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SYSTEM REPRESENTATION OF SIMORG

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ABSTRACT

This attempt at transforming the SIMulation of an ORGanization experiential game into a computerized - the first such organizational game to be computerized is subdivided into three areas: System Representation, SIMORG GPSS Simulation, and Computer Programming Implementation. This paper will complete the first task - System Representation - and outline the role to be played by the other two subtasks, as well as the interaction between the three phases and the interconnection requirements.

The system representation analysis, in light of the eventual computerization, necessitated some minor transformations in the initial SIMORG setup. These are outlined in the paper. Three tracks are provided, thus adjusting for the size of the class, and the allocation of appropriate resources. The paper identifies all the divisional system requirements as well as the supersystem requirements. Requirements are further subdivided into two categories:

a) operational and b) analytical. Operational requirements refer to the entry decision nodes; decisions to be made by the various teams concerning for example 1) purchasing of anagrams, 2) submission of solutions 3) requesting withdrawal of assets, etc. Analytical requirements refer to the system needs relating to both hardware and software components such as 1) files and documents, 2) computational capabilities, 3) updating resources and assets capabilities, etc. A system representation of the overall supersystem is also provided with special emphasis on the decision nodes and divisional linkages.

SIMORG DESCRIPTION

The SIMulation of an ORGanization is an experiential oriented at providing students with a simulated experience of organizational process. These processes range from task interdependence, routinization of work, employee selection, performance evaluation, resource allocation to investments organizational improvements and introduction of organizational change. provides a very rich educational environment that will introduce the student to a variety of organizational behavior related topics. SIMORG is the result of the work of Robert files and Alan Randolph (1977). In its present form it is a same that requires manual processing on the part of the coordinator: usually the instructor or the consultant. Based on a multitude of experiments with SIMORG, it can be safely concluded that it is quite exhaustive, simple to conduct and a viable educational tool in its present form. It is felt, however, that if it could be computerized, the teaching turnaround time - the number of sessions required to convey the impact significance of organizational processes - will be greatly reduced, thus increasing its effectiveness over time and further increasing its use within the educational and consulting circles.

The mechanics of SIMORG require the formation of four teams, which comprise various departmental units. They are subdivided along the following lines:

Division I:
Human Resource Pool

Division II:
Comtin (B)
Rout in

Division III:
Emrel
Crunode

Division IV:
Comtin (A)
Decode
Cope

These four teams compose the whole organization, and after each session produce the following items:

- a. Payroll sheet listing the employed individuals and their roles.
- b. Investment decisions, and
- c. Solutions of anagrams and puzzles.

Based on the composite output of the teams, an evaluation of their activities is made by the coordinator. The evaluation process comprises the allocation of resources on the basis of expenses and revenues (solved anagrams and puzzles), number of additionally assigned individuals, absentees, dismissed individuals and number of temporarily and permanently idle employees, as well as the investment decisions. These activities further affect the assets of Routin, Comtin (A) and Comtin (B).

It is proposed here that the bases of financial statement and of a balance sheet are provided within SIMORG. The assets should not, however, differentiate between the various production divisions, but should on the other hand represent the overall organization. The lost competitiveness and decisions in resource allocations between the various production units is thus compensated for by the realization of the organizational entity as a composition of differentiated units. Thus, the cumulative learning experience escapes unhindered.

Let us now ignore the macrocosmic aspects of SIMORG and let us turn to some of the necessary elements of the microcosmic functioning. To exhibit the required work in this area, we will focus on the behavioral requirements of Routin.

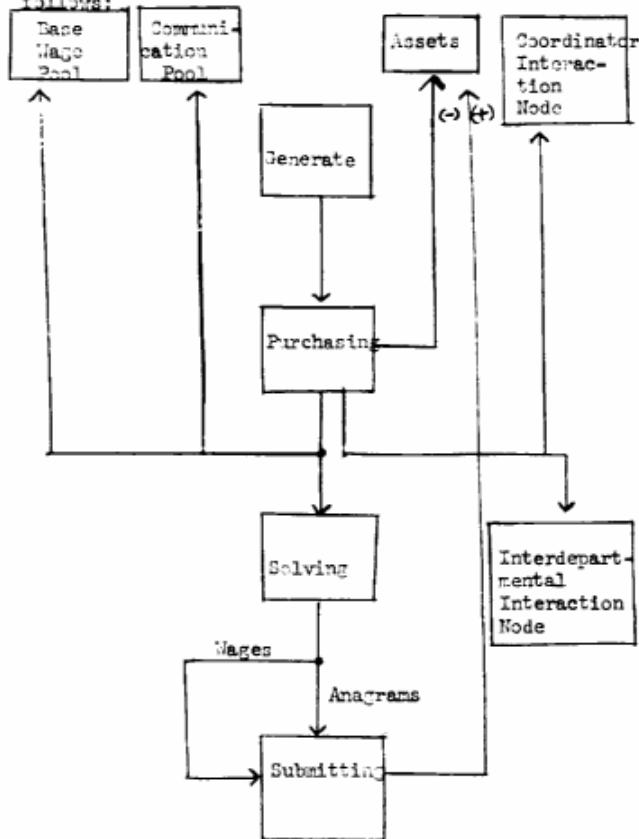
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BEHAVIORAL REQUIREMENTS AT THE MICROCOSMIC LEVEL

The Routin department is in charge of purchasing anagrams and solving them. activity directly affects the revenues of the corporation and its Further Routine can interact with other branches of the organization and to a certain extent must do so to assure proper functioning of other departments, such as the accounting unit (Crunode). Some of the behavioral requirements of Routing are therefore:

1. Purchasing anagrams
2. Withdrawing assets
3. solving anagrams
4. purchasing communication tickets
5. purchasing base wage tickets
6. communicating with other units

A GPSS system representation of these activities follows: _____



7. submitting decision forms, etc.

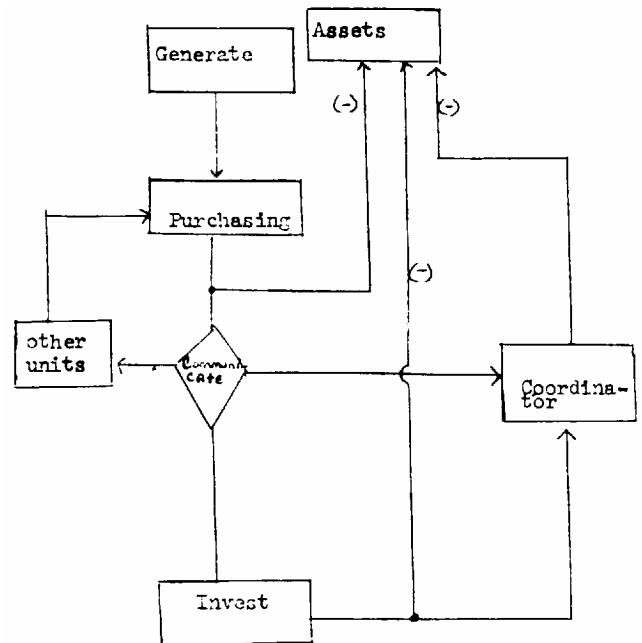
Let us now focus on the activities of a service oriented unit, Emrel. Emrel's objective is to 'oversee the task selection, placement and dismissal of SIMORG members and to manage the overall compensation plan'. Other similar objectives could fall under Emrel's realm of activities, but we will simplify the discussion here for purposes of clarity.

Emrel's activities are therefore oriented toward decisions that affect the human task force of SIMORG. In their bare form they would require the following subtasks:

1. Communicate with other units.
2. Purchase Base Wage Tickets.
3. Oversee the hiring decision in all units.
4. Make investment decisions relating to Human Resources.
5. Communicate on time with the coordinator.

A system representation of these activities follows:

It becomes evident from the above presentation that service



organizations have the largest number of interactions with both other units and the coordinator.

It is presently primordial to identify all the interaction nodes that would ultimately emerge in the GPSS simulation. These nodes follow a 2 X 2 classificatory scheme. Nodes are identified as either operational or analytical and coordinator or SIMORG member.

SYSTEMS SIMULATION NODES

Operational nodes are indicative of in-class session activities. These nodes are required at the following levels:

- A) Interdepartmental
- B) Between coordinator and Individual SIMORG members
- c) Between coordinator and departmental entities.

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The effectiveness of the interaction at the nodes determines the assets of the organization.

Analytical nodes are indicative of the interactions between the coordinator and the elemental units, such as Emrel. These interactions occur at the following nodes:

- A) between coordinator and Emrel
- B) between coordinator and all the various production units
- C) between coordinator and various departmental investors.

The quantitative aspect of these interactions determines the periodic operating income statement of the organization.

CONCLUSION

In the above discussion, the groundwork for the ultimate computerization of SIMORG has been laid. Future activities should be aimed at validating the proposed framework, when developed, and at preparing the specific computer program to be utilized in the application SIMORG. It further proposed that entities vary as a function of the organizational level in the simulation. In some instances they may represent dollar amounts, others, they may represent individuals.

Much therefore, still needs to be accomplished. However it is hoped that the necessary direction has been given toward the computerization of a much needed organizational behavior game.