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12

13 **IN THE UNITED STATES DISTRICT COURT**
14 **CENTRAL DISTRICT OF CALIFORNIA – WESTERN DIVISION**
15

16 **GOTV STREAMING, LLC,**
17 Plaintiff,
18 v.
19 **NETFLIX, INC.,**
20 Defendant.
21

CASE NO. 2:22-CV-7556
**PLAINTIFF’S ORIGINAL COMPLAINT
FOR PATENT INFRINGEMENT**

1 Plaintiff GoTV Streaming, LLC (“GoTV” or “Plaintiff”) hereby submits this Complaint for
2 patent infringement against Defendant Netflix, Inc. (“Defendant” or “Netflix”) and states as follows:

3 **I. THE PARTIES**

4 1. GoTV is a limited liability company organized under the laws of California with its
5 principal place of business at 3415 S. Sepulveda Blvd., Suite 1100, Los Angeles, California 90034.

6 2. On information and belief, Netflix is a corporation organized under the laws of
7 Delaware, with its headquarters at 100 Winchester Circle, Los Gatos, California 95032 and a regular
8 and established place of business at 1375 Vine Street, Hollywood, California 90028.

9 **II. JURISDICTION AND VENUE**

10 3. This Court has subject matter jurisdiction under 28 U.S.C. §§ 1331 and 1338(a)
11 because this action arises under the patent laws of the United States, 35 U.S.C. § 1 *et seq.*, including
12 35 U.S.C. § 271.

13 4. This Court has personal jurisdiction over Netflix at least because Netflix conducts
14 business in this Judicial District and in the State of California. For example, Netflix regularly
15 transacts business in the State of California and within this District, including by developing and
16 offering Netflix’s media streaming platform to customers. Netflix operates a website and various
17 advertising campaigns that solicit subscriptions to Netflix’s media streaming platform by consumers
18 in this District and in the State of California. Netflix engages in other persistent courses of conduct
19 and derives substantial revenue from services provided in this District and in the State of California.
20 For example, Netflix has built, maintains and operates regular and established places of business in
21 this District and in the State of California, including office locations employing thousands of Netflix
22 engineers, executives and other employees. As a result, Netflix has purposefully established
23 substantial, systematic and continuous contacts within this District, and Netflix should reasonably
24 expect to be sued in this District.

25 5. This Court also has personal jurisdiction over Netflix at least because Netflix has
26 committed acts of patent infringement in this Judicial District and in the State of California. Netflix
27 has made, used, sold and offered for sale products that infringe GoTV’s patent rights. On
28 information and belief, Netflix’s media streaming platform (defined below and referred to herein as

1 the “Infringing Product”) has been developed, offered for sale, sold and used within the State of
2 California and within this Judicial District. Accordingly, Netflix’s conduct and connections with
3 the State of California are such that it should reasonably have anticipated being brought into court
4 here.

5 6. Venue is proper in this District as to Netflix pursuant to 28 U.S.C. §§ 1391(b),

6 7. 1391(c) and 1400(b) because, among other things, Netflix has a regular and
7 established place of business in this District, including but not limited to a regular and established
8 place of business at 1375 Vine Street, Hollywood, California 90028. Netflix has committed acts
9 within this Judicial District giving rise to this action, and Netflix continues to conduct business in
10 this District, including through the development, use, sale, and offer of sale of the Infringing
11 Product.

12 **III. BACKGROUND**

13 8. Hands-On Mobile, Inc. was a wireless entertainment company founded in 2001 that
14 specialized in developing, publishing and distributing mobile content over wireless networks. In
15 2010, Hands-On Mobile sold its U.S. applications business to GoTV Networks, Inc. At the time,
16 GoTV Networks, Inc. was a mobile media network and applications developer that similarly
17 specialized in delivering media content to mobile users. After acquiring Hands-On Mobile, GoTV
18 Networks, Inc. was itself acquired in 2011 by Phunware, Inc., a leading mobile software company
19 that produces mobile applications for media delivery, advertising and marketing purposes.

20 9. On January 24, 2012, the United States Patent and Trademark Office (“USPTO”)
21 duly and legally issued United States Patent No. 8,103,865 (“the ’865 Patent”), titled “Server
22 Method and System for Rendering Content on a Wireless Device.” The ’865 Patent claims patent-
23 eligible subject matter and is valid and enforceable.

24 10. On July 2, 2013, the USPTO duly and legally issued United States Patent No.
25 8,478,245 (“the ’245 Patent”), titled “Method and System for Rendering Content on a Wireless
26 Device.” The ’245 Patent claims patent-eligible subject matter and is valid and enforceable.

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1 11. On March 24, 2015, the USPTO duly and legally issued United States Patent No.
2 8,989,715 (“the ’715 Patent”), titled “Method and System for Rendering Content on a Wireless
3 Device.” The ’715 Patent claims patent-eligible subject matter and is valid and enforceable.

4 12. GoTV is the sole and exclusive owner of all rights, title, and interest in the ’865
5 Patent, the ’245 Patent, and the ’715 Patent (collectively, the “GoTV Patents”), including the sole
6 and exclusive right to prosecute this action, to enforce the GoTV Patents against infringers, to collect
7 damages for past, present and future infringement of the GoTV Patents and to seek injunctive relief
8 as appropriate under the law. Accordingly, Netflix’s infringement, as described below, has injured,
9 and continues to injure GoTV.

10 13. As described in the GoTV Patents, the increase in popularity of wireless devices has
11 led to an increase in the number of wireless device types used by media consumers, such as cellular
12 phones, personal digital assistants, laptops, tablets, etc. This has led to an increase in demand for
13 various applications to run on the various wireless devices. Since each wireless device is unique,
14 each application must be tailored in accordance with the device’s attributes to fully utilize its
15 capabilities. The corresponding increase in the types of wireless devices, the number of
16 applications, and the need to tailor each application to a given device has increased the cost of
17 developing mobile applications.

18 14. Collectively, the GoTV Patents disclose novel embodiments of methods and systems
19 that address this problem. As described generally in the GoTV Patents, embodiments of the present
20 inventions relieve software vendors from tailoring their applications based on each wireless device
21 type because the server tailors the output of a generic application based on the wireless device
22 capability.

23 15. For example, the ’865 Patent is directed generally to a server-implemented method
24 for processing data for a wireless device. As discussed in one embodiment, in response to a user
25 request, the server executes an application program for generating content for rendering on the
26 wireless device where the content is wireless device generic. An engine or reader on the device
27 interprets commands of a generic syntax that are device specific in their parameters.

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1 16. Similarly, the '245 Patent is directed generally to a method for rendering content on
2 a wireless device. For example, as discussed in one embodiment, a reader on a device is operable
3 to communicate with a server and receive a series of low-level basic commands that layout content,
4 position, etc. for rendering application content on a wireless device. The reader of the wireless
5 device receives the basic commands that are tailored and are specific to the wireless device based
6 on the device's attributes and capabilities.

7 17. The '715 Patent is similarly directed to a method for rendering content on a wireless
8 device. For example, as discussed in one embodiment, a graphical user interface includes a plurality
9 of rendering blocks. A custom configuration may be used to customize the appearance of content
10 generated by a requested application rendered on the rendering blocks. The graphical user interface
11 is operable for rendering basic commands received from the reader and for customizing the
12 operation and appearance of the requested application based on the custom configuration.

13 18. As a result, using the novel methods and systems claimed in the GoTV Patents,
14 software vendors can develop a generic application where the output of the generic application is
15 tailored based on each wireless device type using the server, thus, among other things, promoting
16 ease and efficiency in mobile application development, use, and maintenance.

17 **IV. COUNT I: INFRINGEMENT OF THE '865 PATENT**

18 19. GoTV incorporates each of the allegations of paragraphs 1–18 above.

19 20. Netflix has directly infringed and continues to directly infringe the '865 Patent by,
20 for example, making, using, offering to sell, selling, and/or importing into the United States, without
21 authority, products or methods that practice one or more claims of the '865 Patent.

22 21. Defendant is not licensed or otherwise authorized to make, use, offer for sale, sell or
23 import any products or methods that embody the inventions of the '865 Patent in the United States.

24 22. Defendant has and continues to directly infringe one or more claims of the '865
25 Patent, including, for example, claim 1 of the '865 Patent, either literally or under the doctrine of
26 equivalents, by making, using, offering to sell, selling, and/or importing into the United States the
27 Infringing Product without authority and in violation of 35 U.S.C. § 271.

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1 23. For example, the Netflix streaming media platform infringes representative Claim 1
2 of the '865 Patent.

3 24. Claim 1 of the '865 Patent claims a server implemented method for processing data
4 for a wireless device, comprising: receiving from the wireless device a request for an application
5 program, said request including an indication of a type of the wireless device; executing, in response
6 to receiving said request, said application program to generate a wireless device generic template
7 including a plurality of content items; sending a custom configuration to the wireless device, said
8 custom configuration being specific to said application program; generating a page description
9 based on said wireless device generic template and a capability of the wireless device, said page
10 description having at least one discrete low level rendering command that is within said rendering
11 capability of said wireless device but that is of a syntax that is wireless device generic; and sending
12 said page description to the wireless device such that the wireless device is capable of presenting at
13 least one content item from said plurality of content items using both said page description and said
14 custom configuration.

15 25. The Netflix streaming media platform practices the server implemented method of
16 Claim 1 of the '865 Patent.

17 26. The Netflix streaming media platform practices a server implemented method for
18 processing data for a wireless device. The Netflix system includes servers that process data for a
19 wireless device, such as a mobile client device, including for example, smartphones, tablets and
20 streaming media players.

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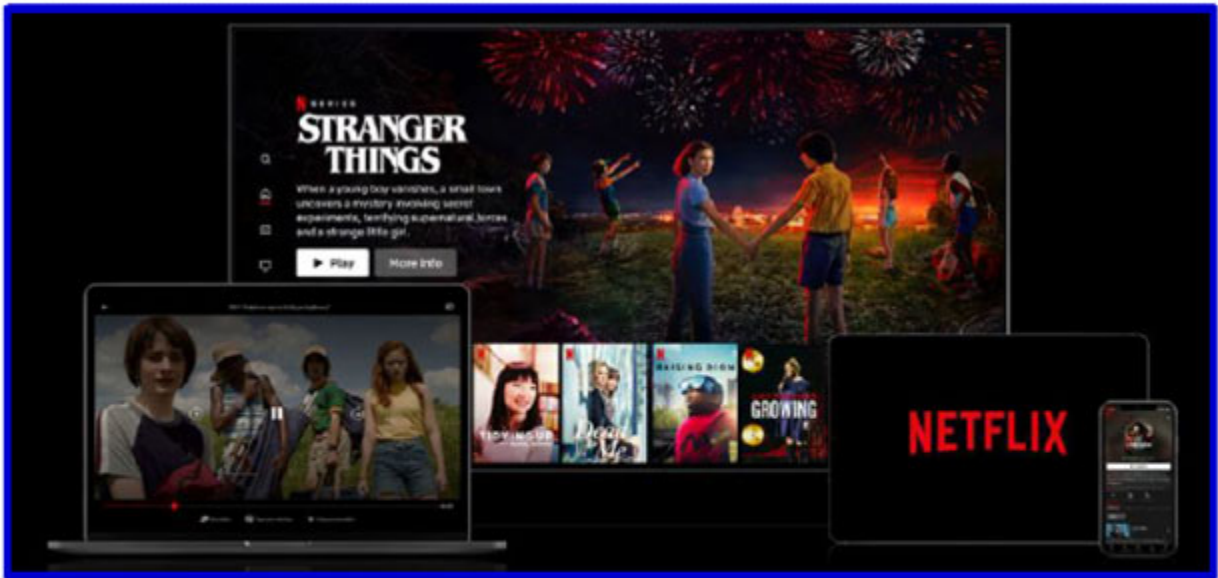
1 "What is Netflix?

2 Netflix is a subscription-based streaming service that allows our members to watch TV shows and movies without commercials on an internet-connected device.

3 ...
4 Supported Devices

5 You can watch Netflix through any internet-connected device that offers the Netflix app, including smart TVs, game consoles, streaming media players, set-top boxes, smartphones, and tablets. You can also watch Netflix on your computer using an internet browser."
6

7 https://help.netflix.com/en/node/412?ui_action=kb-article-popular-categories
8 (Emphasis added)



18 <https://getconnectedmedia.com/subscribe-to-netflix-heres-what-you-need-to-know/>
19 (Emphasis added)

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21 27. The practiced method comprises: receiving from the wireless device a request for an
22 application program, said request including an indication of a type of the wireless device. For
23 example, Netflix engineers have described that "from Netflix's perspective, your TV on which the
24 Netflix app is installed has a unique identity, which we call as the ESN or the Electronic Serial
25 Number. Along with your credentials, this ESN is also passed in the login request. That request then
26 gets routed to one of our origin servers, that is the API, which then calls one of the mid-tier services,

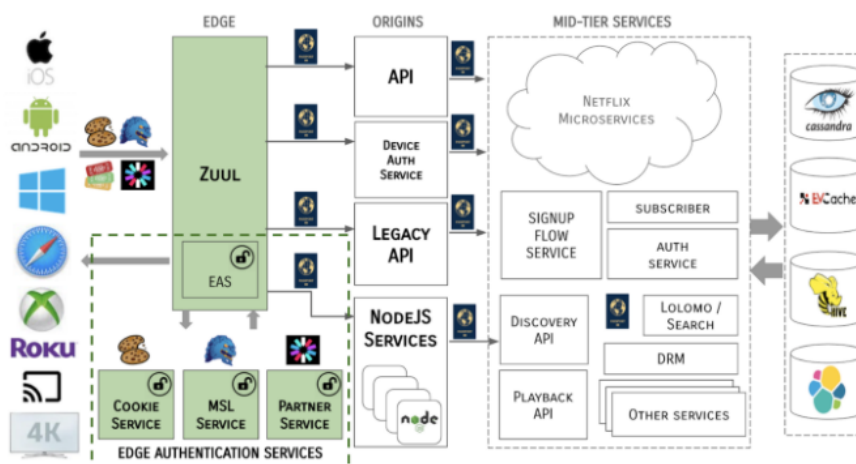
1 not surprisingly called auth service to validate your credentials.”¹ Netflix’s engineers have further
2 described that this identity information is passed downstream in the form of the Netflix Passport:
3 “Going back to this current architecture diagram, the next logical question would be, in what form
4 did we send the identity information downstream? For this, we created a new identity structure
5 called Passport. What is Passport? It is an identity structure created at the edge for each request and
6 services consumed in the scope of same request. It contains user and device identity information.”²

7 28. As described by Netflix’s engineers, Passport “has two buckets of information, User
8 Info, and Device Info. As the name suggests, User Info stores user or the customer identity
9 information, mainly the customer ID and the account owner ID. Device Info stores the device
10 identity information, mainly the ESN and the device type.”³ This operation of Netflix’s backend
11 can be illustrated through the following diagram: ⁴

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26 ¹ <https://www.infoq.com/presentations/netflix-user-identity/>
27 ² <https://www.infoq.com/presentations/netflix-user-identity/>
28 ³ <https://www.infoq.com/presentations/netflix-user-identity/>
⁴ <https://netflixtechblog.com/edge-authentication-and-token-agnostic-identity-propagation-514e47e0b602>

We introduced an identity structure called “Passport” which allowed us to propagate the user and device identity information in a uniform way. The Passport is also a kind of token, but there are many benefits to using an internal structure that differs from external tokens. However, downstream systems still need access to the user and device identity.



A Passport is a short-lived identity structure created at the Edge for each request, i.e., it is scoped to the life of the request and it is completely internal to the Netflix ecosystem. These are generated in Zuul via a set of Identity Filters. A Passport contains both user & device identity, is in protobuf format, and is integrity protected by HMAC.

“Going back to this current architecture diagram, the next logical question would be, in what form did we send the identity information downstream? For this, we created a new identity structure called Passport. **What is Passport? It is an identity structure created at the edge for each request and services consumed in the scope of same request. It contains user and device identity information.** It is internal to Netflix ecosystem, meaning it is an internal identity token that we don't send it out back to the device....

Let's look at what all information does Passport have. Firstly, it has header which has some metadata about the Passport. Then it has two buckets of information, User Info, and Device Info. As the name suggests, User Info stores user or the customer identity information, mainly the customer ID and the account owner ID. **Device Info stores the device identity information, mainly the ESN and the device type.**

... Coming back to this flow, from Netflix's perspective, your TV on which the Netflix app is installed has a unique identity, which we call as the ESN or the Electronic Serial Number. **Along with your credentials, this ESN is also passed in the login request.”**

(<https://www.infoq.com/presentations/netflix-user-identity/>)

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Netflix uses gRPC Network Management Interface (gNMI) protocol to collect data from various target devices. By receiving supported models of target devices (“type of the wireless device”) within the request messages of the gNMI protocol (“request”), Netflix determines the capabilities of devices used for streaming such as supported encoding, screen size, etc.

“While the OpenConfig data model describes the structure and state of network devices, **the data itself is streamed -from network devices at Netflix using the gRPC Network Management Interface (gNMI) protocol.** gNMI is an open-source protocol specification created by the OpenConfig working group that is used to stream data to and from network devices, also known as *gNMI targets*. gNMI provides four RPC mechanisms:

- **Capabilities:** Describes the services and data models supported by the target”

<https://netflixtechblog.com/simple-streaming-telemetry-27447416e68f> (*Emphasis added*)

“3.2.1 The CapabilityRequest message
The CapabilityRequest message is sent by the client to request capability information from the target. The CapabilityRequest message carries a single repeated extension field, which is used as per the definition in Section 2.7.

3.2.2 The CapabilityResponse message
The CapabilityResponse message has the following fields:

- **supported_models** - a set of ModelData messages (as defined in Section 2.6.1) **describing each of the models supported by the target**
- **supported_encodings** - an enumeration field describing **the data encodings supported by the target**, as described in Section 2.3.”

<https://github.com/openconfig/reference/blob/master/rpc/gnmi/gnmi-specification.md#261-the-modeldata-message> (*Emphasis added*)

When a user requests to watch a video, Netflix analyzes the network quality and stability of the internet connection the user is on and then **based on the device type** and screen size provides with the right video format to stream.

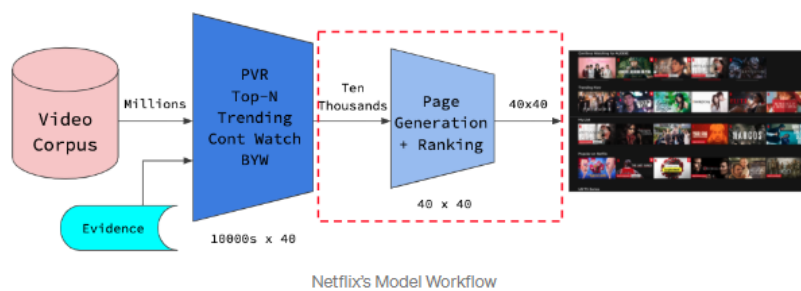
<https://uxdesign.cc/netflix-system-design-ef5802426ad4>

29. The practiced method comprises: executing, in response to receiving said request, said application program to generate a wireless device generic template including a plurality of content items. Upon receiving a request, the Netflix system generates a wireless device generic

1 template including a plurality of content items, including for example, an order of thumbnails,
 2 content categories, episode information, previews, interface elements, and the like.⁵

3 **Page Generation**

4 After the algorithms generate candidate rows (already ranked within each row
 5 vector), how does Netflix decide which of these 10,000s of rows to display?



11 Historically, Netflix has used a template-based approach to tackle this problem of
 12 page generation i.e. a massive blood bath of rows competing for precious screen
 13 real estate. It is a task focused on not only accuracy, but also providing diversity,
 14 accessibility and stability at the same time. Other considerations include
 15 hardware capabilities (what device is being used) and which rows/columns are
 16 visible at first glance and upon scroll.

17 This means that Netflix wants to accurately predict what users want to watch in
 18 that session, but not forgetting that he/she might want to pick up on videos that
 19 were left off halfway. At the same time, it wants to highlight the depth of its
 20 catalog by providing something fresh, and perhaps capture trends that are going
 21 on in the member's region. Finally, stability is necessary when members have
 22 interacted with Netflix's for awhile and are used to navigating the page in a
 23 certain manner.

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28 ⁵ <https://towardsdatascience.com/deep-dive-into-netflixs-recommender-system-341806ae3b48>

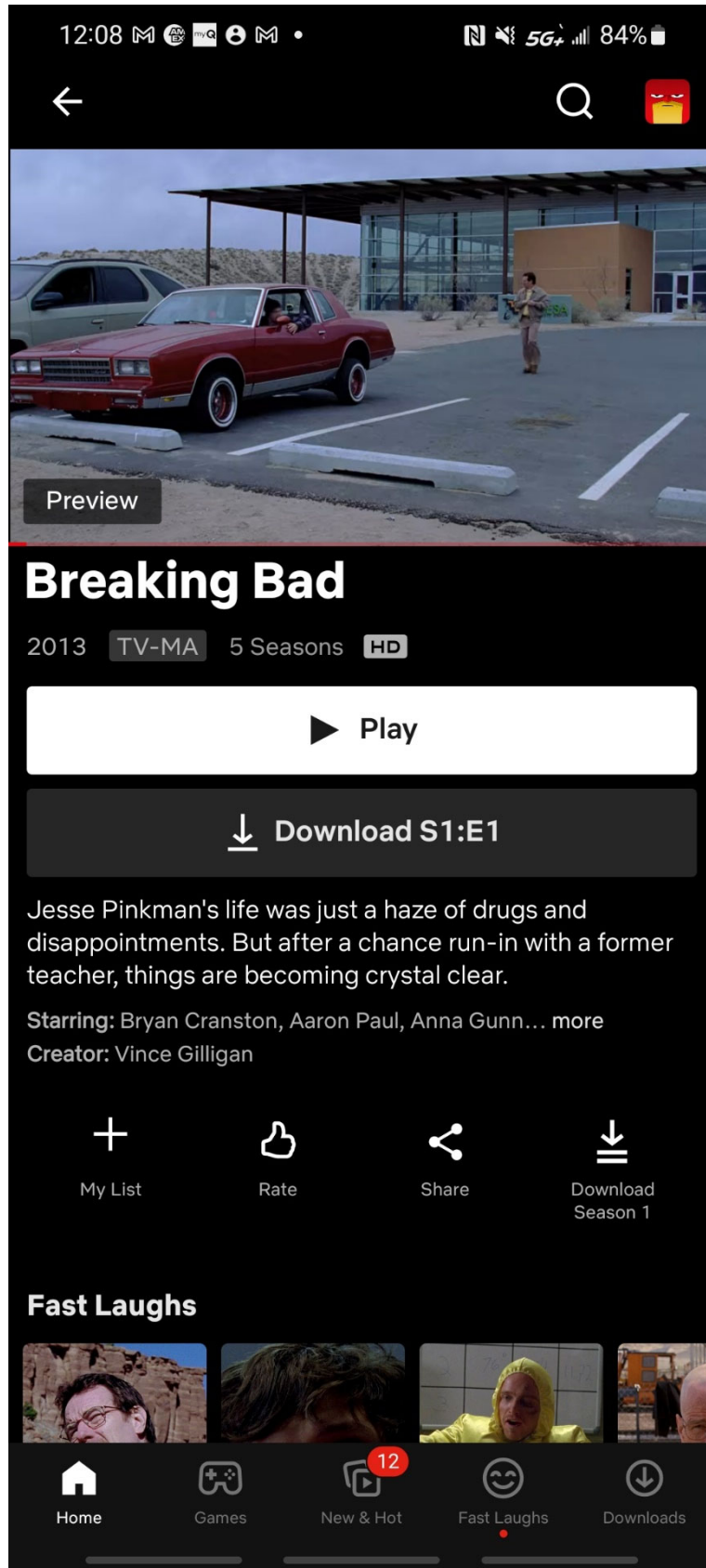
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"This is how at a very high level, user login flow used to issue the cookie, which is the authentication token here. **Once you log in, in order to present you the Netflix homepage, the app makes another request with the previously acquired cookie. Again, this request lands on one of the API servers as routed by edge proxy.** To authenticate this request and to extract the identity present in this cookie, the API server needs to decrypt this cookie because it is encrypted. In order to do that, it needs access to a specific cryptography key which is provisioned by our key management service that we have built at Netflix. **For those of you who are not familiar, a key management service provides storage and access control for cryptographic keys. The server takes this key, cracks open the cookie, and if the cookie is valid and is not expired, it'll send the customer ID and ESN information downstream, eventually generating a Netflix homepage, which is personalized for that customer ID.**"

<https://www.infoq.com/presentations/netflix-user-identity/>



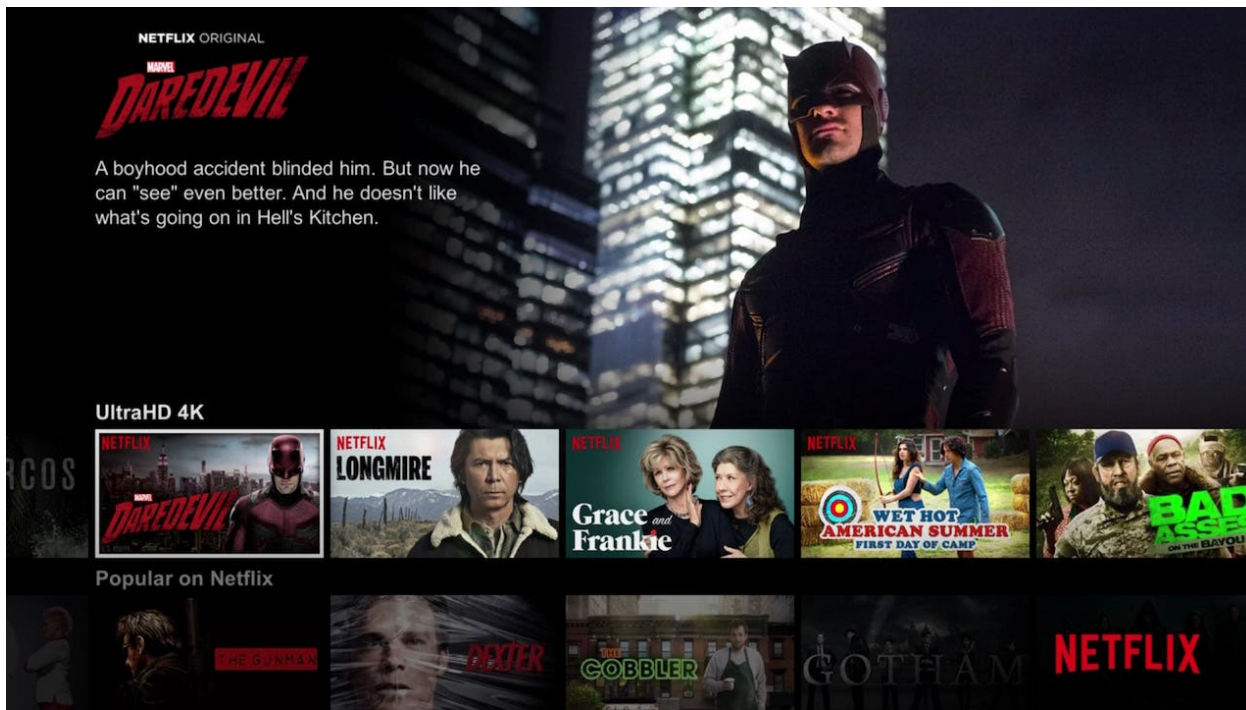
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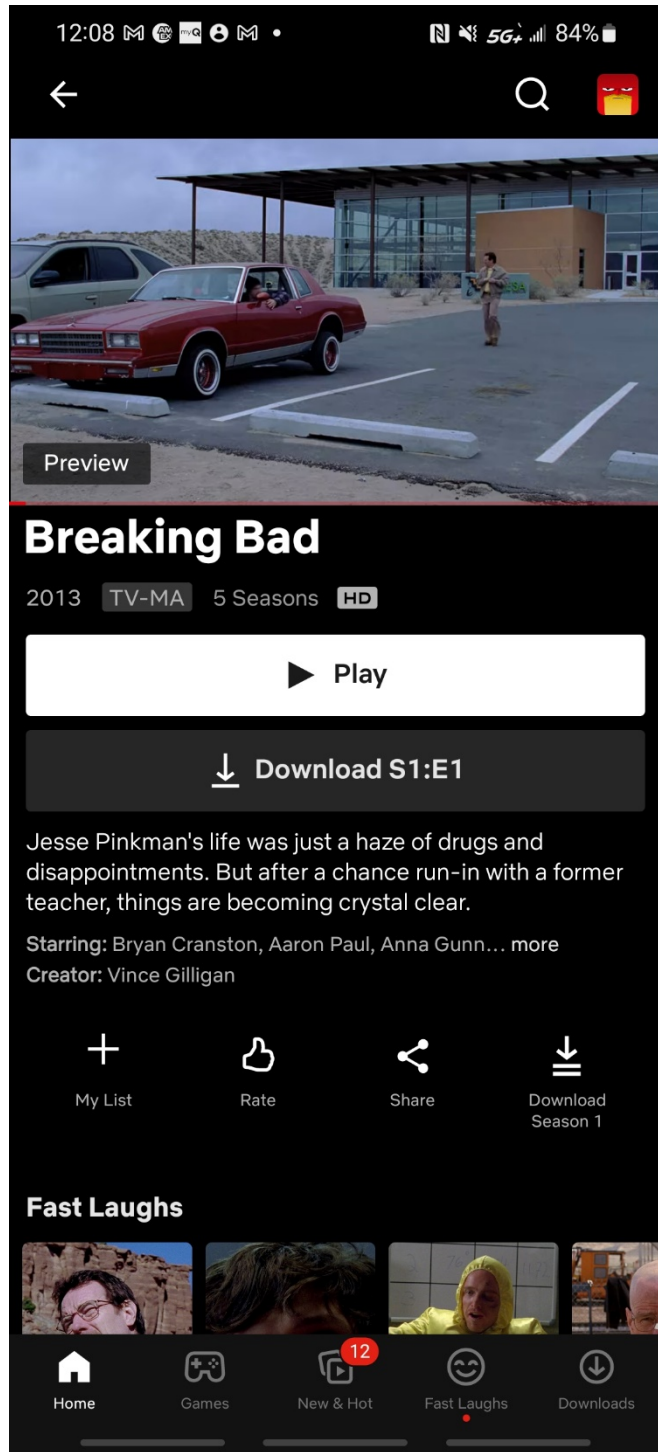
1 30. As described by Netflix’s engineers, “a key management service provides storage
2 and access control for cryptographic keys. The server takes this key, cracks open the cookie, and if
3 the cookie is valid and is not expired, it’ll send the customer ID and ESN information downstream,
4 eventually generating a Netflix homepage, which is personalized for that customer ID.”⁶ Thus, upon
5 receiving a request, the Netflix system generates a wireless device generic template including a
6 plurality of content items to create a personalized homepage for the user.

7 31. The practiced method comprises: sending a custom configuration to the wireless
8 device, said custom configuration being specific to said application program. For example, this
9 information can include text fonts, text colors, background colors, background images, border
10 thickness, border colors, frame colors of menus, style of menus (such as whether a menu bar is
11 horizontal or vertical), styles of check boxes, images of non-selected icons, images of selected icons,
12 colors of the bar/animation representing the progress when downloading/streaming and an
13 animation to use when download/streaming is in progress, and/or the like. It can also include
14 information about the existence and appearance of a preview section or display cutout.

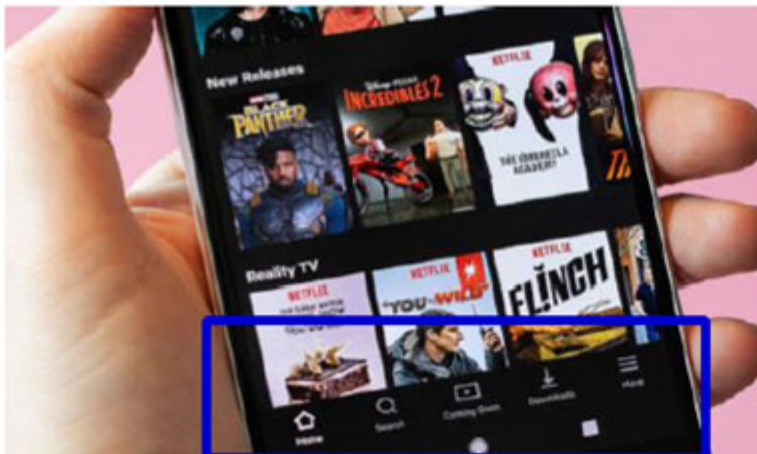


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28 ⁶ <https://www.infoq.com/presentations/netflix-user-identity/>

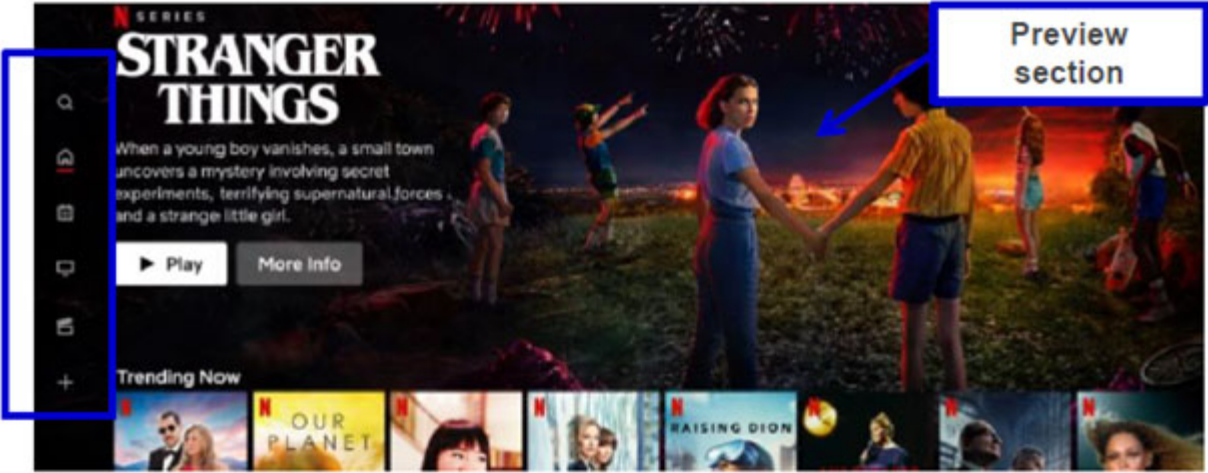
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<https://www.theverge.com/2019/8/1/20750424/netflix-physical-activity-tracker-data-stream-quality-test> (Emphasis added)



<https://variety.com/2020/digital/news/netflix-ends-free-30-day-trial-1234803092/> (Emphasis added)

32. The practiced method comprises: generating a page description based on said wireless device generic template and a capability of the wireless device, said page description having at least one discrete low level rendering command that is within said rendering capability of said wireless device but that is of a syntax that is wireless device generic. The '865 Patent describes that "[i]n one example, a page description contains basic commands that may include the description of the scrolling area (e.g., starting and ending vertical positions), the horizontal and vertical coordinates, the width, the height, the type of component to be displayed (e.g., text, image, video, audio and the like), the unique identification of the rendering block to be used to render the component, related parameters for the rendering block and for display components (e.g., version

1 number of the image) and the like.”⁷ For example, Netflix generates a description of the homepage,
2 which can include information associated with the thumbnails and categories on the homepage. The
3 description is based on the wireless device generic template and the capabilities of the wireless
4 device. The description contains basic commands relating to the position and size of thumbnails,
5 content categories, episode information, previews, interface elements, and the like based on device
6 type, screen size, or resolution.

7 "By comparison, **the Netflix homepage today delivers, on average, a 150KB**
8 **payload in a single JavaScript file. This file actually consists of 30 to 50 different**
9 **files concatenated together, with their inclusion in the payload being dictated**
10 **by one or many of the hundreds of personalization facets**

11 **...These facets act as switches, a method by which the UI can be efficiently**
12 **pivoted and tweaked.** This has driven the website into a distinctly unique
13 predicament: how to manage packaging and delivery of many different UIs in a
14 maintainable and performant manner."

15 <https://dl.acm.org/doi/10.1145/2669482> (Emphasis added)

16 **"Each device has different hardware capabilities that can limit the number of**
17 **videos or rows displayed at any one time and how big the whole page can be.**
18 As such, the page generation process must be aware of the constraints of the device
19 for which **it is creating the page, including the number of rows, the minimum and**
20 **maximum length of a row, the size of the visible portion of the page, and**
21 **whether or not certain rows are required or are not applicable for a certain**
22 **device."**

23 <https://netflixtechblog.com/learning-a-personalized-homepage-aa8ec670359a> (Emphasis
24 added)

25 33. Moreover, the description is based on a capability of the wireless device because
26 certain categories, such as UltraHD 4K, are included only for devices with the capability to display
27 the videos in those categories.

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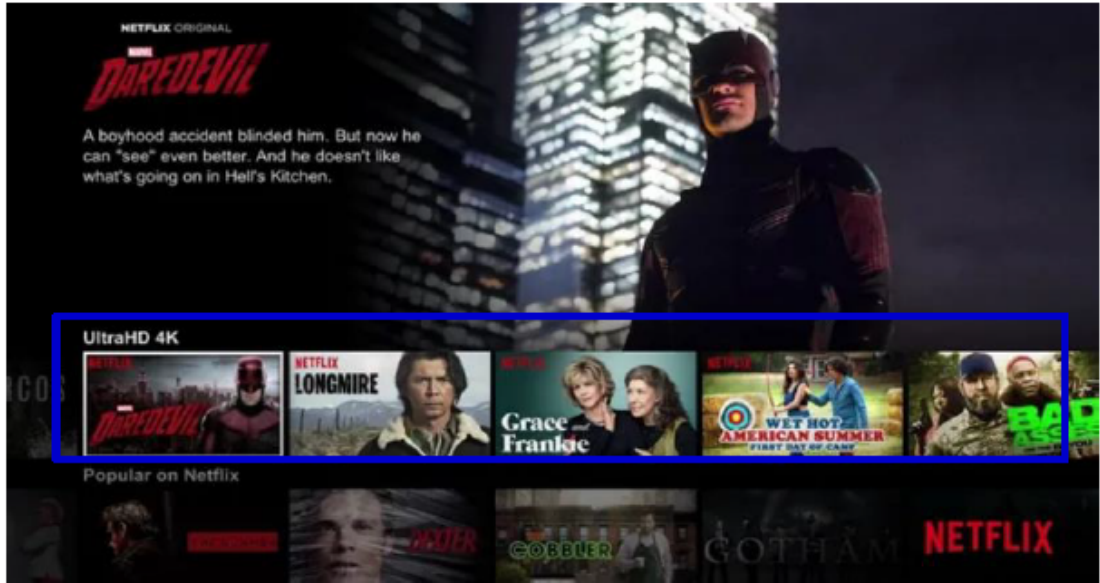
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⁷ The '865 Patent at 13:26-34.

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“To watch Netflix in Ultra HD, you need:
A 60Hz TV or computer monitor compatible with Ultra HD streaming from Netflix. See below for more details.
...
Ultra HD 4K streaming through Netflix is available on specific TV models, streaming devices, and computers. See above for details.”

<https://help.netflix.com/en/node/13444> (Emphasis added)



<https://www.usatoday.com/story/tech/talkingtech/2018/12/30/4-k-tv-video-movies-shows-watch/2420546002/> (Emphasis added)

34. The Netflix client is responsible for at least some rendering.⁸

Historically, Netflix has used a template-based approach to tackle this problem of page generation i.e. a massive blood bath of rows competing for precious screen real estate. It is a task focused on not only accuracy, but also providing diversity, accessibility and stability at the same time. Other considerations include hardware capabilities (what device is being used) and which rows/columns are visible at first glance and upon scroll.

⁸ <https://towardsdatascience.com/deep-dive-into-netflixs-recommender-system-341806ae3b48>

1 "Our new architecture renders only a small amount of the page's markup,
 2 bootstrapping the client view. We can easily change the amount of the total view
 3 the server generates, making it easy to see the positive or negative impact. The
 4 server requires less data to deliver a response and spends less time converting data
 5 into DOM elements. Once the client JavaScript has taken over, it can retrieve all
 6 additional data for the remainder of the current and future views of a session on
 demand. The large wins here were the reduction of processing time in the
 server, and the consolidation of the rendering into one language."

7 <https://netflixtechblog.com/making-netflix-com-faster-f95d15f2e972> *(Emphasis added)*

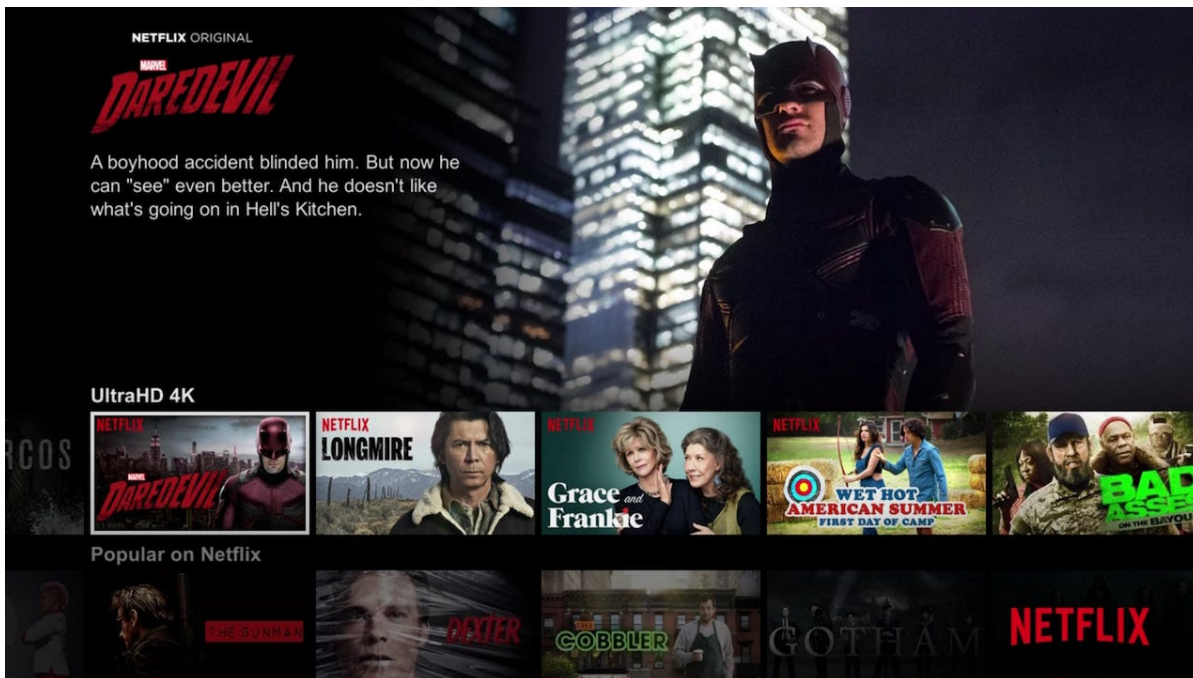
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    8
    9 {
    10   "titleIds": [12345, 23456, 34567, ...],
    11   "countries": ["US"],
    12   "type": "perspective", // this is the design of the asset
    13   "rows": 10, // the number of rows and columns can control density
    14   "cols": 15,
    15   "padding": 10, // padding between individual images
    16   "columnOffsets": [0, 0, 0, 0...], // the y-offset for each column
    17   "rowOffsets": [0, -100, 0, -100, ...], // the x-offset for each row
    18   "size": [1920, 1080] // size in pixels
    19 }
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29 [https://netflixtechblog.com/growth-engineering-at-netflix-automated-imagery-generation-](https://netflixtechblog.com/growth-engineering-at-netflix-automated-imagery-generation-5a105fd51569)
 30 [5a105fd51569](https://netflixtechblog.com/growth-engineering-at-netflix-automated-imagery-generation-5a105fd51569)

31 35. The practiced method comprises: sending said page description to the wireless device
 32 such that the wireless device is capable of presenting at least one content item from said plurality of
 33 content items using both said page description and said custom configuration. For example, Netflix
 34 sends the page description such that the wireless device is capable of presenting a homepage
 35 including thumbnails and categories using the page description and custom configuration.

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36. Accordingly, Netflix directly infringes the '865 Patent.

37. On information and belief, Netflix directs and controls its cloud computing providers by contractual agreement to operate, or to provide Netflix with the means to operate (e.g., servers), or otherwise distribute the Infringing Product in a manner that infringes the '865 Patent. Netflix further conditions receipt of the benefit of the Infringing Product upon use of the patented features, such as performing steps of the methods claimed in the '865 Patent.

V. COUNT II: INFRINGEMENT OF THE '245 PATENT

38. GoTV incorporates each of the allegations of paragraphs 1–37 above.

39. Netflix has directly infringed and continues to directly infringe the '245 Patent by, for example, making, using, offering to sell, selling, and/or importing into the United States, without authority, products or methods that practice one or more claims of the '245 Patent.

40. Defendant is not licensed or otherwise authorized to make, use, offer for sale, sell or import any products or methods that embody the inventions of the '245 Patent in the United States.

41. Defendant has and continues to directly infringe one or more claims of the '245 Patent, including, for example, claim 1 of the '245 Patent, either literally or under the doctrine of equivalents, by making, using, offering to sell, selling, and/or importing into the United States the Infringing Product without authority and in violation of 35 U.S.C. § 271.

1 42. For example, the Netflix streaming media platform infringes representative Claim 1
2 of the '245 Patent.

3 43. Claim 1 of the '245 Patent claims a method of rendering content on a wireless device,
4 said method comprising: receiving an identification of a custom configuration of a plurality of
5 rendering blocks of said wireless device, wherein said custom configuration is associated with an
6 application and configures said plurality of rendering blocks to render content in a manner
7 customized to said application; receiving compiled content generated in part from execution of said
8 application wherein said compiled content comprises render commands expressed in a syntax that
9 is generic to said wireless device; using a graphical user interface comprising said plurality of
10 rendering blocks to generate renderable content based on said compiled content and said custom
11 configuration; and rendering said renderable content on said wireless device, wherein said receiving
12 compiled content comprises: receiving first compiled content specific to a first page of said
13 application; and receiving second compiled content specific to a second page of said application,
14 wherein said custom configuration is applicable to both said first and second compiled content.

15 44. The Netflix streaming media platform practices the method of Claim 1 of the '245
16 Patent.

17 45. The Netflix streaming media platform practices a method of rendering content on a
18 wireless device. The Netflix system includes client software that renders content received from
19 Netflix's back-end and content delivery network on a wireless device, including for example,
20 smartphones, tablets and streaming media players.

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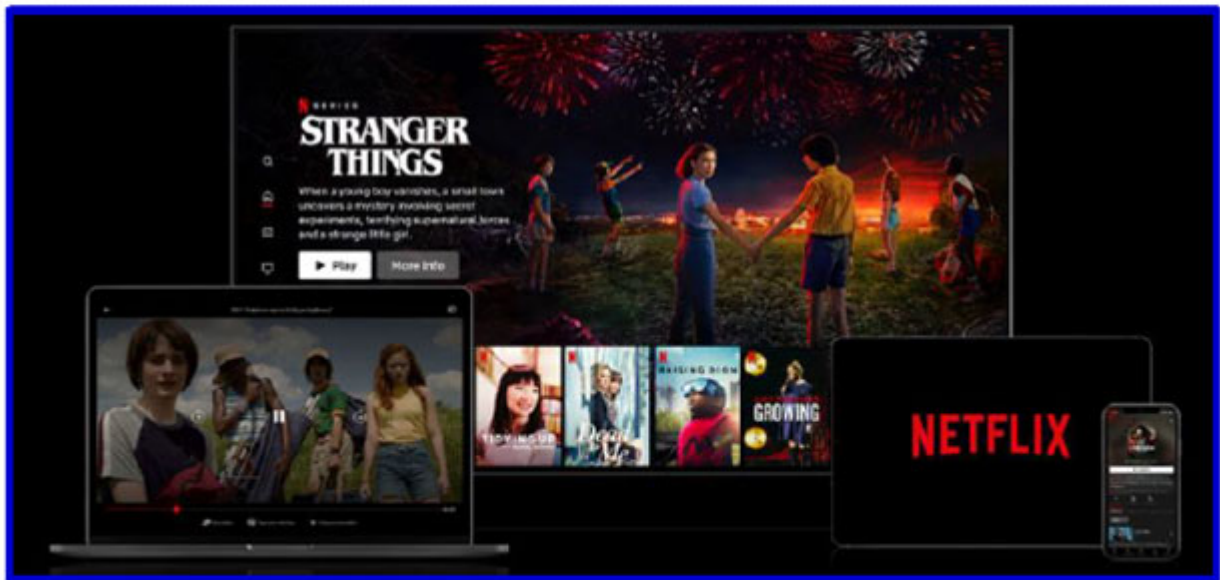
1 "What is Netflix?"

2 **Netflix is a subscription-based streaming service that allows our members to**
3 **watch TV shows and movies** without commercials on an internet-connected device.

4 Supported Devices

5 **You can watch Netflix through any internet-connected device that offers the**
6 **Netflix app, including smart TVs, game consoles, streaming media players, set-**
7 **top boxes, smartphones, and tablets. You can also watch Netflix on your**
8 **computer using an internet browser."**

9 https://help.netflix.com/en/node/412?ui_action=kb-article-popular-categories
10 (Emphasis added)



18 <https://getconnectedmedia.com/subscribe-to-netflix-heres-what-you-need-to-know/>
19 (Emphasis added)

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21 46. The practiced method comprises: receiving an identification of a custom
22 configuration of a plurality of rendering blocks of said wireless device, wherein said custom
23 configuration is associated with an application and configures said plurality of rendering blocks to
24 render content in a manner customized to said application. For example, Netflix receives an
25 identification of a custom configuration of a plurality of rendering blocks of said wireless device.
26 For example, Netflix receives an identification of information regarding the user interface style,
27 including edit boxes, static texts, images, pop-up menus, drop-down menu lists, tabbed menus,
28 sounds, videos, visual control panels, check boxes/radio buttons, rating controls, scroll bars,

1 progress bars, tables, interface elements and the like. The information can include text fonts, text
2 colors, background colors, background images, border thickness, border colors, frame colors of
3 menus, and styles of menus, check boxes, icons, status bars, and the like.

4 **"By comparison, the Netflix homepage today delivers, on average, a 150KB**
5 **payload in a single JavaScript file. This file actually consists of 30 to 50 different**
6 **files concatenated together, with their inclusion in the payload being dictated**
7 **by one or many of the hundreds of personalization facets**
8 **...These facets act as switches, a method by which the UI can be efficiently**
9 **pivoted and tweaked.** This has driven the website into a distinctly unique
10 predicament: how to manage packaging and delivery of many different UIs in a
11 maintainable and performant manner."

12 <https://dl.acm.org/doi/10.1145/2669482> (Emphasis added)

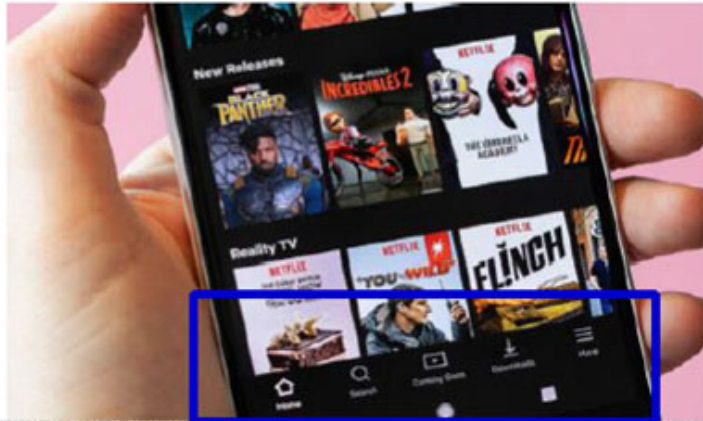
13 **"Each device has different hardware capabilities that can limit the number of**
14 **videos or rows displayed at any one time and how big the whole page can be.**
15 As such, the page generation process must be aware of the constraints of the device
16 for which **it is creating the page, including the number of rows, the minimum and**
17 **maximum length of a row, the size of the visible portion of the page, and**
18 **whether or not certain rows are required or are not applicable for a certain**
19 **device."**

20 <https://netflixtechblog.com/learning-a-personalized-homepage-aa8ec670359a> (Emphasis
21 added)

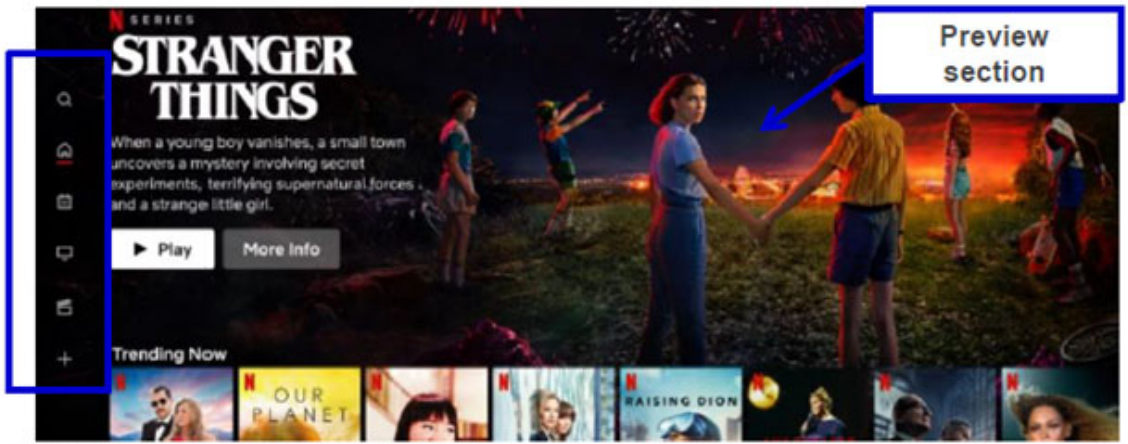
22 47. As shown in the examples below, Netflix receives an identification of information
23 regarding the user interface style.

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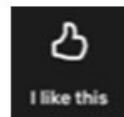
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<https://www.theverge.com/2019/8/1/20750424/netflix-physical-activity-tracker-data-stream-quality-test> (Emphasis added)



<https://variety.com/2020/digital/news/netflix-ends-free-30-day-trial-1234803092/> (Emphasis added)



48. The custom configuration is associated with the Netflix application and configures the edit boxes, static texts, images, pop-up menus, drop-down menu lists, tabbed menus, sounds,

1 videos, visual control panels, check boxes/radio buttons, rating controls, scroll bars, progress bars,
2 and/or tables and/or associated user interface elements to render content in a manner customized to
3 the Netflix application.

4 49. The practiced method comprises: receiving compiled content generated in part from
5 execution of said application wherein said compiled content comprises render commands expressed
6 in a syntax that is generic to said wireless device. Netflix receives compiled content generated in
7 part from execution of said application, including for example information associated with
8 thumbnails and image resolution.

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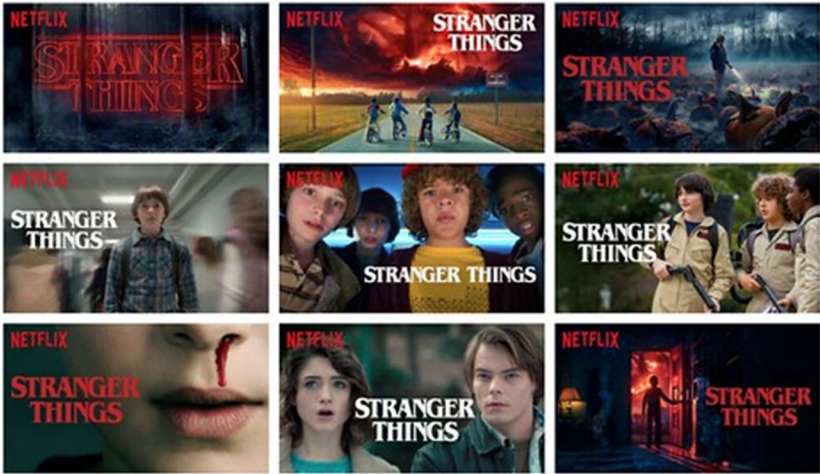
Netflix personalizes artwork just for you.

Here's a great example of how Netflix entices you to watch more videos using its data analytics capabilities.

When browsing around looking for something to watch on Netflix, have you noticed there's always an image displayed for each video? That's called the *header image*.

The header image is meant to intrigue you, to draw you into selecting a video. The idea is the more compelling the header image, the more likely you are to watch a video. And the more videos you watch, the less likely you are to unsubscribe from Netflix.

Here's an example of different header images for *Stranger Things*:



You might be surprised to learn the image shown for each video is selected specifically for you. Not everyone sees the same image.

<http://highscalability.com/blog/2017/12/11/netflix-what-happens-when-you-press-play.html>

50. Netflix receives other commands used to layout content and position of the application that include descriptions of the scrolling area, the horizontal and vertical coordinates, the width, the height, the type of component to be displayed (e.g., text, image, video, audio and the like), the unique identification of the rendering block to be used to render the component, and related parameters for the rendering block and for display components (e.g., version number of the image). The commands can also include information associated with a progress bar or display cutout. For example, Netflix receives JavaScript and JSON elements that are generated in part from execution of the Netflix application.

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"By comparison, **the Netflix homepage today delivers, on average, a 150KB payload in a single JavaScript file. This file actually consists of 30 to 50 different files concatenated together, with their inclusion in the payload being dictated by one or many of the hundreds of personalization facets**
...These facets act as switches, a method by which the UI can be efficiently pivoted and tweaked. This has driven the website into a distinctly unique predicament: how to manage packaging and delivery of many different UIs in a maintainable and performant manner."

<https://dl.acm.org/doi/10.1145/2669482> (Emphasis added)

"Each device has different hardware capabilities that can limit the number of videos or rows displayed at any one time and how big the whole page can be. As such, the page generation process must be aware of the constraints of the device for which **it is creating the page, including the number of rows, the minimum and maximum length of a row, the size of the visible portion of the page, and whether or not certain rows are required or are not applicable for a certain device."**

<https://netflixtechblog.com/learning-a-personalized-homepage-aa8ec670359a> (Emphasis added)

"Whenever you switch to a different profile, a downstream service is switching your identity and fetching a new homepage for that identity. When this happens, we need to **send the switch profile identity back to the device in the form of the token that it understands."**

<https://www.infoq.com/presentations/netflix-user-identity/> (Emphasis added)

"Our new architecture renders only a small amount of the page's markup, bootstrapping the client view. We can easily change the amount of the total view the server generates, making it easy to see the positive or negative impact. **The server requires less data to deliver a response and spends less time converting data into DOM elements. Once the client JavaScript has taken over, it can retrieve all additional data for the remainder of the current and future views of a session on demand.** The large wins here were the reduction of processing time in the server, **and the consolidation of the rendering into one language."**

<https://netflixtechblog.com/making-netflix-com-faster-f95d15f2e972> (Emphasis added)

51. For example, Netflix receives a custom JSON data structure that is generated in part from execution of the Netflix application. The custom JSON data structure comprises render commands expressed in a syntax that is generic to said wireless device. As stated on the Netflix

1 Tech Blog: “If you recall in our previous blog post, Growth Engineering owns a service called the
2 Orchestration Service. It is a mid-tier service that emits a custom JSON data structure that contains
3 fields that are consumed by the UI. The UI can then use these fields to control the presentation in
4 the UI layer.” [https://netflixtechblog.com/growth-engineering-at-netflix-automated-imagery-
5 generation-5a105fd51569](https://netflixtechblog.com/growth-engineering-at-netflix-automated-imagery-generation-5a105fd51569).

```
6  
7 {  
8   "titleIds": [12345, 23456, 34567, ...],  
9   "countries": ["US"],  
10  "type": "perspective", // this is the design of the asset  
11  "rows": 10, // the number of rows and columns can control density  
12  "cols": 15,  
13  "padding": 10, // padding between individual images  
14  "columnOffsets": [0, 0, 0, 0...], // the y-offset for each column  
15  "rowOffsets": [0, -100, 0, -100, ...], // the x-offset for each row  
16  "size": [1920, 1080] // size in pixels  
17 }
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14 52. The practiced method comprises: using a graphical user interface comprising said
15 plurality of rendering blocks to generate renderable content based on said compiled content and said
16 custom configuration. Netflix uses a graphical user interface comprising said plurality of rendering
17 blocks to generate renderable content based on said compiled content and said custom configuration.
18 The rendering blocks discussed above are part of the Netflix graphical user interface. The graphical
19 user interface generates renderable content based on the compiled content and custom configuration
20 discussed above.

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53. The practiced method comprises: rendering said renderable content on said wireless device. Renderable content is rendered by Netflix on the wireless device.

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<https://netflixtechblog.com/testing-netflix-on-android-78e5f71b89ab>; *see also*

<https://netflixtechblog.com/automated-testing-on-devices-fc5a39f47e24>

57. Accordingly, Netflix directly infringes the '245 Patent.

58. On information and belief, Netflix directs and controls the operation of devices executing the Infringing Product by programming the software which, when executed by a customer or end user, performs the claimed method of at least claim 1 of the '245 Patent. Netflix further conditions receipt of the benefit of the Infringing Product upon use of the patented features, such as performing steps of the methods claimed in the '245 Patent.

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1 **VI. COUNT III: INFRINGEMENT OF THE '715 PATENT**

2 59. GoTV incorporates each of the allegations of paragraphs 1–58 above.

3 60. Netflix has directly infringed and continues to directly infringe the '715 Patent by,
4 for example, making, using, offering to sell, selling, and/or importing into the United States, without
5 authority, products or methods that practice one or more claims of the '715 Patent.

6 61. Defendant is not licensed or otherwise authorized to make, use, offer for sale, sell or
7 import any products or methods that embody the inventions of the '715 Patent in the United States.

8 62. Defendant has and continues to directly infringe one or more claims of the '715
9 Patent, including, for example, claim 1 of the '715 Patent, either literally or under the doctrine of
10 equivalents, by making, using, offering to sell, selling, and/or importing into the United States the
11 Infringing Product without authority and in violation of 35 U.S.C. § 271.

12 63. For example, the Netflix streaming media platform infringes representative Claim 1
13 of the '715 Patent.

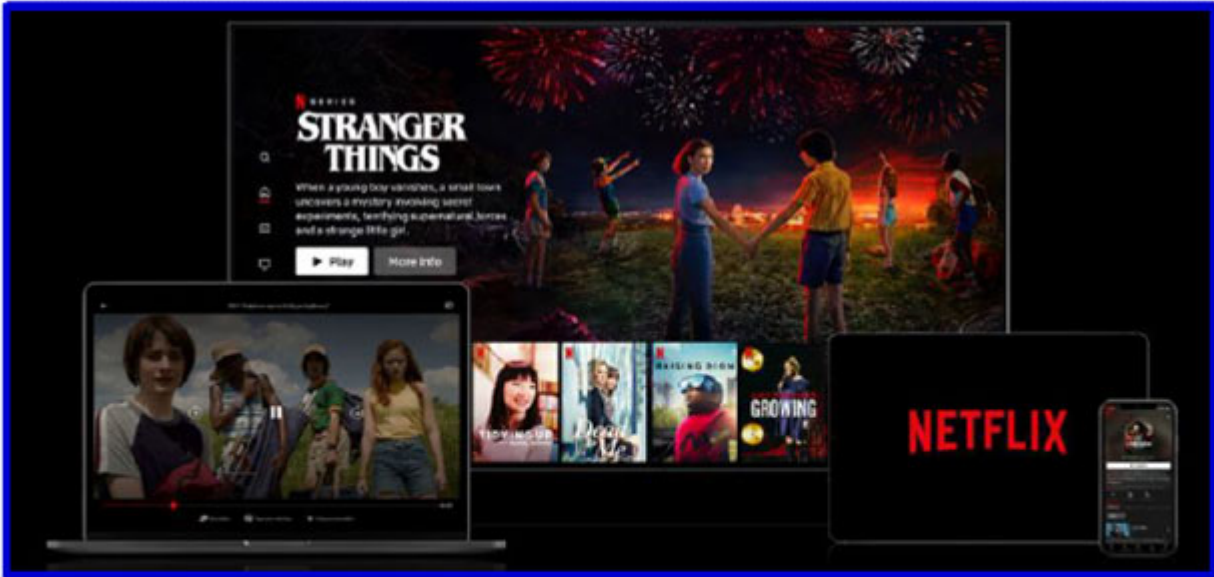
14 64. Claim 1 of the '715 Patent claims a method of generating content that is renderable
15 by a wireless device, said method comprising: transmitting, to said wireless device, an identification
16 of a custom configuration of a plurality of rendering blocks of said wireless device, wherein said
17 custom configuration is associated with an application and configures said plurality of rendering
18 blocks to render content in a manner customized to said application; transmitting, to said wireless
19 device, compiled content comprising (i) first compiled content specific to a first page of said
20 application and (ii) second compiled content specific to a second page of said application, wherein
21 said compiled content is generated in part from execution of said application, wherein said compiled
22 content comprises render commands expressed in a syntax that is generic to said wireless device,
23 and wherein said custom configuration is applicable to said first and second compiled content;
24 wherein said compiled content and said custom configuration are usable by a graphical user interface
25 comprising said plurality of rendering blocks to generate renderable content based on said compiled
26 content and said custom configuration.

27 65. The Netflix streaming media platform practices the method of Claim 1 of the '715
28 Patent.

1 66. The Netflix streaming media platform practices a method of generating content that
2 is renderable by a wireless device. The Netflix system includes client software that renders content
3 transmitted by Netflix’s back-end and content delivery network on a wireless device, including for
4 example, smartphones, tablets and streaming media players.

5
6 **“What is Netflix?
Netflix is a subscription-based streaming service that allows our members to
watch TV shows and movies without commercials on an internet-connected device.
...
Supported Devices
You can watch Netflix through any internet-connected device that offers the
Netflix app, including smart TVs, game consoles, streaming media players, set-
top boxes, smartphones, and tablets. You can also watch Netflix on your
computer using an internet browser.”**

11 https://help.netflix.com/en/node/412?ui_action=kb-article-popular-categories
12 *(Emphasis added)*



22 <https://getconnectedmedia.com/subscribe-to-netflix-heres-what-you-need-to-know/>
23 *(Emphasis added)*

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The three parts of Netflix: client, backend, content delivery network (CDN).

You can think of Netflix as being divided into three parts: the client, the backend, and the content delivery network (CDN).

The *client* is the user interface on any device used to browse and play Netflix videos. It could be an app on your iPhone, a website on your desktop computer, or even an app on your Smart TV. Netflix controls each and every client for each and every device.

Everything that happens before you hit *play* happens in the *backend*, which runs in AWS. That includes things like preparing all new incoming video and handling requests from all apps, websites, TVs, and other devices.

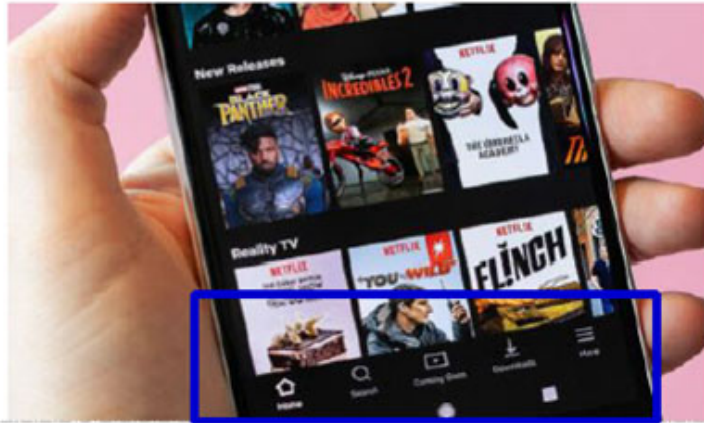
Everything that happens after you hit *play* is handled by Open Connect. Open Connect is Netflix's custom global content delivery network (CDN). Open Connect stores Netflix video in different locations throughout the world. When you press play the video streams from Open Connect, into your device, and is displayed by the client. Don't worry; we'll talk more about what a CDN is a little later.

<http://highscalability.com/blog/2017/12/11/netflix-what-happens-when-you-press-play.html>

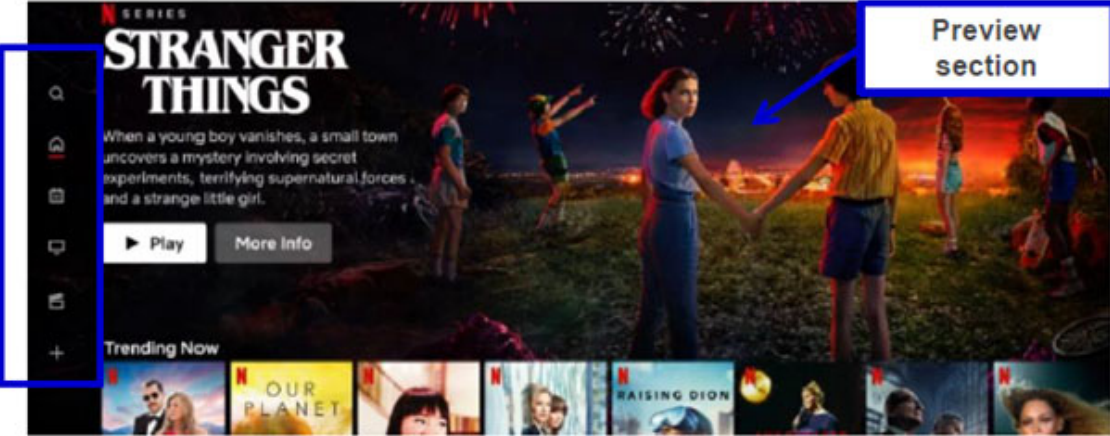
67. The practiced method comprises: transmitting, to said wireless device, an identification of a custom configuration of a plurality of rendering blocks of said wireless device, wherein said custom configuration is associated with an application and configures said plurality of rendering blocks to render content in a manner customized to said application. For example, Netflix transmits an identification of a custom configuration of a plurality of rendering blocks of said wireless device. For example, Netflix transmits an identification of a custom configuration of a plurality of rendering blocks of said wireless device. For example, Netflix transmits an identification of information regarding the user interface style, including edit boxes, static texts, images, pop-up menus, drop-down menu lists, tabbed menus, sounds, videos, visual control panels, check boxes/radio buttons, rating controls, scroll bars, progress bars, tables, interface elements and the like. The information can include text fonts, text colors, background colors, background images, border thickness, border colors, frame colors of menus, and styles of menus, check boxes, icons, status bars, and the like.

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<https://www.theverge.com/2019/8/1/20750424/netflix-physical-activity-tracker-data-stream-quality-test> (Emphasis added)



<https://variety.com/2020/digital/news/netflix-ends-free-30-day-trial-1234803092/> (Emphasis added)



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1 69. The custom configuration is associated with the Netflix and configures the edit
2 boxes, static texts, images, pop-up menus, drop-down menu lists, tabbed menus, sounds, videos,
3 visual control panels, check boxes/radio buttons, rating controls, scroll bars, progress bars, and/or
4 tables and/or associated user interface elements to render content in a manner customized to the
5 Netflix application.

6 70. The practiced method comprises: transmitting, to said wireless device, compiled
7 content comprising (i) first compiled content specific to a first page of said application and (ii)
8 second compiled content specific to a second page of said application, wherein said compiled
9 content is generated in part from execution of said application, wherein said compiled content
10 comprises render commands expressed in a syntax that is generic to said wireless device, and
11 wherein said custom configuration is applicable to said first and second compiled content. Netflix
12 transmits compiled content generated in part from execution of said application. For example,
13 Netflix transmits information associated with thumbnails and image resolution.

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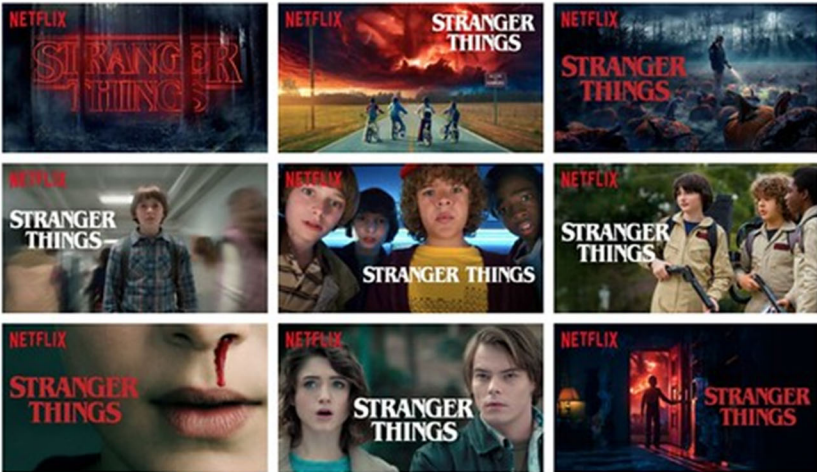
Netflix personalizes artwork just for you.

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<http://highscalability.com/blog/2017/12/11/netflix-what-happens-when-you-press-play.html>

71. Netflix transmits other commands used to layout content and position of the application that include descriptions of the scrolling area, the horizontal and vertical coordinates, the width, the height, the type of component to be displayed (e.g., text, image, video, audio and the like), the unique identification of the rendering block to be used to render the component, and related parameters for the rendering block and for display components (e.g., version number of the image). The commands can also include information associated with a progress bar or display cutout. For example, Netflix transmits JavaScript and JSON elements that are generated in part from execution of the Netflix application.

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"By comparison, **the Netflix homepage today delivers, on average, a 150KB payload in a single JavaScript file. This file actually consists of 30 to 50 different files concatenated together, with their inclusion in the payload being dictated by one or many of the hundreds of personalization facets**
...These facets act as switches, a method by which the UI can be efficiently pivoted and tweaked. This has driven the website into a distinctly unique predicament: how to manage packaging and delivery of many different UIs in a maintainable and performant manner."

<https://dl.acm.org/doi/10.1145/2669482> (Emphasis added)

"Each device has different hardware capabilities that can limit the number of videos or rows displayed at any one time and how big the whole page can be. As such, the page generation process must be aware of the constraints of the device for which **it is creating the page, including the number of rows, the minimum and maximum length of a row, the size of the visible portion of the page, and whether or not certain rows are required or are not applicable for a certain device."**

<https://netflixtechblog.com/learning-a-personalized-homepage-aa8ec670359a> (Emphasis added)

"Whenever you switch to a different profile, a downstream service is switching your identity and fetching a new homepage for that identity. When this happens, we need to **send the switch profile identity back to the device in the form of the token that it understands."**

<https://www.infoq.com/presentations/netflix-user-identity/> (Emphasis added)

"Our new architecture renders only a small amount of the page's markup, bootstrapping the client view. We can easily change the amount of the total view the server generates, making it easy to see the positive or negative impact. **The server requires less data to deliver a response and spends less time converting data into DOM elements. Once the client JavaScript has taken over, it can retrieve all additional data for the remainder of the current and future views of a session on demand.** The large wins here were the reduction of processing time in the server, **and the consolidation of the rendering into one language."**

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72. For example, Netflix transmits a custom JSON data structure that is generated in part from execution of the Netflix application. The custom JSON data structure comprises render commands expressed in a syntax that is generic to said wireless device. As stated on the Netflix

1 Tech Blog: “If you recall in our previous blog post, Growth Engineering owns a service called the
 2 Orchestration Service. It is a mid-tier service that emits a custom JSON data structure that contains
 3 fields that are consumed by the UI. The UI can then use these fields to control the presentation in
 4 the UI layer.” [https://netflixtechblog.com/growth-engineering-at-netflix-automated-imagery-
 5 generation-5a105fd51569](https://netflixtechblog.com/growth-engineering-at-netflix-automated-imagery-generation-5a105fd51569).

```
6
7 {
8   "titleIds": [12345, 23456, 34567, ...],
9   "countries": ["US"],
10  "type": "perspective", // this is the design of the asset
11  "rows": 10, // the number of rows and columns can control density
12  "cols": 15,
13  "padding": 10, // padding between individual images
14  "columnOffsets": [0, 0, 0, 0...], // the y-offset for each column
15  "rowOffsets": [0, -100, 0, -100, ...], // the x-offset for each row
16  "size": [1920, 1080] // size in pixels
17 }
```

14 73. The compiled content comprises (i) first compiled content specific to a first page of
 15 said application and (ii) second compiled content specific to a second page of said application. The
 16 custom configuration is applicable to the first and second compiled content. For example, Netflix
 17 transmits compiled content specific to a page that can be selected from a menu bar. On iOS,
 18 exemplary pages could be the “Home” page, “New & Hot” page, “Fast Laughs” page, or
 19 “Downloads” page.



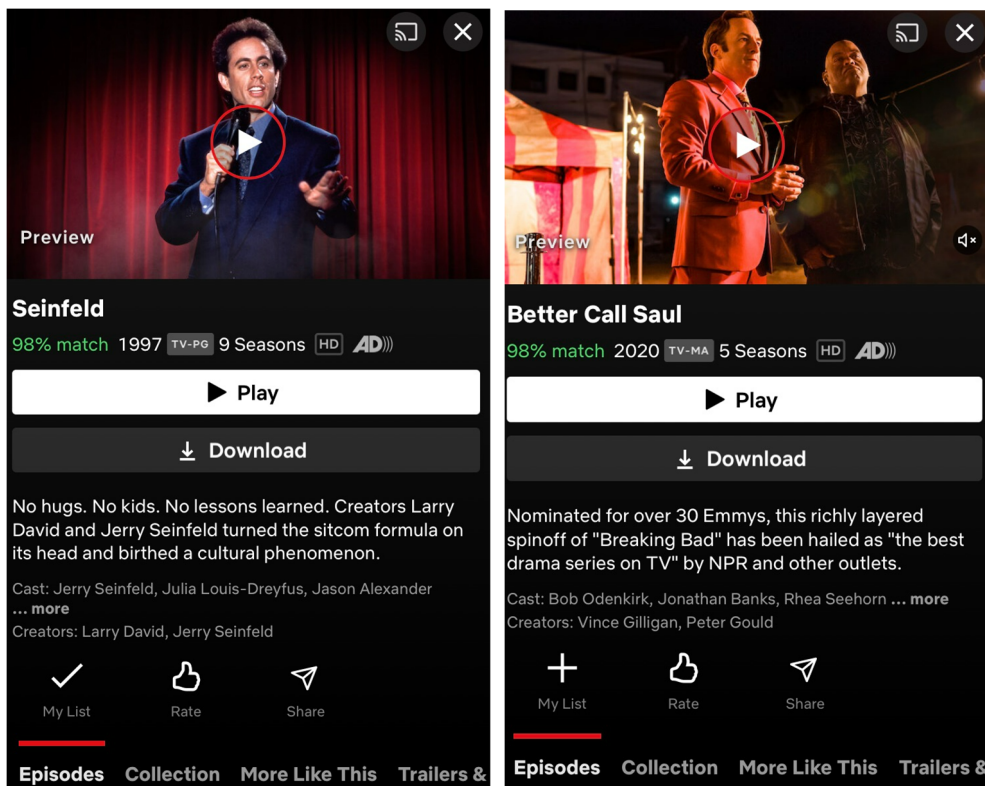
24 74. As another example, Netflix transmits compiled content specific to a page for a particular
 25 video.

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"There are many solutions to this problem that don't require Universal JavaScript, but we found this lesson was most appropriate: When there are two copies of the same thing, it's fairly easy for one to be slightly different than the other. **Using Universal JavaScript means the rendering logic is simply passed down to the client.**"

<https://netflixtechblog.com/making-netflix-com-faster-f95d15f2e972> (Emphasis added)

"For instance, if the **user player indicates it is capable of rendering h.264 encoded video, h.264 format video is included in the manifest file.** If the player indicates that it can only play back .wmv format, only .wmv format video is included."

<http://www.hit.bme.hu/~jakab/edu/litr/CDN/NetFlix12.pdf> (Emphasis added)

76. Accordingly, Netflix directly infringes the '715 Patent.

77. On information and belief, Netflix directs and controls its cloud computing providers by contractual agreement to operate, or to provide Netflix with the means to operate (e.g., servers), or otherwise distribute the Infringing Product in a manner that infringes the '715 Patent. Netflix further conditions receipt of the benefit of the Infringing Product upon use of the patented features, such as performing steps of the methods claimed in the '715 Patent.

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JURY DEMAND

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

PRAYER FOR RELIEF

WHEREFORE, GoTV requests entry of judgment in its favor and against Netflix as follows:

- a) A declaration that Netflix has directly infringed one or more claims of the '865 Patent, either literally or under the doctrine of equivalents;
- b) A declaration that Netflix has directly infringed one or more claims of the '245 Patent, either literally or under the doctrine of equivalents;
- c) A declaration that Netflix has directly infringed one or more claims of the '715 Patent, either literally or under the doctrine of equivalents;
- d) An award of damages pursuant to 35 U.S.C. § 284 adequate to compensate GoTV for Netflix's infringement of the GoTV Patents in an amount according to proof at trial (together with prejudgment and post-judgment interest), but no less than a reasonable royalty;
- e) An award of costs and expenses pursuant to 35 U.S.C. § 284 or as otherwise permitted by law; and
- f) Such other and further relief, whether legal, equitable, or otherwise, to which GoTV may be entitled or which this Court may order.

Dated: October 17, 2022

Respectfully submitted,
BROWN RUDNICK LLP

By: /s/ David M. Stein
David M. Stein

Attorneys for *GoTV Streaming, LLC*