

Brief Description of MacRTrace

MacRTrace is a full-featured ray tracing program for the Macintosh computer. It can generate both still images and animation sequences.

System Requirements

MacRTrace requires the following to run:

- A Macintosh with a 68020, 68030, 68040 processor,
or a PowerMac
- A Math Coprocessor, or a 68040 processor, or a PowerMac
- At least 2 Meg of RAM allocated to MacRTrace
- 32-bit QuickDraw (part of System 7 or later)

MacRTrace prefers a fast computer with as much memory as it can possibly hold. With more memory, you can render more complex scenes, and generate larger images.

If QuickTime 1.5 or later is installed, MacRTrace can also save movies in QuickTime format. QuickTime is available by anonymous ftp from <ftp.apple.com> in the `/dts/mac/quicktime` directory; get the `quicktime.hqx` file. To play the movies you create with MacRTrace, you may want a QuickTime movie player; one is available in the same directory; get the `movieplayer.hqx` file.

A Brief Description of Ray Tracing

Ray tracing is a process which generates a realistic image from a mathematical description of a three-dimensional scene. It is called "ray tracing" because it generates these images by tracing the paths that an actual light ray would take in the scene. By mathematically tracing the paths of thousands of light rays, a ray tracing program is able to create a photorealistic image of a three-dimensional scene. Since generating a single ray-traced image can take hundreds of thousands of complex mathematical operations, ray-tracing is a slow process. On a very fast Macintosh, images will be generated fairly quickly. However, if you are using a slower Macintosh, be prepared to wait a long time.

The Fine Print

MacRTrace is absolutely free!!! The only requirements are that you not sell it, or distribute it without its documentation. MacRTrace may not be distributed with any collection of shareware or freeware without the written consent of the authors. However, we'd like to see this program spread as far as possible, so please do contact one of us if such distribution is desired.

About the Authors

The original author of RTrace is Antonio Costa, who wrote it for command-line systems like Unix. This Macintosh port was originally made by Greg Ferrar, with help from Reid Judd. The PowerMac port and compilation was originally done by Rob Hagopian and Paul Snively.

Contacting the Authors

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The Future of MacRTrace

RTrace is an evolving product. Antonio Costa comes out with a new version every few months. It is impossible (well, at least unreasonable) to port every sub-version to the Mac, so I only port versions now and then (incidentally, when the word "I" appears here, it refers to Greg Ferrar, the only person on the MacRTrace project at the moment, and the author of this document). With each new port, Mac users get all the new features Antonio has added since the last Mac port. Plus, ports are good times to update and improve the Mac interface part of the program; users of MacRTrace 1.0 will notice lots of minor changes to the interface. All in all, it's cleaner and more up-to-date. The changes in some cases eliminated some potential users, in particular the 68000 users and the users with little memory, but them's the

breaks. MacRTrace's much higher memory usage allows it to draw much faster than in earlier, more frugal versions. For more information see [Version History](#).

All we can do right now is guess what our users will want. If you have suggestion, let us know! For suggestions relating to the actual ray tracing code, contact Antonio Costa; for suggestions relating to the user interface, contact Greg Ferrar. When in doubt, contact Greg.

MacRTrace is an open project. If you're a Macintosh programmer, and you would like to donate some time to make this program even better, please contact us. And if you have a bug report, please let us know!

Getting Later Versions of MacRTrace

The latest released version of MacRTrace will always be available from <ftp://asterix.inescn.pt/pub/RTrace/Macintosh> directory. You may be able to find pre-release versions of MacRTrace at <ftp://ftp.math.ohio-state.edu/pub/users/gregt>, but this site may stop carrying MacRTrace without warning at any time.

The source code of both `rtrace` (the command-line version) and MacRTrace (the Macintosh user interface) are also freely available. For the source code for `rtrace`, check asterix.inescn.pt. For the source code for MacRTrace, check at asterix.inescn.pt, or at a Mac ftp site near you (like info-mac), or at <ftp://ftp.math.ohio-state.edu/pub/users/gregt>. If you can't find it, contact Greg Ferrar.