

CLAIMS

1. A display method, comprising:
 - obtaining a design drawing comprising a plurality of display elements;
 - identifying attribute information of the display elements in the design drawing by using a target detection model trained based on a neural network, wherein the target detection model is obtained by at least replacing selective search in a Fast R-CNN neural network with a region proposal network (RPN);
 - generating a display diagram comprising standard display elements according to the attribute information;
 - receiving user-input data corresponding to the standard display elements in the display diagram to obtain a display data map; and
 - displaying the display data map on a screen.
2. The method according to claim 1, wherein the target detection model is obtained further by introducing an anchor box with a fixed position and a fixed size to the target detection model.
3. The method according to claim 1, wherein the method further comprises:
 - obtaining a display diagram sample carrying label information, wherein the label information comprises at least types of the display elements and positions and sizes of the display elements in the display diagram, wherein the display diagram sample comprises samples collected from different sources, including a first sample comprising color information and a second sample without color information; and
 - training the target detection model by using the display diagram sample to obtain the target detection model trained based on the neural network.
4. The method according to claim 1, wherein the attribute information of the display elements comprises at least types of the display elements and positions and sizes of the display elements in the design drawing, and the generating a display diagram comprising standard display elements according to the attribute information comprises:
 - obtaining the standard display elements of corresponding types according to the types of the display elements; and
 - arranging the standard display elements in a preset display screen according to the positions and the sizes of the display elements in the design drawing, to obtain the display diagram.
5. The method according to claim 4, wherein the arranging the standard display elements in a preset display screen according to the positions and the sizes of the display elements in the design drawing comprises:
 - determining whether the standard display elements arranged in the preset display screen are displayed in an overlapping manner; and
 - if there are standard display elements displayed in the overlapping manner, decreasing display proportions of the standard display elements that overlap with each other.
6. The method according to claim 3, wherein the first sample comprises a screenshot sample taken from screenshots, and the second sample comprises user-uploaded hand-drawn samples.
7. The method according to claim 1, wherein the method further comprises:
 - performing an adjustment operation on the standard display elements included in the display diagram according to a received adjustment instruction, wherein the adjustment operation comprises at least one operation of modifying type, position, size, and color of the standard display elements.
8. The method according to any of claims 1 to 7, wherein when the method is applied to a visualization large screen, the display elements are charts for displaying data; and
 - the generating a display diagram comprising standard display elements according to the

attribute information comprises:

- extracting corresponding standard charts from a preset component library according to attribute information of the charts; and

- generating the display diagram based on configuration information of the visualization large screen and the standard charts.

9. A display apparatus, comprising:

- an obtaining unit, configured to obtain a design drawing comprising a plurality of display elements;

- an identification unit, configured to identify attribute information of the display elements in the design drawing obtained by the obtaining unit by using a target detection model trained based on a neural network, wherein the target detection model is obtained by at least replacing selective search in a Fast R-CNN neural network with a region proposal network (RPN); and

- a generation unit, configured to generate a display diagram comprising standard display elements according to the attribute information obtained by the identification unit; and

- an adjustment unit configured to receive user-input data corresponding to the standard display elements in the display diagram to obtain a display data map,

- wherein the display apparatus is configured to display the display data map on a screen.

10. The apparatus according to claim 9, wherein the target detection model is obtained further by introducing an anchor box with a fixed position and a fixed size to the target detection model.

11. The apparatus according to claim 9, wherein the apparatus further comprises:

- a sample collection unit, configured to obtain a display diagram sample carrying label information, wherein the label information comprises at least types of the display elements and positions and sizes of the display elements in the display diagram, wherein the display diagram sample comprises samples collected from different sources, including a first sample comprising color information and a second sample without color information; and

- a model training unit, configured to train the target detection model by using the display diagram sample obtained by the sample collection unit to obtain the target detection model trained based on the neural network.

12. The apparatus according to claim 9, wherein the attribute information of the display elements comprises at least types of the display elements and positions and sizes of the display elements in the design drawing, and the generation unit comprises:

- an obtaining module, configured to obtain the standard display elements of corresponding types according to the types of the display elements; and

- a generation module, configured to arrange, in a preset display screen according to the positions and the sizes of the display elements in the design drawing, the standard display elements obtained by the obtaining module, to obtain the display diagram.

13. The apparatus according to claim 12, wherein the generation module is further configured to:

- determine whether the standard display elements arranged in the preset display screen are displayed in an overlapping manner; and

- if there are standard display elements displayed in the overlapping manner, decrease display proportions of the standard display elements that overlap with each other.

14. The apparatus according to claim 9, wherein the adjustment unit is further configured to perform, according to a received adjustment instruction, an adjustment operation on the standard display elements included in the display diagram obtained by the generation unit, wherein the adjustment operation comprises at least one operation of modifying type, position, size, and color of the standard display elements.

15. The apparatus according to any one of claims 9 to 14, wherein when the apparatus is applied to a visualization large screen, the display elements are charts for displaying data; and

the generation unit further includes:

the obtaining module configured to extract corresponding standard charts from a preset component library according to attribute information of the charts; and

the generation module configured to generate the display diagram based on configuration information of the visualization large screen and the standard charts.

16. The apparatus according to claim 11, wherein the first sample comprises a screenshot sample taken from screenshots, and the second sample comprises user-uploaded hand-drawn samples

17. A storage medium configured to store a computer program, wherein the computer program, when executed, controls a device in which the storage medium is located to perform the display method according to any one of claims 1 to 8.

18. An electronic device, wherein the electronic device comprises a processor and a memory, and the processor is configured to invoke program instructions in the memory, to perform the display method according to any one of claims 1 to 8.