

CREATING BLOCK DIAGRAMS USING TBITBTN PROGRAM

¹Zhanys Aray Boshanqyzy
²Kusainova Ulzhan Bolatovna

¹PhD, Professor, University of Kokshetau Abay Myrzakhmetova
²College teacher "Arna"

Abstract. *BitBtn (a distant descendant of TWinControl). It is a key component on which surface may be pattern. Setting component properties Kind button assigns one of the standard operations, such as OK, Cancel, Help, Close, etc., which means that the button will have the standard form and the appropriate action will be taken when it is pressed.*

Wednesday Delphi visual programming - is an effective tool for developing applications for the Windows operating system with a standard user interface.

The application is assembled from prefabricated elements, which are called components. Some of them are familiar to you controls, such as button, text box, check box, etc. Each component has its own class, which is a direct or distant descendant of TComponent class. Component Class Library comes with a programming environment and is called the Visual Component Library (Visual Component Library, VCL). It contains about one hundred standard components to ensure the creation of a wide variety of applications.

Objective: Create an application for drawing diagrams. The diagram consists of rectangles, ellipses, and diamonds with text inside, connected by arrows.

The whole area of the application window takes notes with three sheets, "Shapes", "Line", "Picture".

On the first page - "Shapes" - defined characteristics of each chart figures: the size (height and width), the coordinates of the upper left corner (x, y), the type of shape (rectangle, ellipse or diamond), color (contour of the figure, the inner casting, characters inscriptions).

A figure information is stored in the class MyFigure objects associated with the list ListBox component. TMyFigure class must have a field that describes the characteristics of the figure, the designer and the procedure for drawing this figure on any canvas.

By clicking on the "Add" button to the list of figures adds a new row with a default name and associated with it a new object TMyFigure class. All the characteristics of the figures obtained default. If you change at least one characteristic of the figure the new value is stored immediately in the corresponding property of the object.

When you select a figure in the list of values of its characteristics should immediately appear in the boxes and changing at least one - just remember, without additional action by the user.

Changing the name of the figure should be immediately reflected in the list of all the pieces. Body type is only selected from the list.

For input fields should be monitored by entering an incorrect value, and out of range values.

By clicking on the "Delete" button is removed from the list of figures highlighted line and destroyed the corresponding object.

Clicking on the boxes showing the color is the color selection dialog box after the closure of which is painted in the selected color and the color is stored in the corresponding property of the object of the currently highlighted figures.

On the second page - "Lines" - defined by the arrows connecting the two figures. For each arrow is determined by the figure and face shape, from which the arrow starts and the figure and the figure of the party, which ends with an arrow and line color.

lines of information is stored in the class TMyLine objects associated with StringGrid table. TMyLine class should have fields that link the figures are connected with a line, and the parties concerned, as well as the line color, the designer and the procedure for drawing arrows on any canvas.

Selecting the shape is performed only from the list using the ">". The list is formed automatically and fully in line with the list on the "Shapes" list.

By clicking on the button ">" Selected name figures carried in the corresponding field (top of the line or the end of the line). The party line connection is selected from the drop-down list. "Color" Clicking on the panel causes a color selection dialog, after the close of which the interior of the panel is painted in the chosen color. This color is used to draw arrows.

When you click on "Create a line" in the table adds another string that is filled with the values set in the input fields, and creates a new object TMyLine class that is associated with the first cell of the new row. Properties of the new object are assigned values of the input fields. It is essential to provide for the processing of exceptional situation, when there is no description of one or both ends of the line or the match ends.

When you select a row in the table in the appropriate input fields should appear instantly values selected line features.

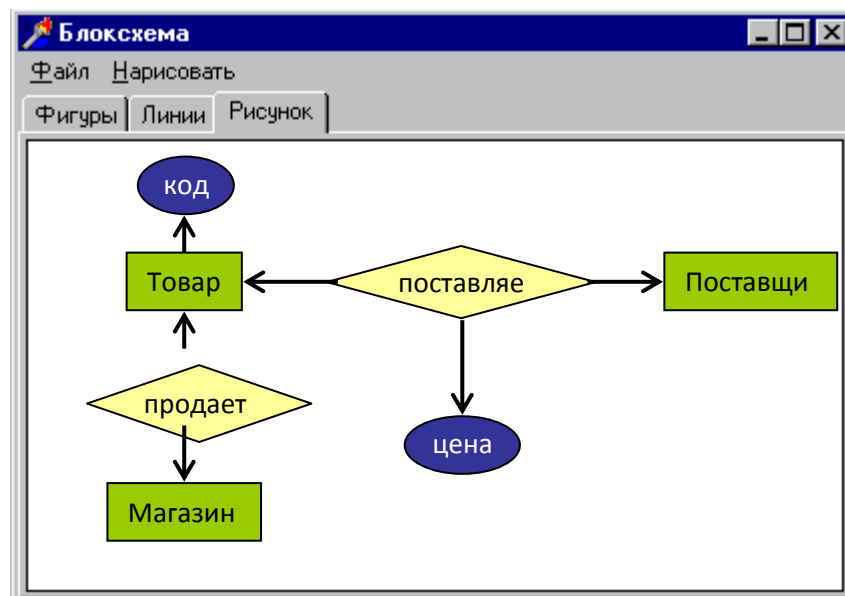
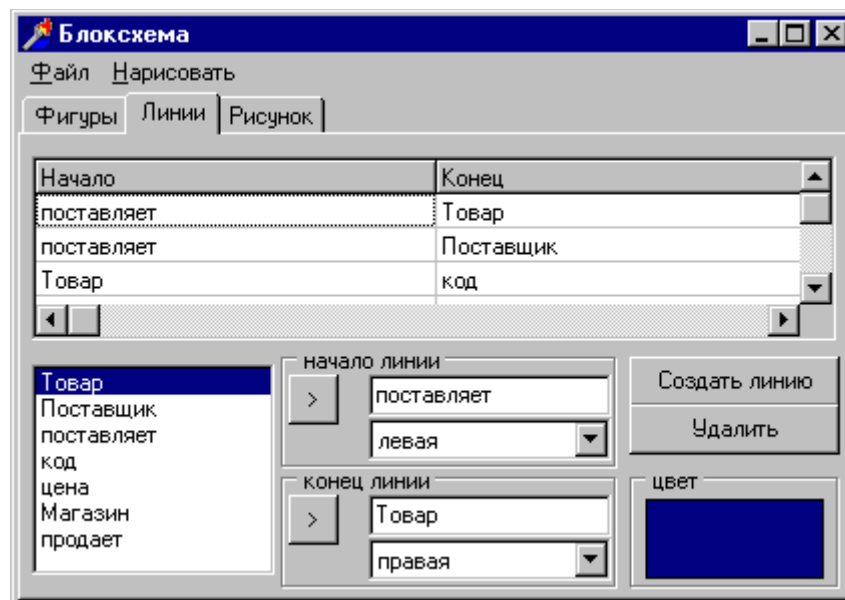
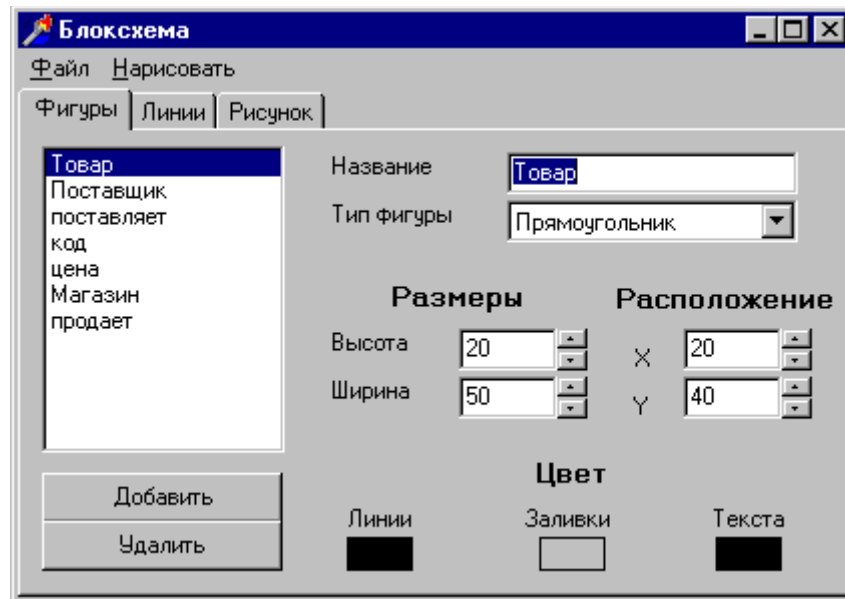
By clicking on the "Delete" button in the table exclude the selected line and destroyed the object associated with the first cell of the row.

The third sheet - "Picture" - a diagram.

The main menu form consists of two elements: "File" and "Draw". Item "File" contains the following items: "Save", "Load", "Exit". The "Save" saves the information in the user-selected file on all the figures and their connecting lines, an arbitrary file format. The "Download" fills the list of figures and lines of the table, the "Draw" redraws the chart on the third page.

Components:

- MainMenu – the main window menu;
- ColorDialog – color selection dialog;
- OpenDialog – file open dialog;
- SaveDialog – save dialog file;
- TabControl – notepad with sheets;
- Button – click "Create", "Delete", "Add", "<", ">"
- Edit – input field size, name;
- Label – writing on a form;
- Image – rectangles with colors and graph;
- StringGrid – describing the arrows table;
- ListBox – list of figures;
- ComboBox – drop-down list for the type of shape (contains the line: rectangle, ellipse, rhombus), drop-down arrow to the point of attachment (containing the line: left, right, bottom, top);
- GroupBox – united on a sheet controls "Lines";
- UpDown – It is used in the input fields.



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