Success story
25 years of digitalization of higher education institutions in Poland

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The year was **1999**

- 14 Polish Higher Education Institutions (+ several EU partners), started the *Tempus JEP (New Educational Tools)* project.
- Goal: purchase or develop a student information system (SIS).
- Conclusion from market recognition: no central SIS available which could be purchased for all partner HEIs with the available money.
- Decision: develop in-house *(University of Warsaw* taking the role of the technical coordinator).*
The year is 2024

**USOS and MUCI**
- November 1999: USOS project begins
- November 2001: MUCI is established

**HEIs in USOS project**
- 96 HEIs in USOS project
- 55% of public HEIs in Poland
- 26% of all HEIs in Poland

**Students in HEIs in USOS project**
- 67.66% of students in public HEIs in Poland
- 47.88% of all students in Poland
- Almost 600 thousand

**Family of USOS applications**
- 600+ active installations
The year is 2024

HEIs in USOS project according to university profile

- 32 Vocational schools
- 13 Technical universities
- 13 Universities
- 5 Military or state service universities
- 4 Physical education universities
- 5 Art schools
- 4 Church schools
- 2 Medical universities
- 1 Maritime universities
- 17 Other academic universities

96 HEIs in USOS project

Universities by number of students

- 33% over 1000
- 21% over 5000
- 13% over 10 000
- 5% over 20 000
- 2% over 30 000
- 26% below 1000
- 13% Below 1000

- Over 1000
- Over 5000
- Over 10 000
- Over 20 000
- Over 30 000
The journey – milestones and key functionalities

- The Tempus project was run in 1999-2001.
- In 2001 the first version of USOS was deployed in two faculties in two HEIs.
- In 2001 MUCI consortium was established by the Conference of Rectors of Polish Universities.
- Oracle database, Oracle Forms (later replaced by Java), open-source technologies.
- Participation in EUNIS congresses each year since 2002 (in Porto). Sharing experience, establishing partnerships, making friends.
The journey – milestones and key functionalities

- **2004**: first (in Poland) central admission system at a university scale – it supports a completely remote recruitment which starts from submitting the application and ends when a digitally signed admission decision is issued.

- **2006**: a system to collect Matura examination results from all examination boards in Poland and transfer them to admission systems of HEIs for recruitment purposes.

- **2007**: a module for issuing, printing and digitally signing a plastic student card with a chip.

- **2008**: first talks (in Arhus at EUNIS) about the electronic transfer of data on student and staff mobility across borders.
Integration with **POL-on**

- Since **2011**: exporting students, Ph.D. students, study programmes, scholarships, staff via XML files
- Since **2014**: importing publications and scores of scientific journals
- Since **2015**: exporting diploma theses
- Since **2018**: checking diploma theses before defense in the anti-plagiarism system
- Since **2022**: importing data on the situation of graduates on the labor market
- Since **2024**: switching from manual export by XML file to automatic synchronization of data via REST API

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Ministry of Science and Higher Education
Republic of Poland
The journey – milestones and key functionalities

- **2012**: USOS API was developed, the key tool for integrating external systems with USOS, including the basis for the implementation of the mobile application, Mobile USOS.

- **2014**: a notification system was developed as part of USOS API, which implements publish-subscribe paradigm, and a notification daemon which plays the role of the hub. A base for a future event-driven mobile application was created.
The journey – milestones and key functionalities

- **2016-2019**: Mobile USOS was created, a mobile application for the Android and iOS platforms, which quickly became a basic tool for students to communicate with the university.
mLegitymacja is the full-fledged equivalent of the plastic student ID card.

mStudentCard can be retrieved
Order date: 2020-06-01 14:17:21.
Student card validity date: 2020-09-05.
mLegitymacja validity date: 2020-09-05.
Your mLegitymacja is waiting to be retrieved. To install it on your phone perform steps described below.

1. Launch the mObywatel application and add a new student card.
   Launch mObywatel application

2. Copy the following QR code to mObywatel.
   QR code: 100045d1f024c2199963eb2b56b50b2
   Copy to clipboard

3. Confirm the QR code with an activation code.
   Activation code: TpbUt6p
   Copy to clipboard

Revoke mLegitymacja
Revoke mLegitymacja
The journey – milestones and key functionalities

- **2016**: as part of the EMREX project, the USOSweb system was enriched with the EMREX Data Access Point and the EMREX Client. EMREX is the solution for electronic transfer of student records between higher education institutions.

How it works video

Recordings for the workshop 4EU+ Alliance on January 26th, 2021:

EMREX in USOS, EWP in USOS

Student returning home to Polish HEI with USOS from another Polish HEI with USOS can easily retrieve his achievement data electronically.
The journey – milestones and key functionalities

- **2017**: the first EWP project was launched (it was later continued as EWP 2, EDSSI, and currently is implemented under ESCI/EWP+ initiative). USOS with its mobility module supporting daily operation of the International Relation Office has become a full-fledged node in the EWP network.
EWP DEMO testbed

**DEMO Adm – system for administration of a receiving institution**
SCHAC: demo.usos.edu.pl
Manifest: https://ewp.demo.usos.edu.pl/ewp/manifest

**USOSweb DEMO**
Portal for students and mobility coordinators with the mobility module where LA for outgoing students is created

**IRK – admission system**
For applicants and mobility coordinators where LA for incoming students is received
SCHAC: demo.usos.edu.pl
Manifest: https://irk.demo.usos.edu.pl/ewp/manifest/

**IIAs**

**HEI Adm – system for administration of a sending institution**
SCHAC: hei.demo.usos.edu.pl
Manifest: https://ewp-hei.demo.usos.edu.pl/ewp/manifest

**USOSweb HEI**
The journey – milestones and key functionalities

- **2022**: eSignForStudy project. USOS has been enriched with a configurable tool supporting all types of digital signatures, built on the basis of DSS libraries.
The journey – milestones and key functionalities

- **2023**: eDelivery, eID, SDG regulation and OOTS.
Challenges

- Determining development path and priorities for almost 100 diverse institutions. There is one law on higher education in Poland, but rectors and senates have some freedom in how to implement it at the university.
- Maintaining one version of software – good quality, effective, easy to maintain and deploy, flexible within certain limits, ready within externally imposed deadlines.
- Be able to refuse some change requests when proposed solutions do not meet the needs of majority of HEIs.
- Ensure the stability of system development.
Challenges

- Participate in European projects that pave the way for the digitalization of higher education in Europe, without compromising the deadlines for the implementation of the current tasks.
- Regularly adapt the system to new technologies.
- Systematically update the service software used (operating systems, programming languages, libraries) even if it requires deep refactoring (like abandoning Oracle Forms and Reports).
- When possible, using open-source solutions to avoid software licensing.
- Keeping fees low so that the system is within the financial capabilities of each university.
- Keeping a team of developers without being able to offer them fully competitive salary.
Conclusions

- The decision made 25 years ago was fraught with great risk, but the risk paid off.
- Polish universities can join the consortium and use software whose quality is proven by the high and steadily growing number of participating HEIs.
- The fee paid by universities is proportional to the number of students (in five ranges), but for even the largest universities it is a small percentage of the cost of systems of a similar scale available on the market, offered by commercial companies.
- There is a guarantee of continuity and community of interests – even if HEIs compete for students, they cooperate harmoniously in the field of digitalization.