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PATENTS

Granted, Applied For, or In Progress

- **IHC Color Space** - Created by AUTHOR 2006. Optimized for visual recognition; provides significant advantages for quantization, compression, and image/video search/collation.
- **MPID Mobile Positive Identification** – Created by Author 2008. Lightweight crypto method that positively identifies mobile devices accessing web servers. Does not require SSL libs, is unrestricted for export, and is hardened against spoofing, man-in-middle, and replay attacks.
- **CSD Chromatic Skin Detection** – Created by AUTHOR 2009. Optimized skin-tone filtering; reduces false positives and improves detection performance.
- **CBF Crude But Fast Noise Reduction** – Created by AUTHOR 2009. Fast despeckler tuned for haar-like detection.

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Source code and visual presentation

- **VIEWER** - Copyright **1973-1974** by AUTHOR. 3D perspective viewing system with hidden line removal and 3D vector fonts. Written in APL for the IBM 360 platform and Tektronix display systems.
- **PRMLIB** - Copyright **1982** by AUTHOR. Virtual graphics programming library. Written in FORTRAN for the PRIME/PRIMOS platform and Tektronix display systems.
- **gcDECLIB** - Copyright **1986** by AUTHOR. Virtual graphics and windowing programming library. Written in FORTRAN for the VAX/VMS platform and Tektronix display systems.
- **gcDOSLIB** - Copyright **1986-1990** by AUTHOR. Virtual graphics and windowing programming library. Written in MASM for the DOS platform, supporting MDA, CGA, EGA, VGA, SVGA and TARGA display adapters.
- **gcVIEW** - Copyright **1986** by AUTHOR. 3D perspective viewing system. Written in FORTRAN and gcDOSLIB.
- **gcVIS** - Copyright **1986** by AUTHOR. Automated 2D to 3D conversion package. Written in FORTRAN for the VAX/VMS platform.
- **gcTERRAIN** - Copyright **1986** by AUTHOR. Automated 2D contour to 3D terrain model conversion package written in FORTRAN for the VAX/VMS platform.

- **gcSLIDE** - Copyright **1987** by AUTHOR. Vector-based slide presentation system. Written in MASM and gcDOSLIB.
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- **gcSCANBIF** - Copyright **1988** by AUTHOR. Optical scanning to GDS CAD conversion package. Written in FORTRAN for the VAX/VMS platform.
- **gcSCAN** - Copyright **1988** by AUTHOR. DMA-based optical scanning, display and compression system. Written in MASM and gcDOSLIB.
- **gcCOGO** - Copyright **1989** by AUTHOR. HP to PC COGO file conversion package. Written in MASM and gcDOSLIB.
- **gcVIEW (MSW)** - Copyright **1990** by AUTHOR. 3D perspective viewing system. Written in C and MSW SDK.
- **MUTT(tm) Lite** - Copyright **1994-1995** by AUTHOR; Trade Mark held by AUTHOR. MUD client with hotkey, automated scripting and trigger support. Written in C and MSW SDK.
- **MUTT(tm) Live** - Copyright **1994-1995** by AUTHOR; Trade Mark held by AUTHOR. MUTT(tm) Lite, plus ANSI color, multi-media and animation support. Written in C++ and MSW SDK.
- **MUTTAPI(tm)** - Copyright **1994-1995** by AUTHOR; Trade Mark held by AUTHOR. A MUD DLL and SDK. Written in C++ and MSW SDK.
- **MUTT(tm) Elite** - Copyright **1994-1995** by AUTHOR; Trade Mark held by AUTHOR. MUTT(tm) Live, plus MUTTAPI(tm) support. Written in C++ and MSW SDK.
- **MUTT(tm) Esprit** - Copyright **1994-1995** by AUTHOR; Trade Mark held by AUTHOR. 3D MUD client. Written in C++ and MSW SDK.
- **gcMIME** - Copyright **1996** by AUTHOR. C API and C++ Class Libs for Multipart-MIME, Base64 encode/decode, UUENCODE and UUDECODE support.
- **gcMATX** - Copyright **1996** by AUTHOR. C API and C++ Class Libs for n-dimensional matrix arithmetic; includes determinant and matrix inversion.
- **Grafman Filters -- Render:MEDIA(tm)** - Copyright **1996** by AUTHOR; Trade Mark held by AUTHOR. Photoshop plugin filter module that provides 7 image-processing filters and their inverses.
- **RFC Indexer & Search Engine** - Copyright **1996-1997** by AUTHOR. A Web-enabled indexer and search engine optimized for RFC keyword searches.
- **Java Navigator** - Copyright **1997** by AUTHOR; Trade Mark held by AUTHOR. Java applet controls for navigation.
- **MUTT-Java** - Copyright **1997** by AUTHOR; Trade Mark held by AUTHOR. A Java MUD Client with interactive web support.
- **gcPoser** - Copyright **1997** by AUTHOR; Trade Mark held by AUTHOR. A Java/VRML/EAI Avatar poser.

- **VRML/FS** - Copyright **1997** by AUTHOR; Trade Mark held by AUTHOR. An ISAPI plugin that supports 3D/VRML navigation of file systems.
- **gcDBX** - Copyright **2001** by AUTHOR; Trade Mark held by AUTHOR. A collection of dbi-based, abstracted DB objects, deployed as perl module packages.
- **gcDBX** - Copyright **2001** by AUTHOR.
A collection of dbi-based, abstracted DB object classes and subclasses.
Written as **Perl** modules.
- **gcAuth** - Copyright **2003** by AUTHOR.
A object class that implements an optimized, secure, self-validating session key, with a specified lifespan between renewals. Requires no Cookies, nor a DB-hit after initial authentication.
Written as a **Perl** module.
- **gcSite** - Copyright **2003** by AUTHOR.
A base class that that creates a brandable web engine, which partitions code, templates and content - allowing engineers, designers and artists to work independently. Templates may be applied to multiple sites; multiple templates can be applied to a given site. Leverages CSS; requires no Cookies, or other client-side scripting.
Written as a **Perl** module.
- **gcData, gcMembers, gcCommunity, gcAdmin** - Copyright **2003** by AUTHOR.
Subclasses of gcSite, which provides (respectively) a) data read/right (via XML) and gcDBX, b) authentication and session management (via gcAuth), and access control, c) bulletin boards, messaging and d) tools for creating, eediting, managing content.
Written as **Perl** modules.
- **gcSoap** - Copyright **2003** by AUTHOR.
Abstracts local object/method calls with remote object/methos calls via SOAP.
Written as a **Perl** module.
- **wabLookup** - Copyright **2003** by AUTHOR.
Validates an email address from distributed Outlook Express WAB addressbooks on an intranet; used for "whitelist" validation.
Written in **C++** as a DLL/COM object.
- **wabFetch** - Copyright **2003** by AUTHOR.
A distributed object that updates a central DB with email addresses from Outlook Express WAB addressbooks from an entire intranet.
Written in **C++** as a DLL/COM object.
- **gcSpam** - Copyright **2003** by AUTHOR.
A object class that provides methods to effectively block spam through the use of blacklists, whitelists and heuristic graylists.
Written as a **Perl** module.
- **gcString** - Copyright **2003** by AUTHOR.
A utility class that provides string tools; in particular, it provides a Diff method to determine the delta between the content of two files.
Written as a **Perl** Module.

- **gcKeyword** - Copyright **2003** by AUTHOR.
An object class that digests a body of text and performs a statistical analysis on word frequency - for use in indexing the content of text files.
Written as a **Perl** module.
- **gcRepo** - Copyright **2003** by AUTHOR.
A base class that provides methods to transfer deltas to/from a file repository.
Written as a **Perl** module; uses gcSoap.
- **gcSync, gcPush, gcPull** - Copyright **2003** by AUTHOR.
Respectively subclasses gcRepo to provide differential syncing, pushing and pulling of files, to/from a repository.
Written as **Perl** Modules.
- **gcPlaylist** - Copyright **2004** by AUTHOR.
Subclasses gcRepo to generate a random list of files from a repository that fit within a specified footprint, creates a differential list based on what already exists on the client, downloads the new files and constructs a playlist for use with a media player.
Written as a **Perl** Module; works on a PocketPCs.
- **gcUUID** - Copyright **2004** by AUTHOR.
An object class that generates universally unique IDs. Reproduceable UUIDs can be generated from user parameters; randomly unique UUIDs can be automatically generated from NIC, time and random keys. Provides a GenGUID method which produces MS-compliant GUIDs.
Written as a **Perl** module.
- **gcTV** - Copyright **2004** by AUTHOR.
An object class that implements TiVo's Home Media Option Music & Photos, and Discovery specifications. Implements image caching, rotation and scaling, and song streaming.
Written as a **Perl** module.
- **TiVoBeacon, TiVoServer** - Copyright **2004** by AUTHOR.
Respectively, a UDP discovery server for TiVo recorders, and a lightweight HTTP server that support queries and media serving for TiVo recorders.
Written in Perl, using **gcTV**.
- **gcSpooler, gcJob, gcMailer** - Copyright **2005** by AUTHOR.
Respectively provides a) a spooler base class, b) a job management subclass and c) an email-specific job class for sending email notification.
Written as **Perl** modules.
- **gcNewsLetter** - Copyright **2005** by AUTHOR.
Subclasses of gcAdmin(tm), which provides an interface for uploading/managing mail groups and to send email to groups of members.
Written as **Perl** modules using gcDBX(tm).
- **gc3D, gcMaterial, gcTransform, gcMesh, gcPrimitives, gcNodeFormat** - Copyright **2005** by AUTHOR.
Classes supporting the generation of 3D scene graphs and primitives. Written as **Perl** modules.
- **gcVRML, gcNVSG, gcDirectX** - Copyright **2005** by AUTHOR.
Subclasses of gc3D(tm), which provides output for (respectively) VRML, NVSG and DirectX
Written as **Perl** modules.

- **Video3D** - Copyright **2005** by AUTHOR.
GPU technology to alter camera angles in real-time, within post-process video.
Written DirectX/C++.
- **gcCaptcha** - Copyright **2007** by AUTHOR.
3D Captcha and authentication system.
Written as **Perl** modules.
- **OpenGL::Server** - Copyright **2007** by AUTHOR.
Scalable, distributed OpenGL server.
Written as a **Perl** module.
- **POGL OpenGL-Image** - Copyright **2007-2008** by AUTHOR.
Optimized imaging abstraction for OpenGL.
Written in C.
- **POGL OpenGL-Shader** - Copyright **2007-2008** by AUTHOR.
OpenGL shader abstraction.
Written in C.
- **gcStitcher** - Copyright **2008** by AUTHOR.
GPU-based panoramic stitcher used to harvest video scenegraphs.
Written in POGL.
- **Clydomania** – Copyright **2009** by AUTHOR.
GPU-based kaleidoscope iPhone app.
Written in Objective-C.
- **BugEyes** – Copyright **2009** by AUTHOR.
iPhone app that superimposes OpenGL eyes over faces from a camera photo, using haar-like detection of faces/feature.
Written in Objective-C.
- **Tiveras** – Copyright **2009** by AUTHOR.
TiVo Home Media server implemented on an iPhone that shares peer-to-peer photos.
Written in Objective-C.
- **Grafman's Media 1** – Copyright **2009** by AUTHOR.
A suite of imaging filters implemented on an iPhone app.
Written in Objective-C.
- **Stitcher** – Copyright **2009** by AUTHOR.
GPU-based panoramic stitcher implemented as an iPhone app.
Written in Objective-C.

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- **VR Hero** - Copyright 1996 by AUTHOR. CGI-based VRML Avatar generator.
- **VR Dome** - Copyright 1996-1997 by AUTHOR. CGI-based VRML dome generator.
- **POGL: Portable OpenGL Developers Site** - Copyright 2007-2008 and Trademarked by AUTHOR. Sole author of website.
- **Voomsta: Video Effects Service** – Copyright 2007-2009 and Trademarked by AUTHOR. Sole author of website.
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- **Vizcat: Scalable GPU Service** – Copyright 2008-2009 and Trademarked by AUTHOR. Sole author of website.
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- **GDS Executive Seminar** - Copyright 1986 by AUTHOR. Seminar booklet.
- **Automated Optical Scanning and Vectorization** - Copyright 1987 by AUTHOR. Seminar booklet.
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- **MUTTAPI(tm)** - Copyright 1994 by AUTHOR. A MUD-based development specification.
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- **FFMPEG Logo vhook - 2006** - conceived/implemented in C by AUTHOR; contributed by Fabrik Inc. Video compositing plugin.
- **CPAN OpenGL module – 2007** - upgraded to support over 50 OpenGL extensions in C by AUTHOR; contributed by AUTHOR. 3D/GPU Rendering Interface.
- **PerlMagick - 2007**- conceived/implemented in C by AUTHOR; contributed by AUTHOR. Added new APIs for optimized access to image buffers.
- **CPAN OpenGL::Image module - 2007** - upgraded to support over 50 OpenGL extensions in C by AUTHOR; contributed by AUTHOR. 3D/GPU Rendering Interface.
- **CPAN OpenGL::Shader module – 2007** - conceived/implemented in Perl by AUTHOR; contributed by AUTHOR. Abstracted interface for OpenGL shading languages such as ARB (assembly), Cg and GLSL.
- **CPAN OpenGL::Array Extensions – 2008** - conceived/implemented in C by AUTHOR; contributed by AUTHOR. GPU-optimized interface for common image processing effects (affine transforms, scaling, blur, etc).