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Memorandum M-2272

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For Internal Distribution

Digital Computer Laboratory
Massachusetts Institute of Technology
Cambridge 39, Massachusetts

CLASSIFICATION CHANGED TO:
Auth: DD 254
By: R. R. Everett
Date: 2-1-60

SUBJECT: SUMMARY OF MIT - IBM COLLABORATION, June 1 thru June 30, 1953
inclusive

To: J. W. Forrester, R. R. Everett, H. Fahnestock, C. R. Wieser,
N. H. Taylor, D. R. Brown, S. H. Dodd, P. Youtz

From: A. P. Kromer

Date: July 3, 1953

Abstract: Engineering relations with IBM have continued in the same
general manner as when they were a subcontractor to MIT.
Logical and physical design of certain portions of the
computer were mutually determined, and study of other
portions of the equipment has progressed satisfactorily.

Engineering Visits

IBM people working on the project have spent a total of approx-
imately 172 mandays at MIT in Cambridge, while MIT personnel have spent
a total of 93 mandays at IBM's Poughkeepsie laboratory. IBM has four
persons spending full time at MIT, and MIT has stationed one engineer
full time at IBM Poughkeepsie. This is in addition to joint IBM--MIT
participation in meetings with R.C.A., Bendix, G.E. Company, Freed
Electronics Company and other equipment manufacturers. Also, two joint
meetings concerning in--out equipment were held during the month.

Exchange of Publications

During this period we have forwarded to IBM 43 M-Memos, 6 E-Notes,
Divisions 2, 3, 4, 6 and 7 Quarterly Progress Reports, and miscellaneous
drawings.

We have received from IBM thirteen reports covering input-output
meetings and equipment operation, a proposal for cross-telling, video pulse
generators, data transmission, diode switches, tube application techniques,
store instruction timing, test storage, and biweekly reports.

IBM is continuing engineering development work on the arithmetic
element and control section of the machine. A letter dated June 1, 1953
from Mr. J. W. Forrester to Mr. G. B. Solomon of IBM proposed the trans-
ferral of the principal responsibility for engineering on this portion
of the machine from MIT to IBM. The work done by IBM will be based on a
previously agreed upon logical and physical arrangement of the equipment.

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Study of the physical layout and arrangement for the arithmetic element and control portion of the computer was completed and reviewed at a joint IBM--MIT meeting (Refer Memorandum M-2246) in the middle of the month. As a result of this discussion, understanding was reached which will permit IBM to proceed with detailed mechanical design of equipment. It was agreed that both six and nine tube pluggable units would be used, and the physical arrangement of digit rows, registers, etc. will approximate that used in MTC.

Work on standardization of components, design and materials has become very active during this period. The initial meetings of the Central Standards Committee were held to review the work previously completed by the various subcommittees. Preparation of the standards sheets will be made by IBM and distributed following each Central Standards Committee meeting. In view of the importance of standardization on vacuum tubes, a special subcommittee for this type of component has been set up.


Specifications for the ferrite cores to be used in the high-speed internal memory were completed and forwarded to IBM for their use in establishing production at General Ceramics and R.C.A. for the cores required for the two prototypes.

In order to crystalize certain decisions and to outline a program for those fields where additional engineering study is required, a three day joint meeting (Project Grind) was held. These sessions reviewed SDV, video mapping, phone line input registers, marginal checking, power supplies, internal memory and magnetic drums. Summary of these discussions is covered in Memoranda M-2266, M-2267, M-2268. A second meeting to cover remaining portions of the equipment is scheduled for early in July.

Considerable attention was given to the matter of general administrative problems associated with smooth operation of the combined organizations. A program summarizing the planning for the engineering design, construction, testing, installation and trial operation of the AN/FSQ-7 (XD-1) equipment was prepared, reviewed with IBM, and their concurrence obtained. The summary will be issued as E-562.

The number of IBM persons of staff level assigned to the project at the end of the period was approximately 108.

Signed:


Arthur P. Kromer

Approved:


Norman H. Taylor

APK/mmt

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