



2018-1-SK01-KA203-046318

## **O3**

### **Implementation of standard-compliant curriculum management system**

by BCIME team



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## Intellectual Output Description

Output Identification	O3
Output Title	Implementation of standard-compliant curriculum management system
Output Description (including: elements of innovation, expected impact and transferability potential)	This output covers the curriculum management system extension and improvement (new features and modules design, development, prototyping, testing and deployment) based on the needs analysis results. The final instance will be fully in accordance with international standards (core system modules) and moreover it will cover all local requirements for curriculum innovation process on particular partner institution (extended system modules and features).
Output Type	Services / structures – Database development
Please describe the division of work, the tasks leading to the production of the intellectual output and the applied methodology	There are following tasks and roles of each partner's institution: *** UPJS - Development consultant (especially domain of user interface and user experience). Delivery of ICT platform recommendations for MEFANET. *** JU - Development consultant (especially domain of international standards). User testing provider. *** UMF - Development consultant (especially domain of methodological and pedagogical background). *** UAU - Development consultant (especially domain of methodological and pedagogical background). *** MU - Development leader. Existing curriculum management infrastructure and know-how provider. Development software tools provider. Establishment of the communication node for involved stakeholders (MEFANET, MedBiquitous).
Start Date	01-04-2019
End Date	31-05-2020
Languages	Czech English German Polish Romanian Slovak
Media(s)	Software Publications
Activity Leading Organisation	Masarykova univerzita
Participating Organisations	UNIVERZITA PAVLA JOZEFA SAFARIKA V KOSICIACH UNIVERSITAET AUGSBURG UNIwersytet Jagiellonski UNIVERSITATEA DE MEDICINA SI FARMACIE GRIGORE T.POPA IASI

## 1. Introduction

This output covers the development and implementation of BCIME project's EDUportfolio – a curriculum management system, including its extensions and improvements (new features and modules design, development, prototyping, testing and deployment) based on the needs analysis results (described in IO1). The final instances of the system were implemented for all partner institutions with the aim to be in full compliance with known and identified international standards (a part of BCIME project outputs summarised in IO2) describing medical and healthcare study programmes (core and dedicated system modules). Moreover, the BCIME development team took in to account all local requirements for curriculum innovation process specified by particular partner institutions when designing and developing the web-based system dedicated to curriculum development, mapping and overview (extended system modules and features).

## 2. Curriculum management platform

### 2.1 Design and structure

The EDUportfolio platform, designed at the current stage, represents a completely new solution and was developed under direction of MU, which is the leading organisation of this intellectual output. All the partner institutions participated in the process of implementation by their contributions to both the technical and methodical aspects. One platform for all universities is used, as the BCIME project partners agreed it is more effective compared to the operation of several independent platforms, where the inter-institutional analysis and comparisons of curricula will require external modules and/or systems. In addition, the localizations for all partner languages were developed and implemented.

The entire system is based on the curriculum description, which makes it possible to define particular teaching blocks in a parametric and thus structured way (e.g. for study program, medical discipline, course, learning unit, learning outcome) in accordance with international standards provided by the MedBiquitous association<sup>1</sup>.

The EDUportfolio is the web-based application built on the modern PHP Symfony 4.4 framework together with the Twig template engine and the Doctrine ORM library for object mapping. In terms of databases, the PostgreSQL open-source object-relational database system was used. Yarn was used to manage dependencies on the frontend, and Composer was used to manage backend dependencies for third-party libraries. The Zurb Foundation framework, using the jQuery library, was used to develop a responsive frontend. The asset administration is dealt by the webpack's derivate so-called webpack-encore, which comes with the Symfony. Various JavaScript libraries were used for the purposes of individual modules, such as d3.js, NVD3 and Datatables (interactive visualisations of data), or select2.js, sweetalert2.js, jstree.js and featherlight.js (improvements in user experience) [1].

EDUportfolio platform is based on the proven methodology, which follows curriculum designers during a complicated process of definition of learning outcomes and learning units devoted to particular

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<sup>1</sup> <https://www.medbiq.org/>

courses. EDUportfolio uses several descriptive attributes to specify curriculum in a structured form suitable for data processing (Tab. 1).

**Tab. 1 Descriptive attributes used in EDUportfolio.**

Parameters	Description
Category	Program-level, Competency-level, Sequence block-level
Assessment form	Form of assessment of students' knowledge and skills
Duration of teaching	In teaching hours
Type of teaching	E.g. lecture, seminar, clinical practice, self-study, etc.
Importance	Initial brief explanation (why a building block occurs, what is its relevance and/or how it contributes to the learning outcomes)
Description	Short summary of a building block along with educational goals and instructional description
Keywords	Free text based on standardized keyword form
Significant terms	Fundamental topic contained and explained during teaching period in a tree structure
Study materials	Recommended literature or e-learning information source

A complete curriculum consists of individual building blocks that represent basic units for curriculum development. The table 2 summarises main components of curriculum building blocks as it is used in EDUportfolio.

**Tab. 2 Components of curriculum building blocks.**

Components of building block	Content/Value
Study program	Medicine/General medicine (depending on partner country)
Medical and health discipline	Anatomy
Sequence block	Course, Module, Unit, Block, Clerkship
Event	Instructional or Assessment Session
Competence	Learning outcomes, competencies, learning objectives, professional roles, topics, classifications (measurable description of what students are able to demonstrate in terms of knowledge, skills and values)

The challenge of the BCIME project was to perform innovations of curricula in teaching domains formalised with the use of an unambiguous parametric description, and entities adopted from the outcome-based concept. In general, such innovations enhance the transparency and continuity of the environment in which the teachers, guarantors, curriculum designers and faculty management as well as students, work on a daily basis. Here, the fundamental curriculum building blocks can be introduced from the global perspective in a form of entity-relationship data model. The database schema consists of several entities, which are related to each other. For the purposes of the EDUportfolio platform, the following entities are crucial:

- **programme** – information about the whole curriculum with binding to the field, e.g. General Medicine, Faculty of Medicine, Masaryk University. EDUportfolio image entity = curriculum.
- **medical\_discipline** – table with data on medical disciplines. In the case of MU, there are around 44 medical disciplines in General Medicine. EDUportfolio image entity = sequence\_block.
- **course** – information about particular courses with binding to the semester and medical\_discipline. For example, General Medicine has around 138 active courses at MU. EDUportfolio image entity = sequence\_block.
- **unit** – in other words learning units are parts of the courses (course consists of learning units). For example, the curriculum has 1,400+ learning units. EDUportfolio image entity = event.
- **outcome + sentence** – so called learning outcomes are competencies of each student after finishing learning units, courses or whole programme. EDUportfolio image entity = competency\_object.

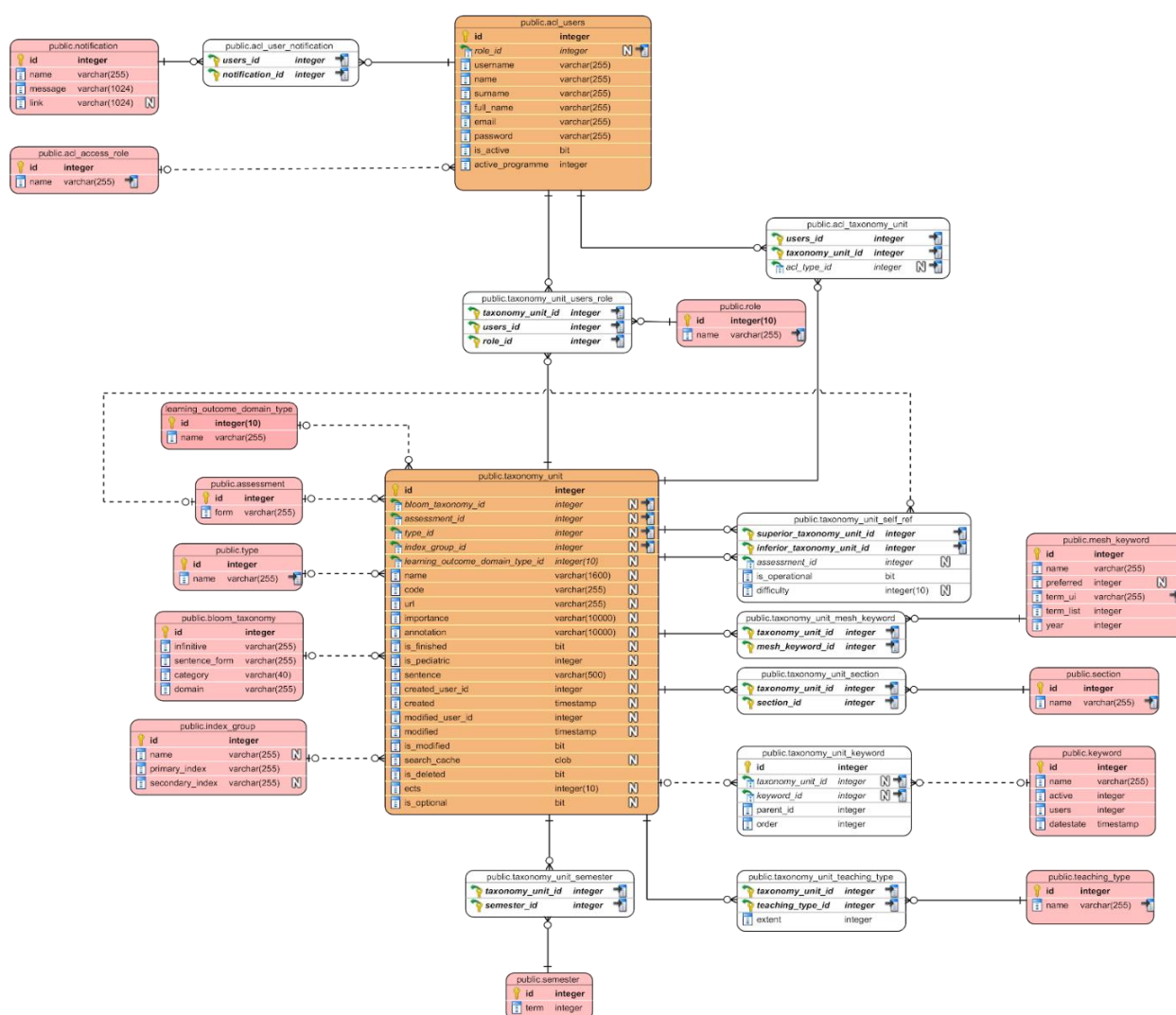
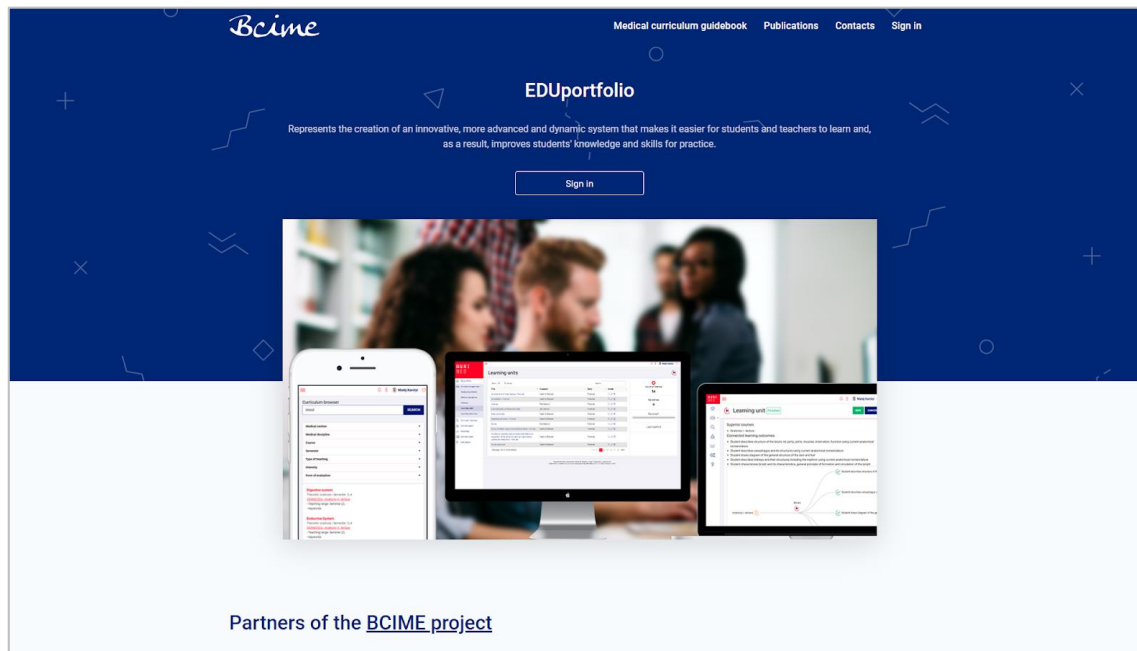


Fig. 1 A database model of the EDUportfolio platform.

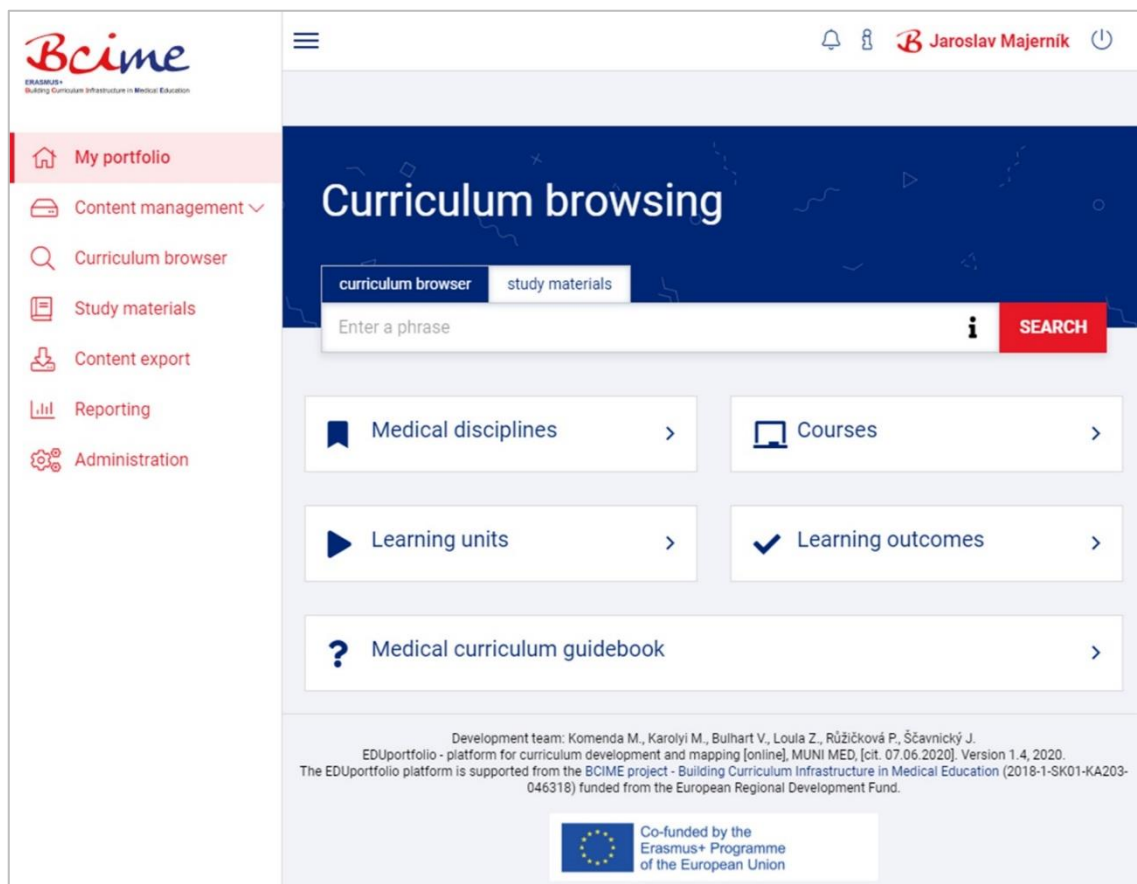
## 2.2 Central platform instance

The central instance of EDUportfolio, localised in English, is available at <https://eduportfolio.iba.muni.cz/>. All partners of the BCIME project use this instance to manage their

curricula of Anatomy. Later, when the metadata is described (activity of IO4), the curricula of individual institutions will be analysed and compared.



**Fig. 2 Central instance of EDUportfolio developed by BCIME team.**



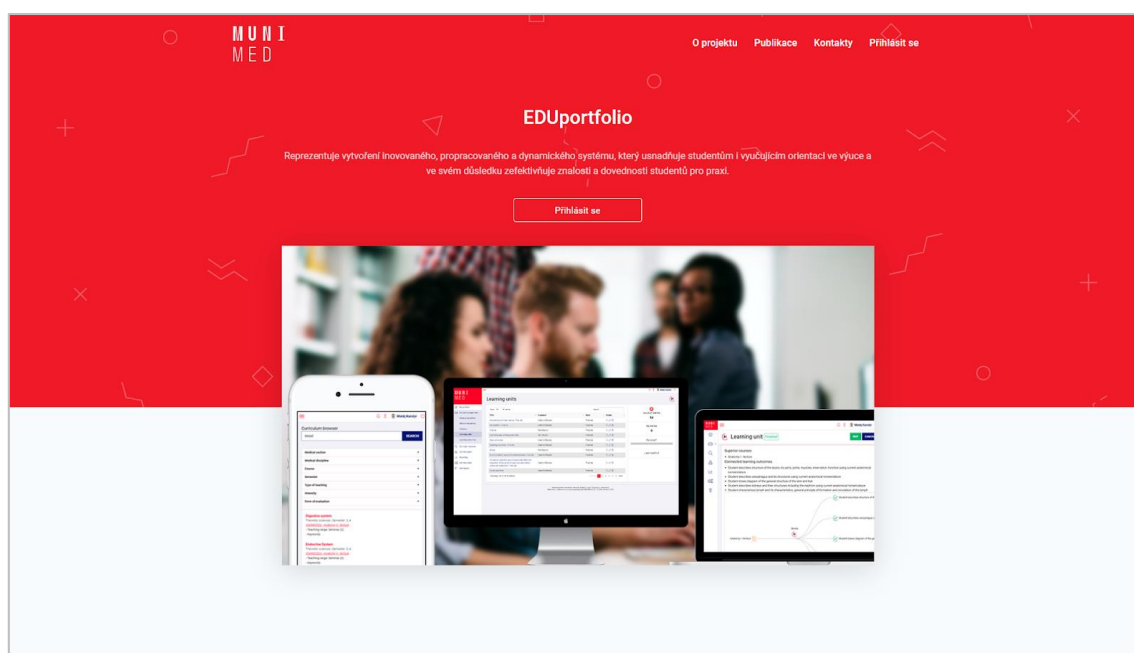
**Fig. 3 Home screen of logged in users.**

In addition to central EDUportfolio platform, BCIME consortium decided to implement another five instances in partner's local languages. The platforms are available for the needs of individual partner

institutions to map and describe curricula of BCIME project complementary disciplines. However, all partners can independently manage any other curricula of their study disciplines or courses using the provided methodology.

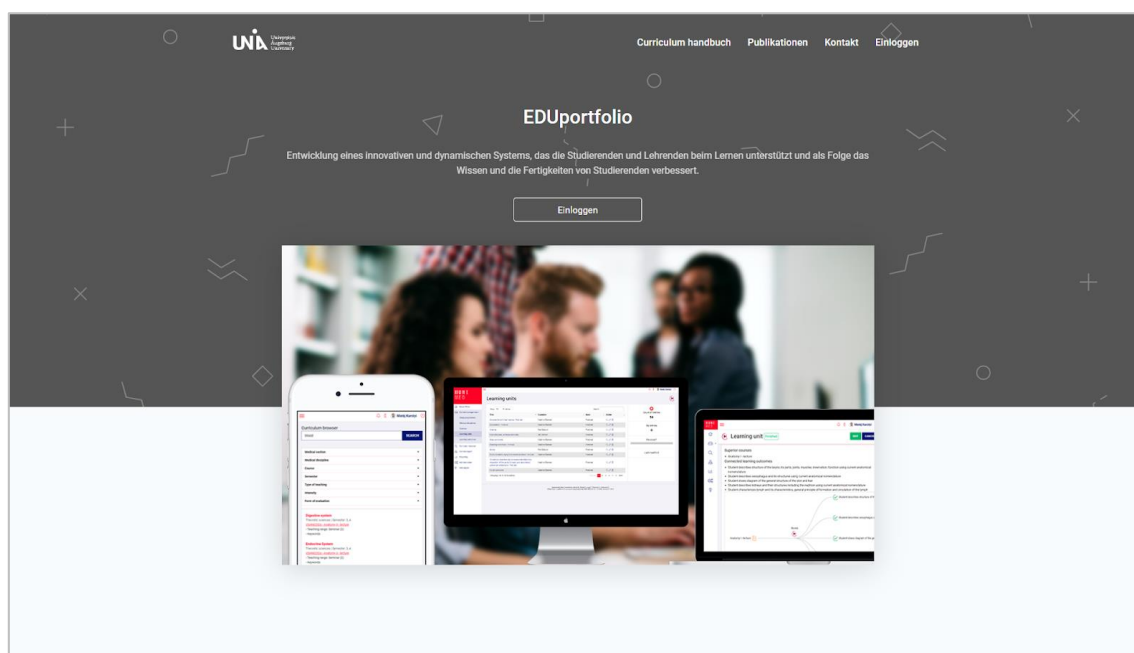
## 2.3 Local platform instances

The Czech localisation of EDUportfolio is used for curriculum managed at MU and is available at <https://eduportfolio-mu.iba.muni.cz/>.



**Fig. 4 The local instance of EDUportfolio for the MU curriculum managed in Czech.**

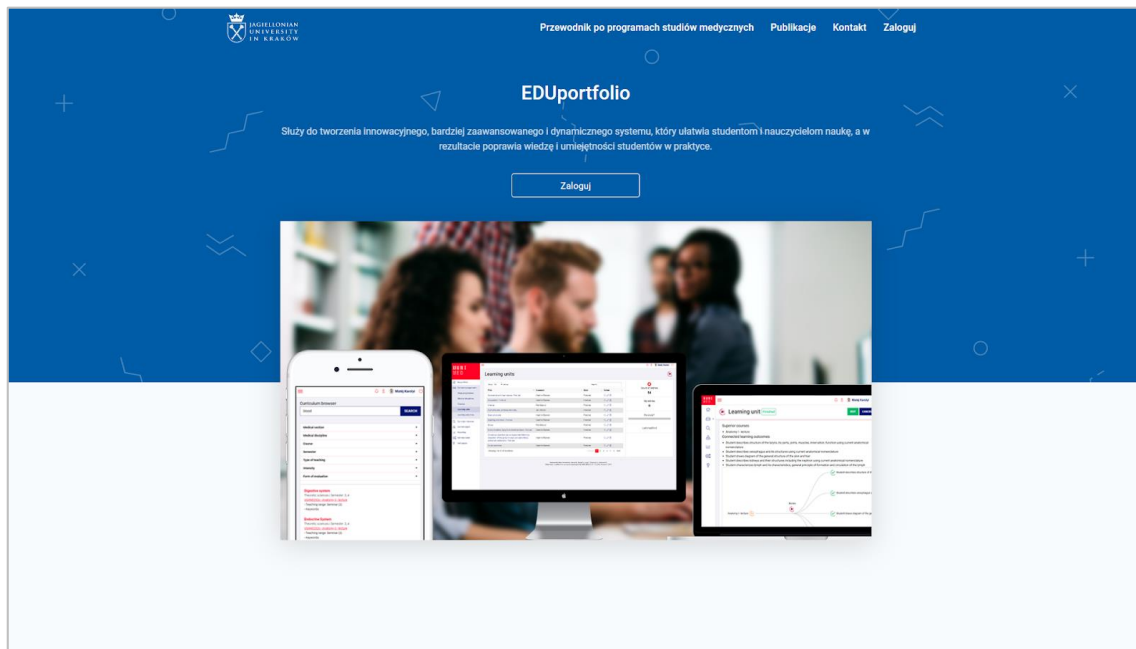
The German localisation of EDUportfolio is used for curriculum managed at UAU and is available at <https://eduportfolio-ua.iba.muni.cz/>.



**Fig. 5 The local instance of EDUportfolio for the UAU curriculum managed in German.**

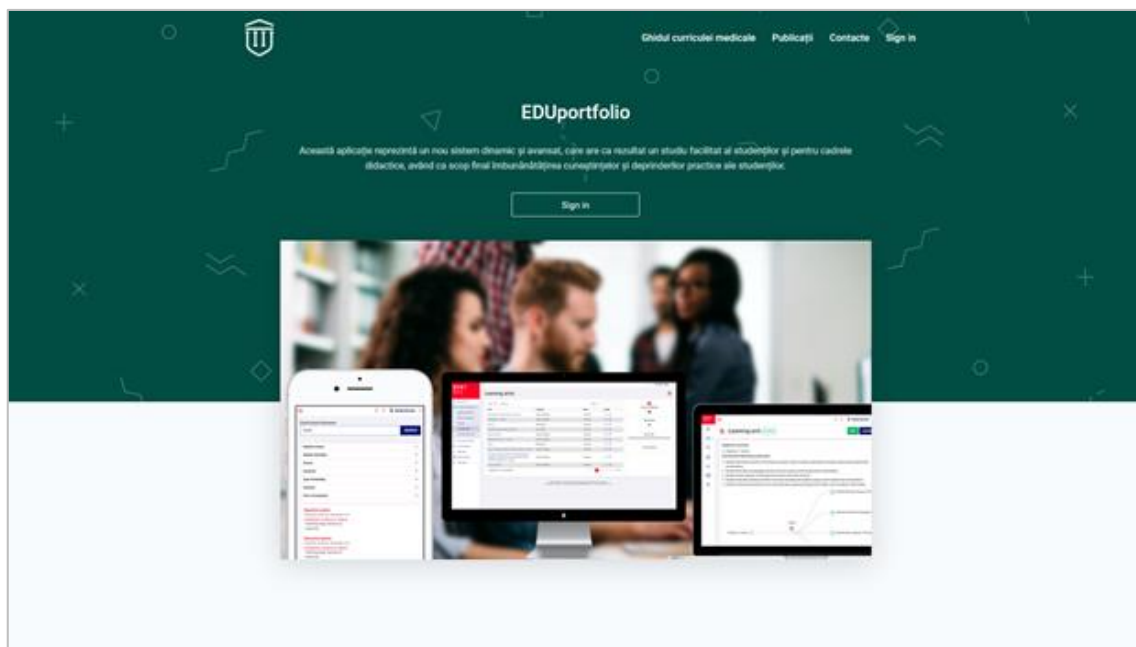


The Polish localisation of EDUportfolio is used for curriculum managed at JU and is available at <https://eduportfolio-ju.iba.muni.cz/>.



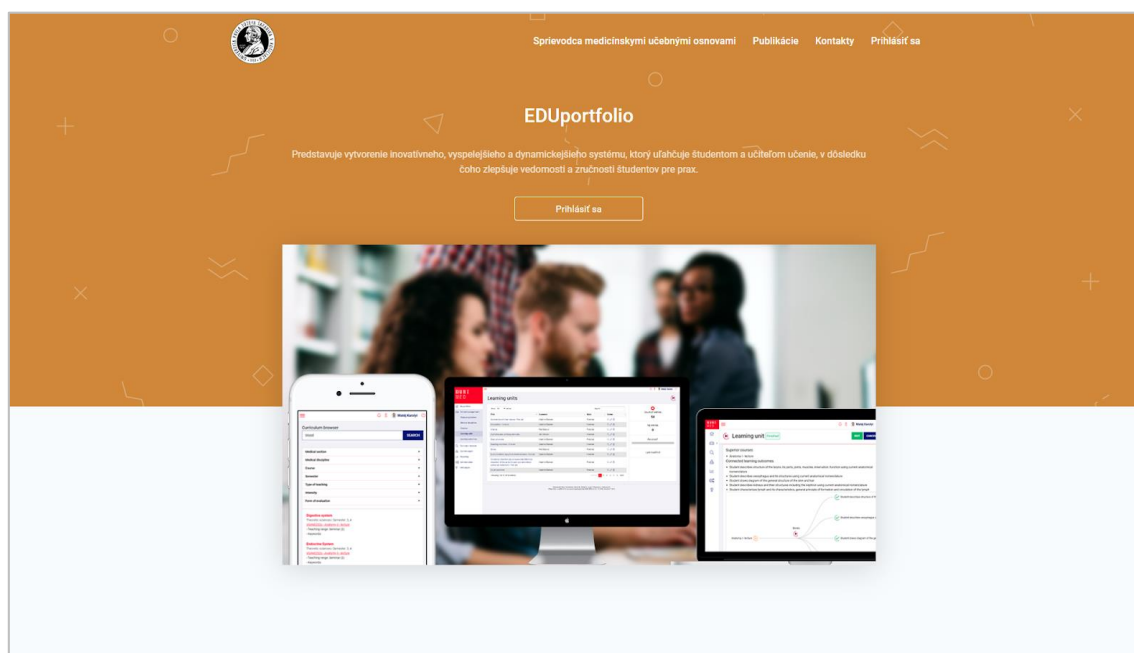
**Fig. 6 The local instance of EDUportfolio for JU curriculum managed in Polish.**

The Romanian localisation of EDUportfolio is used for curriculum managed at UMF and is available at <https://eduportfolio-umf.iba.muni.cz/>.



**Fig. 7 The local instance of EDUportfolio for UMF curriculum managed in Romanian.**

The Slovak localisation of EDUportfolio is used for curriculum managed at UPJS and is available at <https://eduportfolio-upjs.iba.muni.cz/>.



**Fig. 8 The local instance of EDUportfolio for UPJS curriculum managed in Slovak.**

### 3. Modules of EDUportfolio

EDUportfolio platform consists of modules, through which the individual parts of curriculum are managed by the authorised users. The modules were designed with the aim to be clear and easy to use, even for novices who want to transform for example their paper-based approach of curriculum management to the modern electronic and structured form with all its advantages. The individual modules offer features and functions supporting activities that were identified in the curriculum management related processes. List of modules was also partially described in our previously published paper (module for curriculum development, module for curriculum browsing and module for curriculum reporting) [2]. Moreover, we added information about newly developed and opened modules for our users of all instances of EDUportfolio.

#### 3.1 User administration module

Individual user accounts and their roles in the system can be fully managed by the administrators of EDUportfolio platform. The administrators create accounts and specify the roles of particular users. However, the new users can be registered into the EDUportfolio by sending the request through Sign in options located in the home screen of the platform. The users' roles were also described in our previously published paper [2].

The user role is an important attribute of each authenticated user in the platform. Immediately after the authentication process, the authorisation process takes place and at least one user role is assigned to the user. Assignment depends on enrolment within the university environment. In some cases, roles are assigned automatically (for instance students' roles), whereas other roles must be explicitly assigned based on university management decisions (such as the role of content guarantee). The set of user roles can be expanded as needed. In the case of new specialised modules, functionality

can be assigned either to existing user roles or to newly created roles. There are currently four different user roles specified in EDUportfolio:

- **Administrator** – person authorised to manage system and its core features. Users in this role are tasked with managing users (creating accounts, activating accounts, assigning roles based on management decisions, and eventually deleting inactive users), and managing high-level building blocks of curriculum – study programmes, medical disciplines and courses. Continuous checking of platform operation and work with the reporting module can be a secondary activity.
- **Student** – person authorised to see and browse the content of completed parts of curriculum. Students represent the largest group of users. Using a curriculum browser, they are able to view details of learning units that were created by their teachers. Information about the student's stage of education is contained in the system and, based on the recommended passage through studies, students will be advised about content that is relevant to them. The student's identity can be obtained from university information system too, e.g. Masaryk University uses its information system, which serves as a verification authority.
- **Teacher** – person authorised to see and browse curriculum (finished and not finished parts) assigned to him/her. Teachers can examine the curriculum in the system. Structure of courses, teaching units, and other building blocks helps them in the overall orientation in teaching and in the identification of its shortcomings.
- **Curriculum designer (Teacher designer)** – person authorised to see and browse curriculum assigned to him/her and to design his/her parts of curriculum (curriculum designers and guarantors of individual courses). A user with this role can create and modify curriculum building blocks at the lowest level – learning units and learning outcomes (competencies). Learning units and learning outcomes are the most numerous groups of building elements and a wider group of teachers at the university / faculty is traditionally involved in the process of their creation. They can then look at teaching units created by other teachers and use somebody else's learning outcomes in their units.

**Users**

Show 10 entries Search:

Surname	Name	Email	User's role	S G H	Is active	Action
Balcerzak	Lukasz	lukaszbalcerzakk@gmail.com	Teacher designer	0, 0, 0	Yes	
Chovancová	Zita	51369@mail.muni.cz		1, 0, 0	Yes	
Clopeică	Victor Constantin	victor.clopeica@gmail.com	Teacher designer	1, 1, 1	Yes	
Dadák	Lukáš	15740@mail.muni.cz		1, 0, 0	Yes	
Dubový	Petr	698@mail.muni.cz		0, 1, 1	Yes	
Fechet	Serban	officeserban@gmail.com	Teacher designer	1, 1, 1	Yes	
Germany	UA	user@ua.com	Teacher	0, 0, 0	Yes	
Hege	Inga	inga.hege@med.uni-augsburg.de	Teacher designer	0, 0, 0	Yes	
Hodorová	Ingrid	ingrid.hodorova@upjs.sk	Teacher	0, 1, 1	No	
Joukal	Marek	mjoukal@med.muni.cz	Teacher	1, 1, 1	No	

Showing 1 to 10 of 38 entries Previous 1 2 3 4 Next

Development team: Komenda M., Karolyi M., Bulhart V., Loula Z., Růžicková P., Ščavnický J.  
EDUportfolio - platform for curriculum development and mapping [online]. MUNI MED, [cit. 04.06.2020]. Version 1.4, 2020.  
The EDUportfolio platform is supported from the BCIME project - Building Curriculum Infrastructure in Medical Education (2019-1-SK01-KA203-046318) funded from the European Regional Development Fund.

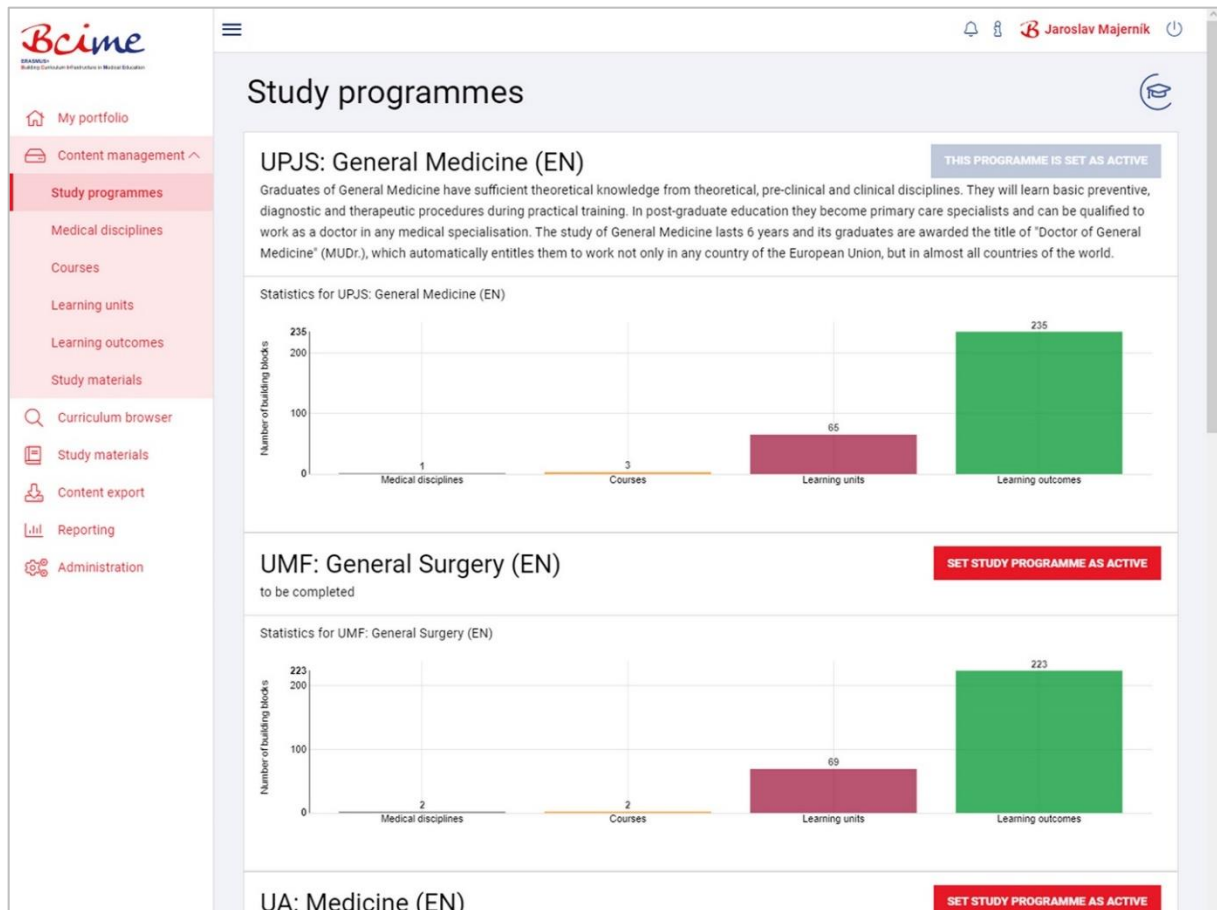
Fig. 9 The user management module.

The common users can use the user administration module too as each user is allowed to edit and modify his/her identification data there. In addition, the module offers the possibility to change the password in case the user needs to do so. However, if the user forgot his/her password, then he/she can send the request to reset it through the options of Sign in page. The new password will be generated and send to the user's email automatically.

**Fig. 10** The screen of user profile.

### 3.2 Curriculum development modules

The most important modules regarding not only the aims of BCIME project, but also the processes related to the curriculum design and mapping procedures that are developed with the vision to meet requirements of wide range of education institutions, are the Curriculum development modules. These modules are grouped in the Content management option of EDUportfolio main menu, and allow users with the roles of curriculum designer (typically teachers and guarantors of individual courses) or administrators to view and edit the content of the curriculum.

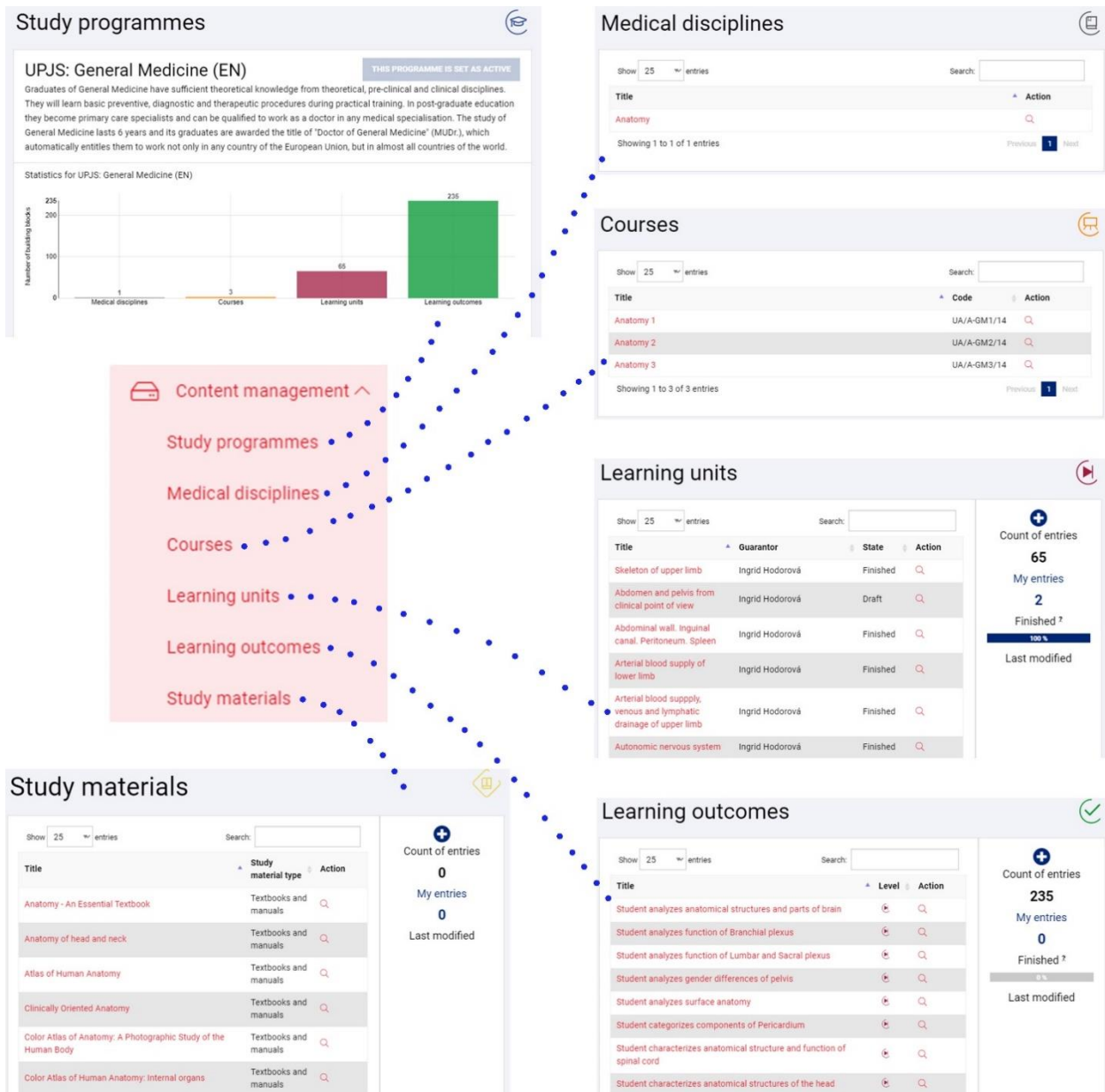


**Fig. 11 Curriculum development modules.**

Content management structures its options (Curriculum development modules) in the top-down principle, i.e. showing the global parts of the curriculum as first (study program) and going down the particular elements of curriculum items (e.g. details of learning outcomes in individual learning units). The following views for the modification of all building blocks of the curriculum are available:

- **study programmes** – the list of study programs available at particular education institution
- **medical disciplines** – medical disciplines taught in given study program(s)
- **courses** – courses (compulsory, elective) taught and offered to the students of particular medical disciplines and study programs
- **learning units** – components (lectures, practical lessons, seminars etc.) of individual courses
- **learning outcomes** – competencies of the students after completing particular learning unit, course or whole study programme
- **study materials** – information about relevant study literature (e.g. books, textbooks and manuals, educational websites and atlases, digital videos, presentations and animations, casuistic in images, e-learning courses (LMS) etc.) that can be linked to existing curriculum building blocks (learning units and learning outcomes)





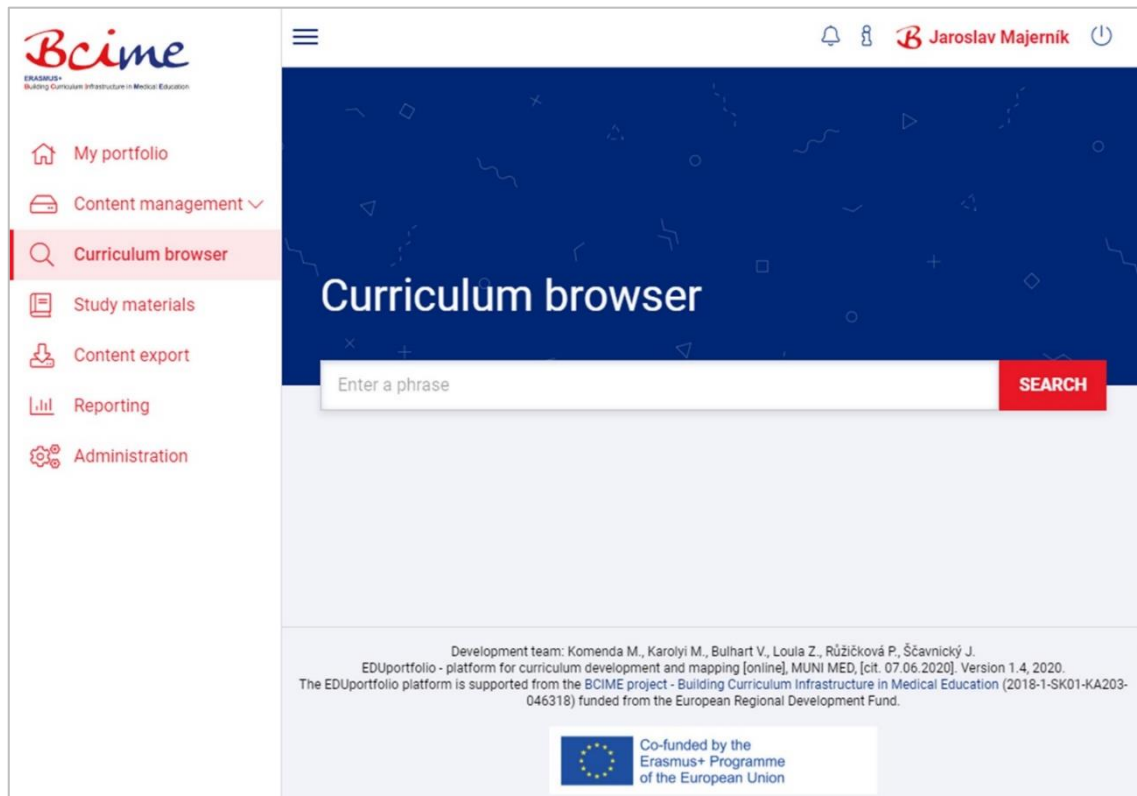
**Fig. 12 Web-based forms of Curriculum development modules.**

The above-mentioned parts of Content management represent interactive web forms, where the users (curriculum designers) conveniently fill all required information for individual blocks and link them together. For the individual curriculum building blocks, it is possible to determine whether the block is already finished or it is only a draft of a specific block, which is still under evolving (learners can only see the finished blocks). Visualisation by a bar chart provides an overview of the entire study programme, making it possible to see its size determined by the number of linked building blocks.

### 3.3 Module for curriculum browsing

As a basic functionality of EDUportfolio platform, a search module for an existing curriculum with its finished building blocks is available to all logged-in users. The EDUportfolio is developed with the aim to serve developers of curriculum (as described in previous section), but also users of curriculum content (learners). Since most users of the system will be students, the search function is available to

them at the home page of EDUportfolio (Fig. 3), which is always displayed after successful login to the system. The curriculum browsing module itself is available in the main menu options too.



**Fig. 13 Curriculum browser module.**

After entering the searched phrase (any desired string or keywords), the user can find relevant results in the form of details related to the corresponding learning units. The search engine uses Majka, a rule-based morphological analyser, and a morphological analysis approach that is described in more details in our previous paper [3].

The results of user's searching are returned according to the relevance of a given search phrase from the most to the least appropriate. The search itself uses several attributes of the learning unit, as well as other curriculum building blocks to which it is linked. The following figure shows the results for the searched term "anatomy". Each relevant result consists of:

- the title of the learning unit (which can be opened and the user can see its content),
- information about the field of study,
- course to which the learning unit is added (the user can use its hyperlink to see the full list of learning units linked to this course),
- the form of teaching and its range and
- the keywords of the learning unit.

The screenshot shows the 'Curriculum browser' interface. At the top, there is a search bar with the text 'anatomy' and a red 'SEARCH' button. To the left of the search bar is a sidebar with filters: Medical section, Medical discipline, Course, Semester, Type of teaching, Intensity, and Form of evaluation, each with a plus sign. The main content area displays the search results. It starts with 'Number of results: 63'. The first result is 'Introduction to anatomy', followed by 'Regional anatomy of upper limb', 'Regional anatomy of lower limb', 'Pelvic floor. Regional anatomy of lesser pelvis. Blood supply, lymphatic drainage and innervation of pelvic organs', and 'Regional anatomy and clinically important regions of head, parasympathetic ganglia'. Each result includes details about the semester, teaching range, and keywords.

**Fig. 14 List of results in curriculum browser.**

If the list of results shows too many items than the set of interactive filters can be applied to filter the results more accurately according to the user needs. The interactive filters include fields for Medical section, Medical discipline, Course, Semester, Type of teaching, Intensity and Form of evaluation. In the future, we plan to implement also a support for recommending relevant content based on user-specific information. This feature was not identified in users' requirements nor planned in BCIME project, but we suggest it will be very useful especially if the EDUportfolio is widely used by the learners.

### 3.4 Module for study materials browsing

In addition to the initially identified requirements of curriculum designers, given by the needs analysis performed within IO1, the EDUportfolio allows users to browse content not only within the curriculum, but also within the recommended study materials. This module (Fig. 15) was added to the system with the aim to extend its browsing capabilities, to allow learners identification of relevant study literature directly in the curriculum description and/or to be redirected to eLearning courses or other multimedia materials via embedded hyperlinks. Users can search within books and multimedia descriptions and the results are also returned to them according to relevance of a given search phrase. Furthermore, there is a set of interactive filters for choosing specific programme, course or semester too that can be used to refine results the user is interested in (Fig. 16). Like the Curriculum browser, this module is also available to all logged-in users at the home page of EDUportfolio (Fig. 3).





Fig. 15 Study materials browser module.

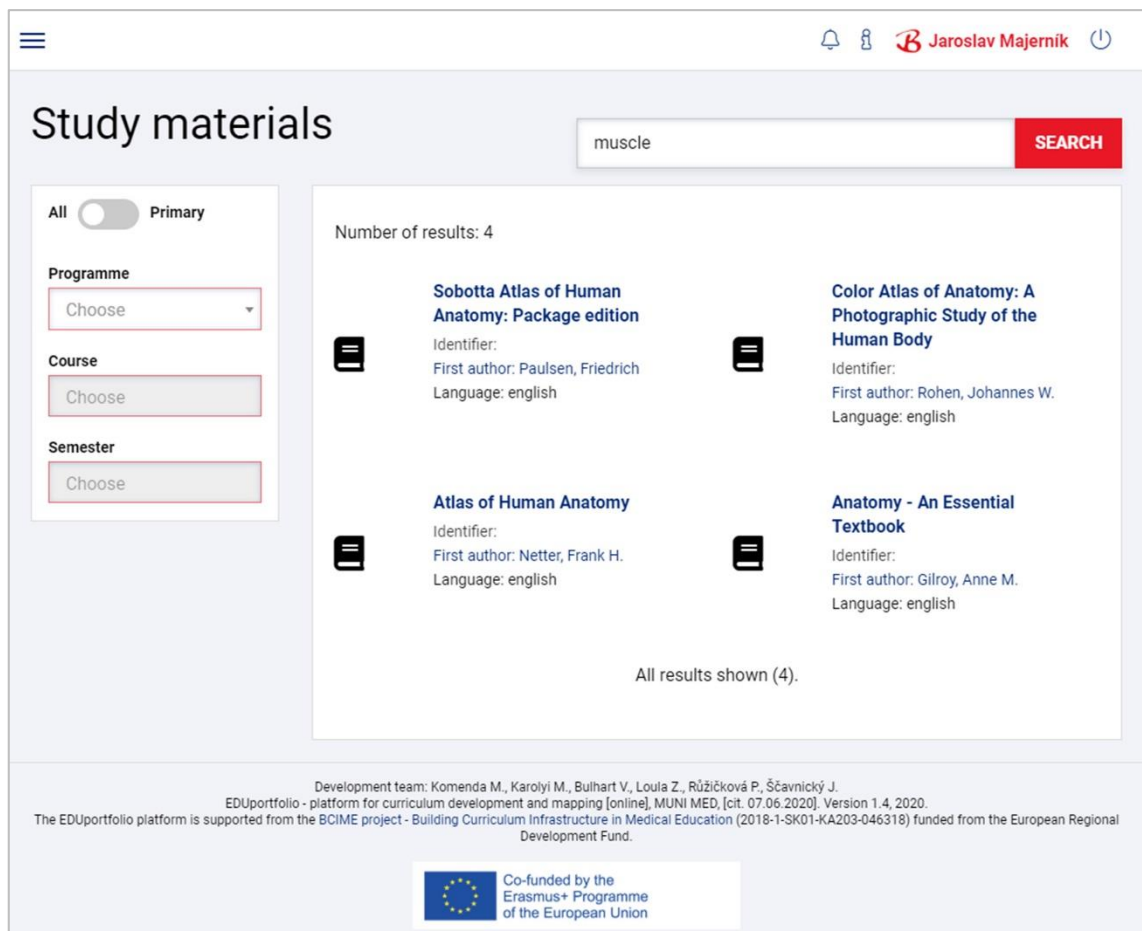
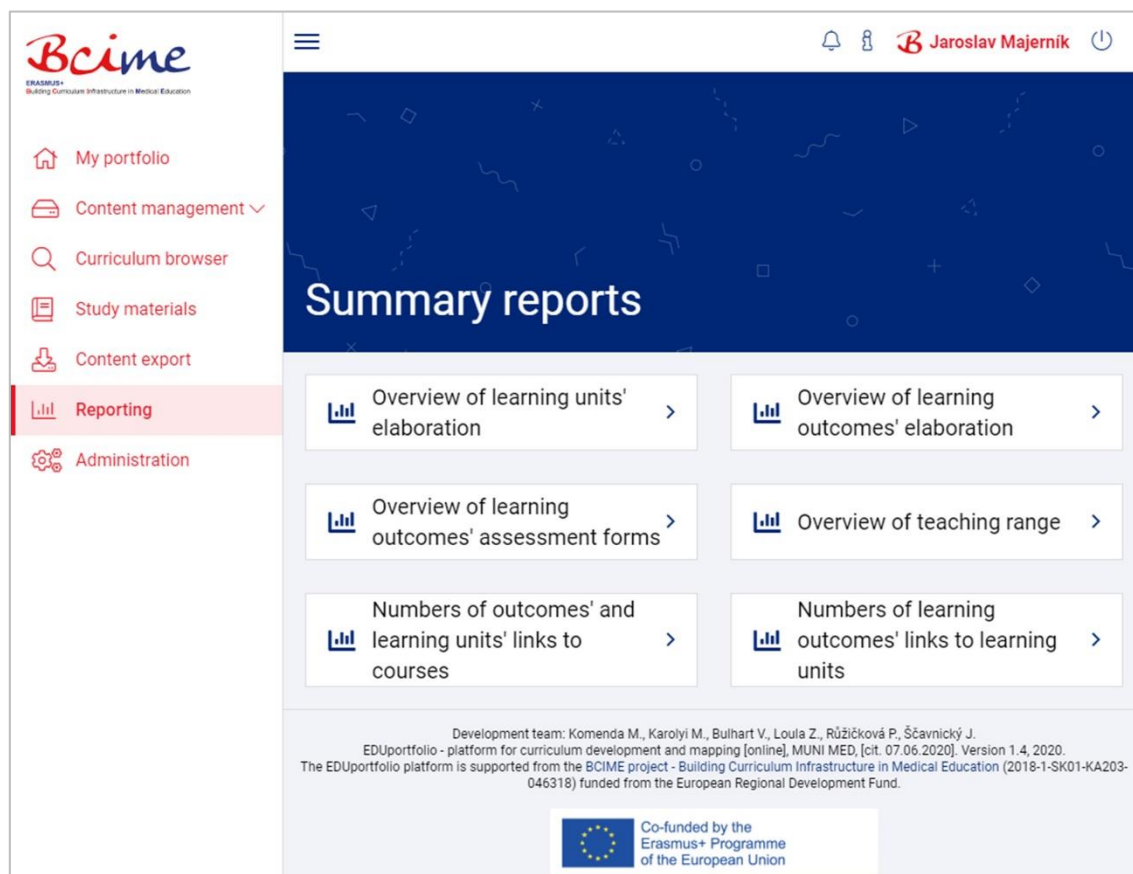


Fig. 16 List of results in study materials browser.

### 3.5 Module for curriculum reporting

Curriculum reporting is a standalone module that allows users to examine aggregated statistics about teaching. The link to Curriculum reporting module with individual summary reports is located in the main menu options, similar to other EDUportfolio modules.

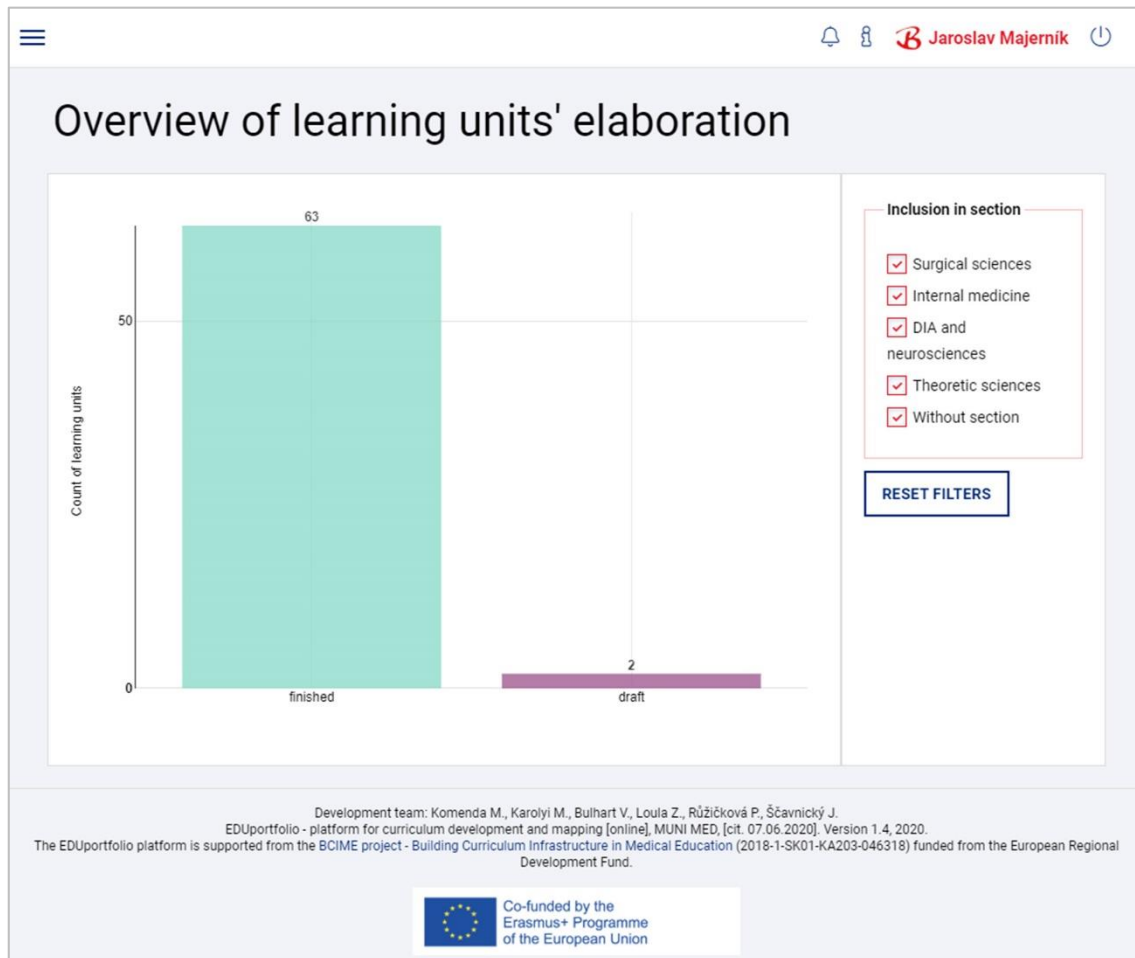


**Fig. 17 Curriculum reporting module.**

The summary report modules were developed to allow users to check:

- Overview of learning units' elaboration
- Overview of learning outcomes' elaboration
- Overview of learning outcomes' assessment forms
- Overview of teaching range
- Numbers of outcomes' and learning units' links to courses
- Number of learning outcomes' links to learning units

Each module of all above mentioned reports consists of two interactive parts: (i) a filter panel and (ii) a visualisation window. An example of the module for overview of learning units' elaboration is shown on the following figure.



**Fig. 18 Reporting module for learning units' elaboration.**

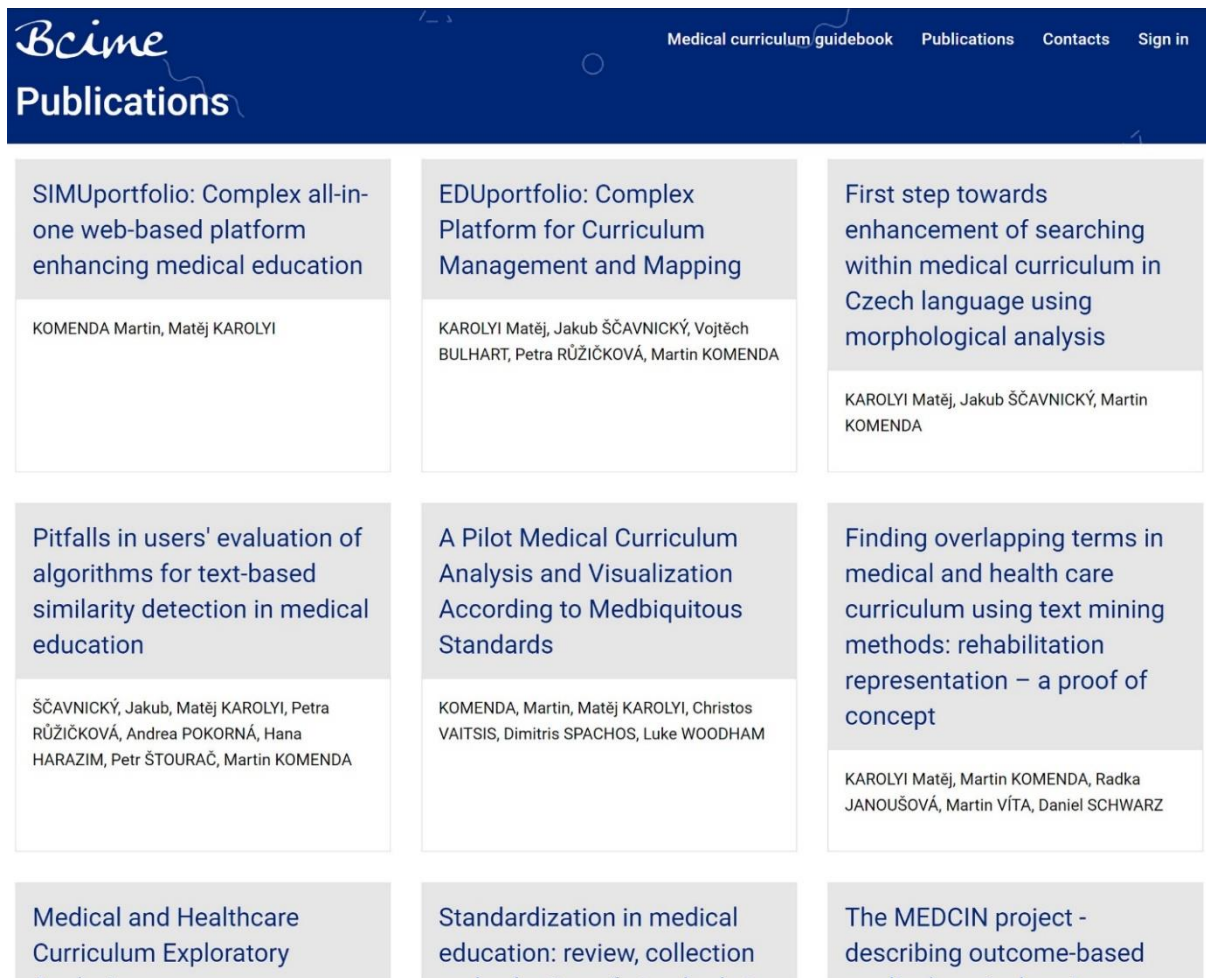
The filter panel allows users to filter input data (where relevant) based on the chosen study programme, section, medical disciplines, courses, semester and/or teaching type and to decide whether to show or hide categories with no values. Individual parts of filters are shown or hidden, depending on the type of selected report. In all filters, it is also possible to reset all previously set preferences using the “reset filters” button. Visualisation via bar chart represents a graphical overview of selected parts of curriculum (learning units, learning outcomes, assessment forms, teaching range, links between curriculum elements) and their level of elaboration. The visualisation itself is a vertical or horizontal multi-bar chart that is built using the NVD3 JavaScript library for interactive web visualisations.

### 3.6 Module for publications

Activities of the EDUportfolio development team and advances in implementation of individual functions and features are continuously discussed among BCIME consortium and offered to the wide community of researchers and general public too. Such information sharing activities include dissemination of BCIME project results at national and international conferences and publication of papers in education and IT related journals. Module for publications<sup>2</sup> is a freely accessible module for overview of all our relevant publications, which relate to the domain of curriculum development and mapping. The module for publications can be accessed directly from the home page of EDUportfolio

<sup>2</sup> <https://eduportfolio.iba.muni.cz/publication>

(Fig. 2) and together with the BCIME project website<sup>3</sup> tries to reach the widest possible impact on the target groups.



**Fig. 19 Module for publications overview.**

## 4. Prototyping and testing

During the development phase of the EDUportfolio platform, the emphasis was placed also on testing the functionality of all elements (realised in IO3 and in parallel with IO6). Testing was performed in two main steps. First, the platform was filled with simulated content to determine the accessibility and functionality of all elements. This approach proved to be useful as it helped to reveal a lot of bugs and errors that have been fixed before filling the platform with real content. All modules and registers were also tested, both their functionality and visual appearance. The platform was tested on multiple devices and browsers. Errors and inconsistencies across devices were reported and many of them have already been fixed. Others, that were identified for example by the users' or automated exploratory tests of IO6 are registered and processed continuously, at the time of their discovery, in order to resolve and correct them as soon as possible. Second, the EDUportfolio platform and its functionalities are tested and verified continuously e.g. during real operation while describing real content and metadata

<sup>3</sup> <http://bcime.upjs.sk>

of selected study disciplines (e.g. in IO4). All instances were tested after each change log (see appendix) – all changes (points) based on the feedback of IO6 were reviewed and checked.

## 5. Conclusion

The aim of this intellectual output was to develop a standard-compliant curriculum management system and implement it for all partner institutions. Based on the outputs of IO1 and IO2, the technical development team integrated all identified requirements into the modules that offer curriculum designers possibilities to map and visualise their curriculum. Thanks to the modules for searching curricula and study materials, students can easily use individual building blocks of the curriculum. The developed platform wears the name EDUportfolio and was designed in the way that allows its further development and extensions. All known and identified functional or graphical bugs were fixed as requested by the technicians (IO3) as well as by the users via acceptance tests (IO6). However, the development team continues in improvements of the platform as it is in real operation now and some new issues can be identified while registering metadata, e.g. in continuing of IO4.

## 6. References

1. 'Design and Management of an Objective Structured Clinical Examination using the SIMUportfolio Platform - CSEDU 2020'.  
<https://www.insticc.org/node/TechnicalProgram/csedu/2020/presentationDetails/95701>  
(accessed May 20, 2020).
2. M. Karolyi, J. Ščavnický, V. Bulhart, P. Růžičková, and M. Komenda, EDUportfolio: Complex Platform for Curriculum Management and Mapping. SciTePress, 2019.
3. M. Karolyi, J. Ščavnický, and M. Komenda, 'First Step Towards Enhancement of Searching Within Medical Curriculum in Czech Language using Morphological Analysis', presented at the International Conference on Computer Supported Education, Mar. 2018, vol. 2, pp. 288–293, doi: 10.5220/0006757902880293.





## **Appendix**

### **Implementation changes during the IO3 phase based on users' needs**





## BCIME EDUportfolio changelog 6. 12. 2019

- Platform-relevant publications updated (<https://eduportfolio.iba.muni.cz/publication>)
- Changes and fixes in translations
- Feature for linking learning outcomes to other building blocks (programme, courses, learning units) from learning outcome's edit mode. It is last section in already created learning outcome (not the new one).
  - Translation needed bellow.
- Feature for editing access control list in all building blocks of curriculum (programme, medical disciplines, courses, learning units, learning outcomes). Thanks to the green button "access" the creators and administrators are able to add edit rights to other teachers-designers.
  - Translation needed bellow.
- Custom users' notification about newly registered user to the platform.
  - Translation needed bellow.
  - List of notified users needed (send via email).
- "My entries": in the side panel is clickable "my entries" text. This leads to the listing of those building blocks which are created by me.
- Small UI changes and fixes:
  - Default user avatar with logo of your institution.
  - No sorting by action column in data tables.
  - Progress bar fix.
  - More entries in data tables (25, 50, 100, 200).

```
email_registration_message_4: "A new user has just been created"

learning_bound_programs: "linked study programmes"
learning_bound_courses: "linked courses"
learning_bound_units: "linked learning units"
learning_bound_mustBeFinished_notice: "Learning outcomes must be completed
for this functionality."
learning_bound_reload_notice: "Changing the type will delete existing bound
units. Are you sure about this step?"

access:
label: "access"
text: "users with edit rights"
```

## BCIME EDUportfolio changelog 24. 1. 2020

- DE, SK, CZ, EN translations added from last release.
- Long load actions button added. Save / Save and leave / Delete buttons.
- Feature for learning units' ordering in the context of course. Through course edit page available only. Drag and drop style.
- English MeSH 2019 added to several instances of EDUportfolio (central, DE, RO, PL). SK and CZ have Czech translation from previous times.
- Platform core updated (Symfony 4.4) with available security fixes to November 2023.
- Fixes and optimization of significant terms editing workflow.
- Change of look of significant terms' listing in detail of learning unit.
- Possibility change sentence order of learning outcome to German-like style (active verb at the end of sentence). Activated in DE instance.
- Reporting module enabled (<https://dev-simuportfolio.iba.muni.cz/reporting/summary-report/>). Available reports:
  - Overview of learning units' elaboration
  - Overview of learning outcomes' elaboration
  - Overview of learning outcomes' assessment forms
  - Overview of teaching range
  - Numbers of outcomes' and learning units' links to courses
  - Numbers of learning outcomes' links to learning units
- I send you link to the OPTIMED Reporting (our older platform). It could be inspiration for you, how can look advanced reporting above described curricula. If have idea how to do something similar in BCIME project, write Martin and consult it with him.
  - <https://opti.med.muni.cz/en/reporting/web/>

To translate (if you find some translation from the past which is not correct, just report it):

```
##Learning units oredring
form_builder_add_element: "add new item"
form_builder_remove_element: "remove item"

form_builder_no_elements: "no items"
form_builder_enter_more_characters: "type more characters"
form_builder_move_element: "sort item"

##Significant terms
button_rename: "rename"
learning_unit_new_keyword: "new term"
learning_unit_new_keyword_root: "new term of the root level"
```

```
##Reporting
reporting_sr: "summary reports"
reporting_sr_finished_units: "overview of learning units' elaboration"
reporting_sr_finished_outcomes: "overview of learning outcomes' elaboration"
reporting_sr_assessment_forms: "overview of learning outcomes' assessment
forms"
reporting_sr_range_of_teaching: "overview of teaching range"
reporting_sr_links_to_course: "numbers of outcomes' and learning units' links
to courses"
reporting_sr_links_to_learning_unit: "numbers of learning outcomes' links to
learning units"
reporting_unit_count: "count of learning units"
reporting_outcome_count: "count of learning outcomes"
reporting_zero_values: "zero values"
reporting_show_zero_values: "show"
reporting_teaching_type: "teaching type"
reporting_contact_teaching: "select contact teaching"
reporting_view: "view"
reporting_total: "total"
reporting_hours: "hours"
reporting_no_section: "without section"
reporting_assessment_forms_text: "The numbers of assessment forms for unique
learning outcomes are displayed, regardless of the number of learning
outcomes' links to building blocks (courses, learning units)."
```

```
reporting_assessment_y_label: "number of unique learning outcomes"
reporting_links_to_course_y_label: "number of building blocks (learning
units, learning outcomes) linked to courses"
reporting_links_to_course_number: "number of links to course"
reporting_links_to_learning_unit_y_label: "number of learning outcomes linked
to learning units"
reporting_links_to_learning_unit_number: "number of links to learning unit"
reporting_select_all_none: "all/none"
reporting_reset_filters: "reset filters"
reporting_exam:
  evaluation: "evaluation"
  student: "student name"
  run: "scenario run name"
  passed: "exam passed"
  not_passed: "exam not passed"
reporting_semester: "semester"
```

## **BCIME EDUportfolio changelog**

### **5. 3. 2020**

- DE, SK, CZ, EN translations added from last release.
- Keyword tree fixes
  - Minimum length of keyword is 2 characters.
  - Maximum length of keyword is 254 characters.
  - Keyword cannot be null.
- Enhancement of registration notification process.
- Platform can be switched to the maintenance mode (disabled login).
- ACL modification rights fixed.
- Module for study materials' management
  - You are now able to add information about study materials.
  - Materials can be books, videos, presentations, ...
  - Study materials can be linked to the learning units and learning outcomes.
- Browser of study materials
  - You and your students can browse among the materials.
- If you find missing translations, please write us.



## BCIME EDUportfolio changelog 24. 4. 2020

- PL translations added from one of previous releases.
- ACL modification rights changed.
- Module for study materials' management
  - Detail of study material optimization.
- Module for curriculum management
  - Edit process pages slightly differs in elements placement



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