Highlights of the 1975 Lake Arrowhead Workshop

Guest Editor's Introduction
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This issue of Computer is derived from the 14th Annual Lake Arrowhead Workshop held in September 1975, titled “Advances in Storage for Minis and Micros.” One would ordinarily assume that a substantial portion of the program of a workshop so named would be concerned with LSI main memory. However, the program committee had decided that LSI memory was getting more than adequate coverage elsewhere, and backing storage or mass memory was the area where revolutionary developments were both needed and happening. So at Arrowhead and again in this issue of Computer the memory technologies which were explored are in the area of peripherals.

The first paper is a report giving brief overviews of all of the sessions at Arrowhead. The opening session was involved with the systems tradeoffs among access time, memory cost, and architecture. This was followed by four sessions covering the various devices in each access time-cost domain—namely tape, rotating memory, CCD’s, and finally other contenders among the “electronic disks.” The workshop report is followed by four papers centered about the Arrowhead topics but not all presented at that meeting.

The predominant current speculation in peripheral memory technology concerns the eventual relative roles of mechanical and solid-state devices. The CCD, magnetic bubble, and electron beam technologies currently being developed can be internally organized to recover data serially at speeds which fill the access time gap between the several milliseconds, and longer, of current mechanical memory devices and the few microseconds, and less, of LSI main memory. The papers presented in this issue appear to justify the position that the solid-state, serially-organized devices will soon be incorporated into the memory hierarchy because there are sufficient system cost advantages to be gained by filling the access time gap at the predicted bit costs of these devices. The readers can draw their own conclusions regarding the possibility of significant segments of the mechanical memory industry being replaced by solid-state technologies.

A. J. Kolk, Jr., guest editor, is also the author of an article appearing in this issue. His biography is on page 34.