From application to dormitory - housing process in University Study-Oriented System (USOS)

Michał Żabicki[1]

[1]Centrum Rozwoju Systemów Zintegrowanych, Uniwersytet Jagielloński, Straszewskiego 25/4, 31-113 Kraków, michal.zabicki@uj.edu.pl

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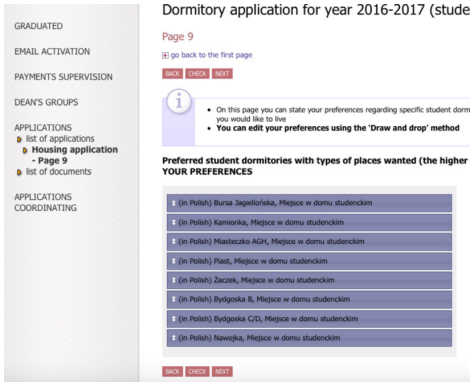
1. Summary

The task behind this project was to streamline the process of applying for dormitory places for students, to relieve university administration in the assignment procedure and to provide data exchange with third party dormitory administration systems. Those goals have been achieved within the framework of existing and widely used USOS[1] (University Study-Oriented System, used in most of the main Polish HEIs) and its satellite applications. New modules can be adopted for local circumstances and be used as a foundation for other applications, eg. mobile apps.

2. EXTENDED ABSTRACT

Getting a suitable accommodation is one of the top priorities for students, especially for the freshmen when old-school networking is not a case yet. Universities all over the world provide housing opportunities, although in most cases the number of dormitory rooms is limited. The process of obtaining a place to spend the most of the academic year used to be long and challenging for all the parties. Students, who fill applications, selected group of faculties (or other departments, or even other entities) called the trustees review students' applications and award them places in dormitories. Finally, dormitory administration, handle the checking in & out of the. In the last couple of years USOS, together with its satellite systems, has gained new modules assisting and automating the process.

Before the major overhaul, USOS had a module which allowed university administration to record application delivered on paper. Then an outcome of the application has been recorded in the database. Finally, when students arrived at dormitories doors, administration could also perform basic hotel operations (as check-ins & check-outs) within the system. Student ID cards could be used as entrance keys. The whole process, while helpful, provided only little support for university administration.



USOSweb is a web application used by students and academic teachers. Students can check their grades, apply for classes and much more. For about 5 years now, instead of going through long, paper

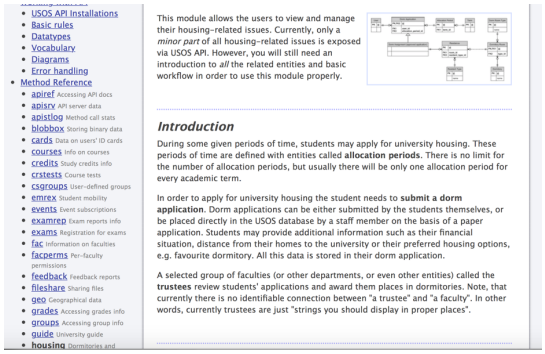
[1] http://usos.edu.pl

dormitory application, students fill one in USOSweb, which is already their university virtual home. All the basic student data are in the system, the rest can be provided in the series of relatively easy forms. Students enter their dormitory preferences, as well as additional information that might influence outcome of their application.

USOSweb is also used for a selection process. Once students' applications are complete, trustees can (either automatically or by-hand) assign students to certain dormitories. In case of an automated process, an advanced algorithm (varying from university to university) can assign hundreds of dormitory places in a very short time. Algorithms are based on certain criteria. In most cases mean income, distance from the university to the original home-place and community action or volunteering are the main factors that are taken into account.

Modular structure of the system allows local developers to use their own algorithms, either based on the one distributed with USOS or written completely from scratch. Different groups of students can be subject to different algorithms.

While USOS has by now most features needed by a hotel-like management system (including payment management and circulation forms...), in many cases dormitories use their own, third party systems. That's why a new module for USOS API REST-like interface has been created to allow exchange of data between those external systems and USOS.



New methods allow communication in both directions, providing information about entitled students as well as giving back crucial information about check-in and check-out. With that, university departments can use its housing resources more effectively.

On top of streaming the application process, detailed data available in USOS provide better possibilities for allocating dormitory places and substantially facilitate reporting to higher education supervising institutions.

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4. AUTHORS' BIOGRAPHIES

Michał Żabicki graduated in computer physics in the Jagiellonian University in Krakow and in 2013 obtained PhD in theoretical physics from the same university. Since 2012 he is a software developer at the Center of Integrated Systems Development, Jagiellonian University.