**„On the path to the georevolution in Krakow – making data more accessible”**

**What needs to be done?   
Functional requirements for the application:**

**Input data:**

1. Geocoding data: A working CSV file containing street names, address numbers, and other attributes.
2. Address Dictionary: An XLS file containing street names, address numbers and X, Y, and CODE TERMS according to which the jury will evaluate the correctness of the program.
3. Dictionary of streets TERYT for possible use in the program.

**1st phase – task completion (required)**

1. Create graphical user interface (desktop application or web application)
2. Application should allow to load input data from CSV text file (encoded in UTF-8), that can contain undefined number of columns. First row will contain column labels.
3. After data load, the application should allow choosing which columns describe addresses. The choice should be done by clicking on the desired column(s). The input data file can contain address information in a single column (‘street-name street-number’) as well as in separate columns (‘street-name’, ‘street-number’.
4. At the end of the operation, the program informs you of the end of the operation by means of a screen message and a beep.

**Result data:**

1. The CSV file (UTF-8 encoding page), which will contain the data contained in the input file that the program considers to be correctly geocoded, expanded by two columns defining the X, Y coordinates in PL-2000 zone 7.
2. The CSV file (UTF-8 encoding page) that will contain the data contained in the input file that the program was unable to assign to the X, Y coordinates.
3. Once the geocoding is completed, the application must generate an activity report (TXT file) that should contain:

• the date and time of the geocoding process (to 1 second)

• date and time of completion of the geocoding process (within 1 second)

• geocoding time in seconds

• number of matched records

• the number of mismatched records

**All the input data needs to be preserved in the output file.**

**2nd phase – testing platform**

1. The organizer will provide access to the testing platform – ArcGIS online

ArcGIS Online (AGOL) is a collaborative GIS web service, that allows the users to use maps, scenes, apps, analysis layers and data, as well as their creation and sharing. ArcGIS Online is a service that enables its users to explore the data, create maps and share narratives.

The platform is available under the following links:

https://www.arcgis.com

<http://umkrakow.maps.arcgis.com/home/webmap/viewer.html?useExisting=1>

In order to access the platform, please contact our team.

**3rd phase – evaluation by the Jury:**

1. Jury will evaluate the task completion as described in City Path Statute as well as:
   1. Correctness of the geocoding.
   2. Success rate (how many rows were successfully geocoded).
   3. Time taken to geocode input file.

**The organizer allows following solutions:**

1. Based on the provided by the organizer base address file (XY)
2. Based on publicly accessible non-commercial APIs (e.g. OpenStreetMap, ESRI, etc)

**Documentation:**

<https://developers.arcgis.com/documentation/>

<http://doc.arcgis.com/en/arcgis-online/>