the server to display other properties located around that address.



The Vrbo Platform:

169. The Vrbo platform infringes at least claim 15 of the '287 patent through a combination of features that collectively practice each claimed limitation of claim 15. By way of example, the Vrbo platform provides a platform to produce property listings for vacation rentals to be displayed on a display of a device.



170. The Vrbo platform displays content through a device that has a device-dependent player, such as a browser engine for a specific browser, or an operating system or application for a particular kind of device. *See, e.g., Shopify Inc. v. Express Mobile, Inc.*, Case No. 1:19-cv-00439-RGA, D. Del., D.I. 137. For example, the Vrbo platform displays content through modern browsers such as Google Chrome, Mozilla Firefox, Microsoft Edge, Internet Explorer, iOS Safari, and Android Chrome.

The screenshot shows the Vrbo help center interface. At the top left is the Vrbo logo. On the right, there are links for 'Trip Boards', 'Login', and a menu icon. Below the logo is a search bar with the text 'Search Help' and a magnifying glass icon. To the left of the search bar is a 'FILTERS +' button. To the right is a 'TRAVELER CHAT' button with a notification badge showing '1'. Below the search bar is a breadcrumb trail: 'Help Home / Your Account / Sign In'. On the left side, there is a vertical navigation menu with the following items: 'Find Help by Category', 'Find a Property', 'Book a Property', 'Your Stay', 'Your Review', 'Getting Started', 'Your Safety', 'Your Account', 'Your Listing', and 'Manage Reservations'. The main content area is titled 'What web browsers are supported by the site?'. The text below the title reads: 'We strive to provide our customers with modern, fast, safe and secure web browsing experience. In order to provide you with a great user experience, we officially support the following browsers:'. A bulleted list follows:

- Internet Explorer / Edge 16 or higher
- Firefox 59 or higher
- Chrome 64 or higher
- Safari 10 or higher

Below the list, it says: 'On mobile devices, we officially support the following:'. Another bulleted list follows:

- iOS Safari 9 or higher (iPhone and iPad)
- Android Chrome 65 or higher (Android Phones and Tablets)

Then, it states: 'While our sites may continue to function on other devices and in other browsers than those listed, occasionally you may see a warning if you are using a browser or device with known issues. While we do our best to support browsers that are most commonly in use, it is not possible to support all, and therefore we recommend upgrading to one of the above-mentioned browsers. To view instructions on how to upgrade your internet browser, visit <http://browsehappy.com/>.'

<https://help.vrbo.com/articles/What-web-browsers-are-supported-by-the-site>

171. The Vrbo platform defines a UI object for presentation on the display, the UI object corresponding to a web component included in a registry of one or more web components selected from an input of a web service and an output of a web service. Web services available on the Expedia platform include various Application Programming Interfaces (APIs) that may be integrated on a property listing.



BUILD WITH HOMEAWAY



LISTING INFO

Access to over a million vacation rental listings



USER ACCOUNTS

HomeAway users can grant your app access to their info



MESSAGING

Communicate through our secure notification system




SCALE

100+ integration partners,
100+ business development partners

<https://www.homeaway.com/platform/developer-api>

172. By way of example, when an interactive map is embedded on the property listing by integrating the Google Maps API, UI objects for input and output web components such as a map image, zoom-in and zoom-out buttons, and pins for nearby attractions and points of interest, are defined for the Google Map web service.

Verify the location of your property

 Your listing will include a map, but not your address. Your address is only shared with guests who have booked your property.

You entered:

11920 Alterra Pkwy, 200
Austin, TX, 78758, US
[Edit address](#)

If needed, drag the map pin to adjust its location.



[Back](#)

[Next](#)

173. In order to store and transmit data for the APIs, the Vrbo platform employs JSON data to evoke web components and to communicate inputs and outputs for the APIs. JSON data comprise key/value pairs that are essentially character strings (i.e., symbolic names) with no persistent address or pointer. For example, when the Google Maps API is embedded on a property listing, the Vrbo platform sets the location of the property with a simple HTTP request, employing JSON data to communicate the location information for the property with the Expedia platform.

174. On information and belief, the Vrbo platform's web components and corresponding symbolic names (e.g., JSON data) described above are located in a registry at Vrbo's server located at "odis.homeaway.com." See <https://www.phocuswire.com/expedia-group->

[vrbo-homeaway-consolidation.](#)

175. The registry for the Vrbo platform also includes addresses for the web services where the input and output JSON data (i.e., symbolic names) can be sent to and received from. For example, the screenshot below shows a request URL including an address of the Google Maps web service when an address for a property is input into the API. The user-input property address is embedded in the request URL and is sent to the Google Maps API via an HTTP GET request for Geocoding service, which converts the address into geographic coordinates and places a marker on the map indicating the property’s location. The Geocoding service in the Google Maps API responds to the input address with corresponding geographic coordinates (e.g., latitude and longitude) in the format of JSON data, in which “formatted_address,” “lat,” and “lng” are the output symbolic names associated with the input property address, and latitude and longitude coordinates.

Request URL:
https://maps.googleapis.com/maps/api/js/GeocodeService.Search?4s11920%20Alterra%20Pkwy%20200%20Austin%20TX%20US%2078758%20Address&7sUS&9sen-US&callback=_xdc__ilqqip&key=AlzaSyDHG9pVFZS6Av3KDsnb9Q10VW8mntXUGY&channel=ha-onboarding-checklist&token=52363

The screenshot displays a web browser window with a map verification interface on the left and developer tools on the right. The browser page shows a map of Austin, TX, with a red pin indicating the location of a property at 11920 Alterra Pkwy, 200. The developer tools window shows a network request to the Google Maps Geocoding API. The request URL is highlighted in red, and the response status is 200. The response headers and request headers are also visible.

Describe your property

What amenities does your property have?

These are the top amenities travelers search for in your area. You'll be able add more later with the property editor.

- Heated Pool
- Indoor Pool
- Outdoor Pool
- Private Pool
- Communal Pool
- Internet
- Wireless Internet
- Garage
- Parking

Store in Vrbo server via a "addAmenities" POST request

User selected "Communal Pool" option

Network tab details for the 'addAmenities' request:

- Name: addAmenities
- Request URL: https://www.vrbo.com/pob/graphql/addAmenities
- Request Method: POST
- Status Code: 200
- Remote Address: 151.101.193.90:443
- Referrer Policy: no-referrer-when-downgrade
- Response Headers:
 - accept-ranges: bytes
 - cache-control: no-cache
 - content-encoding: gzip
 - content-length: 356
 - content-type: application/json; charset=utf-8
 - date: Tue, 04 Aug 2020 13:53:39 GMT
 - ha-gx-prefs: en_US|USD
 - ha-ipaddr: 98.169.36.3
 - ISd-success-class: 1.0
 - set-cookie: above="29027|0|0:35126|0|0"; Path=
 - set-cookie: ha-device-id=2cf1bc5f-c893-40a1-adff-d40911434b4b;
 - set-cookie: hav=2cf1bc5f-c893-40a1-adff-d40911434b4b; Max-Age=6
 - set-cookie: eu-site=0; Max-Age=604800; Expires=Tue, 11 Aug 2020

- Heated Pool
- Indoor Pool
- Outdoor Pool
- Private Pool
- Communal Pool
- Internet
- Wireless Internet
- Garage
- Parking
- Hot Tub

Give your property a headline and description

Describe what makes your property special to let travelers know your home is the perfect place for their stay.

Property headline

An engaging headline can grab a traveler's attention as they browse search results.

Headline tips

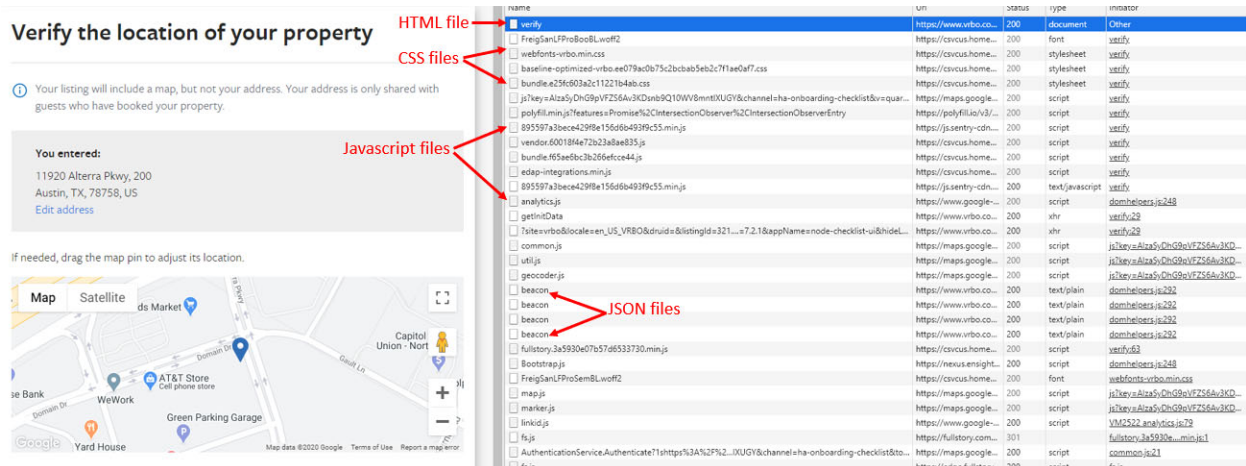
Request Payload details:

```
{
  "listingId": "321.2032132.2596652",
  "amenities": [
    {
      "name": "COMMUNAL_POOL",
      "displayName": "Communal Pool",
      "amenityType": "UNIT",
      "displayName": "Communal Pool",
      "name": "COMMUNAL_POOL"
    }
  ]
}
```

The JSON dataset is highlighted with a red arrow pointing to the 'COMMUNAL_POOL' entry.

178. The Vrbo platform then produces a device-independent application that includes the JSON data, as well as standard HTML, CSS and Javascript code. The application is executed on a device together with a device-dependent player, such as a browser engine for a specific browser, or an operating system or application for a particular kind of device. *See, e.g., Shopify Inc. v. Express Mobile, Inc.*, Case No. 1:19-cv-00439-RGA, D. Del., D.I. 137. In the example

below, the Vrbo platform converts HTML, CSS, Javascript, JSON, and other files into an active “Verify the location of your property” web page.



179. When the application and player are executed on the device, an input value for the web service can be provided by a user. The device then provides the input value and a corresponding input symbolic name to the web service, which in turn generates an output value and a corresponding symbolic name. For example, the Vrbo platform can accept an input value such as the typed address of the property from a user, as described above. When the user clicks on the “Save and continue” button, the input value is sent to the Geocoding service in the Google Maps API with an HTTP GET request. The address of the property is embedded in the request URL, with “4s” as a corresponding input symbolic name associated with the input value.

182. On information and belief, Expedia has had knowledge of the ‘287 patent and its infringement thereof at least as early as July 28, 2019, and no later than August 31, 2020, when Plaintiff provided notices of the ‘287 patent and Expedia’s infringement of the ‘287 patent. Furthermore, Expedia has been aware of the ‘287 patent and its infringement thereof since at least the filing of this complaint.

183. On information and belief, Expedia has contributed and is contributing to the infringement of the ‘287 patent because Expedia knows that the infringing aspects of its infringing products and services, including but not limited to the Accused Instrumentalities, are made for use in an infringement, and are not staple articles of commerce suitable for substantial non-infringing uses.

184. On information and belief, Expedia has induced and is inducing the infringement of the ‘287 patent, with knowledge of the ‘287 patent and that its acts, including without limitation using, offering to sell, selling within, and importing into the United States, the Accused Instrumentalities, would aid and abet and induce infringement by customers, clients, partners, developers, and end users of the foregoing.

185. In particular, Expedia’s actions that aid and abet others such as customers, clients, partners, developers, and end users to infringe include advertising and distributing the Accused Instrumentalities, and providing instructional materials, training, and other services regarding the Accused Instrumentalities. Expedia actively encourages the adoption of the Accused Instrumentalities and provides support sites for the vast network of developers working with the Accused Instrumentalities, emphasizing the simple and user-friendly nature of the Accused Instrumentalities and explaining that “[a]s an Expedia Group Partner, you’ll have instant access to Partner Central, our platform offering a host of innovative tools to help make day-to-day

management of your business quick and simple” (*see, e.g.*, <https://welcome.expediagroup.com/en/about-us/list-on-expedia>) and “[s]et your price, dates, rules, and more. We give you the tools to make sure you’re in control... We’re here for you, 24/7... A dedicated support team is ready around the clock to make sure that everything runs smoothly” (*see, e.g.*, https://www.vrbo.com/en-us/list?icid=IL__O_Text__top_nav_link_hp). On information and belief, Expedia has engaged in such actions with specific intent to cause infringement or with willful blindness to the resulting infringement because Expedia has had actual knowledge of the ‘287 patent and knowledge that their acts were inducing infringement of the ‘287 patent since at least the date Expedia received notice that its activities infringed the ‘287 patent.

186. Expedia’s acts of infringement have caused damage to Plaintiff, and Plaintiff is entitled to recover damages from Expedia in an amount subject to proof at trial.

187. Expedia’s infringement of Plaintiff’s rights under the ‘287 patent will continue to damage Plaintiff’s business, causing irreparable harm, for which there is no adequate remedy at law, unless enjoined by this Court.

188. On information and belief, Expedia has acted with disregard of Plaintiff’s patent rights, without any reasonable basis for doing so, and has willfully infringed and does willfully infringe the ‘287 patent.

189. The foregoing is illustrative of Expedia’s infringement of the ‘287 patent. Plaintiff reserves the right to identify additional claims and Accused Instrumentalities in accordance with the Court’s local rules and applicable scheduling orders.

COUNT V – INFRINGEMENT OF U.S. PATENT NO. 9,928,044

190. Plaintiff incorporates by reference paragraphs 1 to 189 above as if fully set forth herein.

191. On information and belief, Expedia has infringed and is infringing the '044 patent under 35 U.S.C. § 271, either literally and/or under the doctrine of equivalents, directly and/or indirectly.

192. On information and belief, Expedia has infringed and is infringing the '044 patent by performing, without authority, one or more of the following acts: making, using, offering to sell, selling within, and importing into, the United States products and services that practice the claimed inventions of the '044 patent, including but not limited to the Expedia Group website builder platform for the Expedia Group products (the "Expedia platform"), and the Vrbo website builder platform, also known as the HomeAway platform, for the Vrbo product (the "Vrbo platform") (collectively the "Accused Instrumentalities").

The Expedia Platform:

193. The Expedia platform infringes at least claim 15 of the '044 patent through a combination of features that collectively practice each claimed limitation of claim 15. By way of example, the Expedia platform provides a platform to produce property listings for hotels and other lodgings to be displayed on a display of a device.



Listing your property is fast, easy and free. We'll help you target the guests you want, sharing market insights and tools so you can confidently make decisions to grow your business. Like you, we're passionate about travel and the human connections that bring the world closer together.



194. In particular, the Expedia platform provides a platform for displaying content on a display of a device having a player, such as a browser engine for a specific browser, or an operating system or application for a particular kind of device. *See, e.g., Shopify Inc. v. Express Mobile, Inc.*, Case No. 1:19-cv-00439-RGA, D. Del., D.I. 137. For example, the Expedia platform displays content through modern browsers such as Google Chrome, Mozilla Firefox, and Microsoft Edge.

There is a security concern with your current browser.
To continue on Expedia.com, **please open or download a modern browser.**
If you are unable to upgrade and need access to previously booked trips, visit the [My Trips](#) page.



Google Chrome



Firefox



Microsoft Edge

العربية

español

简体中文

<https://www.expedia.com/upgradebrowser>

195. The Expedia platform includes a non-volatile memory for storing symbolic names required for evoking one or more web components each related to a set of inputs and outputs of a web service obtainable over a network. In particular, the Expedia platform is supported by a database provided by Amazon Web Services (AWS), a cloud computing service for the Expedia platform.

Expedia Group Increases Agility and Resiliency by Going All In on AWS

2018

Expedia Group is all in on AWS, with plans to migrate 80 percent of its mission-critical apps from its on-premises data centers to the cloud in the next two to three years. By using AWS, Expedia Group has become more resilient. Expedia Group's developers have been able to innovate faster while saving the company millions of dollars. Expedia Group provides travel-booking services across its flagship site Expedia.com and about 200 other travel-booking sites around the world.

<https://aws.amazon.com/solutions/case-studies/expedia/>

In simple words AWS allows you to do the following things-

1. Running web and application servers in the cloud to host dynamic websites.
2. Securely store all your files on the cloud so you can access them from anywhere.
3. Using managed databases like MySQL, PostgreSQL, Oracle or SQL Server to store information.
4. Deliver static and dynamic files quickly around the world using a Content Delivery Network (CDN).
5. Send bulk email to your customers.

<https://blog.usejournal.com/what-is-aws-and-what-can-you-do-with-it-395b585b03c>

196. Databases conventionally use non-volatile computer memories to store data. The computer memory in the Expedia platform thus stores data for the property listings, including symbolic names for evoking inputs and outputs of web services. Web services available on the Expedia platform include various Application Programming Interfaces (APIs) that may be integrated on the property listings.



Developers

Integrate with the Expedia Marketplace with our advanced connectivity technology. You'll find everything you need to connect via a full suite of hospitality APIs. Get started by reviewing our documentation and samples, and get your test account.

- ✓ Proven APIs that automate the management of property availability, rates, and reservations
- ✓ Powerful feature solutions that provide additional value by automating the process of managing property descriptions and images

[View Connectivity APIs →](#)

<https://expediaconnectivity.com/>

197. In order to store and transmit data for the APIs, the Expedia platform employs JSON data to evoke web components and to communicate inputs and outputs for the APIs. JSON data comprise key/value pairs that are essentially symbolic names constituting character strings with no persistent address or pointer.

198. Each symbolic name has an associated data format class type corresponding to a subclass of UI objects that support the data format type of the symbolic name, and has the preferred UI object. For example, as shown below, when a user selects the “Self parking” amenity, the radio

button “Free” is the selected automatically as the preferred UI object. In addition, the request payload is in the format of JSON format, in which the symbolic name “amenityId” is associated with value “selfParking:chargeHideRadioGroup:free.”

The screenshot shows a web application interface for parking options. The title is "Parking". There are several options with checkboxes:

- Self parking
- Free Surcharge
- Covered parking
- Uncovered parking
- Secured parking

Below the interface, a developer tool shows the request payload in JSON format:

```

▼ Query String Parameters  view source  view decoded
  htid: 56973277

▼ Request Payload  view source
  {moduleId: "parking", hotelId: 56973277, pageName: "EPC.modulePage.parking",...}
  amenities: {56973277: [{amenityId: "selfParking:chargeHideRadioGroup:surcharge", value: null, exist: false},...]}
    ▼ 56973277: [{amenityId: "selfParking:chargeHideRadioGroup:surcharge", value: null, exist: false},...]
      ▶ 0: {amenityId: "selfParking:chargeHideRadioGroup:surcharge", value: null, exist: false}
      ▶ 1: {amenityId: "selfParking:chargeHideRadioGroup:surcharge:amount", value: null, exist: false}
      ▶ 2: {amenityId: "selfParking:chargeHideRadioGroup:surcharge:durationUnit", value: null, exist: false}
      ▼ 3: {amenityId: "selfParking:chargeHideRadioGroup:free", value: null, exist: true}
        amenityId: "selfParking:chargeHideRadioGroup:free"
        exist: true
        value: null
      hotelId: 56973277
      moduleId: "parking"
      onlyNegativeForModule: false
      pageName: "EPC.modulePage.parking"
      rooms: null
  
```

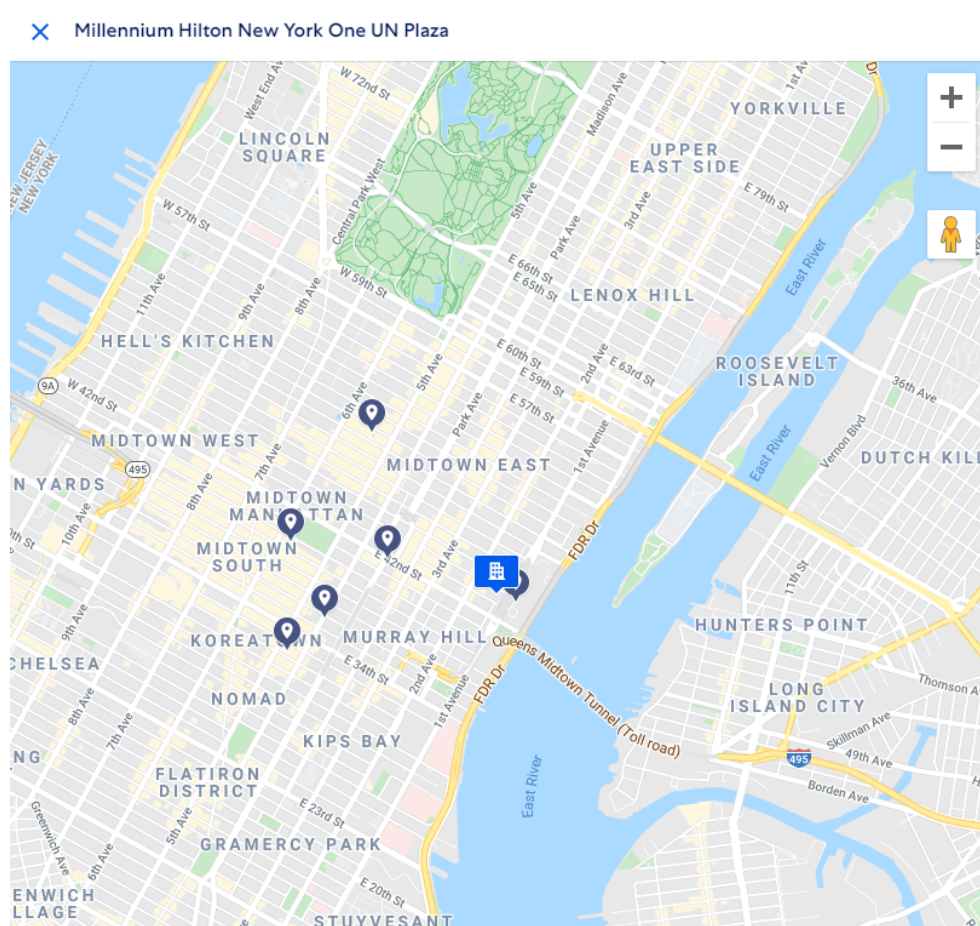
199. The computer memory where data for the property listings are stored also includes addresses for the web services where the input and output JSON data (i.e., symbolic names) can be sent to and received from. For example, the screenshot below shows a request URL including an address of the Google Maps web service when a user inputs a partial address for a property to initiate an autocomplete service. In particular, the user-input address “1 united nations pla” (a partial address for the “Millennium Hilton New York One UN Plaza”) is embedded

in the request URL and sent to the Google Maps API via an HTTP GET request to initiate an auto completion service and retrieve predicted locations based on the partial address. The auto completion service provided by the Google Maps API responds with autocomplete predictions (e.g., “1 United Nations Plaza, New York, NY, USA” and “1 United Nations Place, Georgetown, Guyana”) in the format of JSON data, in which “description” and “place_id” are output symbolic names associated with the predicted address and identification of the address.

Request URL:
https://maps.googleapis.com/maps/api/place/js/AutocompletionService.GetPredictionsJson?location=1s1%20united%20nations%20pla&sen-US&15e3&21m1&2e1&callback=_xdc_-_9fuxg3&key=AlzaSyBAbjmiePtNtCUBX2KHZck-SR41otLfrw8&channel=expedia-HotelSearch&token=94917

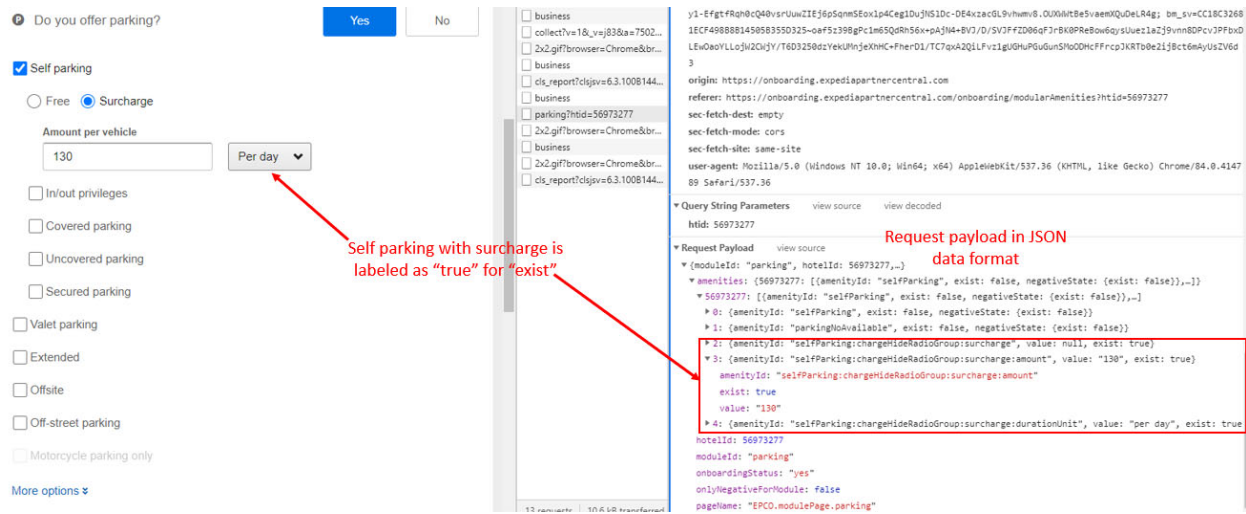
200. The Expedia platform defines a UI object for presentation on the display, where the UI object corresponds to a web component included in the computer memory, and the web component is selected from a group consisting of an input or output for an API (i.e., a web service).

By way of example, when an interactive map is embedded on the property listing to integrate the Google Maps API, UI objects for input and output web components such as a map image, zoom-in and zoom-out buttons, and pins for nearby attractions and points of interest, are defined for the Google Maps web service. Each of these UI objects is automatically selected by the Expedia platform as a preferred UI object.



201. When a UI object is so defined, a symbolic name (e.g., JSON data) from the web component corresponding to the defined UI object is selected and associated with the defined UI object. The symbolic name is only available to UI objects that support the defined data format associated with that symbolic name. As shown in the example below, the “amenities” selection only contains the symbolic name “selfParking” associated with the “Self parking” checkbox. When

the “Surcharge” radio button is selected, the symbolic name “Exist” for each “amenityId” that contains “selfParking:chargeHidRadioGroup” is also associated with the value “true” accordingly. Symbolic names associated with other UI objects such as “In/Out privileges” and “Valet parking” checkboxes are not included in the request payload.



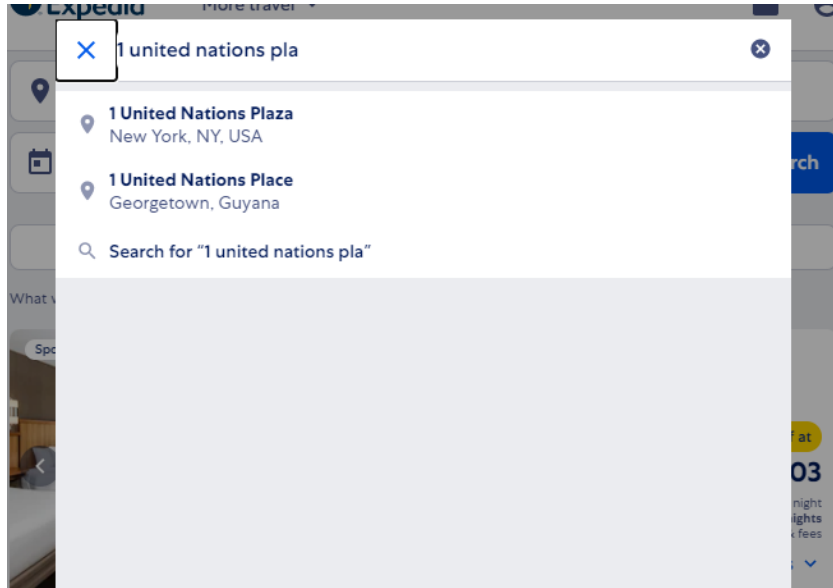
202. The Expedia platform stores information representative of the defined UI object and related settings (e.g., JSON data, along with standard HTML, CSS, and Javascript code) in the AWS database described above.

203. To generate the property listing, the Expedia platform retrieves the information for the UI objects stored in the AWS database, and builds an application consisting of one or more web pages views from at least a portion of the database using the player. The player (e.g., a browser engine, operating system or application) utilizes the data stored in the database to generate for the display at least a portion of a web page. In the example below, the Expedia platform converts HTML, CSS, Javascript, JSON, and other files into an active property listing.

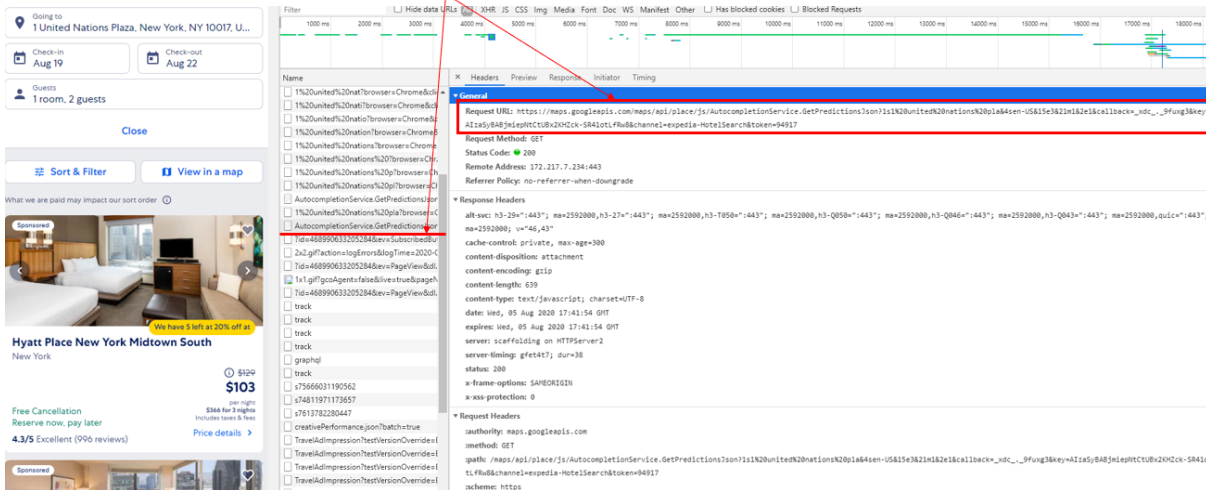
The screenshot shows a travel website interface on the left and a network traffic log on the right. The website displays hotel listings for New York, including 'Courtyard by Marriott New York City Manhattan Midtown East' and 'Hotel Indigo Lower East Side New York'. The network log table has columns for Name, Uri, Status, and Type. Red arrows point from labels to specific rows in the log:

- Javascript files:** Points to rows with file extensions like .js.
- HTML file:** Points to a row with a .html extension.
- CSS file:** Points to a row with a .css extension.
- JSON files:** Points to rows with .json extensions.

204. When the application and player are executed on the device, an input value for the web service can be provided by a user. The device then provides the input value and a corresponding input symbolic name to the web service, which in turn generates an output value and a corresponding symbolic name for the output. By way of example, the Expedia platform’s Google Maps API can accept an input value such as a partial address from a user, as described above. The input partial address “1 united nations pla” is sent to the autocomplete service in the Google Maps API with an HTTP GET request. The address for the property is embedded in the request URL, with “1s” as a corresponding input symbolic name associated with the input value.

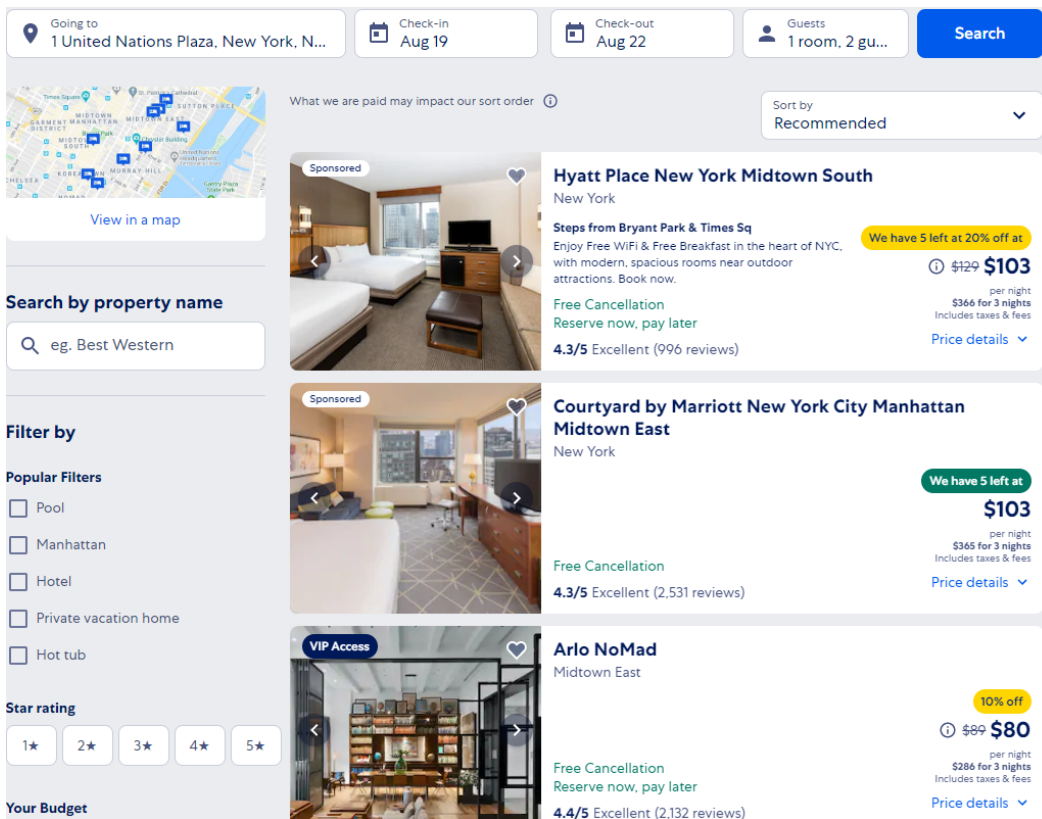
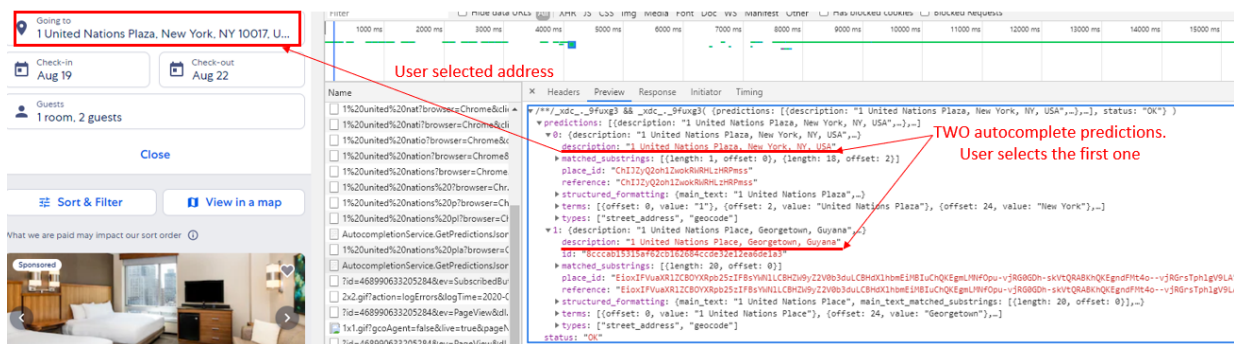


Request URL:
https://maps.googleapis.com/maps/api/place/js/AutoCompletionService.GetPredictionsJson?1s1%20united%20nations%20pla&4sen-US&15e3&21m1&2e1&callback=_xdc_._9fuxg3&key=AlzaSyBABjmiePntCtUBx2KHZck-SR41otLfrw8&channel=expedia-HotelSearch&token=94917



205. The input symbolic name is utilized by the Google Maps web service to generate an output value with an associated output symbolic name (e.g., JSON data for the output). The player then provides instructions for the display of the device to present the output value in the API. For example, after the input partial address is received as described above, the autocomplete service generates and transmits corresponding autocomplete predictions (e.g., “1 United Nations Plaza, New York, NY, USA” and “1 United Nations Place, Georgetown, Guyana”) in the format of JSON data, in which “description” and “place_id” are output symbolic names associated with

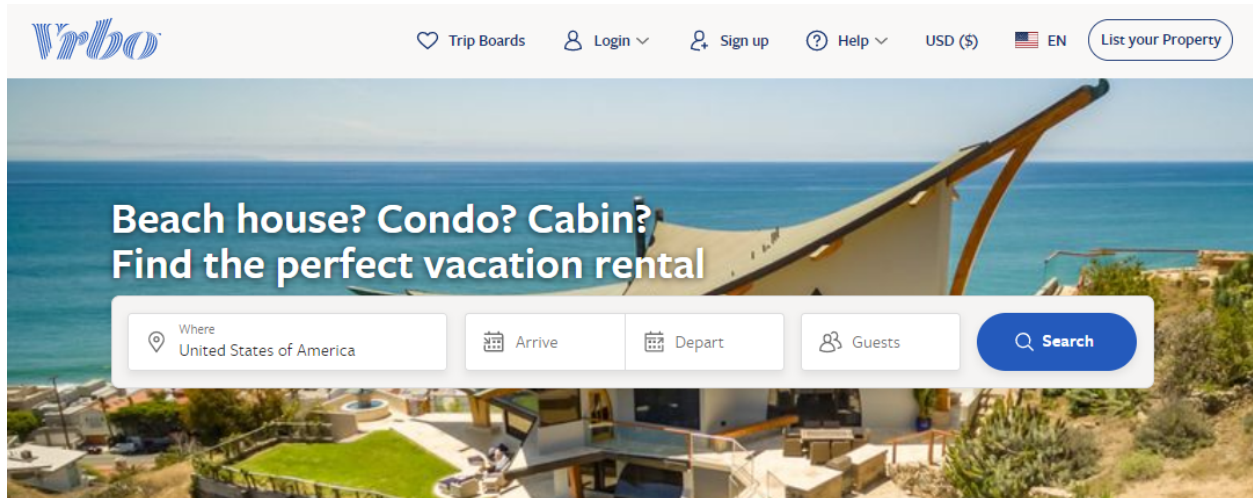
the predicted address and identification of the address. From these autocomplete predictions, the user can select the complete address and request the server to display other properties located around that address.



The Vrbo Platform:

206. The Vrbo platform infringes at least claim 15 of the '044 patent through a combination of features that collectively practice each claimed limitation of claim 15. By way of

example, the Vrbo platform provides a platform to produce property listings for vacation rentals to be displayed on a display of a device.



207. In particular, the Vrbo platform provides a platform for displaying content on a display of a device having a player, such as a browser engine for a specific browser, or an operating system or application for a particular kind of device. *See, e.g., Shopify Inc. v. Express Mobile, Inc.*, Case No. 1:19-cv-00439-RGA, D. Del., D.I. 137. For example, the Vrbo platform displays content through modern browsers such as Google Chrome, Mozilla Firefox, Microsoft Edge, Internet Explorer, iOS Safari, and Android Chrome.

The screenshot shows the Vrbo help center interface. At the top left is the Vrbo logo. To the right are links for 'Trip Boards', 'Login', and a menu icon. Below the logo is a search bar with the text 'Search Help' and a 'FILTERS +' button. On the right side of the search bar is a 'TRAVELER CHAT' button with a notification badge showing '1'. The main content area is a table with a left-hand navigation menu and a right-hand content pane.

Find Help by Category	Help Home / Your Account / Sign In
Find a Property	What web browsers are supported by the site?
Book a Property	We strive to provide our customers with modern, fast, safe and secure web browsing experience.
Your Stay	In order to provide you with a great user experience, we officially support the following browsers:
Your Review	<ul style="list-style-type: none"> • Internet Explorer / Edge 16 or higher • Firefox 59 or higher • Chrome 64 or higher • Safari 10 or higher
Getting Started	On mobile devices, we officially support the following:
Your Safety	<ul style="list-style-type: none"> • iOS Safari 9 or higher (iPhone and iPad) • Android Chrome 65 or higher (Android Phones and Tablets)
Your Account	While our sites may continue to function on other devices and in other browsers than those listed, occasionally you may see a warning if you are using a browser or device with known issues. While we do our best to support browsers that are most commonly in use, it is not possible to support all, and therefore we recommend upgrading to one of the above-mentioned browsers.
Your Listing	To view instructions on how to upgrade your internet browser, visit http://browsehappy.com/ .
Manage Reservations	

<https://help.vrbo.com/articles/What-web-browsers-are-supported-by-the-site>

208. The Vrbo platform includes a non-volatile memory for storing symbolic names required for evoking one or more web components each related to a set of inputs and outputs of a web service obtainable over a network. On information and belief, the Vrbo platform is supported by a database at Vrbo's server located at "odis.homeaway.com." See <https://www.phocuswire.com/expedia-group-vrbo-homeaway-consolidation>. Databases conventionally use non-volatile computer memories to store data. The computer memory in the Vrbo platform thus stores data for the property listings, including symbolic names for evoking inputs and outputs of web services. Web services available on the Vrbo platform include various Application Programming Interfaces (APIs) that may be integrated on the property listings.



BUILD WITH HOMEAWAY



LISTING INFO

Access to over a million vacation rental listings



USER ACCOUNTS

HomeAway users can grant your app access to their info



MESSAGING

Communicate through our secure notification system



SCALE

100+ integration partners,
100+ business development partners

<https://www.homeaway.com/platform/developer-api>

209. In order to store and transmit data for the APIs, the Vrbo platform employs JSON data to evoke web components and to communicate inputs and outputs for the APIs. JSON data comprise key/value pairs that are essentially symbolic names constituting character strings with no persistent address or pointer.

210. Each symbolic name has an associated data format class type corresponding to a subclass of UI objects that support the data format type of the symbolic name, and has the preferred UI object. As shown in the example below, the “Bathrooms” select list is associated with “1” by default. In the corresponding JSON data, the symbolic name “fullBathrooms” is associated with the value “1” which is set by the “Bathrooms” select list, and the symbolic name “halfBathrooms” is associated with the value “0.”

Let travelers know the story behind your home by describing your floor plan, what's unique about it, and what their stay might be like.

Description tips

Property description

400 minimum 10000

Property type
House

Bedrooms
2

Accommodates
1

Bathrooms
1

```

Name
  jsKey=Aca5yOhG9vVZ56A3KDen0Q10WVE
  polyfill.min.js?features=Promise%2CIntersection
  89597a30e44299e1560e04939c35.min.js
  e3a0-integrations.min.js
  FreigSanLFPhoBooLA.worff2
  FreigSanLFPhoBoo.worff
  FreigSanLFPhoBoo.worff
  FreigSanLFPhoSemLA.worff2
  FreigSanLFPhoSem.worff
  FreigSanLFPhoSemBL.worff2
  FreigSanLFPhoSem.worff
  analytics.js
  getData
  vendor:600184e72b23a8ae835.js
  bundle.f68ae0c3026efcc0e44.js
  ?site=vrbo&locale=en_US_VRBO&ruvid=81str
  graphql
  beacon
  beacon
  beacon
  beacon
  bootstrap.js
  /ulldory3a5930e070570e533730.min.js
  link.js
  logo.svg
  search?op=%7B%22appName%22%3A%22node
  inboonunreadOnly=true&afterDate=2020-03-0
  fs.js
  collect
  collect
  fs.js
  serverComponent.php?l=6572.1948749489995
  graphql
  graphql

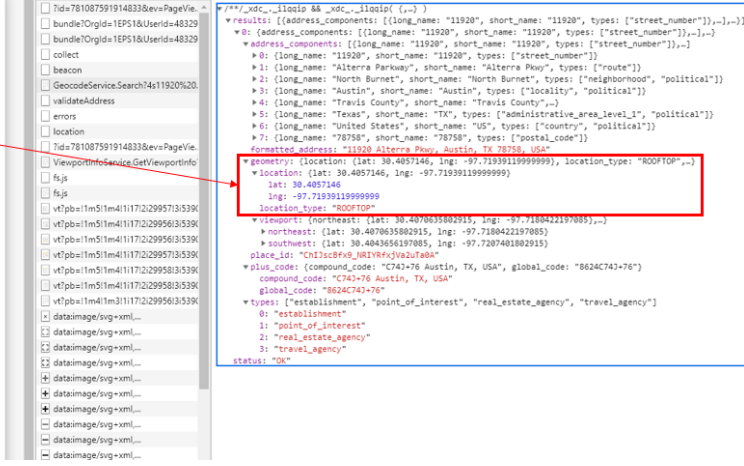
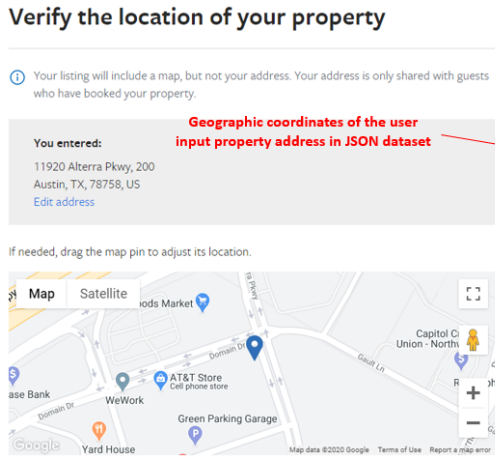
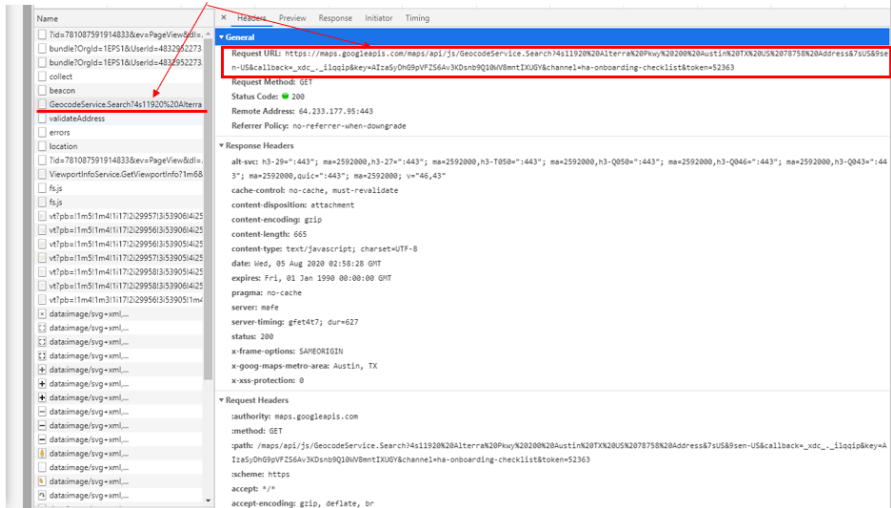
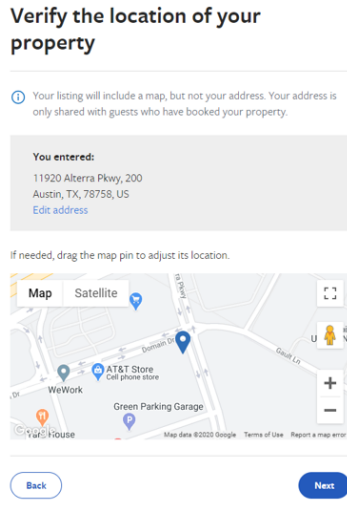
X Headers Preview Response Initiator Timing Cookies
* (data: {...}, extensions: {})
  * data: {...}
  * listingDetails: {headline: "Sample Listing House", description: "", bedrooms: 2, sleeps: 2, fullBathrooms: 1,...}
  * amenities: [{key: "e6c3d8d-3a15-34c8-b078-21f9d877742c", name: "CHILDREN_NOT_ALLOWED",...}]
  * 0: {key: "e6c3d8d-3a15-34c8-b078-21f9d877742c", name: "CHILDREN_NOT_ALLOWED",...}
  * 1: {key: "f9c9742-eae7-392e-8ef8-b97a899f120", name: "PETS_NOT_ALLOWED",...}
  * 2: {key: "711d533c-f969-316e-09f6-80044208072f", name: "POOL_SHOWING_ONLY",...}
  * 3: {key: "86ac790-ac45-31a2-833f-8008e894f49", name: "COMMUNAL_POOL", displayName: "Communal Pool",...}
    amenityType: "UNIT"
    displayName: "Communal Pool"
    key: "86ac790-ac45-31a2-833f-8008e894f49"
    name: "COMMUNAL_POOL"
    __typename: "ListingAmenity"
  bedrooms: 2
  description: ""
  error: null
  fullBathrooms: 1
  halfBathrooms: 0
  headline: "Sample Listing House"
  propertyType: "House"
  sleeps: 2
  * types: [{name: "studio", value: "studio", __typename: "PropertyType"},...]
  __typename: "ListingDetails"
  extensions: {}

```

"Bathroom" select list is associated with "1" by default


211. The computer memory where data for the property listings are stored also includes addresses for the web services where the input and output JSON data (i.e., symbolic names) can be sent to and received from. For example, the screenshot below shows a request URL including an address of the Google Maps web service when a user inputs a property address into the API. The user-input property address is embedded in the request URL and is sent to the Google Maps API via an HTTP GET request for Geocoding service, which converts the address into geographic coordinates and places a marker on the map indicating the property's location. The Geocoding service in the Google Maps API thus responds to the input with corresponding geographic coordinates (e.g., latitude and longitude) in the format of JSON data, in which "formatted_address," "lat," and "lng" are output symbolic names generated in response to the user-input property address.

Request URL:
 https://maps.googleapis.com/maps/api/js/GeocodeService.Search?4s11920%20Altera%20Pkw%202009%20Austin%20TX%20US%2078758%20Address&7sUS&9sen-US&callback=__xdc__ilqjip&key=AlzaSyDHG9pVFZ56Av3KDsbn9Q10WV8mntXUGY&channel=ha-onboarding-checklist&token=52363



212. The Vrbo platform defines a UI object for presentation on the display, where the UI object corresponds to a web component included in the computer memory, and the web component is selected from a group consisting of an input or output for an API (i.e., a web service). By way of example, when an interactive map is embedded on the property listing by integrating the Google Maps API, UI objects for input and output web components such as a map image, zoom-in and zoom-out buttons, and pins for nearby attractions and points of interest, are defined for the Google Map web service. Each of these UI objects is automatically selected by the Vrbo platform as a preferred UI object.

Verify the location of your property

 Your listing will include a map, but not your address. Your address is only shared with guests who have booked your property.

You entered:

11920 Alterra Pkwy, 200
Austin, TX, 78758, US
[Edit address](#)

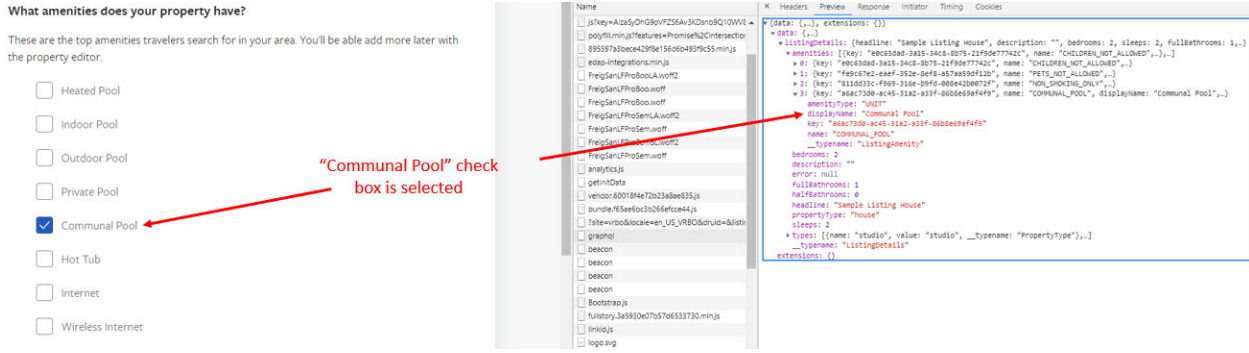
If needed, drag the map pin to adjust its location.



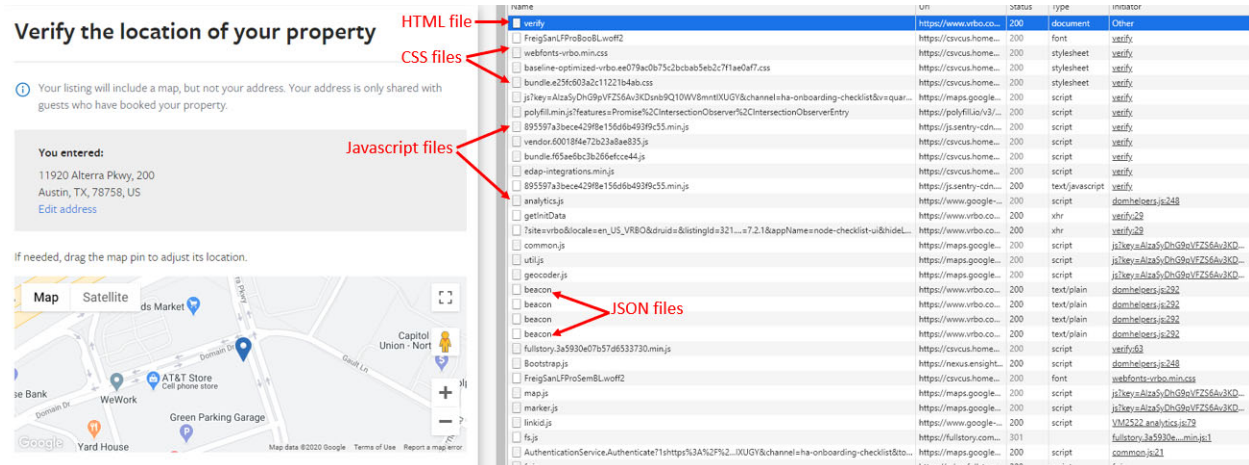
[Back](#)

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213. When a UI object is so defined, a symbolic name (e.g., JSON data) from the web component corresponding to the defined UI object is selected and associated with the defined UI object. The symbolic name is only available to UI objects that support the defined data format associated with that symbolic name. For example, when a user selects the “Communal Pool” check box, associated symbolic names such as “amenityType,” “displayName,” “key,” and “name” are included in the JSON dataset. In contrast, symbolic names associated with other UI objects such as the “Heated Pool,” “Hot Tub,” and “Internet” checkboxes, are not included in the JSON dataset.



214. The Vrbo platform stores information representative of the defined UI object and related settings (e.g., JSON data, along with standard HTML, CSS, and Javascript code) in the Vrbo server’s database described above. To generate the property listing, the Vrbo platform retrieves the information for the UI objects stored in the Vrbo database, and builds an application consisting of one or more web pages views from at least a portion of the database using the player. The player (e.g., a browser engine or operating system) utilizes the data stored in the database to generate for the display at least a portion of a web page. In the example below, the Vrbo platform converts HTML, CSS, Javascript, JSON, and other files into an active “Verify the location of your property” web page.



215. When the application and player are executed on the device, an input value for the web service can be provided by a user. The device then provides the input value and a

corresponding input symbolic name to the web service, which in turn generates an output value and a corresponding symbolic name. For example, the Vrbo platform can accept an input value such as the typed address of the property from a user, as described above. When the user clicks on the “Save and continue” button, the input value is sent to the Geocoding service in the Google Maps API with an HTTP GET request. The address of the property is embedded in the request URL, with “4s” as a corresponding input symbolic name that is associated with the input value.

Where is your property located?

Your listing will include a map, but not your address. Your address is only shared with guests who have booked your property.

Country
United States

Street address
11920 Alterra Pkwy

Unit number (optional)
200

City
Austin

State
Texas

ZIP code
78758

[Back](#) [Save and continue](#)

Request URL:
https://maps.googleapis.com/maps/api/js/GeocodeService.Search?4s11920%20Alterra%20Pkwy%20200%20Austin%20TX%20US%2078758%20Address&7sUS&9sen-US&callback=_xdc__ilqip&key=AlzaSyDhG9pVFZS6Av3KDsnb9Q10WV8mntIXUGY&channel=ha-onboarding-checklist&token=52363

Verify the location of your property

Your listing will include a map, but not your address. Your address is only shared with guests who have booked your property.

You entered:
 11920 Alterra Pkwy, 200
 Austin, TX, 78758, US
[Edit address](#)

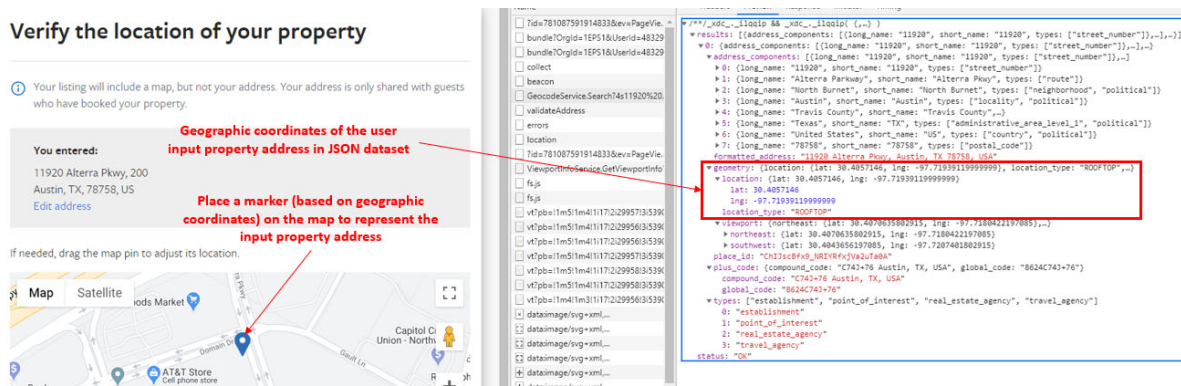
If needed, drag the map pin to adjust its location.

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```

Name
  x 200ms Preview Response Initiator Timing
  x General
    Request URL: https://maps.googleapis.com/maps/api/js/GeocodeService.Search?4s11920%20Alterra%20Pkwy%20200%20Austin%20TX%20US%2078758%20Address&7sUS&9sen-US&callback=_xdc__ilqip&key=AlzaSyDhG9pVFZS6Av3KDsnb9Q10WV8mntIXUGY&channel=ha-onboarding-checklist&token=52363
    Request Method: GET
    Status Code: 200
    Remote Address: 64.233.177.95:443
    Referrer Policy: no-referrer-when-downgrade
  * Response Headers
    alt-vc: h3-2b*+443"; ma=2592000,h3-2t*+443"; ma=2592000,h3-795b*+443"; ma=2592000,h3-Q05b*+443"; ma=2592000,h3-Q046*+443"; ma=2592000,h3-Q043*+44
    3"; ma=2592000,gclic*+443"; ma=2592000,uv*+44,43"
    cache-control: no-cache, must-revalidate
    content-disposition: attachment
    content-encoding: gzip
    content-length: 665
    content-type: text/javascript; charset=utf-8
    date: Wed, 05 Aug 2020 02:58:28 GMT
    expires: Fri, 01 Jan 1990 00:00:00 GMT
    pragma: no-cache
    server: nefe
    server-timing: gfet4t7; dur=627
    status: 200
    x-frame-options: SAMEORIGIN
    x-goog-maps-metro-area: Austin, TX
    x-oss-protection: 0
  * Request Headers
    method: GET
    path: /maps/api/js/GeocodeService.Search?4s11920%20Alterra%20Pkwy%20200%20Austin%20TX%20US%2078758%20Address&7sUS&9sen-US&callback=_xdc__ilqip&key=AlzaSyDhG9pVFZS6Av3KDsnb9Q10WV8mntIXUGY&channel=ha-onboarding-checklist&token=52363
    scheme: https
    accept: */*
    accept-encoding: gzip, deflate, br
    
```


216. The input symbolic name is utilized by the Google Maps web service to generate an output value with an associated output symbolic name (e.g., JSON data for the output). The player then provides instructions to the display of the device to present the output value in the API. For example, after the input address is received as described above, the Geocoding service generates and transmits corresponding geographic coordinates (e.g., latitude and longitude) in the format of JSON data to the Vrbo platform. The JSON data includes “formatted_address,” “lat,” and “lng” and represent symbolic names associated with the property address, and latitude and longitude coordinates. The geographic coordinates are then utilized to place a marker on the map indicating the address of the property.



217. The presence of the above referenced features is demonstrated, by way of example, by testing the Accused Instrumentalities for investigative purposes on <https://www.expediagroup.com/>, <https://www.expedia.com/>, and <https://www.vrbo.com/>, and by reference to publicly available information, including <https://www.expediagroup.com/>, <https://welcome.expediagroup.com/en>, <https://expediaconnectivity.com/>, <https://expediaconnectivity.com/apis/product-management/property-api/api-definition.html>, <https://expediaconnectivity.com/apis/product-management/property-api/video.html>, <https://www.youtube.com/watch?v=NSVzEoqYLxI>, <https://welcome.expediagroup.com/en/how-it-works>, <https://aws.amazon.com/solutions/case-studies/expedia/>, <https://www.vrbo.com/>,

<https://help.vrbo.com/articles/How-do-I-list-my-property-HA>,

https://help.vrbo.com/category/List_Your_Property,

<https://www.homeaway.com/platform/developer-api>,

<https://developers.google.com/maps/documentation/javascript/geocoding>, and

https://help.vrbo.com/category/Your_Listing.

218. On information and belief, Expedia has had knowledge of the '044 patent and its infringement thereof at least as early as July 28, 2019, and no later than August 31, 2020, when Plaintiff provided notices of the '044 patent and Expedia's infringement of the '044 patent. Furthermore, Expedia has been aware of the '044 patent and its infringement thereof since at least the filing of this complaint.

219. On information and belief, Expedia has contributed and is contributing to the infringement of the '044 patent because Expedia knows that the infringing aspects of its infringing products and services, including but not limited to the Accused Instrumentalities, are made for use in an infringement, and are not staple articles of commerce suitable for substantial non-infringing uses.

220. On information and belief, Expedia has induced and is inducing the infringement of the '044 patent, with knowledge of the '044 patent and that its acts, including without limitation using, offering to sell, selling within, and importing into the United States, the Accused Instrumentalities, would aid and abet and induce infringement by customers, clients, partners, developers, and end users of the foregoing.

221. In particular, Expedia's actions that aid and abet others such as customers, clients, partners, developers, and end users to infringe include advertising and distributing the Accused Instrumentalities, and providing instructional materials, training, and other services regarding the

Accused Instrumentalities. Expedia actively encourages the adoption of the Accused Instrumentalities and provides support sites for the vast network of developers working with the Accused Instrumentalities, emphasizing the simple and user-friendly nature of the Accused Instrumentalities and explaining that “[a]s an Expedia Group Partner, you’ll have instant access to Partner Central, our platform offering a host of innovative tools to help make day-to-day management of your business quick and simple” (*see, e.g.*, <https://welcome.expediagroup.com/en/about-us/list-on-expedia>) and “[s]et your price, dates, rules, and more. We give you the tools to make sure you’re in control... We’re here for you, 24/7... A dedicated support team is ready around the clock to make sure that everything runs smoothly” (*see, e.g.*, https://www.vrbo.com/en-us/list?icid=IL__O_Text__top_nav_link_hp). On information and belief, Expedia has engaged in such actions with specific intent to cause infringement or with willful blindness to the resulting infringement because Expedia has had actual knowledge of the ‘044 patent and knowledge that their acts were inducing infringement of the ‘044 patent since at least the date Expedia received notice that its activities infringed the ‘044 patent.

222. Expedia’s acts of infringement have caused damage to Plaintiff, and Plaintiff is entitled to recover damages from Expedia in an amount subject to proof at trial.

223. Expedia’s infringement of Plaintiff’s rights under the ‘044 patent will continue to damage Plaintiff’s business, causing irreparable harm, for which there is no adequate remedy at law, unless enjoined by this Court.

224. On information and belief, Expedia has acted with disregard of Plaintiff’s patent rights, without any reasonable basis for doing so, and has willfully infringed and does willfully infringe the ‘044 patent.

225. The foregoing is illustrative of Expedia’s infringement of the ‘044 patent.

Plaintiff reserves the right to identify additional claims and Accused Instrumentalities in accordance with the Court's local rules and applicable scheduling orders.

PRAYER FOR RELIEF

226. WHEREFORE, Plaintiff prays for the following relief:

- A. A judgment that U.S. Patent Nos. 6,546,397, 7,594,168, 9,063,755, 9,471,287, and 9,928,044 are valid and enforceable;
- B. A judgment that Expedia has directly infringed, contributorily infringed, and/or induced the infringement of U.S. Patent Nos. 6,546,397, 7,594,168, 9,063,755, 9,471,287, and 9,928,044;
- C. A judgment that Expedia's infringement of U.S. Patent Nos. 6,546,397, 7,594,168, 9,063,755, 9,471,287, and 9,928,044 has been willful;
- D. An award of attorneys' fees incurred in prosecuting this action, on the basis that this is an exceptional case;
- E. A judgment and order requiring Expedia to pay Plaintiff damages under 35 U.S.C. § 284, including supplemental damages for any continuing post-verdict infringement up until entry of the final judgment, with an accounting, as needed, and treble damages for willful infringement as provided by 35 U.S.C. § 284;
- F. A judgment and order requiring Expedia to pay Plaintiff the costs of this action (including all disbursements);

- G. A judgment and order requiring Expedia to pay Plaintiff pre-judgment and post-judgment interest on the damages awarded;
- H. A judgment and order requiring that Plaintiff be awarded a compulsory ongoing license fee; and
- I. Such other relief as the Court may deem just and proper.

Dated: September 21, 2020

Respectfully submitted,

/s/ Jeffrey D. Mills

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