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6570TH AEROSPACE MEDICAL RESEARCH LABORATORIES
AEROSPACE MEDICAL DIVISION
AIR FORCE SYSTEMS COMMAND
UNITED STATES AIR FORCE
WRIGHT-PATTERSON AIR FORCE BASE, OHIO 45433

REPLY TO ATTN OF: MRHTP

18 February 1966

$1.00
HC
MF .50

SUBJECT: Quarterly Status Report, NASA-Defense PR Nr. R-115

TO: National Aeronautics & Space Administration
ATTN: Miss Winnie Morgan
Office of Grants & Research Contracts
600 Independence Avenue, S. W.
Washington, D. C. 20546

1. Reference is made to the requirement of NASA-Defense PR R-115, Amendment #1, for the submittal of Quarterly Status Reports for the work being conducted under Contract AF19(628)-3418, "Research on the Use of Computers for Handling Advanced Systems Human Factors Task Data," Phase II. The following status report covers the period 1 October 1965 through 31 December 1965.

2. The Phase I research effort, conducted by Computer Applications, Inc. and The American Institute for Research (the subcontractor) was completed during this period. The reproduced copy of "The Role of Human Factors Task Data in Aerospace System Design and Development" by the American Institute for Research was distributed as AMRL-TR-65-131. A total of 25 copies of this report were sent to NASA. A second report, written jointly by the American Institute for Research and the Behavioral Sciences Laboratory, titled, "Basic Human Factors Task Data Relationships in Aerospace System Design and Development" was approved by the Laboratory and submitted for publication and distribution as AMRL-TR-65-231. The reproducible copy of the third and final Phase I contract report, titled "The Role of Computers in Handling Aerospace System Human Factors Task Data" was received from Computer Applications, Inc. and submitted for publication and distribution as AMRL-TR-65-206. It is anticipated that the second and third reports now in printing will be distributed in March 1966.

3. The current Phase II research effort, which was started on 21 June 1965 and being conducted by the System Development Corporation, is proceeding on schedule. The work thus far has concentrated on a detailed description of a total data handling system concept. Nine functional areas essential to meet the objectives of the system concept have been identified and described in detail; these are: (1) input preparation, (2) storage, (3) retrieval, (4) analysis, (5) synthesis, (6) simulation, (7) control, (8) new data notification, and (9) display. The computer requirements for each of these functional areas are being identified

within the context of a total data handling system concept. Computer techniques to be developed in the Phase II and Phase III research effort will be selected from an analysis of the requirements for each of the functional areas. The techniques selected for development will define the scope of a research pilot to be tested with actual aerospace system data during the follow-on Phase IV research effort. The operational design specifications for the pilot research are being prepared and will be submitted for publication on or around 30 April 1966. The specifications will include: (1) Description of the overall research pilot, (2) identification of the data elements to be included in the data base, along with the specifications for structuring the data base information, (3) design requirements for information processing, (4) design requirements for all major output presentations, (5) identification of the computer programs to be developed, and (6) specification of the major input and output formats for each computer program.

4. Action was initiated for the transfer of funds from NASA to the Laboratory for the second half of the Phase III research effort. Procurement action for the first half of Phase III, funded by the Air Force, has been completed.

5. The next Quarterly Status Report to NASA will be submitted on or around 31 March 1966.

Lawrence E. Reed

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