

What is Claimed is:

1. A method for facilitating efficient indexing in a database, comprising:
maintaining, by a database system, a data table in the database, wherein the data table includes a first column for structured data supported by the database system and a second column for unstructured text, and wherein a first row of the data table includes a first piece of data in the first column and a second piece of data in the second column;

in response to the first row being generated, performing word segmentation on the second piece of data to generate a first set of semantically meaningful word segments, wherein a respective semantically meaningful word segment comprises a combination of one or more phrases from unstructured text in the second piece of data; and

generating, in an index table of the database, a set of index entries that points to the first row, wherein each index entry of the set of index entries corresponds to the row, wherein a respective index entry comprises an index generated using from the first piece of data stored in the first column of the first row, and wherein a respective index entry of the set of index entries comprises and a corresponding word segment of the first set of semantically meaningful word segments; and

in response to receiving a query to the database for the unstructured text, looking up, by the database system, a response to the query based on the index table.

2. The method of claim 1, wherein further comprising storing the set of index entries is stored in corresponding rows of the in an index table of the database.

3. The method of claim 1, wherein the data table further includes a third column for a primary key of the data table, and wherein a respective index entry of the set of index entries further corresponds to includes a third piece of data of the third column of the first row.

4. The method of claim 1, further comprising:
determining a piece of structured data and an unstructured text phrase from the a query with mixed parameters;
performing word segmentation on the unstructured text phrase to generate a second set of semantically meaningful word segments;
determining query keys for the query by querying the index table ~~the set of index entries~~ based on a combination of the piece of structured data and a respective word segment of the

second set of semantically meaningful word segments; and

obtaining a query response from the database by locating one or more rows corresponding to~~looking up~~ the query keys in the data table.

5 5. The method of claim 4, wherein determining the query keys further comprises:
 obtaining a plurality of sets of lookup keys from the set of index entries, wherein a
 respective set of lookup keys corresponds to the piece of structured data and a corresponding
 word segment of the second set of semantically meaningful word segments; and
 obtaining the query keys by determining an intersection of the plurality of sets of lookup
 10 keys.

6. The method of claim 1, further comprising updating the first row of the data table
 with a new piece of data for the first column by:
 deleting a respective index entry of the set of index entries;
 15 generating, in the index table, a second set of index entries that point~~corresponds~~ to the
first row, wherein ~~each a respective~~ index entry of the second set of index entries comprises an
 index generated from the new piece of data and wherein a respective index of the second set of
index entries includes~~and~~ a corresponding word segment of the first set of semantically
 meaningful word segments; and
 20 updating the first row with the new piece of data in the first column.

7. The method of claim 1, further comprising updating the first row of the data table
 with a new piece of data for the first column and a new phrase of unstructured text for the second
column by:
 25 deleting a respective index entry of the set of index entries;
 performing word segmentation on the new phrase of unstructured text to generate a third
 set of semantically meaningful word segments;
 generating, in the index table, a third set of index entries that point~~corresponds~~ to the
first row, wherein ~~each a respective~~ index entry of the third set of index entries comprises an
 30 index generated from the new piece of data, and wherein a respective index of the third set of
index entries includes~~and~~ a corresponding word segment of the third set of semantically
 meaningful word segments; and
 updating the first row with the new piece of data in the first column and the new phrase of
 unstructured text in the second column.

8. The method of claim 1, further comprising deleting the first row of the data table by:

deleting a respective index entry of the set of index entries; and

deleting the first row from the data table.

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9. The method of claim 1, wherein the second column is a target column that is ~~frequently~~ accessed by most queries to the data table of the database.

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10. The method of claim 1, wherein the database stores data associated with~~system~~ ~~facilitates~~ an online transaction processing (OLTP) service, and wherein the data table includes transaction records of the OLTP service.

11. A non-transitory computer-readable storage medium storing instructions that when executed by a computer, cause the computer to perform a method for facilitating efficient indexing in a database, the method comprising:

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maintaining a data table in the database, wherein the data table includes a first column for structured data and a second column for unstructured text, and wherein a first row of the data table includes a first piece of data in the first column and a second piece of data in the second column;

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in response to the first row being generated, performing word segmentation on the second piece of data to generate a first set of semantically meaningful word segments, wherein a respective semantically meaningful word segment comprises a combination of one or more phrases from unstructured text in the second piece of data; and

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generating, in an index table of the database, a set of index entries that ~~point~~corresponds to the first row, wherein ~~each a~~respective index entry of the set of index entries comprises an index generated using from the first piece of data stored in the first column of the first row, and wherein a respective index entry of the set of index entries ~~comprises~~and a corresponding word segment of the first set of semantically meaningful word segments; and

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in response to receiving a query to the database for the unstructured text, looking up, by the database system, a response to the query based on the index table.

12. The non-transitory computer-readable storage medium of claim 11, wherein the ~~method further comprises storing the set of index entries~~ is stored in corresponding rows of the ~~in~~ ~~an~~ index table of the database.

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13. The non-transitory computer-readable storage medium of claim 11, wherein the data table further includes a third column for a primary key of the data table, and wherein a respective index entry of the set of index entries further corresponds to~~includes~~ a third piece of data of the third column of the first row.

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14. The non-transitory computer-readable storage medium of claim 11, wherein the method further comprises:

determining a piece of structured data and an unstructured text phrase from ~~a~~the query ~~with mixed parameters~~;

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performing word segmentation on the unstructured text phrase to generate a second set of semantically meaningful word segments;

determining query keys for the query by querying the index table~~set of index entries~~ based on a combination of the piece of structured data and a respective word segment of the second set of semantically meaningful word segments; and

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obtaining a query response from the database by locating one or more rows corresponding to~~looking up~~ the query keys in the data table.

15. The non-transitory computer-readable storage medium of claim ~~14~~11, wherein determining the query keys further comprises:

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obtaining a plurality of sets of lookup keys from the set of index entries, wherein a respective set of lookup keys corresponds to the piece of structured data and a corresponding word segment of the second set of semantically meaningful word segments; and

obtaining the query keys by determining an intersection of the plurality of sets of lookup keys.

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16. The non-transitory computer-readable storage medium of claim 11, wherein the method further comprises updating the first row of the data table with a new piece of data for the first column by:

deleting a respective index entry of the set of index entries;

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generating, in the index table, a second set of index entries that point to~~corresponds to~~ the first row, wherein ~~each a respective~~ index entry of the second set of index entries comprises an index generated from the new piece of data, and wherein a respective index of the second set of index entries includes~~and~~ a corresponding word segment of the first set of semantically meaningful word segments; and

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updating the first row with the new piece of data in the first column.

17. The non-transitory computer-readable storage medium of claim 11, wherein the method further comprises updating the first row of the data table with a new piece of data for the first column and a new phrase of unstructured text for the second column by:

deleting a respective index entry of the set of index entries;

5 performing word segmentation on the new phrase of unstructured text to generate a third set of semantically meaningful word segments;

generating, in the index table, a third set of index entries that ~~point~~corresponds to the first row, wherein ~~each a respective~~ index entry of the third set of index entries comprises an index generated from the new piece of data, and wherein a respective index of the third set of index entries includes ~~and~~ a corresponding word segment of the third set of semantically meaningful word segments; and

10 updating the first row with the new piece of data in the first column and the new phrase of unstructured text in the second column.

15 18. The non-transitory computer-readable storage medium of claim 11, wherein the method further comprises deleting the first row of the data table by:

deleting a respective index entry of the set of index entries; and

deleting the first row from the data table.

20 19. The non-transitory computer-readable storage medium of claim 11, wherein the second column is a target column that is ~~frequently~~ accessed by most queries to the data table of the database.

25 20. The non-transitory computer-readable storage medium of claim 11, wherein ~~thea~~ database stores data associated with ~~system maintaining the database facilitates~~ an online transaction processing (OLTP) service, and wherein the data table includes transaction records of the OLTP service.