CLAIMS

1. A document generation system comprising:

at least one memory configured to a store a program; and

at least one processor communicatively connected to the at least one memory and configured to execute the stored program to:

receive an indication of a type of a document to be generated, the type of the document defining a plurality of rules governing terms of the document;

receive a plurality of terms from a plurality of sources including at least a first set of terms of the document from a first source and a second set of terms of the document from a second source, wherein the first source is different from the second source;

convert the first set of terms into a first plurality of triples;

convert the second set of terms into a second plurality of triples;

apply the plurality of rules governing the terms of the document to the first plurality of triples and the second plurality of triples to generate a knowledge graph and determine whether the first set of terms is compatible with the second set of terms, wherein the first set of terms is determined to be compatible with the second set of terms in a case where the plurality of rules governing terms of the document is satisfied;

generate a reconciled knowledge graph by, in a case where at least one or more first terms of the first set of terms is non-compatible with one or more second terms of the second set of terms, reconciling at least one of the one or more first terms or the one or more second terms that are non-compatible in the generated knowledge graph until the first set of terms is compatible with the second set of terms; and

generate the document based at least on the reconciled knowledge graph.

2. The system according to claim 1, wherein, in the case where at least one or more first terms of the first set of terms is non-compatible with the one or more second terms of the second set of terms, the at least one processor is further configured to execute the stored program to:

receive historical data pertaining to compatible values for the at least one or more first terms non-compatible with the one or more second terms;

propose a change to at least one of the non-compatible one or more first terms or one or more second terms based on the received historical data pertaining to compatible values;

in a case where the proposed change is to the one or more first terms, transmit the proposed change to the one or more first terms to the first source and receive updated values for the one or more first terms from the first source; and

in a case where the proposed change is to the one or more second terms, transmit the proposed change to the one or more second terms to the second source and receive updated values for the one or more second terms from the second source.

3. The system according to claim 2, wherein the received historical data pertaining to compatible values includes one or more of a collection of past documents, legal rules representing domain knowledge, or information associated with a jurisdiction of the first source or the second source.

4. The system according to claim 1,

wherein the knowledge graph includes a first sub-graph representing the first set of terms from the first source and a second sub-graph representing the second set of terms from the second source, and

wherein the at least one processor is further configured to execute the stored program to:

apply the plurality of rules governing the terms of the document to the first sub-graph and the second sub-graph;

identify corresponding terms of the first sub-graph and the second sub-graph where equivalent values are provided as compatible; and

identify corresponding terms of the first sub-graph and the second sub-graph where non-equivalent values are provided as non-compatible.

5. A document generation system comprising:

at least one memory configured to a store a program; and

at least one processor communicatively connected to the at least one memory and configured to execute the stored program to:

receive an indication of a type of a document to be generated, the type of the document defining a plurality of rules governing terms of the document;

receive a plurality of terms from a plurality of sources including at least a first set of terms of the document from a first source and a second set of terms of the document from a second source, wherein the first source is different from the second source;

convert the first set of terms into a first plurality of triples;

convert the second set of terms into a second plurality of triples;

apply the plurality of rules governing the terms of the document to the first plurality of triples and the second plurality of triples to generate a knowledge graph including a first sub-graph representing the first set of terms from the first source and a second sub-graph representing the second set of terms from the second source and determine whether the first set of terms is compatible with the second set of terms, wherein corresponding terms of the first sub-graph and the second sub-graph where equivalent values are provided are identified as compatible, wherein corresponding terms of the first sub-graph and the second sub-graph where non-equivalent values are provided are identified as

non-compatible, and wherein the first set of terms is determined to be compatible with the second set of terms in a case where the plurality of rules governing terms of the document is satisfied;

in a case where at least one or more first terms of the first set of terms is non-compatible with one or more second terms of the second set of terms, reconcile at least one of the one or more first terms or the one or more second terms that are non-compatible in the generated knowledge graph until the first set of terms is compatible with the second set of terms by:

receiving historical data pertaining to compatible values for the at least one or more first terms non-compatible with the one or more second terms;

proposing a change to at least one of the non-compatible one or more first terms or one or more second terms based on the received historical data pertaining to compatible values;

in a case where the proposed change is to the one or more first terms, transmitting the proposed change to the one or more first terms to the first source and receiving updated values for the one or more first terms from the first source; and

in a case where the proposed change is to the one or more second terms, transmitting the proposed change to the one or more second terms to the second source and receiving updated values for the one or more second terms from the second source; and

generate the document based at least on the reconciled knowledge graph.

6. The system according to claim 5, wherein the historical data pertaining to compatible values includes one or more of a collection of past documents, legal rules representing domain knowledge, or information associated with a jurisdiction of the first source or the second source.

7. The system according to claims 1 or 5, wherein the plurality of rules governing the terms of the document are automatically extracted from a knowledge graph template associated with the type of the document to be generated.

8. The system according to claims 1 or 5, further including at least one data store configured to store a plurality of types of documents and an associated plurality of terms for each type of document of the plurality of types of documents,

wherein the at least one processor is further configured to execute the stored program to receive, as the plurality of terms, the associated plurality of terms for the indicated type of the document from the at least one data store.

9. The system according to claim 8, wherein the at least one data store is further configured to store an associated plurality of rules for each type of document of the plurality of types of documents, and

wherein the at least one processor is further configured to execute the stored program to validate the received plurality of terms by applying the associated plurality of rules for the indicated type of the document.

10. The system according to claim 1 or 5, wherein the at least one processor is further configured to execute the stored program to:

receive historical data pertaining to standardized values for compatible first terms and second terms;

compare the values of the compatible first terms and second terms with the standardized values in the historical data pertaining to standardized values; and

provide an alert in a case where the values of the compatible first terms and second terms deviate from the standardized values in the historical data pertaining to standardized values.

11. The system according to claim 10, wherein the historical data pertaining to standardized values includes one or more of a collection of past documents, legal

rules representing domain knowledge, or information associated with a jurisdiction of the first source or the second source.

12. The system according to claim 1 or 5,

wherein the terms of the document include negotiable terms and non-negotiable terms, and

wherein the knowledge graph is generated using one or more first triples of the first plurality of triples corresponding to the negotiable terms and one or more second triples of the second plurality of triples corresponding to the negotiable terms.

13. The system according to claims 1 or 5,

wherein the plurality of rules includes one or more first rules that determine whether the first set of terms is compatible with the second set of terms and one or more second rules that reconcile at least one of the one or more first terms or the one or more second terms that are non-compatible, and

wherein the at least one processor is further configured to execute the stored program to:

apply the one or more first rules to the generated knowledge graph before applying the one or more second rules to the generated knowledge graph.

14. The system according to claim 1 or 5, wherein the plurality of sources includes one or more of a user, a commercial entity, or a program configured to provide the terms of the document.

15. A method of generating a document, the method executable by a programmed processor, the method comprising:

receiving an indication of a type of a document to be generated, the type of the document defining a plurality of rules governing terms of the document;

receiving a plurality of terms from a plurality of sources including at least a first set of terms of the document from a first source and a second set of terms of the document from a second source, wherein the first source is different from the second source;

converting the first set of terms into a first plurality of triples;

converting the second set of terms into a second plurality of triples;

applying the plurality of rules governing the terms of the document to the first plurality of triples and the second plurality of triples to generate a knowledge graph and determining whether the first set of terms is compatible with the second set of terms, wherein the first set of terms is determined to be compatible with the second set of terms in a case where the plurality of rules governing terms of the document is satisfied;

generating a reconciled knowledge graph by, in a case where at least one or more first terms of the first set of terms is non-compatible with one or more second terms of the second set of terms, reconciling at least one of the one or more first terms or the one or more second terms in the generated knowledge graph that are non-compatible until the first set of terms is compatible with the second set of terms; and

generating the document based at least on the reconciled knowledge graph.

16. A method of generating a document, the method executable by a programmed processor, the method comprising:

receiving an indication of a type of a document to be generated, the type of the document defining a plurality of rules governing terms of the document;

receiving a plurality of terms from a plurality of sources including at least a first set of terms of the document from a first source and a second set of terms of the document from a second source, wherein the first source is different from the second source;

converting the first set of terms into a first plurality of triples;

converting the second set of terms into a second plurality of triples;

applying the plurality of rules governing the terms of the document to the first plurality of triples and the second plurality of triples to generate a knowledge graph including a first sub-graph representing the first set of terms from the first source and a second sub-graph representing the second set of terms from the second source and determining whether the first set of terms is compatible with the second set of terms, wherein corresponding terms of the first sub-graph and the second sub-graph where equivalent values are provided are identified as compatible, wherein corresponding terms of the first sub-graph and the second sub-graph where non-equivalent values are provided are identified as non-compatible, and wherein the first set of terms is determined to be compatible with the second set of terms in a case where the plurality of rules governing terms of the document is satisfied;

in a case where at least one or more first terms of the first set of terms is non-compatible with one or more second terms of the second set of terms, reconciling at least one of the one or more first terms or the one or more second terms in the generated knowledge graph that are non-compatible until the first set of terms is compatible with the second set of terms by:

receiving historical data pertaining to compatible values for the at least one or more first terms non-compatible with the one or more second terms;

proposing a change to at least one of the non-compatible one or more first terms or one or more second terms based on the received historical data;

in a case where the proposed change is to the one or more first terms, transmitting the proposed change to the one or more first terms to the first source and receiving updated values for the one or more first terms from the first source; and

in a case where the proposed change is to the one or more second terms, transmitting the proposed change to the one or more second

terms to the second source and receiving updated values for the one or more second terms from the second source; and

generating the document based at least on the reconciled knowledge graph.

17. A non-transitory computer readable storage medium configured to store a program that causes a programmed processor to execute a method of generating a document, the method comprising:

receiving an indication of a type of a document to be generated, the type of the document defining a plurality of rules governing terms of the document;

receiving a plurality of terms from a plurality of sources including at least a first set of terms of the document from a first source and a second set of terms of the document from a second source, wherein the first source is different from the second source;

converting the first set of terms into a first plurality of triples;

converting the second set of terms into a second plurality of triples;

applying the plurality of rules governing the terms of the document to the first plurality of triples and the second plurality of triples to generate a knowledge graph and determining whether the first set of terms is compatible with the second set of terms, wherein the first set of terms is determined to be compatible with the second set of terms in a case where the plurality of rules governing terms of the document is satisfied;

generating a reconciled knowledge graph by, in a case where at least one or more first terms of the first set of terms is non-compatible with one or more second terms of the second set of terms, reconciling at least one of the one or more first terms or the one or more second terms in the generated knowledge graph that are non-compatible until the first set of terms is compatible with the second set of terms; and

generating the document based at least on the reconciled knowledge graph.

18. A non-transitory computer readable storage medium configured to store a program that causes a programmed processor to execute a method of generating a document, the method comprising:

receiving an indication of a type of a document to be generated, the type of the document defining a plurality of rules governing terms of the document;

receiving a plurality of terms from a plurality of sources including at least a first set of terms of the document from a first source and a second set of terms of the document from a second source, wherein the first source is different from the second source;

converting the first set of terms into a first plurality of triples;

converting the second set of terms into a second plurality of triples;

applying the plurality of rules governing the terms of the document to the first plurality of triples and the second plurality of triples to generate a knowledge graph including a first sub-graph representing the first set of terms from the first source and a second sub-graph representing the second set of terms from the second source and determining whether the first set of terms is compatible with the second set of terms, wherein corresponding terms of the first sub-graph and the second sub-graph where equivalent values are provided are identified as compatible, wherein corresponding terms of the first sub-graph and the second sub-graph where non-equivalent values are provided are identified as non-compatible, and wherein the first set of terms is determined to be compatible with the second set of terms in a case where the plurality of rules governing terms of the document is satisfied;

in a case where at least one or more first terms of the first set of terms is non-compatible with one or more second terms of the second set of terms, reconciling at least one of the one or more first terms or the one or more second terms in the generated knowledge graph that are non-compatible until the first set of terms is compatible with the second set of terms by:

receiving historical data pertaining to compatible values for the at least one or more first terms non-compatible with the one or more second terms;

proposing a change to at least one of the non-compatible one or more first terms or one or more second terms based on the received historical data;

in a case where the proposed change is to the one or more first terms, transmitting the proposed change to the one or more first terms to the first source and receiving updated values for the one or more first terms from the first source; and

in a case where the proposed change is to the one or more second terms, transmitting the proposed change to the one or more second terms to the second source and receiving updated values for the one or more second terms from the second source; and

generating the document based at least on the reconciled knowledge graph.