HyperCard: Converting Stacks Macintosh <—> Apple IIGS (5/91)

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TOPIC --

This article describes HyperMover 1.1, a software tool for converting
stacks between Macintosh HyperCard and HyperCard IIGS.

DISCUSSION ---

Because of the differences between the Macintosh and the Apple IIGS, stacks
created on one computer do not run directly on the other. HyperMover makes
it easier and faster to convert stacks between the Macintosh and the Apple
IIGS. HyperMover will be available from user groups and on-line services.

HyperMover 1.1 includes two stacks: Macintosh HyperMover and HyperMover
IIGS.

MACINTOSH HYPERMOVER

Macintosh HyperMover analyzes a Macintosh HyperCard stack, then creates a
folder containing information that HyperMover IIGS can use to create an
equivalent stack for use on the Apple IIGS.

• HyperMover works on all Macintosh models capable of running HyperCard.
  It requires HyperCard 1.2.5, or HyperCard 2.0v2 or later.

• HyperMover may require up to 2MB RAM to dismantle or rebuild stacks.
  If you are running HyperCard under MultiFinder, allocate at least 1600K
  to HyperCard. Large stacks with many objects or sounds may require more
  memory.

• Disk space: HyperMover needs 1.5 to 5 times the size of the original
  stack.

HYPERMOVER IIGS

HyperMover IIGS analyzes a HyperCard IIGS stack, then creates a folder
containing information that Macintosh HyperMover can use to create an
equivalent stack for use on the Macintosh.

HyperMover IIGS requires:

• HyperCard IIGS 1.0 or later.

• System Software 5.0.4. or later.

• IIGS ROM 01 and ROM 03.

• 1.5MB RAM for small stacks, 2MB for most stacks.

• Disk space: 1.5 to 5 times the size of the original stack. In
  general, Macintosh stacks rebuilt on the Apple IIGS will be slightly
  larger than the original stack, because HyperCard IIGS supports color
  paint, which takes up more disk space.

TRANSFERRING THE FILES

After dismantling a stack, you must transfer the files HyperMover creates.
This can be done either with Apple File Exchange or an AppleTalk network.

If you use a network, both the Macintosh and the Apple IIGS must be
physically connected and logged on to a common server. Simply drag the
folder that HyperMover created on one computer to a location on the server
that you can also access from the other computer.

If you use Apple File Exchange, you must format as many disks as needed to
contain the converted files. After formatting the necessary number of
disks, use Apple File Exchange to transfer the folder containing the
converted files. The files can be transferred in two or more groups if the
contents of the folder total more than 800K and are combined into one
folder.

When converting from Macintosh to Apple IIGS, the text file with the same
name as the dismantled stack may not be a legal ProDOS filename; if this is
the case, simply rename the file to a legal filename. Do not rename any of
the other files in the folder.

DIFFERENCES BETWEEN STACKS

Because the Apple IIGS and Macintosh differ significantly in hardware, some
aspects of a converted stack will not be identical to the original.
HyperMover will pre-scan the original stack and warn the user of features,
such as XCMDs and XFCNs, that will not be converted.

Graphics

The most noticeable difference between the original and the rebuilt stack
will be in the graphics. The Apple IIGS and the Macintosh have
different screen sizes (320x200, 4-bits per pixel; and 512x342,
1-bit per pixel). Therefore, graphics moved between the two systems

need to be modified to fit and display properly.

This is handled by HyperMover in several ways:

• Macintosh graphics to the Apple IIGS. HyperMover contains two
  algorithms for scaling graphics from Macintosh to Apple IIGS screen
  resolution. The first routine is best used for line-art. The second is
  preferable for heavily dithered graphics such as those created with
  HyperScan.

• Apple IIGS graphics to the Macintosh. Moving graphics this
  direction involves reducing the number of colors available per pixel
  from sixteen (Apple IIGS) to black-and-white (Macintosh). At the same
  time, however, the picture must be scaled up from 320x200 to 512x342.
  This results in more pixels being available to simulate the colors lost
  during dithering.

Screen Coordinates

Just as pictures must be scaled to fit the destination card size, buttons
and fields must also be scaled so that they appear in the correct locations
on the destination card. However, buttons and fields are objects and can
be scaled with no distortion.

Scripts

Because of the differing screen sizes, scripts converted from one system to
the other will require modification to function properly if they rely on
specific screen coordinates.

Scripts that rely on features specific to one system, such as the color
properties of HyperCard IIGS or specific commands in Macintosh HyperCard
2.0, will also need to be modified to work correctly.

Animation Sequences

Animation sequences that use system icons and refer to them by ID will need
to be modified after the stack is converted.

Machine-Specific Properties

Properties specific to HyperCard IIGS, such as button families and
sharedText on the Apple IIGS will not be preserved in stacks converted to
HyperCard 1.2.5. Conversion of HyperCard IIGS to HyperCard 2.0 will retain
those properties that are common to HyperCard 2.0 and HyperCard IIGS.

Similarly, varying card sizes in HyperCard 2.0 will not be preserved in
stacks converted to HyperCard IIGS.

WHAT HYPERMOVER CAN AND CANNOT DO

HyperMover can:

- Create scaled representations of pictures.

- Convert Macintosh sounds to Apple IIGS sounds, and vice versa.

- Transfer all HyperCard objects--including backgrounds, cards, buttons, and fields, and their attributes.

- Convert and scale Macintosh icons and cursors to Apple IIGS icons and cursors.

HyperMover cannot:

- Convert external commands and functions (XCMDs and XFCNs).

- Fix scripts that depend on specific screen coordinates.

- Alter scripts that rely on features specific to one machine.

- Maintain the ordering of buttons in relation to fields.
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