

Medical Faculties Network

Three fundamental principles of the platform for sharing digital educational content among medical faculties in the MEFANET network

Schwarz D., Komenda M., Šnajdrová L., Dušek L., Majerník J., Mihál V. Štípek S.



INVESTMENTS IN EDUCATION DEVELOPMENT

Outline

1. **Why MEFANET?**
2. **The common portal platform in the MEFANET project**
 - three fundamental elements
 - central gateway
3. **Introduction of the new 4-D model for digital contents quality assessment**
4. **Discussion**

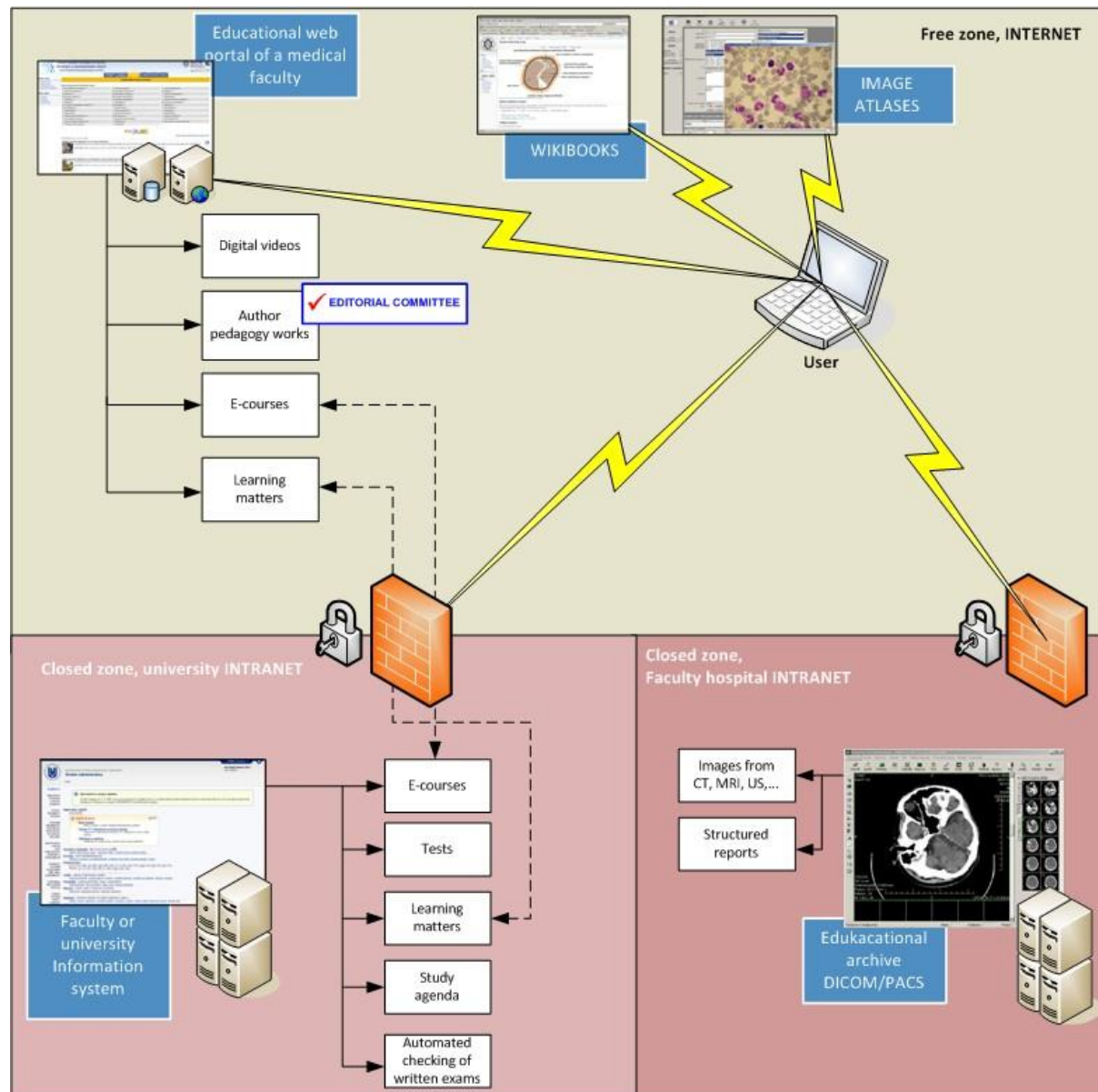
Why MEFANET?

REASONS & MOTIVATION

- to develop and to strengthen the cooperation among Czech and Slovak medical faculties
- to support a progress in education of medical and health care disciplines using modern ICT.
- to facilitate the cooperation among teams from different schools,
- to ensure a horizontal accessibility of electronic teaching and learning tools for both teachers and students.
- **to share educational resources**
- Czechs and Slovaks are traditional academic partners with similar languages.



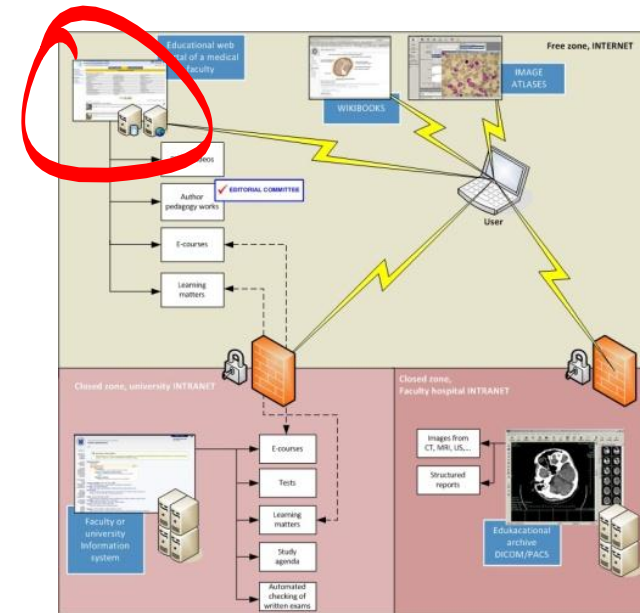
Educational web portal at a medical faculty



Educational web portal at a medical faculty


PURPOSE & OBJECTIVES

- to help academic staff members with publishing their educational works
- to help authors of multimedia teaching and learning tools to communicate with users of these tools,
- to help people involved in the lifelong learning of physicians and health care professionals,
- to help students of medicine and health care disciplines with navigating through various tools for electronic support of their education.



Educational web portal at a medical faculty

**Multimedia support in the education
of clinical and health care disciplines**
Portal of Masaryk University's Faculty of Medicine



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Czech version

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Contents classified by medical disciplines


Anaesthesiology and Intensive Care Medicine (0)	General Practice Medicine (0)	Medical Informatics (3)	Paediatrics, Neonatology (3)
Anatomy (3)	Genetics (1)	Microbiology (0)	Pathology and Forensic Medicine (7)
Biology (1)	Geriatrics (0)	Nephrology (0)	Pharmacology (1)
Biophysics (0)	Haematology (0)	Neurology (0)	Physiology and Pathophysiology (3)
Cardiology, Angiology (1)	Health Care and Nursing (0)	Neurosurgery (0)	Psychiatry, Psychology, Sexology (1)
Dentistry (0)	Histology, Embryology (0)	Nuclear Medicine (0)	Public Health Care, Social Medicine (0)
Dermatology (1)	Immunology, Allergology (0)	Obstetrics, Gynaecology (2)	Radiology and Imaging (0)
Diabetology, Dietetics (0)	Infectology (0)	Occupational Medicine and Toxicology (0)	Rehabilitation, Physiotherapy, Occupational

- ~~Central learning management system LMS~~
- E-publishing system



The insertion of a tension-free vaginal tape (TVT) under the urethra has become the golden standard in the treatment of stress urinary incontinence in women.


author: [MUDr. Atanas-Ivan Belkov](#), MUDr. Martin Huser, Jaroslav Winkler | discipline: [Obstetrics, Gynaecology, Urology](#) | published on: 22.1.2010 | last modified on: 9.4.2010



with informations about the embryology, clinical anatomy and physiology, investigations practice by the ORL diseases for study of otorhinolaryngology. Text is divided in chapters for the preparing for examination in otorhinolaryngology.

author: [prof. MUDr. Ivo Šlapák, CSc.](#), MUDr. Dalibor Janeček, Ph.D., MUDr. Lukáš Lavička a kol. | discipline: [Otorhinolaryngology, Paediatrics, Neonatology](#) | published on: 15.4.2009 | last modified on: 15.4.2009


Isolated heart perfused according to Legendorff



The tutorial film "Isolated heart perfused according to Legendorff"

author: [Kateřina Fialová](#), MUDr. Marie Nováková, Ph.D | discipline: [Physiology and Pathophysiology, Cardiology, Angiology](#) | published on: 4.11.2009 | last modified on:


Practicals in Pharmacology



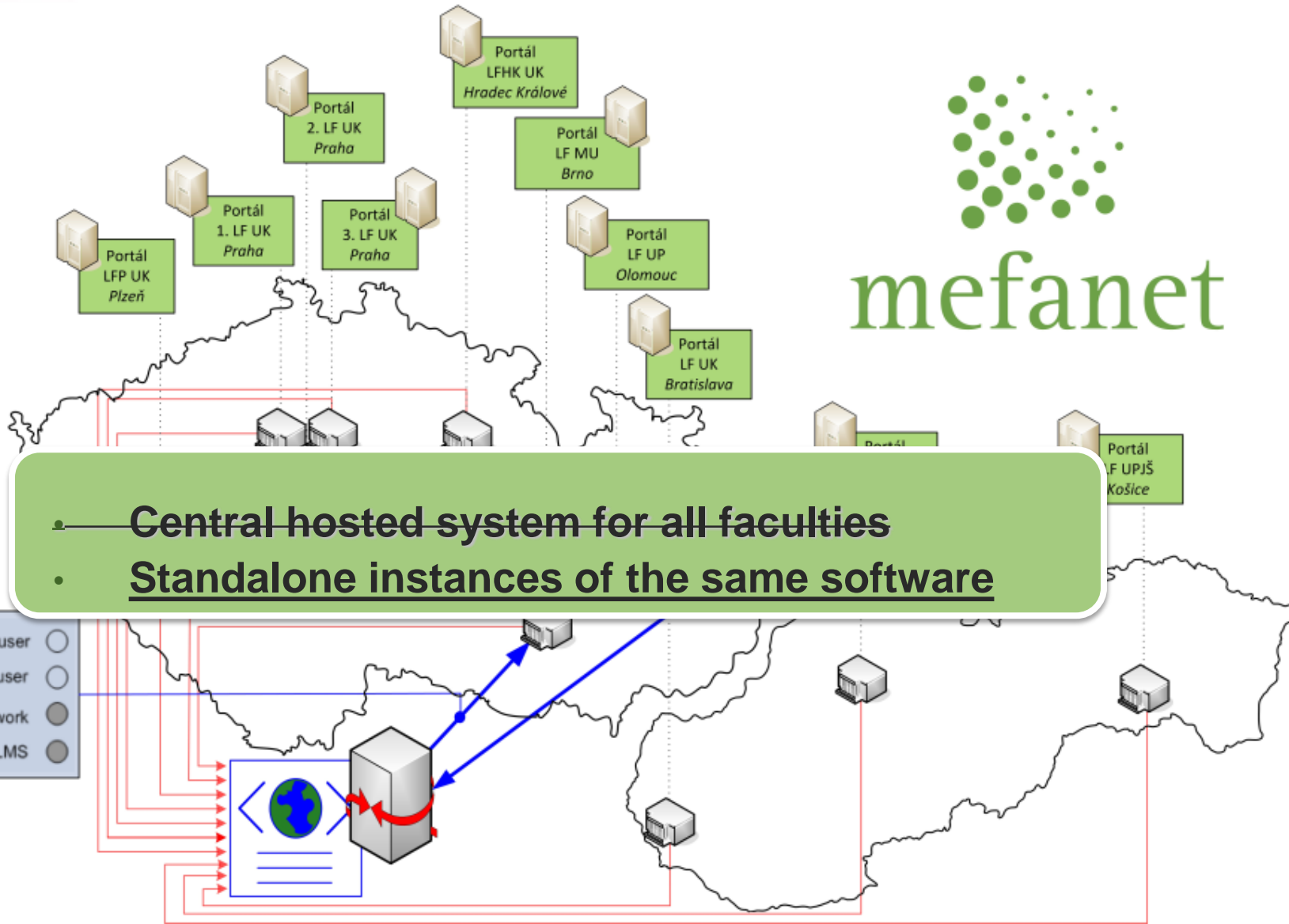
The text provides an introduction to general principles and rules for prescription of drugs in various pharmaceutical dosage forms with examples of individually prepared preparation prescriptions in dermatology, otorhinolaryngology, surgery, ophthalmology and for treatments of the CNS, respiratory and digestive systems disorders. There is also an introduction to phytopharmacotherapy and a chapter dealing with information on principles and ethics in experimental

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E-publishing system

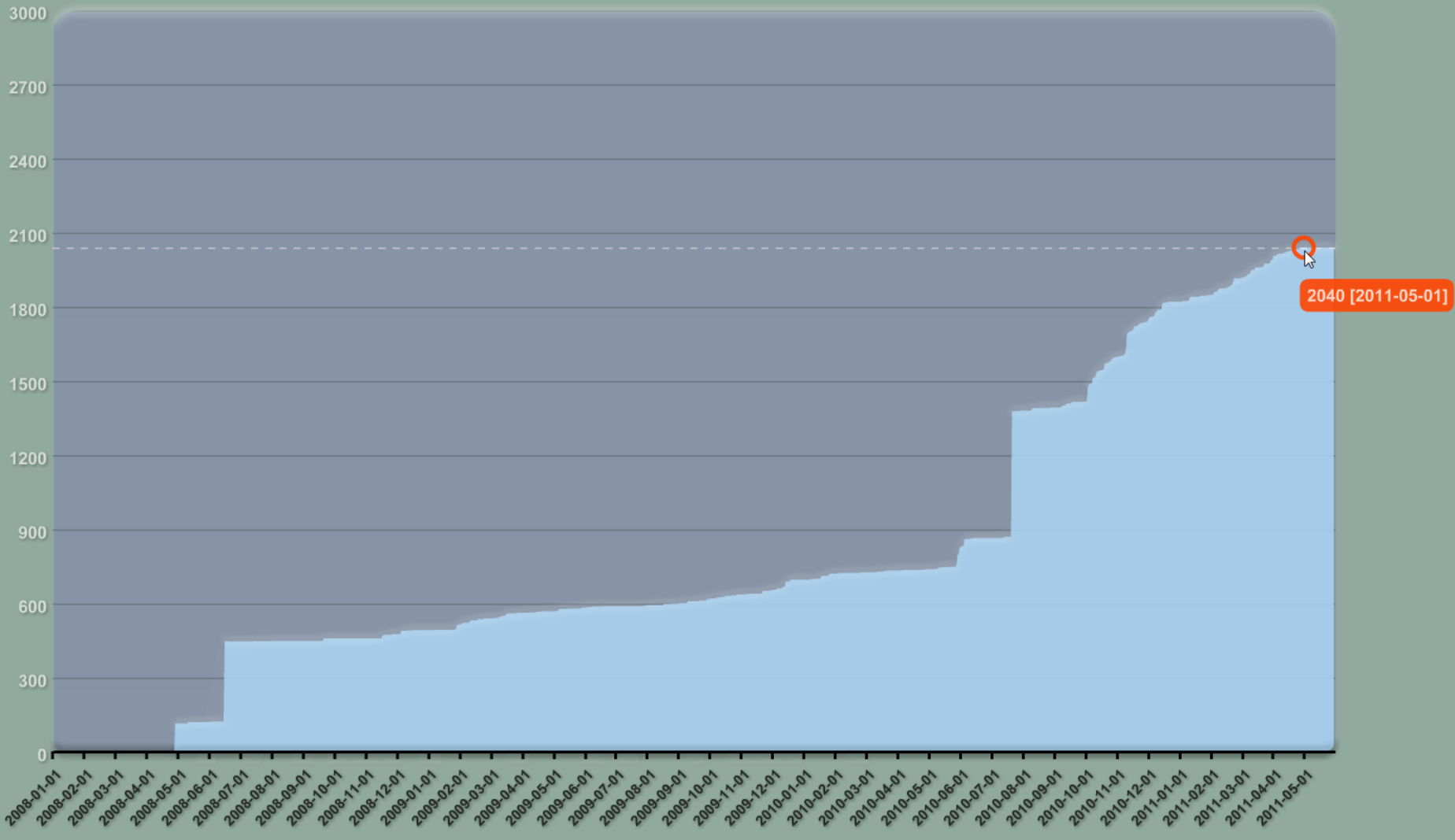


- Central hosted system for all faculties
- Standalone instances of the same software

MEdical FAculties NETwork



Shared contributions on the central gateway



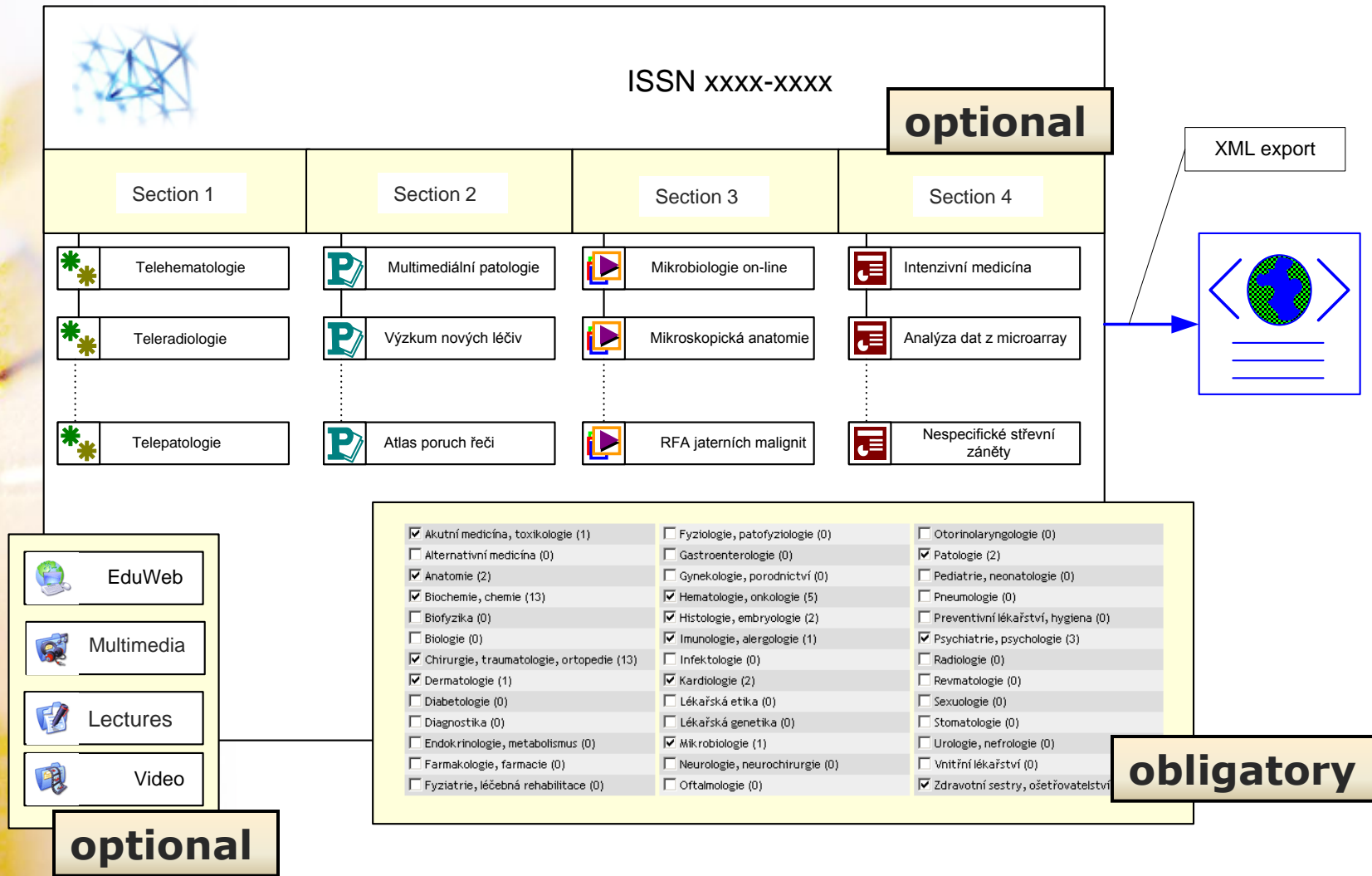
Fundamental elements of the web portal platform

1. Medical disciplines linker

2. Authentication / authorization framework

3. Digital contents quality assessment

The medical disciplines linker



The medical disciplines linker

<input type="checkbox"/> Anaesthesiology and Intensive Care Medicine (0)	<input type="checkbox"/> General Practice Medicine (0)	<input checked="" type="checkbox"/> <u>Medical Informatics</u> (7)	<input checked="" type="checkbox"/> <u>Paediatrics, Neonatology</u> (27)
<input checked="" type="checkbox"/> <u>Anatomy</u> (24)	<input checked="" type="checkbox"/> <u>Genetics</u> (3)	<input checked="" type="checkbox"/> <u>Microbiology</u> (10)	<input checked="" type="checkbox"/> <u>Pathology and Forensic Medicine</u> (8)
<input checked="" type="checkbox"/> <u>Biology</u> (1)	<input type="checkbox"/> Geriatrics (0)	<input type="checkbox"/> Nephrology (0)	<input checked="" type="checkbox"/> <u>Pharmacology</u> (3)
<input checked="" type="checkbox"/> <u>Biophysics</u> (19)	<input checked="" type="checkbox"/> <u>Haematology</u> (7)	<input checked="" type="checkbox"/> <u>Neurology</u> (7)	<input checked="" type="checkbox"/> <u>Physiology and Pathophysiology</u> (63)
<input checked="" type="checkbox"/> <u>Cardiology, Angiology</u> (5)	<input type="checkbox"/> Health Care and Nursing (0)	<input type="checkbox"/> Neurosurgery (0)	<input checked="" type="checkbox"/> <u>Psychiatry, Psychology, Sexology</u> (4)
<input checked="" type="checkbox"/> <u>Dentistry</u> (19)	<input checked="" type="checkbox"/> <u>Histology, Embryology</u> (32)	<input checked="" type="checkbox"/> <u>Nuclear Medicine</u> (1)	<input checked="" type="checkbox"/> <u>Public Health Care, Social Medicine</u> (10)
<input checked="" type="checkbox"/> <u>Dermatology</u> (5)	<input checked="" type="checkbox"/> <u>Immunology, Allergology</u> (3)	<input checked="" type="checkbox"/> <u>Obstetrics, Gynaecology</u> (3)	<input checked="" type="checkbox"/> <u>Radiology and Imaging</u> (12)
<input type="checkbox"/> Diabetology, Dietetics (0)	<input checked="" type="checkbox"/> <u>Infectology</u> (2)	<input type="checkbox"/> Occupational Medicine and Toxicology (0)	<input checked="" type="checkbox"/> <u>Rehabilitation, Physiotherapy, Ergotherapy</u> (6)
<input checked="" type="checkbox"/> <u>Emergency Medicine</u> (2)	<input type="checkbox"/> Internal Medicine (0)	<input checked="" type="checkbox"/> <u>Oncology, Radiation Therapy</u> (15)	<input type="checkbox"/> Respiratory Medicine (0)
<input type="checkbox"/> Endocrinology, Metabolism (0)	<input type="checkbox"/> Laboratory Diagnostics (0)	<input checked="" type="checkbox"/> <u>Ophthalmology and Optometry</u> (5)	<input type="checkbox"/> Rheumatology (0)
<input checked="" type="checkbox"/> <u>Epidemiology, Preventive Medicine, Hygiene</u> (8)	<input checked="" type="checkbox"/> <u>Medical Ethics and Law</u> (1)	<input type="checkbox"/> Other (0)	<input checked="" type="checkbox"/> <u>Surgery, Traumatology and Orthopaedics</u> (22)
<input checked="" type="checkbox"/> <u>Gastroenterology and Hepatology</u> (9)	<input checked="" type="checkbox"/> <u>Medical Chemistry and Biochemistry</u> (113)	<input checked="" type="checkbox"/> <u>Otorhinolaryngology</u> (1)	<input checked="" type="checkbox"/> <u>Urology</u> (4)

The only obligatory structure common to all portal instances.

Fundamental elements of the web portal platform

1. Medical disciplines linker

2. Authentication / authorization framework

3. Digital contents quality assessment

Authentication / authorization framework

User roles

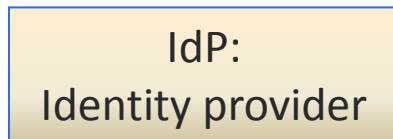
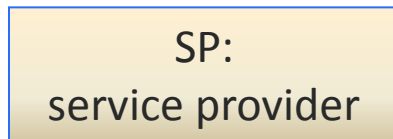
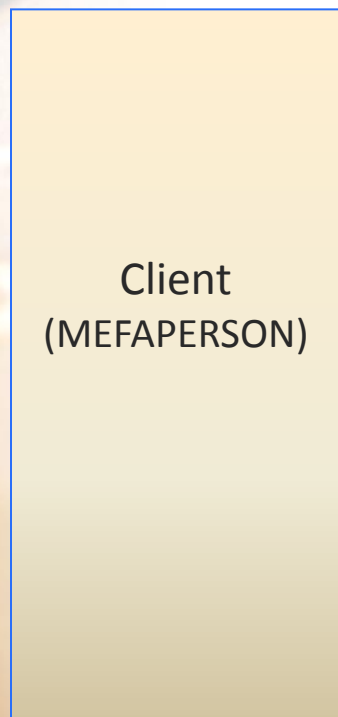


Authors of the educational contents (published attachments) can choose from the following user groups, in order to permit/deny access to their materials:

- non-registered anonymous user,
- registered anonymous user, who accepts the terms of use
- **user of MEFANET network, i.e. student or teacher from any Czech or Slovak medical faculty,**
- user of local university
- user of local medical faculty
- user to whom attachments are made available only on the author's explicit consent.

Authentication / authorization framework

Czech academic identity federation

The Shibboleth logo, which consists of a stylized orange and red dragon-like creature on the left and the word "Shibboleth." in an orange, sans-serif font on the right.

Federative single-sign-on authentication framework which allows to share web resources among institutions.

Fundamental elements of the web portal platform

1. Medical disciplines linker

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3. Digital contents quality assessment

Digital content quality evaluation before and today

Two different approaches to quality assessment until 11/2010:

1) OPPONENCY ACTION



2) GUARANTEE SIGNATURES



- Accept
- Reject
- Undefined state

4-D model for digital contents quality assessment

One common general solution for quality assessment from Nov 2010 (ver. 1.8).

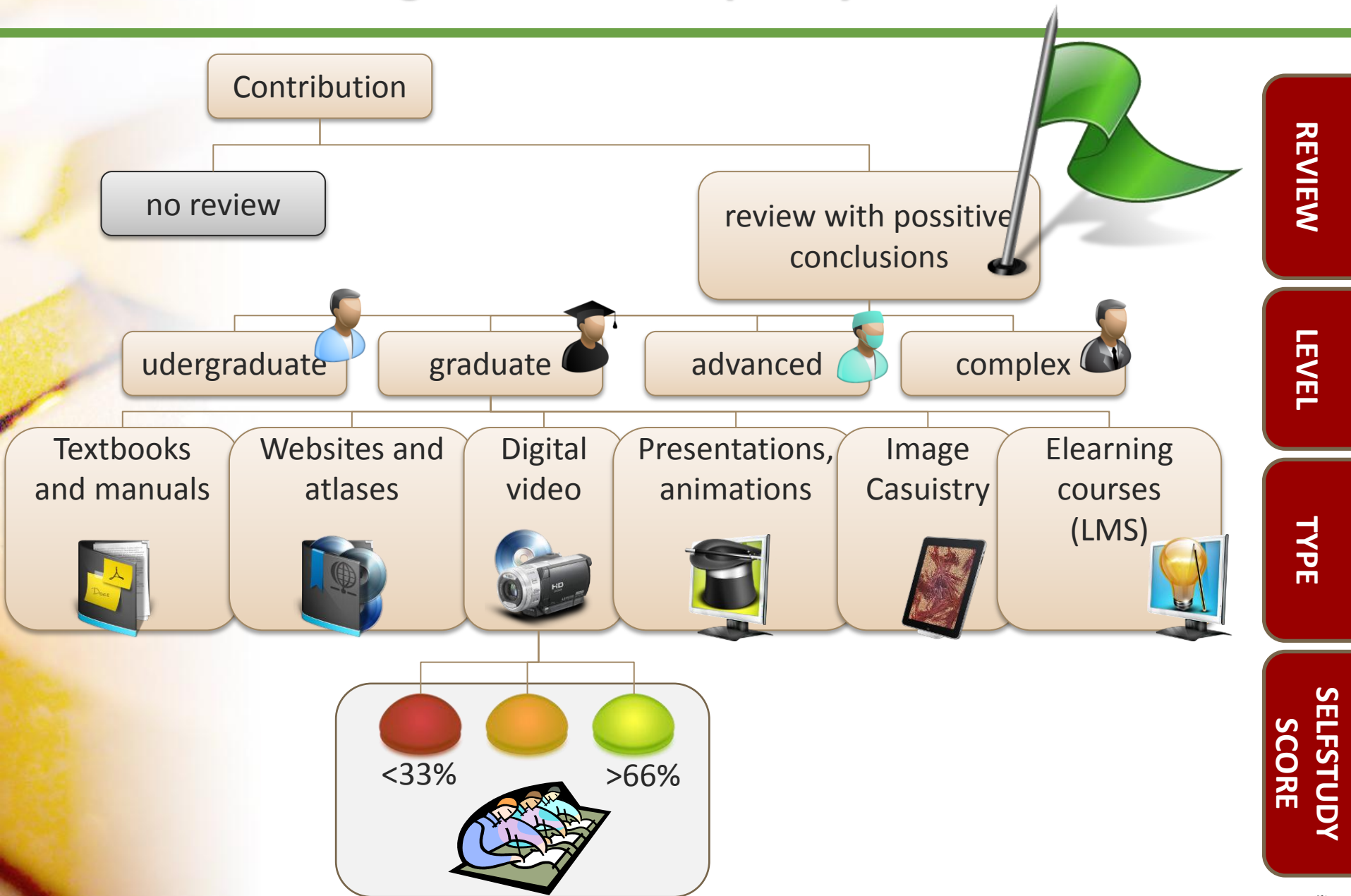
REVIEW

LEVEL

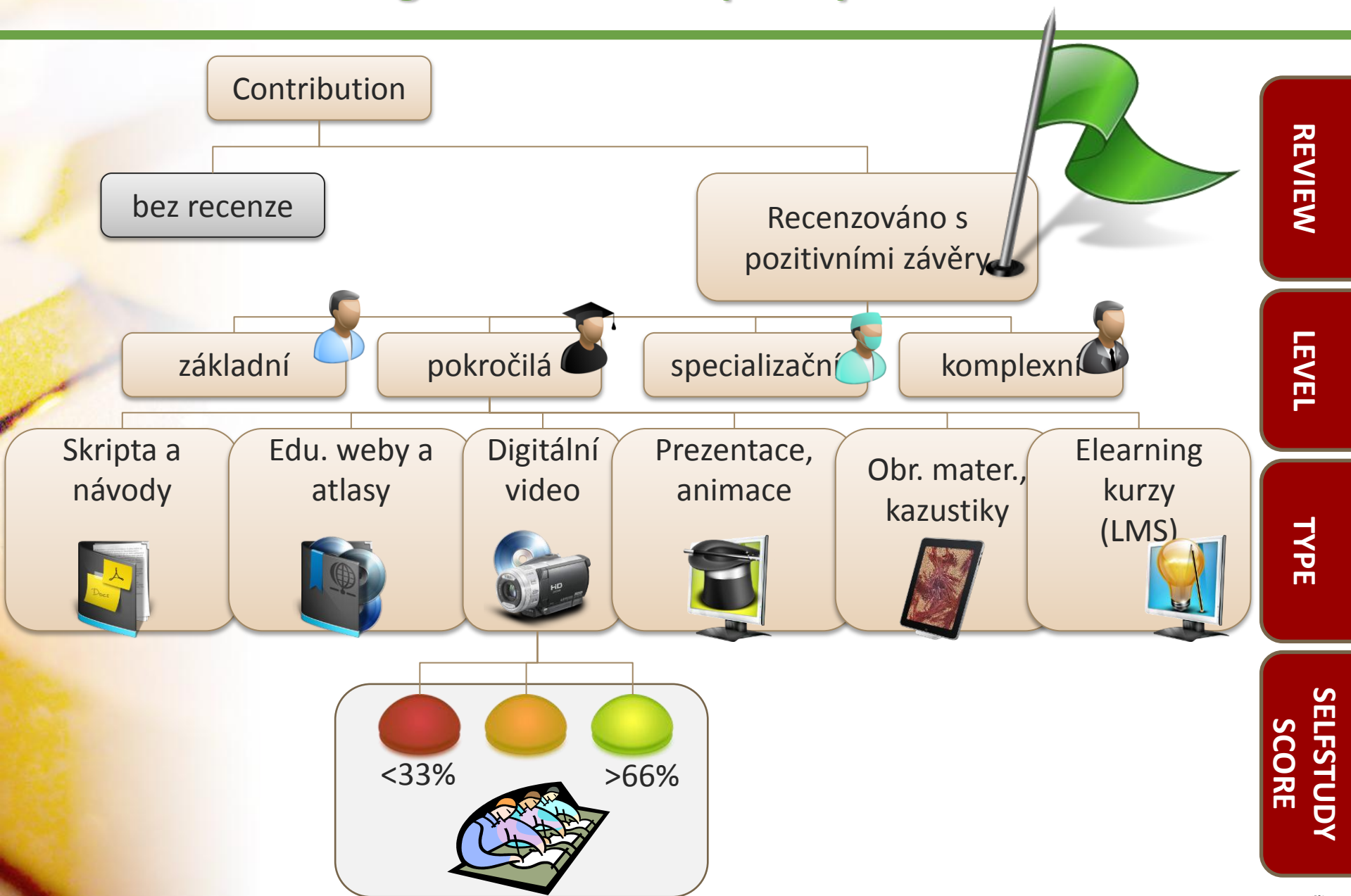
TYPE

SELFSTUDY
SCORE

4-D model for digital contents quality assessment



4-D model for digital contents quality assessment

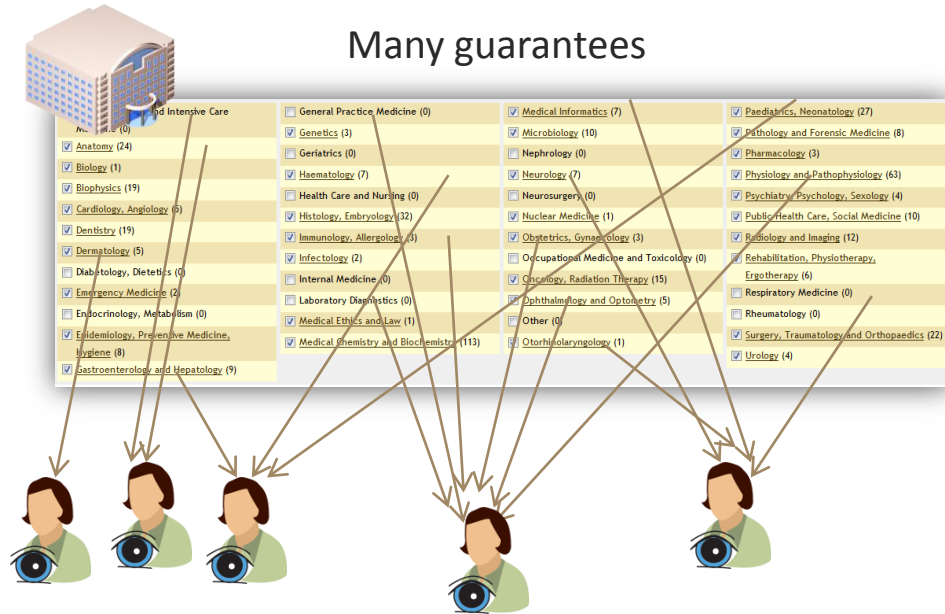


Guarantees, reviewers, authors

One guarantee



Many guarantees

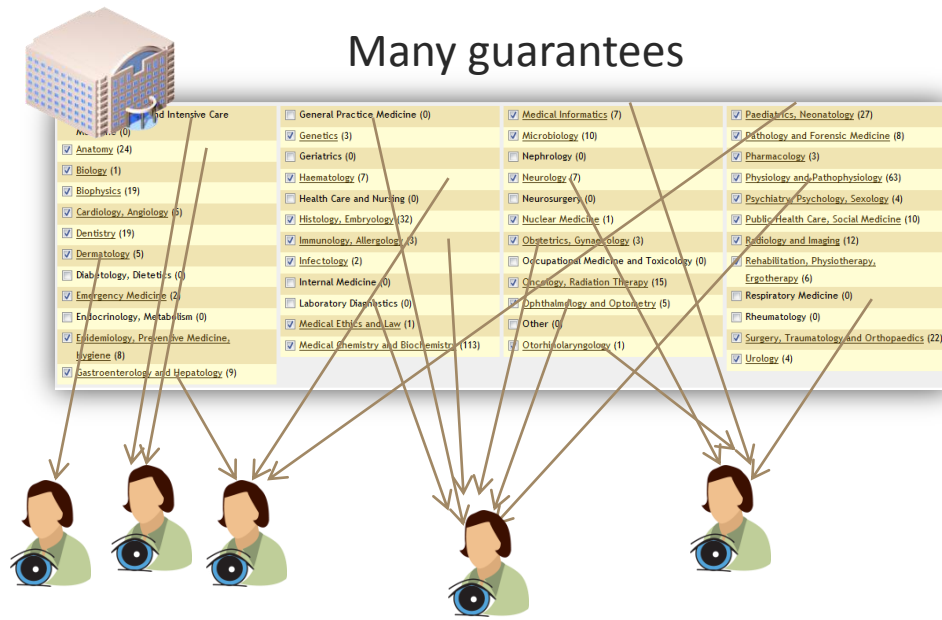


Guarantees, reviewers, authors

One guarantee

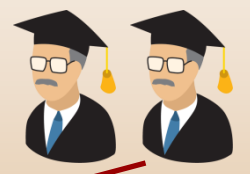


Many guarantees



Contribution, author

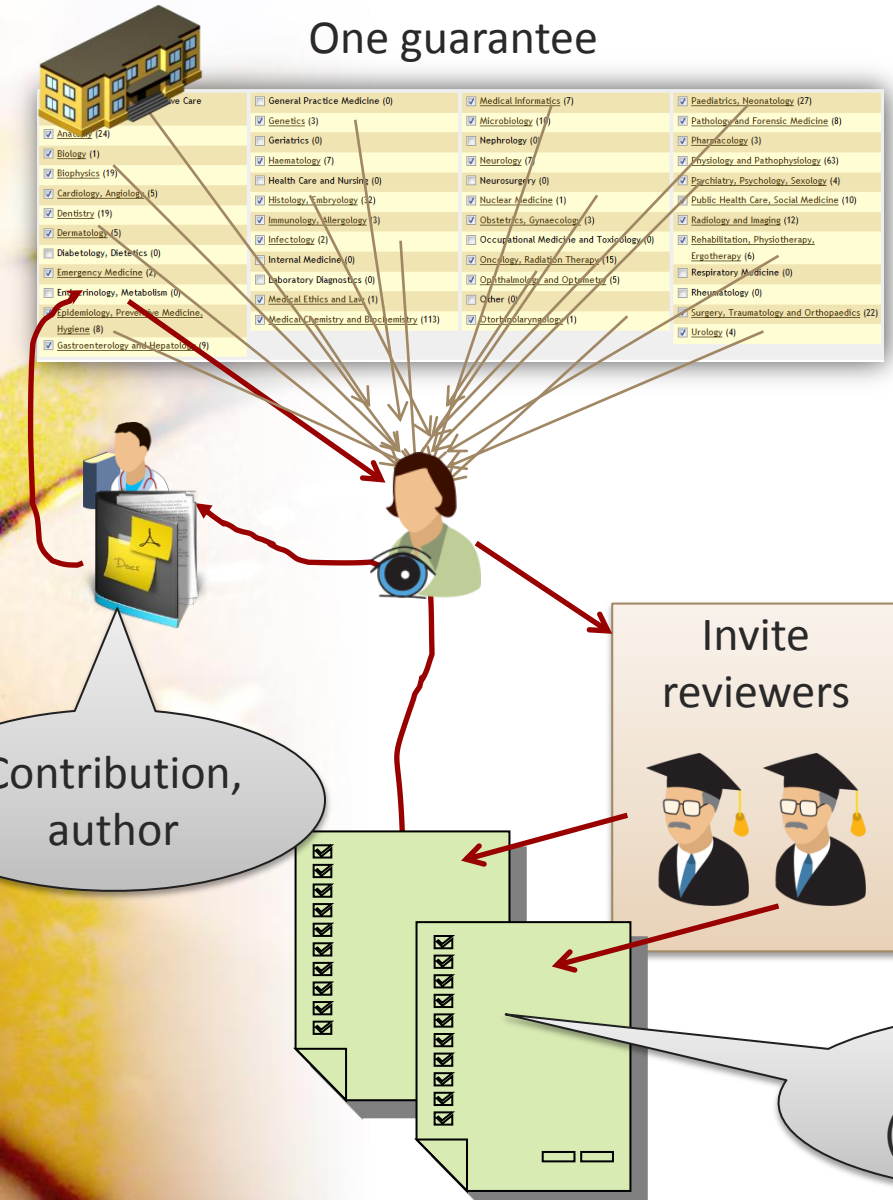
Invite reviewers



Reviews (XML template)

Guarantees, reviewers, authors

One guarantee



Editorial processes:

- Guarantee does not check the contents.
- Guarantee selects suitable reviewers.
- Guarantee creates reviewers' accounts.
- Reviewers fill a structured review-forms based on XML-template.
- Guarantee checks that required corrections have been made by authors.
- Guarantee provides the final conclusion.
- Everything is in the backoffice.

Implementation details

Multimedia support in the education of clinical and health care disciplines
Portal of Masaryk University's Faculty of Medicine

mefanet  RITM  MU IBA 

Educational works | Multimedia | Elearning | For authors

Isolated heart perfused according to Langendorff

The tutorial film "Isolated heart perfused according to Langendorff"



The tutorial film "Isolated heart perfused according to Langendorff" presents the basic methodologies used in experimental cardiology, which involve isolated hearts perfused according to Langendorff. It covers up-to-date trends in experimental cardiology. The film may be used at medical faculties and related schools. This instructional material has been created under the support of the University Development Fund of the Ministry of Education, Youth and Sports of the Czech Republic, project no. G3 1271/2008. This show is shortened version of 29-min movie.

Link	Date	Availability [?]	Clinically sensitive [?]	Licence
 The tutorial film "Isolated heart perfused according to Langendorff"	4.11.2009	anyone	-	

Keywords: [Physiology](#), [Experimental cardiology](#), [Isolated heart](#), [Animal experiments](#), [Langendorff](#)

Discipline:

- [Physiology and Pathophysiology](#)
- [Cardiology, Angiology](#)

4-D quality assessment:

type	level	unreviewed
 Textbooks and manuals  Educational websites and atlases  Digital video  Presentations and animations  Casuistics in images  Elearning courses (LMS)	 Undergraduate level  Graduate  Advanced Graduated  Complex	Unreviewed 70.0 % uživatelské hodnocení* hodnotit*

Article content is subject to licence Creative Commons [Uved'te autora-Neužívejte dílo komerčně-Nezasahujte do díla Attribution 3.0 Czech Republic](#)

author: [Kateřina Fialová](#), MUDr. Marie Nováková, Ph.D | pracoviště: [Department of Physiology](#) | published on: 4.11.2009 | last modified on: 4.11.2009
 citation: Fialová Kateřina, MUDr. Marie Nováková, Ph.D: Isolated heart perfused according to Langendorff. Multimedia support in the education of clinical and health care

metadata:
description

links,
attachements

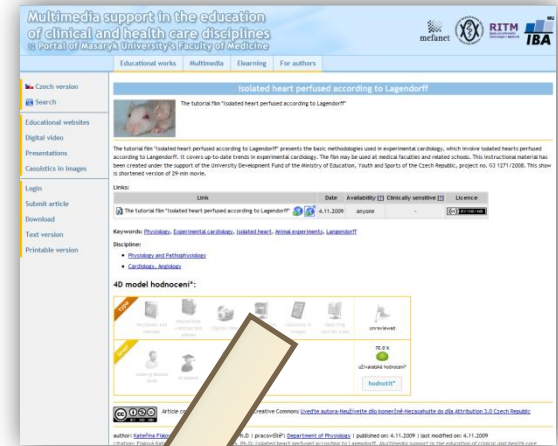
metadata:
keywords,
disciplines

4-D quality
assessment
visualization

licence,
authors

4-D quality assessment visualization

Export to the central gateway is subject to application of the 4-D quality assessment!



type							reviewed 70.0 % selfstudy score RATE IT
	Textbooks and manuals	Educational websites and atlases	Digital video	Presentations and animations	Casuistics in	Elearning	
level					Names and affiliations of the reviewers.		
	Undergraduate	Graduate	Advanced Graduated	Complex			

Future vision: WITH A TUTOR!

4-D quality assessment implementation

Invite tutors from expert medical societies



Paranoic schizophrenia



General and special psychiatry



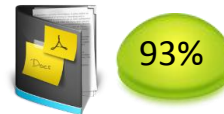
Paranoic schizophrenia



Eating disorders



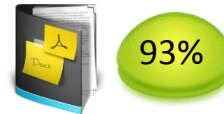
General and special psychiatry



Imaging methods



General and special psychiatry



Psychiatry with a tutor!



Thanks to...



WEB STUDIO IBA MU

Ivo Šnábl
Radim Šustr
Martin Komenda
Jakub Gregor
Lenka Šnajdrová

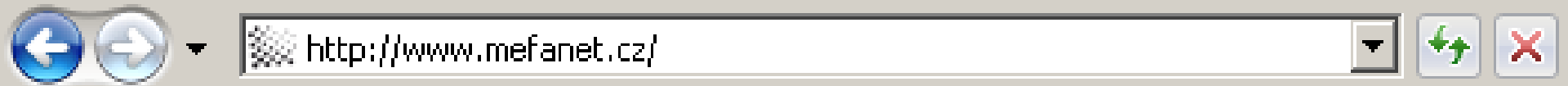


PORTAL ADMINISTRATORS

... for cooperation and patience



END / SCHLUSS / FIN / KONEC



Questions, remarks, suggestions, complaints....

schwarz@iba.muni.cz

"Newer technologies such as computers and video conferencing are not necessarily better (or worse) for teaching or learning than older technologies . . . they are just different . . . The choice of technology should be driven by the needs of the learners and the context in which we are working, not by its novelty."

Bates AW. *Technology, open learning and distance education*.
London: Routledge, 1995