Erasmus Without Paper Network — from development to production

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1. SUMMARY

EWP (*Erasmus Without Paper*) is the European project co-financed in years 2015-2017 by the *Erasmus+ Programme, Key Action 3 (Prospective Initiatives — Forward Looking Cooperation Projects*). EACEA has prolonged funding for years 2018-2019.

The aim of this paper is to show the EWP Network running in production and supporting student mobility in partner institutions. The components of the Network will be presented and their role explained. Planned tasks and activities of the Competence Center (CC) will be discussed. Directions of extension of the Network functionality beyond basic scenarios of the Erasmus mobility will be shown. Plans for the European-wide roll out of the EWP Network will be shared.

The ultimate goal is to show the benefits of the EWP solution and encourage higher education institutions to become part of it.

2. ERASMUS WITHOUT PAPER NETWORK

In December 2018 at the EWP conference in Ghent (https://www.erasmuswithoutpaper.eu/launch-conference), the EWP Network had been officially launched. Teams representing software providers from Austria, Germany, Spain, Belgium, Portugal and Poland conducted live demo showing exchange of mobility data between their *Student Information Systems* (SISs, see [5]). Live demo was carried in the development environment, but some of the partners have already joined the production EWP Network opening up to the exchange of the production data stored in their production SISs. Possible user scenarios showing EWP support for Erasmus mobility were demonstrated not only during the conference but also in numerous presentations, videos, webinars, and workshops (see e.g. [4]).

The event does not mark the end of the EWP project, but is the milestone turning the development stage into production. The most challenging activities are still ahead — industrializing the Network and its elements, integrating data transfer with business processes of student mobility carried at higher education institutions, increasing network coverage by accepting new institutions, supporting new partners in joining the network, on a political, organizational and technical level. This support will be offered by the Competence Center to be established in 2019.

The EWP Networks consists of the following components:

1. **Design**. *Software requirements specification* has been based on a wide-scale survey and is available at [3]. *Software design specification* is stored in GitHub (see [2]).
2. **Registry**. It contains a list of institutions covered by the EWP nodes and implemented APIs.
3. **Connector** (**EWP server**), which is a SIS's agent in the EWP Network, which gives access to the services offered by this institution to the other institutions.
4. **EWP client**, which is composed of the EWP functionalities spread over the **User Interface** of the Mobility module (buttons or links which trigger data transfer).

There are numerous tools available, which support development, e.g. specifications with examples, ECHO API Validator, other APIs Validators, XML Schema Validator, reference connector, test environments installed at some institutions (fully documented and filled with mobility data anonymized to protect privacy). There is also a source code offered by developers and stored in GitHub thanks to the initiative of the **Open Source University Alliance** (OSUA).

3. CONCLUSIONS

The EWP Network has evolved into a professional secure digital platform, connecting production SISs, with a high potential for Europe-wide roll out. It is open for all categories of users: HEIs with a homemade SIS, clients of the commercial mobility software providers, members of a consortium of HEIs using the same SIS, or numerous HEIs handling their mobilities via the Erasmus+ Dashboard.

The Mobility Tool+, managed by the Directorate-General Education and Culture Unit (DG EAC) of the European Commission, offers services to the EWP hosts for getting the data needed for reporting results of the mobility projects, and — starting from 2019 — to deliver reports fully digitally.

The Competence Center will offer expertise and support, and will take care of the formal aspects of keeping the network in operation. In particular, it will state the requirements for new participants and organize dissemination events.

EWP constitutes a significant innovation in current practices for organizing student mobility and has a strong potential to be mainstreamed with a long-term impact. One aim pursued by the EWP project is the outreach to European and National policy makers to create a shift in administrative culture and the use of ICT tools, by not only proposing a publicly available network for the exchange of student data, but also engaging in policy dialogue in preparation of the follow-up programme of Erasmus+. This amounts to a significant contribution for the modernization of higher education, which is one of the tenets of the *Modernizing education in the EU* Communication put forward by the European Commission (see [1]). EWP is mentioned in this document.

4. ACKNOWLEDGEMENTS

5. REFERENCES

All links have been retrieved in February 2019.

[1] Communication from the commission to the European parliament, the council, the European economic and social committee and the committee of the regions on the Digital Education Action Plan (2018). https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52018DC0022&from=EN

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[3] Jahnke S. (2017). *Desk Research — Erasmus Without Paper*, Brussels, Belgium, https://www.erasmuswithoutpaper.eu/sites/default/files/pages/EWP%20desk%20research%20final%20version.pdf.

[4] Mincer-Daszkiewicz J. (2018). Mobility scenarios supported by the Erasmus Without Paper Network (full paper), EUNIS 2018, The 24th International Conference of European University Information Systems, 5-8 June 2018, Paris, France.

[5] EWP development teams (2018). Presentation of the running EWP Network at the launch conference of the EWP 2.0 project, Live stream, 12.12.2018, Ghent, Belgium.

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 more than 60 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.