

HyperCard IIGS 1.1

How to use the tools that take you to hypermedia heaven

by Cynthia E. Field, Ph.D.

We wince at using the word hyperbole and HyperCard IIGS in the same sentence, but it's no exaggeration to say that this program is phenomenal. Thanks to HyperCard IIGS, teachers and hobbyists can experience the exhilaration of creating their own graphically rich, full-color multimedia software — with or without mastering a single “bit” of programming code.

HyperCard IIGS makes creating easy

Within hours you can build a personalized hypermedia stack merely by tapping the abundant collection of ready-made card backgrounds, clip art, buttons, and icons that HyperCard IIGS supplies.

It takes even less time to adapt the program's sample Birds, Story Board, and Picture Puzzler stacks. For instance, creating a jigsaw-type puzzle is as easy as selecting a full-screen painting such as the multicolor U.S. map that's included in the Art Ideas stack. At your command (just pull down the Puzzle menu with the mouse), Picture Puzzler scrambles the map into 25 random tiles. Use the mouse to reposition the map pieces correctly. Better yet, why not use HyperCard IIGS's paint tools — or import a digitized super hi-res photograph — to create picture puzzles with a personal touch?

Tour, the animated introductory stack, features workers clad in overalls amid tool boxes and construction equipment, a perfect metaphor for this software environment. Although masterful stack-making, like masterful anything, necessitates a heftier time commitment than described

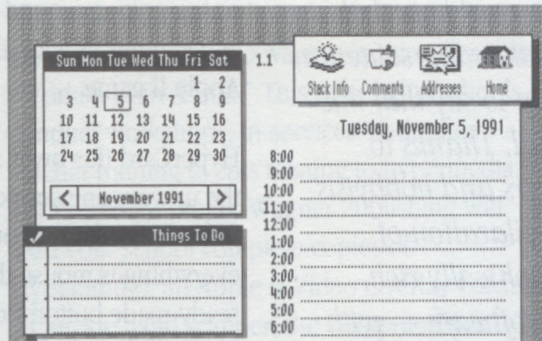
so far, poking around in HyperCard IIGS's nooks and crannies is a lot like playing your favorite Apple II game.

HyperCard IIGS owes much of its ease of use to the unwavering support of Apple Human Interface standards. Except for text, which you type, everything is mouse driven. You can select a ready-made button from the Tool Kit's Button Ideas stack and copy it to the Apple IIGS's Clipboard simply by pulling down the Edit menu and selecting “Copy.” Pull down the Go menu to determine the most direct route back to your stack. Pull down the Edit menu and choose “Paste.” Drag the new button into position on the desired card (or its background). That's all there is to it.

From organizing to fantasizing, HyperCard IIGS can help

Tool Kit is just one of the five cards that make up the HyperCard IIGS Home stack. Other cards include Welcome, Deskset, Attic, and Applications. From the Welcome and Deskset cards you can launch the sample stacks provided with the program. The Attic is a good place to include buttons quick-linking you to stacks you've created. Buttons you install on the Applications card shunt you to other programs.

If you often think about getting your life organized (and who doesn't?), launch the Addresses and Calendar stacks from the Deskset card. These databases are both functional and good looking. Calendar is especially useful as an appointment (or school assignment) scheduler.



Either a dot matrix or laser printer is required to generate a hard copy of your daily “to do” list — or any other card you’d like to print. With the ImageWriter II printer and a four-color ribbon you can print creations in color. Among other things, you can transform a Story Board story “stack” into a story “book” to share with friends and relatives who don’t have HyperCard IIGs.

Those of you who want to share your creations should save copies of your stacks on data disks. That way, your friends can browse through your stacks interactively and venture from card to card by clicking on buttons with the mouse. Among other things, HyperCard IIGs buttons link cards (or stacks), start animation sequences, sort information, and calculate numbers. Other buttons generate sound effects, play music, or display a video sequence.

Lest you think HyperCard IIGs is just for grown-ups, 4-year-old Brian and 9-year-old Rochelle prove otherwise. The young collaborators crafted Story Board’s medieval tale about a dragon that abducted a princess — and a queen to boot! The children composed an imaginative story line to accompany scenes, characters, and props that they borrowed from the Art Ideas stack.

Graphical database stacks like Addresses and Calendar and imaginative ones like Story Board provide just the inspiration you need to design custom stacks for home, school, or business. At least one Apple enthusiast has compiled a gardening stack to track information about plants in his home’s landscape plan. And we suspect that more than a few teachers are working on HyperCard IIGs grade books.

HyperCard IIGs offers five levels of interaction with stacks: Browsing, Typing, Painting, Authoring, and Scripting. You set the level you want via the Home stack’s User Preferences menu. A novice stack creator would probably work at the Authoring level. After some experience, you’ll want to advance to Scripting. For a database stack you’d want to set the interaction level to Typing because you (or other users) need to be able to enter information into text fields. A history lesson stack, however, might be restricted to Browsing unless you don’t mind students “editing” the information you present. If you need to ensure the absolute security of your work, HyperCard IIGs provides password protection.

Add external devices for multimedia fun

With no more equipment than an Apple IIGs, it’s easy and fun to design and “publish” stacks like those we’ve described. But with peripheral devices, you can also create sophisticated CD-ROM (compact disc read only memory) or video-disc-based stacks with your HyperCard IIGs. Ready-to-use buttons in the HyperCard IIGs Media Control stack establish the necessary software links to virtually any external device that you can physically attach to your Apple IIGs. Notable examples include the Apple SC CD-ROM drive, Pioneer 2000 or 4200 LaserDisc players, and the Apple II Video Overlay Card. Some industrial model VCRs work, too.

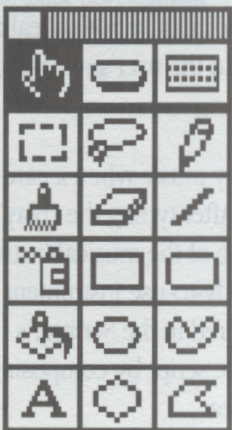
With these enhancements you can incorporate audio CD music into your stack, display graphics from a compact disc database, or play full-motion video clips from a videodisc. The Video Overlay Card “genlocks” (merges) the videodisc image with the graphics and text elements in your stack and displays a combined image on your monitor.

The unique Media Control Window tool palette looks like the control panel on a VCR. Buttons labeled Stop, Pause, Rewind, Step Backward, Play, Step Forward, Fast Forward, Jump, and Eject make it easy even for novices to select the clips they wish to include in their stacks.

Object-oriented graphics increase the possibilities

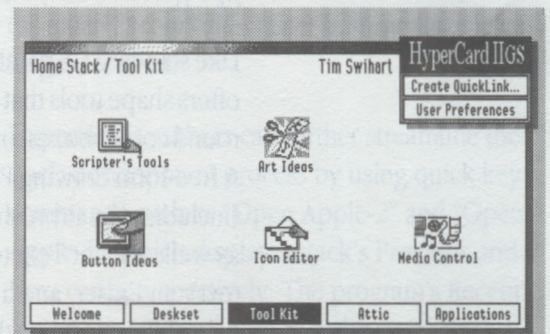
As you grow with HyperCard IIGs, you'll enjoy ample opportunities to explore the program's object-oriented and bit-mapped graphics tools as well as its powerful HyperTalk scripting language.

Like most hypermedia programs, including HyperCard for Macintosh computers, HyperCard IIGs stacks are composed of graphical objects. These include cards, the basic building blocks of a stack. Inserting a new card in your stack is as easy as copying a card you previously designed or beginning with a clean slate. Buttons, of course, are objects. So are fields — including scrollable ones — in which you type textual information you wish to present. Adding a button or a field to a card is no more difficult than clicking on the Button or Field tool icon that's displayed in the Tools menu.



Tools menu

When you double-click on a button, or select Button Info from the Objects menu, a descriptive dialog box opens. Among other things, you can name the button and choose an icon for it. (HyperCard IIGs's Tool Kit includes an Icon Editor for drawing custom icons.) You can select any of 16 palette colors for each attribute when coloring a button's frame, background, and text.



A cascading menu in the Button Info dialog box lets you choose among seven button styles: transparent, opaque, rectangle, shadow, round rectangle, check box, or radio button. Other Button Info options let you link the button to any card or stack. Click on “Script” and you can write a custom HyperTalk script. Similar options appear when you request Field Info.

HyperCard IIGs supports bit-mapped graphics

Besides object-oriented graphics capabilities, HyperCard IIGs supports bit-mapped (paint) graphics. Two pull-down (or floating) palettes display the 15 tools, 16 colors, and 16 patterns with which you can design original artwork for cards and their backgrounds. As you may recall, a background can be unique to an individual card, but it's usually more efficient to use a common background for a series of cards.

The Lasso or Selection tool segregates a part of the painting you'd like to cut (delete) or change. With the lasso, it's easy to copy the picture of the oak leaf, say, from the Art Ideas stack. Paste the leaf into a background scene. Paste a series of leaves. Then rotate and flip the graphics in assorted ways to create an autumn scene. Color the leaves with fall hues. Experiment with opaque and transparent paint.

Like standard GS paint programs, HyperCard IIGs offers shape tools that let you create lines, boxes, round corner boxes, ovals, curves, and polygons. A free-form drawing Pencil and assorted brushes (including an airbrush Spray tool) are provided, as well. A Paint Text tool (for creating graphical text), an Eraser, and a Paint Bucket tool (for color-fills) complete the graphics toolkit. A Fat-Bits mode (Options menu) lets you perform pixel-size touchups.

Among popular HyperCard IIGs features is the capability to choose a separate color palette for different cards. The program offers five ready-to-use palettes. Three feature bright colors, one includes pastels, and one is grayscale. Whether you want teal or turquoise, you'll find it.

You can edit any of HyperCard IIGs's 16 patterns by double-clicking on the selected pattern. A pop-up pattern editor appears. Choose a color from the mini paint palette, which is included, and click appropriate pixels in the FatBits pattern window. A sample pattern window instantly displays the changes you make.

HyperTalk speaks an English dialect

It may sound like just another hyperbole, but HyperCard IIGs includes the most powerful Apple II hypermedia scripting language there is.


But thanks to the program's graphical working environment, its sample stacks, and its ready-to-use buttons you don't have to learn HyperTalk unless you want to.

Technically speaking, when you write a script in HyperTalk, you are programming. But it's painless because HyperTalk speaks an English dialect. Many HyperTalk commands use the exact same syntax we do. A HyperTalk button script, in part, might read, "go to card 4." What could be easier?

Some HyperTalk syntax takes getting used to, though. In the example above, you also have to tell HyperCard IIGs when to go to card 4. One way to do that is to precede the statement above with another that reads "on mouseUp." It's not too much of a stretch of the imagination to realize that the command refers to the user's releasing the mouse button.

HyperTalk scripts can play music when a card opens ("on openCard"). After typing the "play" command, enter the name of the musical instrument you've chosen. Ready-to-use instrument sound "resources" are stored in the Scriptor's Tools stack. Complete the script by composing the music you'd like to hear.

HyperTalk doesn't use standard musical notation. Instead you type keyboard characters that correspond to each note's pitch and duration. HyperCard IIGs does not inherently support MIDI (musical instrument digital interface) files, but at least one developer is said to be preparing an XCMD that does. (An XCMD is an extended command written with a traditional programming language such as assembly, C, or Pascal.)



HyperTalk makes it easy to incorporate interesting visual effects in your stacks. We've animated scenes with the "show" command and implemented attractive transitions between cards with the "visual" command. Among the transitions you can use: barn door close, dissolve, fade, scroll down, venetian blind, wipe right, and zoom out.

HyperCard IIGs scripts do a lot more than "just" play monophonic music or perform attractive visual tricks. Other scripting commands let you pose a question (and answer it), dial a telephone number, hide (or show) card and background elements, or read from selected files. HyperTalk's mathematical, trigonometric, financial, date, and time functions might remind you of a spreadsheet's. Other scripting language elements let you track the location of the mouse, determine the name of the currently selected tool, execute logical (if, then, else) statements, or control object properties such as highlighting, color, alignment, and locking.

New version is quicker than its predecessor

Graphics-intensive programs are often thought to be sluggish memory hogs. HyperCard IIGs isn't one of them. The program requires only 1.5 MB of RAM (random access memory); 2 MB or more are recommended, however. The program also requires a hard disk drive or a network. The capacity of a hard disk drive isn't critical, but its interface ideally should be a fast SCSI (small computer system interface) controller such as the Apple II High Speed SCSI Card. Though HyperCard IIGs is disk-intensive, virtual memory management greatly reduces the frequency of disk drive accesses.

Power users claim that ultimate hypermedia systems should be equipped with accelerator cards, such as those manufactured by Applied Engineering or Zip Technology. (For more information on accelerator cards, see the "Accelerating Your Apple" article in the Making the Most of Your Apple II chapter.) Even without an accelerator, however, this newest version of HyperCard IIGs 1.1 is noticeably faster (as much as four times faster in some cases) than its predecessor.

Hypermedia authors can further streamline the stack-development process by using quick key commands such as "Open Apple-2" and "Open Apple-3," which display a stack's Previous and Next cards, respectively. The program's Recent option (use Open Apple-R or the Go menu) is another handy way to navigate through HyperCard IIGs stacks. When you invoke this feature, the program displays as many as 18 miniature illustrations representing cards you recently viewed.

You can convert the Go menu to a floating palette where symbols substitute for words. Click on the right arrow to go to the next card, on the grid icon to view recent cards, or on the home icon to go to the Home card. An efficient way to interact with HyperCard IIGs is to memorize a manageable number of keyboard speed-up commands, use floating palettes whenever possible, and pull-down menus only when you need to.

HyperCard IIGs intermittently saves your work in progress, so it's virtually impossible to lose any important changes you make to buttons or fields. Click on the Keep option (Paint menu) when

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Hypermedia authors can
further streamline
the stack-development
system...
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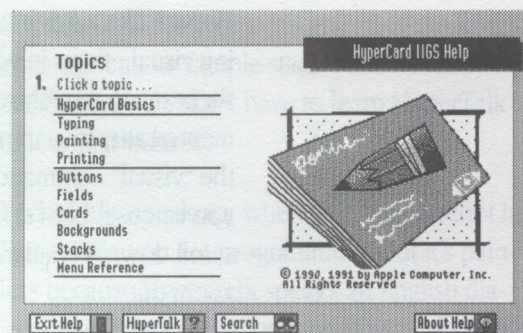
you're working on paintings, however; HyperCard IIGs doesn't save bit-mapped changes as frequently as object-oriented ones.

The "Save a Copy" feature in the File menu lets you create backups or copies of your stack for friends using HyperCard IIGs. The latest version of GS/OS — Apple IIGs system software 6 — formats data disks as you need them. Apple IIGs system software 6 is also required if you plan to use the Media Control functions described earlier. Otherwise, System 5.0.4 will suffice. (For more information on Apple IIGs System Software 6, see the "System 6: The Future is Here" article in the Understanding Technical Information chapter.)

Manuals explain all the details

HyperCard IIGs software is accompanied by three spiral bound manuals. The colorful and well-written *Getting Started* guide, a self-described "manual for the playful," provides a beginner's tour of the program. The comprehensive, 389-page reference covers additional details. A separate guide is devoted to HyperTalk scripting.

Reference and Scripting guides feature perforated, tear-out quick reference cards listing keyboard shortcuts, modifier keys, and HyperTalk commands. On-line help is always available — whether you're exploring the basics or delving into the Scriptor's Tools stack to use XCMDs and XFCNs (extended functions).



There are easy ways to start with HyperCard IIGs

One of the best ways to become proficient with HyperCard IIGs is to play with stacks other enthusiasts have designed. Local user groups often boast one or two hypermedia experts who are happy to share their collection with group members. The Apple User Group Connection (1-800-538-9696, extension 500) can help steer you to groups in your area. You can also download public domain stacks from bulletin board systems and on-line services, such as those we describe in the "On-line Services" article in the Information Resources chapter.

Commercial quality stacks are available from Resource Central. (See the listings in the "Books and Periodicals" article in the Information Resources chapter.) Like a magazine, each bimonthly, two-disk issue of Script-Central includes a Scriptor's Workshop column and articles covering HyperCard IIGs "tips and tricks." Unlike a magazine, Script-Central provides several ready-to-use stacks.

Although you can't automatically use a friend's Macintosh HyperCard stacks with HyperCard IIgs, HyperMover — a software utility that dismantles and rebuilds Macintosh HyperCard stacks — makes them compatible with HyperCard IIgs. But HyperMover can't work miracles: Macintosh HyperCard doesn't support color, for example.

Give it a test drive

Once you start using HyperCard IIgs 1.1, you'll want to launch hypermedia projects of your own. You'll find the program's object-oriented and bit-mapped graphics tools a delight to use. And you'll probably be surprised that the HyperTalk scripting language is so much like the language you already speak. The only thing you might not be able to figure out is how this extraordinary program does so much, yet costs so little.

Cynthia E. Field, Ph.D., is a freelance journalist specializing in computer-related topics. She has written about Apple II computers since 1982. Thanks to Apple Software Engineer and HyperCard IIgs guru Darin Acquistapace who graciously provided technical assistance during the preparation of this article.

