Croatian Academic and Research Network – CARNET

The e-University Project

Call for expression of interest from business entities for demonstration of software solutions for creating digital educational materials as part of the "e-University" project

"e-University" project

The Croatian Academic and Research Network - CARNET is the coordinator of the e-University project, which aims to improve the quality and accessibility of the higher education system by strengthening the flexibility and innovation of public higher education institutions (HEIs) through support for investments in digital teaching infrastructure. The core activities of the project include investments in:

- network and computer infrastructure
- equipment and related services
- cyber security activities
- improvement of the existing IT system and linking of records in higher education
- educational support and educational programs to strengthen the competences of teaching staff for implementation of hybrid teaching and application of digital technologies in educational and business processes
- support and professional development of the staff

More information about the project is available on the [website of the e-University project](#).

Demonstration of software solutions for creating digital educational materials

For the market research purposes, for the planned procurement activity of the software solution for the creation of digital educational materials adapted to the needs of users at universities, CARNET will organize a meeting with all interested business entities, during which CARNET will present requests for the acquisition of licenses for software solutions for creating digital educational materials, and interested business entities will demonstrate the existing software solutions for creating digital educational materials with a focus on functionality, user experience and interface appearance, and will present the method and licensing conditions of how the software solution (system) is implemented (only online or there is an on-premise option), etc.

Each business entity will in a separate meeting demonstrate its existing software solution for creating digital educational materials for a maximum of 20 minutes, and additional 10 minutes is planned for possible questions.

Meetings with interested business entities will be held start of March 2023 in Zagreb, and business entities that express interest will be informed of the exact date and time as well as the location where the meeting

will take place. Representatives of interested business entities are expected to arrive at the location of the meeting in Zagreb, whereby CARNET does not bear the costs of their arrival and participation in the meeting.

Expected requirements that a software solution for creating digital educational materials should meet

The program solution for creating digital educational materials is primarily used for creating, displaying, and exporting interactive digital educational materials, and includes a network headquarters that users access through a web browser and does not include installing the application on the device through which the user accesses it. Access to the interface is achieved through an Internet connection.

The expected requirements that a software solution for creating digital educational materials should meet are as follows:

- User interface, among others, provides access to the interface for viewing and managing digital educational materials, the navigation menu for accessing all functions and settings, and access to the interface for creating, displaying, and editing digital educational materials (content editor).
- The software solution contains different types of objects with which content is created, which include simple and complex logical elements used to enter content of different types (e.g. text, image, video, multimedia, interactive objects and simulations, 3D animations, quiz, test, game, etc.). The creation of content is done modularly, i.e., by stacking objects within the interface for creating, displaying, and editing content. The use of objects and the entry of content is performed through a visual editor, without the need for the user to know programming languages. The use of objects when creating content is possible by using the drag & drop method and/or other visual methods of moving objects.
- At least the following objects for creating content are available:
  - Adding text with all standard functionalities for text formatting (e.g., as WYSWYG editor, TyniMCE editor, etc.)
  - adding titles and subtitles in multiple levels
  - adding photos, illustrations, and other graphical representations
  - adding audio and video recordings with options:
    - starting, stopping, restarting, as well as a full screen display
    - volume management
    - displaying the progress bar of the viewed content and moving through the video content using the progress bar
    - audio and/or textual description in Croatian and buttons to access the description
    - entering of the transcript of the spoken parts of the content and the actions and sounds that appear within the recording
  - creating tables and entering content into tables
  - creating a link to the content of objects within the digital educational material that is being created and/or to external content
  - adding 3D elements
  - adding / embedding interactive elements in HTML5 format

- structuring the content into several columns into which other objects can then be entered that are used when creating the content
- creating a gallery
- adding a list
- embedding external content
- adding and entering formulas (mathematical, chemical, etc.) in MathML, Tex or ASCIImath recordings
- making a slider simple
- creating quizzes with different options such as true/false; multiple choice with one or more correct answers; entering a short answer to the question (possibility of entering words, symbols, formulas and other characters); filling in answers by writing words, formulas, symbols and other missing characters; matching answers; matching answers (ability to drag and drop elements such as text, image, parts or whole formulas and symbols); adding a solution to the image (e.g. graphical representation, interactive timelines or maps, etc.); editing the order of elements; grouping of elements. When creating quizzes, it must be possible to easily mark correct answers in order to provide feedback (in percentages and manual entry of words, symbols, formulas and other characters).
- The interface for creating, displaying, and editing digital educational materials (content editor) should meet the following functionalities:
  - the created content should be automatically saved within the interface (autosave)
  - enable retrieving resources from the media and resource collection in which media and resources are entered via direct upload and directly through content creation objects, whereby content entered directly through content creation objects is automatically saved in the media and resource collection
  - enable live preview of created content
  - enable the export of created content in HPUB format as HPUB archive that contains individual HTML files, i.e., all pages and additional resources added to the created content.
- The program solution for creating digital educational materials supports the creation of content so that their design and functionality are accessible to all users, including people with disabilities (vision, hearing, speech, motor, cognitive and neurological impairments) and people who use assistive technology.
- Digital educational material created using the software solution is adaptive (responsive) so that by changing the size of the screen, it automatically adapts to new frames, without overlapping with other elements or displaying content outside the screen frame (so-called horizontal scroll), regardless of the type of device on which content is used. The created content is optimized for use on all screen sizes.

Method of expression of interest

Business entities can express their interest via the email address e-sveucilista@carnet.hr, whereby they should submit the names and surnames and email addresses of the representatives of the companies that would attend the meeting, as well as the names of the program solutions for creating digital educational materials that will be presented, along with a short description of up to 10 sentences and a link where the

software solution and its description are available. When expressing interest and submitting the requested information, business entities should indicate that their software solutions for creating digital educational materials meet the expected requirements specified in this Call.

The deadline for expression of interest is March 1, 2023 until 11:59 p.m.