Claims

1. In a digital medium classification environment, a method implemented by a computing device in which visual and non-visual semantic attributes are associated with a visual, the method comprising:

an input step in which a visual is input into an apparatus for processing a visual,

a preliminary visual processing step in which visual attributes of the visual are determined and synthesized into a preliminary visual attribute dataset,

a semantic concept processing step in which each of the attributes in the preliminary visual attribute dataset has semantic concept relationships associated with each of the attributes within the preliminary visual attribute dataset, and the attributes and associated relationships are synthesized into a semantic concept attribute dataset, wherein the semantic concept processing step associates hierarchical structures with the attributes of the preliminary visual attribute dataset by at least one of a hypernym/hyponym processing, wherein relevant hypernyms and/or hyponyms are applied to each attribute of the preliminary visual attribute dataset, a holonym/meronym processing, wherein relevant holonyms and/or meronyms are applied to each attribute of the preliminary visual attribute dataset, and a troponym processing, wherein relevant troponyms are applied to each attribute of the preliminary visual attribute dataset,

a semantic context processing step in which context-specific relationships between the attributes in the preliminary visual attribute dataset are determined and synthesized into a semantic context attribute dataset, and

a semantic instance processing step in which a user confirms semantic definitions of the visual based on processed attribute datasets at least from the preliminary visual attribute dataset, the semantic concept attribute dataset, and/or the semantic context attribute dataset,

wherein the preliminary visual processing step includes:

a preliminary semantic element processing, wherein the visual is processed and a dataset of preliminary semantic attributes describing visible semantics of the visual is generated,

at least one of a modified semantic element processing, wherein a dataset of modified semantic attributes is produced by removing unwanted preliminary semantic attributes from the dataset of preliminary semantic attributes and/or restricting specific preliminary attributes in the dataset of preliminary semantic attributes, and a new semantic element processing, wherein a dataset of new semantic attributes is produced by adding new semantic attributes to either the dataset of preliminary

semantic attributes or the dataset of modified semantic attributes, and

at least one consolidation processing for synthesizing the dataset of preliminary semantic attributes and at least one of the dataset of modified semantic attributes and the dataset of new semantic attributes into the preliminary visual attribute dataset by removing redundant attributes and grouping related groups of attributes.

2. The method according to Claim 1, wherein the method further includes a semantic marker processing step, wherein a semantic marker attribute dataset is produced by using semantic markers to describe natures of relationships determined in the semantic concept and/or semantic context processing step in specific terms, after the semantic context processing step.

3. The method according to Claim 2, wherein the method further includes a semantic realm processing step, wherein a semantic realm attribute dataset is produced by associating domains of knowledge with attributes in the preliminary visual attribute dataset, the semantic marker attribute dataset, and/or other domains of knowledge after the semantic marker processing step.

4. The method according to any of Claims 1 to 3, wherein the method further includes a semantic inheritance processing step, wherein relationships between a first set of attributes in the semantic concept attribute dataset and/or the semantic context attribute dataset are extended to other attributes in semantic relationships with attributes in the first set of attributes, wherein the first set of attributes and the other attributes are associated by the hierarchical structures, after the semantic context processing step.

5. The method according to any one of Claims 1 to 4, wherein the semantic instance processing step further includes making a selection of semantic entries based on definitions and/or assignments provided.

6. The method according to any one of claims 1 to 5, wherein the method further includes a lexical functions step for providing the semantic definitions with synonyms, antonyms, grammatical processing and/or foreign language processing.

7. A computing device capable of performing a method in which visual and non-visual semantic attributes are associated with a visual comprising:

an interface which allows a user to input a visual and provide feedback and settings,

a processor capable of performing at least:

a preliminary visual processing, wherein visual attributes of a visual are determined and synthesized into a preliminary visual attribute dataset, wherein the preliminary visual processing comprises at least one consolidation processing for synthesizing a dataset of preliminary semantic attributes and at least one of a dataset of modified semantic attributes and a dataset of new semantic attributes into the preliminary visual attribute dataset by removing redundant attributes and grouping related groups of attributes;

a semantic concept processing, wherein each of the attributes in the preliminary visual attribute dataset has semantic concept relationships associated with each of the attributes within the preliminary visual attribute dataset, and the attributes and associated relationships are synthesized into a semantic concept attribute dataset, wherein the semantic concept processing step associates hierarchical structures with the attributes of the preliminary visual attribute dataset by at least one of a hypernym/hyponym processing, wherein relevant hypernyms and/or hyponyms are applied to each attribute of the preliminary visual attribute dataset, a holonym/meronym processing, wherein relevant holonyms and/or meronyms are applied to each attribute of the preliminary visual attribute dataset, and a troponym processing, wherein relevant troponyms are applied to each attribute of the preliminary visual attribute dataset;

a semantic context processing, wherein context-specific relationships between the attributes in the preliminary visual attribute dataset are determined and synthesized into a semantic context attribute dataset; and

a semantic instance processing, wherein a user confirms semantic definitions of the visual based on processed attribute datasets at least from the preliminary visual attribute dataset, semantic concept attribute dataset, and/or the semantic context attribute dataset, and

a memory unit capable of storing processed datasets,

wherein the computing device is able to output the stored processor dataset results

to the interface in a manner that allows a user to confirm and/or add relevant visual and non-visual semantic attributes, and

wherein the computing device is also able to allow a user to remove irrelevant visual and non-visual semantic attributes from datasets when the user has the appropriate permissions.

8. The computing device according to Claim 7, wherein the processor is capable of running at least one of:

a semantic marker processing, wherein a semantic marker attribute dataset is produced by using semantic markers to describe natures of relationships determined in the semantic concept and/or semantic context processing in specific terms,

a semantic realm processing, wherein a semantic realm attribute dataset is produced by associating domains of knowledge with attributes in the preliminary visual attribute dataset, the semantic marker attribute dataset, and/or other domains of knowledge after the semantic marker processing,

a semantic inheritance processing, wherein relationships between a first set of attributes in the semantic concept attribute dataset and/or the semantic context attribute dataset are extended to other attributes in semantic relationships with attributes in the first set of attributes, wherein the first set of attributes and the other attributes are associated by the hierarchical structures,

a further semantic instance processing, wherein the user makes a selection of semantic entries based on definitions and/or assignments provided, and

a lexical functions processing for providing the semantic definitions with synonyms, antonyms, grammatical processing and/or foreign language processing.