A Small Computer System – 1970's Style:

The system pictured on the right is a pdp-11/03. Actually, the photograph depicts a total of three pdp-11's. The 11/03 has been derided as the slowest of all the pdp-11's, but it was actually quite a prize in 1975 when DEC started shipping the systems.

Although sold by a minicomputer company, the 11/03 was a full-fledged microcomputer that was even marketed (by Heathkit, as the H-11) to computer hackers and home users. Many were sold to OEM's who embedded the 11/03 into many other products including laboratory instruments, medical devices, and industrial controllers.

The first 11/03 I acquired came from Lord Corporation in Saegertown, PA where it was used as part of a color-matching system in the production of industrial dyes, paint, and plastic pellets. As a member of the pdp-11 family, the 11/03 came to market with a number of different operating systems, programming languages, and turnkey applications already written and available.

Unlike other contemporary microcomputers, the 11/03 was well-equipped with interface hardware, various peripherals, memory expansion, and mass-storage. In comparison, the most famous micro of 1975 (the Altair) had NO peripherals, limited memory, and no mass-storage when it came to market. Aside from the price, the only advantage the Altair had was a full front-panel with lots of pretty blinking lights.

My 11/03 was actually manufactured in 1979 and came equipped with 56k bytes of CMOS memory, four serial ports, two parallel I/O ports, a floppy disk controller, two RX02 8" floppy disk drives, a VT-100 CRT terminal, an LA-120 Decwriter (teleprinter), and a unique double-pedestal desk with 19" racks at either end. In fairly short order, I was able to add a CR-11 card reader, IBM 024 Card Punch, and paper-tape I/O for a total system cost of around $100. This was in 1988 when the system was nine years old.

As furnished by Lord, the system ran the RT-11 operating system, a real-time environment that was typical for laboratory and industrial systems. Application programs were written in either FORTRAN or MACRO-11 and RT-11 came equipped with several text-editors, compilers, and library management programs to support a comfortable

development environment. After scrounging around, I was able to obtain several BASIC interpretors and a FOCAL-11 package to round out my own programming environment.

RT-11SJ (the single-job version) is lightweight operating system that leaves more than half the available 56k available for application programs. The command language (DCL) is similar to other DEC operating systems found on the PDP-10 and VAX systems. The influence on CP/M (and MS-DOS of later years) is obvious, and after using it for a while I began to wonder why CP/M and MS-DOS seemed so poorly done when RT-11 was available as a model. Don't even get me started on another popular pdp-11 operating system, Unix.
