

Application of Electronic Health Record System for Teaching Medical Students

Sergey KARAS^{a,1}, Eduard MERKER^b, Irina KORNEVA^b, Alexey PONOMAREV^b
and Georgy KOPANITSA^{b,c,d}

^a*Siberian State Medical University, Lenina 30, Tomsk, Russia*

^b*UMSSoft, Gagarina 11/1, Tomsk Russia*

^c*Institute Cybernetic Center, Tomsk Polytechnic University, Tomsk, Russia*

^d*Tomsk State University for Architecture and Building, Tomsk, Russia*

Keywords. Learning Electronic Health Record, UML, Medical Education

Introduction

Despite IT development of Russian healthcare, the level of IT competence of physicians remains low. This creates a sustainable obstacle for the introduction of modern IT technologies to the healthcare system. A specific learning EHR (LEHR) can improve clinical and IT competences of medical students. This can be achieved by integration of an EHR to the programs of all clinical subjects combining clinical and IT knowledge.

1. Methods

The analysis of educational programs showed a high potential of their implementation in the LEHR due to well-structured and high formalization. The next step is engineering of expert knowledge applying active cognitive methods with further anonymized discussion.

2. Results

Interaction of an end-user with LEHR is Web-based and performed through a thin client. This is achieved via three level architecture in cooperation with Role Based Access Control (RBAC), which provide service accessibility, roles distinctions, and efficient data access. We use MSSQL 2012 along with Application Request Routing (ARR).

3. Discussion

The future development of LEHR for other clinical subjects will be based on the technical specification that being developed. The introduction of the LEHR into the educational process will support adoption of IT by the medical students in Russia.

¹ Corresponding Author.