

How can I get my mobile student ID card?

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1. SUMMARY

Let us assume that I study in the University of Warsaw or some other university from the MUCI consortium (which gathers 70 higher education institutions in Poland, which use the same student information system, called USOS [4]). I have a mobile app, called Mobile USOS, which gives me access to my student records in the student information system of my university. Polish government has just issued a mobile student ID card (mLegitymacja, mStudentCard [2]). I want to install it on my smartphone. I want it now, when I am at home or on vacation, far away from the student's office of my university. I am eligible, my Mobile USOS can confirm that I am an active student, have a valid plastic student id card (but who uses plastic nowadays), have not been expelled from the university.

A mobile student ID card is not issued by my university, but by the Ministry of Digitalization. It is an official document, can only be given to students who fulfill the necessary conditions [3]. My university should deliver the data needed to issue the mobile student ID card to the Ministry, and then the Ministry would create the mobile student ID card and post it for me on the ministerial server. Through my university I would get the QR code and PIN needed to download it to my smartphone and activate. The card is issued only upon request. This data flow has been designed by the Ministry and is supported by the ministry's information system.

So how can I get my mobile student ID card?

If the only option given to the institution is to upload data of all active students, who apply for the mobile student ID card, to the portal of the Ministry of Digitalization, via the web interface, separately for each student, every semester, and to upgrade the information every time the status of the student changes, the institution should really consider all pros and cons, since the manual data transfer between systems means significantly higher burden on the university administration.

If the student wants a mobile student ID card, the student should be given the possibility to get it by himself, without the assistance of the university administration, anytime, anywhere.

The student should be able to trigger the necessary flow of data from the system when the information is stored to the one which needs it. This can be obtained via integration. The systems can be integrated also when one is run by the higher education institution and the other is run by the Ministry of Digitalization. The needed tool is the API (Application Programming Interface).

The aim of this paper is to show that digitalization is not the goal in itself; the goal is to **facilitate** the implementation of **business processes** for prospective stakeholders.

The ultimate goal of the paper is to share the good practice implemented by the University of Warsaw, for itself and other HEIs in the MUCI consortium, which is an example of how to properly digitalize business processes.

2. Mobile student ID card

The mobile student ID card (**mLegitymacja**) is one of the electronic documents available as part of **mObywatel** (mCitizen) – official mobile application, published by the Polish government and delivered by the Ministry of Digitalization. Installing mObywatel on the phone is not complicated and does not require leaving the house. One has to set up **Trusted Profile**, but that can be done online via electronic banking. Trusted Profile is an element of the infrastructure of the Polish eID node, available at login.gov.pl.

According to law on higher education mLegitymacja can only be issued to an active student who possesses the plastic student ID card, valid for the current period of study. In practice it means that the student's photo, personal data, citizen number (PESEL), available in the student information system of the university, should be delivered to the Ministry of Digitalization, upon request made by the student. The Ministry implemented the web interface for uploading students' data and created accounts for schools, which signed an agreement. In the period of March-November 2019 app. 3000 Polish primary and secondary schools used this interface to request mLegitymacja for their pupils. Nobody complained, probably because the largest school in Poland has no more than 1500 pupils. Also for schools which do not offer mobile apps to their students and do not have IT support for their student information systems the other options were not possible or at least difficult to implement. However the largest higher education institution in Poland, the University of Warsaw, has more than 44 thousand students. Entering such amount of data from the keyboard to the web interface, separately for each student, by an administrative staff logged into the dedicated account, is neither possible, nor reasonable. The first reaction of the authorities of the University of Warsaw was negative. They asked for the solution which would not put an extra burden on the administrative staff.

The Ministry of Digitalization accepted the arguments and implemented the API for transferring student requests for the mobile student ID card, with all relevant student data, to servers of the Ministry, and transferring the credentials for downloading and activating the student cards to servers of the university. It is up to the university to organize the process of gathering requests from students and passing them credentials. The architecture – compliant with the original solution – was chosen by the Ministry and was not negotiable.

The University of Warsaw made an important decision. University administration should not be involved in the data flow. A student himself should be fully in charge of the whole process. Students have access to Mobile USOS, the official university app, which can be fully trusted. In Mobile USOS a student is authorized by the central authorization service (CAS) of the university, and gets access to his grades, schedules, courses, and other data stored in the USOS database.

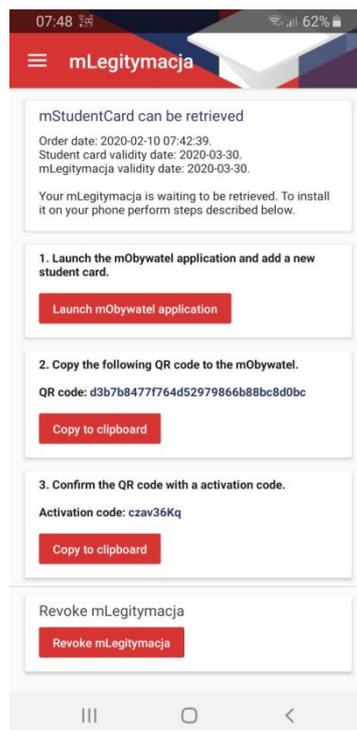
From Mobile USOS the eligible student can request the mobile student ID card. The request is passed from USOS to the Ministry. It is done by a system daemon, periodically. The same daemon gets information from the Ministry about issued cards and sends notifications to the students.

The student gets the needed credentials (QR code and PIN) to Mobile USOS, and then uses them to download his personal mLegitymacja from the Ministry to mObywatel, installed on the smartphone, and activate it. This is done by copying two strings from Mobile USOS and pasting them to mObywatel – these two separate mobile apps are installed on the same smartphone and the data between them can easily be transferred by copy-paste. The other option – scanning the QR code – would be less convenient. Entering the data stored in the QR code and PIN to mObywatel cannot be omitted. The student is in charge and the whole process can take no more than a couple of minutes.

The university system keeps track of all active mobile student ID cards and sends the deactivate requests when the student's status changes, e.g. the student leaves the university or decides to deactivate the mobile student ID card.

On a technical level the integration is based on Mobile USOS, which communicates with USOS via USOS API, the notifier installed in USOS API, which handles notifications to pass new information when it is ready, USOS system daemons, which wake up periodically to transfer data to/from the mObywatel backend system, located at the Ministry of Digitalization, using mObywatel API. VPN installed between the two systems ensures secure communication.

The statistics and status of student requests can be traced on the special web page of USOS available for the administrative staff.



3. CONCLUSIONS

Any eligible student can apply for the mobile student ID card, anytime, anywhere. The student logs in to the Mobile USOS, and if the conditions are met, sends the request. University administrative staff is not involved in the process. Student is the master of his own data – this approach is compliant with the GDPR regulation. First mLegitymacja for students of the University of Warsaw have been issued in February 2020. The integration is described in more detail in [1].

4. ACKNOWLEDGEMENTS

Mobile USOS has been implemented by Piotr Zalas and Dominik Murzynowski. They also integrated Mobile USOS with mObywatel, run by the Ministry of Digitalization.

5. REFERENCES

All links have been retrieved in May 2020.

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6. AUTHOR BIOGRAPHY



Janina Mincer-Daszkiewicz graduated in computer science in the University of Warsaw, Poland, and obtained a Ph.D. degree in math from the same university. She is an associate professor in Computer Science at the Faculty of Mathematics, Informatics and Mechanics at the University of Warsaw specializing in operating systems, distributed systems, performance evaluation and software engineering. Since 1999, she leads a project for the development of a student management information system USOS, which is used in 70 Polish Higher Education Institutions, gathered in the MUCI consortium. Janina takes an active part in many nation-wide projects in Poland. She has been involved in Egracons, EMREX and Erasmus Without Paper European projects.