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

R2 Solutions LLC,
 	
      Plaintiff,
 	
v.
 	
Roku, Inc.,
 	
      Defendant.
	Civil Action No. 6:21-cv-553
	
	Jury Trial Demanded

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff R2 Solutions LLC files this Complaint against Roku, Inc. for infringement of U.S. Patent Nos. 7,698,329 ("the '329 patent") and 8,341,157 ("the '157 patent"). The '329 patent and '157 patent are referred to collectively as the "patents-in-suit."

THE PARTIES

1.   Plaintiff R2 Solutions LLC ("R2 Solutions") is a Texas limited liability company with a place of business at 6136 Frisco Square Blvd, Suite 400, Frisco, Texas 75034.

2.   On information and belief, Defendant Roku, Inc. ("Roku") is a Delaware corporation with a regular and established place of business located at 9606 N. Mopac Expressway, Suite 400, Austin, Texas 78759. Roku may be served with process through its registered agent, Corporation Service Company d/b/a CSC – Lawyers Incorporating Service Company, located at 211 7th Street, Suite 620, Austin, Texas 78701.

JURISDICTION AND VENUE

3.   This action arises under the patent laws of the United States, 35 U.S.C. § 101, *et seq.* This Court's jurisdiction over this action is proper under the above statutes, including 35

U.S.C. § 271, *et seq.*, 28 U.S.C. § 1331 (federal question jurisdiction), and 28 U.S.C. § 1338 (jurisdiction over patent actions).

4.   This Court has personal jurisdiction over Roku in accordance with due process and/or the Texas Long Arm Statute because, among other things, Roku does business in this State by, among other things, "recruit[ing] Texas residents, directly or through an intermediary located in this state, for employment inside or outside this state." TEX. CIV. PRAC. & REM. CODE § 17.042(3):

https://www.roku.com/jobs/listing?search=hadoop&location=Austin%2C%20Texas.
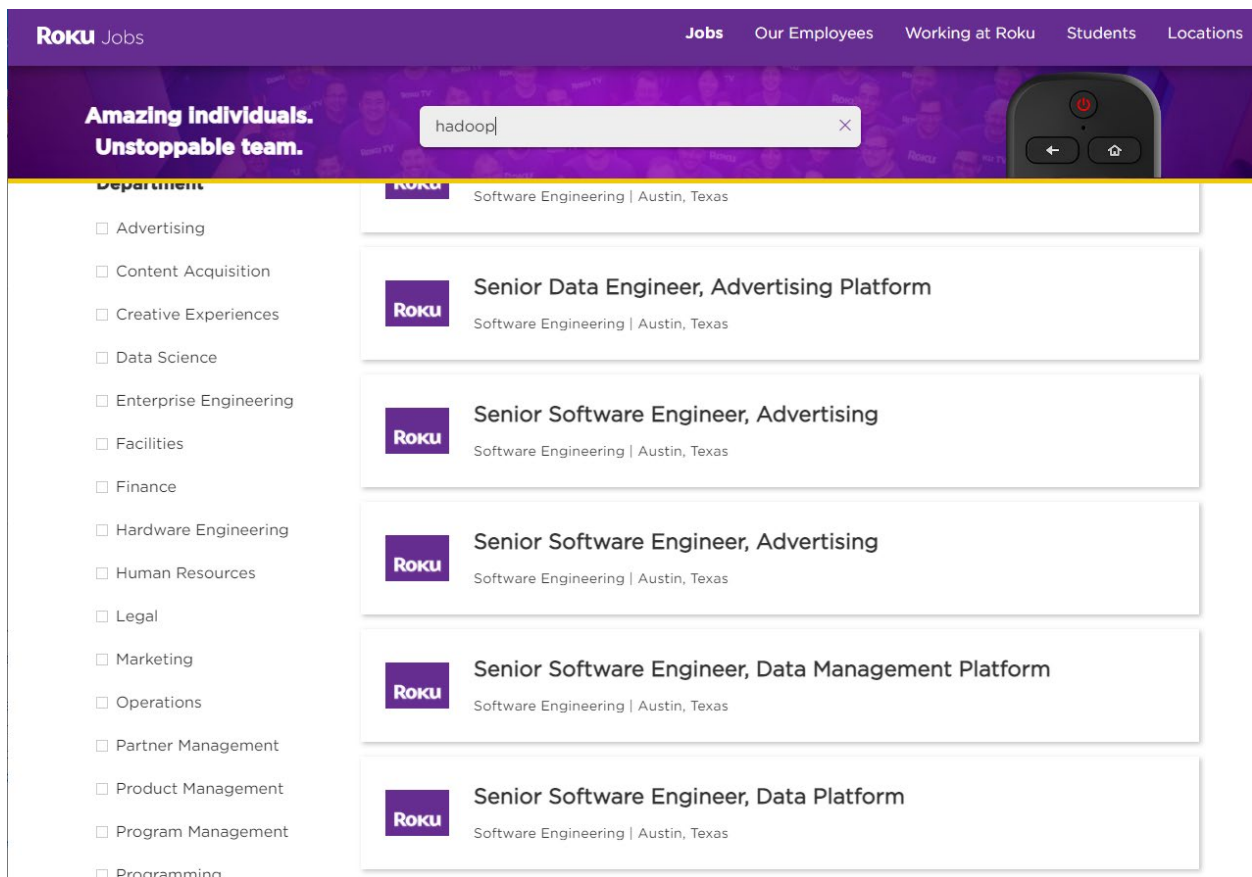
5.   Further, this Court has personal jurisdiction over Roku because it has engaged, and continues to engage, in continuous, systematic, and substantial activities within this State, including the substantial marketing and sale of products and services within this State and this

2

District. Indeed, this Court has personal jurisdiction over Roku because it has committed acts

giving rise to R2 Solutions' claims for patent infringement within and directed to this District, has

derived substantial revenue from its goods and services provided to individuals in this State and

this District, and maintains regular and established places of business in this District, including at

least Roku's corporate office in Austin.

6.   Relative to patent infringement, Roku has committed, and continues to commit,

acts in violation of 35 U.S.C. § 271, and has made, used, marketed, distributed, offered for sale,

and/or sold infringing products and services in this State, including in this District, and otherwise

engaged in infringing conduct within and directed at, or from, this District. Such infringing

products and services include the Roku search engine incorporated into the Roku application. All

such infringing systems are hereinafter referred to collectively as the "Roku Systems." Such Roku

Systems have been, and continue to be, made, offered for sale, distributed to, sold, and/or used in

this District, and the infringing conduct has caused, and continues to cause, injury to R2 Solutions,

including injury suffered within this District. These are purposeful acts and transactions in this

State and this District such that Roku reasonably should know and expect that it could be haled

into this Court because of such activities.

7.   On information and belief, Roku customers use the Roku application in this District

in an infringing manner. For example, customers in the District search for content on the Roku

application. Users exert control over the computer readable medium that is capable of executing

the method described in the claims of the '157 patent. *See* Ex. 4 at Slides 5–7 ("receiving, over a

network, a query from a user"). Search results are transmitted for display on user devices that run

the Roku application using network infrastructure in this District. Roku customers in this District

obtain beneficial enjoyment of the Roku search engine. *See* Ex. 4 at Slides 28–29 ("transmitting

the result, over the network, to the user"). Customers in the District also exert control over the computer readable medium that is capable of executing the method described in the claims of the '329 patent. *See* Ex. 3 at Slides 4–7 (requiring users to input a search query).

8.   Venue is proper in this District under 28 U.S.C. §§ 1391 and 1400(b) because Roku has regular and established places of business in this District and has committed acts of infringement in this District. Roku's regular and established places of business in this District include, at least, its Austin, Texas corporate office. Paragraphs 2 and 4 are herein incorporated by reference. Indeed, Roku conducts business in this District, including marketing and selling the Roku Systems to customers located in this District. Roku's activities, or the actions of the Roku Systems, in the District satisfy one or more elements claimed in the patents-in-suit.

BACKGROUND

9.   The patents-in-suit were filed by Yahoo! Inc. ("Yahoo!") between 2006 and 2009. At the time, Yahoo! was a leading Internet communications, commerce, and media company. Yahoo! invested billions of dollars in research and development over this period, filing hundreds of patent applications each year to cover the innovative computing technologies emerging from its expansive research and development efforts.

10.   Yahoo! began as a directory of websites that two Stanford graduate students developed as a hobby. The name "Yahoo" stands for "Yet Another Hierarchical Officious Oracle," a nod to how the original Yahoo! database was arranged hierarchically in layers of subcategories. From this initial database, Yahoo! would develop and promulgate numerous advancements in the field of data storage and recall.

11.   For example, in 1995, Yahoo! introduced Yahoo! Search. This software allowed users to search the Yahoo! directory, making it the first popular online directory search engine.

This positioned Yahoo! as the launching point for most users of the World Wide Web. By 1998, Yahoo! had the largest audience of any website or online service.

12.   However, the early iterations of Yahoo! Search did not operate like a modern search engine because Yahoo! Search was only a directory.   Yahoo! Search first integrated a Web crawling engine in 2000. Yahoo! Search used Google's Web crawling engine from 2000–2004. During this time, Yahoo! was developing its own Web search technologies. Yahoo! deployed its own Web crawler in early 2004. The engine, known as Slurp, allowed Yahoo! to collect documents from the Web and build a searchable index. The patents-in-suit relate to innovations associated with Yahoo! Search that were developed and implemented during this period, which enabled Yahoo! to become Google's biggest competitor in the search engine space.

THE PATENTS-IN-SUIT

13.   The '329 patent is entitled, "Method for Improving Quality of Search Results by Avoiding Indexing Sections of Pages." The '329 patent lawfully issued on April 13, 2010 and stems from U.S. Patent Application No. 11/652,356, which was filed on January 10, 2007. A copy of the '329 patent is attached hereto as Ex. 1.

14.   The '157 patent is entitled, "System and Method for Intent-Driven Search Result Presentation." The '157 patent lawfully issued on December 25, 2012 and stems from U.S. Patent Application No. 12/533,299, which was filed on July 31, 2009. A copy of the '157 patent is attached hereto as Ex. 2.

15.   R2 Solutions is the owner of the patents-in-suit with all substantial rights, including the exclusive right to enforce, sue, and recover damages for past and future infringements.

16.   The specifications of the patents-in-suit disclose shortcomings in the prior art and then explain, in detail, the technical way the claimed inventions resolve or overcome those

shortcomings. And, accordingly, the claims of the patents-in-suit are directed to patent eligible

subject matter under 35 U.S.C. § 101. They are not directed to abstract ideas, and the technologies

covered by the claims consist of ordered combinations of features and functions that, at the time

of invention, were not, alone or in combination, well-understood, routine, or conventional.

17.   The '329 patent explains that nefarious parties can trick traditional search engines

"into recalling documents and inflating their ranking" using techniques known as "search engine

spamming." '329 patent at 2:6–8. For example, spamming may be used to "trick search engine

ranking algorithms into recalling and highly ranking documents that contain . . . sponsored links

to a web merchant." *Id.* at 2:8–11. The result is that search results for many queries include

irrelevant content that the querier did not desire. *Id.* at 2:14–17. The specification offers an

illustration involving a user shopping for a camera:

> A typical example of search engine spam is when a user tries to search for the terms
> "digital camera reviews" and expects to find pages which review various models of
> digital cameras, detailing performance specifications, sample images and reviewer
> pros and cons list. Having this expectation when the user clicks on a link for one of
> the results, the user is instead led to a page that contains nothing but a plethora of
> keywords and links to other stores where he can buy the camera.

Id. at 2:18–27. Thus, "there is need for mechanisms that prevent hiding of search engine spam but

yet allow webmasters to designate page content that should not be indexed." *Id.* at 2:34–37.

18.   The specification describes a novel approach to achieve this goal.

> As a crawler examines an individual document, one of the attributes that can be
> considered is section structure. In examining the various sections, the crawler
> identifies sections to ignore, that is, to not index in search engine indexes and or
> otherwise use for recalling the document. Such sections are referred to herein as
> "no-recall sections." Those portions that are indexed for recalling are referred to as
> recall sections. In an embodiment, a crawler ignores no-recall sections demarcated

by, for example, a tag. In another embodiment a no-recall section may be identified by analyzing section content rather than examining only delimiters. The terms inside no-recall sections do not contribute to the document term frequency counts and are not used for recalling the documents in response to search engine queries. However the no-recall sections are included as input to forms of analysis of the document that affect, for example, the document's ranking. Links inside the no-recall sections as well as the rest of the document may be followed in order to discover new content. The document may be analyzed for the amount of advertisements or other features in its entirety. Therefore, terms inside the no-recall sections can affect document ranking.

Id. at 3:7–27. This prevents nefarious parties from hiding search engine spam because pages with "copious amounts of advertisements, or low quality links, will be readily identified and ranked accordingly." *Id.* at 3:28–31.

19.   Claim 1 of the '329 patent embodies this solution:

A method, comprising:

ranking a plurality of documents recalled by a search engine for a query;

wherein the plurality of documents contain certain documents, ***each document of said certain documents containing at least one section that is not used by said search engine for recall*** and one or more sections that are used by said search engine for recall;

wherein ranking a plurality of documents includes ranking said plurality of documents ***based, at least in part, on the at least one section of said certain documents not used by said search engine to recall documents***; and;

wherein the method is performed by one or more computing devices.

(emphases added).

20.   The claimed method of indexing pages improves navigation of the World Wide Web by increasing the relevance of search results and thwarting nefarious Web users seeking to game Web query rankings. *See, e.g.*, *id.* at 1:67–2:17. By improving the functionality of the Web,

the claimed invention is necessarily rooted in the improvement of computer functionality rather than economic or other tasks for which a computer is used in its ordinary capacity. For example, by not ignoring no-recall sections when ranking the documents, the claimed invention prevents a document from being "designed so that content that increases recall and/or ranking potential is placed in the recall section and content that diminishes high ranking potential is hidden in a no-recall section." *Id.* at 4:1–9. This allows "[a]ll the attributes in all of the sections of a document such as 'links', frequency of terms, coloring, font, etc." to be considered in the spam and relevancy analyses. *Id.* at 4:13–16. The result is that a search engine can "affect the recall and ranking of documents to more accurately reflect relevance of the documents to search engine queries." *Id.* at 3:1–3.

21.   Relative to the '157 patent, the specification explains that if, as in the case of traditional search engines, the "engine simply regards a web query as, for example, a 'bag of words', the search engine will search for web pages and other data objects (e.g., images, audio files, text files) that contain, or are otherwise associated with, the individual words within the query." '157 patent at 4:1–5. However, simply treating a user query as a "bag of words" may yield results that do not align with the purpose of the user's search. Thus, the specification teaches:

> When a user submits a query to a web search service such as the Yahoo! or Google search services, the user generally has some intent. The user's intent may simply be to explore information available on the web relating to one or more topics, for example, a user may simply wish to browse web sites relating to "rainforests" without having any specific purpose in mind. Commonly, however, a user has a more focused purpose in mind. By entering a "rainforest" query, a user may wish to obtain information on traveling to a rainforest, or on purchasing CDs or books having rainforests as a subject or purchasing rainforest themed merchandise such as clothing or accessories.

Id. at 3:46–57.

8

22.   While other search engines existing at the time could tailor search results by ranking the results and displaying each result with a title and brief abstract taken from the document, the '157 patent explains how "results could be significantly enhanced if the likely intent of the query is known." *Id.* at 4:16–17. Rather than return all documents having matching keywords—i.e., by using traditional indexing methods—a narrower set of results can be returned if the search results are "ranked such that results that are more relevant to the user's intent appear at or near the top of the search results." *Id.* at 4:17–19. Interpretation of the result set is further improved because the results display may be customized based on the user's search intent. *See id.* at 19–26.

23.   Indeed, the claims of the '157 patent provide just such a solution to the problem of identifying relevant search results using traditional document indexing methods. For example, Claim 1 of the '157 patent discloses a method comprising:

> receiving, over a network, a query from a user, the query comprising at least one query token;
>
> analyzing the query, using at least one computing device, to identify at least one query keyword;
>
> determining, at least the one computing device, *a plurality of intents from the at least one keyword*, each of the plurality of intents indicates a type of information regarding the query keyword that is likely to be desired by a user submitting the query;
>
> classifying the query, using the at least one computing device, *into at least one of the plurality of intents*;
>
> identifying, using the at least one computing device, a plurality of data objects available over the network that match the at least one query keyword;
>
> assigning, using the at least one computing device, *at least one of the plurality of intents* to at least some of the plurality of data objects;
>
> ranking, using the at least one computing device, the plurality of data objects;

building a result, using the at least one computing device, using the ranked plurality of

data objects, the result comprises a plurality of display entries, ***at least one display***

entry customized to a respective assigned intent is constructed for each of the

ranked plurality of data objects; and

transmitting the result, over the network, to the user.

(emphases added).

24.   The inventions described and claimed in the '157 patent improve the speed,

efficiency, effectiveness, and functionality of computer systems. Moreover, the inventions provide

an improvement in computer functionality rather than economic or other tasks for which a

computer is used in its ordinary capacity. For example, by ranking documents based on intent,

rather than using "a traditional {query,document} score," the probability is greater that a relevant

result will be in the final result set presented to the user. *See id.* at 12:7–22. This reduces the

number of queries that must be processed in order to return relevant results to the user. As a result,

the processor is free to allocate more resources to other tasks.

25.   In essence, each of the patents-in-suit relate to novel and non-obvious inventions in

the fields of search engines, database structures, and graphical user interfaces.

COUNT I
INFRINGEMENT OF U.S. PATENT NO. 7,698,329

26.   R2 Solutions incorporates paragraphs 1–13, 15–20, and 25 herein by reference.

27.   This cause of action arises under the patent laws of the United States, and in

particular, 35 U.S.C. §§ 271, *et seq*.

28.   R2 Solutions is the owner of the '329 patent with all substantial rights to the '329

patent, including the exclusive right to enforce, sue, and recover damages for past and future

infringements.

29.   The '329 patent is valid and enforceable and was duly issued in full compliance with Title 35 of the United States Code.

Direct Infringement (35 U.S.C. § 271(a))

30.   Roku has directly infringed and continues to directly infringe one or more claims of the '329 patent in this District and elsewhere in Texas and the United States.

31.   To this end, Roku has infringed and continues to infringe, either by itself or via an agent, at least claims 1 and 4–5 of the '329 patent by, among other things, making, offering to sell, selling, testing and/or using the Roku search engine.

32.   Attached hereto as Ex. 3, and incorporated herein by reference, is a representative claim chart detailing how Roku infringes the '329 patent.

33.   Roku is liable for its infringements of the '329 patent pursuant to 35 U.S.C. § 271.

Damages

34.   R2 Solutions has been damaged as a result of Roku's infringing conduct described in this Count. Roku is, thus, liable to R2 Solutions in an amount that adequately compensates it for Roku's infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

COUNT II
INFRINGEMENT OF U.S. PATENT NO. 8,341,157

35.   R2 Solutions incorporates paragraphs 1–12, 14–16, and 21–25 herein by reference.

36.   This cause of action arises under the patent laws of the United States, and in particular, 35 U.S.C. §§ 271, *et seq*.

37.   R2 Solutions is the owner of the '157 patent with all substantial rights to the '157 patent, including the exclusive right to enforce, sue, and recover damages for past and future infringements.

38.   The '157 patent is valid and enforceable and was duly issued in full compliance with Title 35 of the United States Code.

Direct Infringement (35 U.S.C. § 271(a))

39.   Roku has directly infringed and continues to directly infringe one or more claims of the '157 patent in this District and elsewhere in Texas and the United States.

40.   To this end, Roku has infringed and continues to infringe, either by itself or via an agent, at least claims 1–5 and 11 of the '157 patent by, among other things, making, offering to sell, selling, testing and/or using the Roku search engine.

41.   Attached hereto as Ex. 4, and incorporated herein by reference, is a representative claim chart detailing how Roku infringes the '157 patent.

42.   Roku is liable for its infringements of the '157 patent pursuant to 35 U.S.C. § 271.

Indirect Infringement (35 U.S.C. § 271(b), (c))

43.   Roku has knowledge of the '157 patent at least based on the filing and service of this Complaint.

44.   Despite having knowledge of the '157 patent, Roku has specifically intended, and continues to specifically intend, for persons (including its customers and end users) to access the Roku application and use the Roku search engine (which is stored on one or more computer readable media) such that those persons (including customers and end users) infringe claim 2 of the '157 patent. This is evident when Roku encourages and instructs persons (including customers and end users) in the use and operation of the Roku application, including the use of the search feature.

45.   In   particular,   despite   having   knowledge   of   the   '157   patent, Roku has provided, and continues to provide, instructional materials that specifically teach and

encourage persons (including customers and end users) to use the Roku application in an infringing manner. *See, e.g.*, https://support.roku.com/article/208756398 ("To use Roku Search, you can type using the on-screen keyboard or the keyboard on the free Roku mobile app for iOS® and Android™"). By providing such instructions, Roku knows (and has known), or should know (and should have known), that its actions have actively induced, and continue to actively induce, infringement. Roku is, thus, liable for induced infringement under 35 U.S.C. § 271(b).

Damages

46.   R2 Solutions has been damaged as a result of Roku's infringing conduct described in this Count. Roku is, thus, liable to R2 Solutions in an amount that adequately compensates it for Roku's infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

DEMAND FOR A JURY TRIAL

R2 Solutions demands a trial by jury on all issues triable of right by jury pursuant to Rule 38 of the Federal Rules of Civil Procedure.

PRAYER FOR RELIEF

R2 Solutions respectfully requests that this Court enter judgment in its favor and grant the following relief:

(i)   Judgment and Order that Roku has directly infringed one or more claims of each of the patents-in-suit;

(ii)   Judgment and Order that Roku has indirectly infringed one or more claims of the '157 patent;

(iii)   Judgment and Order that Roku must pay R2 Solutions past and future damages under 35 U.S.C. § 284, including supplemental damages arising from any

continuing, post-verdict infringement for the time between trial and entry of the final judgment, together with an accounting, as needed, as provided under 35 U.S.C. § 284;

(iv)   Judgment and Order that Roku must pay R2 Solutions reasonable ongoing royalties on a go-forward basis after Final Judgment;

(v)   Judgment and Order that Roku must pay R2 Solutions pre-judgment and post-judgment interest on the damages award;

(vi)   Judgment and Order that Roku must pay R2 Solutions' costs;

(vii)   Judgment and Order that the Court find this case exceptional under the provisions of 35 U.S.C. § 285 and accordingly order Roku to pay R2 Solutions' attorneys' fees; and

(viii)   Such other and further relief as the Court may deem just and proper.

Dated: June 1, 2021

Respectfully submitted,

/s/ Edward R. Nelson III
EDWARD R. NELSON III
STATE BAR NO. 00797142
BRENT N. BUMGARDNER
STATE BAR NO. 00795272
CHRISTOPHER G. GRANAGHAN
STATE BAR NO. 24078585
HILL BRAKEFIELD
STATE BAR NO. 24110604
NELSON BUMGARDNER ALBRITTON PC
3131 West 7th Street, Suite 300
Fort Worth, Texas 76107
817.377.9111
ed@nbafirm.com
brent@nbafirm.com
chris@nbafirm.com
hill@nbafirm.com

**COUNSEL FOR
PLAINTIFF R2 SOLUTIONS LLC**