



DeBabelizer 3.0

The Swiss Army Knife of Multimedia Graphics

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Introduction

For years multimedia developers have regarded Equilibrium's DeBabelizer as the graphic application equivalent of the Swiss Army Knife. It's ability to open, manipulate and save in almost any graphic file format for a wide range of platforms has been indispensable. Add to this the ability to run an automated "Batch" process on a set of files with a series of graphic manipulations and you have a tool that saves time, effort and money. As with any feature rich application the DeBabelizer takes some effort to master. If there has been one complaint from users it has been that the interface is difficult to learn and understand. With the introduction of version 3.0 for the Macintosh Equilibrium has added a host of new features that offer professional control of still, video and web graphics and a greatly improved user interface. Yet it is still a daunting tool to master and as with Adobe's Photoshop it is a tool that yields increased value as you develop techniques combining features to form a unique solution to your graphic production problems. In this survival guide we will discuss some of the ways that we make use of the DeBabelizer in our multimedia work and point out some of the new features that are helping to make our work easier.

Graphic File Support

Perhaps the most important feature of the DeBabelizer is it's ability to read, write and convert virtually any graphic file format for the Macintosh, Windows and SGI platforms. The DeBabelizer literally supports more than 100 file formats. This ability is of great importance in developing cross-platform projects and is the DeBabelizer's original *raison d'être*. In fact it is this ability to read and write multiple file formats that gives the DeBabelizer it's name as in the Tower of Babel! In our studio it is common for us to collaborate with other designers on the development of a project. We therefore receive graphic files in various formats. We must convert these files to a format suitable for use by the production artist and when complete transform the output to the target format for programming and integration. As an example we may receive a set of files in PIC and PIX format that were produced on an Silicon Graphics workstation. These files would first be converted to Photoshop or PICT format so that they can be combined with our master Photoshop files. In some cases we may wish add the new graphic to a layer within an existing Photoshop document where the designer may wish to do some additional touching up or composite the new graphic with existing work. In either case we always wish to form a set of Master Photoshop documents that represent the project's master graphic files. With the help of the DeBabelizer we never have to reject a file because of a format incompatibility and we can always convert and produce our masters in one universal.

Palette And Color Depth Control

Hands down my personal favorite thing about the DeBabelizer is the way it gives me complete control over color depth and the color palette associated with my graphics. The multimedia designer must come to terms with design constraints related the playback performance of the target platform. File size and its accompany demands upon system resources and bandwidth are two primary

concerns. File size is directly proportional to color depth. Limit the color depth and you limit the file size. But to the designer limiting the color depth usually means limiting the quality of the image. Not so if you have the DeBabelizer in your bag of tricks! The DeBabelizer allows me to create a custom palette for any graphic file. The application "looks" at my image pixel by pixel to derive a set of RGB values to build this color palette. You can ask the DeBabelizer to create a Super Palette® from a set of images called a Batch List. The Super Palette accommodates the set of images so well I've been able to create 8 bit multimedia CD-ROMs that are mistaken for 16 bit! It's that good. There are also a host of features that let you merge palettes and rearrange the order of the RGB values within the palette. I've used these features to build palettes that contain a set of RGB values for my interface elements. Once I've created my interface palette I can then build custom palettes for each photograph that will be displayed within this interface. Then I merge these photograph palettes with the interface palettes. When these images are combined with the interface within my authoring environment I will be able to change palettes with each frame since each specific palette will contain a set the RGB values to satisfy the color requirements of my interface.

Automated Batch Processing

Palette and color depth control are two of the strengths of the DeBabelizer. This feature along with the wide range of file types that the DeBabelizer can read and write were the two reasons that I originally selected the DeBabelizer as one of the tools in my multimedia bag of tricks. But after a little use I became aware of a feature that I now consider to be the feature that makes the DeBabelizer the most outstanding production tool in our shop—Automated Batch Processing. Any process, any technique, any modification to a single graphic file that I can accomplish in the DeBabelizer can be scripted and applied to a list of files and executed automatically. This is truly a great time saver when you have a group of files that all need to be modified in a similar manner. I've used this feature in countless ways. On a recent job I had a set of 1320 graphics delivered to me by the client. Each of the graphics are to be displayed in a 320 x 240 window within a CD-ROM title we are creating. Each of these graphics are a different size and aspect ratio. We needed to scale, crop and composite each of these graphics with an interface framing graphic. Then each graphic needed to be re-mapped to the 8 bit Super Palette and saved in PICT format. A lot of work if you don't have the DeBabelizer. Our solution was to create a Batch Save Process. A Batch List contains the names of graphic files you use as a source for a Batch Process. We used the new Drag and Drop feature of 3.0 to create our Batch List. A very cool feature since it lets you work intuitively. We created the Script using the Watch Me feature. Again this feature is intuitive and easy to use. No programming required. You just select the "Watch Me" feature from the script dialog box. Once selected the "Watch Me" feature will automatically create a script by recording your every manipulation of a loaded file. In our case we opened a sample file, turned on the "Watch Me" feature and then systematically went through each of the steps that we wanted performed on our Batch List. When we were done we turned off the "Watch Me" feature and saved the script as "Job2". Next we invoked our Batch Save Process with our "Job2" script enabled, walk away and have lunch. When we returned from lunch our job was done and the artwork was ready for programming. There is no limit on the number of operations that you can apply during a batch session and no limit on how you can apply this feature. A few years ago, with an earlier version of the DeBabelizer, I utilized a Batch Save job to change scale and saturation level of 3000 PICT files. The PICT files were the output from a 3D modeling and animation program. These 3000 PICT files form the animation of a set of game pieces as part of an interactive game we were developing. Once rendered we decided that the game art should be slightly smaller and richer in color. We had a demo scheduled later that day and we did not have the time to re-Render the 3D art.

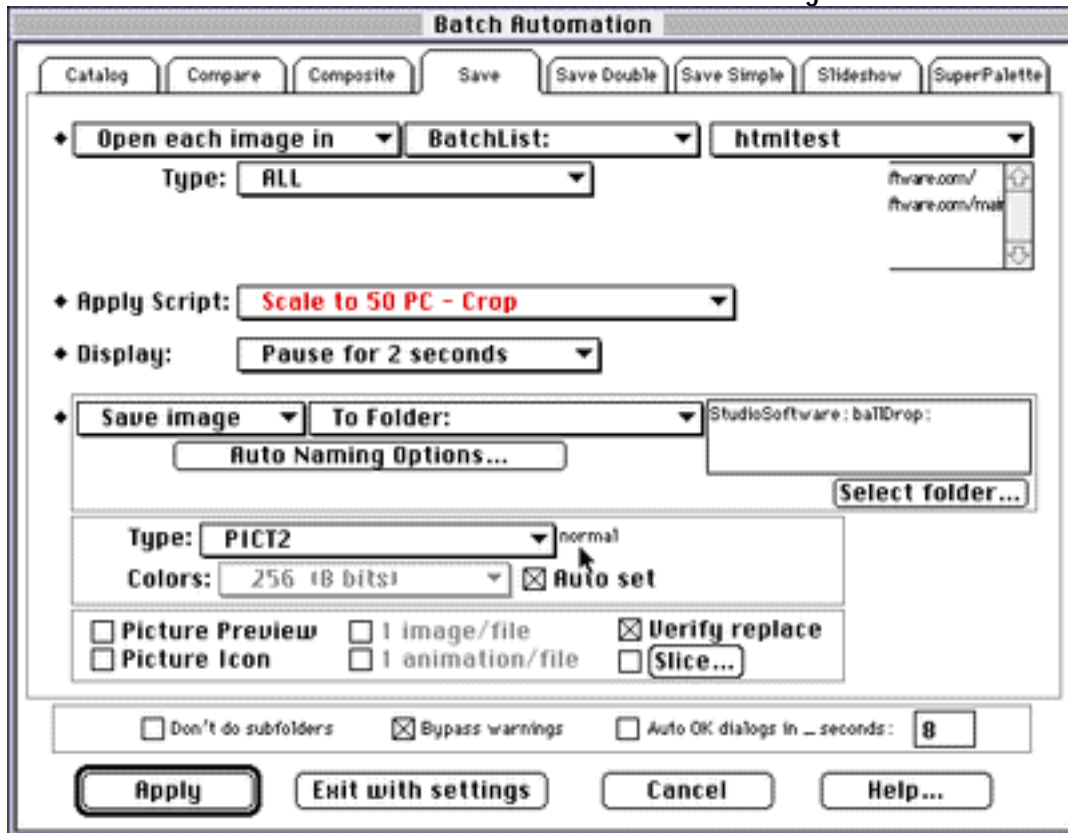
Instead we created our script using the Watch Me feature and ran a Batch Save on the files that scaled the graphic and increased the saturation levels for each RGB value in the precise manner that we applied to our sample file. In yet another example I needed to rotate a graphic 360 degrees at one degree increments and save each state. Again the Batch Save operation saved me hours of work.

The DeBabelizer - Script Window



A new feature of version 3.0 is the ability to add conditional statements to your scripts. Conditional statements add flexibility to your scripting, enabling you to vary the process based on the content of the active file.

The DeBabelizer - Feature Rich Batch Save Dialog Box



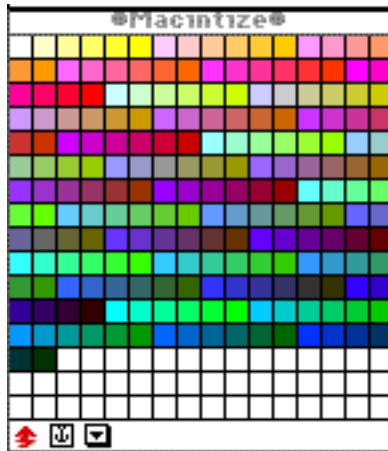
Web Graphics

The complex task of delivering multimedia productions for multiple platforms has increased with the advent of the World Wide Web. The web comes with it's own set of supported graphic file formats, file resolution, color depth and indexed palette requirements. Managing your graphics so that they look great in all supported browsers and computing platforms is a task that the professional web designer must master. With the support of GIF, Progressive JPEG and PNG formats the DeBabelizer gives you total control of these parameters and will help you insure that your client's web site will be graphically compatible with the range of available browsers.

Browser Safe Palette Control

One of the concerns that the Web Designer faces is palette control within the browser environment. Making your work look good in a limited 8 bit indexed color palette supported by the browser is a snap using the DeBabelizer's WWW Mac - PC Non Dither Palette. This palette of 210 colors satisfies the required color and index positions required by Netscape and Internet Explorer.

The DeBabelizer - WWW Mac-PC Non Dither Palette



If you map your web graphics to this palette you can be sure that the image will be displayed correctly within the two most popular web browsers. You can also use this palette as a base palette combining it with 46 additional colors specific to your image. By mapping your graphic to this combined palette you will utilize all 256 colors within the 8 bit indexed palette required by the browsers and achieve a graphic that will look as good as it can in an 8 bit palette. If you want to achieve the best results you should design your graphics utilizing this palette. I like to take a screen shot of the palette and use it within Photoshop so that I can dip my eye dropper into each color when painting. In this way I'm working with the target color palette right from the beginning. You will still need to use the DeBabelizer to re-map your finished graphics to this WWW Mac-PC Non Dither Palette. Save your graphics in GIF format and view them in each browser before delivering them to the programmer to insure that you have achieved the "look" and quality that you were shooting for.

The DeBabelizer can also help you leverage your development effort so that your graphic design masters can be utilized across various products. It is extremely common for a project to include a web site as a component of the media campaign. As an example: at StudioSoftware we recently redesigned our printed stationary, business and note cards and our web site. Each of these components utilizes the same graphic design. Consequently we designed the graphics in full 32 bit color depth at a high resolution suitable for printing. Once designed we then needed to produce the output for the printer and the web programmer. To accomplish this we created a "Batch" process in the DeBabelizer that would output our print graphics in the size, format, and resolution needed by the printer and the scaled 8 bit, 72 DPI GIF format graphics necessary for our web site. The ability to utilize one set of design graphics targeted for output to two different medium is a big time saver.

Digital Video File Manipulation

OK we have talked about static graphic file manipulation but what about dynamic temporal file types like digital video? The DeBabelizer supports the reading and writing of V 2.0 - 3.0 Quicktime MOV files. Any operation that you can perform on a still graphic you can apply to a MOV file. A feature that we use often is to create a Super Palette for a MOV file. In this way we can ensure that if the digital video file is played back on a system that only supports 256 colors our video will look as good as is possible within this limited color space.

Blue Screen Removal and Flatting

An extremely useful feature of version 3.0 is the ability to do background color removal and replacement. We like to shoot our video talking heads against a chrome-key background known as blue screen (green screen is actually used for video) and then to drop this flat background color out and composite our image against an interface graphic. This is a great technique that can really make your multimedia pop! Imagine an on-screen help feature where a video host walks out onto the screen and begins to describe the features and controls of your interface. Very effective and very hip but also very difficult if the screen color is not flat. In other words the screen color should be a single RGB value if you want to create a mask in your digital video authoring suite for the composite process. The problem comes about when you are filming / videoing your subject. It is difficult if not impossible to light your subject and screen and not get a gradient - or range of blues - across the background. You may also find the edges of your subject against this blue background may show some color range of reflected blue. Particularly around the head and hair. You really want this background color to be as flat as possible before you attempt your masking. The DeBabelizer can help you with a feature that lets you specify a specific range of background colors (RGB Range) for removal and replacement with a single flat RGB value. This feature can also be applied to still images as well and has countless uses.

Photoshop Plug-In Compatible

The DeBabelizer supports Photoshop 4.0 acquire, import, export and filter plug-ins. This allows you to apply any effect that the filter gives you to your images within the DeBabelizer. Use your favorite Photoshop filters in your batch processes to manipulate a set of images or digital video files. This really amplifies and leverages your tools to your advantage by automating the filtering for sets of files. Very cool.

Interface - Drag and Drop / Action Arrows

The interface in version 3.0 is greatly improved over previous versions. The new and very complete drag and drop feature of the interface really speeds up the creation of Batch Lists and the application of palettes and scripts to your graphics. And a new feature called an Action Arrow, a little Hot Red Arrow that appears at the bottom of each image window, dialog box, or palette window, allows you to drag and drop any setting, image or process to another window and applies settings and parameters of the source to the target window. If you have an image open and your Batch List dialog window is open you can drag the Action Arrow from the image window to the Batch List window to automatically add the graphic file to the Batch List. You can even drag files from the Finder to the Batch List window. You can do this with Image to Image, Palette to Image, Palette to Batch List, Script to Image and Script to Batch List. This is a great and very intuitive addition to the user interface.



The New DeBabelizer Action Arrow

Hot Folders

Another great addition to the user interface is the concept of Hot Folders. You can set up a Batch Automation Process to use a Hot Folder to “watch”. When you identify a Watched Folder as a source for the Batch Process the DeBabelizer continuously monitors the specified folder for new files. All you need to do to add files to the Batch Process is to drag the file to this Hot Folder.

Interactive Previews And Built-In Help

Another feature added to the User Interface that helps to make the application easier to use and master is the addition of Interactive Previews within Dialog Windows. This feature is common in other graphic processing application like Photoshop and is a welcome addition to the DeBabelizer. A built-in Help feature also gives you instant access to help screens that are truly informative and helpful. This feature encourages experimentation and will help you develop your own techniques for solving your graphic processing problems using the DeBabelizer.

Conclusion

With a tool like the DeBabelizer there truly is no end in the number of ways and combinations that you can apply to your graphic processing tasks. I could go on and on with examples of the ways that we make use of this valuable tool and I have not even begun to scratch the surface in describing the features of this application. The best way to discover the ways that you can utilize this tool is to get your hands on a copy and start using it. I hope I have provided you with the inspiration to do so for the DeBabelizer is truly a utility that you don't want to be without when caught out in the multimedia forest. This Swiss Army Knife will come in handy.

About the author

Laurence Tietz is co-founder and Director of StudioSoftware, a Los Angeles multimedia design and production studio. Laurence earned his BS. degree in engineering from Pratt Institute (NYC) and his MFA from the San Francisco Art Institute. Laurence began his career as a software designer for Hewlett Packard. Combining his strong interest in design and software he served as senior programmer for Amazing Media, one of the early developer of consumer entertainment and educational CD-ROM. With Leslie Safarik, he founded StudioSoftware in order to pursue their vision for interactive media. Laurence has positioned StudioSoftware as one of the industries leading multimedia studios. He was honored by Multimedia Producer Magazine as one of the top 100 multimedia producers for 1995.

StudioSoftware Multimedia is a multi-platform, full service multimedia design and production studio located in Los Angeles, California. StudioSoftware provides complete multimedia design and production services including content development, creative direction, interface, graphic design and software development to clients in the entertainment, advertising and publishing industries. From CD-ROMs to the World Wide Web, StudioSoftware has been a pioneer in interactive design and innovative content - while pushing the boundairies of production value.

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