www.bytescout.com

How to capture video from separate thread in C# and ByteScout Screen Capturing SDK

Tutorial on how to capture video from separate thread in C#

With this source code sample you may quickly learn how to capture video from separate thread in C#. ByteScout Screen Capturing SDK is the tool for developers who want to add screen capturing in their application. Can record screen into video and into single screenshots. Output formats are WMV, AVI, WebM for video and PNG for screenshots. You can adjust output video size, quality, resolution, framerate, video and audio codecs. Includes special privacy features for blacking out sensitive information on screen. Can also capture video from web camera, can add overlays with text or images. It can capture video from separate thread in C#.

C# code samples for C# developers help to speed up coding of your application when using ByteScout Screen Capturing SDK. This C# sample code is all you need for your app. Just copy and paste the code, add references (if needs to) and you are all set! You can use these C# sample examples in one or many applications.

Trial version of ByteScout Screen Capturing SDK can be downloaded for free from our website. It also includes source code samples for C# and other programming languages.

FOR MORE INFORMATION AND FREE TRIAL:

Download Free Trial SDK (on-premise version)

Read more about ByteScout Screen Capturing SDK

Explore API Documentation

Get Free Training for ByteScout Screen Capturing SDK

Get Free API key for Web API

visit www.ByteScout.com

Source Code Files:

CapturingThread.cs

```
using System;
using System.Collections.Generic;
using System.IO;
using System.Runtime.InteropServices;
using System.Text;
using System.Threading;
using System.Drawing;
using BytescoutScreenCapturingLib;

// NOTE: if you are getting error like "invalid image" related to loading the SDK's dl
// try to do the following:
// 1) remove the reference to the SDK by View - Solution Explorer
// then click on References, select Bytescout... reference name and right-click it and
// 2) To re-add click on the menu: Project - Add Reference
// 3) In "Add Reference" dialog switch to "COM" tab and find Bytescout...
// 4) Select it and click "Add"
// 5) Recompile the application
// Note: if you need to run on both x64 and x86 then please make sure you have set "Em


namespace CaptureFromSeparateThread
{
        public class CapturingThread
        {
                public static void ThreadProc(Object obj)
                {
                    CapturingThreadData data = (CapturingThreadData) obj;
                    data.Success = true;

                    // Prepare Capturer:

                    Capturer capturer = new Capturer(); // create new screen capturer

                    capturer.RegistrationName = "demo";
                    capturer.RegistrationKey = "demo";

                    capturer.CaptureRectLeft = data.CaptureRectangle.Left;
                    capturer.CaptureRectTop = data.CaptureRectangle.Top;
                    capturer.CaptureRectWidth = data.CaptureRectangle.Width;
                    capturer.CaptureRectHeight = data.CaptureRectangle.Height;

                    capturer.OutputWidth = 640;
                    capturer.OutputHeight = 480;

                    // WMV and WEBM output use WMVVideoBitrate property to control out
                    // so try to increase it by x2 or x3 times if you think the output
                    // capturer.WMVVideoBitrate = capturer.WMVVideoBitrate * 2;

                    capturer.CaptureRectWidth = 320;
                    capturer.CaptureRectHeight = 240;

                    data.TempFile = Path.GetTempFileName();
                    data.TempFile = Path.ChangeExtension(data.TempFile, ".wmv");
```

```
                capturer.OutputFileName = data.TempFile;
                capturer.CapturingType = data.CaptureType;

                // set border around captured area if we are not capturing entire s
                if (capturer.CapturingType != CaptureAreaType.catScreen &&
                    capturer.CapturingType != CaptureAreaType.catWebcamFullScreen)
                {
                    capturer.CaptureAreaBorderType = CaptureAreaBorderType.cabtDash
                    capturer.CaptureAreaBorderColor = (uint) ColorTranslator.ToOle
                }


                // Wait for events:

                WaitHandle[] events = new WaitHandle[] {data.StartOrResumeEvent, da

            try
                {
            while (true)
            {
                int i = WaitHandle.WaitAny(events);

                if (events[i] == data.StartOrResumeEvent)
                {
                    if (!capturer.IsRunning)
                        capturer.Run();
                }
                else if (events[i] == data.PauseEvent)
                {
                    if (capturer.IsRunning)
                        capturer.Pause();
                }
                else if (events[i] == data.StopEvent)
                {
                    capturer.Stop();
                    break;
                }
            }
                }
                catch (Exception ex)
                {
                    data.ErrorText = ex.Message;
                    data.Success = false;
                }
                finally
                {
                    // Release resources
                    Marshal.ReleaseComObject(capturer);
                }
            }
        }
}
```

CapturingThreadData.cs

```
using System;
using System.Collections.Generic;
using System.Drawing;
using System.Text;
using System.Threading;
using BytescoutScreenCapturingLib;


// NOTE: if you are getting error like "invalid image" related to loading the SDK's dl
// try to do the following:
// 1) remove the reference to the SDK by View - Solution Explorer
// then click on References, select Bytescout... reference name and right-click it and
// 2) To re-add click on the menu: Project - Add Reference
// 3) In "Add Reference" dialog switch to "COM" tab and find Bytescout...
// 4) Select it and click "Add"
// 5) Recompile the application



namespace CaptureFromSeparateThread
{
        public class CapturingThreadData
        {
                public CaptureAreaType CaptureType;
                public String TempFile;
        public Rectangle CaptureRectangle = new Rectangle(0, 0, 320, 240);

                public bool Success;
                public string ErrorText;

            public AutoResetEvent StartOrResumeEvent = new AutoResetEvent(false); // ev
            public AutoResetEvent PauseEvent = new AutoResetEvent(false); // event sig
            public AutoResetEvent StopEvent = new AutoResetEvent(false); // event sign
        }
}
```

Form1.Designer.cs

```
namespace CaptureFromSeparateThread
{
        partial class Form1
        {
                /// <summary>
                /// Required designer variable.
                /// </summary>
                private System.ComponentModel.IContainer components = null;
```

```
        /// <summary>
        /// Clean up any resources being used.
        /// </summary>
        /// <param name="disposing">true if managed resources should be dispose
        protected override void Dispose(bool disposing)
        {
                if (disposing && (components != null))
                {
                        components.Dispose();
                }
                base.Dispose(disposing);
        }

        #region Windows Form Designer generated code

        /// <summary>
        /// Required method for Designer support - do not modify
        /// the contents of this method with the code editor.
        /// </summary>
        private void InitializeComponent()
        {
    this.cmbCapturingType = new System.Windows.Forms.ComboBox();
    this.btnStart = new System.Windows.Forms.Button();
    this.label1 = new System.Windows.Forms.Label();
    this.btnStop = new System.Windows.Forms.Button();
    this.tableLayoutPanel1 = new System.Windows.Forms.TableLayoutPanel();
    this.btnPauseResume = new System.Windows.Forms.Button();
    this.tableLayoutPanel1.SuspendLayout();
    this.SuspendLayout();
    //
    // cmbCapturingType
    //
    this.cmbCapturingType.Anchor = ((System.Windows.Forms.AnchorStyles)(((Syste
    | System.Windows.Forms.AnchorStyles.Right)));
    this.cmbCapturingType.DropDownStyle = System.Windows.Forms.ComboBoxStyle.Dr
    this.cmbCapturingType.FormattingEnabled = true;
    this.cmbCapturingType.Items.AddRange(new object[] {
    "Area around the mouse pointer",
    "Full screen"});
    this.cmbCapturingType.Location = new System.Drawing.Point(97, 12);
    this.cmbCapturingType.Name = "cmbCapturingType";
    this.cmbCapturingType.Size = new System.Drawing.Size(378, 21);
    this.cmbCapturingType.TabIndex = 0;
    //
    // btnStart
    //
    this.btnStart.Location = new System.Drawing.Point(3, 3);
    this.btnStart.Name = "btnStart";
    this.btnStart.Size = new System.Drawing.Size(143, 44);
    this.btnStart.TabIndex = 1;
    this.btnStart.Text = "Start";
    this.btnStart.UseVisualStyleBackColor = true;
    this.btnStart.Click += new System.EventHandler(this.btnStart_Click);
    //
    // label1
    //
    this.label1.AutoSize = true;
    this.label1.Location = new System.Drawing.Point(12, 15);
    this.label1.Name = "label1";
```

```
            this.label1.Size = new System.Drawing.Size(79, 13);
            this.label1.TabIndex = 3;
            this.label1.Text = "Capturing Type";
            //
            // btnStop
            //
            this.btnStop.Enabled = false;
            this.btnStop.Location = new System.Drawing.Point(307, 3);
            this.btnStop.Name = "btnStop";
            this.btnStop.Size = new System.Drawing.Size(143, 44);
            this.btnStop.TabIndex = 4;
            this.btnStop.Text = "Stop";
            this.btnStop.UseVisualStyleBackColor = true;
            this.btnStop.Click += new System.EventHandler(this.btnStop_Click);
            //
            // tableLayoutPanel1
            //
            this.tableLayoutPanel1.Anchor = ((System.Windows.Forms.AnchorStyles)((((Sys
            | System.Windows.Forms.AnchorStyles.Left)
            | System.Windows.Forms.AnchorStyles.Right)));
            this.tableLayoutPanel1.ColumnCount = 3;
            this.tableLayoutPanel1.ColumnStyles.Add(new System.Windows.Forms.ColumnSty
            this.tableLayoutPanel1.ColumnStyles.Add(new System.Windows.Forms.ColumnSty
            this.tableLayoutPanel1.ColumnStyles.Add(new System.Windows.Forms.ColumnSty
            this.tableLayoutPanel1.Controls.Add(this.btnPauseResume, 0, 0);
            this.tableLayoutPanel1.Controls.Add(this.btnStart, 0, 0);
            this.tableLayoutPanel1.Controls.Add(this.btnStop, 2, 0);
            this.tableLayoutPanel1.Location = new System.Drawing.Point(12, 52);
            this.tableLayoutPanel1.Name = "tableLayoutPanel1";
            this.tableLayoutPanel1.RowCount = 1;
            this.tableLayoutPanel1.RowStyles.Add(new System.Windows.Forms.RowStyle());
            this.tableLayoutPanel1.Size = new System.Drawing.Size(463, 57);
            this.tableLayoutPanel1.TabIndex = 5;
            //
            // btnPauseResume
            //
            this.btnPauseResume.Enabled = false;
            this.btnPauseResume.Location = new System.Drawing.Point(155, 3);
            this.btnPauseResume.Name = "btnPauseResume";
            this.btnPauseResume.Size = new System.Drawing.Size(143, 44);
            this.btnPauseResume.TabIndex = 5;
            this.btnPauseResume.Text = "Pause";
            this.btnPauseResume.UseVisualStyleBackColor = true;
            this.btnPauseResume.Click += new System.EventHandler(this.btnPauseResume_C
            //
            // Form1
            //
            this.AutoScaleDimensions = new System.Drawing.SizeF(6F, 13F);
            this.AutoScaleMode = System.Windows.Forms.AutoScaleMode.Font;
            this.ClientSize = new System.Drawing.Size(487, 121);
            this.Controls.Add(this.tableLayoutPanel1);
            this.Controls.Add(this.label1);
            this.Controls.Add(this.cmbCapturingType);
            this.MaximizeBox = false;
            this.MinimizeBox = false;
            this.Name = "Form1";
            this.ShowIcon = false;
            this.StartPosition = System.Windows.Forms.FormStartPosition.CenterScreen;
            this.Text = "Capture From Separate Thread";
            this.FormClosing += new System.Windows.Forms.FormClosingEventHandler(this.
```

```
            this.tableLayoutPanel1.ResumeLayout(false);
            this.ResumeLayout(false);
            this.PerformLayout();

                }

                #endregion

                private System.Windows.Forms.ComboBox cmbCapturingType;
                private System.Windows.Forms.Button btnStart;
                private System.Windows.Forms.Label label1;
                private System.Windows.Forms.Button btnStop;
                private System.Windows.Forms.TableLayoutPanel tableLayoutPanel1;
        private System.Windows.Forms.Button btnPauseResume;
        }
}
```

Form1.cs

```
using System;
using System.Diagnostics;
using System.IO;
using System.Threading;
using System.Windows.Forms;
using BytescoutScreenCapturingLib;

// NOTE: if you are getting error like "invalid image" related to loading the SDK's dl
// try to do the following:
// 1) remove the reference to the SDK by View - Solution Explorer
// then click on References, select Bytescout... reference name and right-click it and
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// 5) Recompile the application
// Note: if you need to run on both x64 and x86 then please make sure you have set "Em


namespace CaptureFromSeparateThread
{
        public partial class Form1 : Form
        {
                private Thread _capturingThread;
                private CapturingThreadData _capturingThreadData; // data to exchange 

        public Form1()
                {
                        InitializeComponent();

            _capturingThreadData = new CapturingThreadData();
```

```
cmbCapturingType.SelectedIndex = 0;
    }

    private void btnStart_Click(object sender, EventArgs e)
    {
            CaptureAreaType captureType = CaptureAreaType.catMouse;

            if (cmbCapturingType.SelectedIndex == 1)
                    captureType = CaptureAreaType.catScreen;

            StartRecording(captureType);
    }

private void btnPauseResume_Click(object sender, EventArgs e)
{
PauseOrResumeRecording();
}

private void btnStop_Click(object sender, EventArgs e)
    {
            StopRecording();
    }

    private void StartRecording(CaptureAreaType captureType)
    {
            btnStart.Enabled = false;
            btnPauseResume.Enabled = true;
            btnStop.Enabled = true;

            _capturingThreadData.CaptureType = captureType;

// Start thread
            _capturingThread = new Thread(CapturingThread.ThreadProc);
            _capturingThread.Start(_capturingThreadData);

// Signal to start the recording
        _capturingThreadData.StartOrResumeEvent.Set();
    }

private void PauseOrResumeRecording()
{
btnStart.Enabled = false;
btnPauseResume.Enabled = true;
btnStop.Enabled = true;

    if (btnPauseResume.Text == "Pause")
    {
    // Signal to pause
    _capturingThreadData.PauseEvent.Set();
        btnPauseResume.Text = "Resume";
    }
    else
    {
    // Signal to resume
    _capturingThreadData.StartOrResumeEvent.Set();
    btnPauseResume.Text = "Pause";
    }
}
```

```
            private void StopRecording()
                {
            Cursor = Cursors.WaitCursor;

            // Signal to stop
            _capturingThreadData.StopEvent.Set();

                        try
                        {
                                _capturingThread.Join();
                        }
                        finally
                        {
                                Cursor = Cursors.Default;
                        }

                        if (!_capturingThreadData.Success)
                        {
                                MessageBox.Show("Capturing failed. Error: " + _capturi
                        }
                        else
                        {
                                SaveFileDialog dlg = new SaveFileDialog();
                                dlg.DefaultExt = "*.wmv";
                                dlg.Filter = "WMV files (*.wmv)|*.wmv|All files (*.*)|

                                dlg.FileName = "Screencast";
                                dlg.Title = "Save captured video as";

                                if (dlg.ShowDialog() == DialogResult.OK)
                                {
                                        File.Copy(_capturingThreadData.TempFile, dlg.F

                                        Process.Start(dlg.FileName); // start the vide
                                }

                                File.Delete(_capturingThreadData.TempFile);
                        }

            btnStart.Enabled = true;
            btnPauseResume.Enabled = false;
            btnStop.Enabled = false;
            btnPauseResume.Text = "Pause";
                }

        private void Form1_FormClosing(object sender, FormClosingEventArgs e)
        {
            _capturingThreadData.StopEvent.Set();
        }
        }
}
```

Program.cs

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

namespace CaptureFromSeparateThread
{
        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());
                }
        }
}
```

VIDEO

https://www.youtube.com/watch?v=fujkvtWUVCw

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