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***VILOX TECHNOLOGIES, LLC, and***
***VILOX, LLC***

**UNITED STATES DISTRICT COURT**
**NORTHERN DISTRICT OF CALIFORNIA**
**SAN FRANCISCO DIVISION**

VILOX TECHNOLOGIES, LLC, and VILOX, LLC,

Plaintiffs,

v.

SALESFORCE, INC.,

Defendant.

Case No.: 3:23-cv-05047-AMO

**PLAINTIFFS' AMENDED COMPLAINT**

## TABLE OF AUTHORITIES

**Cases**

VILOX TECHNOLOGIES, LLC, and VILOX, LLC ("Vilox" or "Plaintiffs") file this Amended Complaint and demand for jury trial seeking relief from patent infringement of the claims of U.S. Patent No. 6,760,720 ("the '720 patent") and U.S. Patent No. 7,188,100 ("the '100 patent") (referred to as the "Patents-in-Suit") by SALESFORCE, INC. ("Salesforce" or "Defendant").

## I. THE PARTIES

1. Plaintiff Vilox Technologies, LLC is a Texas Limited Liability Company with its principal place of business located in Austin, Texas.

2. Plaintiff Vilox, LLC is a Kentucky Limited Liability Company with its principal place of business located in Louisville, KY. Collectively, Vilox Technologies, LLC and Vilox, LLC are referred to as Vilox.

3. On information and belief, Salesforce, Inc. is a corporation organized under the laws of the State of Delaware having a principal place of business at 415 Mission Street, 3rd Floor, San Francisco, CA 94105. On information and belief, Salesforce uses, sells and offers to sell products and services throughout Texas and California, including in this judicial district, and introduces products and services that perform infringing methods or processes into the stream of commerce knowing that they would be sold in Texas and in this judicial district. Salesforce can be served with process at415 Mission Street, 3rd Floor, San Francisco, CA 94105.

## II. JURISDICTION AND VENUE

4. This Court has original subject-matter jurisdiction over the entire action pursuant to 28 U.S.C. §§ 1331 and 1338(a) because Plaintiffs' claims arise under an Act of Congress relating to patents, namely, 35 U.S.C. § 271.

5. This Court has personal jurisdiction over Defendant because: (i) Defendant is

present within or has minimum contacts within this judicial district; (ii) Defendant has purposefully availed itself of the privileges of conducting business in this judicial district; and (iii) Plaintiffs' cause of action arises directly from Defendant's business contacts and other activities this judicial district.

6. Venue is proper in this district under 28 U.S.C. §§ 1391(b) and 1400(b). Defendant has committed acts of infringement and has a regular and established place of business in this judicial district. Further, venue is proper because Defendant conducts substantial business in this forum, directly or through intermediaries, including: (i) at least a portion of the infringements alleged herein; and (ii) regularly doing or soliciting business, engaging in other persistent courses of conduct and/or deriving substantial revenue from goods and services provided to individuals in this judicial district.

## III. KNOWLEDGE AND SPECIFIC INTENT TO INFRINGE

7. The head patent counsel for Salesforce, Inc., David Simon, as well as other Salesforce patent attorneys, met in person with attorneys representing Vilox, and on one occasion, the owner of Vilox Technologies, LLC and Vilox, Inc., to discuss a possible license to the Vilox patent portfolio by Salesforce. During this meeting, Vilox presented to David Simon and the other attorneys, information contained in this Amended Complaint regarding the '720 and '100 Patents.

8. Specifically, in the fall of 2016 Vilox attorneys approached Salesforce with an offer of a license to the Vilox patents. One of these attorneys had been encouraged to do so during a previous post grant action involving Salesforce and an unrelated patent owner during which Salesforce attorney Daniel Reed stated that Salesforce would prefer to engage in license negotiations as an alternative to defending a patent infringement lawsuit. Accordingly, attorneys

for Vilox set up a meeting at Salesforce's headquarters for early 2017, and provided Salesforce IP attorneys with information related to the Vilox patent portfolio.

9. On or about February 15, 2017, three Vilox attorneys travelled to Salesforce headquarters in San Francisco to discuss a possible license, including showing claim charts. The meeting was supposed to be attended by David Simon, head of IP for Salesforce; instead, he sent two junior attorneys. Those attorneys suggested Vilox provide further claim charts to Salesforce. In March of 2017, Vilox provided Salesforce with detailed claim charts for the Vilox patents. In June of 2017, Dr. Joseph L. De Bellis and three attorneys travelled to San Francisco and met with David Simon. Mr. Simon stated he knew Vilox Technologies to be a patent troll. Dr. De Bellis countered that Vilox merely held the IP that was licensed to an operating company that had for many years sold software solutions to government and non-government entities. In response, Mr. Simon asked for more information, which he would then consider.

10. Shortly after this last meeting, Unified Patents, Inc. filed a Petition for *Inter Partes* Review challenging some, but not all, claims of a related Vilox patent.

## IV. INFRINGEMENT - Infringement of the '720 Patent

11. On July 6, 2004, U.S. Patent No. 6,760,720 ("the '720 patent"), attached as Exhibit A, DOC 1_1 entitled "Search-on-the-Fly/Sort-on-the-Fly Search Engine for Searching Databases," was duly and legally issued by the U.S. Patent and Trademark Office.

12. The '720 patent relates to a novel and improved method and apparatus for conducting on-the-fly searches providing users with an intuitive mechanism for searching databases, allowing a user to access data in the database without having to know the structure of the database.

13. Salesforce makes, uses, sells and/or offers for sale within this judicial district and

elsewhere in the United States and/or imports into this judicial district and elsewhere in the United States, products or services that, among other features, include receiving a selection of one or more databases, generating a list of data fields that include a descriptor indicating a data category, receiving a search selection for a data field from the list of data fields, determining a quantity of entries in the selected database field, determining if the number of entries in the database field is equal to or less than a specified number of entries or if the number of entries does not exceed the specified amount, and if in excess of the specified amount reducing the number of characters displayed to the user, that infringes one or more of claims 1-39 of the '720 patent, including one or more of those claims, literally or under the doctrine of equivalents. Defendant put the inventions claimed by the '720 patent into service (i.e., used them); but for Defendant's actions, the claimed- invention embodiments involving Defendant's products and services would never have been put into service. Defendant's acts complained of herein caused those claimed-invention embodiments as a whole to perform, and Defendant's procurement of monetary and commercial benefit from it.

14. The Accused Instrumentalities are embodied in Salesforce products that generally relate to retrieval, search, generation of results, and truncation of displayed characters performed within the Salesforce products.

15. On page 18 of Salesforce's Motion to Dismiss (DOC 67), Salesforce complains about supposed "inadequacies" of the pleading in Vilox's Original Complaint (DOC 1). As Vilox conclusively demonstrates in this Amended Complaint, Salesforce operates a number of server sites in various judicial districts, including, for example, in Texas, where the Original Complaint was filed. On information and belief, Salesforce documentation discloses these various Salesforce servers execute Salesforce products for the benefit of Salesforce customers.

That is, Salesforce directly infringes the Vilox Patents at issue herein. The Salesforce products are available to its customers much as a restaurant food and drink menu lists various items available for consumption by its customers, and just like the restaurant menu analogy, Salesforce customers can choose which Salesforce products to use, or to have Salesforce execute (use) for the customer's benefit. Moreover, Vilox has determined that many of individual Salesforce products are used in various combinations, depending on the needs of a particular customer, just as some diners order a salad with dinner and others do not. Vilox has had no opportunity to inquire of Salesforce just exactly what Salesforce products it has contracted with individual customers to provide. Presumably, Salesforce will provide that information during discovery. However, Vilox has read the 5,000+ page Salesforce operating manual and has viewed hundreds of videos showing operation of various Salesforce products. Vilox contends that for this pleading, it is sufficient to show that some Salesforce product that Salesforce itself executes on behalf of its various customers infringes the Patent claims. More explicitly, Vilox provides in this Amended Complaint allegations Salesforce directly infringes (practices every element) of at least one claim of the '720 Patent and at least one claim of the '100 Patent.

16. Claim 3 of the '720 Patent recites:

A method implemented on a computer for searching a database, comprising:

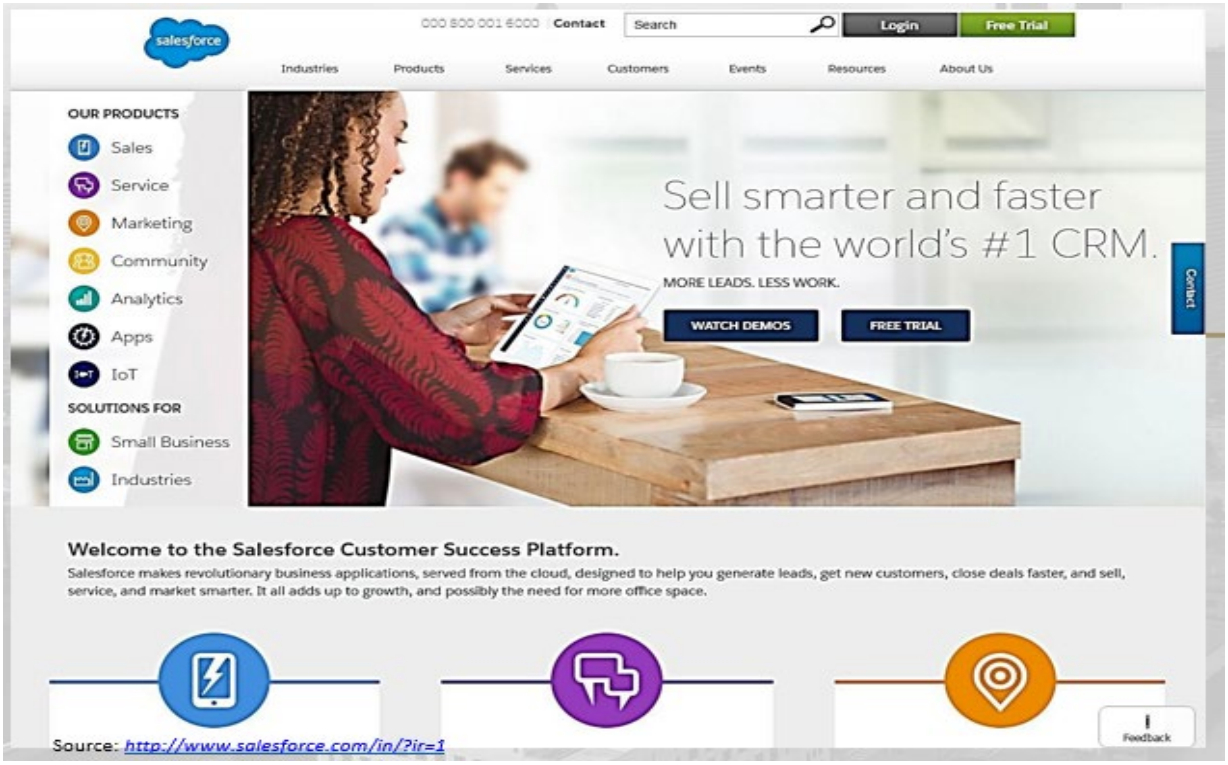
generating a list of data fields;

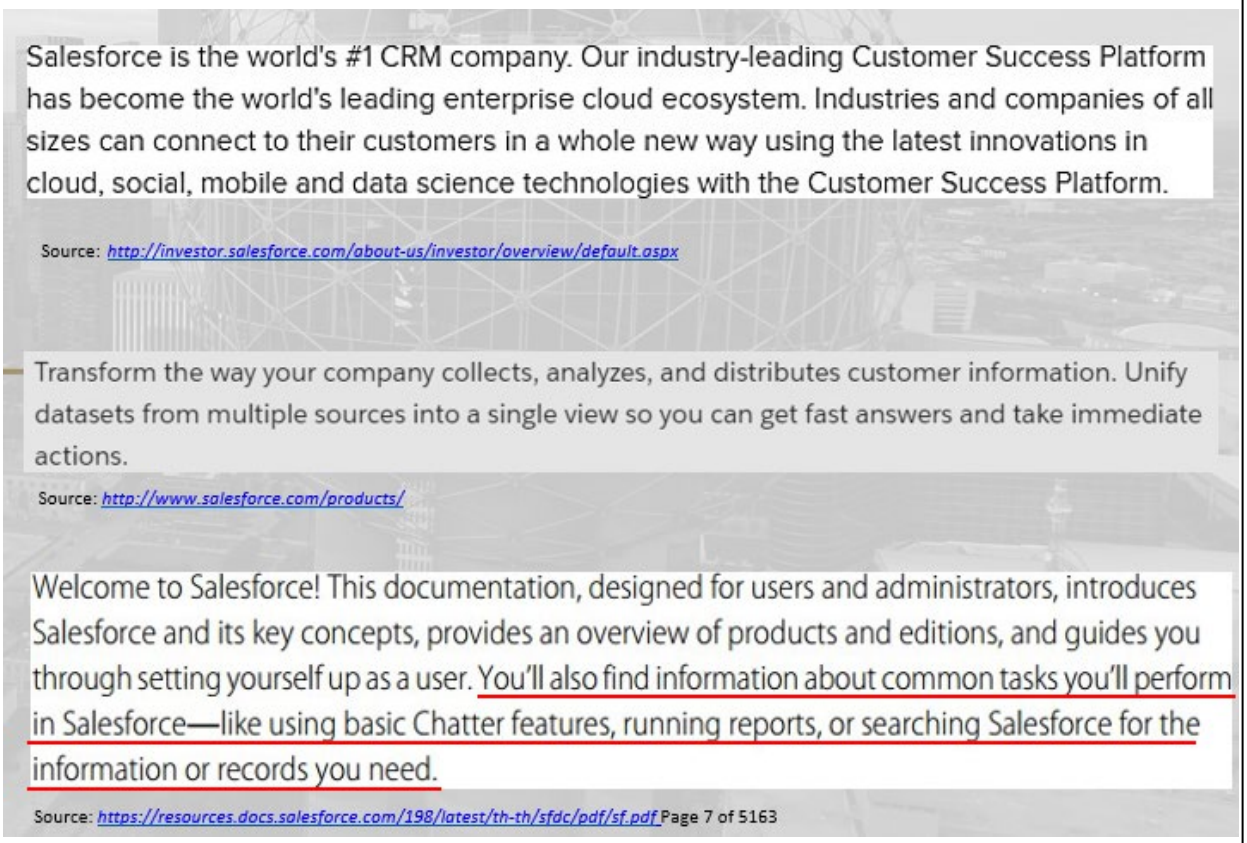
receiving a first data field selection from the list of data fields;

determining a first quantity indicative of a number of entries of the selected data field;

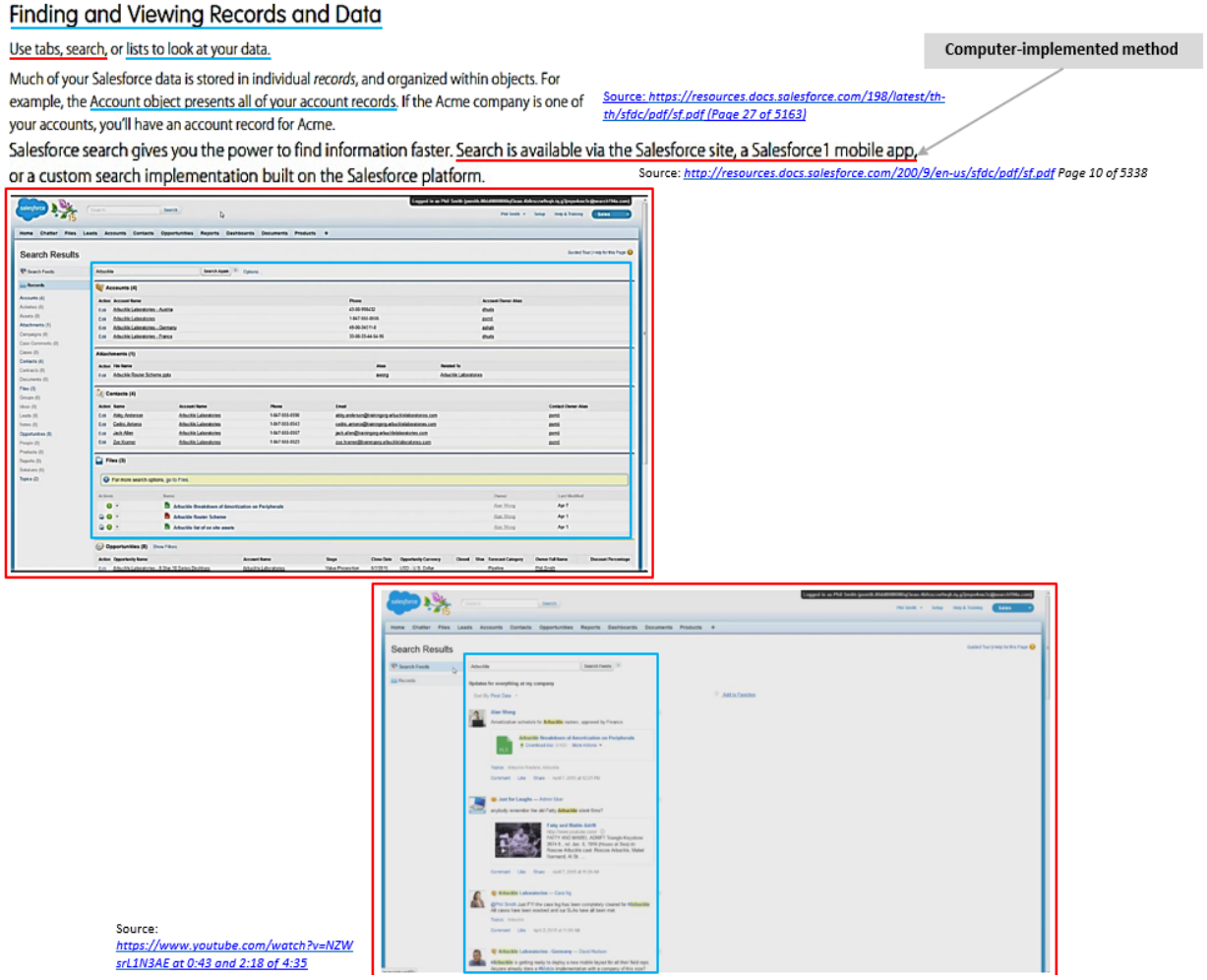
if the first quantity exceeds a specified limit, reducing a size of data to be displayed from the selected data field, wherein the reducing reduces characters in one or more entries in the selected data field, and the size-reduced date [sic] represents each of the entries in the selected data field; and displaying data from the selected data field.

17. Considering the preamble of claim 3, the recited "computer" may be a cloud-based server operated by Salesforce for its customers, as can be seen clearly from Salesforce's own documentation, reproduced below. Thus, Salesforce, by operating its cloud computing system and servers, executes software to directly infringe claim 3 of the '720 Patent:



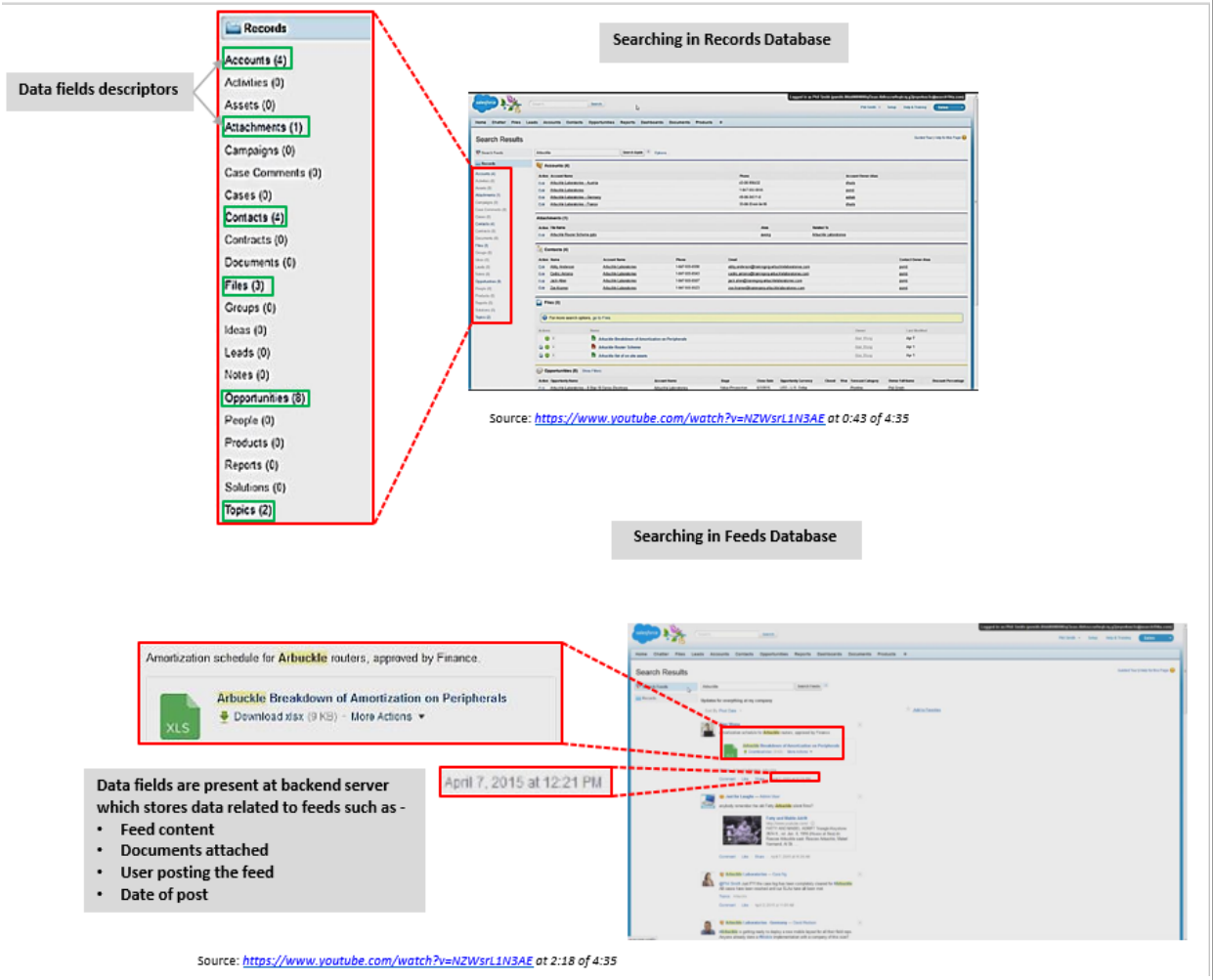



18. As to the preamble of claim 3, *see, also*:




Salesforce uses a computer-implemented method of storing user data as records on its website/app and organizes those records according to objects (e.g., "Accounts," "Contacts," etc.). A user can then search for records in the Salesforce database, and the results of that search are displayed on the user's terminal. In this regard, Vilox, on information and belief, alleges that Salesforce directly performs the infringing methods. In addition, on information and belief, Vilox alleges that Salesforce provides (licenses, sells) the infringing Salesforce products to certain Salesforce customers. Vilox expect to determine the nature and extent of Salesforce's business activity during discovery, and will supplement its Complaint accordingly.

19. Claim 3, limitation 1, "generating a list of data fields," is met by Salesforce:



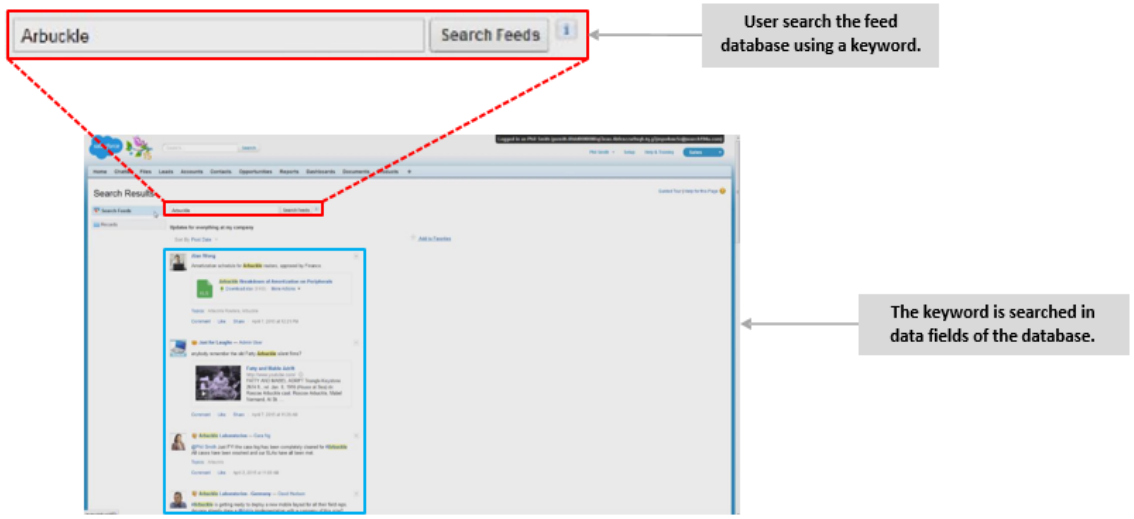

Once a database is selected, data fields of the tables belonging to the database are set to be searched at the backend (i.e., at the Salesforce server) of the Salesforce system.

20. Claim 3, limitation 2, "receiving a first data field selection from the list of data fields," is met by Salesforce:

Search feeds, people, groups, topics, and files across Chatter.

1. Enter your search term in the header search box.
2. Click **Search**.

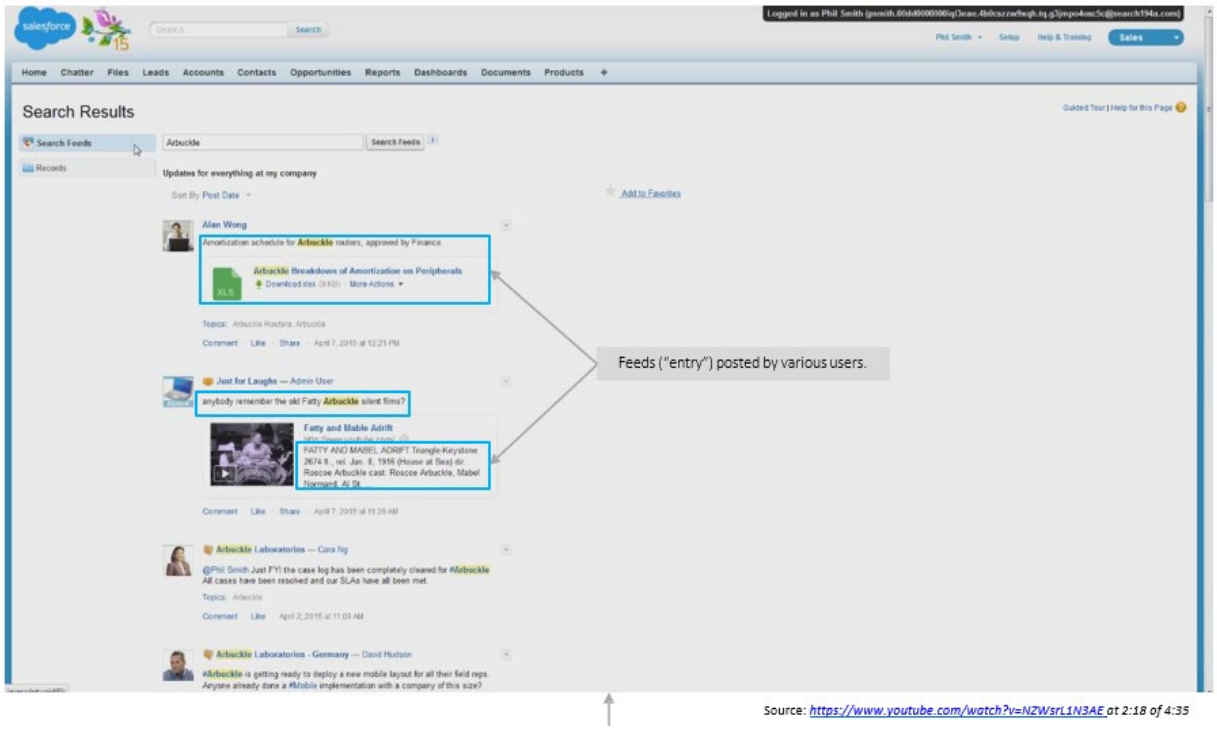
The search results page shows matches across Salesforce, including Chatter. From the search results page, you can further refine your search. For example, to see search results across all Chatter feeds, click **Search Feeds**.



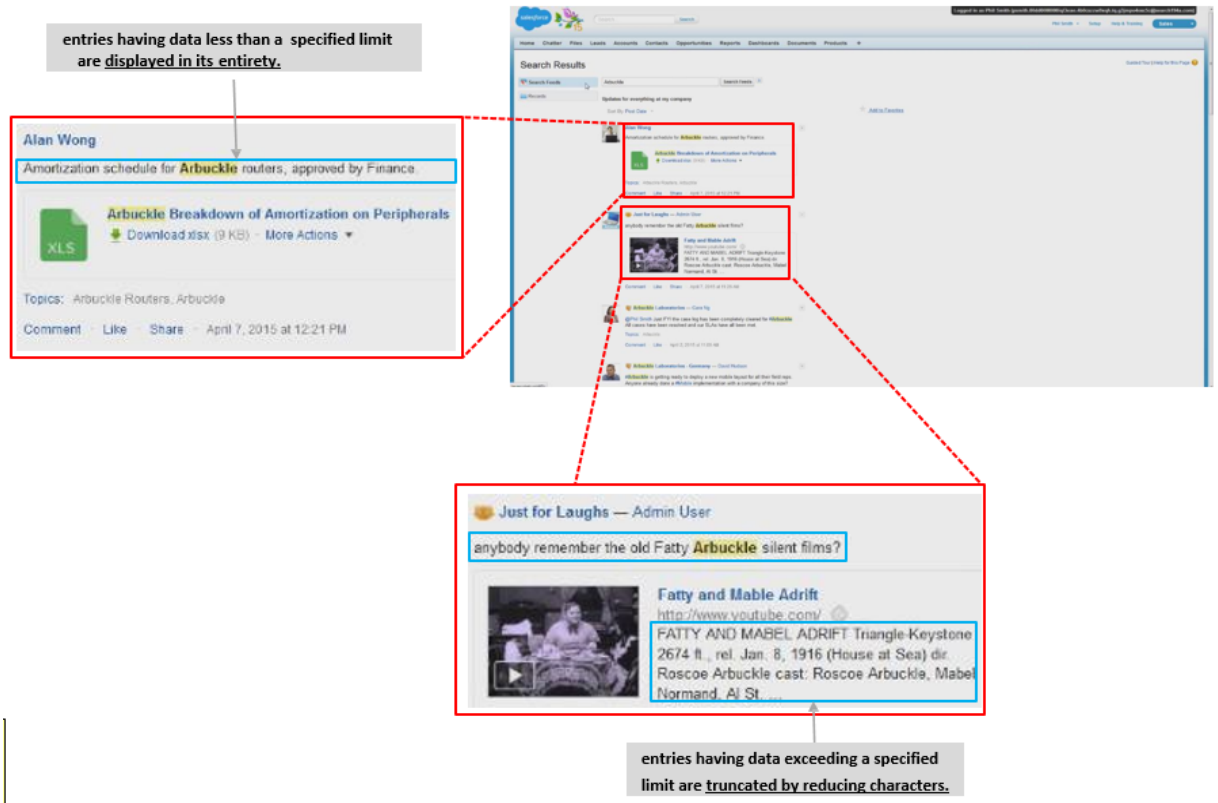

Source: https://www.youtube.com/watch?v=NZWsrL1N3AE at 2:18 of 4:35

Based on the keyword ("Arbuckle") provided by the user in the search interface, a search selection is received by the database and a result set is generated. This result set contains not only the data fields that contain this term but also other related data fields like time of feed, user of the feed, attachments, etc.

21. The third limitation of claim 3, "determining a first quantity indicative of a number of entries of the selected data field," is met by Salesforce:




22. Claim 3, limitation 4, "if the first quantity exceeds a specified limit, reducing a size of data to be displayed from the elected data field, wherein the reducing reduces characters in the selected data field and the size-reduced data represents each of the entries in the selected field," is met by Salesforce:




Source: https://www.youtube.com/watch?v=NZWsrL1N3AE at 2:18 of 4:35

In the Salesforce system, if the number of characters in each search result is more than the specified number of characters that can be displayed on screen, then the characters of the result are truncated until the number of characters is less than or equal to the specified amount. The truncated characters are represented by ellipses ("…") following the last of the characters. If the number of characters in the result is less than or equal to the specified numbers, then the result is displayed in its entirety without truncation.

23. Claim 3, limitation 5, "displaying data from the selected data fields," is met by Salesforce. See paragraph 22, above.

24. Further support for the allegations of infringement of the '720 Patent may be found in the chart attached as Exhibit B (DOC 1_2).

25. These allegations of infringement are preliminary and are therefore subject to change.

26. Defendant's infringing actions are without license and authorization.

27. Besides direct infringement, Defendant induced others to infringe the '720 Patent claims. Defendant actively encouraged or instructed others (e.g., its customers and/or the customers of its related companies) on how to use its products and services (e.g., via Salesforce Search implementing a method to retrieve, and search records, generate results, and display results) and related products and services such as to cause infringement of one or more of claims 1-39 of the '720 patent, literally or under the doctrine of equivalents. Defendant encouraged and instructed others on how to use the products showing specific intent. Moreover, Defendant knew of the '720 patent and the technology underlying it from at least February 15, 2017, making Defendant's infringement willful.[1] For clarity, direct infringement is previously alleged in this complaint.

28. Defendant contributorily infringed the claims of the '720 Patent. Defendant actively encouraged or instructed others (e.g., its customers and/or the customers of its related companies), and continues to do so, on how to use its products and services (e.g., via Salesforce Search implementing a method to retrieve, and search records, generate results, and display results) and related products and services such as to cause infringement of one or more of claims of the '720 patent, literally or under the doctrine of equivalents. Defendant, from at least February 15, 2017, encouraged and instructed others on how to use the products showing specific intent. Further, there were no substantial non infringing uses for Defendant's products and services. For

[1] *See, e.g.*, paragraphs 8 – 10, above.

clarity, direct infringement is previously alleged in this complaint.

29. Defendant has caused Vilox damage by direct and indirect infringement of (including inducing infringement of) the claims of the '720 patent.

## V. INFRINGEMENT - Infringement of the '100 Patent

30. On March 6, 2007, U.S. Patent No. 7,188,100 ("the '100 patent", attached as Exhibit C) entitled "Search-on-the-Fly Report Generator," was duly and legally issued by the U.S. Patent and Trademark Office.

31. The '100 patent relates to a novel and improved method and apparatus for taking the results of a search using a search-on-the-fly search engine (or other search engine), generating a search result that includes descriptors of data categories, and creating a template that includes a link or path to one or more fields in one or more databases.

32. Salesforce makes, uses, sells and/or offers for sale within this District and elsewhere in the United States and/or imports into this District and elsewhere in the United States, products or services that, among other features, include receiving a database query, searching a database on-the-fly based on the query using a search-on-the-fly search engine (or other search engine), tweaking the received query to generate a defined query of the database, accessing the database using the defined query, generating a search result that includes descriptors of data categories, and creating a template that includes a link or path to one or more fields in one or more databases, including but not limited to the search features and report features of the Salesforce Report Builder, the Lightning Platform, List Views, and Visualforce, that infringed one or more of claims 1- 38 of the '100 patent, literally or under the doctrine of equivalents. Defendant put the inventions claimed by the '100 patent into service (i.e., used them); but for Defendant's actions, the claimed-invention embodiments involving Defendant's products and services would

never have been put into service. Defendant's acts complained of herein caused those claimed-invention embodiments as a whole to perform, and Defendant's procurement of monetary and commercial benefit from it.

33. Salesforce produces numerous software products, and provides data-related services using a network of remote servers. That is, Salesforce provides software as a service ("SAS") at a number of server farms located in the United States. Thus, Salesforce directly executes the software programs, such as the examples listed above in paragraph 32, and thus, Salesforce directly infringed several claims of the '100 Patent, including method claim 1.

34. The '100 Patent is provided in Exhibit C (DOC 1_3).

35. Claim 1 of the '100 Patent recites:

> A computer-based method for creating a data report, comprising:
>
> receiving a query, whereby the query comprises a data- base search request, and wherein the database is searched using an on-the-fly search;
>
> a query tweaker generating a defined query of the database from the received query, wherein generating the defined query includes the query tweaker performing transformations and corrections on the received query;
>
> accessing one or more databases, using a search engine, per the defined query;
>
> generating a search result based on the database access, wherein the search result includes one or more descriptors indicating corresponding data categories; and
>
> creating a template of the search result, wherein the template comprises links to the data categories described by the one or more descriptors.

36. The preamble of claim 1 recites "A computer-based method for creating a data report." Salesforce provides a "Report Builder" product:

## What is Report Builder?

The report builder screen lets you work with report fields and filters, and shows you a preview of your report with just some of the data.

Fields Pane (1)

The Fields pane displays fields from the selected report type, organized by folder. Find the fields you want using the Quick Find search box and field type filters, then drag them into the Preview pane to add them to the report.

Create, view, edit, and delete custom summary formulas and bucket fields in the Fields pane as well.

In the joined report format, the Fields pane displays fields from all report types added to the report, organized by report type.

Filters Pane (2)

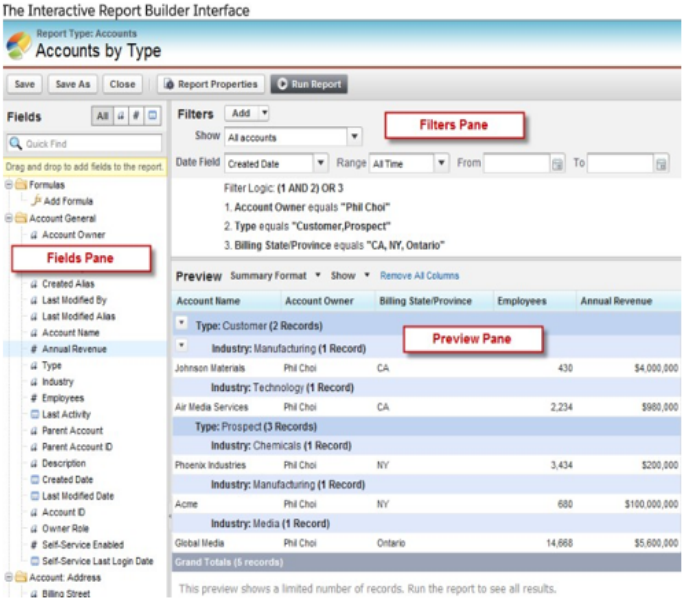
Set the view, time frame, and custom filters to limit the data shown in the report.

Preview Pane (3)

The dynamic preview makes it easy for you to customize your report. Add, reorder, and remove columns, summary fields, formulas, groupings, and blocks. Change the report format and display options, or add a chart.

The preview shows only a limited number of records. Run the report to see all your results.

The Interactive Report Builder Interface




Source: https://developer.salesforce.com/docs/atlas.en-us.salesforce_report_builder_impl_guide.meta/salesforce_report_builder_impl_guide/report_builder_impl_guide_overview.htm

## Using the Drag-and-Drop Report Builder

Report builder is a powerful visual editor for reports. You can create your entire report from this single interface.

Source: https://developer.salesforce.com/docs/atlas.en-us.salesforce_report_builder_impl_guide.meta/salesforce_report_builder_impl_guide/report_builder_impl_guide_overview.htm

Source: http://salesforce.vidyard.com/watch/9HiLP7WVAApjQHhyA9QRUQ
(Timestamp 03:35 of 03:49)

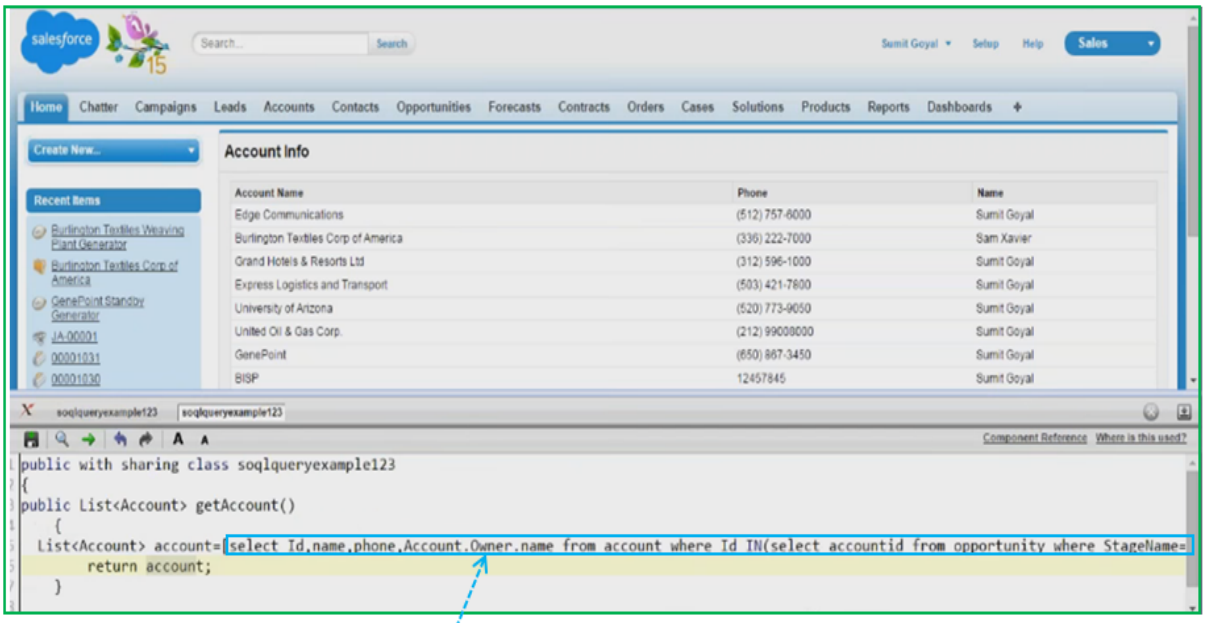
37. The first limitation of claim 1, "receiving a query, whereby the query comprises a database search request, and wherein the database is searched using an on-the-fly search," is met by Salesforce:

## What is Visualforce?

Visualforce is a framework that allows developers to build sophisticated, custom user interfaces that can be hosted natively on the Force.com platform. The Visualforce framework includes a tag-based markup language, similar to HTML, and a set of server-side "standard controllers" that make basic database operations, such as queries and saves, very simple to perform.

In the Visualforce markup language, each Visualforce tag corresponds to a coarse or fine-grained user interface component, such as a section of a page, a related list, or a field. The behavior of Visualforce components can either be controlled by the same logic that is used in standard Salesforce pages, or developers can associate their own logic with a controller class written in Apex.

Source: https://developer.salesforce.com/docs/atlas.en-us.pages.meta/pages/pages_intro_what_is_it.htm




Source: https://www.youtube.com/watch?v=_AxsqRrIJdc

## Salesforce Object Query Language (SOQL)

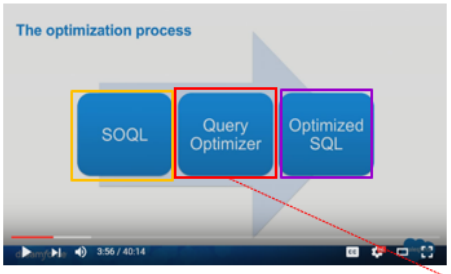
Use the Salesforce Object Query Language (SOQL) to search your organization's Salesforce data for specific information. SOQL is similar to the SELECT statement in the widely used Structured Query Language (SQL) but is designed specifically for Salesforce data.

Source: https://developer.salesforce.com/docs/atlas.en-us.soql_sosl.meta/soql_sosl/

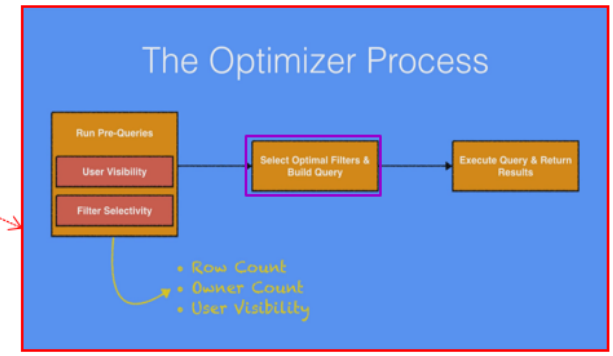
38. The second limitation of claim 1, "a query tweaker generating a defined query of the database from the received query, wherein the defined query includes the query tweaker performing transformations and corrections on the received query" is met by the Salesforce Query Optimizer:

The Salesforce Platform allows developers to build enterprise applications using Visualforce, Apex and SOQL. To ensure that your applications perform and scale as your business grows, you'll want to write efficient and selective queries. The Force.com query optimizer uses several algorithms to determine the best SQL to generate from your SOQL. Some factors involved in this process include multitenancy, metadata and indexes.

Source: https://developer.salesforce.com/page/Webinar:_Inside_the_Force.com_Query_Optimizer_(2013-Apr)




Source: https://www.youtube.com/watch?v=uyyXdElieN4

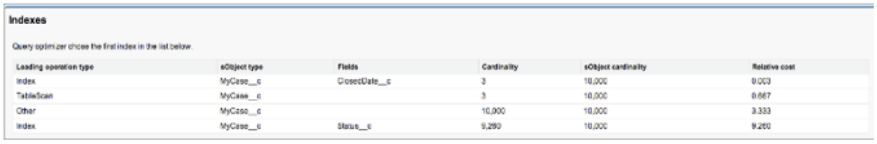



Source: https://www.youtube.com/watch?v=hnOui3qYZ88

## Composite Index Joins

Assume that you also created a custom index on the ClosedDate__c field. Look at what happens if you add a filter on this field to your query.

```
1 SELECT Id FROM MyCase__c WHERE Status__c = 'Closed' AND ClosedDate__c = 2014-01-01
```



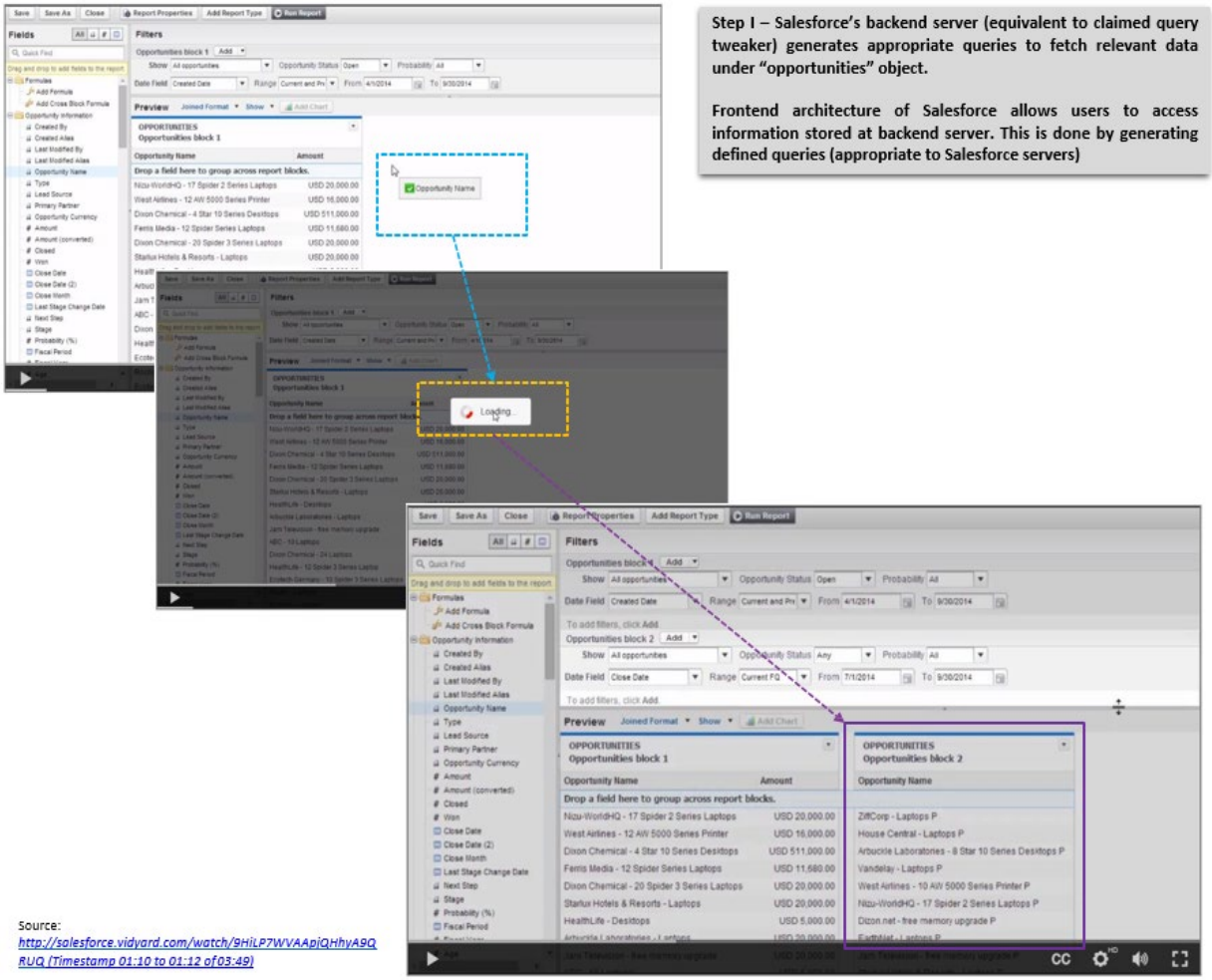

The Force.com query optimizer chose the index on ClosedDate__c as the most efficient index. Notice that it also considered a TableScan and the index that's on Status__c. There was also another choice labeled Other, which again can represent several types of internal operations.

The Force.com query optimizer's job is to analyze possible leading operation types and pick the one with the lowest cost. In this example, Other was a composite index join. Here, the optimizer looked at the intersection of both the Status__c and ClosedDate__c indexes.

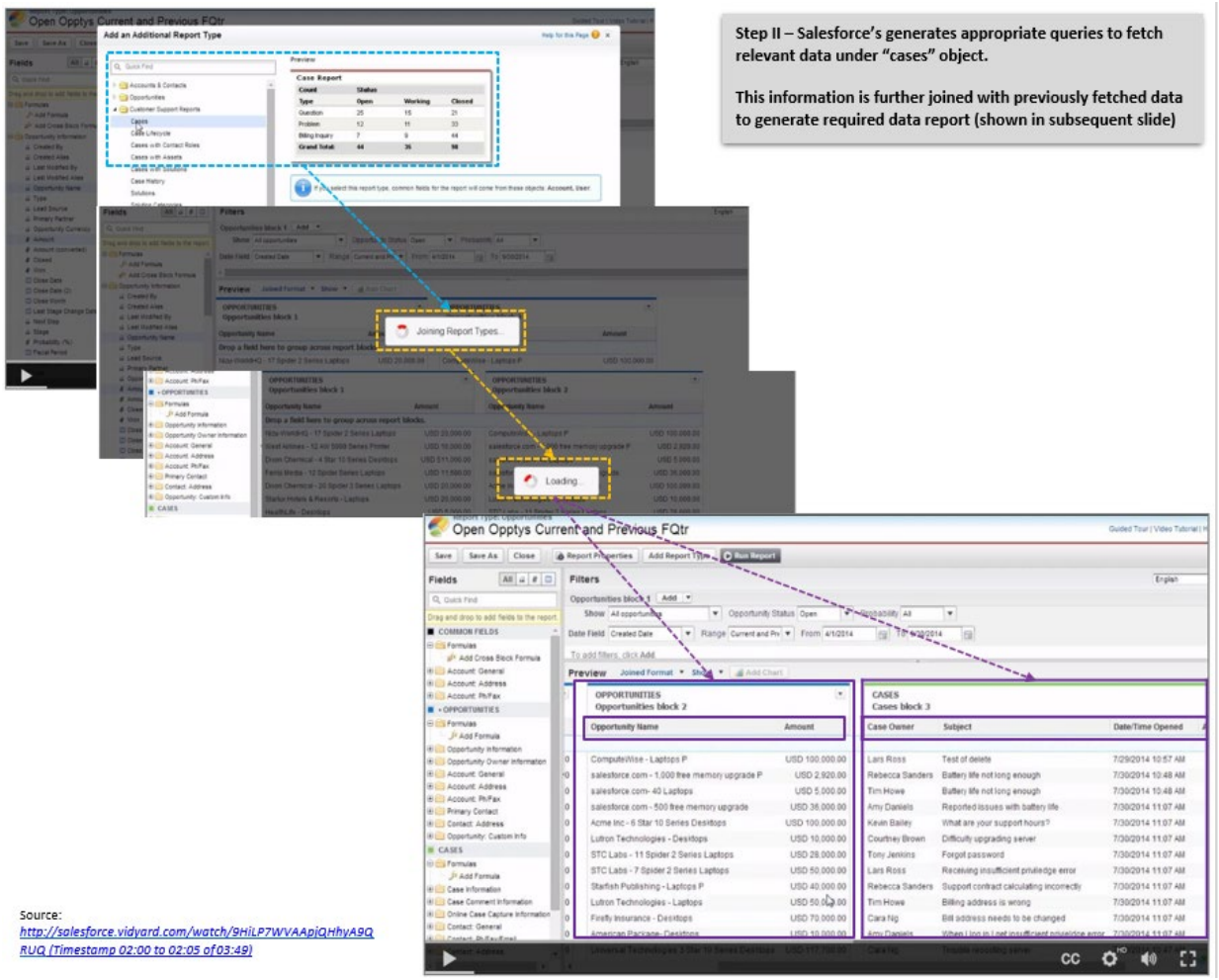
Source: https://developer.salesforce.com/page/Developing_Selective_Force.com_Queries_through_the_Query_Resource_Feedback_Parameter_Pilot

An SOQL query is received by the Salesforce query optimizer, and the query optimizer generates a search plan based on statistics of records in the databases and indexes in the SOQL query. The query optimizer calculates a cost for each operation type (e.g., indexed filter, full table scan, and joined indexed filter – i.e., "transformations"). In one aspect, the query is optimized based on a cost function; in another aspect, the query uses a composite join function.

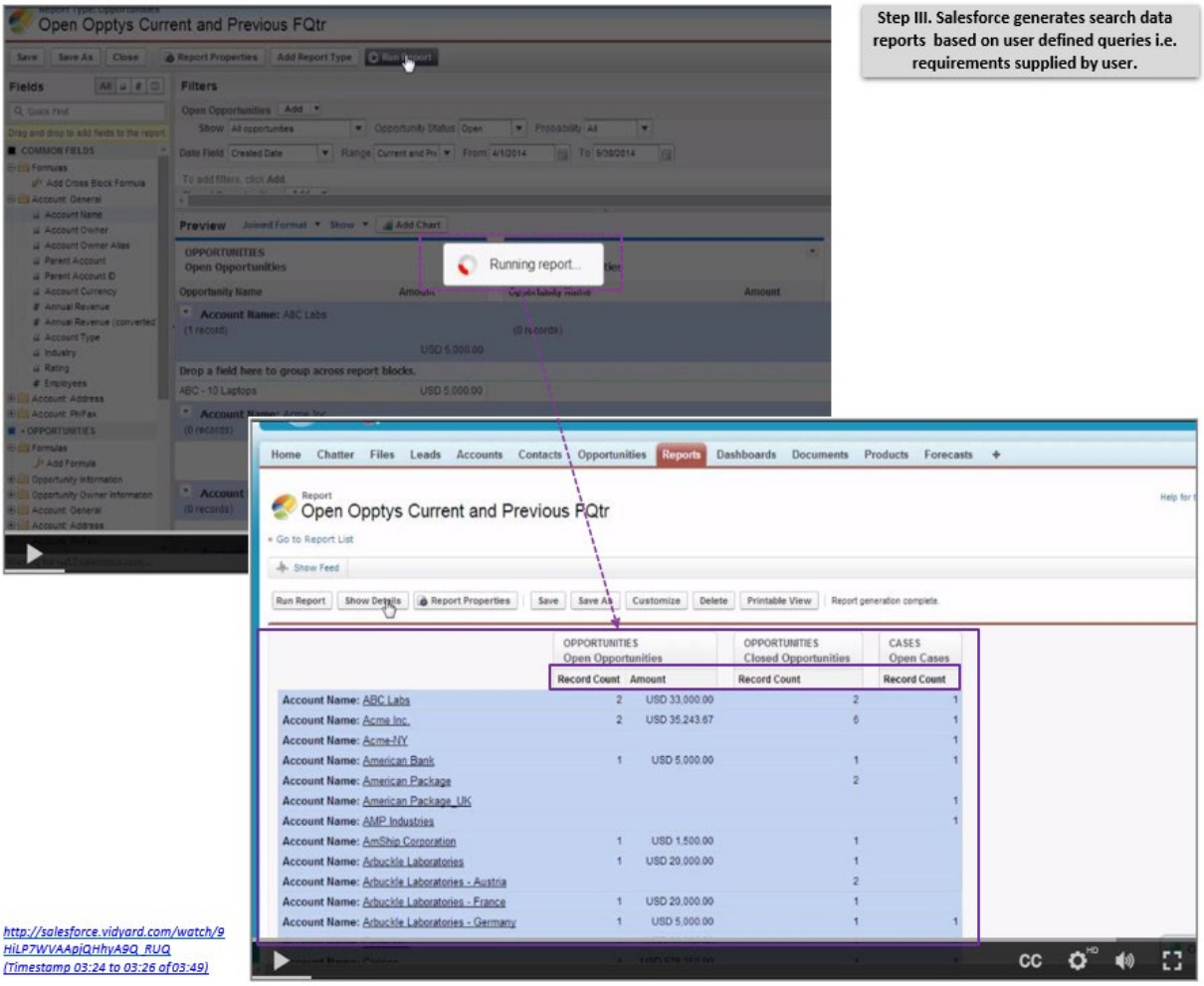
39. Furthermore, Salesforce provides a series of steps (e.g., steps I – III, shown below) to prepare (tweak) a query and to use the tweaked query, meeting limitations 2 - 4:


Step I – Salesforce's backend server (equivalent to claimed query tweaker) generates appropriate queries to fetch relevant data under "opportunities" object.
Frontend architecture of Salesforce allows users to access information stored at backend server. This is done by generating defined queries (appropriate to Salesforce servers)
Loading...
Source:
http://salesforce.vidyard.com/watch/9HiLP7WVAApjQHhvA9QRUQ (Timestamp 01:10 to 01:12 of 03:49)

Step I.


Step II – Salesforce's generates appropriate queries to fetch relevant data under "cases" object.
This information is further joined with previously fetched data to generate required data report (shown in subsequent slide)
Joining Report Types...
Loading...
Open Opptys Current and Previous FQtr
Source:
http://salesforce.vidyard.com/watch/9HiLP7WVAApjQHhyA9QRUQ (Timestamp 02:00 to 02:05 of 03:49)

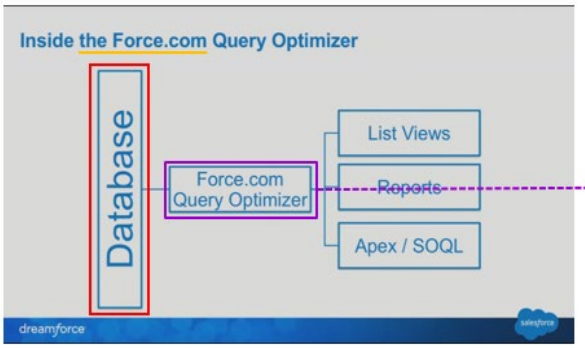
Step II.

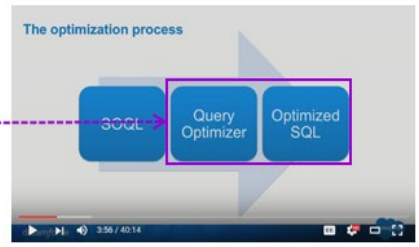



http://salesforce.vidyard.com/watch/9HiLP7WVAApjQHhyA9Q_RUQ (Timestamp 03:24 to 03:26 of03:49)

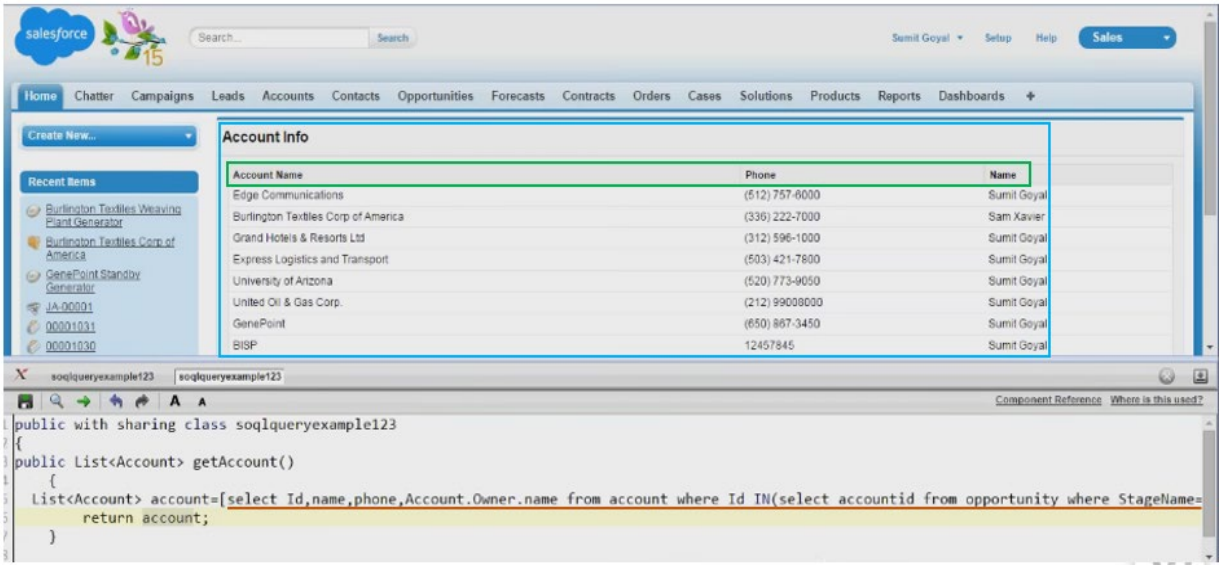
Step III.

40. The third and fourth limitations of claim 1, "accessing one or more databases, using the search engine, per the defined query; generating a search result based on the database access, wherein the search result includes one or more descriptors indicating corresponding data categories," are further met by the Salesforce optimized SQL (SOQL) process:




Source: https://www.youtube.com/watch?v=uyyXdElieN4




Source: https//www.youtube.com/watch?v=AxsqRrUdc

The optimized query generated by the query optimizer is used to search one or more databases. A search result is presented based on the optimized search. The search results consist of records with a name ("descriptor") of the data fields ("data categories).

41. Salesforce SOQL is used in multiple Salesforce applications:

## Salesforce Object Query Language (SOQL)

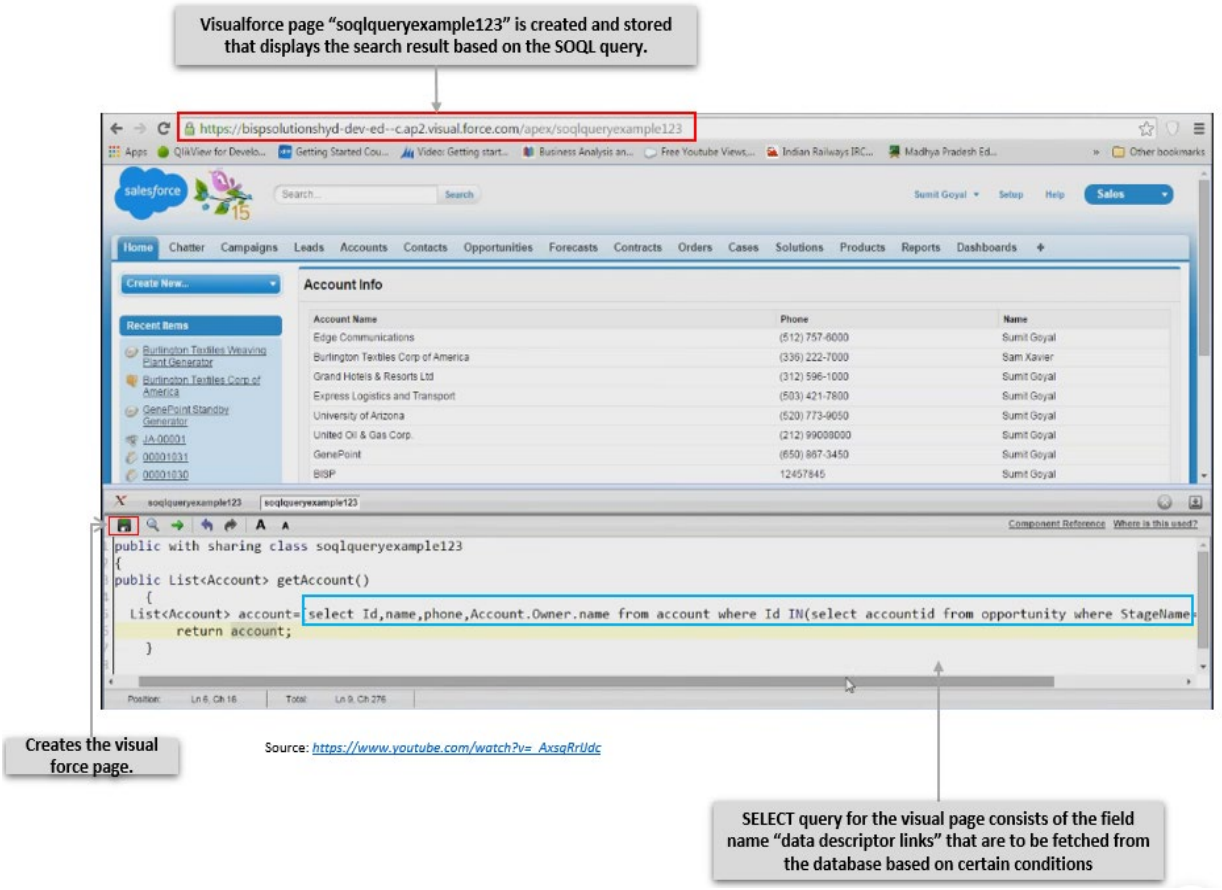
Use the Salesforce Object Query Language (SOQL) to search your organization's Salesforce data for specific information. SOQL is similar to the SELECT statement in the widely used Structured Query Language (SQL) but is designed specifically for Salesforce data.

With SOQL, you can construct simple but powerful query strings in the following environments:

- In the queryString parameter in the query() call
- In Apex statements
- In Visual force controllers and getter methods
- In the Schema Explorer of the Force.com IDE

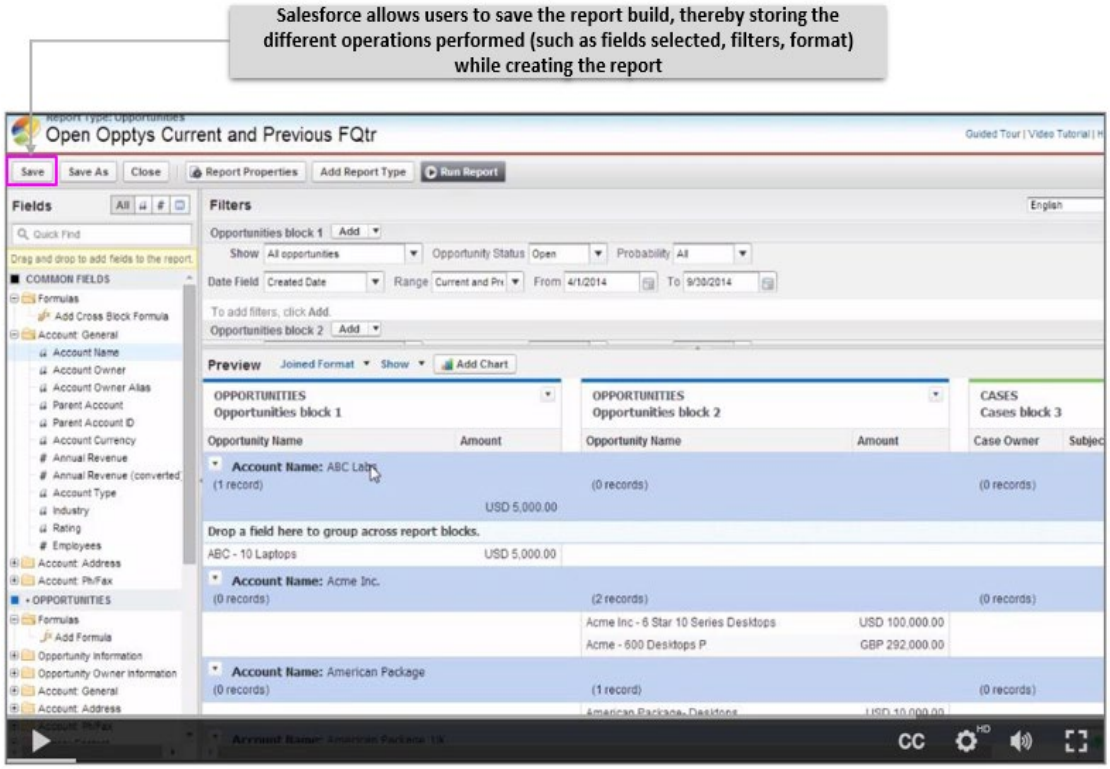
Source: https//www.youtube.com/watch?v=AxsqRrUdc

42. The fifth limitation of claim 1, "creating a template of the search result, wherein the template comprises links to the data categories described by the one or more descriptors," is met by Salesforce:



The visual force page ("template') is created and contain the apex code and the SOQL query associated with the page. The SOQL query consists of links to data fields ("data descriptors").

43. Salesforce allows users to save the report:




Source: http://salesforce.vidyard.com/watch/9HiLP7WVAApjQHhyA9QRUQ (Timestamp 03:18 to 03:26 of 03:49)

44. Further support for the allegations of infringement may be found in the chart attached as Exhibit D (DOC 1_4).

45. These allegations of infringement are preliminary and are therefore subject to change.

46. Defendant's infringing actions are without license and authorization.

47. Defendant induced others to infringe the '100 Patent claims. Defendant actively encouraged or instructed others (e.g., its customers and/or the customers of its related companies), and continues to do so, on how to use its products and services (e.g., utilizing search features and

report features embodied in Defendant's products or services including but not limited to Salesforce Report Builder, the Lightning Platform, and/or Visualforce, for receiving a search request, searching a database on-the-fly based on the query using a search- on-the-fly search engine (or other search engine), tweaking the received query to generate a defined query of the database, accessing the database using the defined query, generating a search result that includes descriptors of data categories, and creating a template that includes a link or path to one or more fields in one or more databases) and related products and services such as to cause infringement of one or more of claims 1-38 of the '100 patent, literally or under the doctrine of equivalents. Defendant, from at least February 15, 2017, encouraged and instructed others on how to use the products showing specific intent. Moreover, Defendant has known of the '100 patent and the technology underlying it from at least February 15, 2017. For clarity, direct infringement is previously alleged in this complaint.

48. Defendant contributorily infringed the '100 Patent claims. Defendant actively encouraged or instructed others (e.g., its customers and/or the customers of its related companies), and continues to do so, on how to use its products and services (e.g., utilizing search features and report features embodied in Defendant's products or services including but not limited to Salesforce Report Builder, the Lightning Platform, and/or Visualforce, for receiving a search request, searching a database on-the-fly based on the query using a search-on-the-fly search engine (or other search engine), tweaking the received query to generate a defined query of the database, accessing the database using the defined query, generating a search result that includes descriptors of data categories, and creating a template that includes a link or path to one or more fields in one or more databases) and related products and services such as to cause infringement of one or more of claims of the '100 patent, literally or under the doctrine of

equivalents. Defendant, from at least February 15, 2017, encouraged and instructed others on how to use the products showing specific intent. Further, there are no substantial noni fringing uses for Defendant's products and services. Moreover, Defendant knew of the '100 Patent and the technology underlying it from at least February 15, 2017. For clarity, direct infringement is previously alleged in this complaint.

49. Defendant caused Vilox damage by direct and indirect infringement of (including inducing infringement of) the claims of the '100 patent.

## VI. PATENT ELIGIBILITY

50. Patent eligibility generally requires a multi-step analysis of the claims. However, that analysis requires interpretations of the claims in light of the specification, as understood by a person of ordinary skill in the art.[2] At a first step of the process, "the claims are considered in their entirety to ascertain whether their character as a whole is directed to excluded subject matter."[3] However, "courts must be careful to avoid oversimplifying the claims by looking at them generally and failing to account for the specific requirements of the claims."[4]

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[2] *MyMail, Ltd. V. ooVoo, LLC*, 934 F.3d 1373, 1379, (Fed. Cir. 2019) ("Determining patent eligibility requires a full understanding of the basic character of the claimed subject matter"); *In re Bilski*, 545 F.3d 943, 951 (Fed. Cir. 2008) (*en banc*), *aff'd* by *Bilski v. Kappos*, 561 U.S. 593 (2010) ("claim construction … is an important first step in a § 101 analysis").

[3] *Internet Patents Corp, v. Active Network, Inc.*, 790 F.3d 1343, 1346 (Fed. Cir. 2015); *see also Affinity Labs of Texas, LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1257 (Fed. Cir. 2016) ("*DIRECTV*") ("The 'abstract idea' step of the inquiry calls upon us to look at the 'focus of the claimed advance over the prior art' to determine if the claim's 'character as a whole' is directed to excluded subject matter.").

[4] *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1313 (Fed. Cir. 2016) (internal quotation marks omitted). "At step one, therefore, it is not enough to merely identify a patent-ineligible concept underlying the claim; [courts] must determine whether that patent-ineligible concept is what the claim is 'directed to.'" *Rapid Litig. Mgmt. Ltd. v. CellzDirect, Inc.*, 827 F.3d 1042, 1050 (Fed. Cir. 2016).

51. At a second step, the court must "look to both the claim as a whole and the individual claim elements" to determine whether they "amount[ ] to significantly more than a patent upon the ineligible concept itself"[5] "Simply appending conventional steps, specified at a high level of generality, [is] not enough to supply an inventive concept."[6] Instead, the claim elements must involve more than performance of "well-understood, routine, [and] conventional activities previously known to the industry."[7] "The inventive concept inquiry requires more than recognizing that each claim element, by itself, was known in the art. . . . [A]n inventive concept can be found in the non-conventional and non-generic arrangement of known, conventional pieces."[8] Moreover, "[w]hether something is well-understood, routine, and conventional to a skilled artisan at the time of the patent is a factual determination. Whether a particular technology is well-understood, routine, and conventional goes beyond what was simply known in the prior art. The mere fact that something is disclosed in a piece of prior art, for example, does not mean it was well-understood, routine, and conventional."[9]

52. Finally, at the pleading stage, dismissal "under § 101" may be appropriate "only when there are no factual allegations that, taken as true, prevent resolving the eligibility question as a matter of law."[10] "If there are claim construction disputes at the Rule 12(b)(6) state, we have held that either the court must proceed by adopting the non-moving party's constructions, or the

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[5] *McRO*, 837 F.3d at 1312.
[6] *Alice*, 573 U.S. at 222.
[7] *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1367 (Fed. Cir. 2018) (citation and internal quotation marks omitted); *see also Mayo*, 566 U.S. at 73.
[8] *BASCOM Glob. Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1350 (Fed. Cir. 2016).
[9] *Berkheimer*, 881 F.3d, 1369 (emphasis added).
[10] *Aatrix Software, Inc. v. Green Shades Software, Inc.*, 882 F.3d 1121, 1125 (Fed Cir. 2018).

court must resolve the disputes to whatever extent is needed to conduct the § 101 analysis."[11] To evaluate whether asserted claims satisfy *Alice*'s second step of "search[ing] for an 'inventive concept,'"[12] a court considers "the elements of each claim both individually and as an ordered combination to determine whether the additional elements transform the nature of the claim into a patent-eligible application."[13] While a court may determine patent eligibility at the Rule 12(b)(6) stage, it is "only when there are no factual allegations that, taken as true, prevent resolving the eligibility question as a matter of law." "Plausible factual allegations may preclude dismissing a case under § 101."[14] All facts pertinent to the eligibility question must be proven by clear and convincing evidence.[15]

53. **'720 Patent**

54. Claim 3 of the '720 Patent is reproduced in paragraph 16, above. Considered as a whole, claim 3 is directed to displaying results of a database search, but with specific limitations that were, at the time of the patent, neither routine nor well-known, and that in addition, provide a technological solution to a problem with database searching. Furthermore, one or more of claim limitations are not abstract, and still further, the claim, as a whole improves the functioning of an underlying computer used to execute the method, as well as the functioning of a display upon which the search results are posted. Finally, claim 3 recites limitations that require claim interpretation such that dismissal at the pleadings stage is inappropriate without a formal hearing

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[11] *Id.* (internal citations omitted).
[12] *Alice*, 573 U.S. at 217, 134 S.Ct. 2347
[13] *BSG Tech LLC v. BuySeasons, Inc.*, 899 F.3d 1281, 1289 (Fed. Cir. 2018)
[14] *Aatrix Software, Inc. v. Green Shades Software, Inc.*, 882 F.3d 1121, 1125 (Fed. Cir. 2018).
[15] *HP Inc.*, 881 F.3d at 1368 citing *Microsoft Corp. v. i4i Ltd. P'ship*, 564 U.S. 91, 95 (2011).

in that respect.[16]

55. The penultimate limitation of claim 3 recites "if the first quantity exceeds a specified limit, reducing a size of data to be displayed from the selected database field wherein the reducing reduces characters in one or more entries in the selected data field and the size-reduced date [sic] represents each of the entries in the selected field." Within this limitation, the following terms require interpretation: (1) reducing "a size of data," and (2) "the size-reduced data represents each of the entries in the selected field." These two terms require interpretation because there is no plain and ordinary meaning for either, and thus, the terms require at least reference to the specification as the specification would have been understood by a POSITA.[17] Furthermore, Plaintiffs present herein factual allegations that the claimed combination is not well-understood, routine, or conventional, and thus patent eligibility "cannot be answered adversely to the patentee based on the sources properly considered on a motion to dismiss."[18]

56. **Reducing "a Size of Data"**

57. A "size of data" should be interpreted to mean how many data entries are returned as a result of the search. See DECL, ¶¶ 32 - 36. This is because the "data" are to be presented on a display for a human user to view, and the "data" to be presented must fit on the display. This interpretation coincides with the description at c

> In an embodiment (indeed, in the invention recited in claim 3 of the '720 Patent), the truncation process used by the truncator **152** assumes that if the

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[16] *Enovsys LLC v. Uber Techs., Inc*, 2024 U.S. Dist LEXIS 107339[*6]-[*7]; 2024 WL 3033995, CAND, June 17, 2024.

[17] *Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005).

[18] *Enovsys LLC*, at [*9] (citing *Aatrix Software*, 882 F.3d at 1128).

user requests all values in a particular data field from the database **12,** and there are no other constraints provided with the request **114,** and if the size of the resulting result list is larger than some numeric parameter related to a display size of the terminal **14,** then the constraints may be modified by the truncator **152** so that the result list can be accommodated (e.g., displayed on one page) by the terminal **14.** For example, instead of a full name of a city, some part of the name-the first n letters-is checked against the database **12** again, and n is reduced until the result list is small enough for the capacity of the terminal **14.** If the maximum number of displayable results is three (3), and the database **12** contains the names of six cities "Armandia, Armonk, New Orleans, New York, Riverhead, Riverdale," then the first attempt to "resolve" the result list will stop after a result list display is created with the full name of the cities:

Armandia, Armonk, New Orleans ... (the limit was reached) Try again with 7 characters:

Armandia, Armonk, New Ori, New Yor, (limit reached again).

Armandia, Armonk, New 0, New Y, (limit reached again) Again with 3 characters:

Arm ( ... ), New ( ... ), Riv ( ... ) These results may now be displayed on the terminal **14.**

The display of Arm, New, Riv can then be used to conduct a further search-on-the-fly. For example, a user could then select Riv for a further search-on-

the-fly. The result list returned would then list two cities, namely Riverhead and Riverdale. 7:10-43.

Thus, as clearly shown in the specification, and as recited in claim 3, if the data do not fit on the display, the "size" of the data is reduced. However, the "size" is not reduced by eliminating entries, but rather through a truncation scheme such as that disclosed above. and as shown for example, in Figure 11, reproduced below:

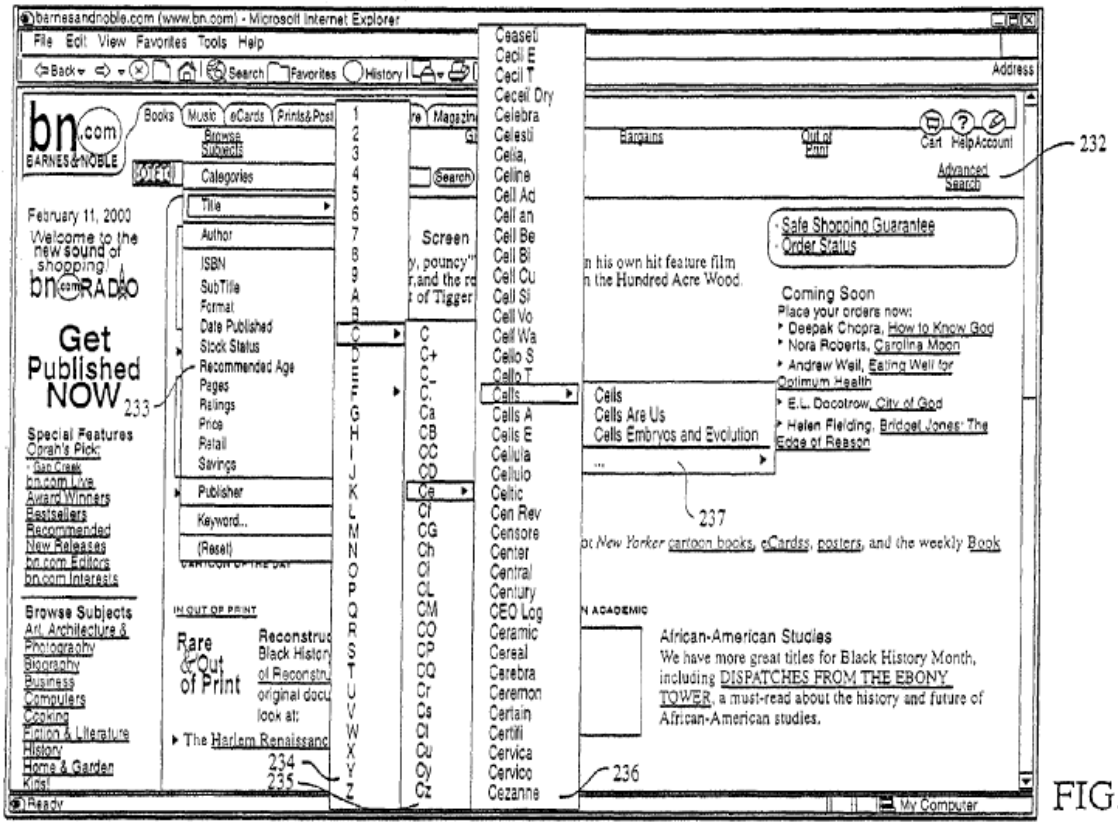


FIG. 11

Figure 11 shows an actual screen display of a search of a Barnes & Noble® online bookstore in 1999. Reference number 223 (window 233) points to data fields available for search, and the user has selected Title, which returns search results as the alphanumeric spectrum, since the list of titles is too large to display, and the Search-on-the-Fly program executes a truncation operation that produces a representation of every title in the Barnes & Noble® online bookstore.

As can be seen in Figure 11, the user executes further iterative searching until three book titles, all related to "cells" (that is, the title starts with "Cells"), is displayed in window 237. Figure 11 is, therefore, just a pictorial representation of the search and data sizing operation described in the specification at 7:10-43. Thus, the claim recites operations that fit data to a display while retaining in the search results, a representation of each entry in the selected database field. These operations provide technological improvements over search engine technology as existing at the time of the '720 Patent.

58. Furthermore, and in contrast to the Reply (DOC 79), page 4, this limitation is NOT written in "functional" terms. Rather, the limitation recites "reducing [the size of the data] reduces characters in one or more entries." That is, the limitation contains a concrete, exact step for reducing "the size of the data," namely by "reducing characters." This character reduction process is seen clearly in the '720 Patent, DOC 1_1; 7:10-43, as noted in paragraph 57 above. Furthermore, the novelty, utility, and importance of character reduction will be appreciated when viewed in conjunction with the second term of this claim limitation.

59. **"The Size-Reduced Data Represents Each of the Entries in the Selected Field"**

60. As explained in the DECL, ¶¶8 – 20 and ¶36, and as shown and discussed above in paragraphs 57 and 58 above, a process that retains a representation of each entry in the selected field allows for recognition of specific entries, employment of the iconic value of the alpha-numeric spectrum, and further, use of exclusion (i.e., the absence of a representational value for an entry as an indication that such an entry does not exist in the selected field). As Figure 11 illustrates, each successive (iterative) search of the database produces a representation of each entry returned from the selected data field.

61. **'100 Patent**

62. Claim 1 of the '100 Patent is reproduced in paragraph 35, above, and is provided in DOC 1_3; 30:20-36. Claim 1 recites at least two limitations that, when properly construed using the *Phillips* framework[19] are (1) non-abstract (2) represent inventive concepts, (3) are non-routine, not well known, and non-conventional, and (4) improve the operation of the underlying computer. The limitations are (1) a query tweaker generating a defined query of the database from the received query … [by] performing transformations and corrections on the received query; and (2) creating a template of the search results … the template coprisin[ng] links to data categories described by the one or more descriptors.

63. **Query Tweaker**

64. The query tweaker is a software construct that takes in a query submitted by (typically) a human user. The query tweaker generates a defined query from the submitted query. How the query tweaker generates the defined query is explicitly recited in the claim limitation, namely, the concrete steps of transforming and correcting the submitted query: "

> a query tweaker generating a defined query of the database from the received query, wherein generating the defined query includes the query tweaker performing transformations and corrections on the received query. DOC 1_3, 30:25-28.

This claim limitation is NOT merely functional, but rather recites concrete actions that a POSITA would understand change the submitted query to a query more appropriate for the data fields being searched so as to better identify the intended subject matter of the submitted query. The '100 Patent recites:

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[19] *Phillips,* 415 F.3d at 1314.

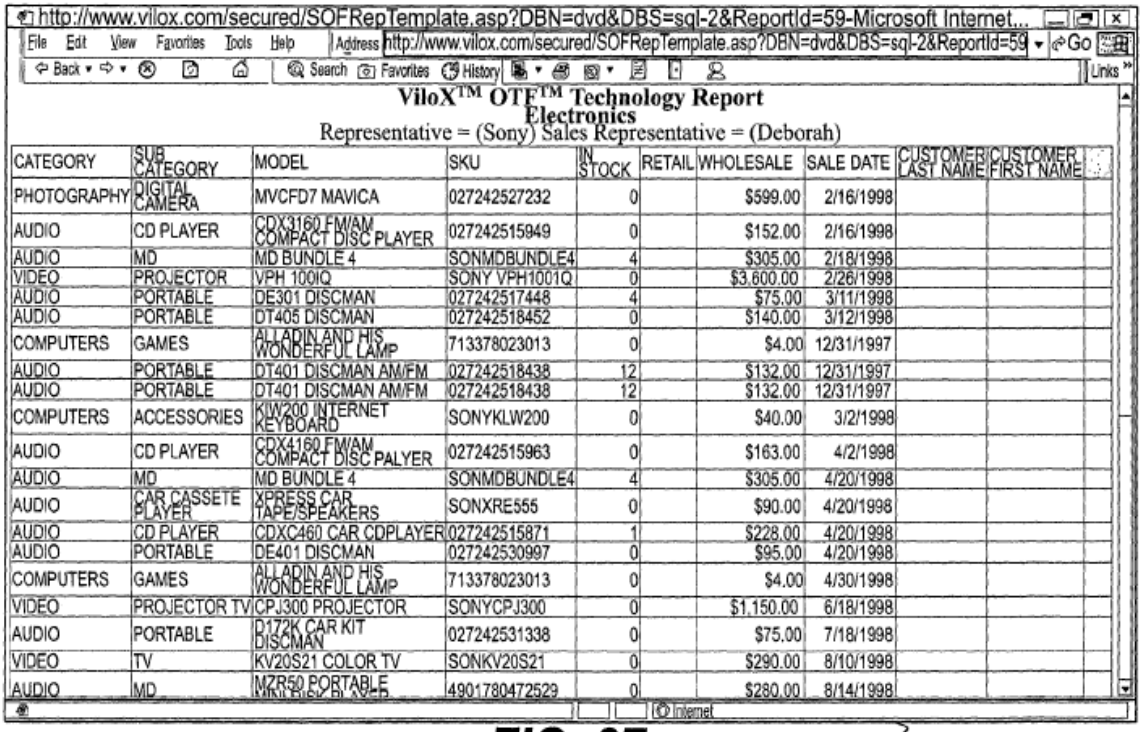
FIG. **37** illustrates a report **770,** associated with the raw data and template **872** of FIG. **36.** The example report **770,** shown in FIG. **37** relates to retail sales of Sony® brand electronics and related products by a specific sales representative, Deborah. To generate the report, the query tweaker **873** receives a new query on the databases **12, 13,** and **15.** The query tweaker **873** then performs any desired transformations, including setting up types of JOIN operations according to the architecture of the databases **12, 13,** and **15;** applying any filters and plug-ins; and applying any GROUP BY clauses. The transformed query is then sent to the database accessor **871,** which runs the transformed query against the database. In the process of accessing the databases **12, 13** and **15,** the database accessor **871** passes a recorded object to the formatter **877,** which filters records from the databases **12, 13,** and **15.** The formatter **877** formats the records using information from the fields metadata and the plug-ins. The report **770,** can then be displayed and printed. DOC 1_3, 26:20-38.

Figure 37 is illustrated below, in paragraph 66.

Thus, the specification clearly supports that query tweaker adapts a submitted query to be appropriate for the specific data fields being searched, which results in a more efficient and more likely to return the results desired by the human user. Furthermore, as provided in the Declaration, at the time of the '100 Patent, no mechanism existed to "perform transformations and corrections" on a submitted query. Thus, in addition to being novel and non-obvious, the query tweaker was not routine, conventional, or well known.

65. **Creating a Template Comprising Links to Data Categories**

66. The claimed "templates" with "links to data categories" overcame technological problems inherent with database search and subsequent generation of reports based on the search results. Figure 37 illustrates an example report, and report template (see table header: "SOFRepTemplate…":




| CATEGORY | SUB CATEGORY | MODEL | SKU | IN STOCK | RETAIL | WHOLESALE | SALE DATE | CUSTOMER LAST NAME | CUSTOMER FIRST NAME |
|---|---|---|---|---|---|---|---|---|---|
| PHOTOGRAPHY | DIGITAL CAMERA | MVCFD7 MAVICA | 027242527232 | 0 | | $599.00 | 2/16/1998 | | |
| AUDIO | CD PLAYER | CDX3160 FM/AM COMPACT DISC PLAYER | 027242515949 | 0 | | $152.00 | 2/16/1998 | | |
| AUDIO | MD | MD BUNDLE 4 | SONMDBUNDLE4 | 4 | | $305.00 | 2/18/1998 | | |
| VIDEO | PROJECTOR | VPH 100IQ | SONY VPH1001Q | 0 | | $3,600.00 | 2/26/1998 | | |
| AUDIO | PORTABLE | DE301 DISCMAN | 027242517448 | 4 | | $75.00 | 3/11/1998 | | |
| AUDIO | PORTABLE | DT405 DISCMAN | 027242518452 | 0 | | $140.00 | 3/12/1998 | | |
| COMPUTERS | GAMES | ALLADIN AND HIS WONDERFUL LAMP | 713378023013 | 0 | | $4.00 | 12/31/1997 | | |
| AUDIO | PORTABLE | DT401 DISCMAN AM/FM | 027242518438 | 12 | | $132.00 | 12/31/1997 | | |
| AUDIO | PORTABLE | DT401 DISCMAN AM/FM | 027242518438 | 12 | | $132.00 | 12/31/1997 | | |
| COMPUTERS | ACCESSORIES | KIW200 INTERNET KEYBOARD | SONYKLW200 | 0 | | $40.00 | 3/2/1998 | | |
| AUDIO | CD PLAYER | CDX4160 FM/AM COMPACT DISC PALYER | 027242515963 | 0 | | $163.00 | 4/2/1998 | | |
| AUDIO | MD | MD BUNDLE 4 | SONMDBUNDLE4 | 4 | | $305.00 | 4/20/1998 | | |
| AUDIO | CAR CASSETE PLAYER | XPRESS CAR TAPE/SPEAKERS | SONXRE555 | 0 | | $90.00 | 4/20/1998 | | |
| AUDIO | CD PLAYER | CDXC460 CAR CDPLAYER | 027242515871 | 1 | | $228.00 | 4/20/1998 | | |
| AUDIO | PORTABLE | DE401 DISCMAN | 027242530997 | 0 | | $95.00 | 4/20/1998 | | |
| COMPUTERS | GAMES | ALLADIN AND HIS WONDERFUL LAMP | 713378023013 | 0 | | $4.00 | 4/30/1998 | | |
| VIDEO | PROJECTOR TV | CPJ300 PROJECTOR | SONYCPJ300 | 0 | | $1,150.00 | 6/18/1998 | | |
| AUDIO | PORTABLE | D172K CAR KIT DISCMAN | 027242531338 | 0 | | $75.00 | 7/18/1998 | | |
| VIDEO | TV | KV20S21 COLOR TV | SONKV20S21 | 0 | | $290.00 | 8/10/1998 | | |
| AUDIO | MD | MZR50 PORTABLE | 4901780472529 | 0 | | $280.00 | 8/14/1998 | | |

**FIG. 37** 770i

The various column headers and sub-headers (PHOTAGRAPHY, COMPUTERS, SKU, SALE DATE, each are linked to a respective database location such that subsequent report generation actions (i.e., searches) will query the same database locations as were used to produce the report of Figure 37, with only some portion of the data changing. Declaration ¶¶ 37-39, 49, and 50, explains that the claimed report templates overcame problems inherent in current search operation that, at the time, required construction of OLAP cubes, a computer-time consuming operation that was inflexible and required constructions of unique OLAP cubes for each search

query. Thus, use of the report templates improved operation of the underlying computer. The report templates include (referential) links to an underlying database (an aspect of the claims that Defendant ignores), making the report templates useable for subsequent search, which further reduces computer processing time and resources. The specification further discloses:

> The client side components **802** may be used to generate a report **770,** based on the template. The template acts as a road map to fields in the databases **12, 13** and **15.** Using the template, the front end **821** and/or the front end **823** are able to construct a search report **770,** using the latest data saved in the databases **12, 13** and **15.** Thus, the process of creating the report template provides for a dynamic report generating mechanism. However, the environment **800** is also capable of storing static reports generated by the front ends **821** and **823.** Any such static reports may also be searched using the OTFT search engine **125.** DOC 1_3, 24:2-12.

## VII. JURY DEMAND

67. Plaintiff hereby requests a trial by jury on issues so triable by right.

## VII. PRAYER FOR RELIEF

68. WHEREFORE, Plaintiff prays for relief as follows:

a. enter judgment that Defendant has infringed the claims of the ‘720 patent and the ’100 patent through using, selling, offering for sale, manufacturing, and inducing others to infringe by using and instructing to implement a method to retrieve, and search records using a search- on-the-fly search engine (or other search engine), generating a search result that includes descriptors of data categories, and creating a template that includes a link or path to one or more filed in one or more databases;

b. award Plaintiff damages in an amount sufficient to compensate it for Defendant's infringement of the Patents-in-Suit in an amount no less than a reasonable royalty or lost profits, together with pre-judgment and post-judgment interest and costs under 35 U.S.C. § 284;

c. award Plaintiff an accounting for acts of infringement not presented at trial and an award by the Court of additional damage for any such acts of infringement;

d. declare this case to be "exceptional" under 35 U.S.C. § 285 and award Vilox its attorneys' fees, expenses, and costs incurred in this action;

e. declare Defendant's infringement to be willful and treble the damages, including attorneys' fees, expenses, and costs incurred in this action and an increase in the damage award pursuant to 35 U.S.C. § 284; and

f. award Vilox such other and further relief as this Court deems just and proper.

Respectfully submitted,

**Ramey LLP**

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