



User guide

Application for augmented 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 can be installed from Google Play store (mobile devices with OS Android) or Apple Store (mobile devices with iOS).

Minimum requirements:

iOS	iOS 7.0 or later
Android	OS 4.1 or later ARMv7 (Cortex) CPU supported with NEON or Atom CPU OpenGL ES 2.0 or later

2. Launch

The application can be launched after installation by clicking on the **InovEduc** icon.

3. Control

The control application is activated by means of identifying and touching the marker (cursor), if appropriate rotate the mobile device when viewing panoramas. The marker can be downloaded from the website www.inoveduc.eu



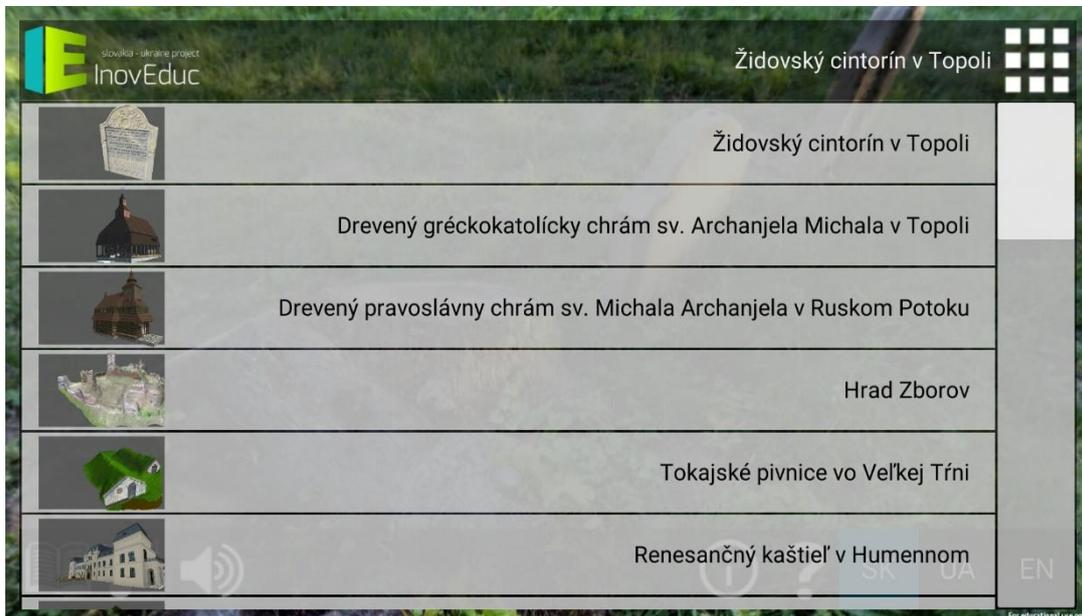
4. User interface

4.1 Language selection

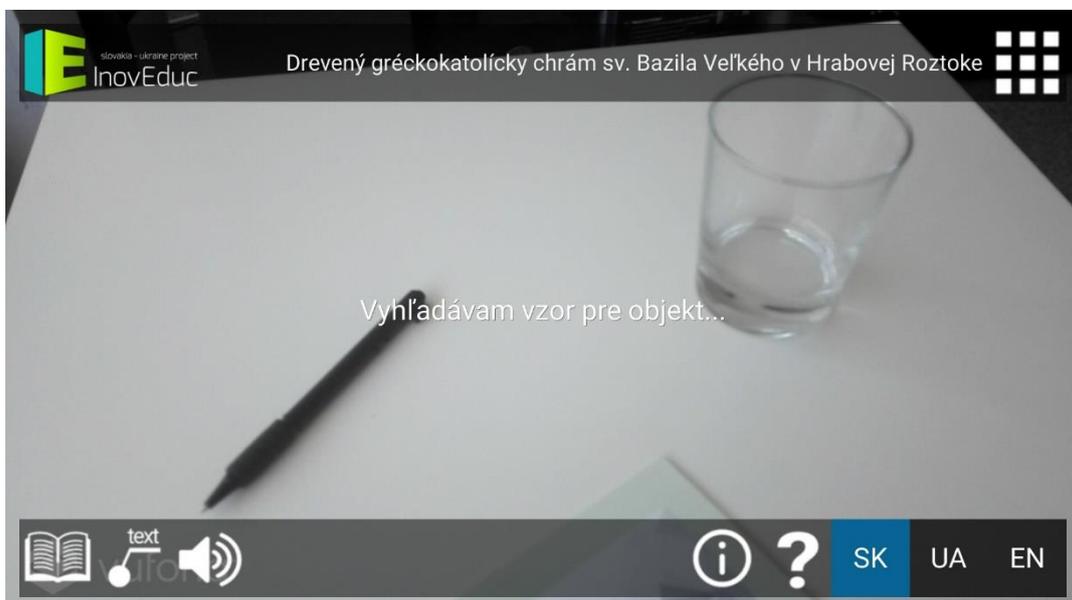
Select from Slovak, Ukrainian, and English language versions. It is possible to change the language at any time during the runtime program.

4.2 Object Selection

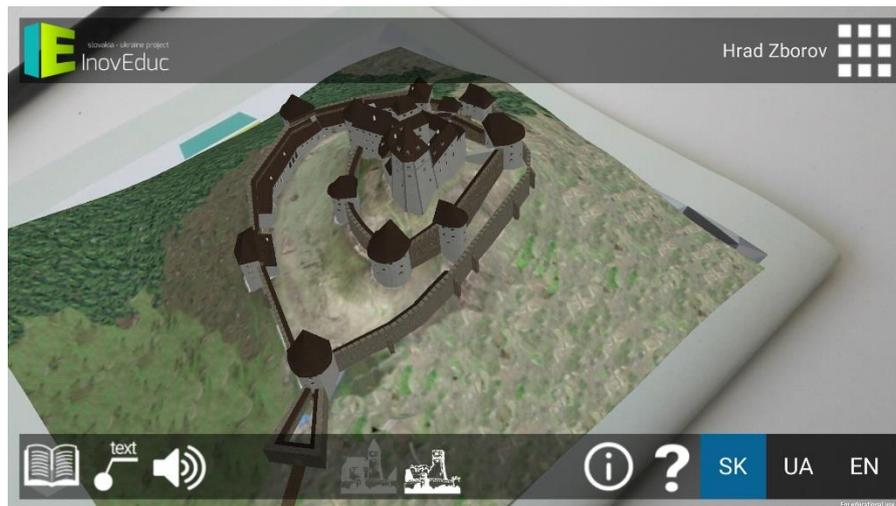
When launching the application, the first object appears. The object can be changed by clicking the selected object in the list of objects. The list of objects appears after clicking the icon **LIST** in the top right corner of the screen.



After selecting an object it is necessary in 3D mode to align the mobile device so that the marker is in the camera capture. Until the system detects the marker, the information and search pattern for the object will not be displayed.



Once the marker is recognised, the corresponding 3D model of the selected object will be rendered in its place.



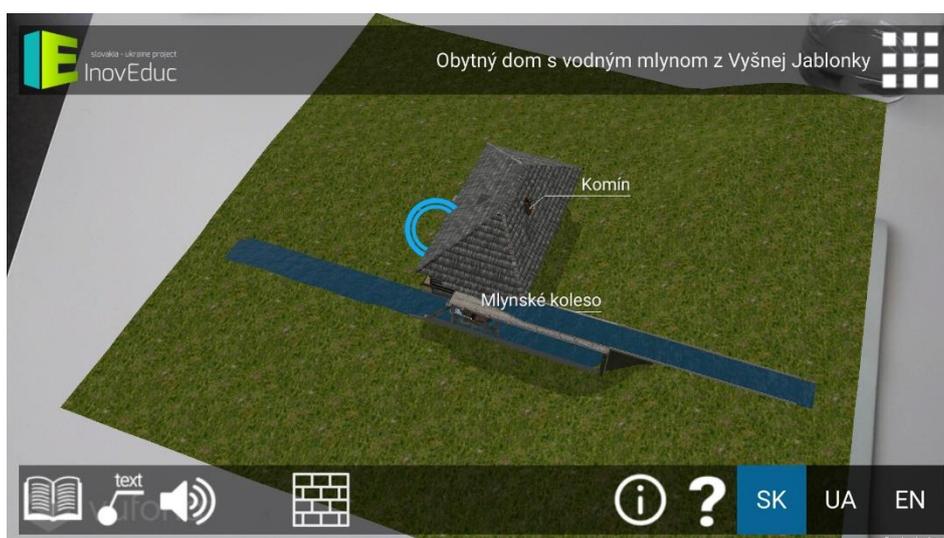
In the same way, it is also possible by means of the icon, to change language and display information about the project and instructions for controlling the application.

4.3 Displaying objects

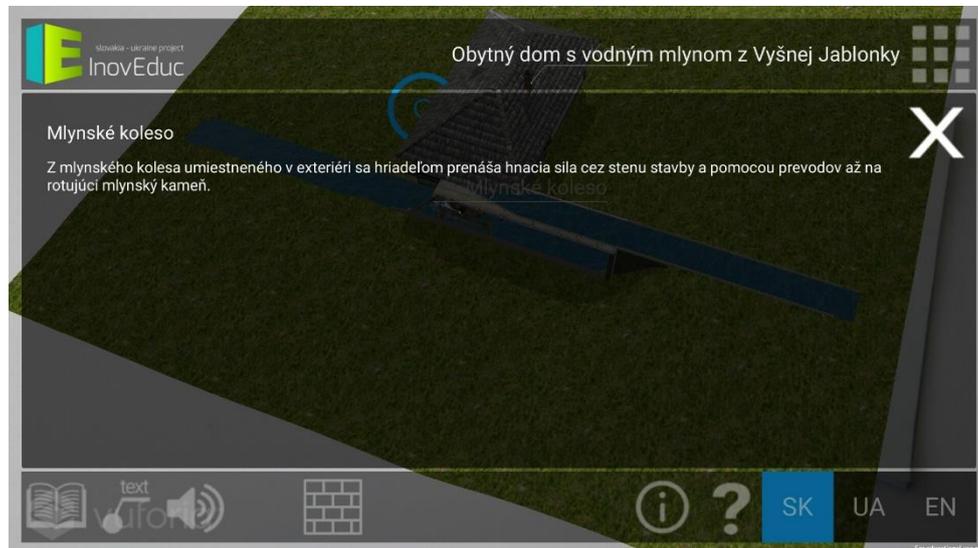
Objects appear as 3D models and panoramas. 3D models can be viewed by moving the phone's camera around the marker, so that the marker is engaged, or by rotating the marker.

Within the user interface the icon for viewing the list of objects is in the top right corner of the screen. In the bottom right corner there are icons for changing the language, viewing information about the project, and instructions for managing the application.

In the lower left part of the screen, touch buttons are located for viewing the main object description, enabling/disabling the descriptive text display, and muting/unmuting the volume. For some objects in this section there are located icons for displaying objects in different time periods. Alternatively, additional objects are displayed in further 3D scenes or icons for interacting with the object.



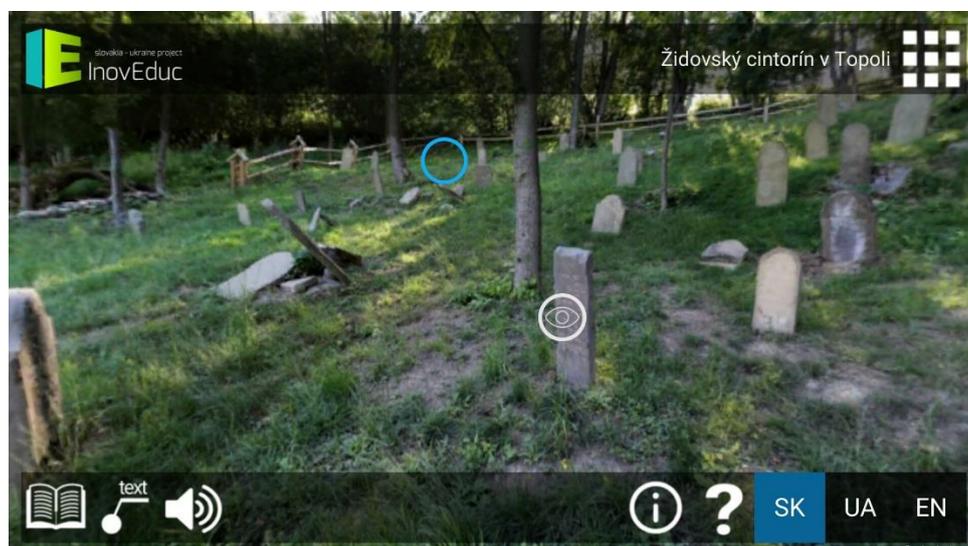
To view additional information click on the symbol at the scene, and a window will appear with the description. The window can be cancelled by clicking on the icon marked X in the upper right hand corner of the screen.



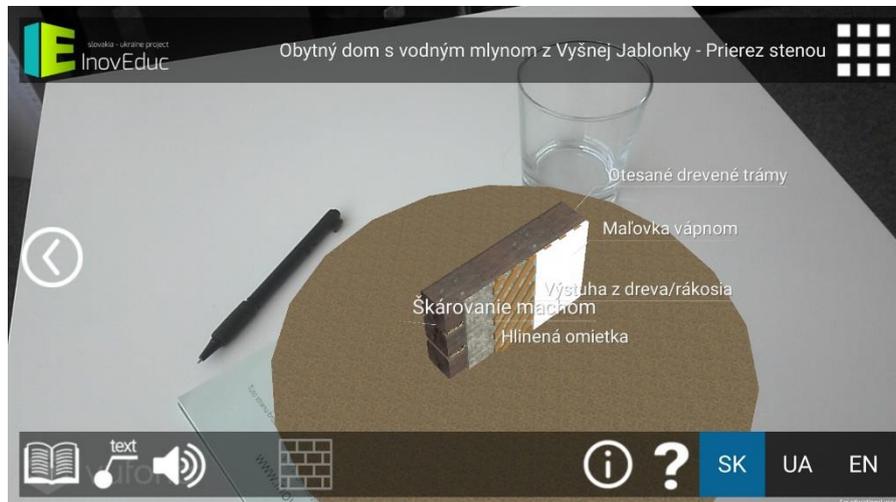
For some objects the interior can be viewed through panoramas (360° spherical photographs). For viewing the panorama it is not required to capture the camera marker, but it is necessary to rotate the mobile device. The panorama is viewed on the display and rotation changes the part of the panorama displayed.

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 features
	Language option
	Display the list of objects
	View instructions for controlling the application
	View information about the project
	Return to the previous scene

	<p>Enable/ disable the descriptive text display</p>
	<p>View information about the object</p>
	<p>Mute/ unmute sound</p>
	<p>Close the information window</p>
	<p>View the stages of development – The church in Veľká Trňa</p>
	<p>View the stages of development –Zborov Castle</p>
	<p>View additional objects</p>
	<p>View explosion – The Viaduct of Hanušovce nad Topľou</p>
	<p>View 3D models</p>
	<p>View the panoramas / switch from panorama to 3D model object</p>