



## **DigiEduHack Solution Miskolc - Solutions for a virtual geological exploration field trip or short internship**

**Challenge: Miskolc - Solutions for a  
virtual geological exploration field trip  
or short internship Challenge 2020**

### **3D Virtual reality of geology field trips**

#### **3D geology field visualization as a solution in geo-education**

3D technology is more relevant method in explanations and demonstrations of a geological field area improving student's spatial visualization ability, and recognizing and interpreting difficult real-world spatial data of outcrops, mineral deposits and etc.

#### **Team: 3D Virtual Geology**

##### **Team members**

Medet Junus; Rustem Abirov; Akzhan Bekzhanov and Mamanov Erkhozha,

##### **Members roles and background**

Idea, motivation and friendship

##### **Contact details**

medet.junus@gmail.com

### **Solution Details**

## **Solution description**

The main solution using 3D technology for geology field trips as a teaching instrument for students during visualization processes is (1) to capture the real world mineral deposits of a specific location and region through a collection of data, photographs, cartography and other information without the cost of physically being there; (2) to understand geological structures, geodynamic processes, depositional environments and fossils; (2) to visualize geological objects/features on almost any personal computer and/or smartphone screen; (3) to manage easily with many students (for example, in non-virtual fieldwork participations at least 100 Kazakh students of Satpaev University, Kazakhstan in a field) of several groups.

## **Solution context**

In this technological time, the 3D technology is not well-known and distributed in education organizations, but we are able to solve this problem due to our solution.

We would like to use this solution firstly in a commercial purpose to any kind of social platforms (instagram, facebook, tiktok and etc) with massive distributions in its use and moreover, there is a plan to use as teaching instrument in Universities of Satpaev and KBTU, Almaty, Kazakhstan.

## **Solution target group**

The target group of the solution is students of university (or even possible for school students).

## **Solution impact**

We used this solution during the first wave of pandemic by two Mobile Apps of "Field geologist" and "Geoexplore" for Kazakh students of Satpaev University and KBTU (Kazakhstan) from staying in Hungary.

## **Solution tweet text**

When 3D geology field trip gets solely than others in educational area is one benefit of others to avoid returning back any kind of epidemic.

## **Solution innovativeness**

The 3D technology for geological field trips are distributed in the world as mobile app ("Field geologist" , "Geoexplore" and etc.) or computer software (<http://www.open.ac.uk/researchprojects/open-science/>; [https://learn5.open.ac.uk/course/format/sciencelab/section.php?name=skiddaw\\_1](https://learn5.open.ac.uk/course/format/sciencelab/section.php?name=skiddaw_1); <https://unity3d.com/> and etc.)

## **Solution transferability**

This solution can apply students of schools and universities for a geology field trip knowledge improvement in total.

## **Solution sustainability**

We see the solution in the future as a well-distributed teaching method for students in improvements their geoscience knowledge for a long term, certainly with a modification time to time.

## **Solution team work**

In our team contents various Earth sciences specialists in ore/petroleum geologists, geophysicists, driller and etc.

Hopfully, we are able to contuniue the solution to improve and use in educational purpose as possible as we can.

digieduhack.com