

Programy komputerowe do przetwarzania i analizy obrazów oraz wideo



KAPITAŁ LUDZKI
NARODOWA STRATEGIA SPÓJNOŚCI

UNIA EUROPEJSKA
EUROPEJSKI
FUNDUSZ SPOŁECZNY



Prezentacja multimedialna
współfinansowana przez Unię Europejską
w ramach Europejskiego Funduszu Społecznego
w projekcie

*„Innowacyjna dydaktyka bez ograniczeń
– zintegrowany rozwój Politechniki Łódzkiej –
zarządzanie Uczelnią,
nowoczesna oferta edukacyjna
i wzmacniania zdolności do zatrudniania
osób niepełnosprawnych”*



Politechnika Łódzka
Instytut Elektroniki

90-924 Łódź, ul. Żeromskiego 116,
tel. 042 631 28 83
www.kapitalludzki.p.lodz.pl



KAPITAŁ LUDZKI
NARODOWA STRATEGIA SPÓJNOŚCI

UNIA EUROPEJSKA
EUROPEJSKI
FUNDUSZ SPOŁECZNY



Prezentacja multimedialna współfinansowana przez Unię Europejską w ramach Europejskiego Funduszu Społecznego

Dane kontaktowe

Dr inż. Piotr M. Szczypiński,
Institute of Electronics, Technical University of Lodz
Wolczanska 211/215, 90-924 Lodz, Poland
tel. +48426312638
<http://www.eletel.p.lodz.pl/pms>
pms@p.lodz.pl



Politechnika Łódzka
Instytut Elektroniki

Programy komputerowe do przetwarzania i analizy obrazów oraz wideo



Programy

Przetwarzanie rastrowych obrazów płaskich

- Przegląd Edytorów
(Paint, Adobe PhotoShop, Corel Photopaint, Paint Shop, GIMP)
- Możliwości programów **GIMP**, **ImageJ**,
- Analiza obrazów w programie **MaZda**

Przetwarzanie rastrowych obrazów trójwymiarowych

- **MRicro**, **MRicron**, **MaZda**

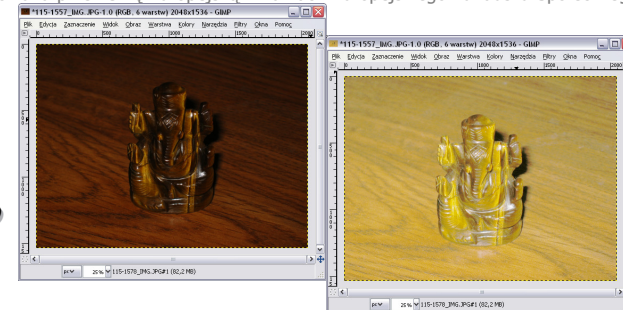
Przetwarzanie obrazów ruchomych

- Przegląd edytorów wideo
(Windows Movie Maker, Pinnacle/Avid Studio, Ulead/Corel VideoStudio)
- Możliwości programu **VirtualDub**(Mod)
- Tworzenie sekwencji przetwarzania w **GraphEdit**

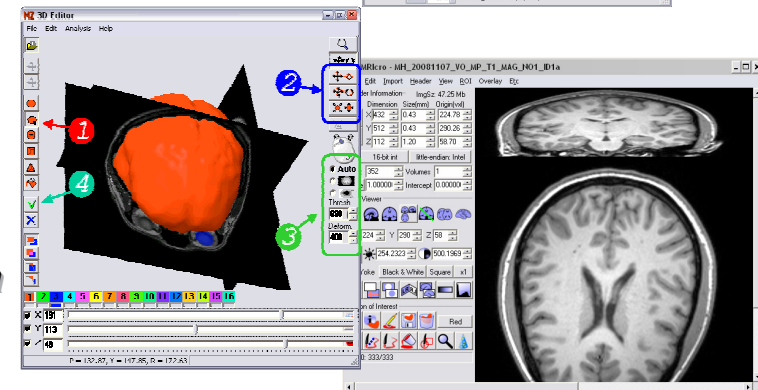
Programowanie

- Po co?
- Przegląd środowisk programistycznych
(Microsoft VisualC++, Borland Builder, NetBeans, KDevelop, Anjuta)
- Biblioteki procedur przetwarzania obrazów
(**OpenCV**, VxL, ITK, VTK)
- Technologie Multimedialne
(Helix DNA, FFmpeg, GStreamer, QuickTime, VFW, **DirectShow**, Media Foundation)
- Programowanie w
Microsoft VisualC++ Express Edition

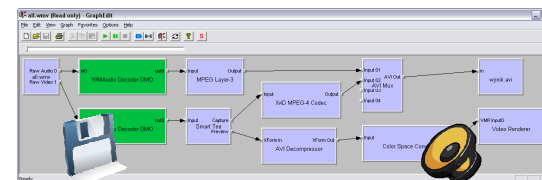
GIMP



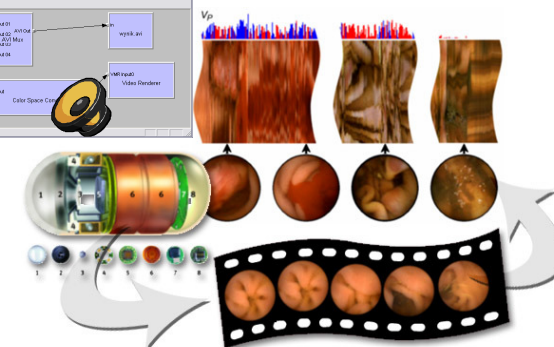
MaZda



MRicro



GraphEdit



omparison of raster graphics editors - Wikipedia, the free encyclopedia - Windows Internet Explorer

W http://en.wikipedia.org/wiki/Comparison_of_raster_graphics_editors

EdycjaWidokUlubioneNarzędziaPomoc

W Adobe Photoshop - Wikipedia...W Comparison of raster gra...x

Log in / create account



WIKIPEDIA
the Free Encyclopedia

igation

Main page

Contents

Featured content

Current events

Random article

rch

Go

Search

raction

About Wikipedia

Community portal

Recent changes

Contact Wikipedia

Donate to Wikipedia

Help

box

What links here

Related changes

Upload file

Special pages

Printable version

article

discussion

edit this page

history

Comparison of raster graphics editors

From Wikipedia, the free encyclopedia

This is a **comparison of raster graphics editors** sorted by availability.

Contents [hide]

1 List

2 General information

3 Operating system support

4 Features

5 Color spaces

6 File support

7 Notes and references

8 See also

9 External links

List

[edit]

Commercial software	Freeware	Free and open source software
■ Ability Photopaint ■ ACD Canvas (formerly Deneba Canvas) ■ Adobe Fireworks ■ Adobe Photoshop ■ Adobe Photoshop ■ Digimage Arts ■ Color It! ■ ERDAS IMAGINE ■ GraphicConverter ■ Helicon Filter ■ Home/Pro ■ iPhoto ■ PhotoPerfect ■ PicMaster ■ Pictor Paint ■ PixBuilder Photo Editor ■ Pixel image editor (formerly Pixel32)		

■ ArtRage Starter Edition

■ Artweaver

■ Brush Strokes Image Editor

■ FastStone Image Viewer

■ Helicon Filter Free

■ IfanView

■ Paint.NET

■ Aviary

■ CinePaint

■ GIMP

■ GIMPshop

■ KolourPaint

■ KOffice's Krita

■ mtPaint

raction

About Wikipedia
Community portal
Recent changes
Contact Wikipedia
Donate to Wikipedia
Help

box

What links here
Related changes
Upload file
Special pages
Printable version
Permanent link
Cite this page

anguages

Bosanski
Español
Polski
Slovenščina

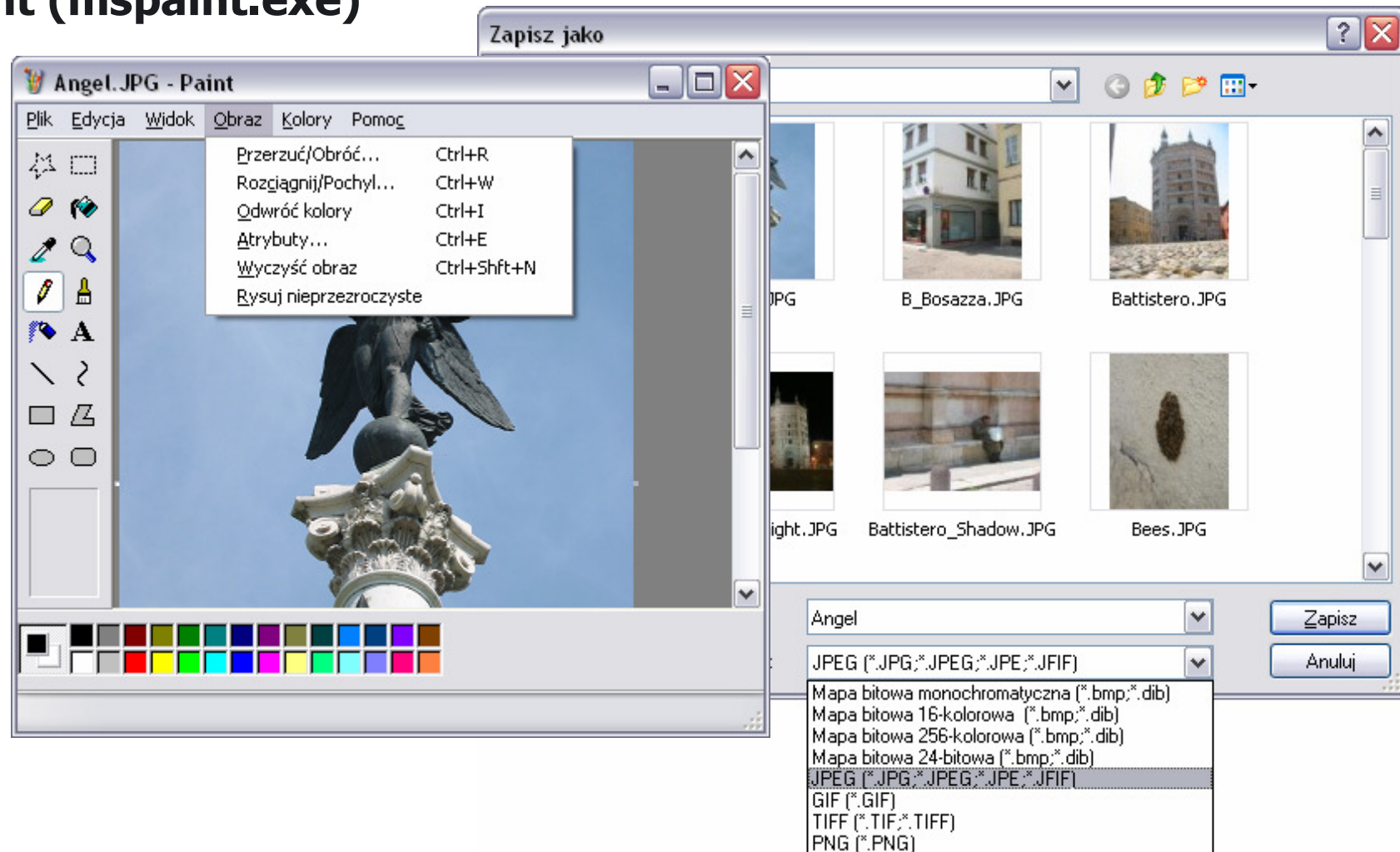
List

[edit]

Commercial software			Freeware	Free and open source software
- Ability Photopaint - ACD Canvas (formerly Deneba Canvas) - Adobe Fireworks - Adobe Photoshop - Adobe Photoshop Lightroom - Adobe Photoshop Elements - Autodesk SketchBook Pro - Aperture - ArtRage - CodedColor - Corel Painter - Corel Painter Essentials - Corel Paint Shop Pro Photo - Corel Photo-Paint - cosmigo Pro Motion	- Digimage Arts Color It! - ERDAS IMAGINE - GraphicConverter - Helicon Filter - Home/Pro - iPhoto - LView Pro - Manga Studio - Microsoft Digital Image (formerly Microsoft Picture It!) - Microsoft Office Picture Manager - Microsoft Paint - MST Viewer - Naked light - OpenCanvas - Photogenics - Photo Mechanic	- PhotoPerfect - PicMaster - Pictor Paint - PixBuilder Photo Editor - Pixel image editor (formerly Pixel32) - Pixelmator - Portrait Professional - Project Dogwaffle - QFX - SAI - TVPaint - TwistedBrush Pro Studio - Unified Color HDR PhotoStudio - Ulead - PhotoImpact - Ultimate Paint - WinImages - Zoner Photo Studio	- ArtRage Starter Edition - Artweaver - Brush Strokes Image Editor - FastStone Image Viewer - Helicon Filter Free - IrfanView - Paint.NET - Picasa - Pixia - Project Dogwaffle 1.2 Free Version - TwistedBrush Open Studio - Xnview	- Aviary - CinePaint - GIMP - GIMPshop - KolourPaint - KOffice's Krita - mtPaint - Nathive - Pixen - Seashore - Tile Studio - Tux Paint



Paint (mspaint.exe)





WIKIPEDIA
the Free Encyclopedia

igation

Main page
Contents
Featured content
Current events
Random article

rch

Go Search

raction

About Wikipedia
Community portal
Recent changes
Contact Wikipedia
Donate to Wikipedia
Help

box

What links here
Related changes
Upload file
Special pages
Printable version
Permanent link

article discussion edit this page history

Adobe Photoshop

From Wikipedia, the free encyclopedia

"Photoshop" redirects here. For other uses, see [Photoshop \(disambiguation\)](#).

Adobe Photoshop, or simply **Photoshop**, is a [graphics editing program](#) developed and published by [Adobe Systems](#). It is the current and primary [market leader](#)^[*citation needed*] for commercial [bitmap](#) and [image](#) manipulation, and is the [flagship product](#) of Adobe Systems. It has been described as "an industry standard for graphics professionals"^[1] and was one of the early "[killer applications](#)" on the [PC](#).^[2]

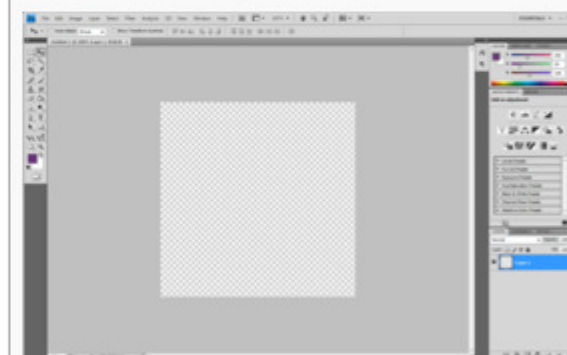
Adobe's 2005 "Creative Suite" rebranding led to Adobe Photoshop 8's renaming to Adobe Photoshop CS. Thus, Adobe Photoshop CS4 is the [11th major release](#) of Adobe Photoshop. The CS rebranding also resulted in Adobe offering numerous software packages containing multiple Adobe programs for a reduced price. Adobe Photoshop is included in most of Adobe's Creative Suite offerings.

Due to its popularity, "photoshop" has become both a verb to refer to [photo editing](#) and a [genericized trademark](#) for graphics editing software. Photoshop's popularity, combined with its high retail price, makes Photoshop's [piracy rate](#) relatively high.^[3] Adobe countered by including [SafeCast](#) DRM starting with Adobe Photoshop CS.

Contents [hide]

- 1 Development
 - 1.1 Early history
- 2 Features
 - 2.1 CS3
 - 2.2 CS4
- 3 Plugins
- 4 Trademark
- 5 Consumer market

Adobe Photoshop



Adobe Photoshop CS4 Extended running on Windows

Developed by	Adobe Systems
Latest release	CS4 and CS4 Extended (11.0) / 2008-10-15; 166 days ago
Written in	C++
OS	Mac OS X, Microsoft Windows
Available in	25 languages



WIKIPEDIA
the Free Encyclopedia

igation

Main page
Contents
Featured content
Current events
Random article

rch

Go

Search

raction

About Wikipedia
Community portal
Recent changes
Contact Wikipedia
Donate to Wikipedia
Help

box

What links here
Related changes
Upload file
Special pages
Printable version
Permanent link
Cite this page

article

discussion

edit this page

history

Corel Photo-Paint

From Wikipedia, the free encyclopedia

Corel PHOTO-PAINT is a [raster graphics](#) editor created by [Corel](#). The current version is Corel PHOTO-PAINT X4 (14).

As of version 11, Corel increasingly gave attention to the PC photography user; support for the [Windows Image Acquisition](#)-interface and [Exif](#) was introduced then, as was a Red Eye Removal Tool. The latest version available for [Macintosh](#) is version 11. Version 9 was also made available for [Linux](#), however it was less of an actual port as it depended on [Wine](#) to run. It was released as freeware and could be downloaded directly from Corel's website, although CorelDRAW 9 for Linux was not freeware.

PHOTO-PAINT functionality can be extended by [Photoshop-compatible plugins](#). They are listed in the 'Effects' menu, below the built-in effects.

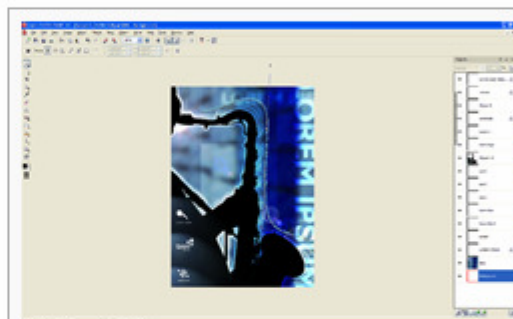
A "lite" version of Corel Photo-Paint called *Corel Photo-Paint SELECT* was the image editing software bundled with HP ScanJet 5p scanners (though possibly not with all units) and perhaps with other HP scanning hardware products.

References

[edit]

- Corel Photo Paint (Graphic Suite)

Corel PHOTO-PAINT



Corel PHOTO-PAINT X4 under Windows XP

Developed by	Corel
Latest release	X4 / January 23, 2008
OS	Windows
Type	Raster graphics editor
License	Proprietary
Website	Corel PHOTO-PAINT

v · d · e

Raster graphics editors

[hide]

Open source GIMP · Krita · KolourPaint · Tux Paint · GrafX2

Freeware Artweaver · Pixia · Paint.NET · IrfanView

Retail Adobe Photoshop · Adobe Photoshop Elements · Corel PhotoImpact · Corel Painter · Corel Painter Essentials · Corel Paint Shop Pro ·
Corel Photo-Paint · Pixel image editor · PhotoPerfect · Pixelmator · RealWorld Photos · TVPaint

Category · **Comparison**

Overview

Paint Shop Pro Photo X2 has everything you need to create stunning photos. The integrated Learning Center and a selection of one-click photo-fixing tools make it easy to correct common photo flaws such as red eye, color and sharpness. Unique makeover tools let you whiten teeth, remove blemishes and paint on a tan, so you can make everyone look their best before printing or posting photos online.

As your skills and confidence grow, you can harness the power of professional-quality features such as HDR Photo Merge, Histogram, Curves and Levels Adjustment tools to make precision edits. You can even get creative with artistic effects and filters to turn your favorite photos into fun projects to share with family and friends.

- Import pictures from your camera automatically
- Instantly fix common problems such as red eye, color and sharpness
- Add special effects to photos, text and projects with a few simple clicks
- Use advanced editing tools to fine-tune images on your own
- Print, email and share photos

Try it for FREE

DOWNLOAD TRIAL



Learn new tricks, see work by other users and explore your own creativity.



Paint Shop Pro Photo X2

Includes:

- Paint Shop Pro photo editor
- **New!** Express Lab to quickly view and edit photos

Paint Shop Pro Photo X2 Ultimate

Includes everything in Paint Shop Pro Photo X2, plus:

- **Enhanced!** Support for more than 250 camera raw formats



WIKIPEDIA
the Free Encyclopedia

igation

Main page

Contents

Featured content

Current events

Random article

rch

Go

Search

raction

About Wikipedia

Community portal

Recent changes

Contact Wikipedia

Donate to Wikipedia

Help

box

What links here

Related changes

Upload file

Special pages

Printable version

Permanent link

Cite this page

article

discussion

edit this page

history

GIMP

From Wikipedia, the free encyclopedia

For other uses, see [Gimp](#).

The **GIMP** (**GNU Image Manipulation Program**, previously **General Image Manipulation Program**) is a [free software](#), [raster graphics editor](#) used to process digital graphics and photographs. Typical uses include creating graphics and [logos](#), resizing and cropping photos, altering colors, combining multiple images, removing unwanted image components, and converting between different image formats.^[2] Along with these uses, GIMP is widely used as a tool for photo enhancement. GIMP can also be used to create basic animated images in [GIF](#) format. It is often used as a replacement for [Adobe Photoshop](#), the most widely used bitmap editor in the printing and graphics industries; however, it is not designed to be a Photoshop clone.^[3] The project's [mascot](#) is named [Wilber](#).

The project was started in 1995 by [Spencer Kimball](#) and [Peter Mattis](#) and is now maintained by a group of volunteers under the auspices of the [GNOME Project](#).^[4] The current version of GIMP works with numerous operating systems, including most [Unix](#) variants, [Microsoft Windows](#) and [Mac OS X](#). Released under the terms of the [GNU General Public License](#), the GIMP is [free software](#).

Contents [hide]

1 Features

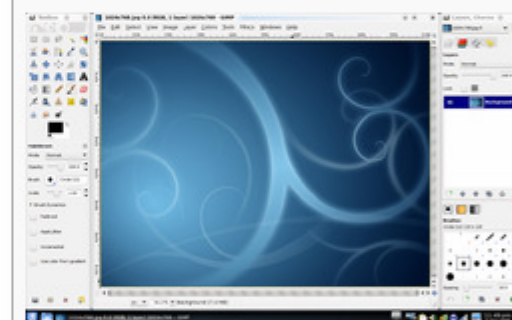
- 1.1 Color support
- 1.2 Selection and masking tools
- 1.3 Paths
- 1.4 Effects, scripts, and filters

2 Development

3 History

- 3.1 GIMP 0.54
- 3.2 GIMP 0.60

GIMP

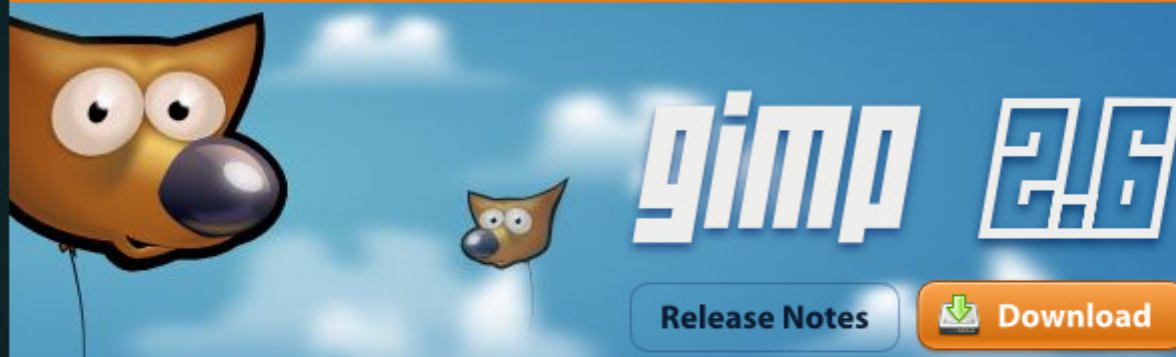


GIMP 2.6.0 running on KDE.

Developed by	The GIMP Development Team
Initial release	1995
Stable release	2.6.6 (2009-3-17; 13 days ago) [+/-]
Preview release	2.7.0 (2009-02-15; 43 days ago) [+/-]
Written in	C
Platform	Unix, Mac OS X, Microsoft Windows



GNU Image Manipulation Program

[Release Notes](#)[Download](#)

GIMP is the GNU Image Manipulation Program. It is a freely distributed piece of software for such tasks as [photo retouching](#), image composition and [image authoring](#). It works on many operating systems, in many languages. ([more...](#))

This is the official GIMP web site. It contains information about downloading, installing, using, and enhancing it. This site also serves as a distribution point for the latest releases. We try to provide as much information about the GIMP community and related projects as possible. Hopefully you will find what you need here. Grab a properly chilled beverage and enjoy.

GOOGLE SUMMER OF CODE - STUDENT 2009- APPLICATION PERIOD HAS STARTED 03-24



Google has started to accept applications from students for [Summer of Code](#).

If you are interested in [our proposals](#), then check if you meet [Google's requirements](#); have a look at their [advices](#) and check what we want to read in [your application](#).

[News](#)[Screenshots](#)[Features](#)[Downloads](#)[Documentation](#)[Get Involved](#)[Plug-in Registry](#)[GIMP Development](#)[Make a Donation](#)



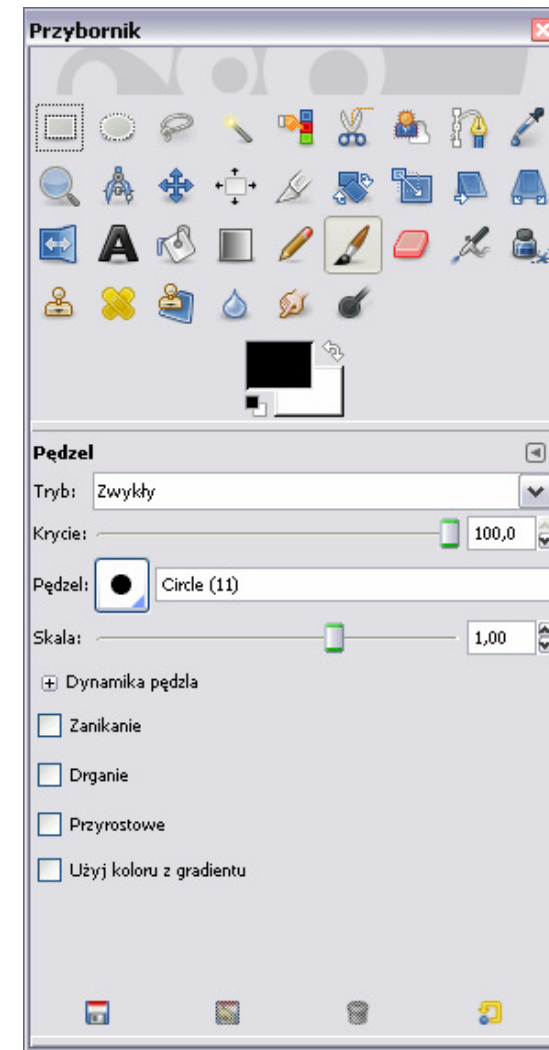
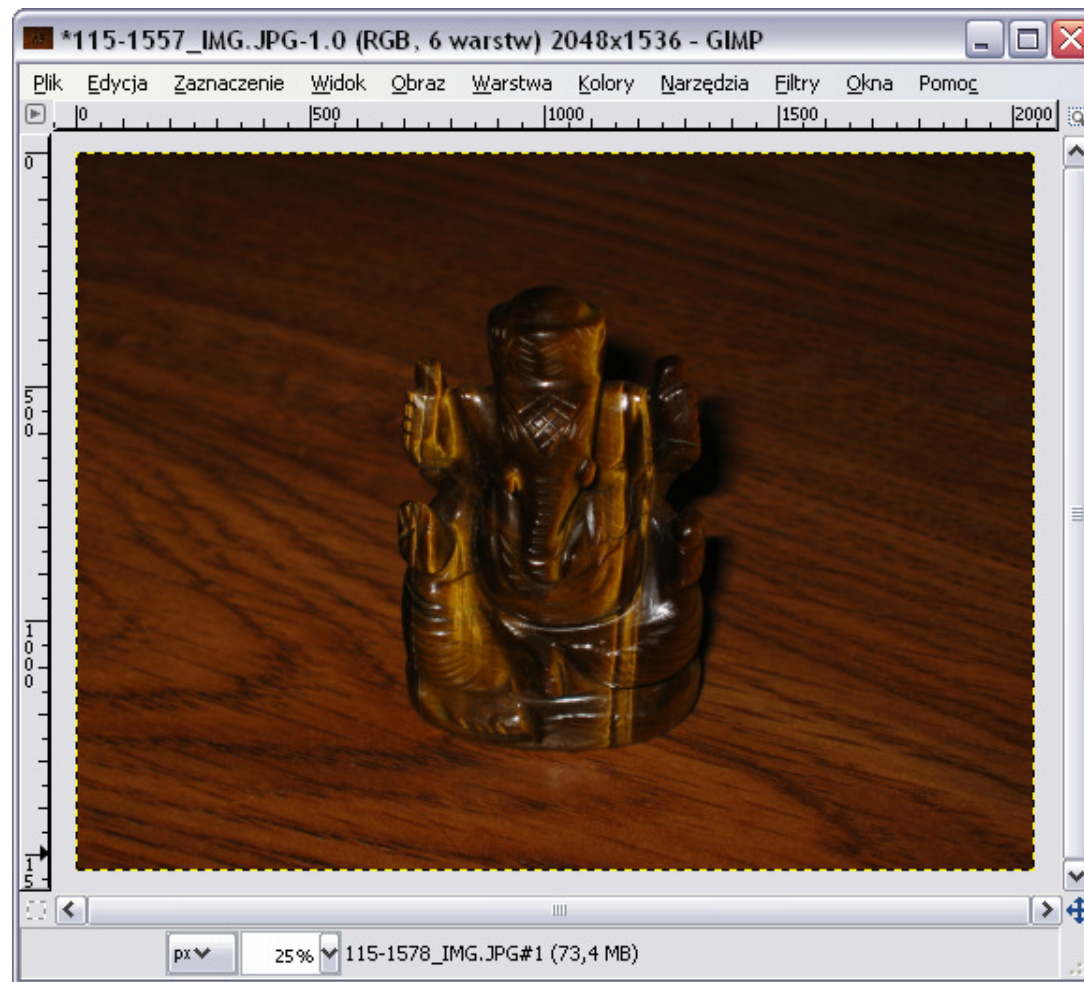
KAPITAŁ LUDZKI
NARODOWA STRATEGIA SPÓJNOŚCI

UNIA EUROPEJSKA
EUROPEJSKI
FUNDUSZ SPOŁECZNY



Prezentacja multimedialna współfinansowana przez Unię Europejską w ramach Europejskiego Funduszu Społecznego

GIMP



Politechnika Łódzka
Instytut Elektroniki

Programy komputerowe do przetwarzania i analizy obrazów oraz wideo



GIMP

Obraz

- Duplikuj Ctrl+D
- Tryb
- Przekształcenie
- Wymiary płótna...
- Dopasuj płótno do warstw
- Dopasuj płótno do zaznaczenia
- Rozmiar wydruku...
- Skaluj obraz...
- Kadruj według zaznaczenia
- Dokładnie przytnij
- Przytnij obraz
- Połącz widoczne warstwy... Ctrl+M
- Splaszcz obraz
- Wyrównaj widoczne warstwy...
- Prowadnice
- Konfiguruj siatkę...
- Właściwości obrazu Alt+Enter

Kolory

- Balans kolorów...
- Odcień i nasycenie...
- Barwienie...
- Jasność i kontrast
- Prógowanie...
- Poziomy...
- Krzywe...
- Redukcja kolorów...
- Desaturacja...
- Inwersja
- Odwroćcie wartości
- Użyj GEGL-a
- Automatycznie
- Składowe
- Odwzorowania
- Informacje
- Filtre...
- Koloryzacja...
- Maksymalizacja RGB...
- Retinex...
- Usuwanie gorących punktów...
- Zmień kolor w alfa...

Filtre

- Powtórz ostatni Ctrl+F
- Wyświetl ponownie ostatni Shift+Ctrl+F
- Resetuj wszystkie filtry
- Rozmycie
- Uwydatnianie
- Zniekształcenia
- Światło i cień
- Szum
- Wykrywanie krawędzi
- Ogólne
- Łączenie
- Artystyczne
- Dekoracja
- Odwzorowania
- Renderowanie
- Sieć WWW
- Animacja
- Alfa na logo
- Script-Fu





WIKIPEDIA
the Free Encyclopedia

igation

Main page

Contents

Featured content

Current events

Random article

rch

Go

Search

raction

About Wikipedia

Community portal

Recent changes

Contact Wikipedia

Donate to Wikipedia

Help

box

What links here

Related changes

Upload file

Special pages

Printable version

Permanent link

article

discussion

edit this page

history

ImageJ

From Wikipedia, the free encyclopedia

ImageJ is a public domain, [Java](#)-based [image processing](#) program developed at the [National Institutes of Health](#).^[1] ImageJ was designed with an [open architecture](#) that provides extensibility via [Java plugins](#) and recordable macros.^[2] Custom acquisition, analysis and processing plugins can be developed using ImageJ's built-in editor and a Java compiler. User-written plugins make it possible to solve many image processing and analysis problems, from three-dimensional live-cell imaging,^[3] to [radiological](#) image processing,^[4] multiple imaging system data comparisons^[5] to automated [hematology](#) systems.^[6] ImageJ's plugin architecture and built in development environment has made it a popular platform for teaching image processing.^{[7][8]}

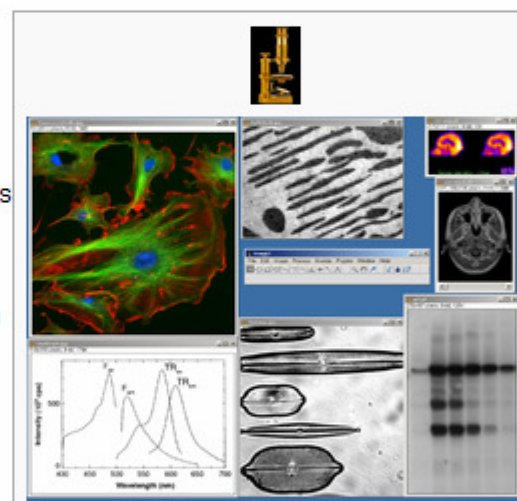
ImageJ can be run as an online [applet](#), a downloadable application, or on any computer with a Java 1.4 or later [virtual machine](#). Downloadable distributions are available for [Microsoft Windows](#), [Mac OS](#), [Mac OS X](#), [Linux](#), and the [Sharp Zaurus PDA](#). The source code for ImageJ is [freely available](#) [↗](#) - an important issue when working with scientific images.^[9]

The project developer, Wayne Rasband, is at the Research Services Branch of the [National Institute of Mental Health](#).

Contents [hide]

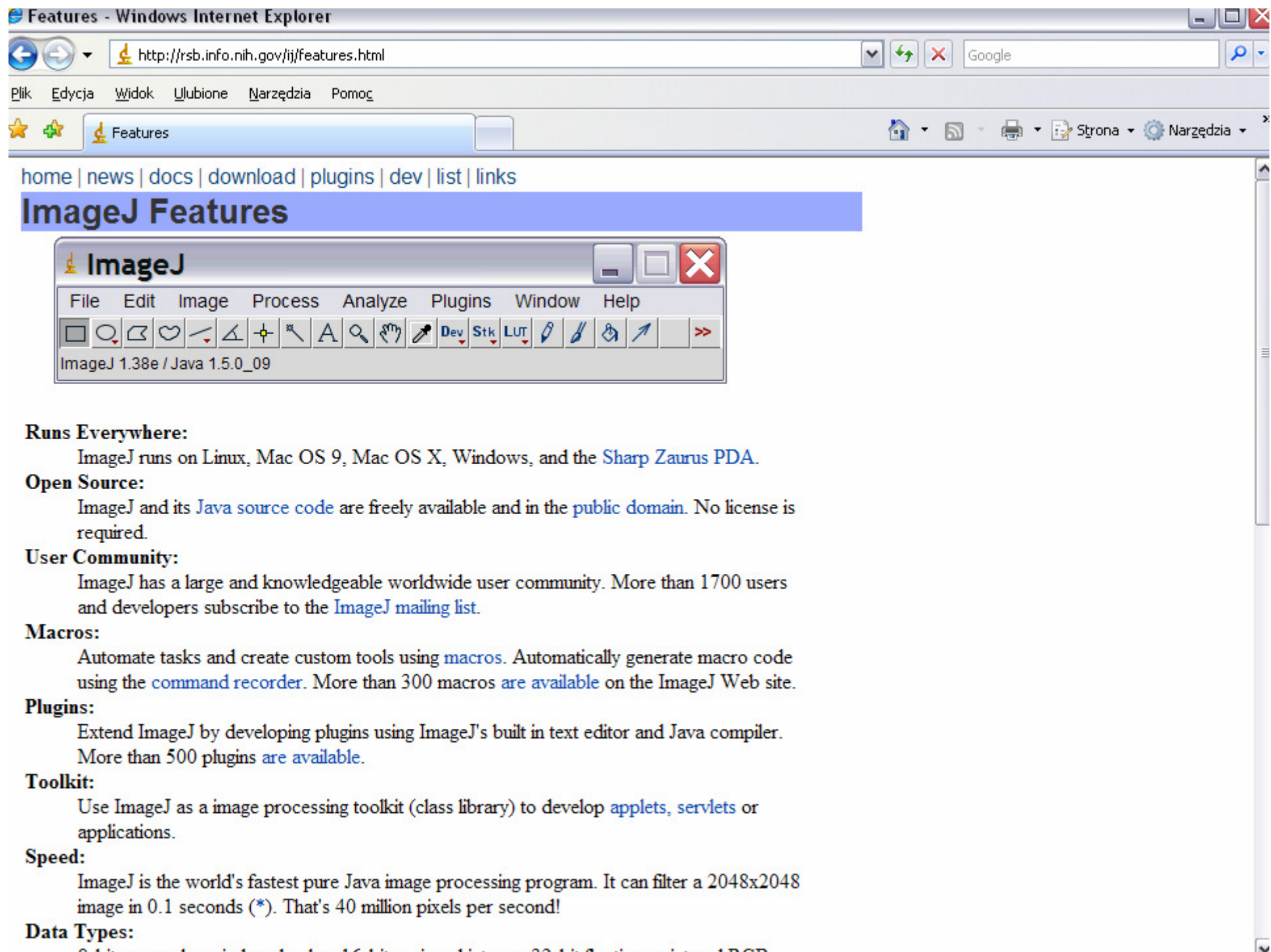
- Specifications
- History
- See also
- References
- External links
 - Distributions
 - Plug-ins
 - NIH Image

ImageJ



Screenshot of ImageJ

Developed by	Wayne Rasband (NIH)
Latest release	1.42j / 2009-02-23; 32 days ago
OS	Any (Java -based)
Type	Image processing
License	Public Domain
Website	http://rsb.info.nih.gov/ij/ ↗



Runs Everywhere:

ImageJ runs on Linux, Mac OS 9, Mac OS X, Windows, and the [Sharp Zaurus PDA](#).

Open Source:

ImageJ and its [Java source code](#) are freely available and in the [public domain](#). No license is required.

User Community:

ImageJ has a large and knowledgeable worldwide user community. More than 1700 users and developers subscribe to the [ImageJ mailing list](#).

Macros:

Automate tasks and create custom tools using [macros](#). Automatically generate macro code using the [command recorder](#). More than 300 macros [are available](#) on the ImageJ Web site.

Plugins:

Extend ImageJ by developing plugins using ImageJ's built in text editor and Java compiler. More than 500 plugins [are available](#).

Toolkit:

Use ImageJ as a image processing toolkit (class library) to develop [applets](#), [servlets](#) or applications.

Speed:

ImageJ is the world's fastest pure Java image processing program. It can filter a 2048x2048 image in 0.1 seconds (*). That's 40 million pixels per second!

Data Types:

8-bit unsigned short, 16-bit unsigned short, 32-bit float, 32-bit double, 1-bit binary

Plugins - Windows Internet Explorer

http://rsb.info.nih.gov/ij/plugins/index.html

Plik Edycja Widok Ulubione Narzędzia Pomoc

Plugins

home | news | docs | download | plugins | macros/dev | list | links

Plugins

Contents

- [Acquisition](#)
- [Analysis](#)
- [Collections](#)
- [Color](#)
- [Filters](#)
- [Graphics](#)
- [Input/Output](#)
- [Programming Examples](#)
- [Stacks](#)
- [Utilities](#)
- [More Sites with Plugins](#)

Acquisition [top]

- [Hamamatsu Orca 12-bit Camera](#)
- [Shading Corrector](#)
- [QuickTime Capture \(Capture images using QuickTime\)](#) Updated
- [TWAIN](#)
- [JTwain](#)
- [SensiCam Long Exposure Camera](#)
- [Video Capture Macro Tool \(Video for Windows via VirtualDub\)](#) New
- [Capturing plugin \(Captures images on Windows using JMF\)](#) New

www.scioncorp.com: Scion Frame Grabbers and Firewire Cameras

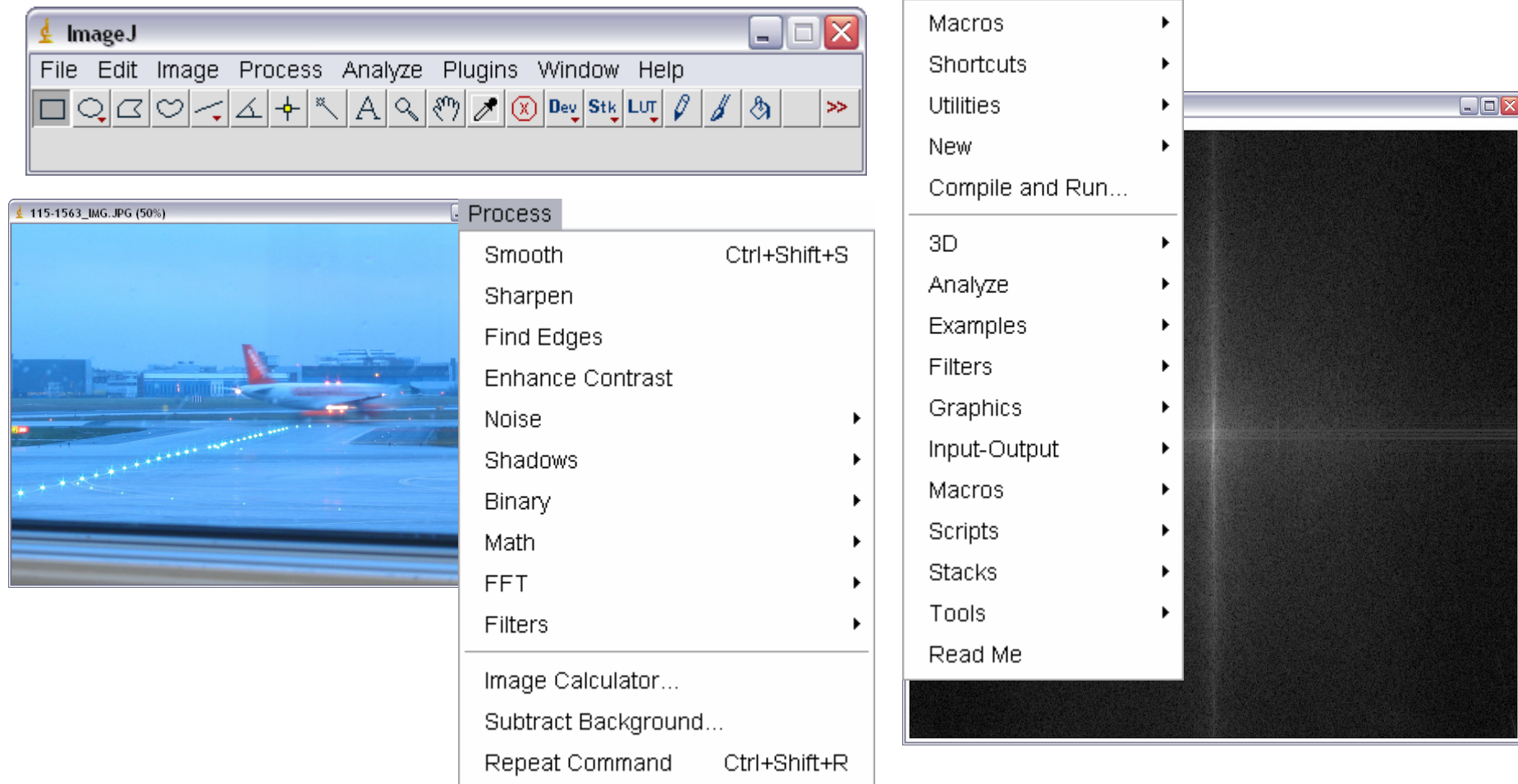
www.qimaging.com: QImaging Firewire Cameras

[ScionFGAkiz](#): Scion full-frame-rate capture

[FWCamAkiz](#): Mac OS X Firewire Cameras

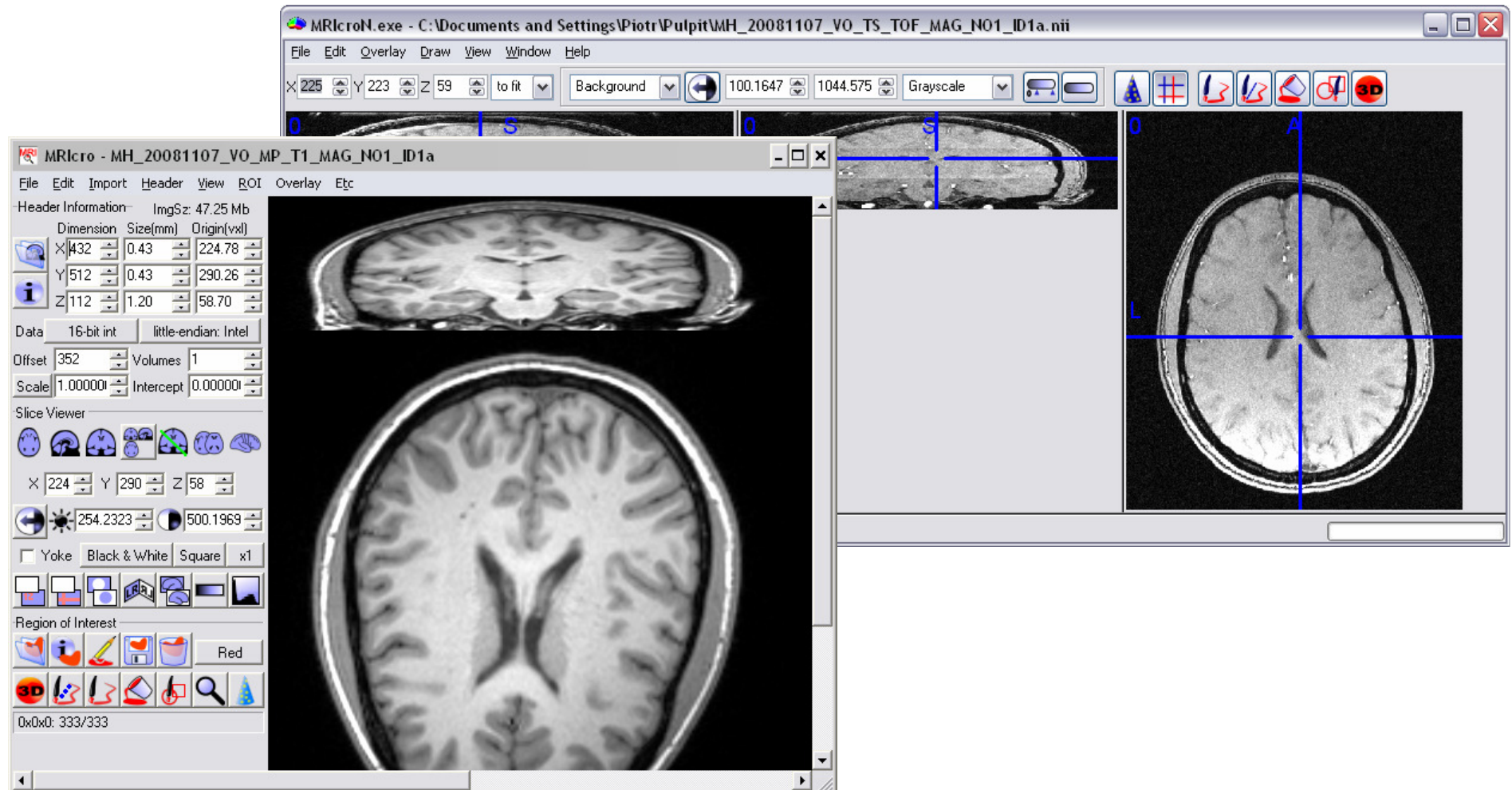


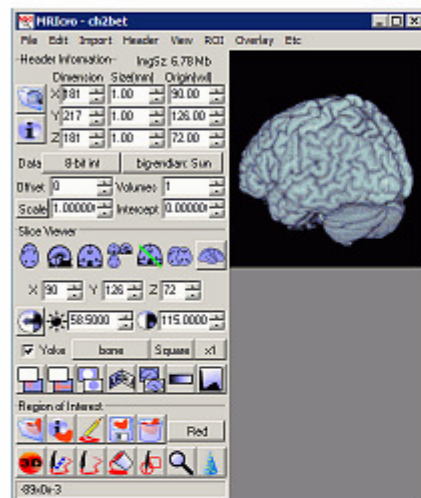
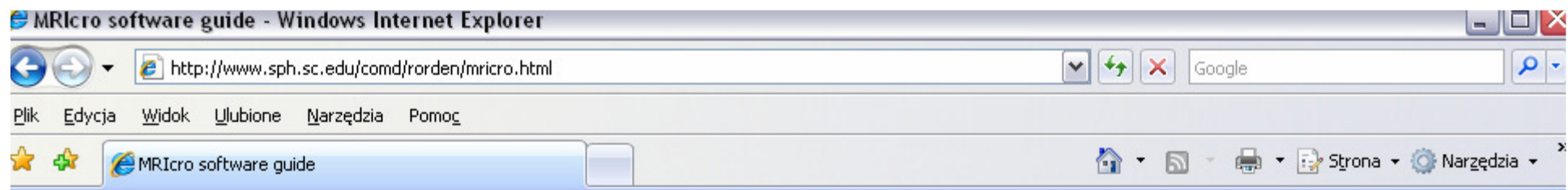
ImageJ





MRicro & MRicron





System requirements:

Windows 95 or later

[Linux x86](#), [Solaris x86](#)

Hardware requirements:

16 or 24-bit colour

Current version:

1.40 build 1

Price:

Free (see [installation](#) section to download)

Author:

[Chris Rorden](#)

Features:

- Converts medical images to SPM friendly Analyze format.
- View Analyze format images (big or little endian).
- Create Analyze format headers (big or little endian).
- Create 3D regions of interest (with computed volume & intensity).
- Overlap multiple regions of interest.
- Rotate images to match SPM template images.
- Export images to BMP, JPEG, PNG or TIF format.
- Yoked images: linked viewing of multiple images (e.g. view same coordinates of PET and MRI scans).

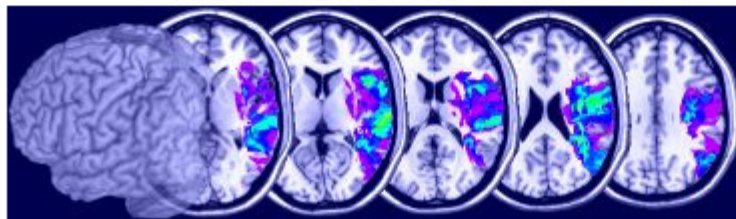
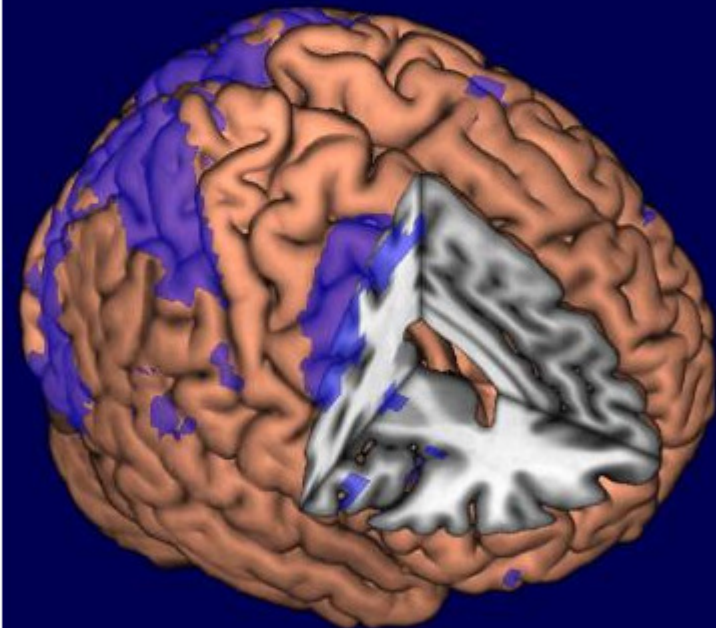
Index

1. [Introduction](#)



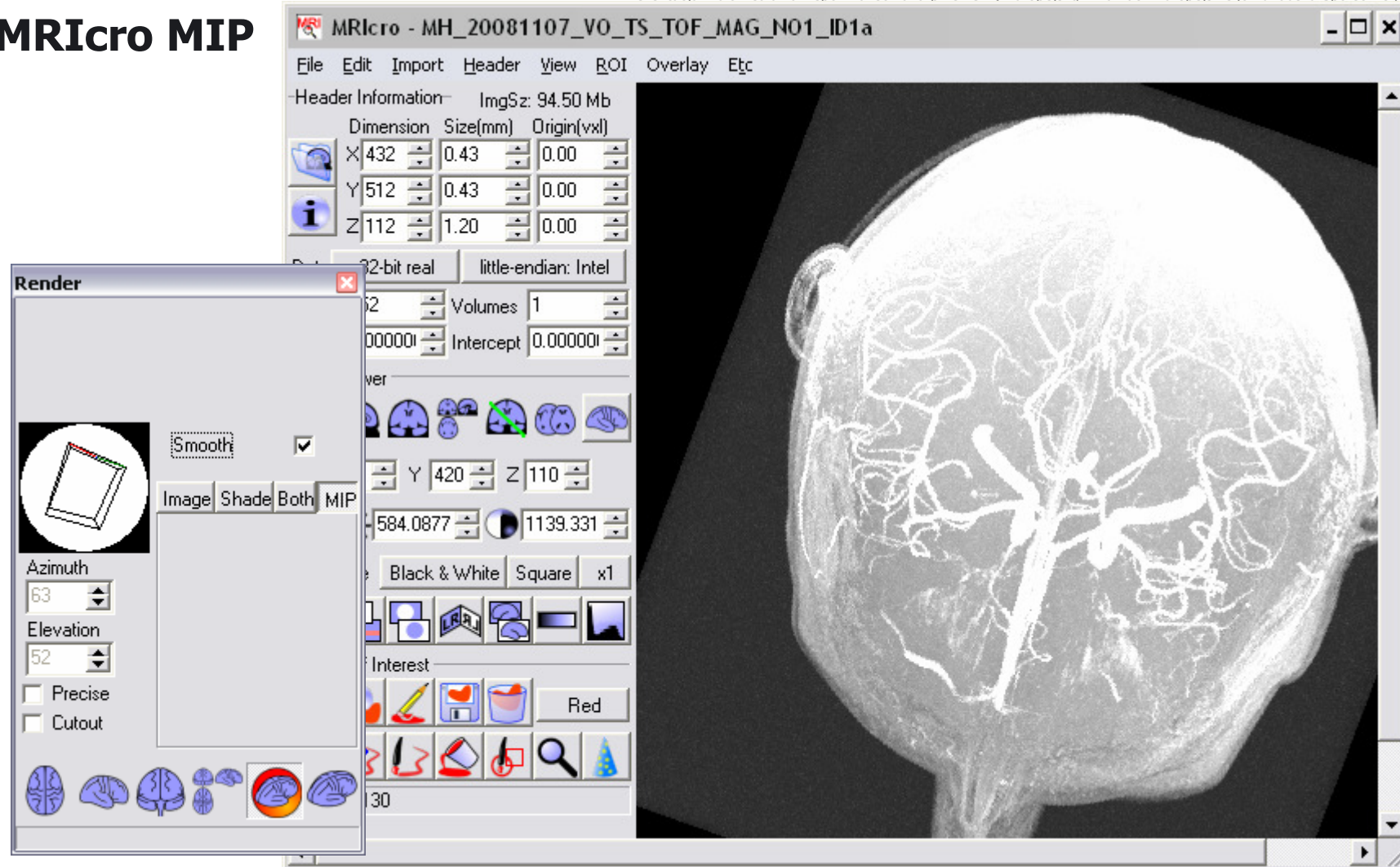
MRICron Index

- [Installation](#) - Putting this software on your computer.
- [Introduction](#) - Basic usage, showing statistical overlays, rendering
- [dcm2nii](#) - Converting scanner images (DICOM) to NIfTI format. Allows programs like MRICron, FSL and SPM5 to view scans.
- [Statistics](#) - lesion symptom mapping
- [Peristimulus plots](#) - viewing fMRI datasets
- [Batch and initialization Files](#) - Advanced tips and tricks



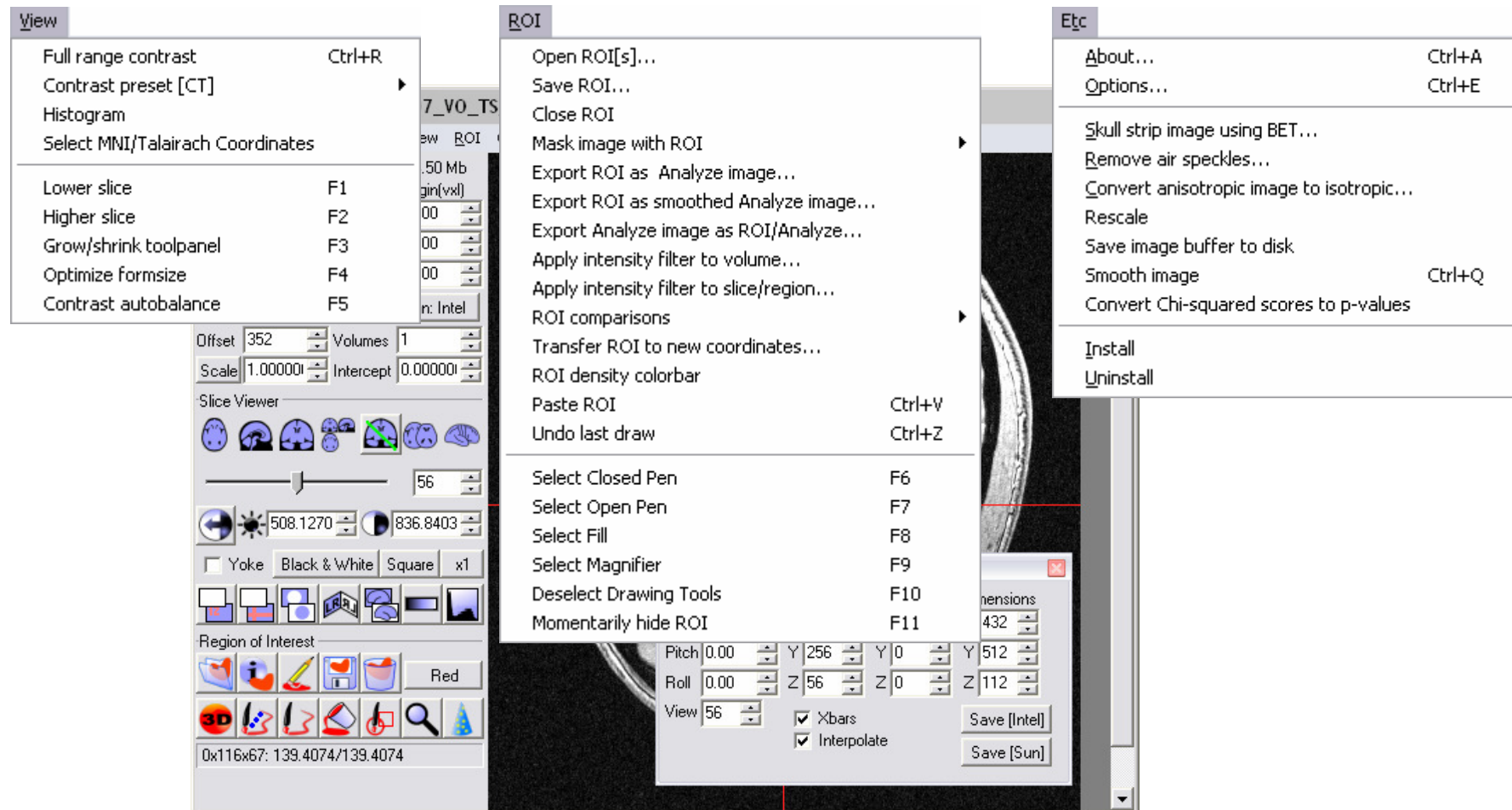


MRicro MIP



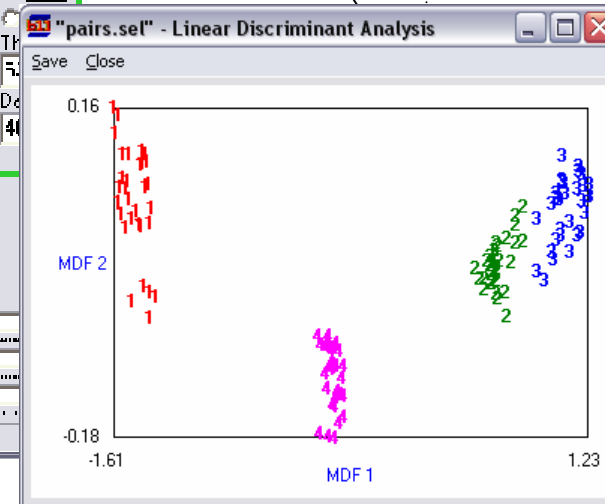
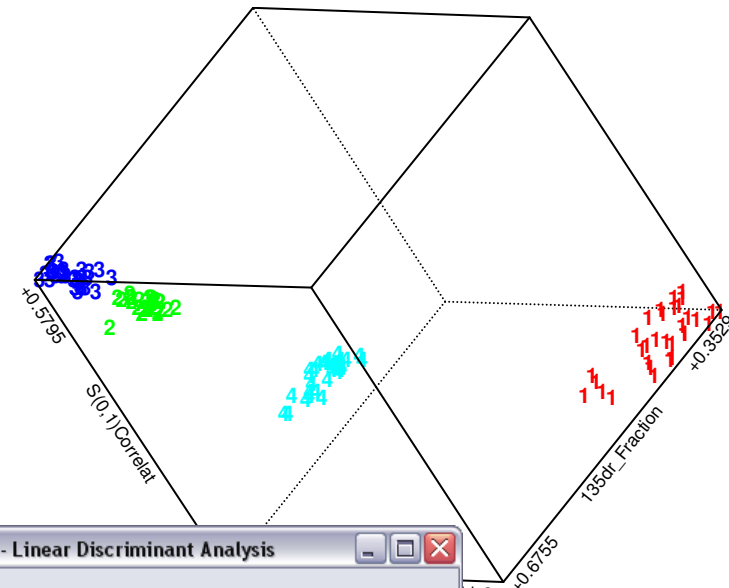
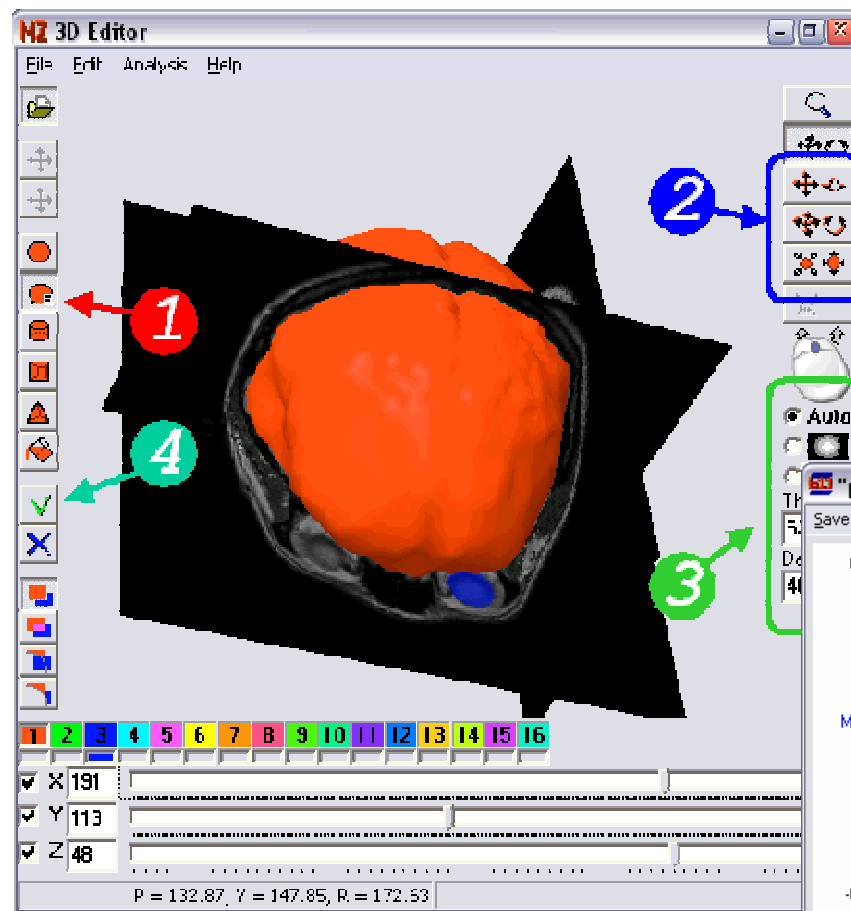


MRicro – image filtration and plugins





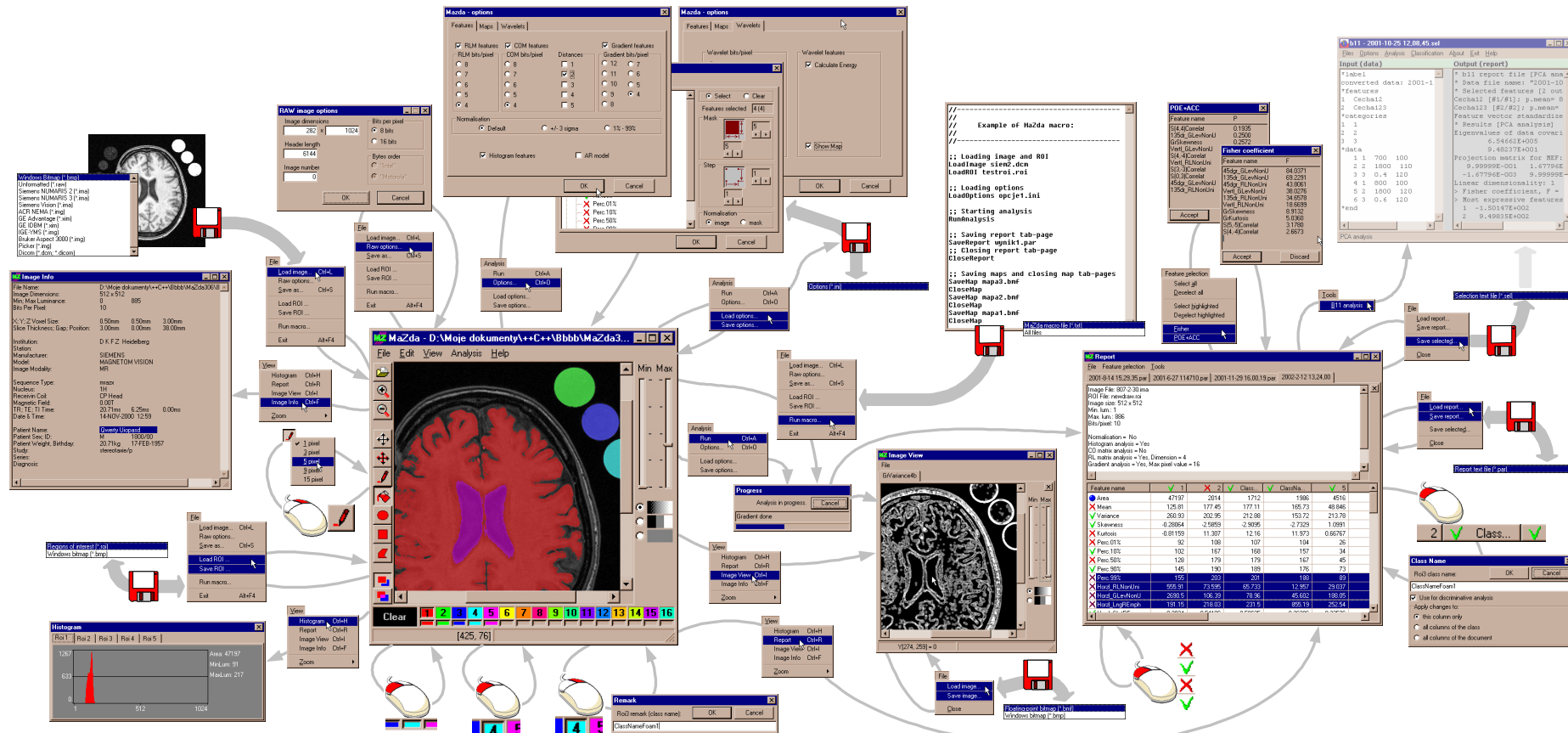
MaZda + b11





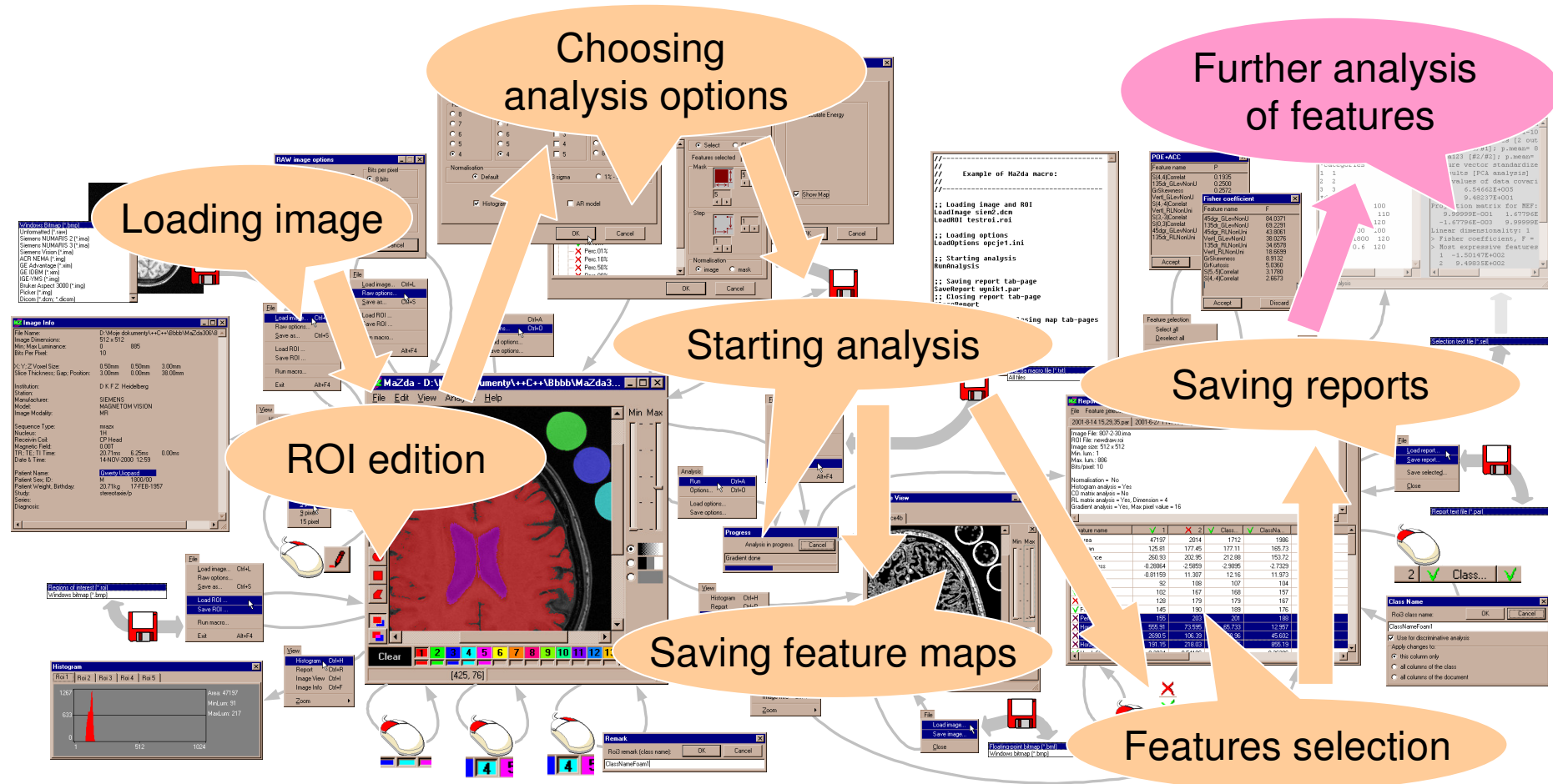
MaZda + b11

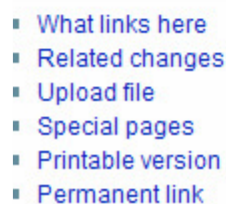
<http://www.elel.p.lodz.pl/mazda/>





MaZda + b11





history

From Wikipedia, the free encyclopedia

This is a comparison of [non-linear video editing software](#) applications. See also a more complete [list of video editing software](#).

Contents [hide]

- 1 General information
- 2 System requirements
- 3 High definition import
- 4 Feature set
- 5 Output options
- 6 Target market
- 7 See also
- 8 External links

General information

[\[edit\]](#)

This table gives basic general information about the different editors:

Program 	Developer 	Year of first release 	Year of latest release 	Latest version 	List price (USD) 	License 
Adobe Premiere/Premiere Pro	Adobe Systems	1991	2008	CS4	\$799	Proprietary
Adobe Premiere Elements	Adobe Systems	2004	2008	7.0	\$100	Proprietary
Avid Free DV	Avid	?	?	1.8	Free (No Longer Available)	Proprietary
Avid Xpress DV	Avid	2000	?	4.8	No longer Available	Proprietary
Avid Xpress Pro Studio HD	Avid	2003	?	5.8	\$1695	Proprietary



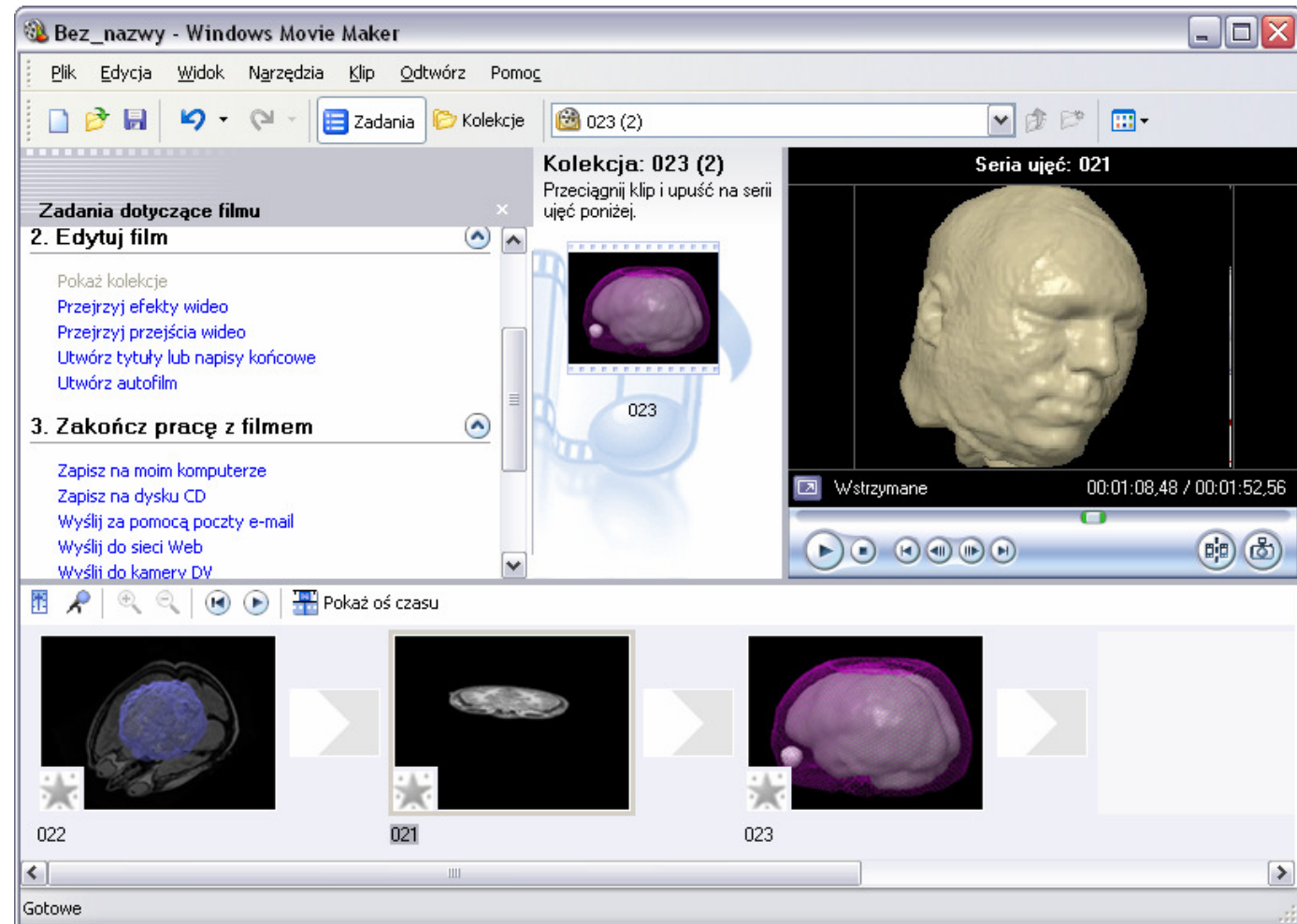
http://en.wikipedia.org/wiki/Comparison_of_video_editing_software

Program ^[x]	Developer ^[x]	Year of first release ^[x]	Year of latest release ^[x]	Latest version ^[x]	List price (USD) ^[x]	License ^[x]
Adobe Premiere/Premiere Pro	Adobe Systems	1991	2008	CS4	\$799	Proprietary
Adobe Premiere Elements	Adobe Systems	2004	2008	7.0	\$100	Proprietary
Avid Free DV	Avid	?	?	1.8	Free (No Longer Available)	Proprietary
Avid Xpress DV	Avid	2000	?	4.8	No longer Available	Proprietary
Avid Xpress Pro Studio HD	Avid	2003	?	5.8	\$1695	Proprietary
Avid Liquid	Avid	2003	?	7.2	\$999	Proprietary
Avid Media Composer	Avid	1989	2008	3.1.1	\$2495	Proprietary
Avidemux			2009	2.44	Free	GPL
Cinelerra	Heroine Virtual	2002	2008	4.0	Free	GPL
Dayang Montage Extreme	Dayang	2007	2009	1.2	\$898	Proprietary
EditDV/Cinestream	Radius	1997	2002	3.0	\$999	Proprietary
Edius	Grass Valley Canopus	2002	2008	5.0	\$799	Proprietary
Final Cut Express	Apple	2003	2007	4.0.1	\$199	Proprietary
Final Cut Pro/Studio	Apple	1999	2007	6	\$1299	Proprietary
Avid Free DV	Avid Technology	2001	2008	7	\$69.95, \$119.95	Proprietary
CyberLink PowerDirector ^[1] ^[x]	Cyberlink		2008	7	\$69.95, \$119.95	Proprietary
FORscene	Forbidden Technologies	2004	?	15 April 2007	from \$2/hour	Proprietary
iMovie	Apple	1999	2009	8.0.1	\$79 (as part of the iLife suite); free on new Macs	Proprietary
PiTiVi	Open Source Community	2004	2009	0.13	Free	LGPL
Kdenlive	Open Source Community	2002	2009	0.7.2.1	Free	GPL
Kino	Open Source Community	2000	2008	1.3.0	Free	GPL
LIVES	Salsaman	2002	2009	0.9.9.6	Free	GPL
MainActor	MainConcept	2004	2007	5.5	\$199 (No longer available)	Proprietary
Media 100	Media 100 (now part of Boris FX)	2006	?	11.6.3	\$1495.00	Proprietary
Mpeg Video Wizard	Womble Multimedia	2004	2008	December 2008	\$49.00	Proprietary
Mpeg Video Wizard DVD	Womble Multimedia	2006	2008	4.0.4.112	\$69.00	Proprietary
Pinnacle Studio MediaSuite	Pinnacle Systems (now part of Avid)	2000	2007	11	\$129.99	Proprietary
Pinnacle Studio	Pinnacle Systems	2007	2008	12.1	\$129.99	Proprietary
Serif MoviePlus	Serif (Europe) Ltd.	2003	2008	X3 (6.0.1)	\$79.99	Proprietary
Sony Vegas	Sony Media Software	?	2007	8.0c	\$449.96	Proprietary
Ulead MediaStudio Pro	Ulead Systems (now part of Corel Corporation)	?	?	8.1	\$399.99	Proprietary
Ulead VideoStudio Plus	Ulead Systems (now part of Corel Corporation)	2000	2007	11	\$99.99	Proprietary
VideoThang TM	VideoThang LLC	2007	2008	2.0.1	Free	Proprietary
VirtualDub	Avery Lee	2000	2009	1.8.8	Free	GPL
VirtualDubMod		2002	2006	1.5.10.2 b2542	Free	GPL
Windows Movie Maker	Microsoft	2000	?	6.0.6000.16386	Bundled with Windows	Proprietary
	Developer	Year of first release	Year of last release	Latest version	List price (USD)	License





Windows Movie Maker





WIKIPEDIA
the Free Encyclopedia

igation

Main page
Contents
Featured content
Current events
Random article

rch

Go Search

raction

About Wikipedia
Community portal
Recent changes
Contact Wikipedia
Donate to Wikipedia
Help

box

What links here
Related changes
Upload file
Special pages
Printable version
Permanent link

article discussion edit this page history

Pinnacle Studio

From Wikipedia, the free encyclopedia

Pinnacle Studio is a **non-linear video editing** software application manufactured by **Pinnacle Systems**, a division of **Avid Technology**. It is the consumer level counterpart to Pinnacle's former professional level software, **Liquid Edition** (now **Avid Liquid**). It also inherits from **VOB Computersysteme's Instant CD/DVD**. Studio allows users to author video content, create **VCD/DVDs** with menus and burn them without the need for any additional software.

Pinnacle Studio may be purchased separately, but is also included in bundled packages with various video capture hardware devices. These include analog and digital capture, either as PCI cards or connection via USB. In September 2007, Pinnacle released new versions of their Moviebox devices, including HDV and AVCHD support, shipped with their new Studio products.

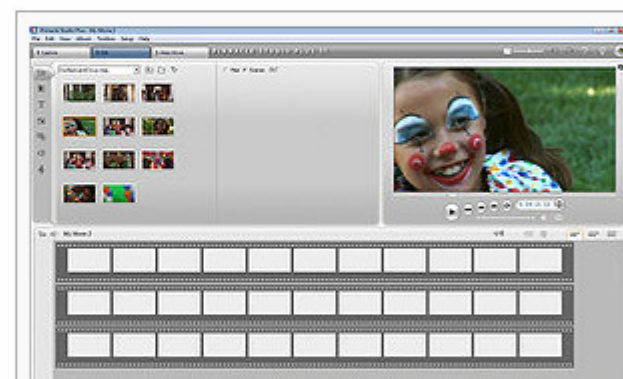
In addition, a cut-down *SE* version entitled *Pinnacle Studio QuickStart* was included with the *Dazzle* (another USB capture device) and *Pinnacle PCTV* products, though since the release of Studio 12, the QuickStart version has been discontinued; Dazzle Video Creator Platinum now ships with the regular basic version of Studio, and the PCTV products ship with VideoSpin (*see below*).

Contents [hide]

- 1 Versions
- 2 VideoSpin
- 3 References
- 4 External links

Versions

Pinnacle Studio



Pinnacle Studio 11 in Windows Vista

Developed by	Pinnacle Systems
Latest release	12.1 / October 15, 2008
Preview release	None / None
OS	Windows XP, Windows Vista
Type	Video editing software
License	Proprietary
Website	pinnaclesys.com

[edit]



pinnacle

A part of Avid

Avid

United Kingdom

Your Cart

Log-In | Store Locator

Products

Support

Store

Pinnacle Life

About us

GO

Pinnacle Home / Products / Video editing

Resources

Compare

Pinnacle Studio

With 25 new features including Pinnacle Montage, Pinnacle Studio version 12 makes video editing faster and easier than ever before.



Video: See what's new in version 12



Top reasons to upgrade



Studio version 12



Simplified

Easily create stunning movies that you can share on the web, DVD, or portable devices.

Info

Studio Plus version 12



Enhanced

Studio's renowned ease-of-use plus complete HD workflow including Blu-ray authoring.

Info

Studio Ultimate version 12



Mastered

Complete creative control, full HD video editing and new professional video tools.

Info

Software editors

» [Media Composer Software](#)



Best choice for offline, file-based, and mobile editing

- Avid Media Composer editing toolset
- End to End XDCAM support
- Full Native P2, and XDCAM SD & HD disc/card access and editing with Avid Media Access
- HD, SD, DV, and film editing
- Extensive effects tools
- Total Conform with Avid finishing systems
- Mac and PC compatible
- Web & mobile encoding
- DVD + BD authoring (PC only)
- Optional SD monitoring and

Mainstream HD Editorial

» [Media Composer Nitris DX](#)
» [Media Composer Mojo DX](#)



Best choice for full featured film and video editing

- Avid Media Composer editing toolset
- HD, SD, DV and film editing
- End to End XDCAM support
- Full Native P2, and XDCAM SD & HD disc/card access and editing with Avid Media Access
- Real-time multi-format playback and effects to video output
- Mac and PC compatible
- Integrated hardware/software solution
- Choose [Media Composer Nitris DX](#) for standard digital

HD Online and Finishing

» [Symphony Nitris DX](#)



Best choice for real-time online mastering and finishing

- Avid Symphony editing & finishing toolset
- Turnkey solution with software, CPU and full SD and HD I/O Hardware-based Avid DNxHD encode and decode
- HD, SD, DV, and film editing
- End to End XDCAM support
- Full Native P2, and XDCAM SD & HD disc/card access and editing with Avid Media Access
- Real-time multi-format SD and HD finishing
- Total Conform of Avid offline projects

FX-Online & Hi-Res Conform

» [DS](#)



Best choice for FX-online, Compositing & Graphics, Hi-Res Conform

- Avid DS toolset for advanced compositing, visual FX, conform, and finishing
- Real-time SD, HD, HD-RGB & 2K playback
- Advanced conform of Avid projects including DI Conform (DPX and RED)
- Integrated creative environment
- Color management
- Turnkey software and SD

Avid

[Learn more.](#)



WIKIPEDIA
the Free Encyclopedia

igation

Main page

Contents

Featured content

Current events

Random article

rch

Go Search

raction

About Wikipedia

Community portal

Recent changes

Contact Wikipedia

Donate to Wikipedia

Help

box

What links here

Related changes

Upload file

Special pages

Printable version

Permanent link

article

discussion

edit this page

history

Ulead VideoStudio

From Wikipedia, the free encyclopedia

Ulead VideoStudio is a *non-linear video editor* for *Microsoft Windows* distributed by *Ulead Systems* (a division of *Corel*). The latest version of the software is X2.

Contents [hide]

1 Features

1.1 Basic Editing

1.2 Transitions

1.3 Video Filters

1.4 Overlay

1.5 Other Features

2 See also

3 External links

Features

[edit]

Basic Editing

[edit]

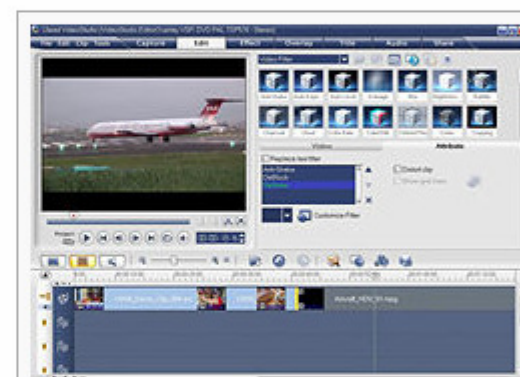
The software allows both storyboard and timeline-oriented editing. Different formats are supported for source clips, and the resulting video can be exported to DVD, AVCHD, HD-DVD and AVI. VideoStudio also supports direct DV and HDV capturing to disk.

Transitions

[edit]

Video transitions are placed into different categories such as FX, which contains assorted video effects such as 'Burn' and 'Fade to black'; 3D, which contains assorted 3D transition effects; and Album, which creates a slideshow effect similar to that of a *photo album*.

Ulead VideoStudio



The main interface of Ulead VideoStudio 11

Developed by	Ulead Systems (Corel)
Latest release	VideoStudio Pro X2
OS	Microsoft Windows
Type	Video editing software
License	Proprietary
Website	Ulead VideoStudio Homepage

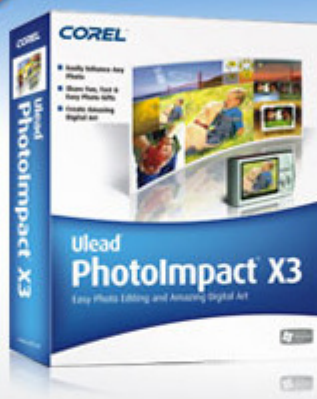


Product | Purchase | Download | Support | Solution | Company |

Member Shopping Cart Ulead Worldwide RSS

Search

NEW



PhotoImpact® X3

Easy Photo Editing and Amazing Digital Art



Learn More

Got Vista?

Find out about Ulead support!



New! Flash Tour

VideoStudio 11
Step-by-Step Guide



Ulead Joins
Corel Family

COREL

Featured Products



VideoStudio X2

Easy & Powerful Video Editing
[Free Trial](#) | [Buy Now](#)



PhotoImpact X3

Easy Photo Editing and Amazing Digital Art
[Free Trial](#) | [Buy Now](#)



Ulead DVD MovieFactory 6

The Easy way to Create Video and SlideShow Discs—and More!
[Free Trial](#) | [Buy Now](#)

Video Editing

VideoStudio | MediaStudio Pro

Global News & Events

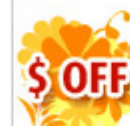
- ▶ Ulead VideoStudio 11/11 Plus Hot Fix 01
- ▶ Ulead DVD MovieFactory 6/6 Plus Hot Fix 01
- ▶ Ulead DVD MovieFactory 6 Plus HD Power Pack
- ▶ Ulead® VideoStudio® 10 Earns Vista Certification
- ▶ More...



Ulead VideoStudio 11 Power Pack

Download the pack now for new enhancements and fixes

Purchase



Special Offers!

Find all current special offers here!



Upgrade Center

Upgrade now and SAVE up to 50%

COREL

freedom to create your way™



Sign In

Search Corel



All Products ▾

Store

Free Trials

Resources ▾

About Corel ▾

Support ▾

United States (Change) ▾

[Home](#) > [All Products](#) > [Video & DVD](#) > [Video Editing](#) > [VideoStudio X2](#)

Standard

Pro

[Compare Versions](#)

Exclusive Offer

SAVE 10%

Limited Time Offer
Save an additional 10%
on this product
Enter Coupon Code **VSOFFER**
in the shopping cart

Related Information

[Tutorials](#)

VideoStudio® Pro x2

Video editing & DVD authoring with
high-definition support

**Video editing and DVD creation in HD**

Corel VideoStudio® Pro X2 is an all-in-one video-editing software for creating high-quality HD and standard-definition movies, slide shows and DVDs. Edit video or photos quickly and easily using the Movie Wizard, or take full control with hands-on creative tools. Even paint, write or draw on your video. Burn your movies on DVDs, or high-definition AVCHD™ and Blu-ray discs. Share on PSP®, iPod® or iPhone®, upload directly to YouTube™. Watch your movies on set-top players or with the included Corel® WinDVD®.

Also available: [VideoStudio X2](#)[Which version is right for you?](#)**FREE GIFT WITH PURCHASE!**

Call 1-866-661-6041 to order

Full	\$99.99
	\$79.99 USD
Upgrade	\$59.99
	\$49.99 USD

Buy Now[Are you eligible to upgrade?](#)

Overview

[What's Included](#)[What's New](#)[Features](#)[Reviews](#)[System Requirements](#)[Free Trial](#)

Overview



WIKIPEDIA
the Free Encyclopedia

igation

[Main page](#)

[Contents](#)

[Featured content](#)

[Current events](#)

[Random article](#)

rch

raction

[About Wikipedia](#)

[Community portal](#)

[Recent changes](#)

[Contact Wikipedia](#)

[Donate to Wikipedia](#)

[Help](#)

box

[What links here](#)

[Related changes](#)

[Upload file](#)

[Special pages](#)

[Printable version](#)

[Permanent link](#)

[article](#)

[discussion](#)

[edit this page](#)

[history](#)

Kino (software)

From Wikipedia, the free encyclopedia

For other meanings of kino, see [Kino](#).

Kino is a [GTK+](#)-based [non-linear digital video editor](#). It distributed as [free software](#). Its vision is: "*Easy and reliable DV editing for the Linux desktop with export to many usable formats.*" The program supports many basic video editing and assembling tasks.

Kino can import raw [AVI](#) and [DV](#) files, as well as capture footage from digital [camcorders](#) using the raw1394 and dv1394 libraries, and export to camcorders using the iee1394 or video1394 libraries. Kino does not support Linux 2.6.22's new firewire stack.^{[*[citation needed](#)*]}

Kino is included in the public package repositories of several GNU/Linux distributions, including [Debian](#). BSD ports are also available.

Dan Dennedy points at less development towards major feature implementations in Kino, but leans toward [MLT](#) development because [kdenlive](#) "since its latest version shows much promise"^[1]

See also

[\[edit\]](#)

- [Comparison of video editing software](#)

References

[\[edit\]](#)

- ↑ <http://www.kinodv.org/article/view/157/1/7/>

External links

[\[edit\]](#)

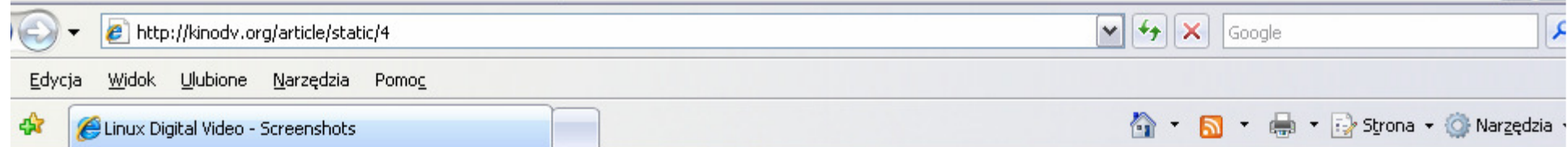
- [Kino official website](#)
- [Import/export tutorial](#)

Kino



Screenshot of Kino 1.1

Latest release	1.3.3 / 2009-01-28
OS	Unix-like
Type	Video editor
License	GNU General Public License
Website	kinodv.org



Kino / dvgrab

[Latest News](#)

[Download](#)

[Features](#)

[Requirements](#)

[Screen Shots](#)

Support

[User Guide](#)

[HOWTOs](#)

[FAQ](#)

[Mailing Lists](#)

[Contributed Code](#)

Development

[Project Vision](#)

[Developer Guide](#)

[Source Code](#)

[Current Developers](#)

[Report a Bug](#)

Community

[Success Stories](#)

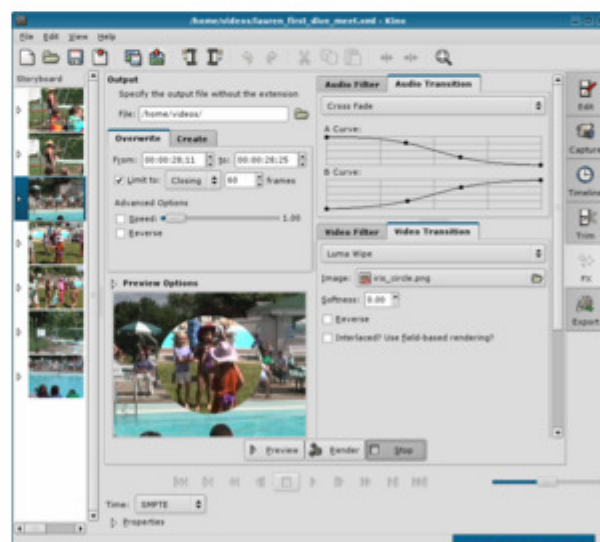
[Discussion](#)

[Subscribe in a](#)

Screenshots

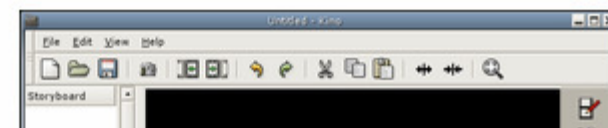
Summary

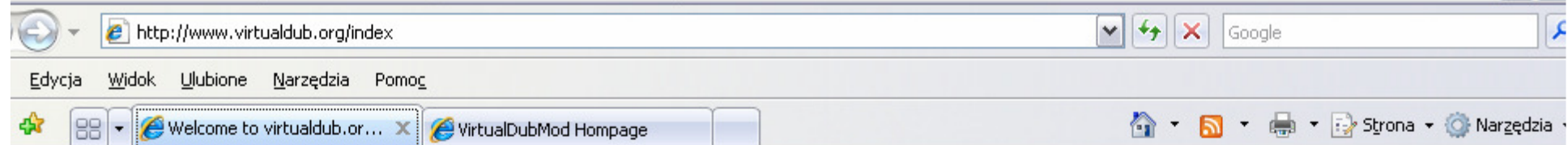
Here is a screenshot that shows a movie loaded from SMIL and with good number of clips in the storyboard view.



[Full resolution](#)

The FX UI was reorganized yet again for the 0.8.0 release





virtualdub.org

Proof that I had too much free time in college



Current version

8.8 (stable)
9.1 (experimental)

Navigation

[Home](#)
[Latest news](#)
[Downloads](#)
[Documentation](#)
[Capture](#)
[Compiling](#)
[Processing](#)
[Screenshots](#)
[Features](#)
[Links](#)
[Join SDK](#)
[Knowledge base](#)
[Donate](#)
[Contact info](#)
[Forum](#)

What is VirtualDub?

VirtualDub is a video capture/processing utility for 32-bit Windows platforms (95/98/ME/NT4/2000/XP), licensed under the [GNU General Public License \(GPL\)](#). It lacks the editing power of a general-purpose editor such as Adobe Premiere, but is streamlined for fast linear operations over video. It has batch-processing capabilities for processing large numbers of files and can be extended with [third-party video filters](#). VirtualDub is mainly geared toward processing AVI files, although it can read (not write) MPEG-1 and also handle sets of BMP images.

I basically [started VirtualDub in college](#) to do some quick capture-and-encoding that I wanted done; from there it's basically grown into a more general utility that can trim and clean up video before exporting to tape or processing with another program. I released it on the web and others found it useful, so I've been tinkering around with its code ever since. If you have the time, please [download](#) and enjoy.

Just because it is not your fault does not mean it is not your problem

5 1

asf asks:

I don't understand why you would change the reg key to workaround AV, it's their problem, and they need to fix it, you should not bend over for idiot AV vendors.

The answer is that it's my users that are affected and I'm the one getting the complaints.

Here's the problem: It's in the interests of the antivirus vendors to have their products as visible as possible to the user. To the extent this means a higher chance of detecting threats, that's good. The problem is in the rise in false positives, fueled by the increasing difficulty of detecting malware, as well as the addition of detection heuristics. Some of these are pretty sketchy. In addition to the lousy Registry check for Software/Freeware, some AVs used to flag VirtualDub as a trojan simply because it used the UPX

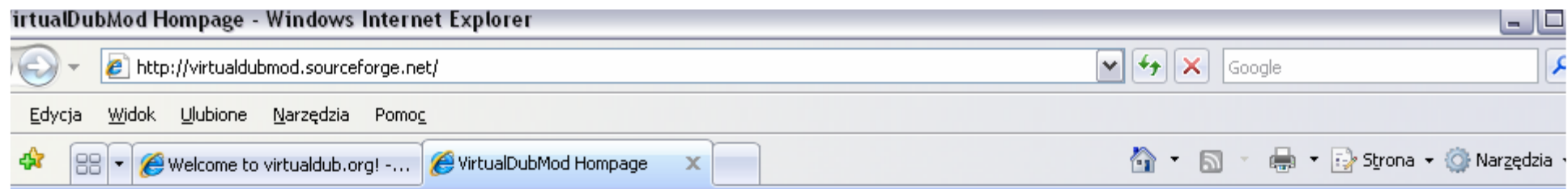
Search

Calendar

« March 2009 »						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

Archives

[01 Mar - 31 Mar 2009](#)
[01 Jan - 31 Jan 2009](#)
[01 Dec - 31 Dec 2008](#)
[01 Nov - 30 Nov 2008](#)
[01 Oct - 31 Oct 2008](#)
[01 Sep - 30 Sep 2008](#)
[01 Aug - 31 Aug 2008](#)
[01 Jul - 31 Jul 2008](#)
[01 June - 30 June 2008](#)
[01 May - 31 May 2008](#)
[01 Apr - 30 Apr 2008](#)
[01 Mar - 31 Mar 2008](#)
[01 Feb - 29 Feb 2008](#)
[01 Jan - 31 Jan 2008](#)



news
downloads
project page
faq
forum
contact



news

9.6.2003

New website design

After being incredibly lazy about updates finally some news =). The new design was mostly done by mf, with some php coding done by me. I particularly like the new banner =) - *Belgabor*

29.12.2002

Bugfix version released

We decided to release a bugfix version for some of the worst (mostly NET mod related) bugs. As some fixes are still pending this has the status of a prerelease and only consists of the exe and the vdi file. - *Belgabor*

23.12.2002

VirtualDubMod 1.4.13.1 released

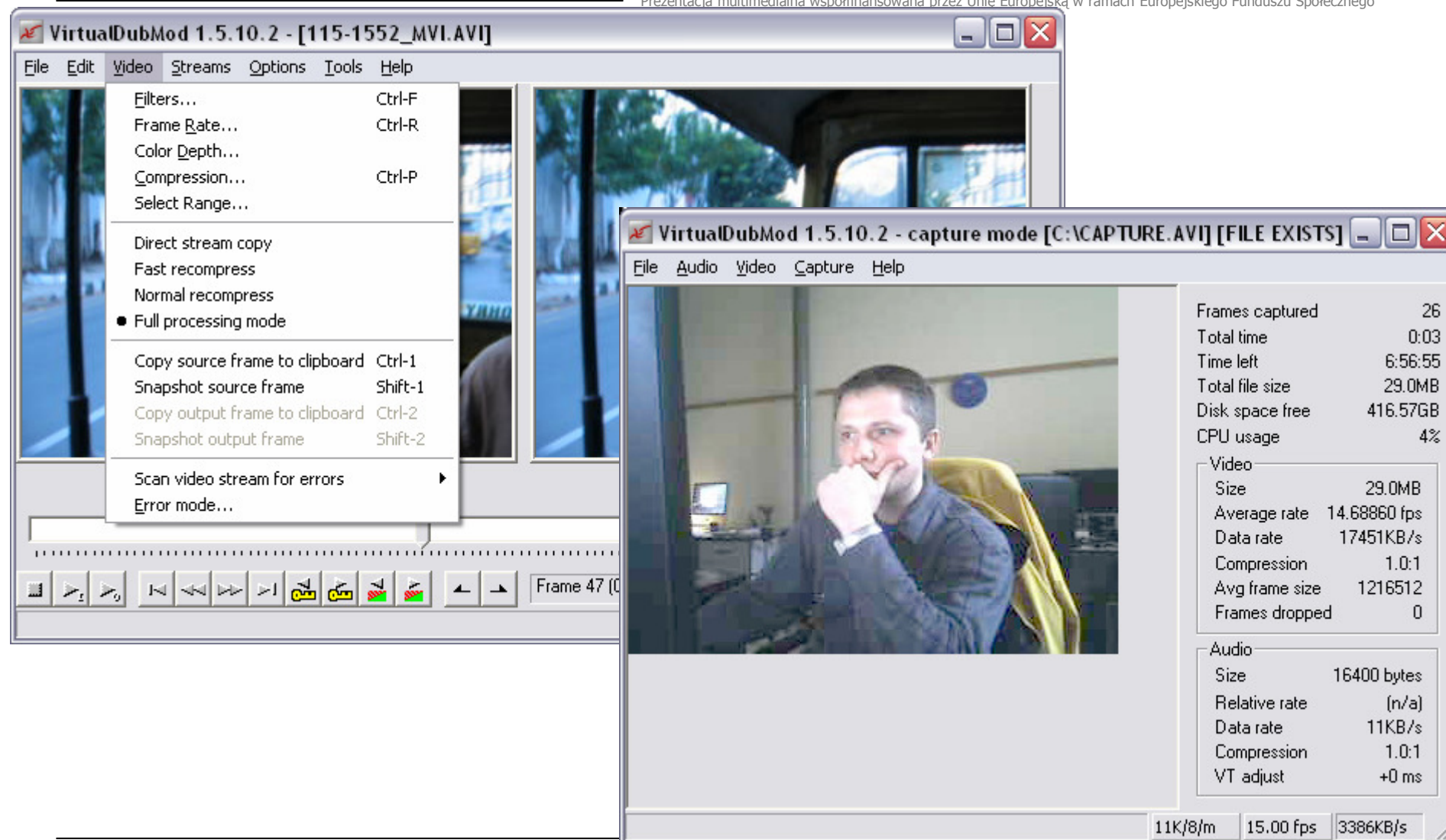
Here's our new version. Changelog is pretty long, have a look at it ;) - *Belgabor*

25.11.2002

Website is up

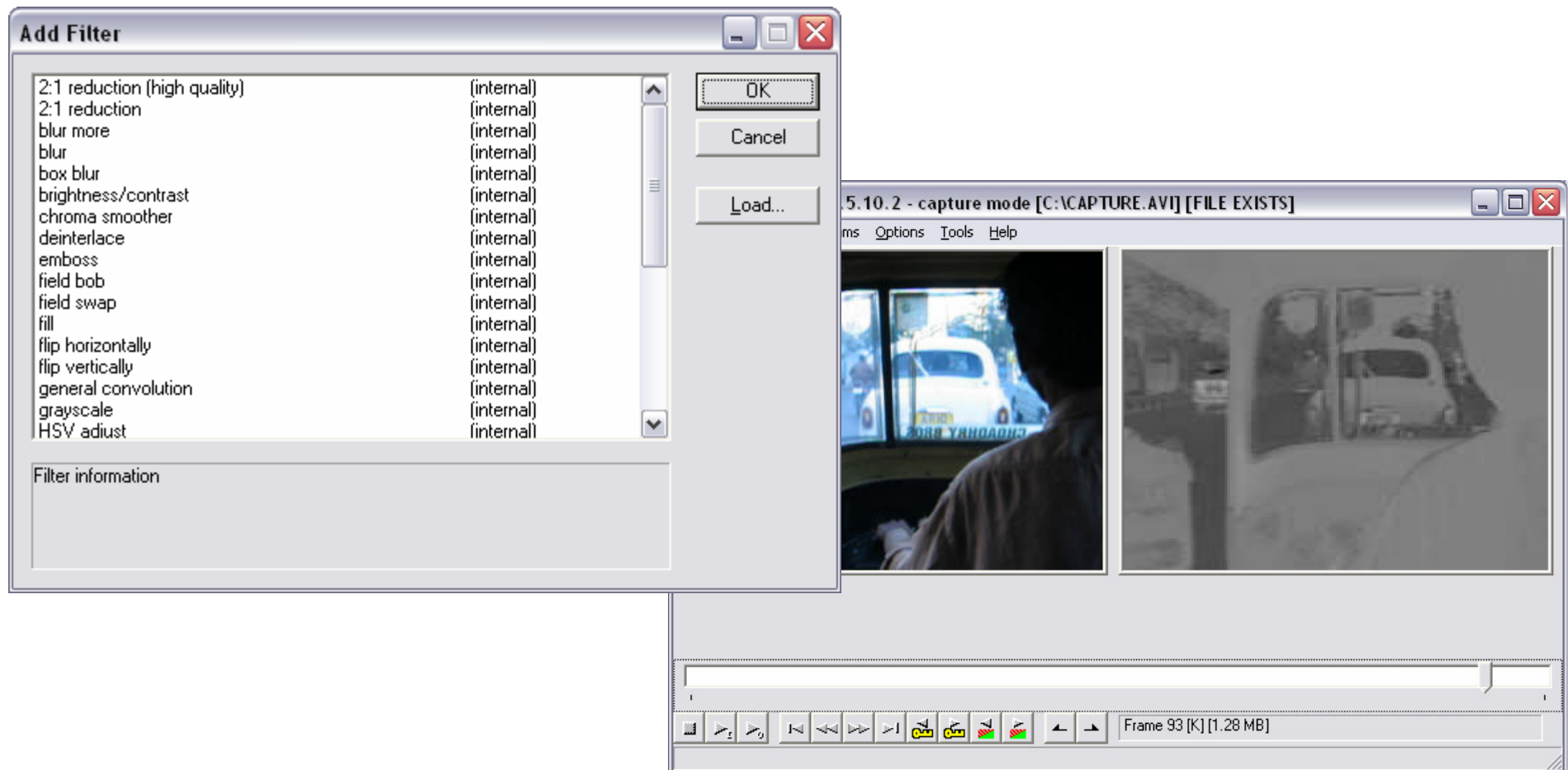
Well finally here it is. Browse around and if you have any comments just let us now.

-





VirtualDub filters



virtualdub.org

Proof that I had too much free time in college



Current version

8.8 (stable)
9.1 (experimental)

Navigation

[Home](#)
[Latest news](#)
[Downloads](#)
[Documentation](#)
[Capture](#)
[Compiling](#)
[Processing](#)
[Screenshots](#)
[Features](#)
[Plugins](#)
[Plugin SDK](#)
[Knowledge base](#)
[Contact](#)
[FAQ](#)
[About](#)

Plugin SDK

VirtualDub has the capability to load third-party DLLs that include their own video filters. The filters that are built into VirtualDub use the same interface that is exported to DLLs, so you can write filters similar to or better than the included ones. You can sample some of these at the [third-party filters page](#); these range from corrective filters, such as noise reducers, to synthesis filters, such as the subtitler. The basic interface is simple to work with: VirtualDub gives you a 32-bit ARGB bitmap to modify. You can also create modules that include input drivers, which enable VirtualDub to read new video and audio file formats.

Requirements for the Plugin SDK:

- Microsoft Visual C/C++ 6.0 or newer, any edition. Visual C++ 6.0 Service Pack 5 Professional or Visual Studio 2005 are recommended; Express editions, including Visual C++ Express 2005 and 2008 may be used. Other C++ compilers may be usable but are not supported.
- VirtualDub 1.4.12 or newer (VirtualDub 1.8.8+ recommended).

[Download Plugin SDK 1.1 \(VDPluginSDK-1.1.zip\)](#) [Download Plugin SDK 1.0 \(VDPluginSDK-1.0.zip\)](#)

The Plugin SDK supercedes the old Filter SDK, which only covered older versions of the 32-bit video filter API, and doesn't cover 64-bit video filters or input plugins. If you have an old filter which you need to recompile, you may need to use this older filter SDK:

[Download filter SDK 1.05 \(filtsdk-1.05.zip, 66K zip file\)](#)

**WIKIPEDIA**
the Free Encyclopedia

igation

[Main page](#)
[Contents](#)
[Featured content](#)
[Current events](#)
[Random article](#)

rch

raction

[About Wikipedia](#)
[Community portal](#)
[Recent changes](#)
[Contact Wikipedia](#)
[Donate to Wikipedia](#)
[Help](#)

box

[What links here](#)
[Related changes](#)
[Upload file](#)
[Special pages](#)
[Printable version](#)
[Permanent link](#)[article](#) [discussion](#) [edit this page](#) [history](#)

GraphEdit

From Wikipedia, the free encyclopedia

GraphEdit is a utility which is part of the [Microsoft DirectShow](#) SDK. It is a visual tool for building and testing [filter graphs](#) for [DirectShow](#). Filters are displayed as boxes, with a text caption showing the name of the filter. Pins appear as small squares along the edge of the filter. Input pins are shown on the left side of the filter, and output pins are on the right side of the filter. A pin connection appears as an arrow connecting the output pin to the input pin. Connection mediatypes can be viewed as "properties" on pins and connections. GraphEdit can automatically build a filter graph that plays a file.

See also

[\[edit\]](#)

- [GraphStudio](#)
- [DirectShow](#)
- [Microsoft Platform SDK](#)

External links

[\[edit\]](#)

- [GraphStudio](#)  - an [OpenSource](#) GraphEdit implementation (GPL License)
- [Overview of GraphEdit](#)  - Microsoft's GraphEdit pages
- [Download link](#)  - Download location from Microsoft's website
- [GraphEditPlus](#)  - Commercial reimplementaion of GraphEdit which provides more information and control on filters, mediatypes etc. and has source code generation.
- [DSGraphEdit](#)  - Open Source clone of GraphEdit written in C#.



This multimedia software-related article is a stub. You can help Wikipedia by expanding it.

Categories: [Multimedia software stubs](#) | [Graphics software](#) | [Microsoft software](#)

Overview of GraphEdit (Windows) - Windows Internet Explorer

http://msdn.microsoft.com/en-us/library/dd390950(VS.85).aspx

Edycja Widok Ulubione Narzędzia Pomoc

GraphEdit - Wikipedia, the fr... Overview of GraphEdit (...)

United States - English Microsoft.com Welcome Sig

msdn

Search MSDN with Live Search

Accessibility Developer Center

Home Library Learn Downloads Support Community

Printer Friendly Version Add To Favorites Send Add Content... Click to Rate and Give Feedback

- Win32 and COM Development
 - Administration and Management
 - Component Development
 - Data Access and Storage
 - Development Guides
 - Diagnostics
 - Documents
 - Graphics and Multimedia
 - Audio and Video
 - SDK Documentation
 - Core Audio APIs
 - DirectShow
 - Introduction to DirectShow
 - Getting Started
 - About DirectShow
 - Using DirectShow
 - Simulating Graph Building with GraphEdit
 - Overview of GraphEdit**
 - Using GraphEdit
 - Loading a Graph From an External P...
 - Saving a Filter Graph to a GraphEdit
 - Loading a GraphEdit File Programma...

MSDN > MSDN Library > Win32 and COM Development > Graphics and Multimedia > Audio and Video > DirectShow > Using DirectShow > Simulating Graph Building with Grap... > **Overview of GraphEdit**

[Switch on low bandwidth view](#)

Overview of GraphEdit

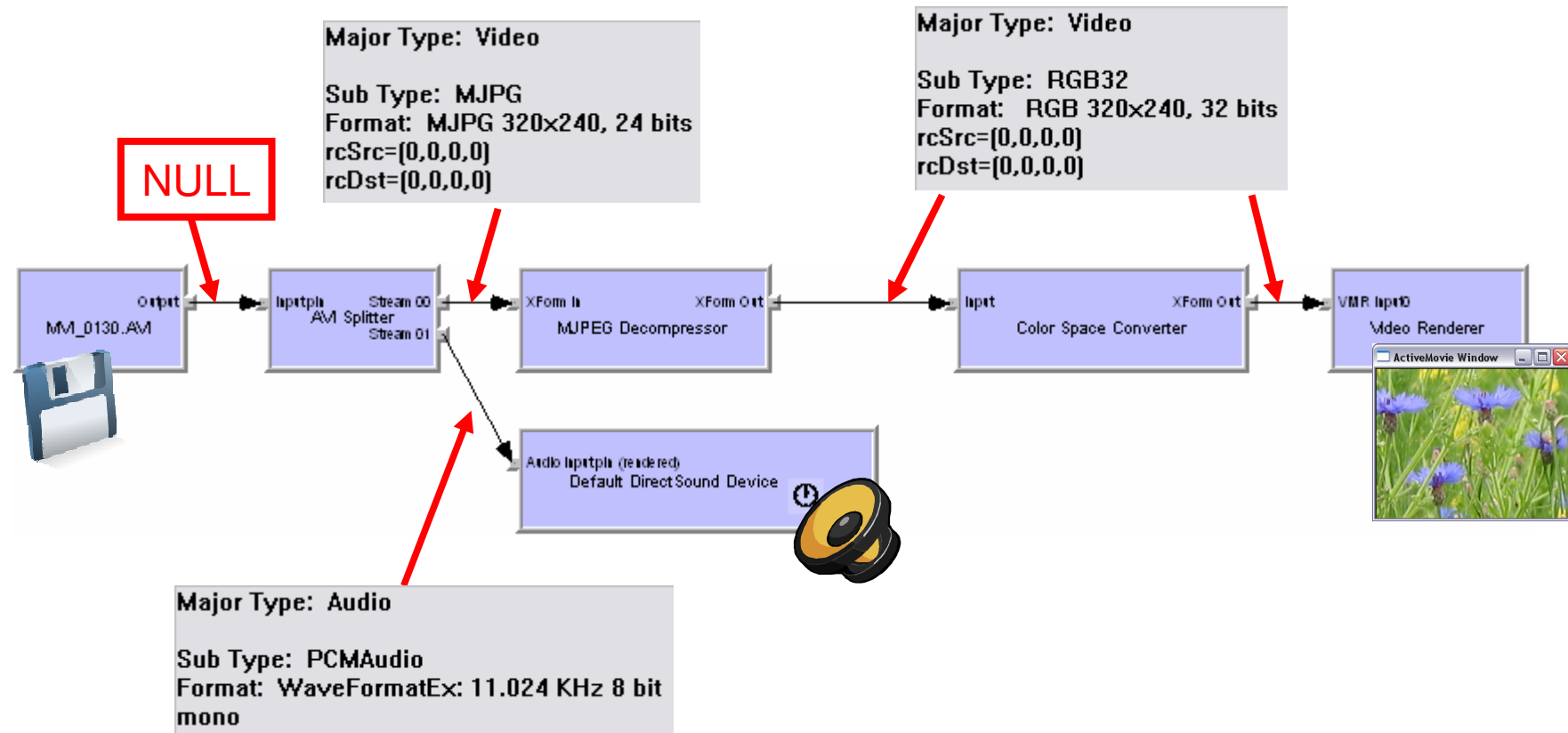
GraphEdit is a visual tool for building filter graphs. With GraphEdit, you can experiment with a filter graph before you write any application code. You can also load a filter graph that your application creates, to verify that your application is building the correct graph. If you develop a custom filter, GraphEdit provides a quick way to test it: Simply load a graph with your custom filter and try running the graph. If you are new to DirectShow, GraphEdit is a good way to become familiar with filter graphs and the DirectShow architecture.

The following illustration shows how GraphEdit represents a simple filter graph.

```
graph LR; A[C:\Test.avi] -- Output --> B[AVI Splitter]; B -- "Stream 00" --> C[Video Renderer]
```

Each filter is represented as a rectangle. Smaller squares along the edges of the filters represent pins. Input pins are on the left side of the filter, and output pins are on the right side. The arrows

Przepływ danych w grafie





Podsumowanie (?)

Czy to co jest wystarczy?

- TAK
 - Bogaty wybór programów również darmowych
 - Przetwarzanie obrazów 2W, 3W i wideo
 - Zaimplementowane procedury, niektóre tak skomplikowane, że...
- NIE
 - Specyficzne problemy
 - Specyficzne klasy obrazów
 - Konieczność automatyzacji
 - Oryginalne, własne rozwiązania i metody





Navigation

- [Main page](#)
- [Contents](#)
- [Featured content](#)
- [Current events](#)
- [Random article](#)

Search

Go

Search

Interaction

- [About Wikipedia](#)
- [Community portal](#)
- [Recent changes](#)
- [Contact Wikipedia](#)
- [Donate to Wikipedia](#)
- [Help](#)

Toolbox

- [What links here](#)
- [Related changes](#)
- [Upload file](#)
- [Special pages](#)
- [Printable version](#)
- [Permanent link](#)

[article](#)[discussion](#)[edit this page](#)[history](#)

Integrated development environment

From Wikipedia, the free encyclopedia

An **integrated development environment** (IDE) also known as *integrated design environment* or *integrated debugging environment* is a [software application](#) that provides comprehensive facilities to [computer programmers](#) for [software development](#). An IDE normally consists of a:

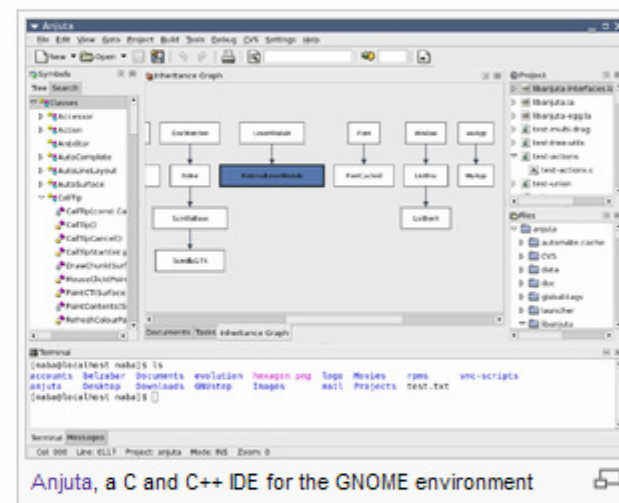
- [Source code editor](#)
- [Compiler and/or interpreter](#)
- [Build automation tools](#)
- [Debugger](#)

Sometimes a [version control system](#) and various tools are integrated to simplify the construction of a [GUI](#). Many modern IDEs also have a [class browser](#), an [object inspector](#), and a [class hierarchy diagram](#), for use with [object-oriented software development](#).^[1]

Contents [hide]

- 1 Overview
- 2 History
- 3 Topics
 - 3.1 Visual programming
 - 3.2 Language support
 - 3.3 Attitudes across different computing platforms
- 4 See also
- 5 References

Overview



Anjuta, a C and C++ IDE for the GNOME environment

[\[edit\]](#)

Comparison of integrated development environments - Wikipedia, the free encyclopedia - Windows Internet Explorer

http://en.wikipedia.org/wiki/Comparison_of_integrated_development_environments

Edycja Widok Ulubione Narzędzia Pomoc

W KDE... KDE... W C... X W Anju... Anju... gtk+... GTK... GTK...

Strona Narzędzia

Main articles: C (programming language) and C++

IDE	License	Windows	Linux	Other platforms	Debugger	GUI builder	Toolchain	Profiler	Code Coverage	Autocomplete	Static code analysis	GUI Based Design
Anjuta	GPL	No	Yes		Yes	Yes	Unknown	Yes	Unknown	Yes	Unknown	No
C++ Builder	Proprietary	Yes	Yes		Yes	Yes	Yes	No	No	Yes	No	Yes
Code::Blocks	GPL	Yes	Yes	Mac OS X	Yes	Yes	Yes	Unknown	Unknown	Yes	Unknown	Yes ^[1]
Codelite	GPL	Yes	Yes	Mac OS X	Yes	No	Yes	Unknown	Unknown	Yes	Unknown	Unknown
Dev-C++	GPL	Yes	No ^[2]		Yes	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Yes
Eclipse CDT	EPL	Yes	Yes	JVM	Yes	Yes ^[3]	No	Unknown	Unknown	Yes	Unknown	No
Geany	GPL	Yes	Yes		No	No	No	Unknown	Unknown	Yes	Unknown	Unknown
GNAT Programming Studio	GPL	Yes	Yes	Solaris	Yes	Unknown	Yes	Yes	Unknown	Unknown	Yes	Unknown
KDevelop	GPL	No ^[4]	Yes		Yes	Yes	Yes	Yes	Unknown	Yes	Unknown	Yes
MonoDevelop	GPL	Yes	Yes	Mac OS X	No ^[5]	Yes	No	Unknown	Unknown	Unknown	Unknown	Yes
NetBeans C/C++ pack	CDDL	Yes	Yes	JVM	Yes	No	No ^[6]	Unknown	Unknown	Yes	Unknown	No

Related changes
Upload file
Special pages
Printable version
Permanent link
Cite this page

languages
Deutsch
русский

Downloads - Windows Internet Explorer

http://www.microsoft.com/express/download/

Google

plik Edycja Widok Ulubione Narzędzia Pomoc

Borland Polska - do pobrania Downloads

Strona Narzędzia

Microsoft®
Visual Basic® 2008
Express Edition

Productivity that is ideal for first time or casual Windows programming.

English » Download

Now with Service Pack 1

Microsoft®
Visual Web Developer® 2008
Express Edition

An easy to use environment for dynamic Web application development.

English » Download

Now with Service Pack 1
Note: Read this before upgrading to SP1

Microsoft®
Visual C#® 2008
Express Edition

A great combination of power and productivity for the Windows developer.

English » Download

Now with Service Pack 1

Microsoft®
Visual C++® 2008
Express Edition

Horsepower with a finer degree of control than other Express Editions.

English » Download

Now with Service Pack 1

Microsoft®
SQL Server® 2008
Express

A lightweight, feature-rich, powerful database for Windows and Web data-enabled needs.

» Download

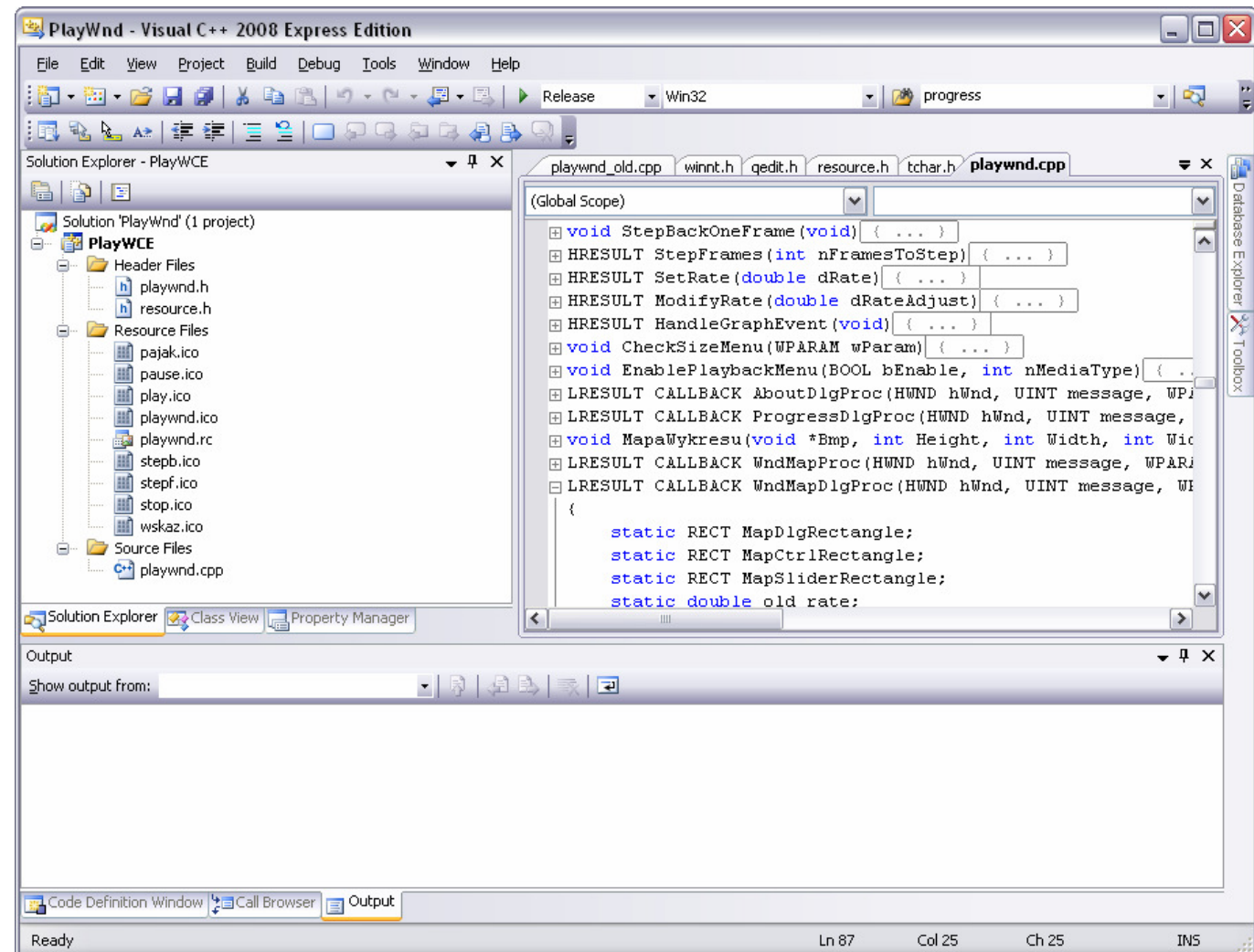
Install the entire Microsoft Web Platform including Visual Web Developer, SQL Server Express, Silverlight Tools, IIS and ASP.NET Extensions and more!

Download the Microsoft Web Platform

<http://www.microsoft.com/express/download/>
WinAPI MFC



Visual Studio





- Produkty
- Do pobrania
- Szkolenia
- Wiedza
- O firmie
- Aktualności
- Sprzedaż / Ceny

Do pobrania

Borland (ALM)

- StarTeam
- Caliber
- Together
- Silk
- Gauntlet
- Borland AppServer
- Borland VisiBroker

CodeGear (IDE)

- 3rdRail
- Blackfish SQL
- C++Builder
- Delphi
- Delphi for PHP
- Delphi/400
- InterBase
- JBuilder
- JGear
- RAD Studio
- Turbo

Product

- Documentation
- Licencje produktowe

Wersje Personal

- Polska klawiatura

Darmowe wersje narzędzi firmy Borland w wersjach Personal oraz Foundation

C++Builder 6 Personal / Delphi 7 Personal

Informujemy, iż placówki edukacyjne biorące udział w programie edukacyjnym mogą bezpłatnie otrzymać narzędzia C++Builder 6 Personal oraz Delphi 7 Personal po wcześniejszym telefonicznym skontaktowaniu się z naszym działem handlowym [022 864-14-65].

Zasady rejestracji produktów Personal i Foundation (na przykładzie Delphi 7 Personal) - [kliknij](#)

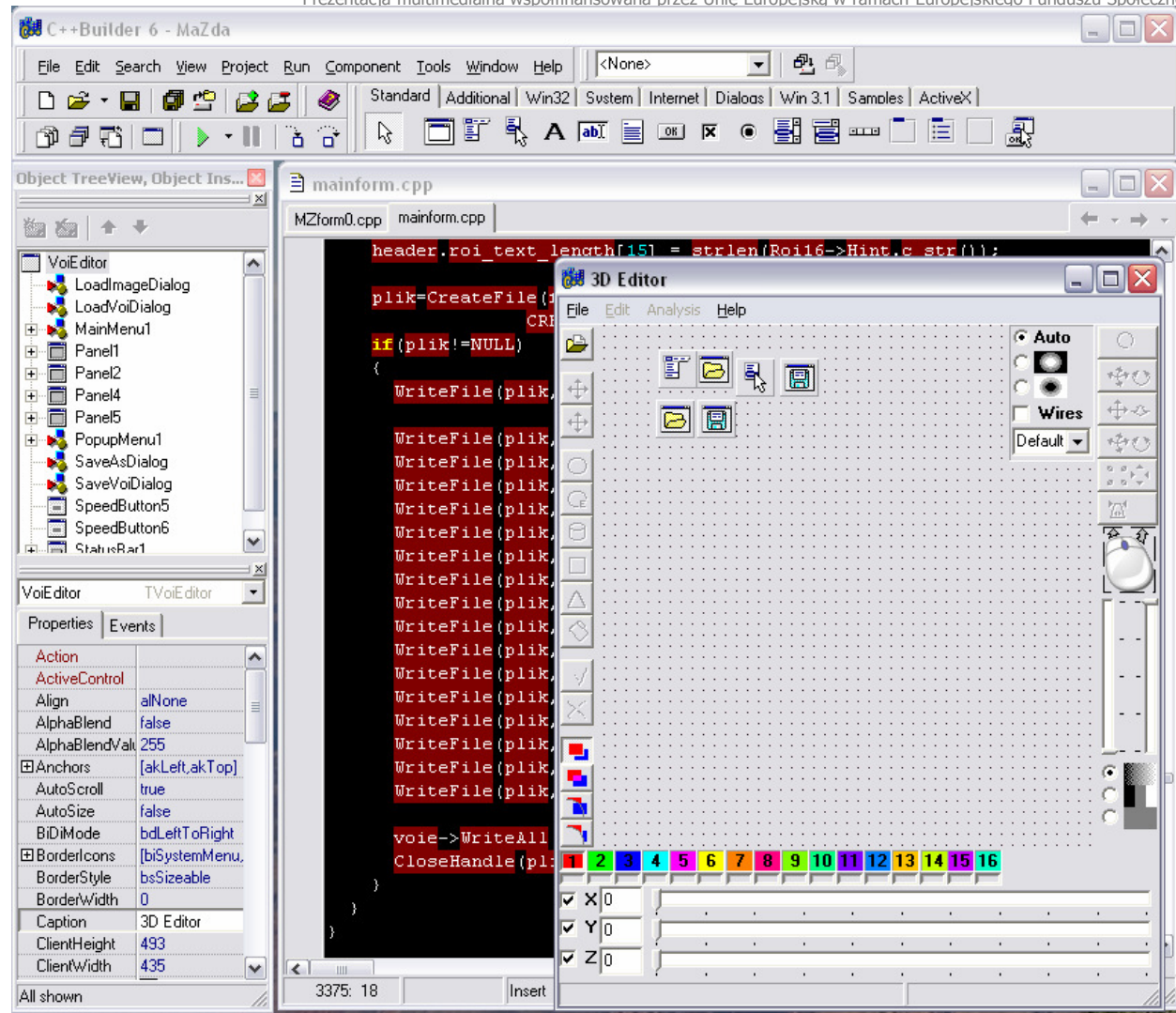
Bezpłatne środowiska IDE są dostępne do pobrania na serwerze [CodeGear.com](#). Klucze aktywacyjne potrzebne do zainstalowania darmowego oprogramowania są dostępne do pobrania z serwera [CodeGear.com](#)

Możliwość wykorzystania wersji Personal do zastosowań komercyjnych i niekomercyjnych przedstawia poniższe zestawienie

	Osoba indywidualna - wykorzystanie	Firma - wykorzystanie
C#Builder Personal Download (wersja pobrana z Internetu)	niekomercyjne	nie może uzyskać licencji
C#Builder Personal	komercyjne	nie może uzyskać licencji
C++Com		
C++Build		
C++Build		
Delphi 7		
Delphi 2005 Personal	komercyjne	nie może uzyskać licencji

<http://www.codegear.pl/download/personal.shtml>
VCL

C++ Builder





WIKIPEDIA
The Free Encyclopedia

Navigation

- [Main page](#)
- [Contents](#)
- [Featured content](#)
- [Current events](#)
- [Random article](#)

Search

Go

Search

Interaction

- [About Wikipedia](#)
- [Community portal](#)
- [Recent changes](#)
- [Contact Wikipedia](#)
- [Donate to Wikipedia](#)
- [Help](#)

Toolbox

- [What links here](#)
- [Related changes](#)
- [Upload file](#)
- [Special pages](#)
- [Printable version](#)
- [Permanent link](#)

[article](#)
[discussion](#)
[edit this page](#)
[history](#)

KDevelop

From Wikipedia, the free encyclopedia

KDevelop is a [free software](#) [integrated development environment](#) for the [KDE](#) desktop environment for [Unix-like](#) computer [operating systems](#). KDevelop does not include a [compiler](#); instead, it uses an external compiler such as [gcc](#) to produce [executable](#) code.

The current version, 3.5, supports many programming languages such as [Ada](#), [Bash](#), [C](#), [C++](#), [Fortran](#), [Java](#), [Pascal](#), [Perl](#), [PHP](#), [Python](#) and [Ruby](#). Released under the [GNU General Public License](#), KDevelop is [free software](#).

Contents [hide]

- 1 History
- 2 Features
- 3 See also
- 4 External links

History

[\[edit\]](#)

KDevelop 1.x and 2.x were developed over a period of four years from the [initial KDevelop codebase](#) . Bernd Gehrman started a complete rewrite from scratch and announced KDevelop 3.x with this mail: [A new IDE for a new millennium](#) [\[link\]](#), on March 30, 2001. Its first release was together with [KDE 3.2](#) in February 2004. The development of KDevelop 3.x stopped in 2008. KDevelop 4.x has been under development since August 2005. It's a complete rewrite with a better core and more object oriented programming model. Its first release was planned for the end of 2008.

Features

[\[edit\]](#)

KDevelop uses an embedded [text editor](#) component through the [KPart](#) framework. The

KDevelop



Screenshot

[\[show\]](#)

Developed by	KDevelop Team
Initial release	1.0 [link] (1999-12-6)
Stable release	3.5.4 (2008-12-18) [+/-]
Preview release	4.0 Beta 1 (2009-02-05) [+/-]
Written in	C++
OS	Unix-like
Platform	KDE
Available in	more than 30 languages [link]
Type	Integrated development environment
License	GNU General Public License
Website	http://www.kdevelop.org/ [link]

KDevelop - Integrated Development Environment - Homepage - Windows Internet Explorer

http://www.kdevelop.org/

Google

Widok Uluowane Narzędzia Pomoc

W Inte... W KDe... K... X W Com... W Anj... Anj... gtk... GTK... W GTK...

www.kdevelop.org
KDevelop
KDE DEVELOPMENT ENVIRONMENT

Google powered by

Search

www www.kdevelop.org

Home Download Screenshots Features Tutorials F.A.Q. Site map

Documentation

The KDevelop Project

On-line chat

Versions
User Manual
TechNotes
Wiki

The KDevelop-Project was founded in 1998 to build up an easy to use IDE (Integrated Development Environment) for KDE. Since then, the KDevelop IDE is publicly available under the GPL and supports many programming languages.
Please contact us for sponsoring or help offers.

You can meet other users and developers on the #kdevelop channel at irc.kde.org.

Development

Changes
SVN Branches & Compiling
Join us!
Website translation

News of 2009

2009-February-05 - KDevelop 4.0 beta1 released
Read more about it on the dot , you can leave your comments there too. KDevelop can now do Automatic include-directives and forward-declarations.

2009-January-13 - KDevelop 4.0 alpha6 released
KDevelop 4.0 alpha6 (3.9.85) was released today together with KDE 4.2 RC1. It fixes more than 12 bugs of the alpha5 release and new C++ Meta-Programming and Semantic Highlighting features have been added. The KDev3 KDev4 comparison table has been updated and 260 crazy issues of KDevPlatform have been fixed.

Picture Corner

Downloads per hour

Links

User Programs
Sponsors
Dev. Tools

Presentations and Graphics

In the Press
Awards

2008-December-18 - KDevelop 3.5.4 public release
This is a bugfix release only. No new features are added. All us to update to this version.

2008-December-11 - KDevelop 4.0 alpha5 tagged

KDE desktop environments
Qt

history

From Wikipedia, the free encyclopedia

Anjuta features project management, application wizards, an interactive debugger built over `gdb`, and a powerful `source code editor` with source browsing, code completion and `syntax highlighting`.

Distributed under the [GNU General Public License](#), Anjuta is free software.

[edit]

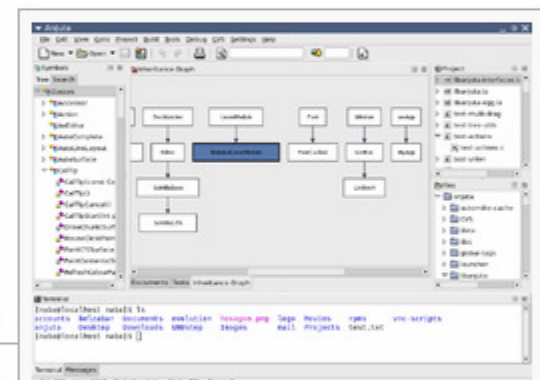
The goal of Anjuta DevStudio is to provide a customizable and extensible IDE framework and at the same time provide the implementations of common development tools. libanjuta is the framework that realizes the Anjuta IDE plugin framework and Anjuta DevStudio realizes many of the common development plugins.

It integrates new programming tools including the [Glade Interface Designer](#) and the [Devhelp](#) API help browser.

[edit]

- What links here
- Related changes
- Upload file
- Special pages
- Printable version
- Permanent link

Anjuta



Screenshot of a class inheritance graph and terminal in Anjuta 2

Developed by Anjuta developers

Latest release 2.26.0 / 2009-3-16; 4 days ago

OS	Cross-platform
----	----------------

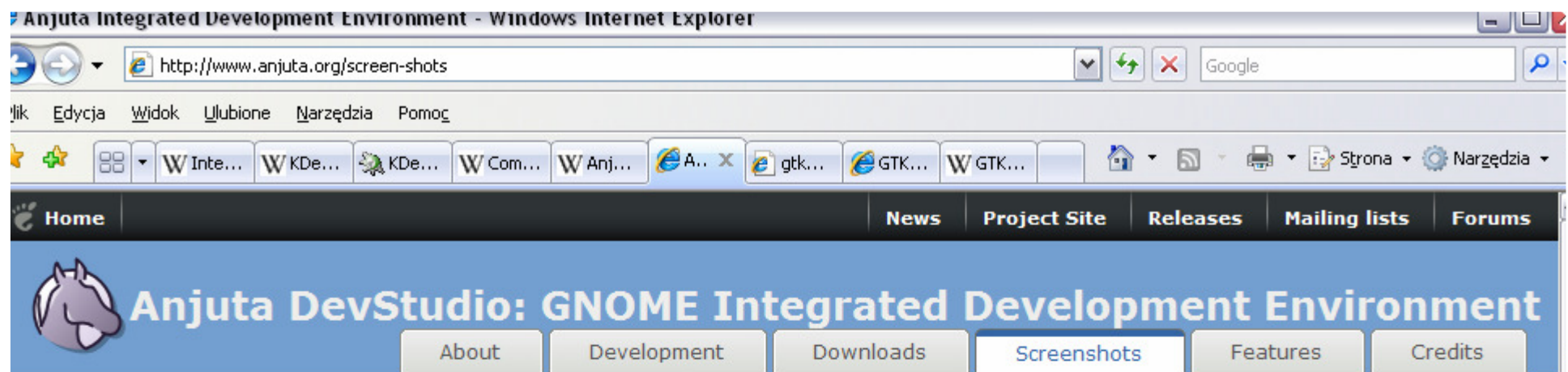
Platform	GNOME
----------	-------

Type	Integrated development environment
------	------------------------------------

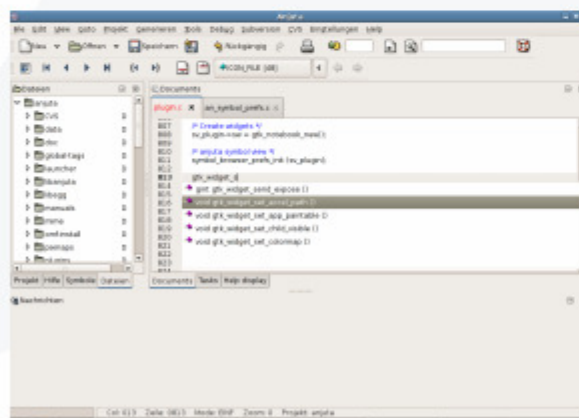
License	GNU General Public License
---------	----------------------------

Website <http://anjuta.org/>

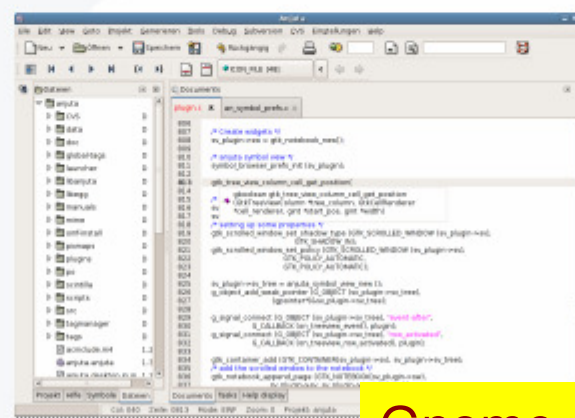
- List of GNOME applications



Anjuta DevStudio Screenshots



GtkSourceview-based editing component



GtkSourceview-based editing component

Gnome desktop environments
GTK+

Project

[ChangeLog](#)
[Roadmap](#)
[Hacking](#)
[Tasks & Bounties](#)

Documentations

[Anjuta API docs](#)
[Anjuta wiki](#)
[FAQ \[English\]](#)
[Build Tutorial \[English\]](#)
[Manual \[English\]](#)

Project Status

[Bugs](#)
[Patches](#)





Navigation

- [Main page](#)
- [Contents](#)
- [Featured content](#)
- [Current events](#)
- [Random article](#)

Search

Go

Search

Interaction

- [About Wikipedia](#)
- [Community portal](#)
- [Recent changes](#)
- [Contact Wikipedia](#)
- [Donate to Wikipedia](#)
- [Help](#)

Toolbox

- [What links here](#)
- [Related changes](#)
- [Upload file](#)
- [Special pages](#)
- [Printable version](#)
- [Permanent link](#)

[article](#)[discussion](#)[edit this page](#)[history](#)

NetBeans

From Wikipedia, the free encyclopedia

NetBeans refers to both a [platform](#) for the development of applications for the network (using [Java](#), [JavaScript](#), [PHP](#), [Python](#), [Ruby](#), [Groovy](#), [C](#), and [C++](#)), and an [integrated development environment](#) (IDE) developed using the NetBeans Platform.

The NetBeans Platform allows applications to be developed from a set of modular [software components](#) called *modules*. A module is a [Java archive](#) file that contains Java classes written to interact with the NetBeans Open APIs and a [manifest file](#) that identifies it as a module. Applications built on modules can be extended by adding new modules. Since modules can be developed independently, applications based on the NetBeans platform can be extended by [third party developers](#).^[1]

Contents [hide]

1 History

- 1.1 Early history
- 1.2 Current versions

2 NetBeans Platform

3 NetBeans IDE

4 NetBeans integrated modules

- 4.1 NetBeans Profiler
- 4.2 GUI design tool
- 4.3 NetBeans JavaScript Editor

5 NetBeans IDE Download Bundles

- 5.1 NetBeans IDE Bundle for Web & Java EE
- 5.2 NetBeans IDE Bundle for Ruby
- 5.3 NetBeans IDE Bundle for Mobility
- 5.4 NetBeans IDE Bundle for C/C++
- 5.5 NetBeans IDE Bundle for PHP

[Log in](#) / [create account](#)

NetBeans IDE



Screenshot

[\[show\]](#)

Developed by [Sun Microsystems](#)

Latest release [6.5.1](#) / 2009-03-17; 14 days ago

Written in [Java](#)

OS [Multi-platform](#)

Available in [Multilingual](#)

Type [Java IDE](#)

License [CDDL](#) or [GPL2](#) + "certain source files" [allow classpath exception](#)

Website [www.netbeans.org](#)



Choose page language Search: Google Custom Search GO!

[Home](#)[Features](#)[Plugins](#)[Docs & Support](#)[Community](#)[Partners](#)

NetBeans IDE 6.5

The only IDE you need! Runs on Windows, Linux, Mac OS X and Solaris. NetBeans IDE is open-source and free.

[Learn More about NetBeans IDE](#)

[Get the NetBeans DVD](#)

[Download NetBeans IDE](#)

NetBeans Supported Technologies

Ajax | C/C++ | Databases | Debugger | Desktop | Editor | Groovy | GUI Builder | Java EE | JavaFX | Java ME | Java SE | JavaScript | Mobile | PHP | Profiler | Python | Refactor | REST | Rich Client Platform | Ruby | SOA | SOAP | UML | Web | WSDL | XML

Stand Out from the Crowd. Take the **Sun Certified Specialist for NetBeans IDE Exam!**

[MORE >>](#)



Featured News

[NetBeans IDE for the Cloud and Beyond: A Conversation with Matt Thompson](#)

[See All News](#)

Plugins

Contributed by the NetBeans community and 3rd party vendors.

Featured Plugin

[Resource Bundle Editor](#)

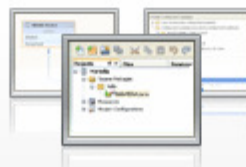


Tutorials

Written and recorded by the NetBeans community and professionals.

New Tutorial

[Video: NetBeans 6.7 and Glassfish v3](#)



Training & Support

Courses to help you improve your skills. Flexible support options to help you stay focused on innovation.

Featured Course

[Developing Applications for the Java SE Platform](#)



Partners

Over 100 partners build NetBeans plug-ins or endorse NetBeans software.

Featured Partner

[eviware](#)

eviware



WIKIPEDIA
The Free Encyclopedia

Navigation

- [Main page](#)
- [Contents](#)
- [Featured content](#)
- [Current events](#)
- [Random article](#)

Search

Go

Search

Interaction

- [About Wikipedia](#)
- [Community portal](#)
- [Recent changes](#)
- [Contact Wikipedia](#)
- [Donate to Wikipedia](#)
- [Help](#)

Toolbox

- [What links here](#)
- [Related changes](#)
- [Upload file](#)
- [Special pages](#)
- [Printable version](#)

[article](#)
[discussion](#)
[edit this page](#)
[history](#)

Eclipse (software)

From Wikipedia, the free encyclopedia

Eclipse is a multi-language [software development platform](#) comprising an [IDE](#) and a [plug-in](#) system to extend it. It is written primarily in [Java](#) and is used to develop applications in this language and, by means of the various plug-ins, in other [languages](#) as well—[C/C++](#), [Cobol](#), [Python](#), [Perl](#), [PHP](#) and more.

The initial [codebase](#) originated from [VisualAge](#).^[1] In its default form it is meant for Java developers, consisting of the Java Development Tools (JDT). Users can extend its capabilities by installing plug-ins written for the Eclipse software framework, such as development toolkits for other programming languages, and can write and contribute their own plug-in modules. Language packs provide translations into over a dozen [natural languages](#).^[2]

Released under the terms of the [Eclipse Public License](#), Eclipse is [free and open source software](#).

Contents [hide]

- [Architecture](#)
- [Rich Client Platform](#)
- [History](#)
- [Releases](#)
- [See also](#)
- [References](#)
- [Further reading](#)
- [External links](#)

Architecture

[\[edit\]](#)

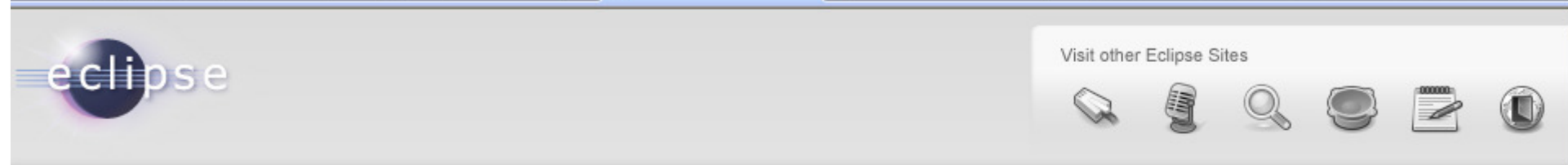
Eclipse



Screenshot

[\[show\]](#)

Developed by	Free software community
Latest release	3.4.2 / 2009-02-11; 48 days ago
Preview release	3.5 M6 / 2009-03-13; 18 days ago
Written in	Java
OS	Cross-platform
Available in	Multilingual
Development status	Active
Type	Software development
License	Eclipse Public License
Website	http://www.eclipse.org/



Explore the Eclipse universe...



Enterprise
Java



Equinox
+ RCP



Embedded
+ Mobile



Modeling



Application
Frameworks



Language
IDEs

Get Started now...
Download Eclipse

[» Plugins](#)[» Users](#)[» Documentation](#)[» Report a Bug](#)

Announcements



Featured Strategic Member



MOTODEV STUDIO

**DEVELOP WITH MOTOROLA'S
POWERFUL ECLIPSE-BASED IDE.**

All the tools you need to create
innovative mobile applications
in one place.

2009/03/24

Doors Open for EclipseCon 2009

Community Members Announce New Innovations and Products ECLIPSECON 2009, SANTA CLARA, Calif., March 24, 2009 – EclipseCon 2009, the sixth annual Eclipse community conference, opens today at the Santa Clara Convention Center in Santa Clara, Calif. The c...

2009/03/23

Eclipse Community Awards Winners Announced

Awards Recognize Top Individuals and Technologies in the Eclipse Community ECLIPSECON 2009, SANTA CLARA, Calif., March 24, 2009 – The Eclipse Foundation announced the winners of its annual Eclipse Community Awards, which recognize the top individuals ...

2009/03/23

Eclipse Announces First Release of Swordfish, a Next Generation ESB

The Eclipse Foundation announced today the first release of Swordfish, a next-generation enterprise service bus (ESB) that provides the flexibility and extensibility required by enterprises to successfully deploy a service-oriented architecture (SOA) strategy. ...

OpenCV - Wikipedia, the free encyclopedia - Windows Internet Explorer

W http://en.wikipedia.org/wiki/OpenCV

W OpenCV - Wikip... x W Comparison of integ... Eclipse.org home Welcome to NetBeans

Log in / create account

article discussion edit this page history

OpenCV

From Wikipedia, the free encyclopedia

OpenCV is a [computer vision](#) library originally developed by [Intel](#). It is free for commercial and research use under a [BSD license](#). The library is [cross-platform](#), and runs on [Windows](#), [Mac OS X](#), [Linux](#), [PSP](#), [VCRT](#) (Real-Time OS on [Smart camera](#)) and other embedded devices. It focuses mainly on *real-time* image processing, as such, if it finds Intel's [Integrated Performance Primitives](#) on the system, it will use these commercial optimized routines to accelerate itself.

Released under the terms of the [BSD license](#), OpenCV is [open source software](#).

OpenCV

Design by original by [Intel](#), and now it is on [sourceforge.net](#) for everyone

Latest release 1.1 pre / 2008-10-15; 166 days ago

OS [Cross-platform](#)

Type [Library](#)

License [BSD license](#)

Website <http://opencvlibrary.sourceforge.net/>

Contents [hide]

- 1 History
- 2 Applications
- 3 Programming language
- 4 Successful applications
- 5 OS Support
 - 5.1 Windows prerequisites
- 6 References
- 7 External links
- 8 See Also

History

Officially launched in 1999, the OpenCV project was initially an Intel Research initiative to advance CPU-intensive applications, part of a series of projects including real-time ray tracing and 3D display walls. The main contributors to the project included Intel's Performance Library Team, as well as a number of optimization experts in Intel Russia. In the early days of OpenCV, the goals of the project were described as

<http://en.wikipedia.org/wiki/OpenCV>
<http://sourceforge.net/projects/opencvlibrary/>
<http://opencv.willowgarage.com/wiki/>

Wikipedia The Free Encyclopedia

Navigation

- Main page
- Contents
- Featured content
- Current events
- Random article

Search

Go Search

Interaction

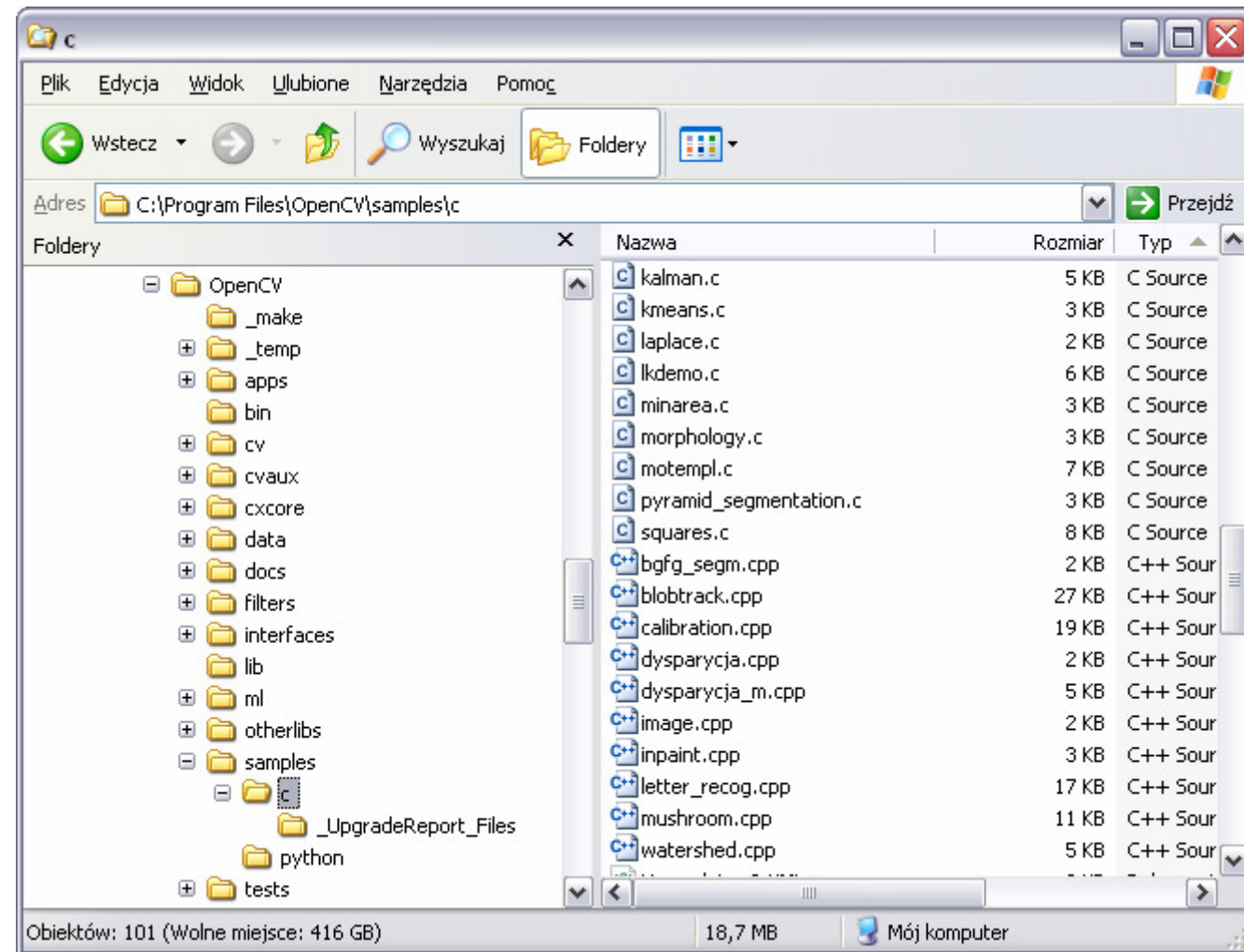
- About Wikipedia
- Community portal
- Recent changes
- Contact Wikipedia
- Donate to Wikipedia
- Help

Toolbox

- What links here
- Related changes
- Upload file
- Special pages
- Printable version
- Permanent link



OpenCV samples



Login

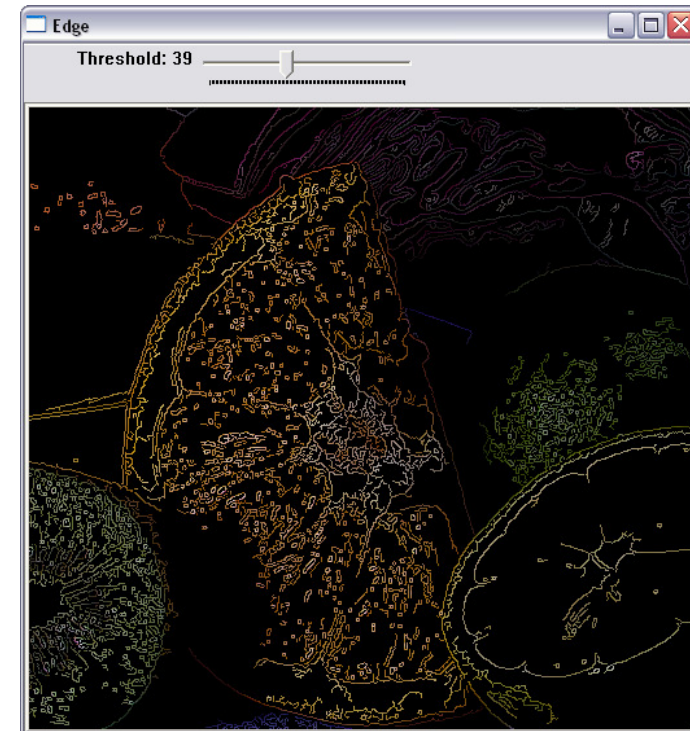


OpenCV programing example

Prezentacja multimedialna współfinansowana przez Unię Europejską w ramach Europejskiego Funduszu Społecznego

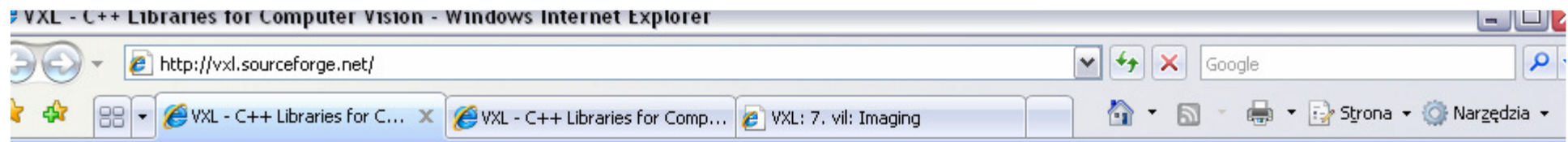
```
#include "cv.h"
#include "highgui.h"
char wndname[] = "Edge";
char tbarname[] = "Threshold";
int edge_thresh = 1;
IplImage *image = 0, *cedge = 0, *gray = 0, *edge = 0;
// define a trackbar callback
void on_trackbar(int h)
{
    cvSmooth( gray, edge, CV_BLUR, 3, 3, 0, 0 );
    cvNot( gray, edge );
    // Run the edge detector on grayscale
    cvCanny(gray, edge, (float)edge_thresh, (float)edge_thresh*3, 3);
    cvZero( cedge );
    // copy edge points
    cvCopy( image, cedge, edge );
    cvShowImage(wndname, cedge);
}

int main( int argc, char *argv )
{
    char* filename = argc == 2 ? argv[1] : (char*)"fruits.jpg";
    if( (image = cvLoadImage( filename, 1)) == 0 )
        return -1;
    // Create the output image
    cedge = cvCreateImage(cvSize(image->width,image->height), IPL_DEPTH_8U, 3);
    // Convert to grayscale
    gray = cvCreateImage(cvSize(image->width,image->height), IPL_DEPTH_8U, 1);
    edge = cvCreateImage(cvSize(image->width,image->height), IPL_DEPTH_8U, 1);
    cvCvtColor(image, gray, CV_BGR2GRAY);
    // Create a window
    cvNamedWindow(wndname, 1);
    // create a toolbar
    cvCreateTrackbar(tbarname, wndname, &edge_thresh, 100, on_trackbar);
    // Show the image
    on_trackbar(0);
    // Wait for a key stroke; the same function arranges events processing
    cvWaitKey(0);
    cvReleaseImage(&image);
    cvReleaseImage(&gray);
    cvReleaseImage(&edge);
    cvDestroyWindow(wndname);
    return 0;
}
```



OpenCV sample code *edge.c*





The VXL Homepage

C++ Libraries for Computer Vision Research and Implementation

Contents: [\[Introduction\]](#) [\[Documentation\]](#) [\[Download and install\]](#) [\[Mailing list\]](#) [\[Builds dashboard\]](#) [\[Bug reports\]](#)

Introduction: What is VXL?

VXL (the Vision-*something*-Libraries) is a collection of C++ libraries designed for computer vision research and implementation. It was created from TargetJr and the [IUE](#) with the aim of making a light, fast and consistent system. VXL is written in ANSI/ISO C++ and is designed to be portable over many platforms. The core libraries in VXL are:

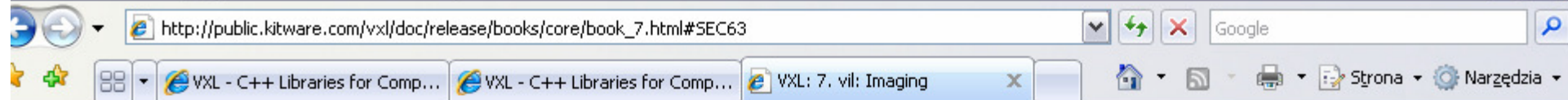
- **vnl (numerics)**: Numerical containers and algorithms. e.g. matrices, vectors, decompositions, optimisers.
- **vil (imaging)**: Loading, saving and manipulating images in many common file formats, including very large images.
- **vgl (geometry)**: Geometry for points, curves and other elementary objects in 1, 2 or 3 dimensions.
- **vsl (streaming I/O), vbl (basic templates), vul (utilities)**: Miscellaneous platform-independent functionality.

As well as the core libraries, there are libraries covering **numerical algorithms**, **image processing**, **co-ordinate systems**, **camera geometry**, **stereo**, **video manipulation**, **structure recovery from motion**, **probability modelling**, **GUI design**, **classification**, **robust estimation**, **feature tracking**, **topology**, **structure manipulation**, **3d imaging**, and much more.

Each core library is lightweight, and can be used without reference to the other core libraries. Similarly, the non-core libraries don't depend on more than absolutely necessary, so you can compile and link just the libraries you really need.

For a more detailed description of the libraries see [the VXL book](#).

VXL is developed and used by an [international team](#) from academia and industry, including some of the world's leading computer vision experts.



Several image processing functions can be found in the algo subdirectory of vil. Lets look at an example of finding the image gradient using a Sobel filter.

```
#include <vcl_istream.h>
#include <vx1_config.h> // for vx1_byte
#include <vil/vil_image_view.h>
#include <vil/vil_print.h>
#include <vil/algo/vil_sobel_3x3.h>

int main()
{
    unsigned ni=8;
    unsigned nj=15;
    unsigned nplanes=1;
    vil_image_view<vx1_byte> image(ni,nj,nplanes);

    for (unsigned p=0;p<nplanes;++p)
        for (unsigned j=0;j<nj;++j)
            for (unsigned i=0;i<ni;++i)
                image(i,j,p) = vx1_byte(i+10*j+100*p);

    vcl_cout<<"Original image:"<<vcl_endl;
    vil_print_all(vcl_cout,image);

    // Objects to hold gradients
    vil_image_view<float> grad_i,grad_j;

    vil_sobel_3x3(image,grad_i,grad_j);

    vcl_cout<<vcl_endl
        <<"Sobel I Gradient:"<<vcl_endl;
    vil_print_all(vcl_cout,grad_i);

    vcl_cout<<vcl_endl
        <<"Sobel J Gradient:"<<vcl_endl;
    vil_print_all(vcl_cout,grad_j);

    return 0;
}
```


Insight Segmentation and Registration Toolkit - Wikipedia, the free encyclopedia - Windows Internet Explorer

W http://en.wikipedia.org/wiki/Insight_Segmentation_and_Registration_Toolkit

Google

W Insight Segment... ITK - Segmentation ... W VTK - Wikipedia, the... VTK - The Visualizati...

Log in / create account



WIKIPEDIA
The Free Encyclopedia

avigation

- Main page
- Contents
- Featured content
- Current events
- Random article

earch

Go Search

nteraction

- About Wikipedia
- Community portal
- Recent changes
- Contact Wikipedia
- Donate to Wikipedia
- Help

oolbox

- What links here
- Related changes
- Upload file
- Special pages
- Printable version
- Permanent link
- Cite this page

[article](#) [discussion](#) [edit this page](#) [history](#)

Insight Segmentation and Registration Toolkit

From Wikipedia, the free encyclopedia

ITK is a [cross-platform](#) application development framework, widely used for the development of [image segmentation](#) and [image registration](#) programs.

ITK was developed with funding from the [National Library of Medicine \(U.S.\)](#) as an open resource of algorithms for analyzing the images of the [Visible Human Project](#). ITK stands for **The Insight Segmentation and Registration Toolkit**. The toolkit provides leading-edge segmentation and registration algorithms in two, three, and more dimensions. The software is implemented in [C++](#) and it is wrapped for [Tcl](#), [Python](#) and [Java](#).

Contents [hide]

- Introduction
 - Origins
 - Technical Details
 - Developers and Contributors
 - Funding
 - Community Participation
 - Copyright and License
- Technical Summary
 - Architecture
 - Implementation Philosophy
 - Build Environment
- Examples
 - Hello World
 - Region Growing Segmentation
- Additional information
 - Resources
 - Applications
 - Data

ITK



Developed by	Insight Software Consortium
Latest release	3.10.1 / December 8, 2008
Written in	C++
OS	Cross-platform
Available in	C++, Tcl, Python, Java
Type	Development Library
License	BSD Like ↗ ,BSD
Website	http://www.itk.org ↗

 **Free software portal**

itk Insight Toolkit

Kitware

Search

PROJECT

RESOURCES

HELP

OPEN SOURCE

Welcome to the National Library of Medicine **Insight Segmentation and Registration Toolkit (ITK)**. ITK is an open-source, cross-platform system that provides developers with an extensive suite of software tools for image analysis. Developed through extreme programming methodologies, ITK employs leading-edge algorithms for registering and segmenting multidimensional data. The goals for ITK include:

- Supporting the Visible Human Project.
- Establishing a foundation for future research.
- Creating a repository of fundamental algorithms.
- Developing a platform for advanced product development.
- Support commercial application of the technology.
- Create conventions for future work.
- Grow a self-sustaining community of software users and developers.

News

[More News >](#)

03.2009 3-D Snapshots of Eyes Reveal Details of Age-Relate...

03.2009 ITK 3.12 Released

01.2009 ITK 3.10.2 Patch Release

ITK

ITK provides leading-edge segmentation and registration algorithms in two, three, and more dimensions; it is distributed as an open-source software package.



Region Growing Segmentation

[\[edit\]](#)

```
#include "itkImage.h"
int main()
{
    typedef itk::Image< signed short, 3 > InputImageType;
    typedef itk::Image< unsigned char, 3 > OutputImageType;
    typedef itk::ImageFileReader< InputImageType > ReaderType;
    typedef itk::ImageFileWriter< OutputImageType > WriterType;
    typedef itk::ConnectedThresholdImageFilter< InputImageType, OutputImageType > FilterType;
    ReaderType::Pointer reader = ReaderType::New();
    WriterType::Pointer writer = WriterType::New();
    reader->SetFileName("brain.dcm");
    writer->SetFileName("whiteMatter.hdr");
    FilterType::Pointer filter = FilterType::New();
    filter->SetInput( reader->GetOutput() );
    writer->SetInput( filter->GetOutput() );
    filter->SetMultiplier(2.5);
    ImageType::IndexType seed;
    seed[0] = 142;
    seed[1] = 97;
    seed[2] = 63;
    filter->AddSeed( seed );
    try
    {
        writer->Update();
    }
    catch( itk::ExceptionObject & excp )
    {
        std::cerr << excp << std::endl;
        return EXIT_FAILURE;
    }
}
```

The ITK Software Guide

Second Edition

Updated for ITK version 2.4

Luis Ibáñez
Will Schroeder
Lydia Ng
Josh Cates
and the *Insight Software Consortium*



WIKIPEDIA
The Free Encyclopedia

Navigation

- Main page
- Contents
- Featured content
- Current events
- Random article

Search

Interaction

- About Wikipedia
- Community portal
- Recent changes
- Contact Wikipedia
- Donate to Wikipedia
- Help

Toolbox

- What links here
- Related changes
- Upload file
- Special pages
- Printable version
- Permanent link
- Cite this page

Languages

- Deutsch
- English

VTK

From Wikipedia, the free encyclopedia

The **Visualization Toolkit** (VTK) is an [open source](#) graphics toolkit. It is a platform independent graphics engine with [parallel rendering](#) support. VTK has an active development community that includes laboratories, institutions and universities from around the world. VTK has several large collaborations between Kitware and national organizations such as Sandia National Labs, Los Alamos, and Livermore National Labs, who are using VTK as the foundation for their large data visualization research efforts.

VTK is an open-source toolkit licensed under the [BSD license](#).

Contents [hide]

- History
- References
 - Books
- See also
- External links
 - Kitware
 - Government
 - Software
 - Others

History

[\[edit\]](#)

VTK was initially created in 1993 as companion software to the book *"The Visualization Toolkit: An Object-Oriented Approach to 3D Graphics"* published by Prentice-Hall. The book and software were written by three researchers from [GE Corporate R&D](#) ([Will Schroeder](#), [Ken Martin](#) and [Bill Lorensen](#)) on their own time and with permission from GE (thus the ownership of the software resided with, and continues to reside with, the authors). Once the book was published and the software released with a BSD-style open source license, a world-wide community of users and developers quickly formed. In addition, GE and other organizations began support of the software. In 1998, Will Schroeder and Ken Martin left GE to form [Kitware Inc.](#)

With the founding of [Kitware](#), the VTK community grew rapidly, and toolkit usage expanded into academic, research and commercial applications. For example, VTK forms the core of the [3DSlicer](#) biomedical computing application, and numerous research papers at

VTK



Developed by	Kitware Inc..
Latest release	5.4
OS	Cross-platform
Available in	C++, Tcl, Perl, Python, Java
Type	Scientific visualization
License	3-Clause BSD
Website	www.vtk.org

Kitware vtk Visualization Toolkit

PROJECT

RESOURCES

HELP

OPEN SOURCE

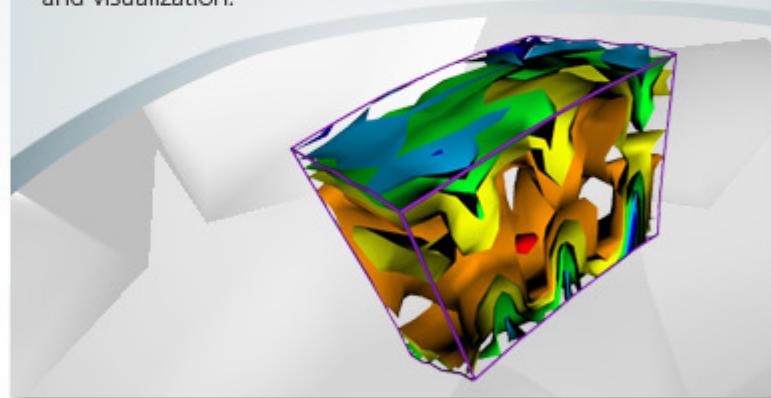
The **Visualization Toolkit (VTK)** is an open-source, freely available software system for 3D computer graphics, image processing, and visualization used by thousands of researchers and developers around the world. VTK consists of a C++ class library and several interpreted interface layers including Tcl/Tk, Java, and Python. Professional support and products for VTK are provided by [Kitware, Inc.](#) VTK supports a wide variety of visualization algorithms including scalar, vector, tensor, texture, and volumetric methods; and advanced modeling techniques such as implicit modeling, polygon reduction, mesh smoothing, cutting, contouring, and Delaunay triangulation. Additionally, VTK has an extensive information visualization framework, has a suite of 3D interaction widgets, supports parallel processing, and integrates with various databases on GUI toolkits such as Qt and Tk. VTK is cross-platform and runs on Linux, Windows, Mac and Unix platforms.

News

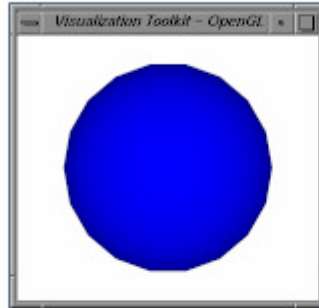
[More News >](#)[03.2009 3-D Snapshots of Eyes Reveal Details of Age-Relate...](#)[01.2009 VTK 5.2.1 Released](#)[10.2008 VTKEdge Released](#)

VTK

Thousands of researchers and developers around the world use VTK, an open source, freely available software system for 3D computer graphics, image processing, and visualization.



Creating a Sphere



VTK supplies a variety of geometric primitives like spheres, cones, lines, planes, cylinders, cubes, and so on. In this example we'll create a sphere which is represented by mesh of triangles with surface normals at the vertices.

C++

```
#include "vtkSphereSource.h"
#include "vtkPolyDataMapper.h"
#include "vtkActor.h"
#include "vtkRenderWindow.h"
#include "vtkRenderer.h"
#include "vtkRenderWindowInteractor.h"
```

```
void main ()
{
```

```
    // create sphere geometry
    vtkSphereSource *sphere = vtkSphereSource::New();
    sphere->SetRadius(1.0);
    sphere->SetThetaResolution(18);
```

<http://www.vtk.org/VTK/help/examplecode.html>
<http://www.vtk.org/doc/release/5.4/html/classes.html>



Navigation

- [Main page](#)
- [Contents](#)
- [Featured content](#)
- [Current events](#)
- [Random article](#)

Search

Interaction

- [About Wikipedia](#)
- [Community portal](#)
- [Recent changes](#)
- [Contact Wikipedia](#)
- [Donate to Wikipedia](#)
- [Help](#)

Toolbox

- [What links here](#)
- [Related changes](#)
- [Upload file](#)
- [Special pages](#)
- [Printable version](#)
- [Permanent link](#)
- [Cite this page](#)

article

discussion

edit this page

history

Multimedia framework

From Wikipedia, the free encyclopedia

A **multimedia framework** (MMF) is a [software framework](#) that handles [media](#) on a computer and through a network. A good multimedia framework offers an intuitive [API](#) and a modular architecture to easily add support for new [codecs](#), [container formats](#) and [transmission protocols](#). It is meant to be used by applications such as [media players](#) and [audio](#) or [video editors](#), but can also be used to build [Videoconferencing applications](#), media converters and other multimedia tools. MMFs are available for different [operating systems](#):

Platforms

[\[edit\]](#)

Linux or platform independent (portable):

- [Helix DNA](#)
- [FFmpeg](#)
- [GStreamer](#)
- [MLT](#) [\[1\]](#) [↗](#)
- [Network-Integrated Multimedia Middleware \(NMM\)](#) [\[2\]](#) [↗](#)
- [Phonon](#)
- [xine](#)

Microsoft Windows:

- [Audio Compression Manager \(ACM\)](#) — (Legacy)
- [Active Movie](#) — (1996) Renamed DirectShow in 1997.
- [DirectShow](#) — (1997)
- [DirectX Media Objects \(DMOs\)](#)
- [Helix DNA](#)
- [Media Foundation](#) — (2007) ([Windows Vista](#) only)
- [QuickTime](#)
- [Video for Windows \(VFW\)](#) — (1992) (*also sometimes referred to as Video Compression Manager (VCM)*) (Legacy)
- [Windows Media](#)



Technologie multimedialne

Technologia multimedialna (multimedia framework - MMF) to narzędzia programistyczne i biblioteki służące do tworzenia programów komputerowych i umożliwiające ich działanie.

Technologia multimedialna powinna zapewnić:

- przejrzysty interfejs programistyczny (application programming interface - API) czyli zestaw procedur, metod lub funkcji, które mogą być wykorzystywane przez programistę w programie multimedialnym,
- architekturę modułową pozwalającą na łatwe dodawanie oraz zastosowanie w istniejących programach nowych modułów, np. kodeków, protokołów transmisji, formatów plików, itp.



DirectShow - Wikipedia, the free encyclopedia - Windows Internet Explorer

W http://en.wikipedia.org/wiki/Directshow

Google

W DirectSho... x W Multimedia fra... W DirectShow - ... VTK: Alphabeti... VTK - The Visu...

Strona Narzędzia



WIKIPEDIA
The Free Encyclopedia

Log in / create account

article discussion edit this page history

DirectShow

From Wikipedia, the free encyclopedia
(Redirected from [Directshow](#))

DirectShow (sometimes abbreviated as **DS** or **DShow**), codename **Quartz**, is a [multimedia framework](#) and [API](#) produced by [Microsoft](#) for [software developers](#) to perform various operations with media files or streams. It is the replacement for Microsoft's earlier [Video for Windows](#) technology.^[1] Based on the [Microsoft Windows Component Object Model](#) (COM) framework, DirectShow provides a common interface for media across many [programming languages](#), and is an extensible, [filter](#)-based framework that can render or record media files on demand at the request of the user or developer. The DirectShow development tools and documentation were originally distributed as part of the [DirectX SDK](#). Currently, they are distributed as part of the [Windows SDK](#) (formerly known as the Platform SDK).^[2]

DirectShow's counterparts on other platforms include [Apple's QuickTime](#) framework and various Linux multimedia frameworks such as [GStreamer](#) or [Xine](#). Microsoft plans to replace DirectShow with [Media Foundation](#) in future Windows versions beginning with [Windows Vista](#).^[3]

Contents [\[hide\]](#)

1 History

2 Architecture

3 Features

4 DirectShow Editing Services

5 Video rendering filters

6 Criticism

6.1 Complexity

6.2 Digital rights management

6.3 Codec hell

7 End-user tools

8 See also

9 References

10 Notes

avigation

Main page

Contents

Featured content

Current events

Random article

earch

Go

Search

nteraction

About Wikipedia

Community portal

Recent changes

Contact Wikipedia

Donate to Wikipedia

Help

oolbox

What links here

Related changes

Upload file

Special pages

Printable version

Permanent link

Cite this page



Logo of the DirectX Media SDK – the first time DirectShow was distributed under its current name.

DirectShow - Wikipedia, the free encyclopedia - Windows Internet Explorer

W http://en.wikipedia.org/wiki/DirectShow

DirectShow - Wikipedia, the f... DirectShow - Wikipedia, t... GraphEdit - Wikipedia, the fr...

Strona Narzędzia

purpose information as well.'

v · d · e Microsoft APIs and frameworks [hide]	
Graphics	Desktop Window Manager · Direct2D · Direct3D (extensions) · GDI / GDI+ · WPF · Windows Color System · Windows Image Acquisition · Windows Imaging Component
Audio	DirectMusic · DirectSound · DirectX plugin · XACT · Speech API
Multimedia	DirectX · (Media Objects · Video Acceleration) · DirectInput · DirectPlay · DirectShow · Image Mastering API · Managed DirectX · Media Foundation · XNA · Windows Media
Web	MSHTML · RSS Platform · JScript · VBScript · BHO · XDR · SideBar Gadgets
Data access	Data Access Components · Extensible Storage Engine · ADO.NET · ADO.NET Entity Framework · Sync Framework · Jet Engine · MSXML · OLE DB
Networking	Winsock (LSP) · Winsock Kernel · Filtering Platform · Network Driver Interface Specification · Windows Rally · BITS · P2P API · MSMQ · MS MPI
Communication	Messaging API · Telephony API
Administration and management	Win32 console · Windows Script Host · WMI (extensions) · PowerShell · Task Scheduler · Offline Files · Shadow Copy · Windows Installer · Error Reporting · Event Log · Common Log File System
Component model	COM · COM+ · ActiveX · Distributed Component Object Model · .NET Framework
Libraries	Microsoft Foundation Classes (MFC) · Active Template Library (ATL) · Windows Template Library (WTL)
Device drivers	Windows Driver Model · Windows Driver Foundation (KMDF · UMDF) · WDDM · NDIS · UAA · Broadcast Driver Architecture · VxD
Security	Crypto API (CAPICOM) · Windows CardSpace · Data protection API · Security Support Provider Interface (SSPI)
.NET	ASP.NET · ADO.NET · Remoting · Silverlight · TPL · WCF · WCS · WPF · WF
Software factories	EFx Factory · Enterprise Library · Composite UI · CCF · CSF
IPC	MSRPC · Dynamic Data Exchange (DDE)
Accessibility	Active Accessibility · UI Automation
Text and multilingual support	Text Services Framework · Text Object Model · Input method editor · Language Interface Pack · Multilingual User Interface · Uniscribe

Categories: Microsoft application programming interfaces | Multimedia frameworks | DirectX

Introduction to DirectShow (Windows) - Windows Internet Explorer

http://msdn.microsoft.com/en-us/library/dd390351(VS.85).aspx

Google

Introduction to DirectShow (Windows)

United States - English | Microsoft.com | Welcome | Sign in

msdn

Search MSDN with Live Search

Web

Accessibility Developer Center

Home | Library | Learn | Downloads | Support | Community

Printer Friendly Version | Add To Favorites | Send | Add Content... | Click to Rate and Give Feedback

Win32 and COM Development

- Administration and Management
- Component Development
- Data Access and Storage
- Development Guides
- Diagnostics
- Documents
- Graphics and Multimedia
 - Audio and Video
 - SDK Documentation
 - Core Audio APIs
 - DirectShow
 - Introduction to DirectShow**
 - What's New in DirectShow
 - Supported Formats in DirectShow
 - DirectShow FAQ
 - Getting Started
 - About DirectShow
 - Using DirectShow
 - DirectShow Tutorials
 - DirectShow Samples
 - DirectShow Reference
 - DirectX Media Objects
 - Microsoft TV Technologies

MSDN | MSDN Library | Win32 and COM Development | Graphics and Multimedia | Audio and Video | DirectShow | Introduction to DirectShow

[Switch on low bandwidth view](#)

Introduction to DirectShow

Microsoft® DirectShow® is an architecture for streaming media on the Microsoft Windows® platform. DirectShow provides for high-quality capture and playback of multimedia streams. It supports a wide variety of formats, including Advanced Systems Format (ASF), Motion Picture Experts Group (MPEG), Audio-Video Interleaved (AVI), MPEG Audio Layer-3 (MP3), and WAV sound files. It supports capture from digital and analog devices based on the Windows Driver Model (WDM) or Video for Windows. It automatically detects and uses video and audio acceleration hardware when available, but also supports systems without acceleration hardware.

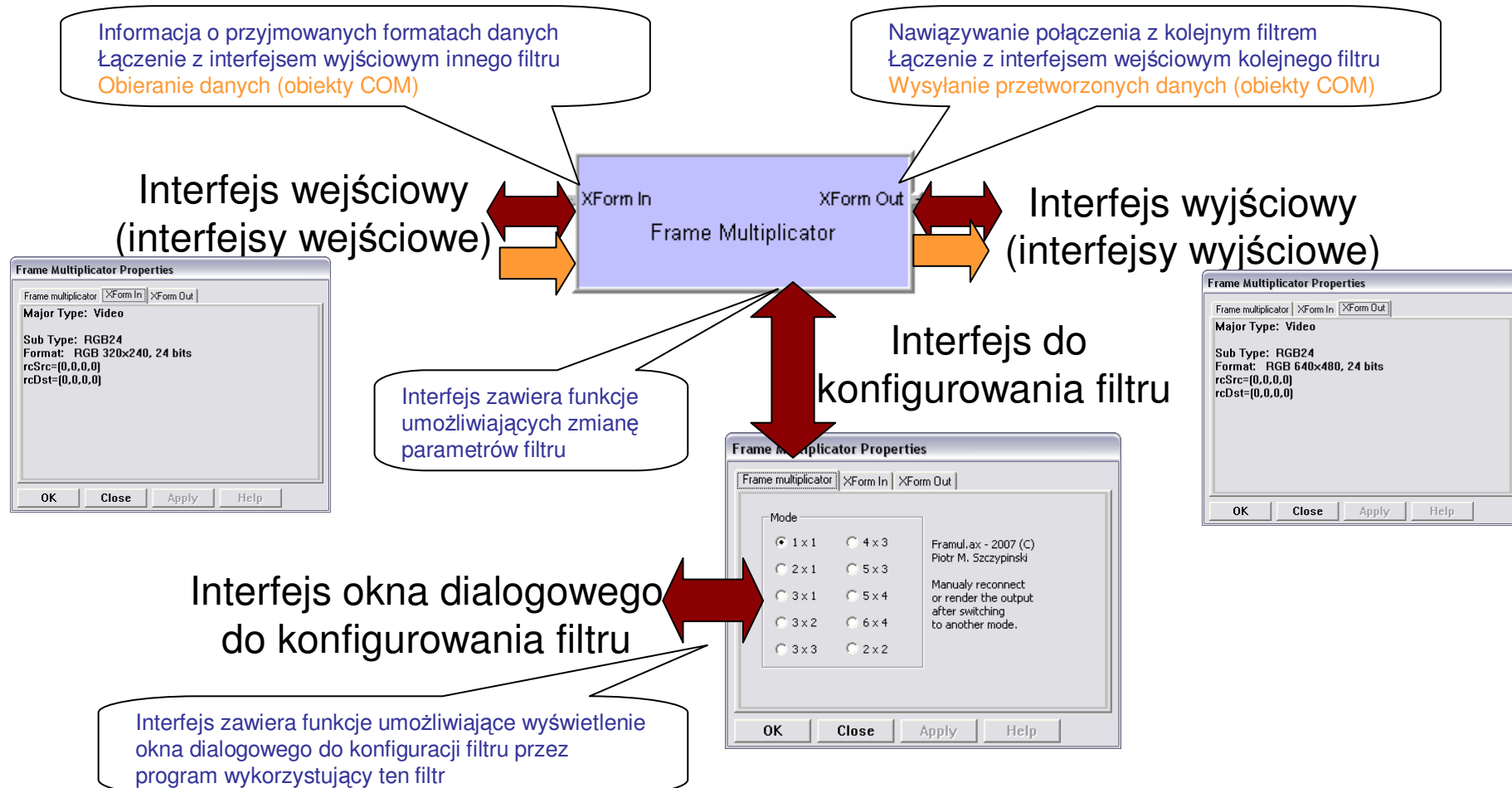
DirectShow is based on the Component Object Model (COM). To write a DirectShow application or component, you must understand COM client programming. For most applications, you do not need to implement your own COM objects. DirectShow provides the components you need. (If you want to extend DirectShow by writing your own components, however, you must implement them as COM objects.)

DirectShow applications must be written in C++. There is no managed API for DirectShow.

DirectShow simplifies media playback, format conversion, and capture tasks. At the same time, it provides access to the underlying stream control architecture for applications that require custom solutions. You can also create your own DirectShow components to support new formats or custom effects.

Examples of the types of application you can write with DirectShow include file players, TV and DVD players, video editing applications, file format converters, audio-video capture applications, encoders and decoders, digital signal processors, and more.

Filtr DS



Download details: Windows SDK for Windows Server 2008 and .NET Framework version 3.5 - Windows Internet Explorer

http://www.microsoft.com/downloads/details.aspx?familyid=E6E1C3DF-A74F-4207-8586-711EBE331CDC&displaylan...

Download details: Windows SDK for Windows Server ...

United States Change | All Microsoft Sites

Microsoft

Download Center

Download Center Home

Search All Downloads Go Advanced Search

Product Families

- Windows
- Office
- Servers
- Business Solutions
- Developer Tools
- Windows Live
- MSN
- Games & Xbox
- Windows Mobile
- All Downloads

Download Categories

- Games
- DirectX
- Internet
- Windows Security & Updates
- Windows Media
- Drivers
- Home & Office
- Mobile Devices
- Mac & Other Platforms
- System Tools
- Development Resources

Download Resources

- Microsoft Update Services
- Download Center FAQ
- Related Sites

Windows SDK for Windows Server 2008 and .NET Framework 3.5

Brief Description

Web Setup
The Windows SDK for Windows Server® 2008 and .NET Framework 3.5 provides documentation, samples, header files, libraries, and tools designed to help you develop Windows applications using both native (Win32®) and managed (.NET Framework) technologies.

On This Page

- Quick Details
- System Requirements
- Related Resources
- Overview
- Instructions
- What Others Are Downloading

Download

Quick Details

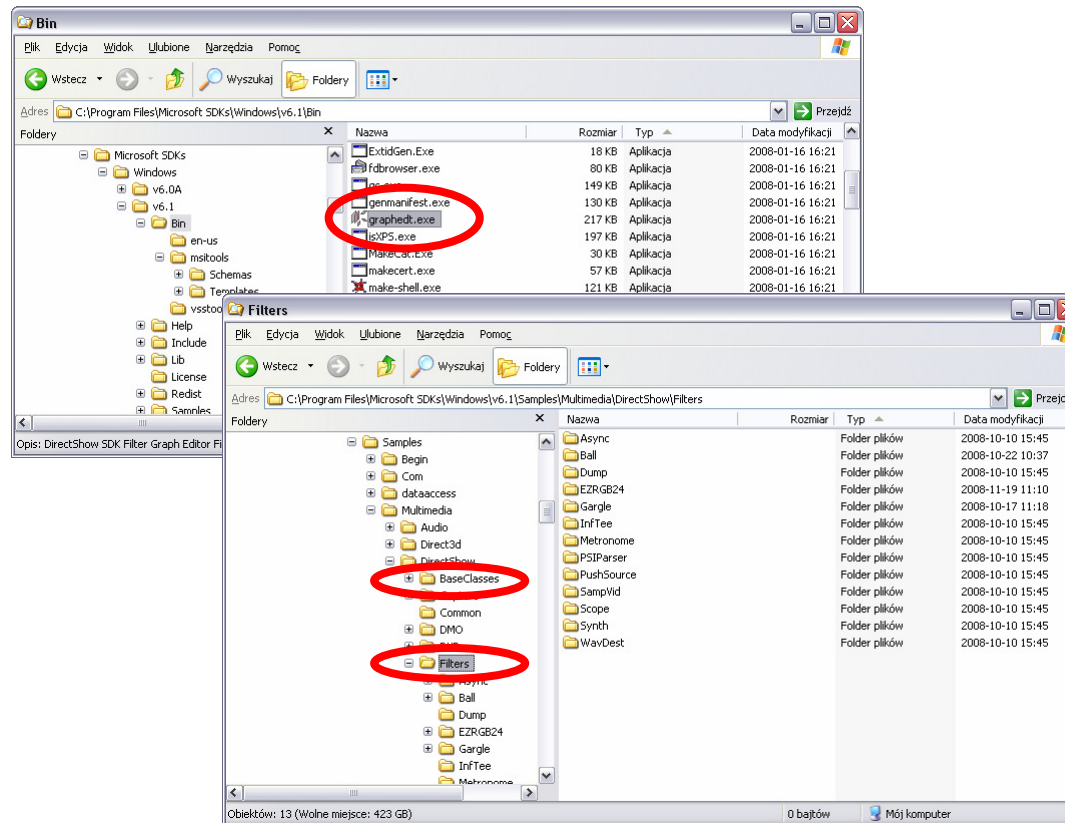
File Name:	Setup.exe
Version:	6.1
Date Published:	2/5/2008
Language:	English
Download Size:	11 KB - 1328.9 MB*
Estimated Download Time:	Dial-up (56K) 26 hr 60 min

*Download size depends on selected download components.

Microsoft Visual Studio



Platform SDK



Windows Platform SDK

DirectX 9.0 SDK

- Biblioteki klas
- Kody źródłowe filtrów i programów
- Narzędzia programistyczne

Windows SDK for Windows Server 2008 and .NET Framework 3.5

<http://www.microsoft.com/downloads/details.aspx?familyid=E6E1C3DF-A74F-4207-8586-711EBE331CDC&displaylang=en>

DirectX 9.0 SDK

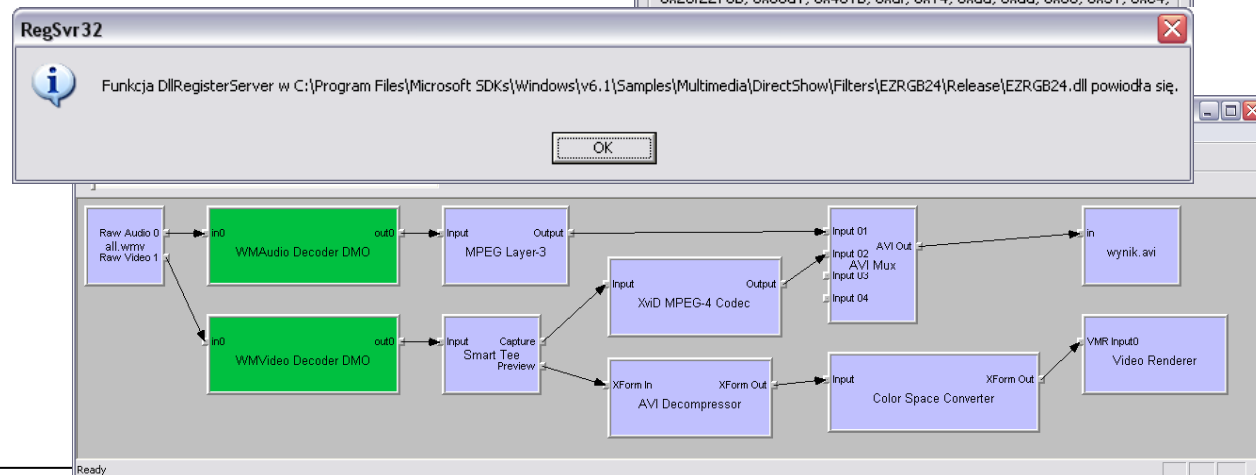
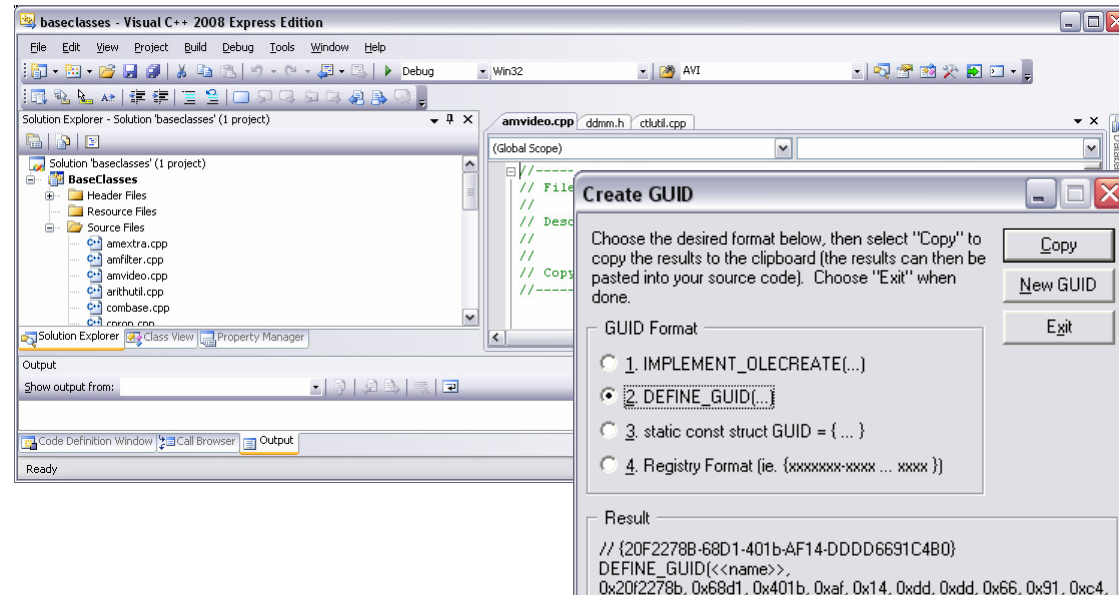
<http://www.microsoft.com/downloads/details.aspx?familyid=124552FF-8363-47FD-8F3B-36C226E04C85&displaylang=en>





Required tools

Visual Studio C++
GuidGen.exe
RegSvr32.exe
GraphEdt.exe





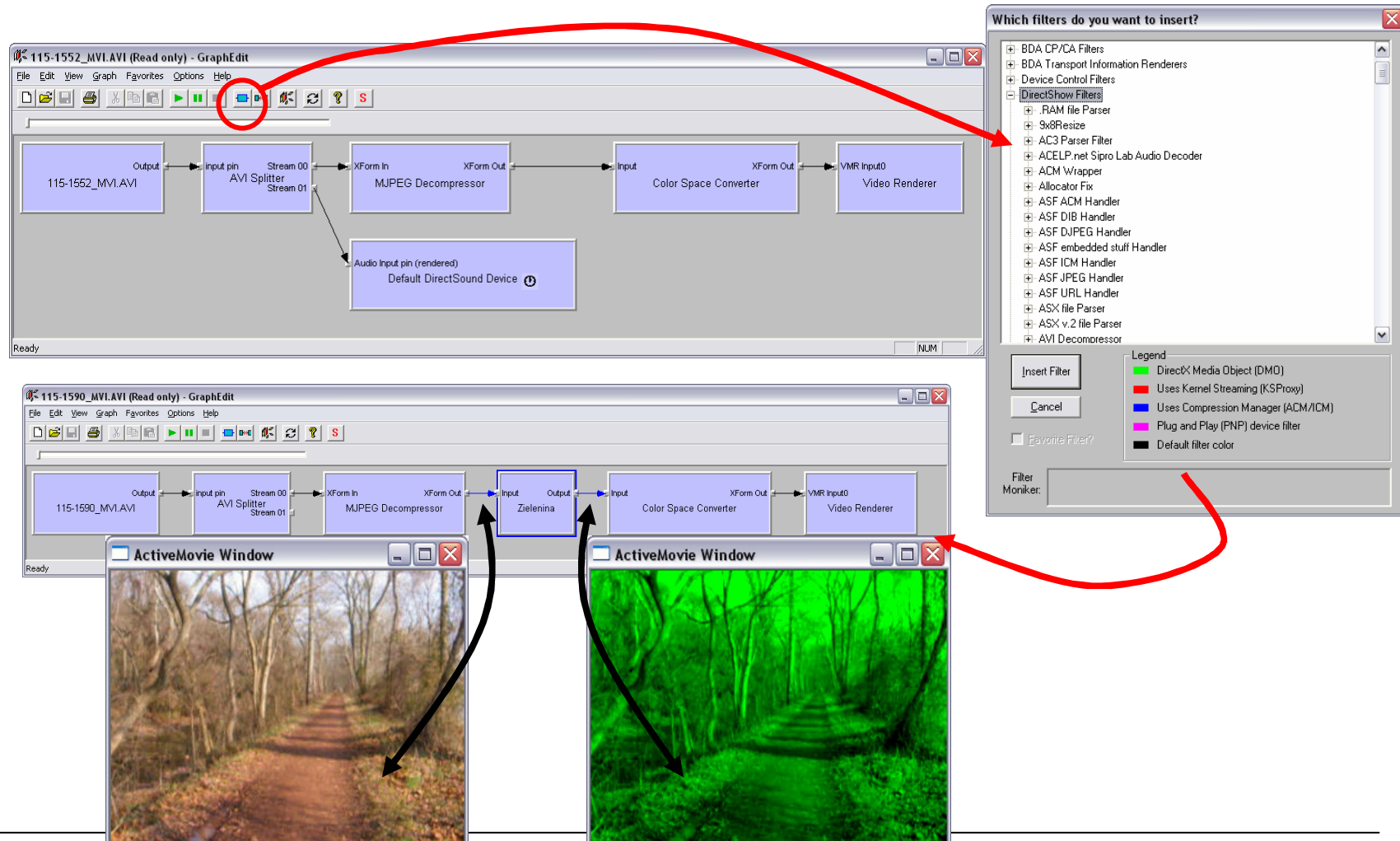
Filtr przetwarzania wideo - przykład

```
//-----  
// Funkcja wywoływana do transformowania próbki (tutaj klatki obrazu)  
HRESULT CFiltrZielenina::Transform(IMediaSample *pSample)  
{  
    BYTE *pData;           // Pointer to the actual image buffer  
    long lDataLen;         // Holds length of any given sample  
    int iPixel;            // Used to loop through the image pixels  
    RGBTRIPLE *prgb;       // Holds a pointer to the current pixel  
    AM_MEDIA_TYPE* pType = &m_pInput->CurrentMediaType();  
    VIDEOINFOHEADER *pvi = (VIDEOINFOHEADER *) pType->pbFormat;  
    ASSERT(pvi);  
    CheckPointer(pSample, E_POINTER);  
    pSample->GetPointer(&pData);  
    lDataLen = pSample->GetSize();  
    int cxImage = pvi->bmiHeader.biWidth;  
    int cyImage = pvi->bmiHeader.biHeight;  
    int numPixels = cxImage * cyImage;  
  
    prgb = (RGBTRIPLE*) pData;  
    for (iPixel=0; iPixel < numPixels; iPixel++, prgb++) {  
        // prgb->rgbtGreen = 0;  
        prgb->rgbtBlue = 0;  
        prgb->rgbtRed = 0;  
    }  
    return NOERROR;  
}
```





Filtr przetwarzania wideo - przykład





Podsumowanie

Przetwarzanie rastrowych obrazów płaskich

- Przegląd Edytorów
(Paint, Adobe PhotoShop,
Corel Photopaint, Paint Shop, GIMP)
- Możliwości programów **GIMP**, **ImageJ**,
- Analiza obrazów w programie **MaZda**

Przetwarzanie rastrowych obrazów trójwymiarowych

- **MRlcro**, **MRlcron**, **MaZda**

Przetwarzanie obrazów ruchomych

- Przegląd edytorów wideo
(Windows Movie Maker, Pinnacle/Avid Studio, Ulead/Corel
VideoStudio)
- Możliwości programu **VirtualDub**(Mod)
- Tworzenie sekwencji przetwarzania w
GraphEdit

Programowanie

- Przegląd środowisk programistycznych
(Microsoft VisualC++, Borland Builder, NetBins, KDevelop, Anjuta)
- Biblioteki procedur przetwarzania obrazów
(**OpenCV**, VxL, ITK, VTK)
- Technologie Multimedialne
(Helix DNA, FFmpeg, GStreamer, QuickTime, VFW, **DirectShow**,
Media Foundation)
- Programowanie w
Microsoft VisualC++ Express Edition

**Wykorzystanie gotowych
programów
czy tworzenie własnych?**

A może jedno i drugie?





Spis adresów stron (1)

Edycja, wizualizacja, przetwarzanie i analiza obrazów 2W i 3W

<http://www.eletel.p.lodz.pl/pms/>

http://en.wikipedia.org/wiki/Comparison_of_raster_graphics_editors

http://pl.wikipedia.org/wiki/Microsoft_Paint

<http://windowshelp.microsoft.com/Windows/en-US/Help/f5feb1df-8dd7-4ab0-9f65-3c1c89a329ab1033.mspx>

http://en.wikipedia.org/wiki/Adobe_Photoshop

<http://www.adobe.com/products/photoshop/compare/>

http://en.wikipedia.org/wiki/Corel_Photo-Paint

<http://www.corel.com/servlet/Satellite/us/en/Content/1152796555406>

<http://en.wikipedia.org/wiki/GIMP>

<http://en.wikipedia.org/wiki/GIMPshop>

<http://www.gimp.org/>

http://people.via.ecp.fr/~remi/soft/gimp/gimp_plugin_en.php3

<http://en.wikipedia.org/wiki/ImageJ>

<http://rsb.info.nih.gov/ij/>

<http://rsb.info.nih.gov/ij/docs/index.html>

<http://rsb.info.nih.gov/ij/plugins/index.html>

<http://www.sph.sc.edu/comd/rorden/mricro.html>

<http://www.sph.sc.edu/comd/rorden/mricrogl/>

<http://www.sph.sc.edu/comd/rorden/mricron/>

<http://www.eletel.p.lodz.pl/mazda/>





Spis adresów stron (2)

Edycja i przetwarzanie wideo

http://en.wikipedia.org/wiki/Comparison_of_video_editing_software

http://en.wikipedia.org/wiki/Windows_Movie_Maker

<http://www.microsoft.com/windowsxp/using/moviemaker/create/default.mspx>

http://en.wikipedia.org/wiki/Pinnacle_Studio

<http://www.pinnaclesys.com/PublicSite/uk/Home/>

<http://www.avid.com/>

http://en.wikipedia.org/wiki/Ulead_VideoStudio

<http://www.ulead.com/runme.htm>

<http://www.corel.com/servlet/Satellite/ca/en/Product/1175714228541>

[http://en.wikipedia.org/wiki/Kino_\(software\)](http://en.wikipedia.org/wiki/Kino_(software))

<http://kinodv.org/>

http://en.wikipedia.org/wiki/Virtual_Dub

<http://virtualdub.org/>

<http://virtualdubmod.sourceforge.net/>

<http://en.wikipedia.org/wiki/Graphedit>

<http://en.wikipedia.org/wiki/GraphStudio>





Spis adresów stron (3)

Narzędzia programistyczne (C++, Java)

http://en.wikipedia.org/wiki/Integrated_Developer_Environment

http://en.wikipedia.org/wiki/Comparison_of_integrated_development_environments

<http://en.wikipedia.org/wiki/Anjuta>

<http://www.anjuta.org/>

<http://en.wikipedia.org/wiki/KDevelop>

<http://www.kdevelop.org/>

[http://en.wikipedia.org/wiki/Eclipse_\(software\)](http://en.wikipedia.org/wiki/Eclipse_(software))

<http://www.eclipse.org/>

<http://en.wikipedia.org/wiki/NetBeans>

<http://www.netbeans.org/>

http://en.wikipedia.org/wiki/C%2B%2B_Builder

<http://www.codegear.com/products/cppbuilder>

<http://www.codegear.pl/download/>

http://en.wikipedia.org/wiki/Microsoft_Visual_Studio

<http://www.microsoft.com/express/download/>

http://en.wikipedia.org/wiki/Microsoft_Platform_SDK





Spis adresów stron (4)

Biblioteki klas i procedur – obrazy 2W i 3W

<http://en.wikipedia.org/wiki/OpenCV>

<http://sourceforge.net/projects/opencvlibrary/>

<http://opencv.willowgarage.com/wiki/>

<http://www.cs.indiana.edu/cgi-pub/oleykin/website/OpenCVHelp/>

<http://opencv.willowgarage.com/wiki/CvReference>

http://www.ee.pw.edu.pl/~czajewsw/studenckie/inne/opencv_doc/

<http://www.konar.ict.pwr.wroc.pl/uploads/download/pdf/OpenCV.pdf>

<http://vxl.sourceforge.net/>

<http://public.kitware.com/vxl/doc/release/books/core/book.html>

http://en.wikipedia.org/wiki/Insight_Segmentation_and_Registration_Toolkit

<http://www.itk.org/>

<http://www.itk.org/ItkSoftwareGuide.pdf>

<http://en.wikipedia.org/wiki/VTK>

<http://www.vtk.org/>

<http://www.vtk.org/VTK/help/documentation.html>

<http://www.vtk.org/VTK/help/examplecode.html>





Spis adresów stron (5)

Biblioteki klas i procedur – wideo

http://en.wikipedia.org/wiki/Multimedia_framework

<http://en.wikipedia.org/wiki/DirectShow>

http://en.wikipedia.org/wiki/Filter_graph

[http://msdn.microsoft.com/en-us/library/ms783323\(VS.85\).aspx](http://msdn.microsoft.com/en-us/library/ms783323(VS.85).aspx)

[http://msdn.microsoft.com/en-us/library/dd375454\(VS.85\).aspx](http://msdn.microsoft.com/en-us/library/dd375454(VS.85).aspx)

[http://msdn.microsoft.com/en-us/library/dd375470\(VS.85\).aspx](http://msdn.microsoft.com/en-us/library/dd375470(VS.85).aspx)

[http://msdn.microsoft.com/en-us/library/dd373390\(VS.85\).aspx](http://msdn.microsoft.com/en-us/library/dd373390(VS.85).aspx)

http://en.wikipedia.org/wiki/Microsoft_Platform_SDK

<http://www.microsoft.com/msdownload/platformsdk/sdkupdate/psdk-full.htm>

<http://www.microsoft.com/downloads/details.aspx?familyid=E6E1C3DF-A74F-4207-8586-711EBE331CDC&displaylang=en>

<http://www.microsoft.com/downloads/details.aspx?familyid=124552FF-8363-47FD-8F3B-36C226E04C85&displaylang=en>

<http://www.microsoft.com/downloads/details.aspx?FamilyID=77960733-06e9-47ba-914a-844575031b81&DisplayLang=en>

