

# COLLABORATION IN STEM EDUCATION

projects including the local community – e.g. between teachers, schools and companies, different communities

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## Augmented reality in education



### Colaboration:

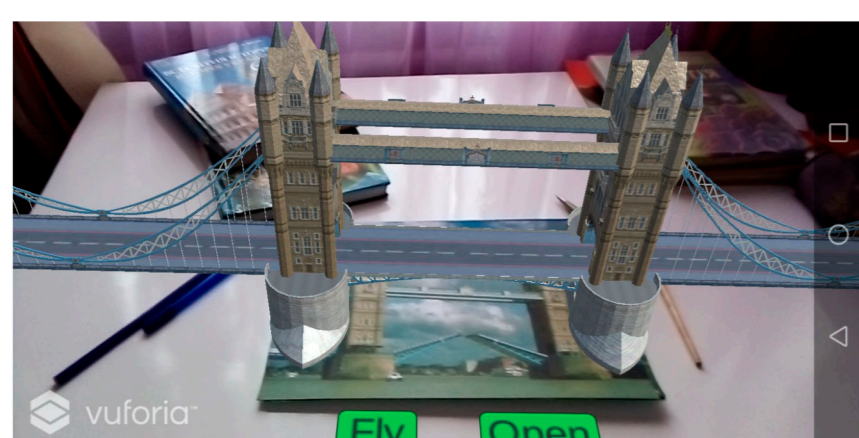
STEM-AR club "Penguin" + V.N.Karazin Kharkiv national university



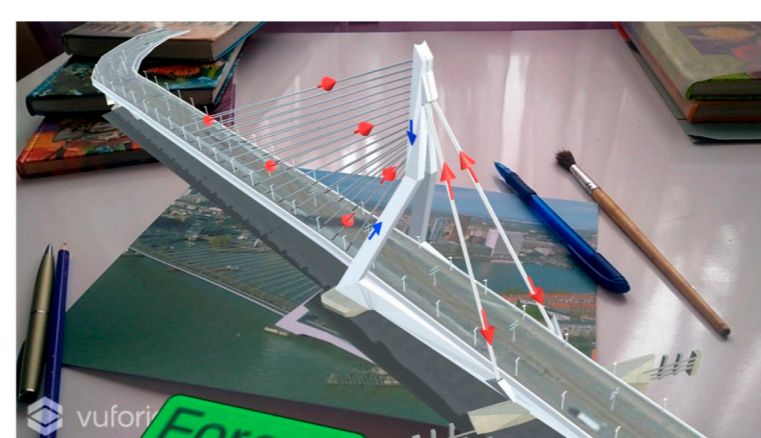
**The goal of the project:** to create mobile (Android) applications with augmented reality and create STEM-lessons with these applications.

1. Skyscrapers AR. An app with augmented reality for the demonstration of world-famous architectural structures.
2. Da Vinci Machines AR. In this app you can explore Leonardo's work in 3D. With controls provided in the app, you will be able to see 3D models from different perspectives with mesmerizing 3D animations.
3. Bridges AR. Augmented reality application for the demonstration of six basic bridge structures.

The STEM lessons program was created using these authour's applications.



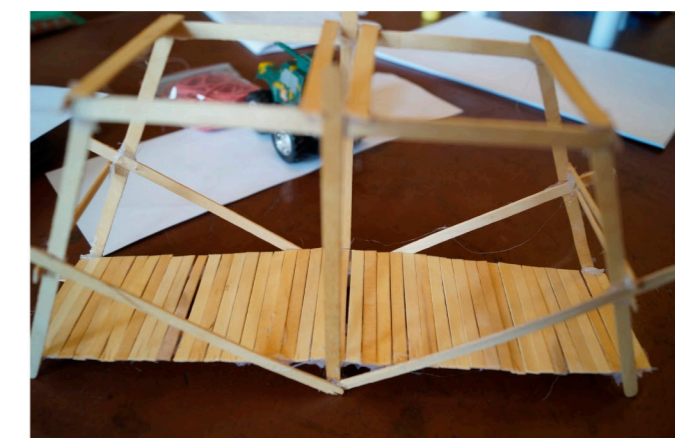
Learn type of bridges with AR. 3D models



Bridges AR



Own models of bridges were created

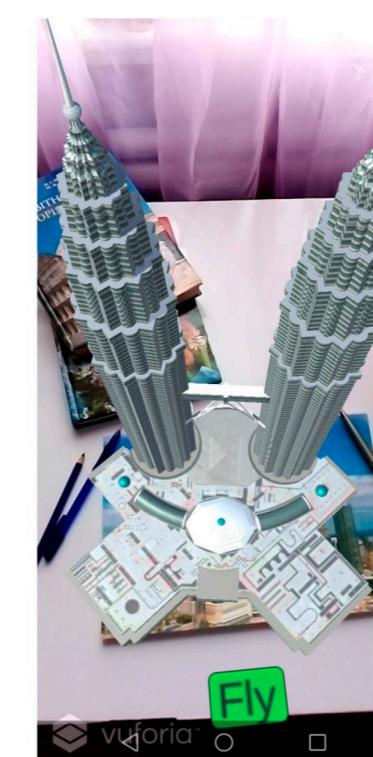
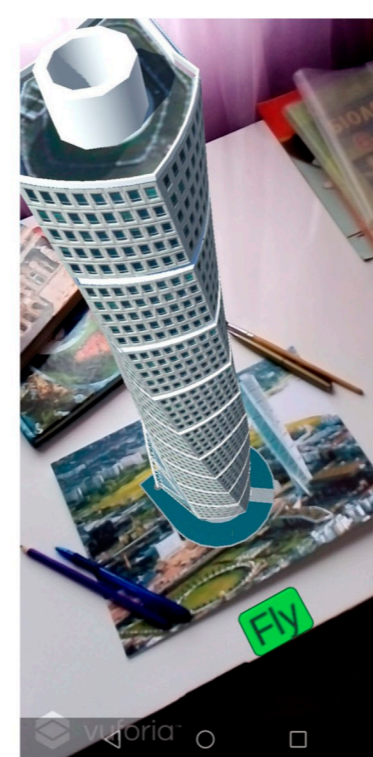


### How to start using augmented reality technology in lessons?

1. Find the application in Google Play
2. Install the application on a smartphone or tablet
3. Print out the key cards to which the application will respond
4. Turn on the application on the phone
5. Let's point the smartphone camera at the key picture
6. On the screen of the smartphone we will see augmented reality information



Skyscrapers AR



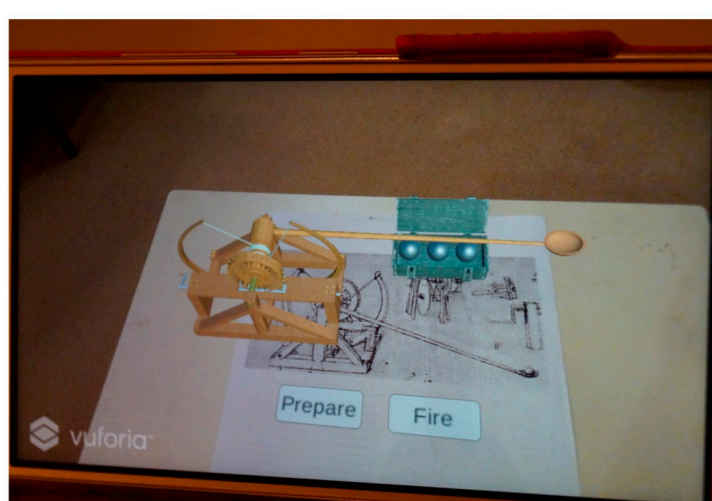
Travel around the world and learn about famous buildings



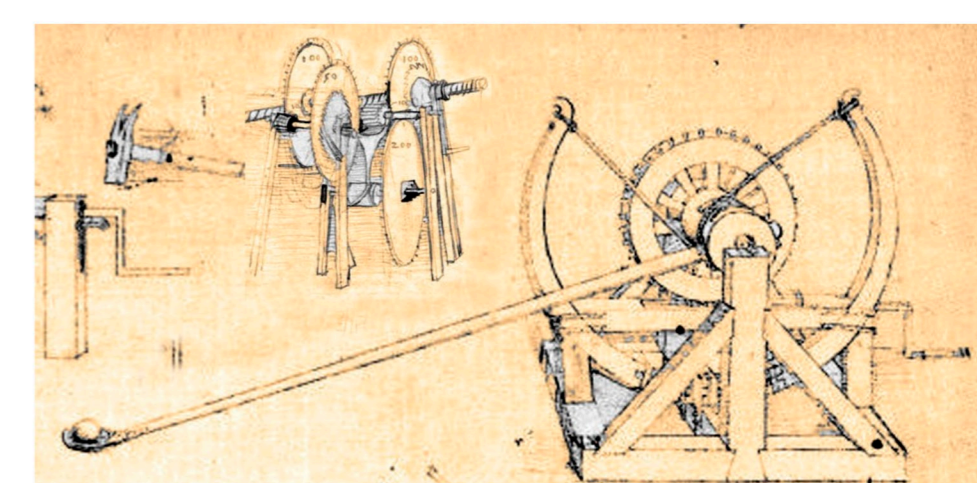
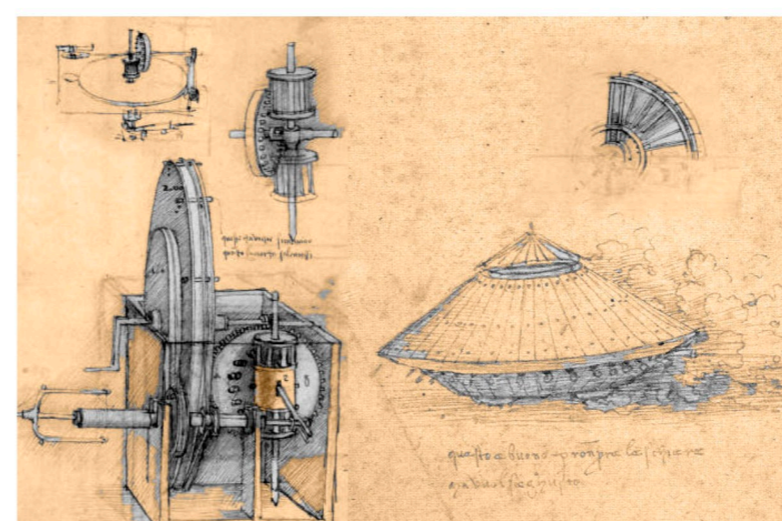
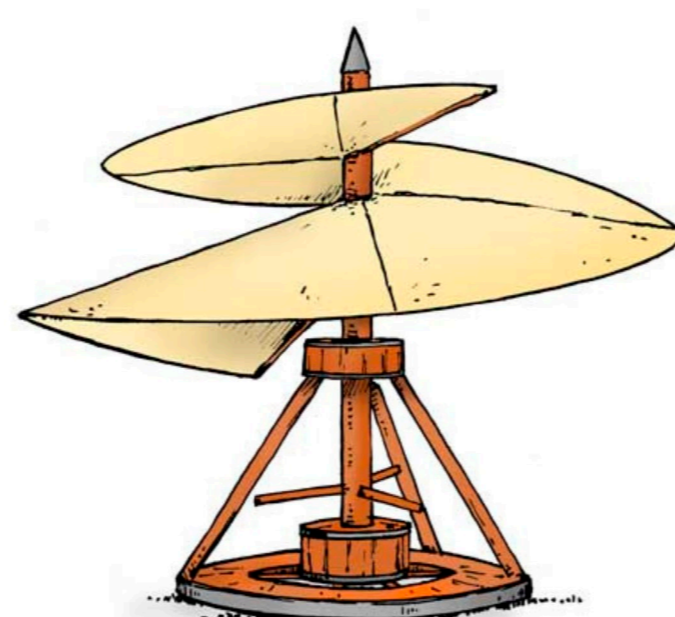
Create own tower from 20 sheets of paper



Da Vinci Machines AR



Create own model of the catapult



Key cards for "Da Vinci Machines AR"

AR technology gives teachers the opportunity to enhance classroom experiences, teach hands-on skills, to inspire student minds and get students excited about exploring new interests