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UNITED STATES DISTRICT COURT

CENTRAL DISTRICT OF CALIFORNIA

UNILOC 2017 LLC

Plaintiff,

v.

NETFLIX, INC.,

Defendant.

CASE NO. 8:18-cv-02150-JVS-DFM

FIRST AMENDED COMPLAINT FOR PATENT INFRINGEMENT

DEMAND FOR JURY TRIAL

Plaintiff Uniloc 2017 LLC ("Uniloc"), by and through the undersigned counsel, hereby files this First Amended Complaint and makes the following allegations of patent infringement relating to U.S. Patent Nos. 6,895,118 and 9,721,273 against Defendant Netflix, Inc. ("Netflix"), and alleges as follows upon actual knowledge with respect to itself and its own acts and upon information and belief as to all other matters:

NATURE OF THE ACTION

1. This is an action for patent infringement. Uniloc alleges that Netflix infringes U.S. Patent Nos. 6,895,118 (the "'118 patent") and 9,721,273 (the "'273 patent"), copies of which are attached hereto as Exhibits A-B (collectively, "the Asserted Patents").

2. Uniloc alleges that Netflix directly infringes the Asserted Patents by making, using, offering for sale, selling, licensing and/or importing products and services that: (1) perform a method of coding a digital image comprising macroblocks in a binary data stream and (2) perform a method of providing content via a computer network and computer system. Uniloc seeks damages and other relief for Netflix's infringement of the Asserted Patents.

THE PARTIES

3. Uniloc 2017 LLC is a Delaware corporation having places of business at 1209 Orange Street, Wilmington, Delaware 19801 and 620 Newport Center Drive, Newport Beach, California 92660.

4. Uniloc holds all substantial rights, title and interest in and to the Asserted Patents.

5. Upon information and belief, Defendant Netflix is a corporation organized and existing under the laws of the State of Delaware, with at least the following places of business in this District: 5808 Sunset Blvd, Los Angeles, CA 90028 and 335 N. Maple Dr. Beverly Hills, CA 90210. Netflix can be served with

process by serving its registered agent for service of process in California: CT Corporation System, 818 W. Seventh St, Suite 930, Los Angeles, CA. 90017.

JURISDICTION AND VENUE

6. This action for patent infringement arises under the Patent Laws of the United States, 35 U.S.C. § 1 et. seq. This Court has original jurisdiction under 28 U.S.C. §§ 1331 and 1338.

7. This Court has both general and specific jurisdiction over Netflix because Netflix has committed acts within the Central District of California giving rise to this action and has established minimum contacts with this forum such that the exercise of jurisdiction over Netflix would not offend traditional notions of fair play and substantial justice. Defendant Netflix, directly and through subsidiaries, intermediaries (including distributors, retailers, franchisees and others), has committed and continues to commit acts of patent infringement in this District, by, among other things, making, using, testing, selling, licensing, importing and/or offering for sale/license products and services that infringe the Asserted Patents.

8. Venue is proper in this district and division under 28 U.S.C. §§ 1391(b)-(d) and 1400(b) because Netflix has committed acts of infringement in the Central District of California and has multiple regular and established places of business in the Central District of California.

COUNT I – INFRINGEMENT OF U.S. PATENT NO. 6,895,118

9. The allegations of paragraphs 1-8 of this First Amended Complaint are incorporated by reference as though fully set forth herein.

10. The ’118 patent, titled “Method Of Coding Digital Image Based on Error Concealment,” issued on May 17, 2005. A copy of the ’118 patent is attached as Exhibit A. The priority date for the ’118 patent is March 6, 2001. The inventions of the ’118 patent were developed by inventors at Koninklijke Philips Electronics N.V.

11. Pursuant to 35 U.S.C. § 282, the '118 patent is presumed valid.

12. Claim 1 of the '118 patent addresses a technological problem indigenous to coding macroblocks in a binary digital stream where certain macroblocks have been excluded.

13. Claim 1 of the '118 patent reads as follows:

> 1. A method of coding a digital image comprising macroblocks in a binary data stream, the method comprising:
>
> an estimation step, for macroblocks, of a capacity to be reconstructed via an error concealment method,
>
> a decision step for macroblocks to be excluded from the coding, a decision to exclude a macroblock from coding being made on the basis of the capacity of such macroblock to be reconstructed,
>
> characterized in that it also includes a step of inserting a resynchronization marker into the binary data stream after the exclusion of one or more macroblocks.

14. The invention of claim 1 of the '118 patent concerns a novel method for digital coding of macroblocks within a data stream.

15. Just prior to the invention of the '118 patent, in June 1999, a then novel method for coding involved the exclusion of certain macroblocks in a digital image based upon the capacity of the macroblocks to be reconstructed via error concealment ("the June 1999 Method"). '118 patent at 1:14-21. In the June 1999 Method, the excluded macroblocks were replaced with "uncoded blocks with constant blocks, black blocks for example, subsequently detected by the receiver." '118 patent at 1:21-25. Alternatively, the June 1999 Method provided for allocating bits to communicate the address of the excluded blocks in interceded macroblocks that were not excluded. '118 patent at 1:26-32.

16. Both means of replacing the excluded blocks in the June 1999 Method suffered from significant drawbacks. For example, if constant blocks or black

blocks were used as replacements for the excluded macroblocks there would be "graphical errors on most receivers." '118 patent at 1:62-67. Likewise, allocating bits to communicate the address of excluded blocks gave "rise to graphical 'lag' errors of image elements if macroblocks have been excluded." '118 patent at 1:56-62.

17. As demonstrated below, the claimed invention of claim 1 of the '118 patent provides a technological solution to the problem faced by the inventors—using resynchronization markers after the exclusion of a macroblock rather than replacing macroblocks with constant blocks, black blocks or bits allocated to communicate the address of the excluded blocks. This technological solution resulted in reduction in lag and graphical errors and improved bandwidth because of a reduction in the binary data stream.

18. As detailed in the specification, the invention of claim 1 of the '118 patent provides a technological solution to the specific technological problems faced by the inventors that existed at the time of the invention. First, the specification describes the June 1999 Method and the drawbacks associated with that method:

> A coding method of such type is known from the document "Geometric-Structure-Based Error Concealment with Novel Applications in Block-Based Low-Bit-Rate Coding" by W. Zeng and B. Liu in IEEE Transactions on Circuits and Systems For Video Technology, Vol. 9, No. 4, Jun. 1999. That document describes exclusions of blocks belonging to macroblocks, block combination, said macroblocks being capable of being intercoded or intracoded. That document proposes harmonizing this block exclusion with video coding standards, either, in a **first solution**, by replacing uncoded blocks with constant blocks, black blocks for example, subsequently detected by the receiver, or, in a **second solution**, by modifying the word that defines which blocks are coded within a macroblock, such modification taking place at the same time as a modification of the address words of the macroblocks when all the blocks in a macroblock are excluded. A certain number of bits are allocated to communicate the address of the excluded blocks in the interceded macroblocks.

'118 patent at 1:14-31 (emphasis added).

19. Both of these means of dealing with the excluded macroblocks in the June 1999 Method were disadvantageous and suffered from serious drawbacks that thwarted the purpose of excluding macroblocks (i.e., to further compress the data stream):

> In this case it is therefore impossible to change the addresses of the macroblocks or indicate which blocks are not coded, according to the **second solution** proposed in the document cited in the foregoing. All macroblocks are thus decoded and placed sequentially, giving rise to graphical "lag" errors of image elements if macroblocks have been excluded. The **first solution** proposed in the document cited involves detection by the decoder of the constant blocks replacing the excluded blocks. No provision for such detection is made in the MPEG-4 syntax, and this will cause graphical errors on most receivers.

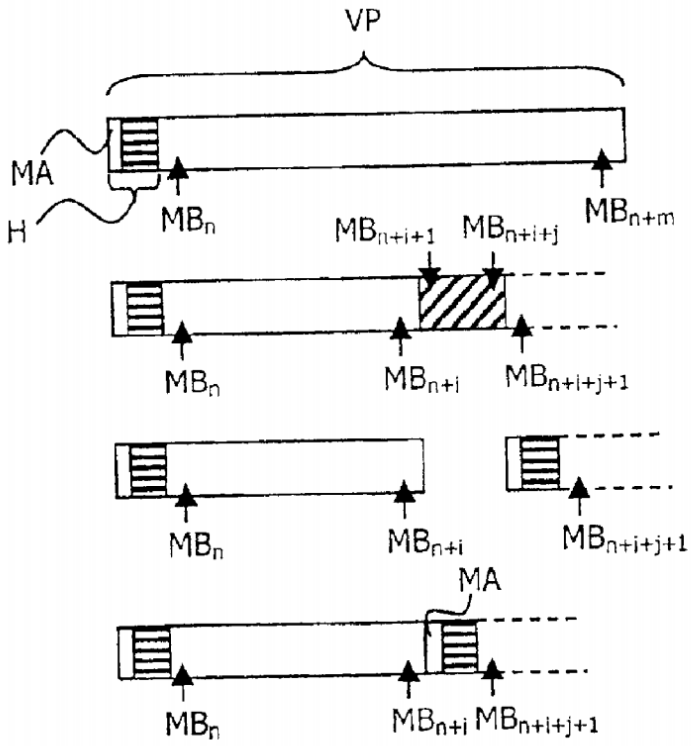
'118 patent at 1:56-67 (emphasis added).

20. In light of the drawbacks with the June 1999 Method, the inventors of the '118 patent claimed a new method where resynchronization markers included in header elements were used instead of constant blocks, black blocks and bits allocated to communicate the address of the excluded blocks:

> It is an object of the present invention to suggest a coding method that includes an exclusion of macroblocks having a certain capacity to be reconstructed from the coding compatible with coding standards which include point resynchronization means.
>
> Indeed, a coding method as defined in the introductory paragraph is characterized according to the invention in that it also includes a step of inserting a resynchronization marker into the binary data stream after the exclusion of one or more macroblocks.
>
> The resynchronization marker represents a certain number of bits in the data stream (at least between 17 and 23 bits). It is a further object of the present invention to reduce the binary data stream associated with the transmission of digital images by excluding macroblocks.

'118 patent at 2:1-15 (emphasis added).

21. The reduction in the data stream using the claimed method—as opposed to the June 1999 Method which added constant blocks, black blocks and other bits for excluded macroblocks—is depicted in Figure 2 and described in the specification:



> The resulting binary data stream in such case is shown in FIG. 2*d*. A resynchronization marker MA and the associated header element have been inserted in the stream at the point where the first one of the excluded macroblocks should have been, and before macroblock $MB_{n+i+j+1}$. Here, the reduction in the size of the binary data stream caused by the insertion of resynchronization marker MA and the associated header element is not zero according to FIG. **2**: the bloc representing excluded macroblocks MB_{n+i+1} to $MB_{n+i+j}$is larger than the size of the inserted header element.
> * * *
> Since the binary data stream includes coded data of a digital image comprising macroblocks, said binary data stream being such that macroblocks MB_{n+i+1} to MB_{n+i+j} are not coded in the binary data stream for at least one point in the binary data stream and since such uncoded macroblocks are capable of being reconstructed by an error concealment method, said binary data stream is thus characterized according to the invention in that a resynchronization marker MA is present in the binary

> data stream at the location in the binary data stream where the macroblocks are not coded.

'118 patent at 5:37-46.

22. The claimed invention of claim 1 of the '118 patent improves the functionality of coding macroblocks in a binary digital stream where certain macroblocks have been excluded. The claimed invention of claim 1 of the '118 patent also was not well-understood, routine or conventional at the time of invention. Rather, the claimed invention was a departure from the conventional way of performing coding macroblocks in a binary digital stream where certain macroblocks have been excluded.

23. A person of ordinary skill in the art reading claim 1 of the '118 patent and the corresponding specification would understand that claim 1 improves the functionality of coding macroblocks in a binary digital stream where certain macroblocks have been excluded. This is because, as noted above, the June 1999 Method suffered from drawbacks including (1) lag errors; (2) graphical errors; and (3) no reduction in the size of the data stream because of the use of constant blocks, black blocks and allocating bits to communicate the address of the excluded blocks. A person of ordinary skill in the art would further understand that the claimed invention of claim 1 of the '118 patent resolved these problems by using resynchronization markers in a way they had not been used before—as replacements for excluded blocks.

24. A person of ordinary skill in the art reading claim 1 of the '118 patent and the corresponding specification would further understand that claim 1 of the '118 patent represents a departure from convention by (1) coding a data stream with excluded macroblocks in a way that is different from the recent June 1999 Method and (2) using resynchronization markers in a manner that had not been used before—as replacements for excluded macroblocks.

25. In light of the foregoing, a person of ordinary skill in the art reading

the '118 patent and its claims would understand that the patent's disclosure and claims are drawn to solving a specific, technical problem arising in achieving more efficient video compression. Moreover, a person of ordinary skill in the art would understand that the claimed subject matter of the '118 patent presents advancements in the field of digital image coding.

26. In light of the foregoing, a person of ordinary skill in the art would understand that claim 1 of the '118 patent is directed to a method of coding macroblocks in a binary digital stream where certain macroblocks have been excluded. Moreover, a person of ordinary skill in the art would understand that claim 1 of the '118 patent contains the inventive concept of using resynchronization markers after the exclusion of a macroblock rather than replacing macroblocks with constant blocks, black blocks or bits allocated to communicate the address of the excluded blocks.

27. Netflix's own patents claim subject matter in the field of video coding and, in particular, encoding a video stream using header information. For example, on December 10, 2010, over nine years after the priority date for the '118 patent, Netflix filed an application titled, "Encoding Video Streams for Adaptive Video Streaming," which matured into U.S. Patent No. 8,355,433 on January 15, 2013 (the "'433 patent"). Similar to the '118 patent, the '433 patent, performs a video coding process that uses header information (e.g., "a sequence header index") in order to encode and playback video.

28. Upon information and belief, Netflix makes, uses, offers for sale, and/or sells in the United States and/or imports into the United States products and services that practice a method for coding a digital image comprising macroblocks in a binary data stream (collectively the "Accused Infringing Devices").

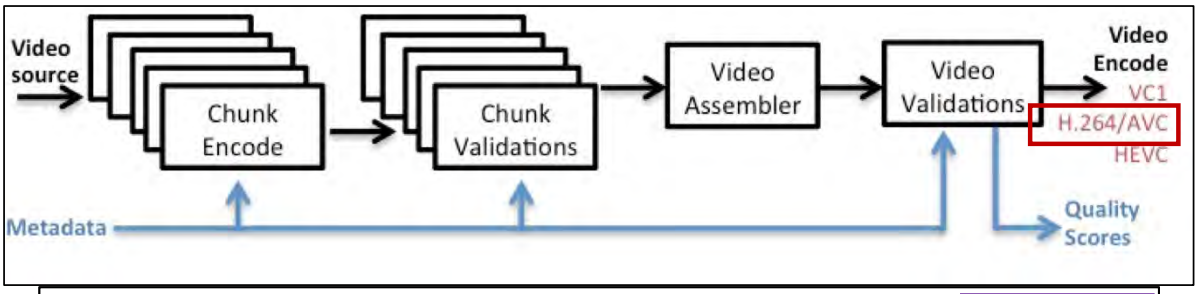
29. Upon information and belief, the Accused Infringing Devices infringe at least claim 1 in the exemplary manner described below.

30. The Accused Infringing Devices use H.264 (AVC) streams for coding video data (digital images) including macroblocks embedded in a binary stream.

31. H.264 is a widely used video compression format with decoder support on web browsers, TVs and other consumer devices. Moreover, H.264 codes digital images comprising macroblocks streams.

> **Compression Performance**
>
> In December 2016, we introduced AVCHi-Mobile and VP9-Mobile encodes for downloads. For these mobile encodes, several changes led to improved compression performance over per-title encodes, including longer GOPs, flexible encoder settings and per-chunk optimization. These streams serve as our high quality baseline for H.264/AVC and VP9 encoding with traditional rate control settings.

Source: https://medium.com/netflix-techblog/optimized-shot-based-encodes-now-streaming-4b9464204830



> parallel on different instances. For each chunk, bitstream-level and pixel-level analysis is applied to detect errors and generate metadata such as temporal and spatial fingerprints. After all the chunks are inspected, the results are

Source: https://medium.com/netflix-techblog/high-quality-video-encoding-at-scale-d159db052746

> This Recommendation | International Standard was developed in response to the growing need for higher compression of moving pictures for various applications such as videoconferencing, digital storage media, television broadcasting, internet streaming, and communication. It is also designed to enable the use of the coded video representation in a flexible manner for a wide variety of network environments. The use of this Recommendation | International Standard allows motion video to be manipulated as a form of computer data and to be stored on various storage media, transmitted and received over existing and future networks and distributed on existing and future broadcasting channels.

Source: https://www.itu.int/rec/T-REC-H.264-201704-I/en , p. i

As in previous video coding Recommendations and International Standards, a macroblock, consisting of a 16x16 block of luma samples and two corresponding blocks of chroma samples, is used as the basic processing unit of the video decoding process.

A macroblock can be further partitioned for inter prediction. The selection of the size of inter prediction partitions is a result of a trade-off between the coding gain provided by using motion compensation with smaller blocks and the quantity

Source: https://www.itu.int/rec/T-REC-H.264-201704-I/en, section 0.6.3

Annex B

Byte stream format

(This annex forms an integral part of this Recommendation | International Standard.)

This annex specifies syntax and semantics of a byte stream format specified for use by applications that deliver some or all of the NAL unit stream as an ordered stream of bytes or bits within which the locations of NAL unit boundaries need to be identifiable from patterns in the data, such as Rec. ITU-T H.222.0 | ISO/IEC 13818-1 systems or Rec. ITU-T H.320 systems. For bit-oriented delivery, the bit order for the byte stream format is specified to start with the MSB of the first byte, proceed to the LSB of the first byte, followed by the MSB of the second byte, etc.

Source: https://www.itu.int/rec/T-REC-H.264-201704-I/en, Annex B

32. H.264 coding supports skipped macroblocks. Before a macroblock is coded, an estimation is made of whether that macroblock can be reconstructed with an error concealment method by examining its motion characteristics, and checking to see that the resulting prediction contains no non-zero (i.e. all zero) quantized transform coefficients. This estimation provides an indication of the capacity for the macroblock to be reconstructed from properties of neighboring macroblocks, allowing the missing block to be concealed by inferring its properties.

Skipped Mode:

In addition to the macroblock modes described above, a P-slice macroblock can also be coded in the so-called skip mode. If a macroblock has motion characteristics that allow its motion to be effectively predicted from the motion of neighboring macroblocks, and it contains no non-zero quantized transform coefficients, then it is flagged as skipped. For this mode, neither a quantized prediction error signal nor a motion vector or reference index parameter are transmitted. The reconstructed signal is computed in a manner similar to the prediction of a macroblock with partition size 16 × 16 and fixed reference picture index equal to 0. In contrast to previous video coding standards, the motion vector used for reconstructing a skipped macroblock is inferred from motion properties of neighboring macroblocks rather than being inferred as zero (i.e., no motion).

Source: http://mrutyunjayahiremath.blogspot.com/2010/09/h264-inter-predn.html

33. H.264 encoders perform a decision step to determine if a macroblock should be excluded from coding (skipped), with the decision to exclude made on the basis of its capacity to be reconstructing by inferring its motion properties from neighboring macroblocks, and based on all zero quantized transform coefficients.

> Skipped Mode:
> In addition to the macroblock modes described above, a P-slice macroblock can also be coded in the so-called skip mode. If a macroblock has motion characteristics that allow its motion to be effectively predicted from the motion of neighboring macroblocks, and it contains no non-zero quantized transform coefficients, then it is flagged as skipped. For this mode, neither a quantized prediction error signal nor a motion vector or reference index parameter are transmitted. The reconstructed signal is computed in a manner similar to the prediction of a macroblock with partition size 16 × 16 and fixed reference picture index equal to 0. In contrast to previous video coding standards, the motion vector used for reconstructing a skipped macroblock is inferred from motion properties of neighboring macroblocks rather than being inferred as zero (i.e., no motion).

Source: http://mrutyunjayahiremath.blogspot.com/2010/09/h264-inter-predn.html

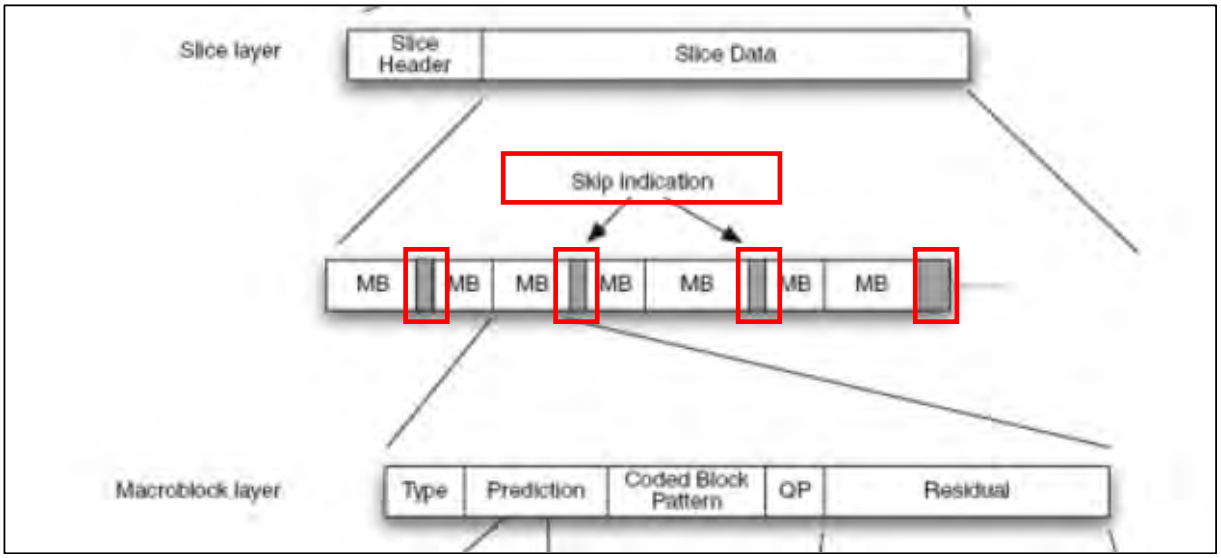
34. Skipped macroblocks are communicated with an mb_skip_flag = 1 (resynchronization marker at the point where the macroblocks are not coded (skipped)) in the binary data stream.

> 3.139 **skipped macroblock**: A *macroblock* for which no data is coded other than an indication that the *macroblock* is to be decoded as "skipped". This indication may be common to several *macroblocks*.

Source: https://www.itu.int/rec/T-REC-H.264-201704-I/en, p13

> 3.139 **skipped macroblock**: A *macroblock* for which no data is coded other than an indication that the *macroblock* is to be decoded as "skipped". This indication may be common to several *macroblocks*.

Source: https://www.itu.int/rec/T-REC-H.264-201704-I/en, p13



Source: https://www.safaribooksonline.com/library/view/the-h264advanced/9780470516928/ch05.html#macroblock_layer

35. Netflix has infringed, and continues to infringe, at least claim 1 of the '118 patent in the United States, by making, using, offering for sale, selling and/or importing the Accused Infringing Devices in violation of 35 U.S.C. § 271(a).

36. Upon information and belief, Netflix may have infringed and continues to infringe the '118 patent through other software and devices utilizing the same or reasonably similar functionality, including other versions of the Accused Infringing Devices.

37. Netflix's acts of direct infringement have caused and continue to cause damage to Uniloc and Uniloc is entitled to recover damages sustained as a result of Netflix's wrongful acts in an amount subject to proof at trial.

COUNT II – INFRINGEMENT OF U.S. PATENT NO. 9,721,273

38. The allegations of paragraphs 1-8 of this First Amended Complaint are incorporated by reference as though fully set forth herein.

39. The '273 patent, titled "System and Method For Aggregating And Providing Audio And Visual Presentations Via A Computer Network," issued on August 1, 2017. A copy of the '273 patent is attached as Exhibit B. The priority date for the '273 patent is August 21, 2008. The inventions of the '273 patent were

developed by an inventor at LINQware, Inc.

40. Pursuant to 35 U.S.C. § 282, the '273 patent is presumed valid.

41. Claim 1 of the '273 patent addresses a technological problem indigenous to webpages, search engines and the Internet—providing the most relevant content to a user Claim 1 of the '273 patent reads as follows:

> 1. A method for providing content via a computer network and computing system, the method comprising:
>
> storing presentation data that represents content of a first collection of one or more presentations using the computer system;
>
> storing data indicative of the first collection of presentations so as to be associated with the presentation data;
>
> storing feed data that represents a collection of one or more feeds using the computer system, wherein each of the feeds identifies a corresponding second collection of one or more presentations being accessible via the computer network and includes no data representing content of the second collection of presentations;
>
> automatically and periodically accessing each of the feeds to identify each of the corresponding second collection of presentations, using the computer system;
>
> storing data associated with a third collection of one or more presentations; and
>
> aggregating each of the first, identified second, and third collections of presentations for delivery via the computer network using a common web page.

42. At the time of invention of the '273 patent, given the vastness of content on the Internet, it proved "difficult for a user of an Internet enabled computer to identify and locate content of a particular type and relating to a particular subject." '273 patent at 1:49-55. One way to find relevant content was to use a search engine for specified keywords to return a list of documents where

those words are found. '273 patent at 1:56-59.

43. Some of the available search engines at the time of the invention included Yahoo!, Google and search.com. '273 patent at 2:2-5. These are search engines created in the mid to late 1990s that rose to prominence by the early 2000s just prior to the priority date for the '273 patent. The known search engines at the time suffered from drawbacks, however. The search engines at the time typically utilized a webcrawler to provide documents. '273 patent at 1:59-60. An indexer then typically reads the webcrawler provided documents and creates an index based on the words contained in each document. '273 patent at 1:61-63. Each search engine typically uses its own methodology to create indices such that, ideally, only meaningful results are returned for each query. '273 patent at 1:63-65. This is not always true though due to the complex nature and nuances of human language and efforts by document authors or providers to fool or trick the indexer into ranking its documents above those of others. '273 patent at 1:65-2:2.

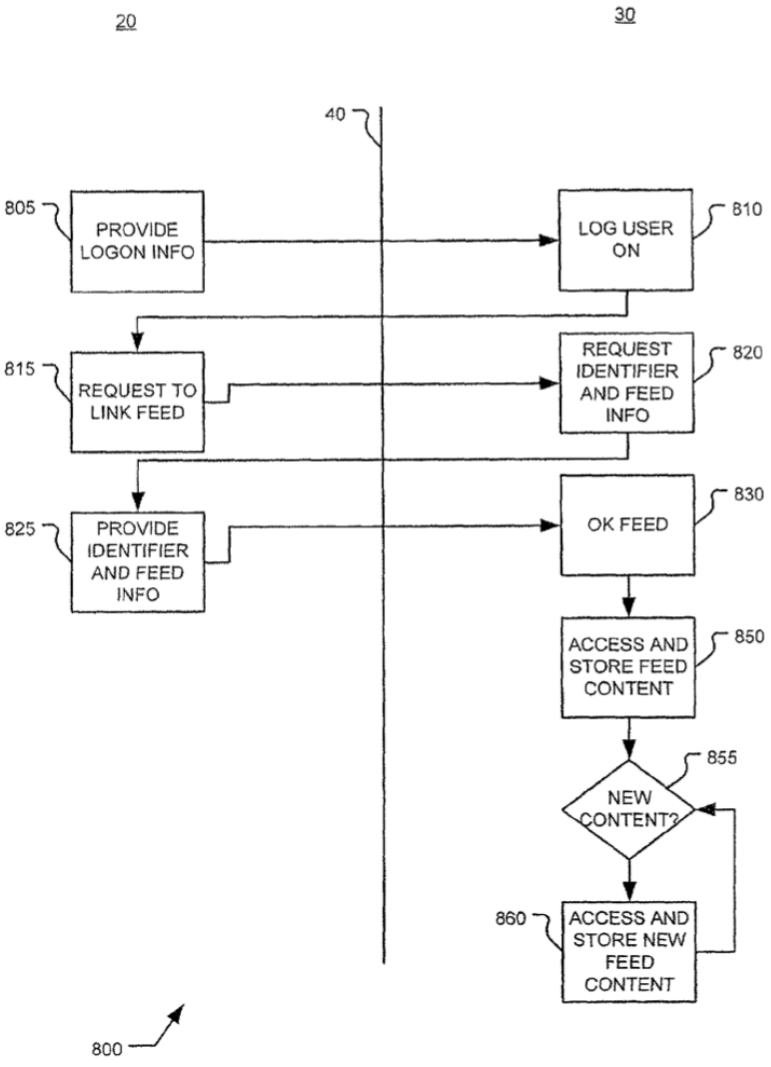
44. In light of the foregoing there existed a need for technology that would provide more relevant content, particularly with respect to presentations for use in business productivity, education, and for entertainment purposes (e.g., providing videos of interest to a consumer). '273 patent at 2:6-10.

45. The claimed invention of claim 1 of the '273 patent provides a technological solution to the problem faced by the inventor, namely to create a common webpage by aggregating collections of presentations and collecting and analyzing feed data from multiple feeds in at least one of the collections of presentations in order to provide more relevant content to each user.

46. The technological solution is detailed in the specification and claim 1. First, presentation data that represents content of a first collection of presentations is stored. Next, data indicative of the first collection of presentations that is associated with the presentation data is stored. Then feed data that represents

various feeds that identify a second collection of presentations (but has no data representing the content) is stored. The feed data is then automatically and periodically accessed to identify the corresponding second collection of presentations. Data associated with a third collection of presentations is also stored. Finally, the first, second, and third collections of presentations are aggregated for delivery using a common webpage. '273 patent at 2:15-3:10, 10:63-12:29, Fig. 8, claim 1.

Fig. 8



It should further be understood such a content acquisition provides additional advantages. For example, each user wishing to identify and view content available via an RSS feed may conventionally need to

> obtain and operate an RSS reader application. Further, each such RSS reader application would need to access each identified RSS feed. This leads to substantial bandwidth usage, for example. In contrast, certain embodiments of the present invention permit a user to access RSS content without the need for his own RSS reader. Further, embodiments of the present invention only require that system 30 access each RSS feed, as opposed to each system 30 user computer 20 wishing to access the RSS feeds, leading to substantial savings in network resources. Further, certain embodiments of the present invention allow user to access and compare content available via RSS feeds they are not even aware of, e.g., by their interaction with webpage 200 as discussed above, where webpage 200 includes content added using the methodology of process 800, for example. Accordingly, certain embodiments of the present invention provide for enhanced content syndication and aggregation, as compared to even RSS feeds themselves, for example. And, certain embodiments of the present invention provide for automatic aggregation of RSS fed content in combination with non-RSS fed content in a single application independent of any user RSS reader application.

'273 patent at 12:4-29 (emphasis added).

47. Claim 1 of the '273 patent improves the functionality of a webpage, search engine and technology specific to the Internet by creating a common webpage by aggregating collections of presentations and collecting and analyzing feed data from multiple feeds in at least one of the collections of presentations in order to provide more relevant content to each user. This is because, among other reasons, there is no data representing the content of the second collection of presentations in the feed data. The claimed invention of claim 1 of '273 patent also was not well-understood, routine or conventional at the time of the invention. Rather, as demonstrated above, the claimed invention was a departure from the conventional ways of identifying presentations on the Internet via the known search engines at the time.

48. In light of the foregoing, and the general knowledge of a person of ordinary skill in the art, a person of ordinary skill in the art reading the '273 patent and its claims would understand that the patent's disclosure and claims are drawn to

solving a specific, technical problem arising in webpage, search engine and Internet technology. Moreover, a person of ordinary skill in the art would understand that the claimed subject matter of the '273 patent presents advancements in the field of webpage, search engine and Internet technology by allowing for a common webpage based on collections of presentations and collecting and analyzing feed data from multiple feeds in at least one of the collections of presentations in order to provide more relevant content to each user because the feed data does not include data representing the content of the second collection of presentations. A person of ordinary skill in the art would understand that claim 1 of the '273 patent is directed to a method for creating a common webpage by aggregating collections of presentations and collecting and analyzing feed data from multiple feeds in at least one of the collections of presentations in order to provide more relevant content to each user because the feed data does not include data representing the content of the second collection of presentations. Moreover, a person of ordinary skill in the art would understand that claim 1 of the '273 patent contains that corresponding inventive concept.

49. Neflix's own patents claim subject matter in the same field. For example, on October 4, 2012, more than 4 years after the priority date for the '273 patent, Netflix filed an application titled, "Relationship-Based Search and Reccomenations," which matured into U.S. Patent No. 9,817,827 on November 14, 2017 (the "'827 patent"). This patent concerns "techniques for generating search results and content recommendatinos based on relationships between user activities."

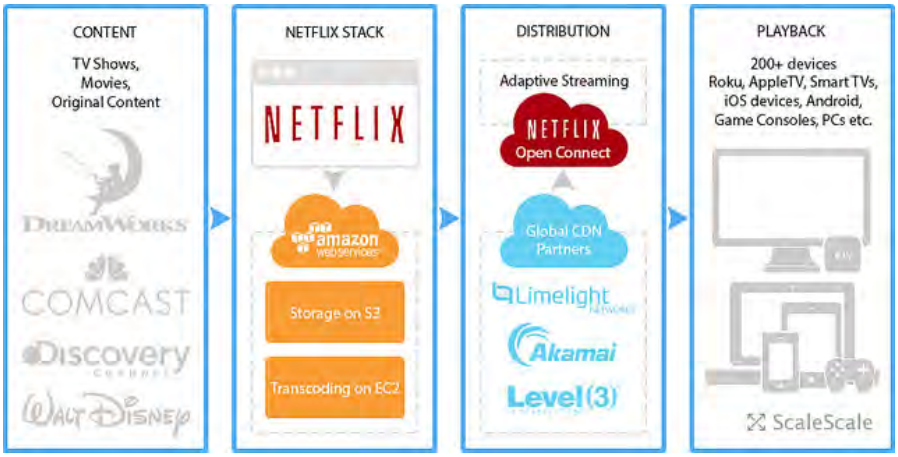
50. Another example is on June 12, 2013, nearly 5 years after the priority date for the '273 patent, Netflix filed an application titlted, "Targeted Promotion of Original Titles," which matured into U.S. Patent No. 10,187,674 less than two months ago on January 22, 2019 (the "'827 patent"). This patent concerns

"techniques for promoting new media titles to targeted audiences."

51. Upon information and belief, Netflix makes, uses, offers for sale, and/or sells in the United States and/or imports into the United States products and services that practice a method for providing content via a computer network and a computer system, including Netflix's streaming service (collectively the "Accused Infringing Devices").

52. Upon information and belief, the Accused Infringing Devices infringe at least claim 1 in the exemplary manner described below.

53. The Accused Infringing Devices perform a method for providing content via a computer network and computer system. In particular, Netflix operates a streaming service that delivers TV shows and movies to subscribers over the Internet.

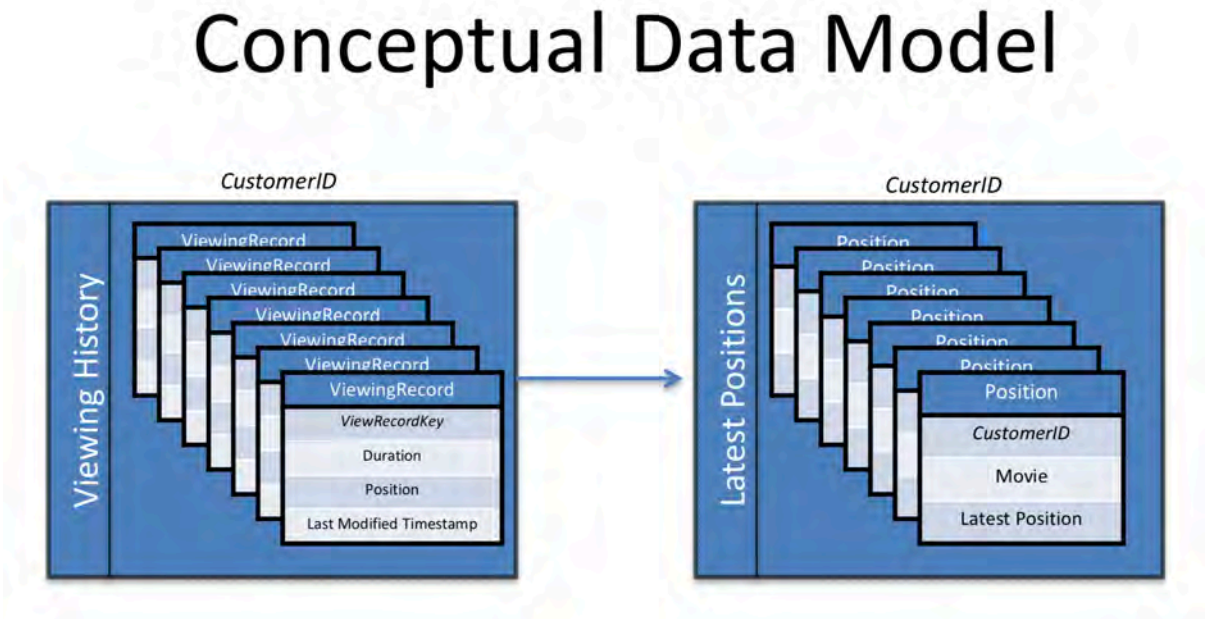


Source: http://highscalability.com/blog/2015/11/9/a-360-degree-view-of-the-entire-netflix-stack.html

54. The Accused Infringing Devices store presentation data that represents content of a first collection of one or more presentations using the computer system. In particular, Netflix maintains a collection of presentations displayed in a "Continue Watching Row" that a user has started, but not finished, watching.

55. The Accused Infringing Devices store data indicative of the first collection of presentations so as to be associated with the presentation data. In particular, Netflix stores viewing data indicating the amount of time the user has watched each program in the "Continue Watching" row.

Source: https://www.slideshare.net/PhilipFisherOgden/netflix-viewing-history-ebjug-2014 at 9.



Source: https://www.slideshare.net/PhilipFisherOgden/netflix-viewing-history-ebjug-2014 at 30.

56. The Accused Infringing Devices store feed data that represents a collection of one or more feeds using the computer system. The Accused Infringing Devices store feed data representing TV shows and movies belonging to a particular category that have been recommended to the user. For example, "British TV Shows," "Historical TV Shows," and "Emmy-winning TV Shows" are collections of presentations. Upon information and belief, the Accused Infringing Devices store the feed data as an ordered list of identifiers that are output by its recommendation engine.

The "Monty Python Best Bits (mostly)" presentation in the upper left corner is associated with the identifier 80236800, where as the "Civilizations" presentation to the right is associated with the identifier 81012418.

Netflix explains the homepage recommendation algorithm as follows:

"Once we have a set of possible video groups to consider for a page, we can begin to assemble the homepage from them. To do this, we start by finding candidate groupings that are likely relevant for a member based on the information we know about them. This also involves coming up with the evidence (or explanations) to support the presentation of a row, for example the movies that the member has previously watched in a genre. Next, we filter each group to handle concerns like maturity rating or to remove some previously watched videos. After filtering, we rank the videos in each group according to a row-appropriate ranking algorithm, which produces an ordering of videos such that the most relevant

videos for the member in a group are at the front of the row. From this set of row candidates we can then apply a row selection algorithm to assemble the full page. As the page is assembled, we do additional filtering like deduplication to remove repeat videos and format rows to the appropriate size for the device."

Source: https://medium.com/netflix-techblog/learning-a-personalized-homepage-aa8ec670359a.

Process for creating and choosing rows.

Source: https://medium.com/netflix-techblog/learning-a-personalized-homepage-aa8ec670359a.

57. The output of the recommendation algorithm constitutes the feed data, which is stored by the Accused Infringing Devices.

58. Each of the feeds identifies a corresponding second collection of one or more presentations being accessible via the computer network, and includes no data representing the content of the second collection of presentations. As shown above, the feed data includes the identifier associated with the presentations, but not the content of the presentations.

59. The Accused Infringing Devices automatically and periodically access each of the feeds to identify each of the corresponding second collection of presentations using the computer system. In particular, the Accused Infringing Devices' catalog of TV shows and movies is constantly changing.

https://help.netflix.com/en/node/14422; http://www.vulture.com/2018/09/new-on-netflix-october-2018-movies-tv-and-original-series.html. The recommendations to users are updated on a daily basis.

Click on the "X" on the show or movie you want to remove. If it's a series, click on "remove series?" to save you the bother of clicking "X" on every individual episode.

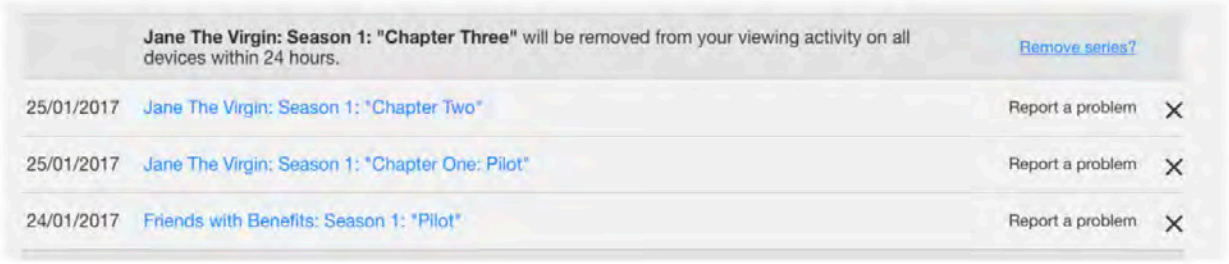
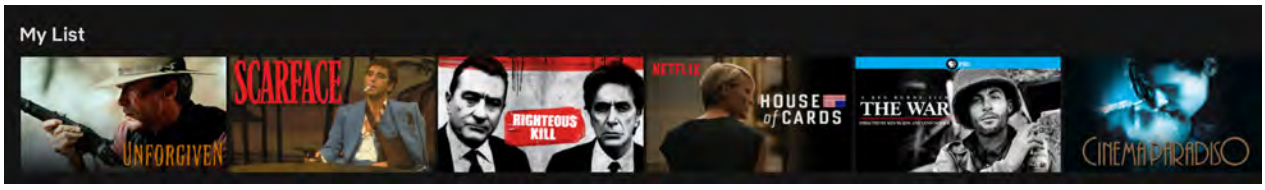


IMAGE: RACHEL THOMPSON / MASHABLE

It'll take 24 hours for Netflix to remove the offending shows and films from all your devices, and after that you should begin to see changes to your recommendations.

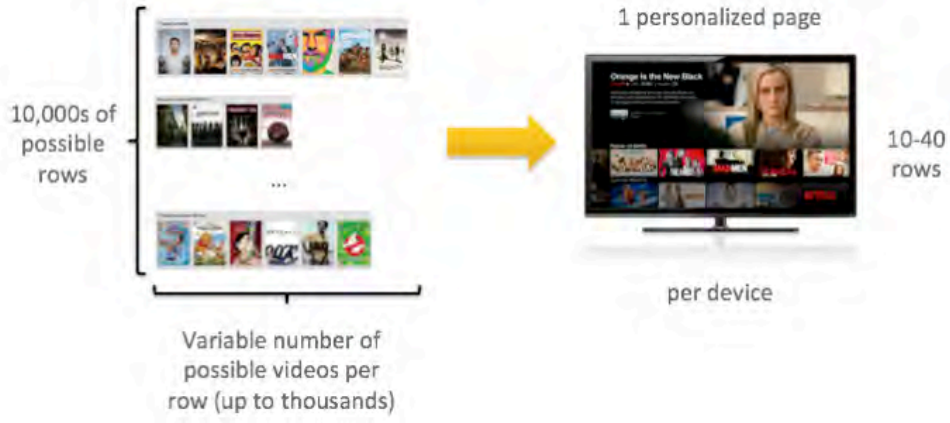
Source: https://mashable.com/2017/05/16/netflix-algorithm-reset/#rYS30DXLdOqG.

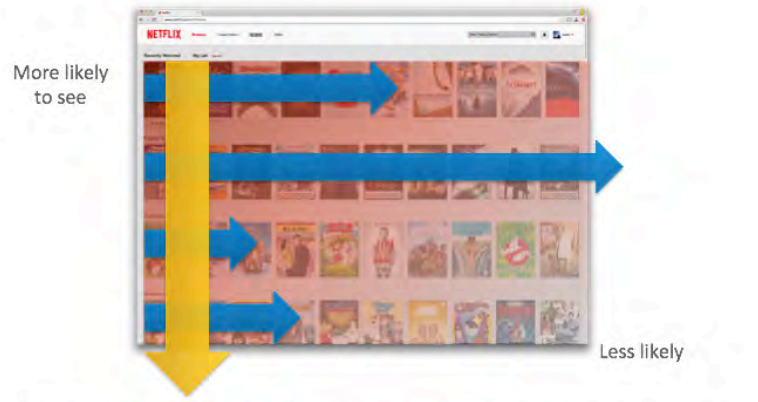
60. The Accused Infringing Devices store data associated with a third collection of one or more presentations. In particular, the Accused Infringing Devices permit users to add presentations to a list. The Accused Infringing Devices store the list of presentations selected by the user.



61. The Accused Infringing Devices aggregate the first, second, and third collections of presentations for delivery via the computer network using a common

web page. The Netflix.com homepage includes rows corresponding to the first, second, and third collections of presentations.

> falls outside the realm of recommendation. We want our recommendations to be accurate in that they are relevant to the tastes of our members, but they also need to be diverse so that we can address the spectrum of a member's interests versus only focusing on one. We want to be able to highlight the depth in the catalog we have in those interests and also the breadth we have across other areas to help our members explore and even find new interests. We want our recommendations to be fresh and responsive to the actions a member takes, such as watching a show, adding to their list, or rating; but we also want some stability so that people are familiar with their homepage and can easily find videos they've been recommended in the recent past. Finally, we need to be able to place task-oriented rows, such as "My List," in amongst the more discovery-oriented rows.
>
> **Page-level algorithmic challenge**
>
> 
>



Notional importance of navigation modeling. Members are more likely to scan vertically than horizontally, which means videos presented in the upper left are much more likely to be seen than those in the lower right.

Source: https://medium.com/netflix-techblog/learning-a-personalized-homepage-aa8ec670359a.

PRAYER FOR RELIEF

WHEREFORE, plaintiff Uniloc 2017 LLC respectfully prays that the Court enter judgment in its favor and against Netflix as follows:

a. A judgment that Netflix has infringed one or more claims of the '118 patent literally and/or under the doctrine of equivalents;

b. A judgment that Netflix has infringed one or more claims of the '273 patent literally and/or under the doctrine of equivalents;

c. That for each Asserted Patent this Court judges infringed by Netflix this Court award Uniloc its damages pursuant to 35 U.S.C. § 284 and any royalties determined to be appropriate;

d. That this be determined to be an exceptional case under 35 U.S.C. § 285 and that Uniloc be awarded enhanced damages up to treble damages for willful infringement as provided by 35 U.S.C. § 284;

e. That this Court award Uniloc prejudgment and post-judgment interest on its damages;

f. That Uniloc be granted its reasonable attorneys' fees in this action;

g. That this Court award Uniloc its costs; and

h. That this Court award Uniloc such other and further relief as the

Court deems proper.

DEMAND FOR JURY TRIAL

Uniloc hereby demands trial by jury on all issues so triable pursuant to Fed. R. Civ. P. 38.

Dated: March 4, 2019

FEINBERG DAY ALBERTI LIM & BELLOLI LLP

By: */s/ M. Elizabeth Day*
M. Elizabeth Day

Attorneys for Plaintiff
Uniloc 2017 LLC