

Fig. 1 Programa de baza

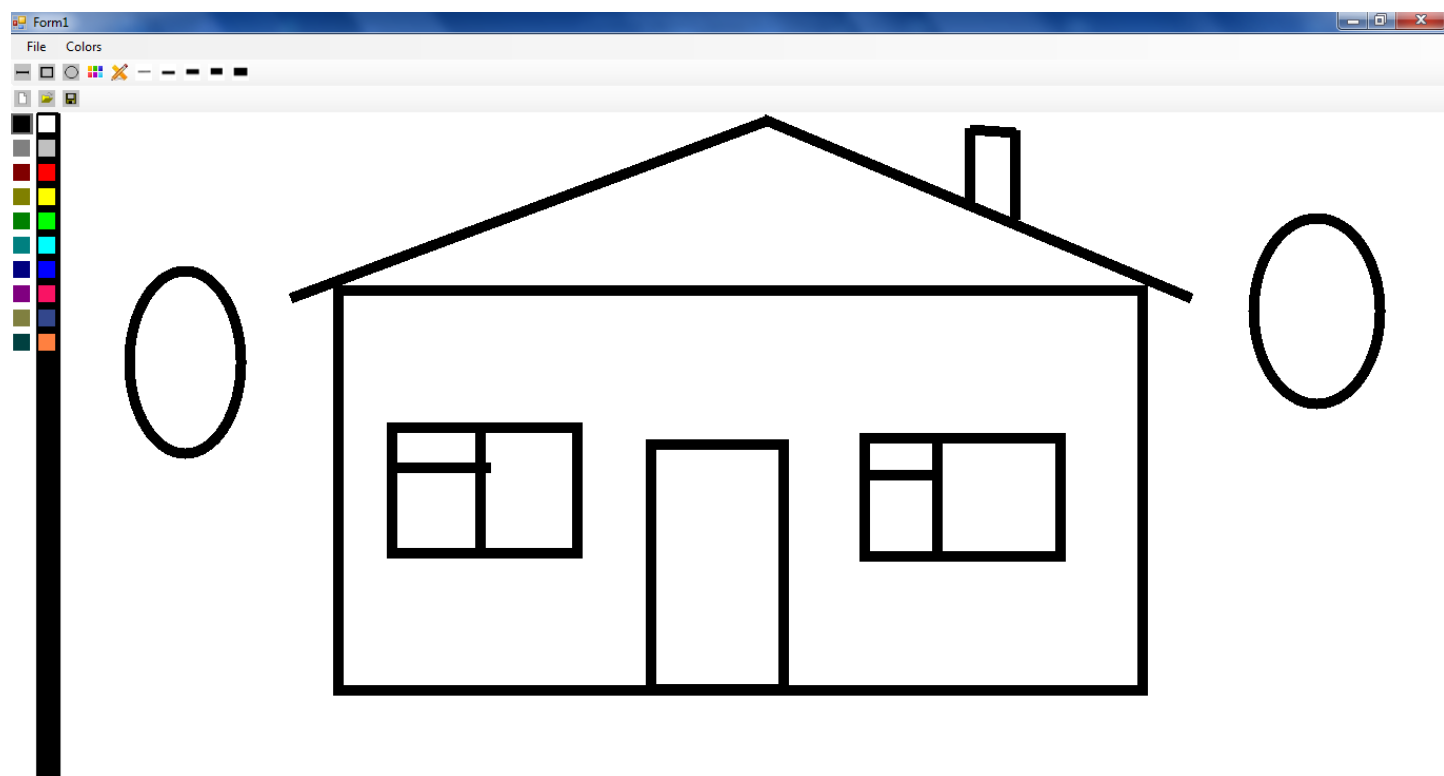


Fig. 2 Generare imaginii

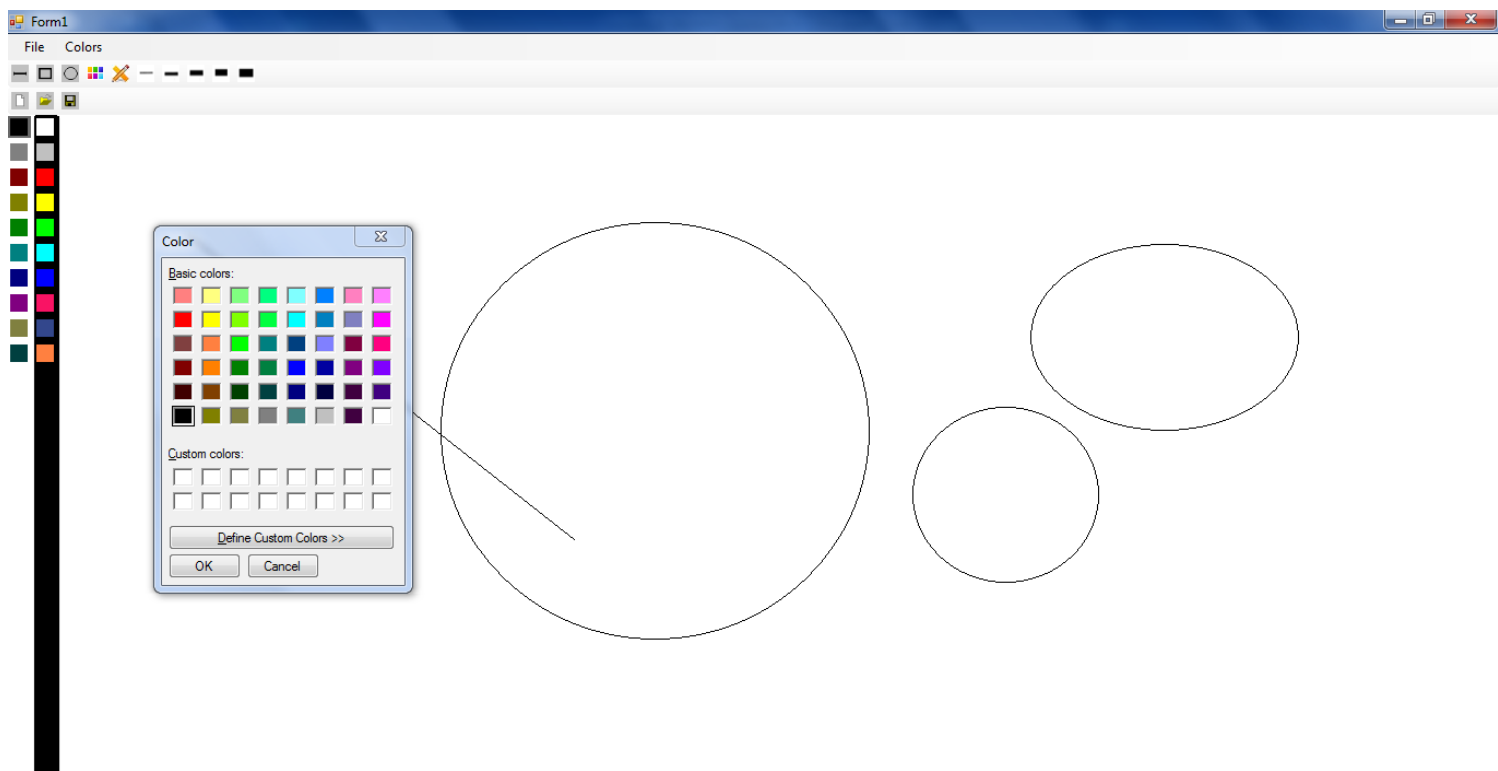


Fig. 3 Alegerea culorii pentru desenarea imaginii

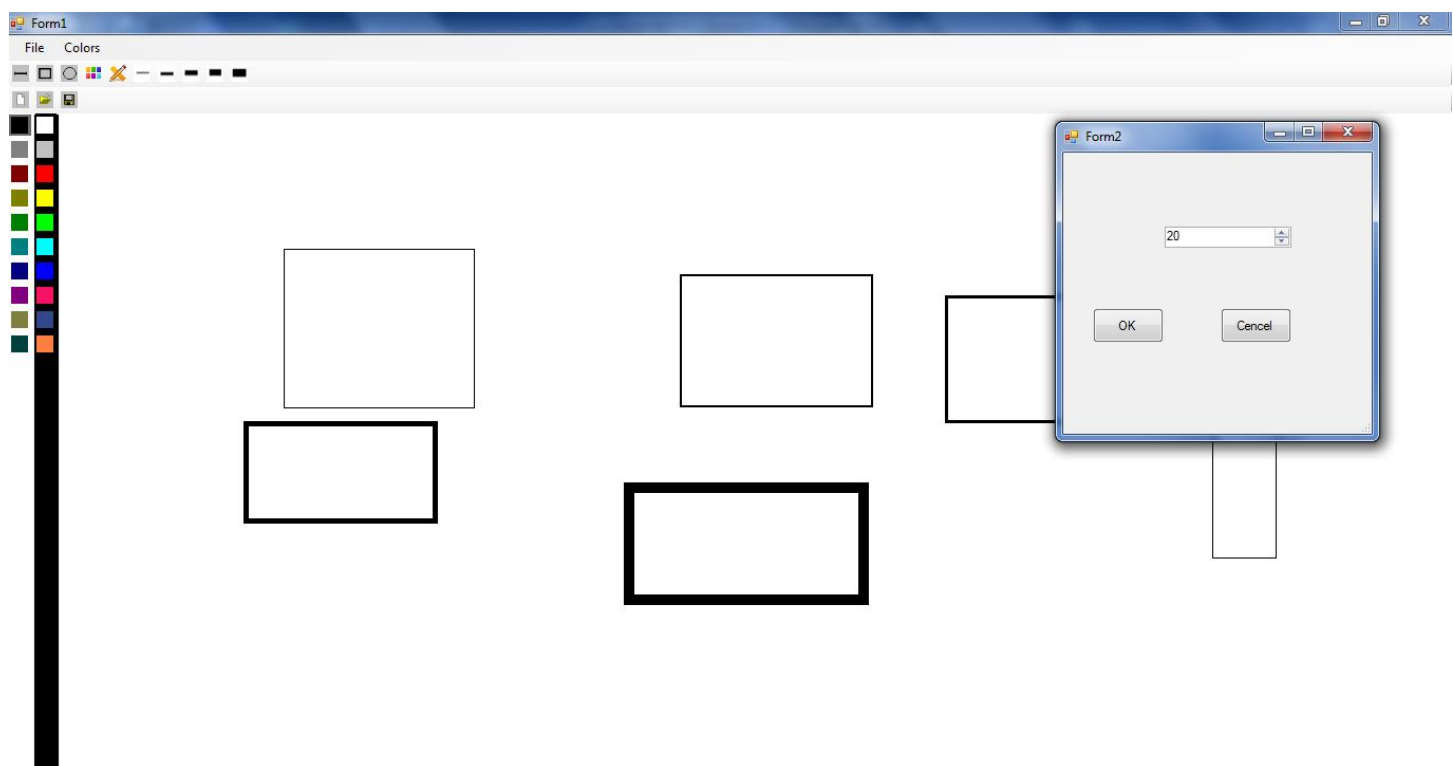


Fig. 4 Alegerea grosimii

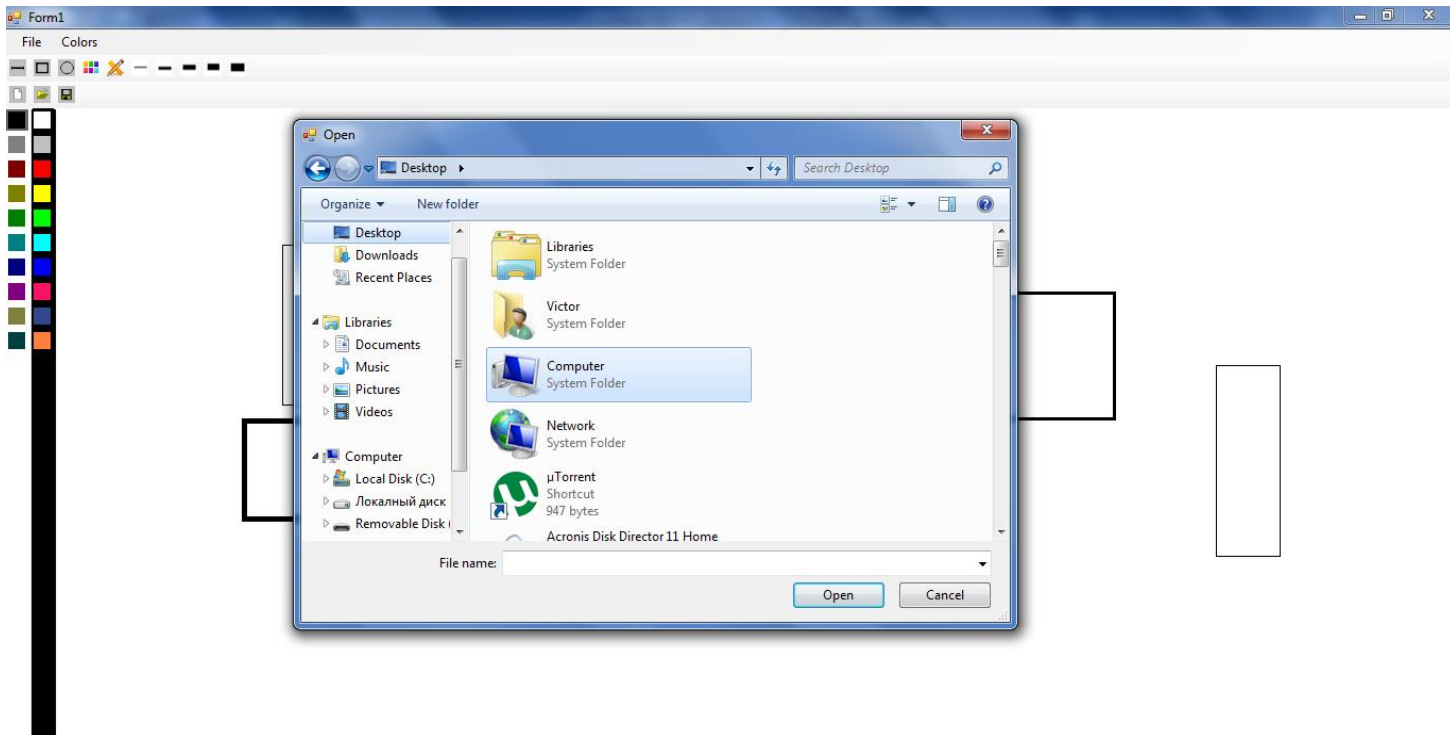


Fig. 5 Salvarea Imaginii

Listingul Programului:

I. Clasa principala de unde se incepe programul:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Windows.Forms;

namespace WindowsFormsApplication19
{
    static class Program
    {
        /// <summary>
        /// The main entry point for the application.
        /// </summary>
        [STAThread]
        static void Main()
        {
            Application.EnableVisualStyles();
            Application.SetCompatibleTextRenderingDefault(false);
            Application.Run(new Form1());
        }
    }
}
```

II. Clasa Form1

```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Windows.Forms;
using System.Collections;
using System.IO;
```

```

using System.Runtime.Serialization.Formatters.Binary;
using System.Drawing.Drawing2D;

namespace WindowsFormsApplication19
{
    public partial class Form1 : Form
    {
        private ArrayList ds;
        private Point mold;
        private Point mcur;
        private int mshape;
        private float mwidth;
        private Color mcolor;
        public Form1()
        {
            InitializeComponent();
            ds = new ArrayList();
            mshape = 0;
            mwidth = 1;
            mcolor = Color.Black;
        }

        private void Form1_MouseDown(object sender, MouseEventArgs e)
        {
            this.Cursor = Cursors.Cross;
            if (e.Button == MouseButtons.Left)
            {
                mold = e.Location;
            }
        }
        private void Form1_MouseMove(object sender, MouseEventArgs e)
        {
            if (e.Button == MouseButtons.Left)
            {
                mcur = e.Location;
                Invalidate();
            }
        }
        private void Form1_MouseUp(object sender, MouseEventArgs e)
        {
            this.Cursor = Cursors.Default;
            Class1 a = new Class1(mold, mcur, mshape, mwidth, mcolor);
            ds.Add(a);
        }
        private Rectangle rec(Point p1, Point p2)
        {
            Rectangle a = new Rectangle();
            a.X = (p1.X > p2.X ? p2.X : p1.X);
            a.Y = (p1.Y > p2.Y ? p2.Y : p1.Y);
            a.Width = Math.Abs(p1.X - p2.X);
            a.Height = Math.Abs(p1.Y - p2.Y);
            return a;
        }
        private void Form1_Paint(object sender, PaintEventArgs e)
        {
            foreach( Class1 a in ds)
            {
                draw(e.Graphics, a.old, a.cur, a.shape, a.width, a.color);
            }
            draw(e.Graphics, mold, mcur, mshape, mwidth, mcolor);
        }
        private void draw(Graphics e, Point mold, Point mcur, int mshape, float mwidth, Color
mcolor)
        {
            Pen p=new Pen(mcolor, mwidth);
            switch(mshape)
            {
                case 0:
                    e.DrawLine(p, mold, mcur);
                    break;
                case 1:
                    e.DrawRectangle(p, rec(mold, mcur));
                    break;
                case 2:
                    e.DrawEllipse(p, rec(mold, mcur));
                    break;
            }
        }
    }
}

```

```

private void toolStripButton1_Click(object sender, EventArgs e)
{
    mshape = 0;
}
private void toolStripButton2_Click(object sender, EventArgs e)
{
    mshape = 1;
}
private void toolStripButton3_Click(object sender, EventArgs e)
{
    mshape = 2;
}
private void toolStripButton4_Click(object sender, EventArgs e)
{
    ColorDialog dlg = new ColorDialog();
    dlg.Color = mcolor;
    if (dlg.ShowDialog() == DialogResult.OK)
    {
        mcolor = dlg.Color;
    }
}
private void toolStripButton5_Click(object sender, EventArgs e)
{
    Form2 dlg = new Form2();
    dlg.width = mwidth;
    dlg.ShowDialog();
    mwidth = dlg.width;
}
private void saveToolStripMenuItem_Click(object sender, EventArgs e)
{
    SaveFileDialog dlg = new SaveFileDialog();
    if (dlg.ShowDialog() == DialogResult.OK)
    {
        FileStream f = new FileStream(dlg.FileName, FileMode.Create);
        BinaryFormatter bf = new BinaryFormatter();
        bf.Serialize(f, ds);
    }
}
private void openToolStripMenuItem_Click(object sender, EventArgs e)
{
    OpenFileDialog dlg = new OpenFileDialog();
    if (dlg.ShowDialog() == DialogResult.OK)
    {
        FileStream f = new FileStream(dlg.FileName, FileMode.Open);
        BinaryFormatter bf = new BinaryFormatter();
        ds = (ArrayList)bf.Deserialize(f);
        Invalidate();
    }
}
private void newToolStripMenuItem_Click(object sender, EventArgs e)
{
    Form1 frm = new Form1();
    frm.ShowDialog();
}
private void exitToolStripMenuItem_Click(object sender, EventArgs e)
{
    this.Close();
}
private void Form1_Load(object sender, EventArgs e)
{
}
private void toolStripButton6_Click(object sender, EventArgs e)
{
    mwidth = 1;
}
private void toolStripButton7_Click(object sender, EventArgs e)
{
    mwidth = 2;
}
private void toolStripButton8_Click(object sender, EventArgs e)
{
    mwidth = 5;
}
private void toolStripButton9_Click(object sender, EventArgs e)

```

```

{
    mwidth = 7;
}
private void toolStripButton10_Click(object sender, EventArgs e)
{
    mwidth = 10;
}
private void toolStripButton15_Click(object sender, EventArgs e)
{
    mcolor = Color.Black;
}
private void toolStripButton19_Click(object sender, EventArgs e)
{
    mcolor = Color.White;
}
private void toolStripButton16_Click(object sender, EventArgs e)
{
    mcolor = Color.AliceBlue;
}
private void toolStripButton20_Click(object sender, EventArgs e)
{
    mcolor = Color.DarkGray;
}
private void toolStripButton17_Click(object sender, EventArgs e)
{
    mcolor = Color.DarkRed;
}
private void toolStripButton21_Click(object sender, EventArgs e)
{
    mcolor = Color.Red;
}
private void toolStripButton18_Click(object sender, EventArgs e)
{
    mcolor = Color.DarkOliveGreen;
}
private void toolStripButton14_Click(object sender, EventArgs e)
{
    mcolor = Color.DarkGreen;
}
private void toolStripButton24_Click(object sender, EventArgs e)
{
    mcolor = Color.DarkCyan;
}
private void toolStripButton25_Click(object sender, EventArgs e)
{
    mcolor = Color.DarkBlue;
}
private void toolStripButton26_Click(object sender, EventArgs e)
{
    mcolor = Color.DarkMagenta;
}
private void toolStripButton27_Click(object sender, EventArgs e)
{
    mcolor = Color.DarkKhaki;
}
private void toolStripButton28_Click(object sender, EventArgs e)
{
    mcolor = Color.DarkSlateGray;
}
private void toolStripButton22_Click(object sender, EventArgs e)
{
    mcolor = Color.Yellow;
}
private void toolStripButton23_Click(object sender, EventArgs e)
{
    mcolor = Color.Green;
}
private void toolStripButton29_Click(object sender, EventArgs e)
{
    mcolor = Color.DarkTurquoise;
}
private void toolStripButton30_Click(object sender, EventArgs e)
{
    mcolor = Color.Blue;
}
private void toolStripButton31_Click(object sender, EventArgs e)
{

```

```

        mcolor = Color.DeepPink;
    }
    private void toolStripButton33_Click(object sender, EventArgs e)
    {
        mcolor = Color.DarkSalmon;
    }
    private void toolStripButton32_Click(object sender, EventArgs e)
    {
        mcolor = Color.SlateBlue;
    }
    private void toolStripButton11_Click(object sender, EventArgs e)
    {
        Form1 frm = new Form1();
        frm.ShowDialog();
    }
    private void toolStripButton13_Click(object sender, EventArgs e)
    {
        SaveFileDialog dlg = new SaveFileDialog();
        if (dlg.ShowDialog() == DialogResult.OK)
        {
            FileStream f = new FileStream(dlg.FileName, FileMode.Create);
            BinaryFormatter bf = new BinaryFormatter();
            bf.Serialize(f, ds);
        }
    }
    private void toolStripButton12_Click(object sender, EventArgs e)
    {
        OpenFileDialog dlg = new OpenFileDialog();
        if (dlg.ShowDialog() == DialogResult.OK)
        {
            FileStream f = new FileStream(dlg.FileName, FileMode.Open);
            BinaryFormatter bf = new BinaryFormatter();
            ds = (ArrayList)bf.Deserialize(f);
            Invalidate();
        }
    }
    private void colorToolStripMenuItem_Click(object sender, EventArgs e)
    {
    }
    private void editColorsToolStripMenuItem_Click(object sender, EventArgs e)
    {
        ColorDialog dlg = new ColorDialog();
        dlg.Color = mcolor;
        if (dlg.ShowDialog() == DialogResult.OK)
        {
            mcolor = dlg.Color;
        }
    }
}
}

```

III. Clase Class1

```

using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Drawing;
namespace WindowsFormsApplication19
{
    [Serializable]
    class Class1
    {
        private Point mold;
        private Point mcur;
        private int mshape;
        private float mwidth;
        private Color mcolor;
        public Class1()
        {
            mold = new Point(0, 0);
            mcur = new Point(0, 0);
            mshape = 0;
            mwidth = 1;
            mcolor = Color.Black;
        }
    }
}

```

```

public Class1(Point old, Point cur, int shape, float width, Color color)
{
    mold = old;
    mcur = cur;
    mshape = shape;
    mwidth = width;
    mcolor = color;
}
public Point old
{
    get
    {
        return mold;
    }
    set
    {
        mold = value;
    }
}
public Point cur
{
    get
    {
        return mcur;
    }
    set
    {
        mcur = value;
    }
}
public int shape
{
    get
    {
        return mshape;
    }
    set
    {
        mshape = value;
    }
}
public float width
{
    get
    {
        return mwidth;
    }
    set
    {
        mwidth = value;
    }
}

public Color color
{
    get
    {
        return mcolor;
    }
    set
    {
        mcolor = value;
    }
}
}
}

```

Concluzii: