Interior Decoration Design Based on AUTO-CAD

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Abstract. This paper mainly introduces various methods and techniques of drawing interior decoration design drawings by AutoCAD. The main contents include: the knowledge of the preparation of interior design drawings, basic knowledge of AutoCAD, AutoCAD function command for interior decoration design, fast drawing tool, drawing of main illustrations in decoration design, drawing of interior decoration design of residential buildings, elevation of interior decoration design for residential buildings, bedroom interior floor plan and decoration design drawing, bathroom floor plan and interior decoration design drawing, dining room floor plan and interior decoration design drawing, kitchen floor plan and interior decoration design drawing.

Introduction

Interior decoration design is the environmental design inside the building. It is a kind of artificial environment based on a certain building space, using technology and artistic factors. It is a perfect combination of the pursuit of multiple functions of the indoor environment, which fully meets the material and spiritual needs of people in their life and work[1-3]. Interior decoration design emphasizes the combination of science and art and emphasizes the design of integral and systematic features. It is the product of the development of the human society's living culture to a certain level of civilization[4-5].

Functional Requirement Analysis

This paper mainly describes the impact of AutoCAD software on the increasingly popular home decoration industry. Taking a three-bedroom sample room as an example, the living room was designed in detail, mainly introducing the detailed steps, drawing process, drawing plane legend and elevation legend.

Overall Architecture Construction

This paper mainly introduces the production process of three-bedroom graphic design diagram, which is divided into 6 parts. Including drawing three-bedroom layout axis network, drawing three-bedroom layout figure block, drawing furniture three-dimensional modeling, drawing the living room façade decoration map, drawing bedroom façade decoration and drawing kitchen, dining room and bathroom façade decoration drawing. This paper takes the living room design as an example.

The Design Steps of the Living Room

Design Concept of Living Room

Decorating Material. White latex paint, gold decorative pattern paint, art glass, walnut, brick texture decorative surface, 5 mm mirror and other materials.

Furniture Arrangement. Three people sofa, single sofa, TV cabinet, tea table.

Design Ideas. Based on the design philosophy of concise and easy, white latex paint is brushed outside the wall of the living room, and the wall surface of the sofa is inlaid with light blue grind...
glass. The hanging cabinet and TV cabinet choose walnut, and the use of golden pattern paint makes the color of the 2 whole living-room have a more distinct sense of hierarchy.

**Drawing the Living Room Façade Decoration Map**

Drawing the living room façade decoration map generally needs to set the drawing environment first, and then draw the positioning axis network according to the living room size and design requirements.

**Drawing the Living Room Facade Decorative Wall.** The concrete steps to draw the decorative wall of the living room façade are as follows:

a) Execute the new command to create a new blank file for the metric unit, as shown in figure 1.

![Figure 1. Blank file creation.](image)

b) Enable "object capture" and "object tracking" function on status bar.

c) Enter the LA in the command line, activate the “layer” command, create the layer in the open “layer properties manager” panel, and set the "contour" layer to the current layer.

d) Click the "straight line" button in the Drawing toolbar, with the "orthogonal" mode, draw the outer contour of the elevation shown in Figure 2.

e) Enter O in the command line, activate the "offset" command and offset the lower horizontal contour upwards by 80, 2000, and 2300 respectively; and offset the left vertical contours by 460 to the right.

f) Repeatedly execute the "Offset" command to offset the offset object to the right for the next offset object. The offset distances are 500, 2480, 600, and 900 respectively. The location of the objects such as the window, the cultural wall and the bedroom door are respectively divided, as shown in Figure 3.

g) Execute the "Trim|Trim" command to trim the offset contour and delete the excess contour. The result of the operation is shown in Figure 4.

![Figure 2. Contour drawing.](image) ![Figure 3. Offset.](image)

![Figure 4. Trim.](image)

h) Execute the "trim" | "extend" command.
i) Execute the "straight line" command to draw line segments of length 150 and height 100 respectively, as shown in Figure 5.

![Figure 5. Light slot drawing.](image)

So far, the living room facade decoration wall effect has been completed.

**Drawing the Living Room Facade Decoration Window.** The steps for drawing the decorative window of the living room facade are as follows:

a) Enter “ML” in the command line, activate the "multi-line" command, and draw the multi-line with a length of 430 and width of 680 as the facade window. As shown in Figure 6.

b) Execute the "modify" | "array" command, and set the array parameters. The painted facade window is arranged in a rectangular array, and the result of the array is shown in Figure 7.

![Figure 6. Facade window.](image)  ![Figure 7. Facade window effect diagram.](image)

c) Enter “ML” in the command line, activate the "Multiline" command, set the multiline ratio to 15 and the alignment mode to "Up." According to the dimensions shown, match the extended capture function to draw the Decorative contour of Figure 8.

![Figure 8. Decorative contour.](image)

d) Enter “O” in the command line, activate the "Offset" command, offset the outer contour lines outward by 50, and extend the offset adjacent contour lines to extend them. The result is shown in Figure 9.

![Figure 9. Extension result.](image)
e) Execute the "format" | "line" command, load the DASHED line type in the open "line manager" dialog box, and modify the ratio of the line type.

f) Under the premise of no command execution, the pinch point displays the three line segments just offset, and then expand the "Line Type Control" drop-down list in the "Properties" toolbar to modify its line type. As shown in Figure 10.

![Figure 10. Line type 2.](image)

g) Expand the “Color Control list” in the “Properties” toolbar and modify the linear color of the object to “Magenta”.

h) Press the Esc key to cancel the object’s pinch point display. The modified result is shown in Figure 11.

![Figure 11. Final results.](image)

Summary
Auto-CAD software is well used in this design. It uses simple points, lines, surfaces and bodies to create a variety of furniture. And it carefully designed the chandelier, hanging cabinets, closet, double bed, sofas and other modern items, ingenuity, attention to detail.

References