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ARGENTINA CTSS

An experiment conducted between Buenos Aires, Argentina, and Cambridge, Mass., has shown that a large, complex computer can be operated by a distant user via a radio teletype link.

Civil engineers from the Massachusetts Institute of Technology and from the University of Buenos Aires carried out the unique experiment between 9 p.m. and 10 p.m. Cambridge time (11 p.m. to midnight Buenos Aires time) February 2.

The experimenters used commercial radio teletype facilities from Buenos Aires to RCA Communications, Inc., in New York City. There, the channel was patched into the Western Union Co.'s commercial Telex system to put the researchers in Buenos Aires into direct contact with a time-shared IBM 7094 computer at M.I.T. in Cambridge. At the same time, some 20 other persons also were using the computer from consoles located at remote stations around Cambridge and linked to the central machine through telephone lines.

Previous experiments have been conducted in which the time-shared computer has been used from as far away as Edinburgh, Scotland, and Oslo, Norway. But in those experiments, the connections were through commercial wire and cable systems. The Buenos Aires experiment was the first in which a radio link was used.

Conducting the experiment from Buenos Aires were Professors Robert Logcher, Frederick McGarry, Russel Jones, Paul Roberts and E. F. Bisbee, all of the M.I.T.

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Department of Civil Engineering, and Professor Horacio Reggini of the Department of Stability, School of Engineering, University of Buenos Aires.

M.I.T.'s Department of Civil Engineering, headed by Professor Charles Miller, has been engaged in an Inter-American Program since 1961 under support provided by the Agency for International Development and Carnegie Corporation. Under the program, M.I.T. civil engineering professors undertake joint research with colleagues in universities in Central and South America. M.I.T. professors visit Latin America to make contact with professors there and bring them up to date on recent research advances. In addition, professors and students from Latin American schools are brought to Cambridge to study and work in the department at M.I.T.

One of the most striking recent developments in civil engineering research has been the advent of the computer as a powerful tool for the solution of complex engineering problems. M.I.T.'s civil engineering faculty has been in the forefront of the development of computer programs and languages suitable for the civil engineering profession. Professor Logcher, a member of the department's Structures Division, is developing a generalized machine language for computer-aided structural design which can be used by civil engineers with minimum computer training.

A problem in applying computer technology to civil engineering in Latin America, however, is the scarcity of truly large-scale computer facilities there. Time-sharing -- a method of programming a computer so it can be used by many individuals simultaneously, thus expanding enormously the availability of a single machine -- is a potential solution to a scarcity problem.

The M.I.T. civil engineering group was in Buenos Aires as a regular part of the department's Inter-American Program. They performed the experiment while in Buenos Aires to test the feasibility of the radio connection.

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Professor Logcher and Professor Reggini, who previously spent several months at M.I.T. working with Professor Logcher and others on the application of the computer to structural design problems, ran a test computer program during the link up.

The M.I.T. group, while in South America, also visited colleagues at universities in Santiago, Chile, Bogota, Colombia, Rio de Janeiro, Brazil and Sao Paulo, Brazil. Other universities included in the department's Inter American Program are in Mexico and Venezuela. Professor Miller is director of the program and Professor McGarry is associate director.

The centrally-located time-shared computer at M.I.T., which the group used at long distance, is a facility operated under the Institute's Project MAC -- for multiple access computer -- which is supported by the Advanced Research Projects Agency, Department of Defense, under a contract from the Office of Naval Research. MAC is an experimental program aimed at developing new ways in which on-line use of computers can aid people in their creative work -- research, design, management, or education. More than 100 remote consoles are now installed in and around M.I.T. and up to 30 persons can use the computer simultaneously.

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March 4, 1965