

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
TEXARKANA DIVISION**

PUSH DATA LLC,

Plaintiff,

v.

DOLLAR GENERAL CORPORATION,

Defendant.

Civil Action No. _____

JURY TRIAL DEMANDED

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Push Data LLC (“Push Data” or “Plaintiff”), for its Complaint against Defendant Dollar General Corporation (“DGC” or “Defendant”), alleges the following:

NATURE OF THE ACTION

1. This is an action for patent infringement arising under the Patent Laws of the United States, 35 U.S.C. § 1, *et seq.*

THE PARTIES

2. Plaintiff Push Data is a limited liability company organized under the laws of the Delaware with the registered agent’s address at 717 North Union Street, Wilmington, DE 19805.

3. Upon information and belief, DGC is a corporation organized under the laws of Tennessee with a place of business at 100 W. FM 1417220 Sunset Blvd Ste AB, Sherman, TX 75092.

4. Upon information and belief, DGC sells, offers to sell, and/or uses products and services throughout the United States, including in this judicial district, and introduces infringing

products and services into the stream of commerce knowing that they would be sold and/or used in this judicial district and elsewhere in the United States.

JURISDICTION AND VENUE

5. This is an action for patent infringement arising under the Patent Laws of the United States, Title 35 of the United States Code.

6. This Court has subject matter jurisdiction under 28 U.S.C. §§ 1331 and 1338(a).

7. This Court has personal jurisdiction over DGC because Defendant has sufficient minimum contacts within the State of Texas and this District, pursuant to due process and/or the State of Texas Long Arm Statute, Tex. Civ. Prac. & Rem. Code § 17.042, because Defendant purposefully availed itself of the privileges of conducting business in the State of Texas and in this district, because Defendant regularly conducts and solicits business within the State of Texas and within this district, and because Plaintiff's causes of action arise directly from Defendant's business contacts and other activities in the State of Texas and this district.

8. Venue is proper in this judicial district under 28 U.S.C. § 1400(b).

9. Venue is also proper in this district because DGC has a regular and established place of business in this district. For example, DGC has a store located in this district, at 220 Sunset Blvd Ste AB, Sherman, TX 75092. (*See, e.g., Store Locations and Map*, DOLLARGENERAL.COM, <https://www.dollargeneral.com/about-us/locations.html> (last visited May 4, 2021).)

BACKGROUND

The Invention

10. Eric Morgan Dowling, Duncan Leo MacFarlane, and Mark Nicholas Anastasi are the inventors (collectively, the "Inventors") of U.S. Patent Nos. 7,058,395 (the "395 patent"),

7,292,844 (the “’844 patent”), 7,212,811 (the “’811 patent”), and 6,983,139 (the “’139 patent”); collectively, the “patents in suit”). (*See* Ex. K, Dowling Decl., ¶¶ 3-4.)

11. A true and correct copy of the ’395 patent is attached as Exhibit A. A true and correct copy of the ’844 patent is attached as Exhibit B. A true and correct copy of the ’811 patent is attached as Exhibit C. A true and correct copy of the ’139 patent is attached as Exhibit D.¹

12. Each of the patents in suit stems from an initial patent application, serial number 09/195,171, filed on November 17, 1998.

13. The patents in suit resulted from the pioneering efforts of the Inventors in the areas of wireless Internet services, wireless push notifications, geo-location based services, targeted data dissemination to wireless mobile units, and quickly-resumed wireless communication sessions. (*See id.* ¶ 18.)

14. These efforts resulted in the development of geographical web browser, methods, apparatus, and systems. (*See id.* ¶ 19.)

15. While the existing technologies provided valuable benefits, no technology existed to provide local broadcast information to automatically control a network application, such as a web browser or other applications, by selectively filtering broadcast information using a packet filter. (Ex. A at 2:50-62.) Instead, the technology at the time required a user to select an icon or manually navigate to information specific to a local area. (*Id.* at 2:62-64).

¹ Each of the patents in suit has the same figures and the same substantive written description, but column and line number citations may differ slightly due to patent office clerical data. (*See* Ex. K, ¶ 7.) Hence in this background section, citations to the figures and specifications of the patents will be made with reference to the ’395 patent.

16. Therefore, the Inventors set out to cure these deficiencies, providing an overall benefit to a user. Specifically, the patents in suit were conceived to provide a user with the capability to receive information based on that user's position.

17. When developing the invention, the Inventors noted that typically, systems relied on the use of "cell data" for positional purposes. (*Id.* at 3:23-26.) This cell data only provided a coarse idea of a user's position. (*Id.* at 3:25-26.)

18. As such, the Inventors contemplated the benefits of using, for example, locally pushed wireless packets, *e.g.*, local broadcast domain packets, or GPS location data, providing a much more defined set of data that presents more opportunities for individualized transmissions. (*Id.* at 3:30-33.) In addition, the Inventors set out to allow the data used in these systems to be updated based on unsolicited pushed information packets which could trigger, for example, downloading of related information from the Internet. (*Id.* at 3:48 to 4:13.)

19. The Inventors solved these and other problems by providing systems and methods to enable a mobile unit to maintain a first network connection with a central server and to control information flow on this connection using information received on an auxiliary channel.

20. For example, such systems and methods include receiving one or more preferences from a user, receiving at least an approximate geographical location of a particular user's mobile device or unit, identifying an information item that aligns with both the users one or more preferences and is associated with the location of the user's device or unit, and causing information related to the identified information item to be wirelessly transmitted, via a push message, to the user's device without the need to maintain an active user-interactive client-server application layer at all times. (*Id.* at 23:11-37.)

21. Figure 1 of the '395 patent shows an exemplary overview of the invention of the asserted patents. In this example, mobile unit 105 is connected to both a first network connection 112, *e.g.*, a cellular data network, and a second network connection 113, *e.g.*, a WiFi type network coupled through the Internet. The '395 patent describes that a local broadcast domain entity is, for example, a low power wireless local area network that can be connected to the cellular system or directly to the Internet 113, like a modern-day WiFi access point. (*See id.* at 7:10-14.)

22. The exemplary mobile unit also includes a GPS receiver in communication with at least one GPS satellite 155. The '395 patent teaches that the exemplary mobile unit 105 shown in Figure 1 need not be vehicle mounted but can be implemented as a handheld unit. (*See id.* at 7:44-45, 18:18-20.) That is, the architecture of Figure 1 is what has now been ubiquitously adopted in modern wireless systems via smartphone and tablet technologies. (*See Ex. K*, ¶ 27.)

23. Each of the patents in suit incorporates by reference then co-pending application 09/167,698, filed October 7, 1998, which issued as U.S. Patent No. 6,574,239 (the "'239 patent," attached as Exhibit J). (*See, e.g.*, Ex. A at 2:7-10.)

24. The inventors of the '239 patent are Eric Morgan Dowling and Mark Nicholas Anastasi, two of the Inventors on the patents in suit here. (*See Ex. K*, ¶ 5.)

25. Accordingly, certain concepts of the 09/167,698 application are specifically disclosed to be used in combination with the inventions of the '395 patent, the '844 patent, the '811 patent, and the '139 patent. Many of the claimed inventions in the patents in suit are bolstered by the incorporated-by-reference material. (*See id.* ¶ 28.)

26. Certain exemplary disclosures in the patents in suit describe blocks that refer to the incorporated-by-reference disclosure of the '239 patent. The '239 patent explains that the

mobile unit 105 corresponds to the remote unit 100 of Figure 1 and Figure 2 of the '239 patent disclosure. (*See* Ex. A at 2:21-29; Ex. J at 5:42-47; Ex. K, ¶ 29.)

27. In Figure 1 of the '395 patent, the blocks labeled Virtual Session Server 120, Application Program 130, Communications Server 135, and Network Server 125 are disclosed as being various server-side blocks of Figure 2 of the '239 patent disclosure. (*See* Ex. A at 6:31-61.)

28. Portions of the '239 patent written description that relate to push are set forth at 22:34-37 and 22:50-54 of the '239 patent. (*See* Ex. J at 23:14-32, 24:31-34.)

29. Embodiments involving virtual sessions with suspend/resume capabilities and push-specific aspects rely on the incorporated-by-reference co-pending patent application that eventually was patented as the '239 patent. (*See* Ex. A at 1:4-15; *id.* at 2:7-31; Ex. K, ¶ 30.) These include an application identifying field, virtual sessions, and certain aspects of the outbound push services. (*See* Ex. K, ¶ 30.)

30. As shown in exemplary Figure 1 of the '395 patent, the Virtual Sessions Server 120 and the Communications Server 135 can act as a push server that is capable of sending push notifications over the cellular network's data channel 112 or via a WiFi access point 113, 150. (Ex. A fig. 1. *See also* Ex. J figs. 2 & 6-8.)

31. Certain inventive concepts developed by the Inventors involved technologies that could allow wireless push messages to be sent to one of a plurality of installed application programs ("Apps") loaded into a user's mobile device like a smartphone or a tablet computer. (*See* Ex. K, ¶ 31.)

32. Push messages would preferably be sent over virtual sessions which had stored session parameters, such as what is now implemented in modern day TLS (Transport Layer Security) sessions right below the application layer. (*See id.* ¶ 32.)

33. An application-specific identifier would allow the push message to be routed to a specific corresponding client-side App. (*See Ex. A* at 13:35 to 16:7; *Ex. K*, ¶ 33.) The mobile unit would be constructed with two wireless air interfaces, one to a data service supplied by a cellular communications network, and another to a local broadcast domain entity such as a WiFi access point. (*See Ex. K*, ¶ 33.) At different times wireless push messages could be received via one or the other of these air interfaces. (*See id.* ¶ 33.)

34. Certain inventive concepts involved pushing a message to an App loaded into the mobile unit 105. (*See Ex. A* at 13:35 to 16:7; *Ex. K*, ¶ 34.) In response to the push message, a corresponding virtual session, such as a TLS session, can be reactivated between an App and the application server. (*See Ex. K*, ¶ 34.) Depending on the claimed embodiment, this TLS session reactivation can be done automatically or in response to making a user selection of a graphical user interface object that is made available to the user by the mobile unit 105 in response to the received push message. (*See Ex. A* at 10:2-22, 18:4-17, 19:42-53; *Ex. K*, ¶ 34.)

35. The Inventors contemplated that the pushed information could include application content or could instead include an address or reference to server-side content. (*See Ex. A* at 4:25-42, 10: 56-63, 22:50-54 & fig.3.)

36. This provided a way to send a push notification with address related information in it, so that the App receiving the push notification could later request further content to be downloaded from the application server using the address information supplied in the push notification message. (*See id.* at 10:23-64; *Ex. K*, ¶ 35.)

37. The citations given in the above paragraphs, among others, also teach the concept of sending a push notification to a corresponding App that could then automatically download further content related to the push notification from the application server, without the need for the address to be specifically embedded into the push notification. (*See* Ex. K, ¶ 36.) This allows Apps to automatically perform client-server sync operations in response to a push notification message.

38. In modern day systems, this corresponds, for example, to the Android data message type of push notification message. (*See id.* ¶ 36.)

39. The Inventors specifically contemplated embodiments that involve using both the cellular and the WiFi connections at different times to support the same wireless push service. (*See id.* ¶ 37.)

40. For example, the initial configuration part can be performed using the cellular air interface. (*See id.* ¶ 37.) Later, the actual push can come in over the WiFi air interface. (*See id.* ¶ 37.) The mobile unit can roam back and forth between the cellular-data and WiFi air interfaces at will and the push service can still operate. Automated processing such as background application refresh operations can be performed in response to the push message. (*See id.* ¶ 37.)

41. The Inventors conceived that it would be advantageous to send a push message having an application identifying field, so that the user's handset could determine to which one of a plurality of installed applications the push message should be directed. (*See* Ex. J figs.2, 6-8. *See also generally id.* at 11:24 to 15:30, 21:65 to 25:14 (the written descriptions thereof including the written description of the alternative embodiments); Ex. K, ¶ 38.)

42. As disclosed in the '395 patent, for example at Figures 3-5b and the related written descriptions, among other places, the push message can optionally cause a user-selectable

user interface object to be made available to the user. (*See* Ex. A at 13:35 to 19:11.) Upon user selection, the further content can be downloaded either from address-related information supplied in the push message or by triggering a client-server sync type operation. (*Id.*) The data content of the push message can be used to automatically determine what actions to take at the mobile unit 105. (*See id.* at 13:35 to 19:12, 22:50-54.)

43. While developing their invention, the Inventors contemplated that user interest information would also be advantageously used with mobile wireless push services. (*See id.* at 3:8-32; Ex. K, ¶ 40.) For example, an application server can receive from some unspecified source information about the user's interests. (*See* Ex. K, ¶ 40.) In some embodiments the user can identify the categories of interest directly through the client-side application to the server-side application. (*See* Ex. A at 13:16-34, 18:4-17; Ex. K, ¶ 40.) In this example or others, the wireless push notification can then be sent to the corresponding user's mobile unit conditioned on the user's interests, as indicated by data structures maintained at the application server or coupled to the application server. (*See* Ex. K, ¶ 40.)

44. The Inventors also developed methods for geo-location sensitive push notifications. (*See* Ex. A at 3:8-32; Ex. K, ¶ 41.) The Inventors conceived that the GPS function could be built into the handset, and also that the handset could have a local broadcast domain connection, such as to a WiFi access point. (*See* Ex. K, ¶ 41.) Depending on the embodiment, the user's mobile unit's location can be ascertained from the GPS information sent from the mobile unit, or it can be ascertained from stored information that correlates the WiFi access point to a geo-location where the WiFi access point is physically located. (*See id.* ¶ 41.) For example, a given restaurant or store location can be recognized by a user device connecting through that location's public WiFi channel. (*See* Ex. A at 11:50 to 12:11; Ex. K, ¶ 41.) Efficient location-

based wireless push services can use user-interest information plus the current location of the mobile unit to decide what kinds of push content the user would most likely be interested receiving at a particular moment. (*See* Ex. K, ¶ 41.) This provides geographical web browser-like functionality using push services and different types of Apps. (*See* Ex. A at 4:25 to 5:42; Ex. K, ¶ 41.)

45. The Inventors also contemplated that certain applications might use a wireless client-server communications link to perform geographical web browser type operations. (*See* Ex. K, ¶ 42.) In this case the client informs the server of, for example, a user interest. The user interest can then act like a search request. (*See* Ex. A at 10:2-22, 18:4-17, 19:42-53; Ex. K, ¶ 42.) As the mobile unit moves around, its GPS coordinates are periodically uploaded, or the physical locations of the access point to which the mobile unit is connected can be ascertained. (*See* Ex. J at 3:60-63; Ex. A at 2:7 to 3:22; Ex. K, ¶ 42.) If the mobile unit comes within the geographical vicinity of a point of presence that meets the user interest request, the wireless client-server session can be resumed from an inactive state to an active state and the server response can be sent to the mobile unit over this wireless client-server connection, which may be a virtual session that is resumed from an inactive state to an active state. (*See* Ex. J at 3:45-53; Ex. A at 2:7 to 3:22, 10:34-64; Ex. K, ¶ 42.)

46. For example, if a user sets his or her interest to hotels and drives around, graphical user interface would automatically update and show the nearby hotels. (*See* Ex. K, ¶ 43.) This embodiment that can be used in certain location-based type client-server Apps. (*See id.* ¶ 43.)

47. Specific claims in the different patents in suit recite different specific client-server functionalities. For example, the asserted '844 patent claims recite inventions that send a push

message to an App on a remote unit that uses an application-program-identifying field to identify the target App. The push message carries address information from which the App can download further information over a resumed virtual session between the App and its respective server. In other of the '844 claims, different specific mobile-wireless network configurations are recited and specific client-server functionalities are recited where the client sends a request to a server, the server then sends a response that indicates the availability of new data for the App at the server, in response to this notification, the App then sends another request to pull the content from the server, and the server thus responds to the request and allows the client side App to synchronize with the server. All asserted claims of all asserted patents contain different recitations of specific wireless network configurations and different specific client-server functionalities needed to achieve the specific technological result of each asserted claim. (*Id.* ¶ 46.)

Advantage Over the Prior Art

48. At the time the Inventors were developing and patenting their inventions, wireless Internet-enabled devices and services were in their infancy. (*See Ex. K*, ¶ 48.) Internet access to wireless devices was not in mainstream use. (*See id.* ¶ 48.) Basic wireless browser and push functions were available in some of the earliest Internet-enabled handhelds, but nothing near what is in common use today. (*See id.* ¶ 48.)

49. Today's wireless devices often include a large plurality of Apps, and each separate App has its own push notification channel, and the push messages can be sent over both the cellular data and the WiFi channels. (*See id.* ¶ 49.) At all relevant times, wireless Apps were not available to provide effective user-interest and geographical web browsing functions. (*See id.* ¶ 49.) Push services were not yet available that allowed similar functionality as the

geographical web browser. (*See id.* ¶ 49.) The concept of separate Apps with dedicated push channels to each App as regulated by a packet filter and an application-specific-ID field in the push packet header was not yet available.

50. The patented inventions disclosed in the '395 patent, the '844 patent, the '811 patent, and the '139 patent provide many advantages over the prior art, and in particular improve the operations of communications between client-side wireless mobile units and remote servers. (*See Ex. A at 2:54 to 4:13; Ex. K, ¶ 50.*)

51. For example, the patented invention provides systems and methods to enable a mobile using to maintain a first network connection with a central server and to control information flow on this connection using information received on an auxiliary channel. (*See Ex. A at 4:26-30; Ex. K, ¶ 51.*)

52. Another advantage of the patented inventions is providing systems and methods to enable separate Apps in the user mobile unit to stay separately connected to their respective corresponding application server via a separate push channel for that App. (*See Ex. K, ¶ 52.*) Each separate push channel can be implemented in such a way that there is no need to continuously remain connected because each such channel can preferably maintain security parameters and also be deactivated and reactivated with an abbreviated security handshake procedure. (*See, e.g., Ex. J at 3:37-40, 23:14 to 24:34; see also Ex. K, ¶ 52.*)

53. Certain embodiments of the patented invention also contemplated that the push operations would often occur over a low-power local area network channel like a local WiFi channel. (*See Ex. A at 1:45 to 2:6; Ex. K, ¶ 53.*) While such functionality is common today, the earliest mobile units in their infancy at the time with web browser functionality only used cellular channels like SMS and wireless HTTP. (*See Ex. K, ¶ 53.*) The prior art did not

contemplate push services that would allow wireless Internet data-channel roaming between a data access channel provided by the cellular service operator network and a data access channel provided by a wireless access point such as a WiFi access point. (*See id.* ¶ 53.)

54. The present invention contemplates that some of the inventive methods can be used with user wireless mobile devices that provide both cellular data connectivity and WiFi data connectivity and roam between the two access types. (*See Ex. A* at 4:26 to 5:42; *Ex. K*, ¶ 54.) For example, the wireless mobile unit can configure the push notification service for a given App using a first wireless interface, such as cellular Internet channel, and later respond to a push message for that App that came in over a second wireless interface, such as a WiFi channel. (*See Ex. K*, ¶ 54.) In a claimed embodiment, in response to the push, the App will perform automated background application refresh type operations. (*See id.* ¶ 54.)

55. Certain embodiments of the present invention provide specific location-based types of push services that were not available in the prior art. (*See id.* ¶ 55.) For example, a user interest indication can be provided to the server-side application from either the mobile unit of a third party or can otherwise be inferred by the server based on user actions. (*See id.* ¶ 55.) In such cases, the mobile unit's GPS coordinates or the mobile unit's data access connection point can be ascertained and converted to a geographical location associated with the data access point to which the mobile unit is presently connected. (*See id.* ¶ 55.) The server-side application can thus keep track of the mobile unit's present location. (*See id.* ¶ 55.) Push events can be triggered when the mobile unit becomes in a local area where a point of presence is available related to the user interest. (*See id.* ¶ 55.) At such time the push notification is sent to the mobile unit. (*See id.* ¶ 55.)

56. As such, another advantage of the patented inventions is that a user may now “surf the web” or navigate mobile applications based on geographic information such as GPS information. (*See* Ex. A at 5:19-23; Ex. K, ¶ 56.)

57. An additional advantage of the patented inventions includes technology to provide local broadcast information to automatically control a network application using a packet filter. (*See* Ex. A at 2:57-62; Ex. K, ¶ 57.)

58. Yet another advantage of the patented inventions includes the ability to provide a user with a means to receive information from a first connection, such as a wireless network connection, based on the user’s position. (*See* Ex. A at 2:57-60; Ex. K, ¶ 58.)

59. Another advantage of the patented inventions is that it allows an application, like a web browser or another mobile app, to control the flow of information a device may received based on a location based data, such as GPS data. (*See* Ex. A at 3:10-15, 3:30-32; Ex. K, ¶ 59.)

60. An additional advantage of the patented inventions include a mobile unit that can receive at least one transmission from a second wireless network or interface and then generate a request from the first wireless network connection in order to control navigation of an application, such as a mobile app. (*See* Ex. A at 3:15-19; Ex. K, ¶ 60.)

61. Another advantage of the patented inventions is that a server located on a network may receive these requests generated based on the above described transmissions. (*See* Ex. A at 3:15-19; Ex. K, ¶ 61.)

62. Yet another advantage of the patented invention is that a mobile unit allows for the use of filters, or preferences, that may be applied to the automated control, allowing certain information to be selectively accepted or rejected, thereby controlling the information received by a mobile unit. (*See* Ex. A at 3:51-56; Ex. K, ¶ 62.).

63. Because of these significant advantages that can be achieved through the use of the patented invention, the '395 patent, the '844 patent, the '811 patent, and the '139 patent present significant commercial value for companies like DGC.

64. Indeed, while such technology did not exist prior to the invention, since the issuance of the patents in suit, many technologies related to location-based types of push services have emerged, utilizing features claimed in the '395 patent, the '844 patent, the '811 patent, and the '139 patent. (*See* Ex. K, ¶ 63.)

COUNT I – INFRINGEMENT OF U.S. PATENT NO. 7,058,395

65. The allegations set forth in the foregoing paragraphs 1 through 64 are incorporated into this First Claim for Relief.

66. On June 6, 2006, the '395 patent was duly and legally issued by the United States Patent and Trademark Office under the title “GEOGRAPHICAL WEB BROWSER, METHODS, APPARATUS AND SYSTEMS.”

67. Push Data is the assignee and owner of the right, title and interest in and to the '395 patent, including the right to assert all causes of action arising under said patent and the right to any remedies for infringement of it.

68. As set forth above, the inventions of the '395 patent resolve technical problems related to client-server computing architecture. (*See* Ex. K, ¶ 44.)

69. The claims of the '395 patent do not merely recite the performance of some business practice known from the pre-Internet world along with the requirement to perform it on the Internet.

70. Instead, the claims of the '395 patent recite one or more inventive concepts that are rooted in computerized client-server computing communication technology, and overcome

problems specifically arising in the realm of computerized client-server computing architecture technologies. (*See id.* ¶ 44.)

71. The claims of the '395 patent recite an invention that is not merely the routine or conventional use of computers.

72. Instead, the invention makes use of specific client-server computer architecture functionalities.

73. The '395 patent claims thus specify how computing devices and remote servers are manipulated to yield a desired result. (*See id.* ¶ 45.)

74. The technology claimed in the '395 patent does not preempt all ways of using client-server computing architectures or the use of all communication session technologies, or any other well-known or prior art technology. (*See id.* ¶ 47.)

75. Each claim of the '395 patent recites a combination of elements sufficient to ensure that the claim in practice amounts to significantly more than a patent on an ineligible concept.

76. Upon information and belief, DGC directly infringed one or more claims of the '395 patent by selling, offering to sell, making, using, and/or providing and causing to be used products, specifically one or more mobile device applications, which by way of example include the DGC's Mobile App (the "Accused Instrumentalities"). (*See Now, More Ways to Shop and Save*, DOLLARGENERAL.COM, <https://www.dollargeneral.com/app.html> (last visited May 5, 2021).)

77. Upon information and belief, the exemplary versions herein and previous versions of the Accused Instrumentalities distributed prior to expiration of the patents-in-suit operated materially in the same manner.

78. Upon information and belief, at relevant times the Accused Instrumentalities performed a method in which a remote server receives a first request from a handheld or mobile device, the remote server responds that there is content available related to the request, the remote server receives a second request from the handheld device, which is automatically generated by the handheld device, and, lastly, the server then couples the available content related to the first request to the handheld or mobile device.

79. Upon information and belief this method is performed in an environment in which there at least two wireless packet network access stations, such as, for a non-limiting example, a cellular and WiFi network.

80. Exemplary infringement analysis showing infringement of at least claims 1, 4, and 22 of the '395 patent is set forth in Exhibit E.

81. This infringement analysis is necessarily preliminary, as it is provided in advance of any discovery provided by DGC with respect to the '395 patent.

82. Push Data reserves all rights to amend, supplement and modify this preliminary infringement analysis. Nothing in the attached chart should be construed as any express or implied contention or admission regarding the construction of any term or phrase of the claims of the '395 patent.

83. The Accused Instrumentality infringed at least claims 1, 4, and 22 of the '395 patent during the pendency of the '395 patent.

84. On information and belief, since DGC had knowledge of the '395 patent, DGC's infringement has been willful.

85. Push Data has been harmed by the DGC's infringing activities.

COUNT II – INFRINGEMENT OF U.S. PATENT NO. 7,292,844

86. The allegations set forth in the foregoing paragraphs 1 through 85 are incorporated into this Second Claim for Relief.

87. On November 6, 2007, the '844 patent was duly and legally issued by the United States Patent and Trademark Office under the title "GEOGRAPHICAL WEB BROWSER, METHODS, APPARATUS AND SYSTEMS."

88. Push Data is the assignee and owner of the right, title and interest in and to the '844 patent, including the right to assert all causes of action arising under said patent and the right to any remedies for infringement of it.

89. As set forth above, the inventions of the '844 patent resolve technical problems related to client-server computing architecture. (*See* Ex. K, ¶ 44.)

90. The claims of the '844 patent do not merely recite the performance of some business practice known from the pre-Internet world along with the requirement to perform it on the Internet.

91. Instead, the claims of the '844 patent recite one or more inventive concepts that are rooted in computerized client-server computing communication technology, and overcome problems specifically arising in the realm of computerized client-server computing architecture technologies. (*See id.* ¶ 44.)

92. The claims of the '844 patent recite an invention that is not merely the routine or conventional use of computers.

93. Instead, the invention makes use of specific client-server computer architecture functionalities. (*See id.* ¶¶ 44-46.)

94. The '844 patent claims thus specify how computing devices and remote servers are manipulated to yield a desired result.

95. The technology claimed in the '844 patent does not preempt all ways of using client-server computing architectures or the use of all communication session technologies, or any other well-known or prior art technology. (*See id.* ¶ 47.)

96. Each claim of the '844 patent recites a combination of elements sufficient to ensure that the claim in practice amounts to significantly more than a patent on an ineligible concept.

97. Upon information and belief, DGC directly infringed one or more claims of the '844 patent by selling, offering to sell, making, using, and/or providing and causing to be used the Accused Instrumentalities, specifically one or more mobile device applications, which by way of example include the DGC's Mobile App. (*See Now, More Ways to Shop and Save*, DOLLARGENERAL.COM, <https://www.dollargeneral.com/app.html> (last visited May 5, 2021).)

98. Upon information and belief, the exemplary versions herein and previous versions of the Accused Instrumentalities distributed prior to expiration of the patents-in-suit operated materially in the same manner.

99. Upon information and belief, the Accused Instrumentalities at relevant times performed a method in which a remote server receives a first request from a handheld or mobile device, the remote server responds that there is content available related to the request, the remote server receives a second request from the handheld device, which is automatically generated by the handheld device, and, lastly, the server then couples the available content related to the first request to the handheld or mobile device.

100. Upon information and belief this method is performed in an environment in which there at least two wireless packet network access stations, such as, for a non-limiting example, a cellular and WiFi network.

101. Exemplary infringement analysis showing infringement of at least claims 1, 25, 32, 37 and 46 of the '844 patent is set forth in Exhibit F.

102. This infringement analysis is necessarily preliminary, as it is provided in advance of any discovery provided by DGC with respect to the '844 patent.

103. Push Data reserves all rights to amend, supplement and modify this preliminary infringement analysis. Nothing in the attached chart should be construed as any express or implied contention or admission regarding the construction of any term or phrase of the claims of the '844 patent.

104. The Accused Instrumentality infringed at least claims 1, 25, 32, 37, and 46 of the '844 patent during the pendency of the '844 patent.

105. On information and belief, since DGC had knowledge of the '844 patent, DGC's infringement has been willful.

106. Push Data has been harmed by the DGC's infringing activities.

COUNT III – INFRINGEMENT OF U.S. PATENT NO. 7,212,811

107. The allegations set forth in the foregoing paragraphs 1 through 106 are incorporated into this Third Claim for Relief.

108. On May 1, 2007, the '811 patent was duly and legally issued by the United States Patent and Trademark Office under the title "GEOGRAPHICAL WEB BROWSER, METHODS, APPARATUS AND SYSTEMS."

109. Push Data is the assignee and owner of the right, title and interest in and to the '811 patent, including the right to assert all causes of action arising under said patent and the right to any remedies for infringement of it.

110. As set forth above, the inventions of the '811 patent resolve technical problems related to client-server computing architecture. (See Ex. K, ¶ 44.)

111. The claims of the '811 patent do not merely recite the performance of some business practice known from the pre-Internet world along with the requirement to perform it on the Internet. (*See id.* ¶ 44.)

112. Instead, the claims of the '811 patent recite one or more inventive concepts that are rooted in computerized client-server computing communication technology, and overcome problems specifically arising in the realm of computerized client-server computing architecture technologies. (*See id.* ¶ 44.)

113. The claims of the '811 patent recite an invention that is not merely the routine or conventional use of computers. (*See id.* ¶ 45.)

114. Instead, the invention makes use of specific client-server computer architecture functionalities. (*See id.* ¶ 45.)

115. The '811 patent claims thus specify how computing devices and remote servers are manipulated to yield a desired result. (*See id.* ¶ 45.)

116. The technology claimed in the '811 patent does not preempt all ways of using client-server computing architectures or the use of all communication session technologies, or any other well-known or prior art technology. (*See id.* at ¶ 47.)

117. Each claim of the '811 patent recites a combination of elements sufficient to ensure that the claim in practice amounts to significantly more than a patent on an ineligible concept.

118. Upon information and belief, DGC directly infringed one or more claims of the '811 patent by selling, offering to sell, making, using, and/or providing and causing to be used the Accused Instrumentalities, specifically one or more mobile device applications, which by way of example include the DGC's Mobile App. (*See Now, More Ways to Shop and Save,*

DOLLARGENERAL.COM, <https://www.dollargeneral.com/app.html> (last visited May 5, 2021).)

Upon information and belief, the exemplary versions herein and previous versions of the Accused Instrumentalities distributed prior to expiration of the patents-in-suit operated materially in the same manner.

119. Upon information and belief, at relevant times the Accused Instrumentalities performed a method in which a remote server receives a first request from a handheld or mobile device, the remote server responds that there is content available related to the request, the remote server receives a second request from the handheld device, which is automatically generated by the handheld device, and, lastly, the server then couples the available content related to the first request to the handheld or mobile device.

120. Upon information and belief this method is performed in an environment in which there at least two wireless packet network access stations, such as, for a non-limiting example, a cellular and WiFi network.

121. Exemplary infringement analysis showing infringement of at least claims 1 and 5 of the '811 patent is set forth in Exhibit G.

122. This infringement analysis is necessarily preliminary, as it is provided in advance of any discovery provided by DGC with respect to the '811 patent.

123. Push Data reserves all rights to amend, supplement and modify this preliminary infringement analysis. Nothing in the attached chart should be construed as any express or implied contention or admission regarding the construction of any term or phrase of the claims of the '811 patent.

124. The Accused Instrumentality infringed at least claims 1 and 5 of the '811 patent during the pendency of the '811 patent.

125. On information and belief, since DGC had knowledge of the '811 patent, DGC's infringement has been willful.

126. Push Data has been harmed by the DGC's infringing activities.

COUNT IV – INFRINGEMENT OF U.S. PATENT NO. 6,983,139

127. The allegations set forth in the foregoing paragraphs 1 through 126 are incorporated into this Fourth Claim for Relief.

128. On January 3, 2006, the '139 patent was duly and legally issued by the United States Patent and Trademark Office under the title "GEOGRAPHICAL WEB BROWSER, METHODS, APPARATUS AND SYSTEMS."

129. Push Data is the assignee and owner of the right, title and interest in and to the '139 patent, including the right to assert all causes of action arising under said patent and the right to any remedies for infringement of it.

130. As set forth above, the inventions of the '139 patent resolve technical problems related to client-server computing architecture. (*See Ex. K*, ¶ 44.)

131. The claims of the '139 patent do not merely recite the performance of some business practice known from the pre-Internet world along with the requirement to perform it on the Internet. (*See id.* ¶ 44.)

132. Instead, the claims of the '139 patent recite one or more inventive concepts that are rooted in computerized client-server computing communication technology and overcome problems specifically arising in the realm of computerized client-server computing architecture technologies. (*See id.* ¶ 44.)

133. The claims of the '139 patent recite an invention that is not merely the routine or conventional use of computers.

134. Instead, the invention makes use of specific client-server computer architecture functionalities. (*See id.* at ¶ 45.)

135. The '139 patent claims thus specify how computing devices and remote servers are manipulated to yield a desired result.

136. The technology claimed in the '139 patent does not preempt all ways of using client-server computing architectures or the use of all communication session technologies, or any other well-known or prior art technology. (*See id.* at ¶ 47.)

137. Each claim of the '139 patent recites a combination of elements sufficient to ensure that the claim in practice amounts to significantly more than a patent on an ineligible concept.

138. Upon information and belief, DGC directly infringed one or more claims of the '139 patent by selling, offering to sell, making, using, and/or providing and causing to be used the Accused Instrumentalities, specifically one or more mobile device applications, which by way of example includes the DGC's Mobile App. (*See Now, More Ways to Shop and Save*, DOLLARGENERAL.COM, <https://www.dollargeneral.com/app.html> (last visited May 5, 2021).)

139. Upon information and belief, the exemplary versions herein and previous versions of the Accused Instrumentalities distributed prior to expiration of the patents in suit operated materially in the same manner.

140. Upon information and belief, the Accused Instrumentalities at relevant times performed a method in which a remote server receives a first request from a handheld or mobile device, the remote server responds that there is content available related to the request, the remote server receives a second request from the handheld device, which is automatically

generated by the handheld device, and, lastly, the server then couples the available content related to the first request to the handheld or mobile device.

141. Upon information and belief this method is performed in an environment in which there at least two wireless packet network access stations, such as, for a non-limiting example, a cellular and WiFi network.

142. Exemplary infringement analysis showing infringement of at least claims 22, 43, and 90 of the '139 patent is set forth in Exhibit H. This infringement analysis is necessarily preliminary, as it is provided in advance of any discovery provided by DGC with respect to the '139 patent. Push Data reserves all rights to amend, supplement and modify this preliminary infringement analysis. Nothing in the attached chart should be construed as any express or implied contention or admission regarding the construction of any term or phrase of the claims of the '139 patent.

143. The Accused Instrumentality infringed at least claims 22, 43, and 90 of the '139 patent during the pendency of the '139 patent.

144. On information and belief, since DGC had knowledge of the '139 patent, DGC's infringement has been willful.

145. Push Data has been harmed by the DGC's infringing activities.

JURY DEMAND

Pursuant to Rule 38 of the Federal Rules of Civil Procedure, Push Data demands a trial by jury on all issues triable as such.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff Push Data demands judgment for itself and against DGC as follows:

A. An adjudication that the DGC infringed the '395 patent, the '844 patent, the '811 patent, and the '139 patent;

B. An award of damages to be paid by DGC adequate to compensate Push Data for DGC's past infringement of the '395 patent, the '844 patent, the '811 patent, and the '139 patent, including interest, costs, expenses and an accounting of all infringing acts including, but not limited to, those acts not presented at trial;

C. A declaration that this case is exceptional under 35 U.S.C. § 285, and an award of Push Data's reasonable attorneys' fees; and

D. An award to Push Data of such other and further relief at law or in equity as the Court deems just and proper.

Dated: May 30, 2021

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