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**ANALYSIS OF THE STRUCTURE OF THE NETWORK  
PROJECT OF INFORMATION SYSTEM “PROJECTS CLOUD”**

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This study aims to analyze project networks, network based project models, based on stored data in the platform “Project Cloud” and also the use of them for identifying opportunities to analyze and control Students' project work.

For analyzing the projects' structure in the platform has been selected as completed projects with full information about tasks.

In sample data from the whole period since the date of start the platform “Project Cloud” there are 15 students' finished projects. To obtain correct selection was been taken into account the next requirements: project completeness, tasks, and a team size of more than 2 members.

The following table presents the list of selected projects to analyze. The Column id reflects the identification of the project in the platform system

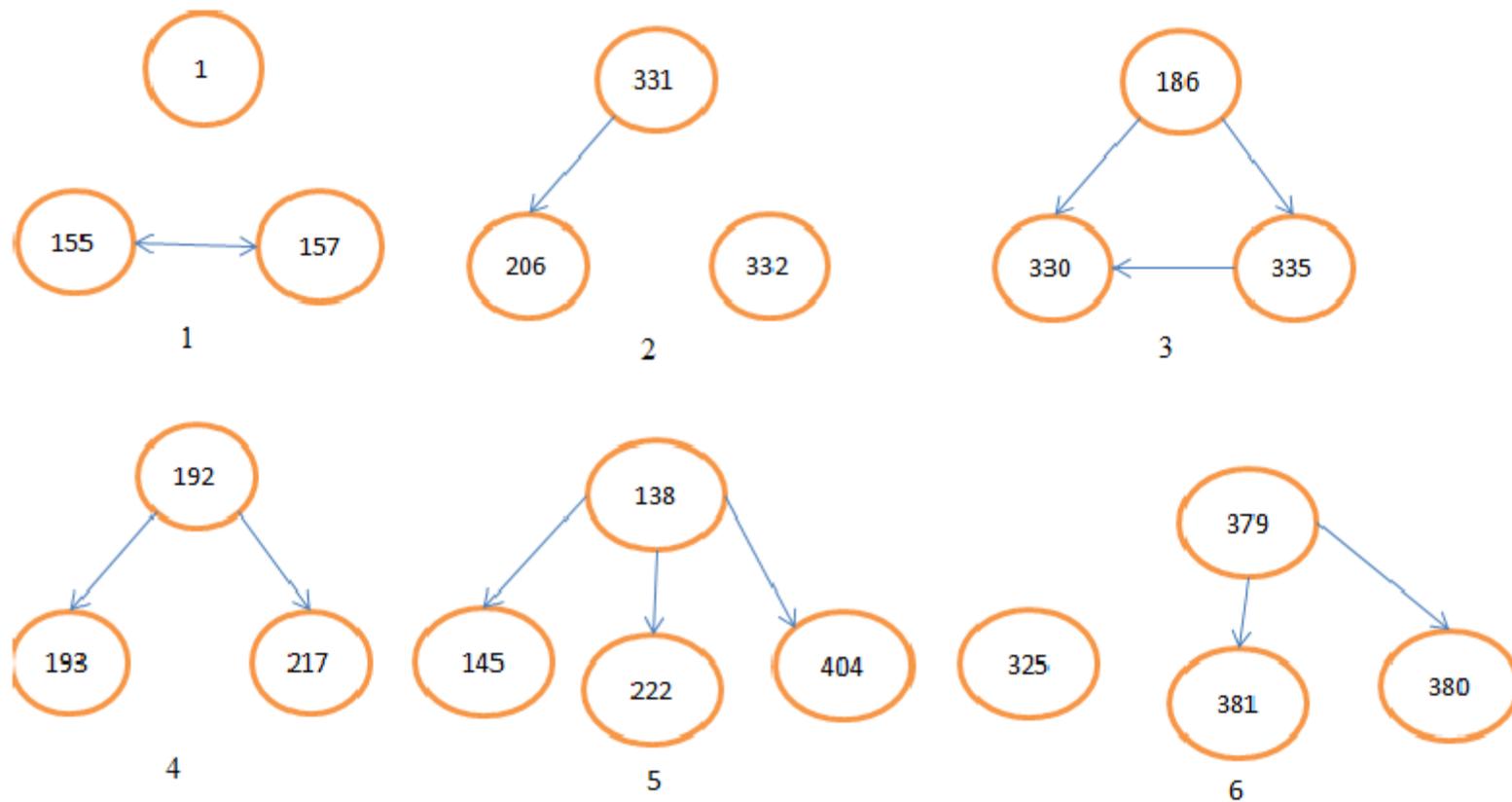
*a* — is the control model,

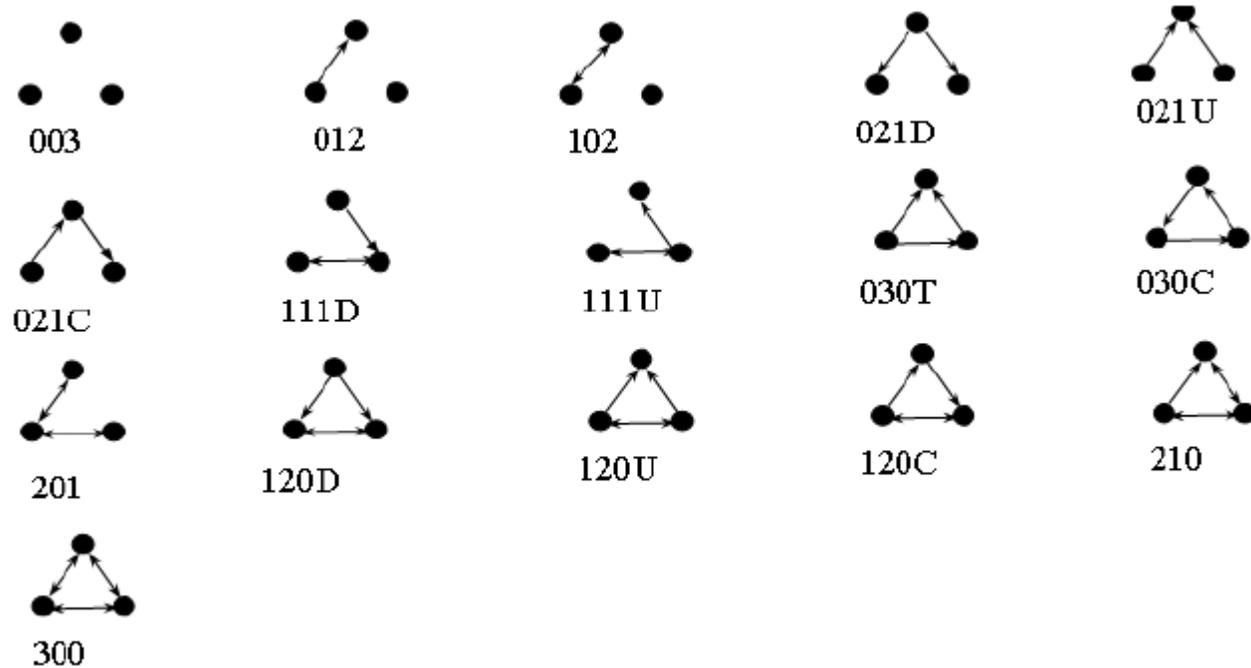
*b* — shows task quantity in a project

*c* — is team size

TABLE I. THE LIST OF PROJECTS FROM “PROJECT CLOUD”

<i>ID</i>	<i>a</i>	<i>b</i>	<i>c</i>
74	network	7	3
77	hierarchy	6	3
78	hierarchy	107	3
83	network	10	3
86	hierarchy	7	3
108	network	5	3
109	hierarchy	62	4
111	network	6	3
112	hierarchy	13	3
113	hierarchy	7	3
117	hierarchy	9	3
125	hierarchy	22	10
124	hierarchy	5	4
130	hierarchy	6	4
141	network	7	3





Communications in teams that include only 3 members create a triad. Triade is a social group consisting of three members (actors). There is also the concept of a triplet - a group of three people, where one of the groups, called the "focal" actor, is associated with the other two.

TABLE II. THEORIES OF STRUCTURAL BALANCE AND ALLOWED TYPES OF TRIADS

<i>Nº</i>	<i>Theory (model)</i>	<i>Author</i>	<i>Allowed Triad Types</i>	<i>Projects</i>
1	Balance theory	F. Heider; J. Cartwright; F. Harary	300, 102	74
2	Cluster model	J.Davis	300, 102, 003	74
3	Cluster-Ranking model	J.Davis;  S. Leynhardt	300, 102, 003, 120D, 120U, 030T, 021D, 021U	74, 77, 78, 83, 86, 111, 112, 113, 117, 141, 128, 131
4	Transitivity model	P. Holland;  S. Leynhardt	300, 102, 003, 120D, 120U, 030T, 021D, 021U, 012, 210	74, 77, 78, 83, 86, 108, 111, 112, 113, 117, 141, 128, 131

The table shows the type of triad of each project from the sample for analysis, as well as the triad, which is stable or unstable. Thus, the table shows that it is necessary to pay attention to the team performing the project 108 since the compiled communication model of this project turned out to be unstable.

TABLE III. THE DISTRIBUTION OF PROJECTS BY TYPE OF TRIAD

<i>ID</i>	<i>Types of triads</i>	<i>Sustainability</i>
74	102	stable
77	021D	stable
78	021D	stable
83	021D	stable
86	021D	stable
108	012	unstable
111	120D	stable
112	021D	stable
113	021D	stable
117	021D	stable
141	021D	stable

# RESULTS

- We built graphs of communication in projects.
- The most common type of team are groups of three people, with a hierarchical structure of communications.
- We evaluated the structural balance of triads and teams of three. Thus, it becomes possible to assess projects based on the analysis of the triad. To do this, it is necessary to build a communication graph of the project members, and determine the type of the resulting triad.
- If the triad resembles a stable model, then the project can be credited to positively evaluated.
- If the project does not correspond to the sustainable one, then the project must be rated as a project that needs consideration and control.

**THANK YOU FOR YOUR ATTENTION**