

selling these. They called their board the Apple I. Housed in a box with a keyboard, the machine eventually transformed itself into the enormously successful Apple II. This machine emerged just after the Peddle PET and spawned a cottage industry of software and hardware manufacture.

The Tandy Corporation of Fort Worth, Texas, had ideas of its own for the small computer market. The corporation was, and remains, a manufacturer of a wide variety of electrical goods such as hi-fi, synthesizers and radios, selling them through its chain of stores. The home computer represented a natural extension of its range, and in the Radio Shack shops it already had a distribution network across the US. The result was the TRS-80 Model 1, another huge success in the US market. TRS simply stands for Tandy Radio Shack, but the 80 refers to the microprocessor used, the Zilog Z80. Zilog was yet another new chip firm, and had produced a processor similar to the Intel 8080 but with substantial improvements.

With the TRS-80 Model 1 having a Z80 microprocessor, and the Apple II and Commodore PET having 6502s, home computers began to exhibit a diversity in

Kildall and his friend John Torode, in another Californian garage, put together a system themselves. Torode built the hardware to make the floppy disk work with the processor, and Kildall wrote the software that enabled the processor to handle the disk. The program was called CP/M (Control Program/Microcomputers), a name derived from Kildall's work with Intel's programming language, which was called PL/M (Programming Language/Microcomputers).

The first disk operating system for micros was taken up quickly by hardware manufacturers



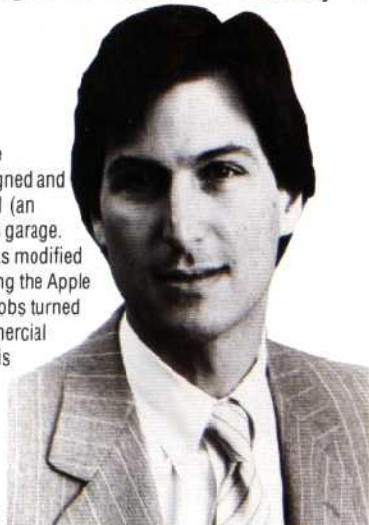
Gary Kildall

The latest operating systems are developed by large teams of programmers, but CP/M was written by Gary Kildall single-handedly. Even some of the later versions reflected the fact that it was developed for very crude hardware



The Company's Core

Steve Wozniak designed and built the first Apple 1 (an uncased PCB) in his garage. When the design was modified and encased, creating the Apple II, his friend Steve Jobs turned Apple into the commercial success that it now is



Steve Jobs

COURTESY OF APPLE

hardware. But along with this first major consumer choice came the associated problems of machine incompatibility and non-standard software. The kind of microprocessor used in the early machines is significant because the chip determines the choice of software that becomes available from third parties. While the hardware was being developed, standards in software were being set as well.

In 1972 a young man called Gary Kildall was a consultant to Intel. His firm, Microprocessor Application Associates, was working on a computer language that Intel engineers could use to write software for the new microprocessor chips that Intel was manufacturing. Kildall thought it possible to link up a microprocessor with memory to an 8in floppy disk drive and to a teletype, in order to give each engineer a computer of his own. But Intel preferred to continue its practice of sharing a mainframe machine among its engineers.

Steve Wozniak



wanting to put disk drives on their machines. The software influenced design too: CP/M would run only on the 8080 and faster 8085 processors from Intel, and on the similar Z80 from Zilog. The Z80 became the standard chip for any CP/M machine, and CP/M compatibility the goal for software firms.

Apart from operating systems, home computers needed a programming language in which people could write their programs. BASIC, developed at Dartmouth College, USA, as an easy-to-learn language, was an obvious choice.

Bill Gates, a graduate in Seattle, produced a BASIC interpreter for micros, a translation program



COURTESY OF OSBORNE

Adam Osborne

Described by some as a 'poacher-turned-gamekeeper', Adam Osborne was for many years a leading microcomputer journalist, before starting his own company and producing the world's first portable computer