GENERALIZED NET MODEL OF PROCESS OF THE ADMINISTRATION SERVICING IN A DIGITAL UNIVERSITY

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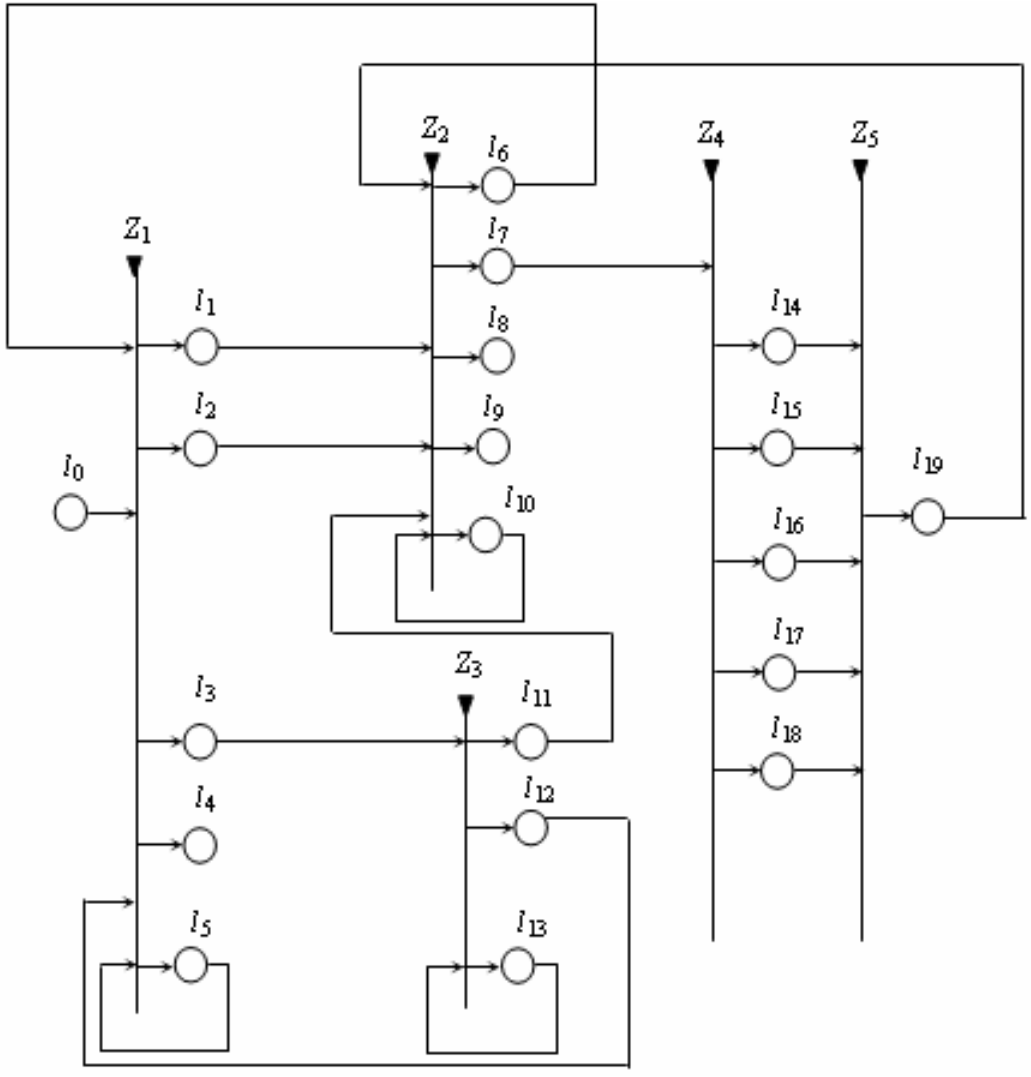
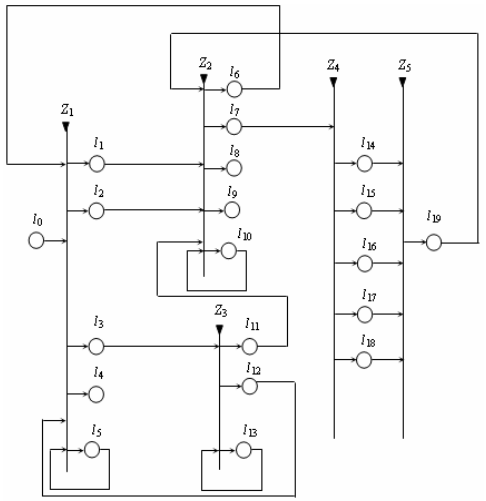
Introduction

- The Administration servicing in a digital university is based on requests for Academic staff, Students, Educational department, Stipends/Hostel department and so on.
- The requests can be receipted by e-mail, by telephone or via web. If the request is receipted by e-mail, the applicant receives the auto-respond answer from the E-mail server. Each request is transferred to the Data Base server for validation. If the request is duplicated or spam it retains. If needed, a correction is made by the applicant. The approved requests are passed for the resolving.

GN model of process of the administration servicing in a digital university

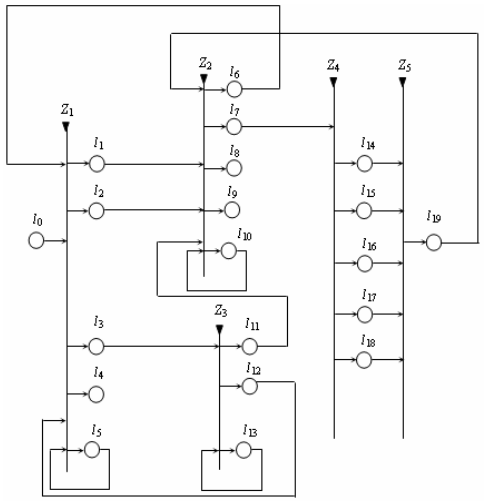




- The new tokens enter the net

via places l_0 with characteristics
"request, name and speciality of a student".

- a_D-token is located in place l_{10} with initial characteristic
"DataBase Server";
- Initially, there is one a_E-token that is located in place l_{13} with initial characteristic
"E-mail Server".
- All tokens that enter transitions Z_2 or Z_3 will unite with the original tokens, that stay in places l_{10} and l_{13}. All information generated by the respective subject (DataBase Server or E-mail Serve) will be put as an initial characteristic of a token, generated by the respective original token.



The Generalized Net contains the following set of transitions:

$$?= \{ Z_1, Z_2, Z_3, Z_4, Z_5\},$$

where the following transitions represent:

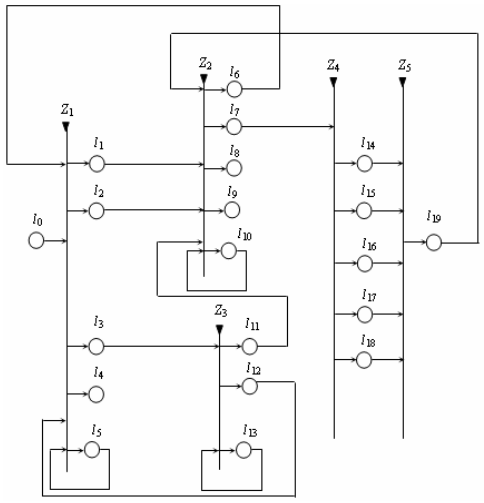
Z_1 – The activity of the students;

Z_2 – Receiving of the requests;

Z_3 – Work of the e-mail server;

Z_4 – Establishing the precise nature of the requests;

Z_5 – Resolving of the requests.

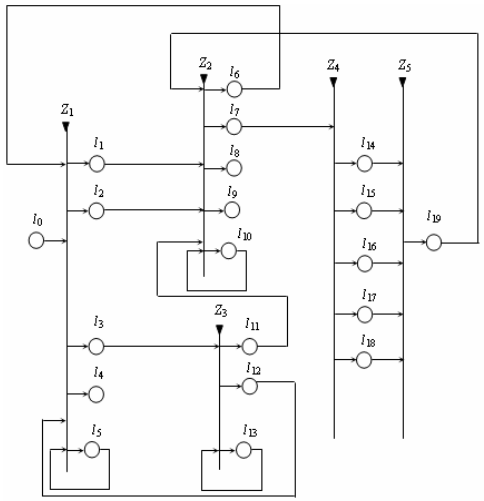


$Z_1 = <\{l_0, l_5, l_6, l_{12}\}, \{l_1, l_2, l_3, l_4, l_5\}, r_1, \vee(\, l_0, l_5, l_6, l_{12})>$

The tokens that enter place l_6 do not obtain new characteristics.
The tokens entering places l_1, l_2, l_3 and l_4 obtain characteristics respectively:
"Telephone request, name and speciality of a student"
"Web request, name and speciality of a student",
"E-mail request, name and speciality of a student",
"Performed query, name and speciality of a student".

$Z_2 = <\{l_1, l_2, l_{10}, l_{11}, l_{19}\}, \{l_6, l_7, l_8, l_9, l_{10}\}, r_2, \vee\, (l_1, l_2, l_{10}, l_{11}, l_{19})>$

"Message, name and speciality of a student";
"Accepted request, name and speciality of a student";
"Duplicated request, name and speciality of a student";
"Retained request, name and speciality of a student".



$$Z_3 = <\{l_3, l_{13}\}, \{l_{11}, l_{12}, l_{13}\}, r_3, \vee (l_3, l_{13})>$$

The tokens entering places l_{11} and l_{12} obtain characteristics respectively:
"Email request, name and speciality of a student";
"Confirmation for email request, name and speciality of a student".

$$Z_4 = <\{l_7\}, \{ l_{14}, l_{15}, l_{16}, l_{17}, l_{18}\}, r_4, \vee (l_7)>$$

The tokens entering places l_{14}, l_{15}, l_{16}, l_{17} and l_{18} obtain characteristic
"Request, name and speciality of a student".

$$Z_5 = <\{ l_{14}, l_{15}, l_{16}, l_{17}, l_{18}\},\{ l_{19}\}, r_5, \vee (l_{14}, l_{15}, l_{16}, l_{17}, l_{18})>$$

The token entering place $l19$ obtain characteristic
"Resolved request, name and speciality of a student".

Conclusion

The Generalized net model of process of the Administration servicing in a digital university constructed in this way is the next one in a series of research paper which the authors are currently preparing.

The model has the purpose to optimize the functioning of the University by the creation of reliable information environment for monitoring and management of the quality of university education.

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Thank you for your attention!