Nation-Wide Online School for Ukraine: for Grades 5-11 with Distance and Blended Learning

Introduction

Nation-wide online school is a platform for distance and mixed learning of pupils in grades 5-11. The implementation of the project was initiated in cooperation with the Ministry of Education and Science of Ukraine, the Ministry of Digital Transformation of Ukraine, The NGO Osvitoria, and The Ukrainian Institute of Education Development (UIED) with the support of many international education donors.

Developing an eLearning platform is part of the national strategy for digitizing education. The project aims to provide every participant in the educational process with guarantees. Pupils receive guarantees of availability of knowledge. Teachers receive guarantees of opportunities to implement the curriculum at the national level.

> "To ensure that all participants in the educational process receive proper support, especially in the case of the implementation of distance learning, we have launched the "All-Ukrainian School Online". The relevance of creating a national educational platform is determined by the strategic necessity of ensuring the sustainability and quality of the learning process, as well as equal access to knowledge for all pupils in Ukraine, regardless of their place of residence and available resources."
>
> **Serhiy Shkarlet** | Minister of Education and Science of Ukraine (2020-2023)

Tasks

- The platform should have a customizable teacher's office and roles for managing courses.
- The platform's functionality should support various learning content, including quizzes, videos, synopsis of the course material and pdf.
- The solution should allow for rapid scaling and have its own mobile app.
- The end product should embody the characteristics of a cutting-edge, state-of-the-art educational platform with advanced features to enhance the user experience.

Challenges

- To create a solution allowing each teacher in the country to duplicate master courses, invite pupils and monitor their progress.
- To develop an interface that is user-friendly for teachers to manage their courses and requires no additional training.
- To provide high platform bandwidth (hundreds of thousands of users).
- To implement a reliable, transparent nationwide LMS, with support for inclusivity and online and offline access to educational courses.

Solution

- **Open edX® Platform with Customization**
  Nation-wide online school was built entirely on the capabilities of the Open edX software with customizations. The choice was based on the infrastructure analysis after determining the functional and non-functional requirements and approving the software and hardware architecture of the system design requirements.

- **Consulting Assistance**
  Led a full-cycle advisory project for a nation-wide online school, guiding the client from initial concept to a scalable Open edX–based ecosystem. Conducted detailed discovery sessions, mapped functional and non-functional requirements, and defined the long-term product roadmap. Recommended Open edX as the core platform after evaluating multiple architectures, demonstrating its suitability for high-load, multi-role, multi-course environments. Oversaw solution design, platform customization strategy, and integration planning with existing systems to ensure seamless adoption and future scalability.

- **Roles and Permissions**
  The "Teacher's Office" functionality was added to the LMS to streamline the course creation process for teachers. The feature allows course authors to duplicate pre-existing "reference courses" and customize them easily. All platform participants have been assigned specific permissions and roles.

Roles and Permissions

Administrator
Full functionality from all courses

Teacher
Register in STUDIO for duplicate and edit "master courses".
Get access to the "Teacher's Office" in LMS, where they can:
- invite learners
- track the success
- review the journal of grades and reports of their course
- send emails to students registered on their course
- organize discussions

Instructor of Master Courses
Methodologists VSO who can create reference courses in the STUDIO and have advanced course management functionality

Learner
- Register in LMS
- View the catalogue of courses (separately master courses from VSO
- Take courses
- View own progress

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The Platform Consists of...

LMS: to provide online learning

Modules in the LMS subsystem:

- Registration page
- Login page
- Main page
- Course catalogue
- Course
- Admin panel
- Journal of assessments
- Glossary
- Bookmarks
- Module for mailing to registered users

Studio: to provide content for online learning

Modules in the Studio system:

- Registration page
- Login page
- Course categories (Class and subject)
- Course creation and editing page
- Media files
- System setup module
- Schedule and details
- Pages (sections on the horizontal panel)
- Textbooks
- Certificate

Preview: to enable learner experience testing

The Preview subsystem:

- has the same appearance as the LMS subsystem. The subsystem tests the course and its content by teachers and instructors.
- has no other functionality. The subsystem is accessed by an administrator, a master course instructor, and a teacher.
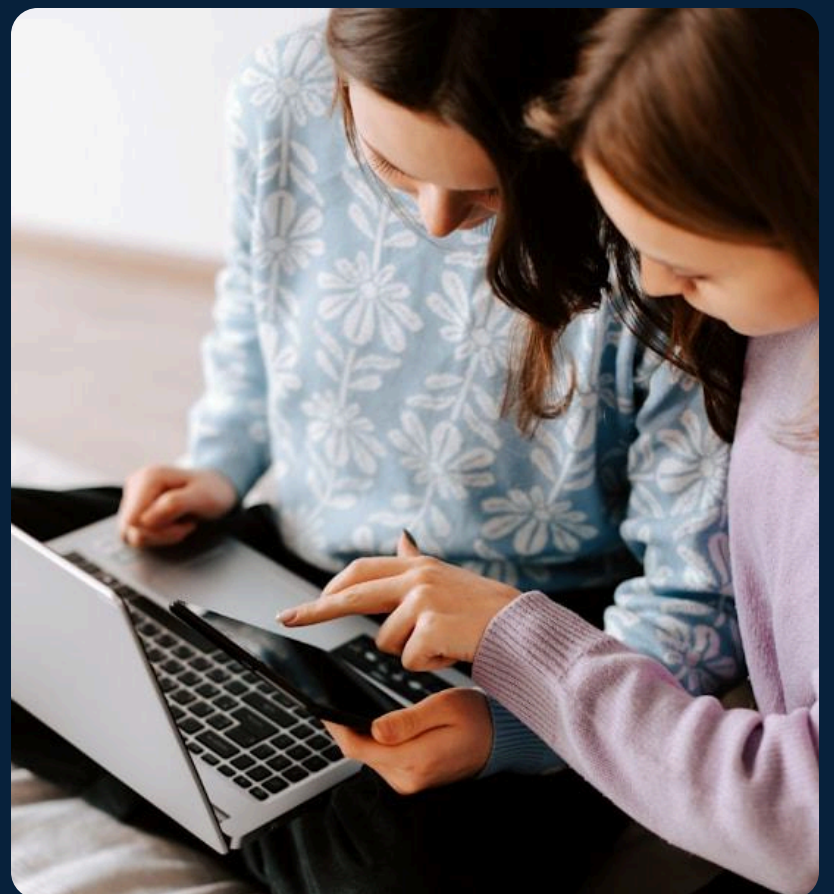

Mobile App

The mobile application provides access to all course materials. Pupils can use the mobile app for discussions and communication with classmates.

Results

"35,000 students were registered on the platform at the beginning of development, and now the number has reached 500,000. It is 18.5% of all school pupils in grades 5-11 in the country."

- The platform withstands high loads and successfully provides distance learning during quarantine measures and the online mode of all schools.
- The platform offered free access to the national educational program for children and teachers in temporarily occupied territories or abroad.
- The platform has enhanced education inclusivity in the country. With expert support from UNICEF in Ukraine, the platform has added key inclusive features, such as sign language translation and audio descriptions of tracks.
- The consultants expertly guided the creation of the solution, leading to a smooth transition from scratch to deployment.

Nation-wide online school offers functionality that completely overlaps the existing offline requirements for the educational process following national education standards.

Organizations That Made This Possible

МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ

ВСЕУКРАЇНСЬКА ШКОЛА ОНЛАЙН

RACCOON GANG

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