NEW AUTHORING TOOLS FOR THE PC
by George Gerhold*

Last fall IBM released a new version of the PILOT authoring language under the name IBM PILOT. PILOT is an authoring language which has been implemented on a number of microcomputers. With a minimal amount of editing, it is practical to move Apple Super PILOT programs to PC machines and, in that process, to speed them up by an order of magnitude.

What features justify the term "more powerful?" Speed and string space are two immediately obvious items. User defined characters are essential in chemistry, and IBM PILOT offers 128 without removing any of the standard 96. All characters are accessible to both the student and the author. Byte-addressable files make data retrieval and record storage more flexible. Auto-type conversion between strings and numbers frees the author from the bother of programming around that distinction. This version also removes restrictions on the use of variables; subscripted variables and expressions can be used where earlier implementations required simple variables.

A whole range of supplementary items for use with IBM PILOT is being developed at Western Washington University as part of a three-year contract with IBM. Some of these are routines which can be made part of PILOT programs immediately. Routines to display compressed graphics (ten full screens per second are flashed on or wiped on in a variety of styles), a routine to allow use of DOS commands (thus making PILOT a front-end for other language), a routine to allow simple text-editing of multi-line student responses, and a routine to control a video disk are already available. Some of the supplements are editors to make the use of IBM PILOT easier. A text editor which contains an imbedded character editor and which displays the new characters is available for creating and editing PILOT programs. A sprite editor for definition of objects for animation is being tested. Sprites are defined by cutting regions from a graphic display; sizes range from 32 x 32 to 64 x 128 pixels. The graphic displays for sprite definition and for other purposes are created using any of a number of standard graphic editors (e.g., PC Paint, Dr. Halo, PCPG, Pencept, Koala Pad); we supply the importing information and software. A frame editor, which will speed the process of screen design, will be available soon. Some of the supplements are additions to the PILOT language. A detailed list would make sense only to the experienced PILOT user.

There is another class of items which make the authoring process easier. Examples include training materials, documentation, and exemplary code which can be reused. A six-hour on-line tutorial on the PILOT language and a two-hour on-line tutorial on screen design are available. Documentation for video disk interfaces and for use of various graphic editors is in preparation. Sections of code which can be imbedded in authors' programs will be available; examples include implementation of various character sets, record keeping sequences, user-controlled escape and help sequences, and templates for standard instructional dialogue sequences.

Authoring systems are attractive to some authors. Unfortunately, many authoring systems are so restrictive that the ambitious author soon outgrows their capabilities. If there is not an underlying language, the author must start from scratch. We will be producing an authoring system which generates PILOT code. This will be an umbrella which includes many of the above editors and which allows the author to move back and forth easily between programming and using the automated authoring system.

The combination of all of these items will lead to an authoring tool which will make practical the development of extremely sophisticated and effective instructional materials.

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