

The classroom information and computing service.

MIT, Cambridge, Mass., Project MAC TR-80, Jan. 1971,
278 pp.

Classroom Information and Computing Service (CLICS) is an information processing service based upon the Project MAC system known as MULTICS. CLICS is basically a time-sharing utility capable of handling at any time 100 users (out of 1000 customers) by dial-up from terminals.

The main purpose of CLICS is to provide computer science students with an example of a system design that can be digested in a one-semester course. It is also useful in studying possible simplifications of MULTICS.

At the time of the report, the CIMPL language (*Clics Implementation Language*), hardware, communication control, and storage control were well defined, but the processor management, operations, command, and I/O systems were incomplete, and only overviews are presented. A version of a CIMPL processor to run on MULTICS was partially completed.

CLICS features modular organization of hardware. Active modules (processors and I/O controllers) communicate directly only with passive modules (memories), and communicate with each other only through the passive modules.

The experience of being able to study a complete computer system consisting of more than simply the classical five boxes should be invaluable to any student of computer science. Unfortunately, there isn't much pedagogical material available. The present report is obviously incomplete, and it is unlikely to be valuable without the necessary hardware. Nevertheless, it is a step in the right direction.

P. F. Hultquist, Lakewood, Colo.