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13 February 1969

FROM : CIA COINS Subsystem Manager

SUBJECT: Objectives of the COINS Experiment

1. Objective

The primary objective of the COINS Experiment is to design, develop and implement a system which will produce the necessary data to test the feasibility and utility of an interagency computer based information system with on-line remote access capability to support the intelligence analyst.

2. Measurement of Objective Achievement

A data collection plan has been formulated to gather statistics on network activity and user opinions and attitudes toward COINS. Through the use of the switch log, user log forms, interviewing COINS users, and exogenic queries reports, data will be collected on:

a. System utilization,
b. System performance, and
c. User reaction to the system.

3. Determination of Success or Failure

The experiment will prove successful if it evokes a favorable user reaction. This favorable reaction need not necessarily be in terms that COINS provided useful information in support of analysts' work, but it could include judgments that an efficient COINS-like system containing data bases more suitable to analysts' needs would have high utility in support of the intelligence analytical function.

The experiment will prove a failure if the majority of users do not react favorably to their exposure to COINS. Failure could result from a variety of causes,

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either singly or in combination. For example:

a. Inefficient operation of the network or exorbitant down time could discourage users.

b. Poor user orientation and training.

c. Incompatibility among terminology used in various agency files and query languages.

d. Lack of user interest in COINS data bases.

e. Excessive query turn-around time.

f. Etc.

OPTIONAL FORM NO. 10
MAY 1962
GSA FPM

UNITED STATES GOVERNMENT

Memorandum

TO : COINS SUB-SYSTEM MANAGERS

Ser: COINS/047
DATE: 13 Feb 69

FROM : COINS Project Manager

SUBJECT: Recommendation for the Adoption of Common Users Language for COINS

References: (a) COINS Semi-Annual Report, dated 31 March 1968 (IHC-D-113.4/13) pages 41 thru 43

(b) Computer Corporation of America, Final Report "Query and Update Language (QUL)" December 27, 1968. Contract DAAB03-67-C-0319. (See Inclosure 1).

(c) SDC Package on ADEPT 50 and TDMS. (See Inclosure 2).

1. The multiplicity of users languages or interrogations procedures is one of major problems in the COINS Experiment which will deter some users from participating. In addition, participating organizations do not all have the capability of permitting file sponsors to update their files on-line from their remote terminals as soon as new information becomes available. Out-of-date files will also serve as a further deterrent to some users (See reference a). Therefore, it is urgent that we:

a. Resolve the problem of multiple user languages; and

b. Provide for a remote on-line filing system with a file maintenance capability in all computer systems participating in COINS.

2. Currently there are three efforts underway within the COINS program intended to achieve both an interim solution as well as to select a mutual acceptable solution for the next phase of COINS.

a. First, the COINS Computer and Communications Interface Panel is circulating a draft paper on a Common Communications Language (COCOLA) to serve as a bridge between the several different retrieval languages available in the sub-systems of the COINS Experiment. If accepted this could become an interim solution.

b. Second, NSA specialists are now preparing a comprehensive study of the users languages currently available in the COINS Experiment as well as of SDC-ADEPT 50 (see reference c) and CCA-QUL (see reference b). Preliminary report from these efforts indicate that in any follow-on effort users should not be required to learn more than one users language for interrogating all of the files in COINS. A copy of the interim report is attached. The final study should be available for your consideration within the next six to eight weeks.

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Excluded from automatic downgrading and declassification

c. Third, an NSA R&D Contract with Computer Corporation of America (CCA) to design a user language for the future was extended to include the participation of organizations in the COINS Experiment. In preparing their final report on Query and Update Language (QUL), personnel from CCA visited some of the organizations participating in the COINS Experiment to examine their user languages (i.e., NSA/SPECOL, NSA/TILE, DIA/FFS and CIA/TORQUE) and to hear their ideas on what features should be contained in a users language.

3. Inclosed are reports describing two separate user languages both of which permit: (a) users operating from remote terminals to retrieve information from one or more files and (b) file sponsors operating from remote terminals to update their files. In addition, both of these languages are owned by the government. As indicated below each of these languages has its own set of advantages and disadvantages.

a. Computer Corporation of America's, "Query and Update Language (QUL)" was designed with consideration of the users languages currently available in the COINS Experiment. CCA has users language on the commercial market known as "103" which operates on the IBM 360/30 or 40 and this language is a sub-set of QUL.

b. System Development Corporation, ADEPT-50 System particularly the Time-Shared Data Management System (TDMS) was developed under contract to the Advanced Research Project Agency (ARPA). This language is currently available on an IBM 360/50 and 65. However, this language did not take into consideration all of the features in users languages currently available in the COINS Experiment.

4. It is recognized that it will not be possible to have such a language incorporated in all systems in the COINS Experiment. However, the long lead time required to develop a common computer independent users language which will operate on all computer systems in the COINS network necessitates immediate action if we plan to have an operationally useful, common users language in a reasonable time frame.

5. Therefore, recommend that we consider using either the CCA, Query and Update Language (QUL) or the SDC, ADEPT-50 which are described in the attached reports as the basis for developing a common, computer independent users language for use in COINS for remote retrieval and file maintenance. One of these two user oriented languages could be implemented for the present or planned computer systems in COINS either in addition to, or in lieu of the user languages presently available on these systems. The common network users language adopted should be common to some agreed upon level in all systems in COINS. However, this language should be open-ended to permit each organizations to add in

its own unique or special features to satisfy their users. I would appreciate your views on this subject by 15 March 1969, with specific attention being given to the following questions:

a. What are the implications involved in implementing one of these languages on your system in the near time frame (i.e., next 12-18 months)?

b. If one of these languages will not satisfy your requirements, why not?

c. What additional features need to be incorporated in one of these the languages to satisfy your requirements?

d. When would you be prepared to implement one of these languages?

e. If we don't develop and implement one of these languages what do you propose we do about the problems outlined in paragraph 1 above?

6. The next step would be to obtain some cost and time estimates from the contractors providing we can agree that this is the correct approach and that one of these languages should be the common network users language. I have some very rough cost and time estimates but for firm meaningful figures the contractors need some information about the environment in which these languages are expected to operate. 25X1

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[redacted]

Incl: a/s

[redacted] Project Manager

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cc: [redacted]

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30 January 1969

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COINS Analysis

1. The intent of this memo is to present, in a very general manner, the status of our current efforts in analyzing the present COINS system and associated environment. Thus far we have reviewed the various literature on the physical and logical structure of COINS as well as the TILE, TORQUE, and FFS query languages.

2. We have delineated the following collection of what we believe are the critical factors related to any solution for COINS - assuming that all major aspects of the current logical structure of this network together with its surrounding environment remain the same.

a. The participants of COINS, although generally concerned with the same class of problems, have specifically different requirements for their work. And because of several factors, these requirements are expressed in totally diverse and disjoint ways.

b. The files in COINS will be both remote and local to the individual user.

c. The primary users of this network will not be programmers and instead will be either thoroughly problem oriented or clerical types.

d. The hardware components of COINS can be expected to be diverse in their characteristics.

e. The COINS network will remain a cooperative venture and hence the degree of success for the network is rather explicitly related to the degree of cooperation among the participants.

3. Considering the foregoing we find it not unreasonable to conclude that a user should not be required to learn more than one query language for referencing all COINS files available to him as well as those non-COINS files available locally. However the participating agencies can not be expected to submit, over a long period of time, to a common query language because of their specialized needs. Moreover we suspect that the design of such a language is either far beyond the state-of-the-art or would result in far too complex a facility for the typical user to master and effectively use.

4. This implies that ideally there should be a common network language not available to the individual users and into which the individual query languages are translatable. This language would be designed around the filing system and retrieval mechanism and not any external query language. Of course, initially a common user language of basic capability could be provided. This could then be unilaterally extended by any participant without affecting the remaining participants in the network.

5. Since the success of this network is strongly dependent upon cooperation among participants as well as a definite degree of initial technical excellence, and since the comments in the above paragraph indicate that the amount of sustained cooperation would be minimized, cooperation would not be as large a determining factor in the success of the network as it is at present. Secondly the existence of a common network language would tend to standardize the various retrieval mechanisms since it would probably require a common file description scheme. This would certainly lessen greatly the technical burden of each participant.

6. These proposals are extremely tentative, and presently they only point in the direction of our current efforts. We cannot at this time guarantee their feasibility or practicality. Our continuing effort however is aimed at a thorough investigation of each facet of this solution together with its implications.

7. To this end we are currently preparing a report on what we believe are the desirable outward characteristics of this type of network. In addition we are working on the specifications for a generalized file descriptor as well as a determination of the desirable capabilities of a query language for this environment. In conjunction with the latter point, we are preparing a report on our impressions and analysis of SDC's TDMS language and are reviewing CCA's QUL system.

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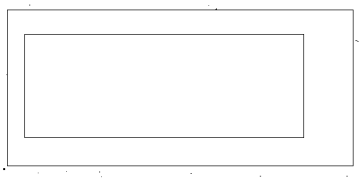
cc: 

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