



User Guide

Application for Virtual Reality

InovEduc

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InovEduc – Innovative Methods in Education for Supporting Partnerships

The project brings a unique fusion of interactive 3D models of historical, cultural, technical and natural monuments of Eastern Slovakia and Transcarpathian Ukraine and innovative learning approaches to improve historical and multicultural awareness in this border region.

In the framework of this project is a presentation of 24 objects with the possibility of interactive viewing with applications of the most up-to-date imaging technology, inclusive of virtual and augmented reality.

1. Installation

The application is intended for the headsets Oculus rift with the controller Oculus touch and HTC VIVE. To control the headset it is required to follow the recommendations of the manufacturer. To launch the application it is necessary to install Steam VR software. The application is designed for PCs with the operating system **Microsoft Windows**. The application does not require installation. After unzipping the zip file it is possible to launch the application via **InovEducVR.exe**.

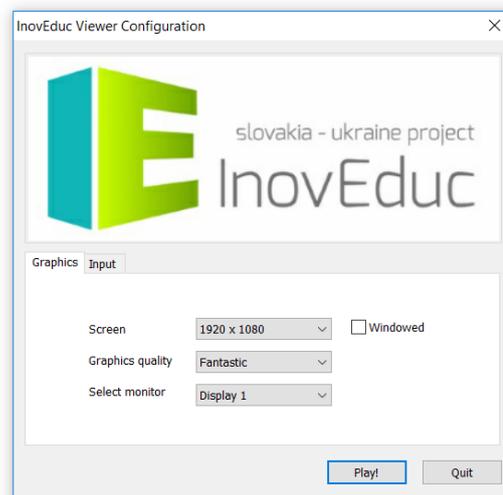
Minimal requirements

Processor	Intel Core i3-6100 / AMD FX-4350
Memory	8 GB RAM
Graphics card	NVIDIA GTX 960 4GB / AMD Radeon R9 290 or hardware upgrade
Headset	Oculus Rift + Oculus touch HTC VIVE
Space on disk	2,5 GB
Operating system	Windows 8.1 or later

2. Launch and termination

It is possible to launch the application by means of the **InovEducVR.exe**

When you launch the application a panel of choices for setting options will appear. The user has the possibility to choose the quality and resolution of the application as well as the option to run the program in the window or on the full screen.



To continue with the application select the button **Play!** To terminate the application select the button **Quit**.

The application can be terminated at any time by pressing the key **ESC**.

3. Control

The application can be controlled by means of the controller HTC VIVE or OCULUS Touch.

Key	Function
ESC	Exit application

Oculus touch



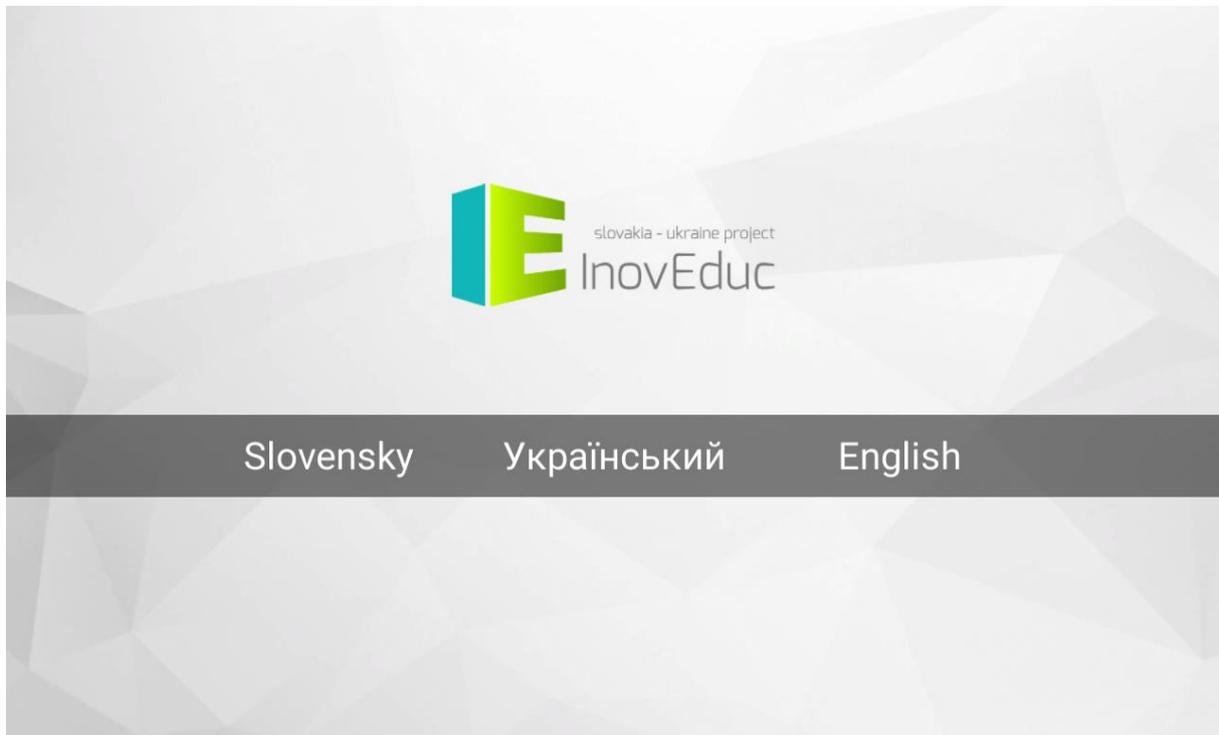
HTC VIVE



4. User interface

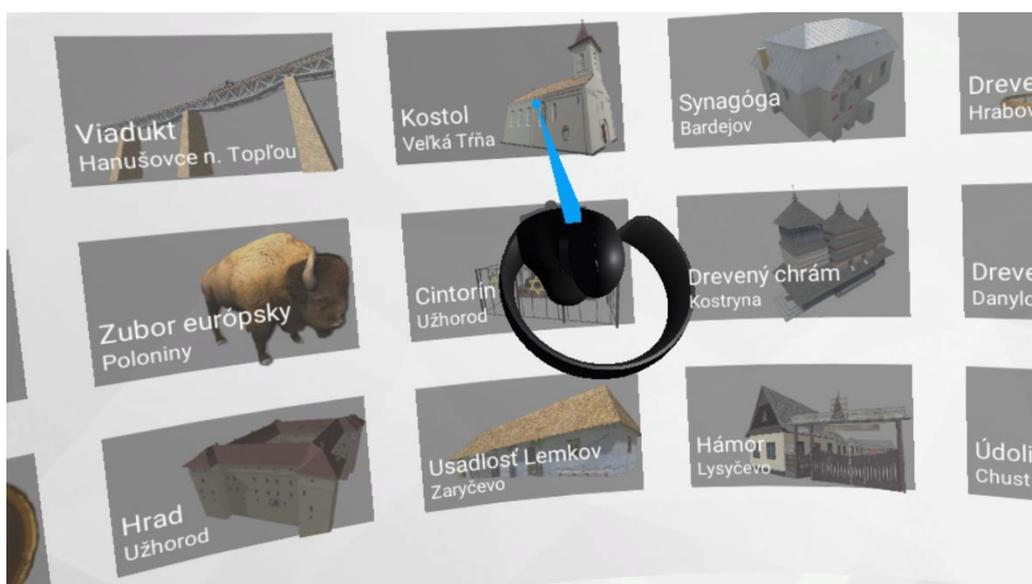
4.1 Language selection

On the introductory screen it is possible to choose a language mutation, by selecting between the Slovak, Ukrainian, and English language versions. The language cannot be changed later during the program runtime. The selection of individual items is possible by pointing the controller to the active component and then by pressing the button makes it possible to go to that item.

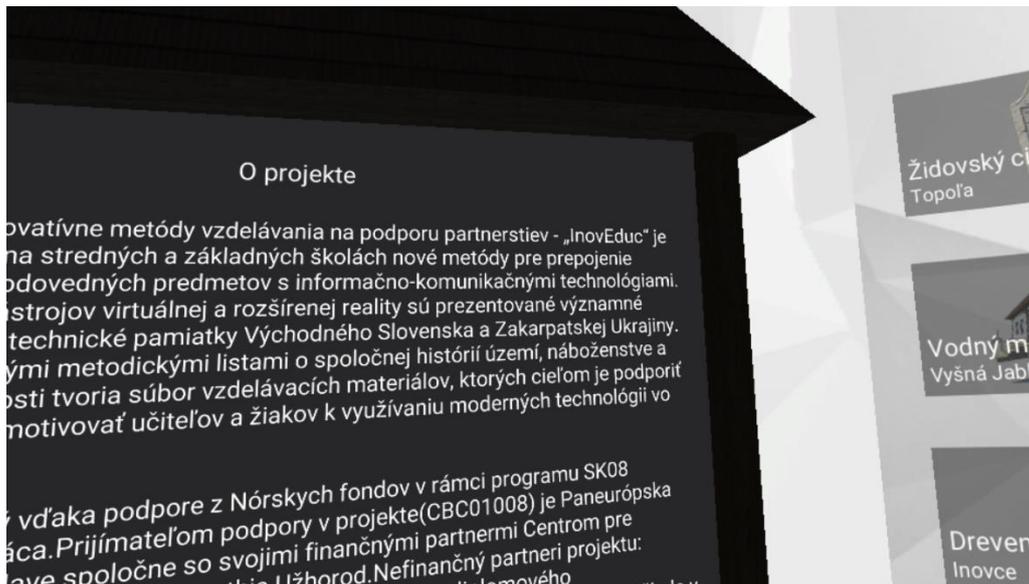


4.2 Object selection

It is possible to view the object by clicking on the selected object in the welcome screen.



Within the display menu to the right of the list of objects is a display of information about the project and to the left are instructions how to use the application.

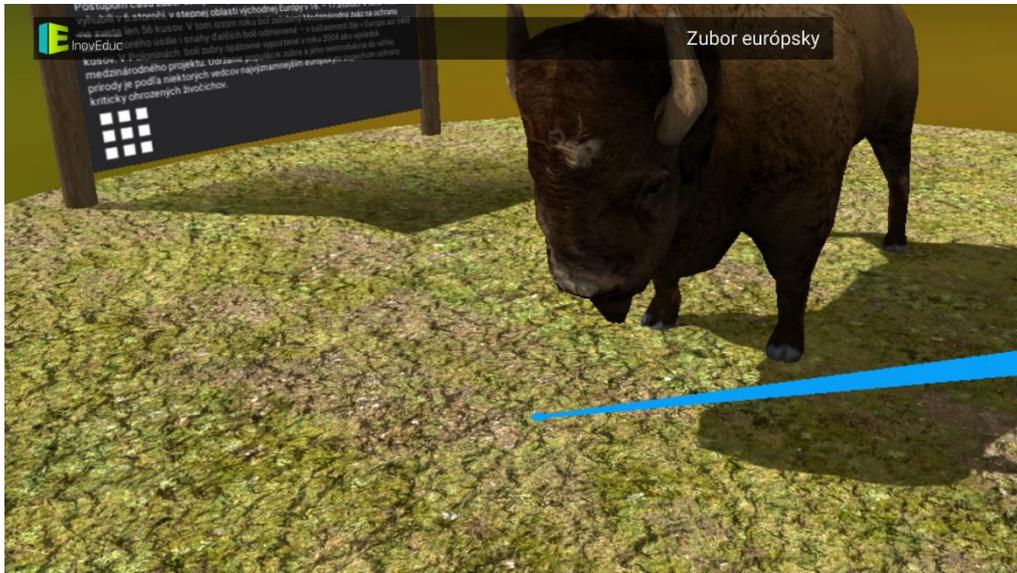


If the user rotates in a direction which does not feature objects, a red arrow will appear indicating the direction to which the user should rotate.



4.3 Displaying objects

The objects are displayed as 3D scenes and panoramas. Movement in the 3D scene or in panorama is secured by means of input devices. The user can move within the boundaries of permitted use of the headset. To change position in the scene it is possible to execute a move by means of directing the controller to a point on the terrain and depressing on it to shift to the given position in the scene.



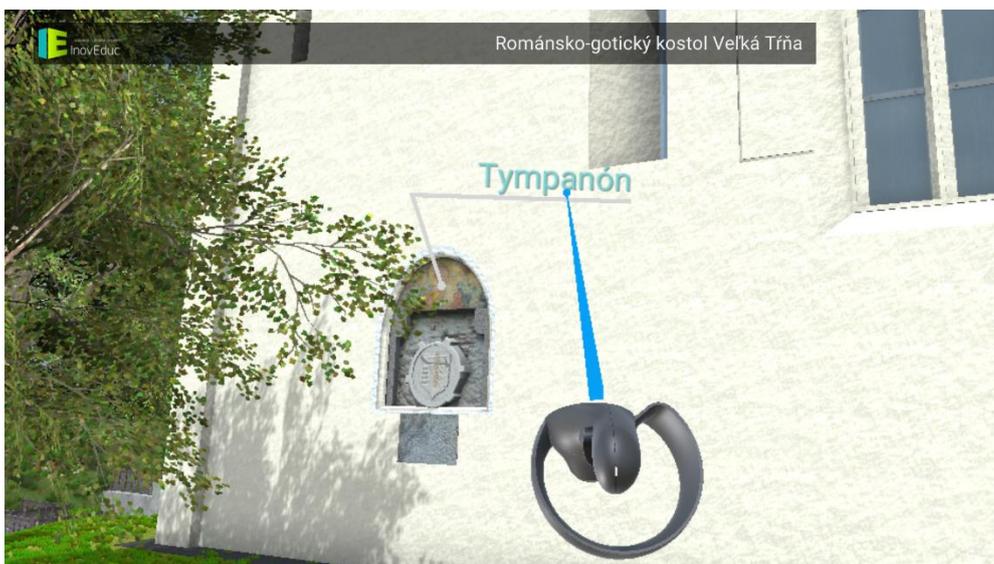
Information about the object is displayed within the “shelter” located in the scene. In addition to the description of the object, there are icons displayed with which it is possible to interact. In the bottom left corner the icon **LIST** is located to move to a selection of objects.



In this section icons are situated for some objects, for the purpose of viewing different time periods, or alternatively viewing additional objects in further 3D scenes or icons for interacting with the object.

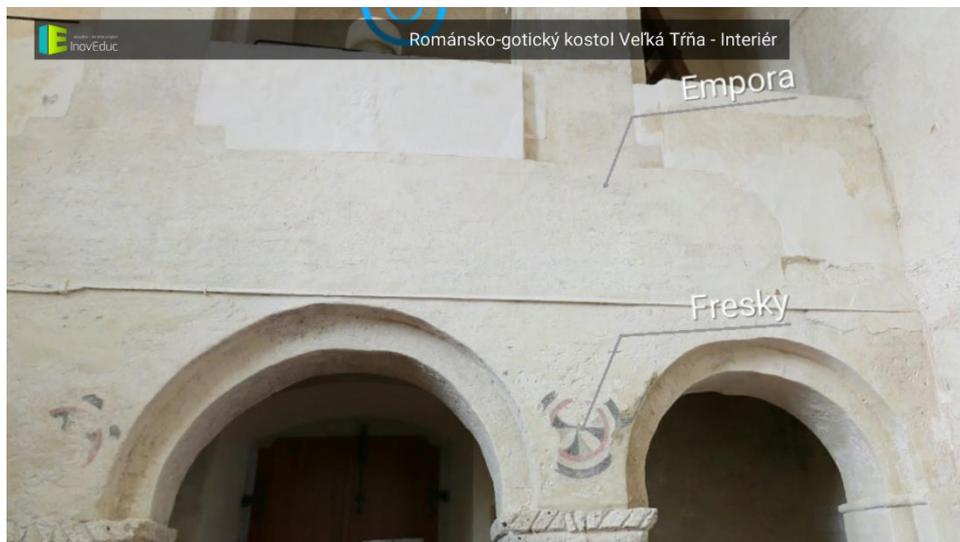


To view additional information about the parts of an object, it is possible to click on the banner in the scene by pointing to the banner and pressing the button. The control panel appears displaying a description of the object. It can be cancelled by pressing again.





For some objects the interior can be viewed through panoramas (360° spherical photographs). Switching to panorama is achieved by clicking on the animated blue hotspot. It is possible to move between panoramas by clicking the blue hotspot. The green hotspot indicates a return to the hotspot of the 3D scene. At the top right of the screen some panorama plans are displayed. The user can also switch between panoramas by clicking each red panoramic symbol. The green symbol displays the actual panorama and also indicates the direction of view.



Within some panoramas the 3D model can be displayed by clicking the icon **VIEW 3D MODEL** (the eye in the circle)

To return from viewing the 3D model go back to panoramas where it is necessary to click on the icon **BACK** on the left side of the screen.

Within the object – the Church in Šmigovec it is possible to “dismantle“ the model by clicking on the individual buttons situated at the bottom of the screen. Invisible parts are indicated with a button on a blue background. To re-enable the layers you need to click again on the corresponding button.

4.4 Icons

Icon	Description and function
	Display the list of objects
	Return to the previous scene
	View the stages of development – The church in Velká Třňa
	View the stages of development – Zborov Castle
	View additional objects
	View explosion – The Viaduct of Hanušovce nad Topľou
	View 3D models
	View the panoramas / switch from panorama to 3D model object