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SOFTWARE DEVELOPMENT FOR DECISION ANALYSIS
TASK B - PUBLICATION

Allen C. Miller, III

Stanford Research Institute

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TECHNICAL REPORT
TO THE
DEFENSE ADVANCED RESEARCH PROJECTS AGENCY
SOFTWARE DEVELOPMENT FOR DECISION ANALYSIS
TASK B - PUBLICATION

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DARPA Order Number: 2742

Program Code Number: PD420

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Contract Expiration Date: 30 September 1974

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Contractor: Stanford Research Institute
333 Ravenswood Avenue
Menlo Park, California 94025

Principal Investigator: James E. Matheson
(415)326-6200, ext. 4450

Project Scientist: Allen C. Miller, III
(415)326-6200, ext. 2855

SRI Project Number: 3309

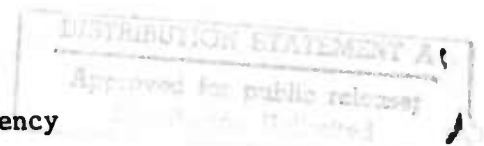
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REPORT SUMMARY

1. Technical Problem

The research on this project was divided into two tasks, each with its own objectives:

Task A - Develop a morphology for characterizing and analyzing decision problems to serve as a basis for the design of a system of integrated computer aids for decision making.

Task B - Transfer the existing SRI CTREE programs to a DARPA designated computer; provide a training session on the system for interested users; produce a user publication on how to use and access the system.

This report deals with the accomplishments related to the Task B objectives.

2. General Methodology

No specialized methodology was used in carrying out the objectives of Task B. However, the contents of the tree language system that was transferred to the DARPA computer represented specialized decision analysis technology. This technology was simply made available to the DARPA community.

3. Technical Results

The SRI tree language system has been installed and verified on

the UCLA-CCBS-PDP10 computer. The system has been used remotely via the DARPA network by several people and the software is operational.

A two day seminar on the use of the system was given at UCLA in Los Angeles, California in January 1975. The people attending were from the UCLA faculty, the CCBS laboratory and computer center and the Naval PostGraduate School of Monterey, California.

A generalized user's manual has been written and is currently being distributed.

4. Implications for Further Research

The tree language system is moderately difficult to use for those people without any programming experience. The CCBS personnel have expressed an interest in building a front-end to the existing programs that would relieve the user of much of the programming burdens associated with the system. If a large user base develops, this approach might be used on an interim basis until the operational results associated with Task A of this project can be realized.

5. Special Comments

Attached to this report is a copy of a tutorial manual on the use of the tree language and an access information sheet for the computer system being used. Additional copies of these materials may be obtained by contacting:

Decision Analysis Group
Stanford Research Institute
333 Ravenswood Avenue
Menlo Park, California 94025
(415)326-6200 ext. 3952

SRI DECISION ANALYSIS TREE LANGUAGE

PROGRAM ACCESS AND FILE CONVENTIONS
FOR THE VERSION AS INSTALLED ON THE
UCLA-CCBS-PDP10 DARPA COMPUTER

PROCEDURE

1. LOG INTO SYSTEM. The user must have an account on the UCLA-CCBS system. To acquire an account number call 213-825-0841 or write to:

UCLA-CCBS Computer Center
Room 3260
Franz Hall
Psychology Building
UCLA
Los Angeles, California

The log in procedure and information on the appropriate system documents can also be requested when making an application for an account.

2. CREATE TREE LANGUAGE FILE. The user is referred to the accompanying manual for the details of specifying the structure of tree language files. User should refer to the UCLA-CCBS system manuals for the specifics of entering the tree language file into the computer.
3. RUN THE TRANSLATOR. To translate a tree language file into a FORTRAN program type the following*:

.RUN CTREE [204,171]
(HEADER MESSAGE IS PRINTED)
TREE LANGUAGE FILE: SOURCE

(Runs the translator. The period is the system prompt.)
(Type in name of tree language file.)

FORTRAN FILE: OBJECT

(Target file for translated FORTRAN program.)

(ERROR MESSAGES, IF ANY.)
(TERMINATION MESSAGES.)

(User is returned to system level.)

*User responses are underscored.

**The system will automatically compile and run the translated program as well as activate the STD program, if there are no errors. The user need only supply the name of the tree file when requested to do so. However, if need be, the user may access the individual programs as shown.

| | |
|---|--|
| <u>.EXEC OBJECT.F4**</u> | (Compiles & runs the translated FORTRAN program.) |
| (COMPILE ERRORS, IF ANY.) | |
| (LOADING MESSAGES.) | |
| TREE FILE: <u>TREE.TRE</u> | (Name of file that will contain the generated tree.) |
| (REQUESTS FOR INPUT DATA, IF ANY.) | |
| (TERMINATION MESSAGES.) | (User is returned to system level.) |
| | |
| <u>.RUN STD [204,171]**</u> | (Evaluation package is activated.) |
| TREE FILE: <u>TREE.TRE</u> | (Name of tree file to be analyzed.) |
| TREE HAS <u>X000</u> NODES | |
| COMMAND: (SEE ATTACHED MANUAL FOR RESPONSES & OPTIONS.) | |
| (ANALYSIS OUTPUT TABLES & PLOTS.) | |
| | |
| COMMAND: <u>EXIT</u> | (To leave STD.) |
| (TERMINATION MESSAGES.) | |
| | |
| <u>.(RETURNS TO SYSTEM LEVEL)</u> | |

4. TECHNICAL ASSISTANCE. For questions related to the technical aspects of specifying tree language programs, requests for more manuals, or problems encountered that deal with the use of the tree language call 415-326-6200, X3952 or write to:

Decision Analysis Group
SRI
333 Ravenswood Avenue
Menlo Park, California 94025

For technical questions related to the UCLA-CCBS system use the contact point described in the first step of these procedures.

5. SYSTEM AVAILABILITY. This software package is available for use by anyone on the DARPA network. The object code resides on the UCLA-CCBS system and cannot be transferred to another DARPA computer without approval of SRI. At present the UCLA-CCBS system is open to the DARPA user community from 6 a.m. to 12 noon, Monday to Friday(PDT).