



Design of All-In-One Technology-Enhanced Learning Software for Supporting Teachers' Personal Activities

Stefan Svetsky, Oliver Moravcik

Slovak University of Technology in Bratislava

Vazovova 5, Bratislava, Slovakia

`stefan.svetsky, oliver.moravcik@stuba.sk`

***Abstract.** Computers cannot support all the activities performed by a teacher. Due to the lack of appropriate Information Technology (IT) tools, a teacher must adapt to existing technologies. The educational software WPad, developed within the framework of the authors' research on technology-enhanced learning (TEL), offers a universal solution. WPad controls the so-called virtual knowledge into which the teacher inserts content to simulate teaching activities. In this paper, TEL design in research and for publishing support are described based on examples from university teaching. The methodology of synchronising teaching and computing activities is also explained using the idea of building a personal information system.*

Keywords. Technology-enhanced learning, educational software, IT tools, synchronisation of pedagogical and informatics activities

1 Introduction

2 TEL Design in Research

2.1 Research Approach and Methodology for Teaching and Learning

2.1.1 Personal Learning Analytics

2.1.2 Multi-search (online/offline)

2.1.3 Big Educational Knowledge vs Big Data

2.1.4 Personal TEL Infrastructure for Teachers

2.2 TEL Design for Publishing Support

2.2.1 Literature Resources

2.2.2 Paper Writing

3 Conclusion ↔ References

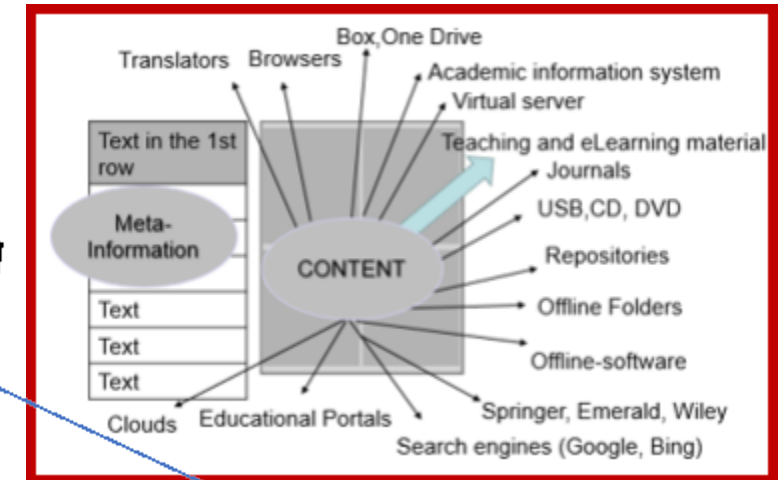
WPad tables

Users (teachers, researchers, students) insert own educational content in the Wpad tables which can be modified, filtered, transferred between tables and tables exchanged as standard computer files. Personal information system consists of many Wpad tables

The screenshot shows a WPad table window titled 'Zapis'. On the left, a table lists references, with 'SPRINGER Call Nr. 169' selected. On the right, the detailed view of this entry is shown, including submission instructions, a URL, and evidence files. A large blue arrow points from the selected entry in the left table to the detailed view on the right.

Txtuni	
	Paper abstract
	References
	Stosic
	Goodman Book TEL
▶	SPRINGER Call Nr. 169
	Mishra TPACK
	Matt Bower. Emerald Group Publishing
	Lecture Notes in Educational Technology
	Edutopia
	Mayer
	REVERSO
	ENGLISH DUCK DUCK COM model

*** All manuscripts should be submitted online on**
<https://www.conftool.org/learning-technologies/index.php?page=login>
<https://www.conftool.org/learning-technologies/index.php?page=submissions>
169 Submission Type / Conference Track: Section 3: Eruptive Technologies in Learning
EVIDENCE: <file:///C:/SV/CLANKY/2021/Springer/BookProject.pdf>
The Universal System of IT support of Teacher for Educational Processes, Publishing and Academic Research Using All-in-One Educational Software
Call details: This book project will follow a 2-step review process. Prospective authors are invited to submit a chapter proposal to one of the



From the Wpad table a user can use both online links and offline paths without opening the browser.

The screenshot shows a WPad table window titled 'Zapis'. On the left, a table lists references, with 'SPRINGER Call Nr. 169' selected. On the right, the detailed view of this entry is shown, including submission instructions, a URL, and evidence files. A large blue arrow points from the selected entry in the left table to the detailed view on the right.

Down Home =>	
	Paper
[1]	References
[2]	Goodman Book TEL
[3]	Stosic
[4]	Paper abstract
[5]	SPRINGER Call Nr. 169
[6]	Mishra TPACK
[7]	Matt Bower. Emerald Group
[8]	Lecture Notes in Educational Technology
[9]	Edutopia

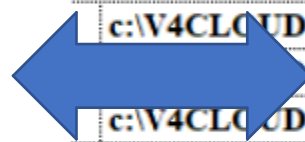
*** All manuscripts should be submitted online on**
<https://www.conftool.org/learning-technologies/index.php?page=login>
<https://www.conftool.org/learning-technologies/index.php?page=submissions>
169 Submission Type / Conference Track: Section 3: Eruptive Technologies in Learning
EVIDENCE: file:///C:/SV/CLANKY/2021/Springer_auer
The Universal System of IT support of Teacher for Educational Processes, Publishing and Academic Research Using All-in-One Educational Software
Call details: This book project will follow a 2-step review process. Prospective authors are invited to submit a chapter proposal to one of the sections first, no later than 30 April 2021. On the basis of the 2-page

The Wpad table can be converted by CTRL.-F1 to a mirror HTML table and send to WEB (VLE)

Example of **Wpad table** from **teacher's personal information system** - all files can be viewed directly from the Wpad - Table (because half milion of rows its conversion to to html table caused browser to freeze)

Table 1. Number of files on the teacher's computer

	C (2017)	D (2017)	HP (2022)
Files	448891	656744	532183
TXT	5831	6410	8569
PDF	8693	13978	14812
HTML	42285	75983	25590
DOC	13568	19059	33141
PNG	-	-	9088



c:\V4CLOUD\SV\PDF\Wiley_Get_Published_Your_How_To_Guide_e-book.p
c:\V4CLOUD\SV\PDF\where-you-may-get-it-wrong-when-writing-english.pdf
c:\V4CLOUD\SV\PDF\Prednasky_FoxPro.pdf
c:\V4CLOUD\SV\PDF\Oliver-2013-British_Journal_of_Educational_Technolc
c:\V4CLOUD\SV\DOC\BIG_DATA\Xiangming_et_al-2018-British_Journal_o
c:\V4CLOUD\SV\DOC\BIG_DATA\TutorialOntologie.pdf
c:\V4CLOUD\SV\DOC\BIG_DATA\Toward Principles for the Design of Onto
c:\V4CLOUD\SV\DOC\BIG_DATA\Sun_et_al-2018-British_Journal_of_Educ
c:\V4CLOUD\SV\DOC\BIG_DATA\Ryberg_et_al-2018-British_Journal_of_E
c:\V4CLOUD\SV\DOC\BIG_DATA\Rasi_et_al-2018-British_Journal_of_Edu
c:\V4CLOUD\SV\DOC\BIG_DATA\Pargman_et_al-2018-British_Journal_of_
c:\V4CLOUD\SV\DOC\BIG_DATA\Northey_et_al-2018-British_Journal of l
c:\V4CLOUD\SV\DOC\BIG_DATA\Manathunga_et_al-2018-British_Journal
c:\V4CLOUD\SV\DOC\BIG_DATA\Liu_et_al-2018-British_Journal_of Educ
c:\V4CLOUD\SV\DOC\BIG_DATA\Kukulska-Hulme_et_al-2018-British_Joi

Figure 1. Results of searching for PDF papers in the table with 532183 rows

Schema of the teacher's personal IT infrastructure showing how Wpad-tablets are **directly connected by links or off-line paths** between the teacher's computer and the Internet and web-services and environment (e.g. with the university information system AIS)

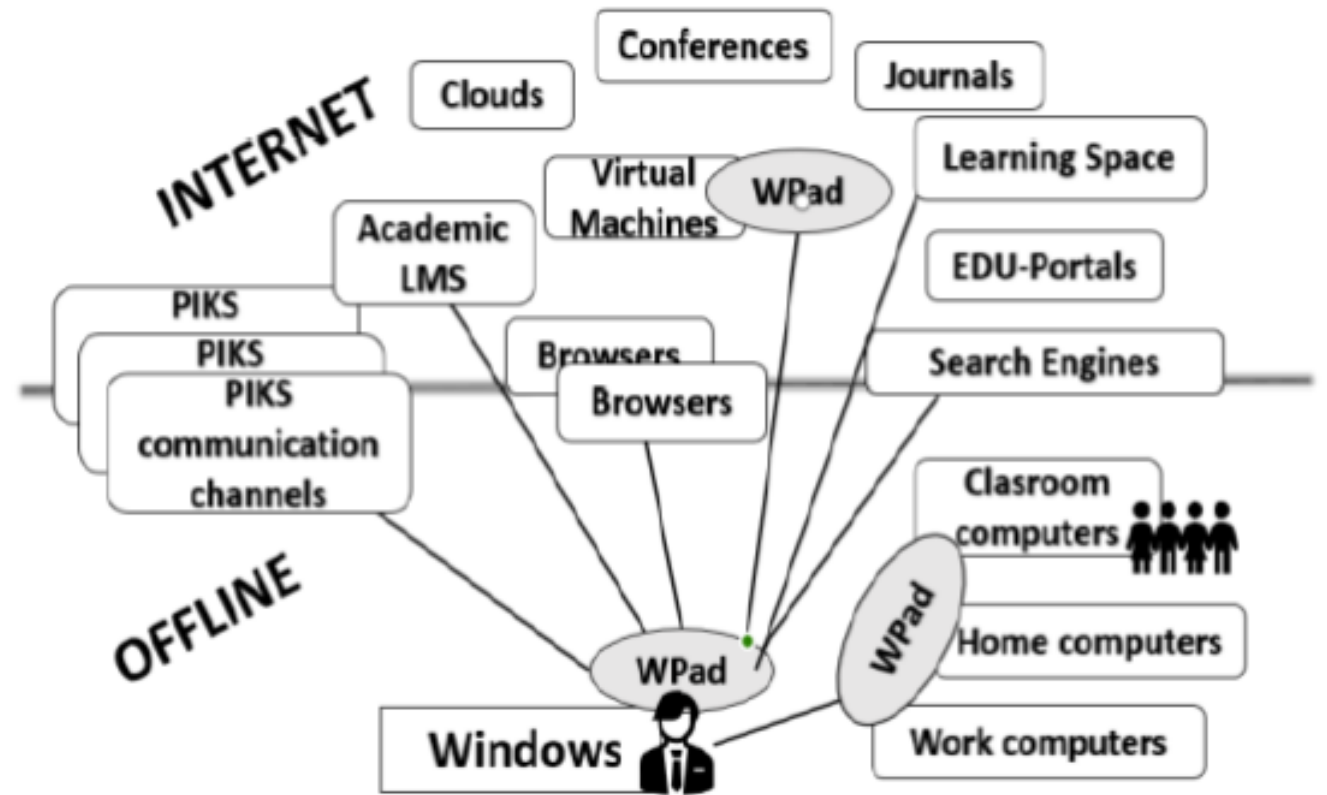


Figure 2. Personal TEL infrastructure for teachers

TEL Design for Publishing Support

ALGORITHM

- choosing the right conference or conferences;
- reviewing the requirements for authors;
- submitting an abstract or extended abstract;
- submitting a paper for review;
- having a native speaker of the language the paper is written in proofread the paper;
- editing the paper according to the reviewers' requirements;
- submitting the final version (camera ready) of the paper;
- registration and payment;
- creating a video presentation for a virtual conference;
- communicating with the organizers throughout the process via emails, automated emails, and online paper submission systems.

RESOURCES

- educational internet and e-learning portals;
- university information systems for publishing;
- a teacher's folders and files on his own computers;
- archived papers on clouds used by teachers;
- online repositories with scientific literature;
- the teacher's own knowledge base (e.g., WPad tables);
- internet search using search engines;
- many other e-media sources (USB drives, CD-ROMs, DVDs);
- archived e-mail communication.

Documents opened by clicking
on row number [1]-[8]

Design of All-In-One Technology-Enhanced Learning
Software for Supporting Teachers' Personal Activities

Stefan Svetsky, Oliver Moravcik
Slovak University of Technology in Bratislava
Vazovova 5, Bratislava, Slovakia
stefan.svetsky, oliver.moravcik@stuba.sk



CECIIS_logo_osnovni.PNG.png

PROJECT	ACTIVITY	DATE	TIME
TOUCH	Project pitch	22.09.2022	10:30-10:45
OPENING	Project pitch	22.09.2022	10:45-10:50
DOPELJUN	Project pitch	22.09.2022	10:40-10:45
Community Action for Cleaner Air (COMAIR)	Project pitch	22.09.2022	10:45-10:50
Innovation and Entrepreneurship in the Domain of Digital Transformation, Circular Economy and Sustainable Development (COMET-EDS)	Project pitch	22.09.2022	10:50-10:55
uVerOpt - Software Quality Assurance for Microservice Development Operations Engineering	Project pitch	22.09.2022	10:55-11:00
Mariposte u repetitivnom strukturnom vlog medu u ekonomskom i HAPPE algoritma gerama Sropta i vlog animata HODVAB	Project pitch	22.09.2022	11:00-11:05
Safe and Trustful Human Centric Artificial Intelligence in Future Manufacturing Lines (STAR)	Project pitch	22.09.2022	11:05-11:10
Open-Block: Transparent Assessment for Online Learning in Digital Competent Teachers	Project pitch	22.09.2022	11:10-11:15
LearnSkill: Analysis of the effects of feedback supported by digital monitoring techniques on general competences	Project pitch	22.09.2022	11:15-11:20
VE Educational Academic Portal for Integrating IT into Education (VEA SUPPORT)	Project pitch	22.09.2022	11:20-11:25
Global Platform Endpoints - GPEO	Project pitch	22.09.2022	11:25-11:30

CECIIS 2022_Project pitches schedule.png

Od: Mateo Mojaš <mato.mojas@sdu.hr>
Predmet: RE: CECIIS - accomodation booking
Datum: Štv, 15.Sep 2022 08:43:11
Komu: 'Stefan Svetsky' <stefan.svetsky@stuba.sk>



sri, 14. ruj 2022. i

4 Hotel Palace-Pile
● Prometuje redovno

7 Kantafig-Babin Kuk
● Prometuje redovno

ONLINE
ZDARMA

palubný lístok,

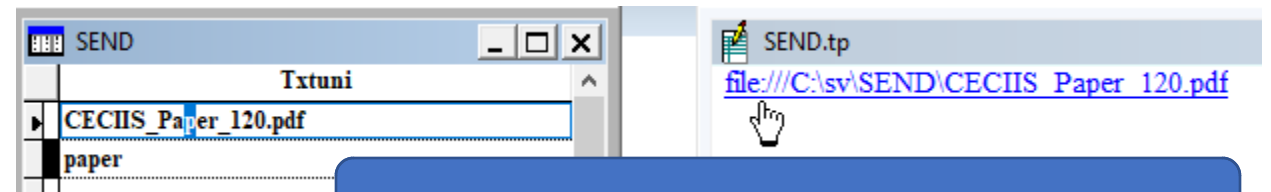
POISTENIE
LETENKY
CELKOVÁ CENA
ZAPLATENÉ

Navigation HTML-Table for CECIIS
conference

[Down] Sv-

Down	Home ==>
SEND	
[1]	CECIIS_Paper_120.pdf
[2]	CECIIS_Konferencia_Prezent
[3]	Ubytovanie_StudentskyCentar
[4]	PetraGRD_mail_ubytovanie.p
[5]	Ubytovanie_autobusbr4.png
[6]	Ubytovanie_autobusbr7.png
[7]	Registracia_nastup_do_lietadl
[8]	CECIIS FakturaPelikan Zme

[1] CECIIS_Paper_120.pdf
[2] CECIIS_Konferencia_Prezentacia_Projektu.pdf
[3] Ubytovanie_StudentskyCentar_Instrukcie.pdf
[4] PetraGRD_mail_ubytovanie.pdf
[5] Ubytovanie_autobusbr4.png
[6] Ubytovanie_autobusbr7.png
[7] Registracia_nastup_do_lietadla.pdf
[8] CECIIS_FakturaPelikan_Zmena_8122054659.pdf
[9] Letenka_Zmena_75EUR.pdf
[10] Ubytovanie_StudentskyCentar.pdf
[11] Objednavka_WEBSUPPORT_VM.pdf
[12] CECIIS_Pelikan_Mail_Instrukcie.pdf



Filtering by F6 – only one row table is result

[1]	Svetsky, 2013-2022, 45/22
[2]	Svetsky, 2018-2022, 18/11
[3]	Svetsky, 2018-2022, 18/11
[4]	Svetsky, 2020-2022, 7/4
[5]	Svetsky, 2005-2020, 114/5
[6]	Goodman screenshots
[7]	Citácie RESEARCH GAT
[8]	Svetsky, MTF.2018-2019

AFC20 SVETSKY, Stefan - MORAVCIK, Oliver - MIKULOWSKI, Dariusz - SHYSHKINA, Mariya P. The ICT Design for Modern Education Technology and Applications. In Proceedings of the Future Technology Conference (FTC) 2020, Volume 3. Francisco, CA, USA. 1. vyd. Cham 281-291. ISBN 978-3-030-63091-1. 10.1007/978-3-030-63092-8_19 2-s2.0-85096503088.

AFC21 SVETSKÝ, Štefan - MORAVČÍK, Oliver -

HTML-table with list of author's
publications created from university library



Design of All-In-One Technology-Enhanced Learning Software for Supporting Teachers' Personal Activities

Thank you for your attention



stefan.svetsky@stuba.sk

Contact



oliver.moracik@stuba.sk

V4 Educational Academic Portal for Integrating IT into Education (V4-EDUPORT)

Problem

Due to the pandemic situation, teacher-student contacts were severely limited. This makes it difficult to prepare **undergraduates**, who come to university with weaker knowledge, and to teach **graduates** and **postgraduates** because of the lack of contact with their teachers and supervisors.

Opportunity

In a university setting, self-study is typical. This creates great opportunities for integrating IT into teaching in virtual online learning environments. In practice, however, there is **only generic software** and **a lack of IT tools** to create personal information and learning systems.

Our solution

The V4 EDUPORT project aims to **combine the knowledge of academic entities of the V4 countries** to create a **working educational portal**, its own IT software and shared infrastructure for the **mass creation of educational packages and multilingual content** for this portal in blocks EDU-TUTOR, EDUPACKAGES and EDU-IT (part of EDUPORT is public, part is dedicated to partners).

**Slovak university of
Technology in Bratislava**

Wydział Nauk Ścisłych
Uniwersytet Przyrodniczo-
Humanistyczny w Siedlcach

Bejczy Antal
iRobottechnikai Központ,
Óbuda University
Budapest

**University of
Ostrava**

WPad software is **NoSQL** and **no relational database system, no xml** although it is a **database application** – for creating a personal or department information or knowledge system for offline and Virtual machine - only Windows is required for basic level, no webmaster, only basic informatic skills, personal user friendly

PIKS channels – online application (PHP/MySQL) of Personal Information and Kommunikation System

V4 EDUPORT project IT infrastructure

(it enables mass processing of big educational data by individual users)

