**Visual Analytics of Regional Distribution of Graduates in Chemistry, Economy and Technical Fields in the Czech Republic**

Vit Vozenilek

Palacky University Olomouc, Czech Republic

This paper describes visual analytics in spatial analyses of the Distribution of Graduates in Chemistry, Economy and Technical Fields in the Czech Republic. To date, the use of GIS to explore human space, i.e. as encountered by an individual, has been very limited. This is partly due to the fact that most GIS operations are based on a traditional geographical view of space which is essentially two-dimensional with a fixed and external frame of reference. The absence of GIS procedures that consider social environment representations together is a clear indication, among others, of these limitations. Hence, traditional GIS operations are inadequate for developing models of human–space interaction. Though some attempts exist to relate GIS with cognition and perception, these have mostly concentrated on social preference. Ultimately, the design of new GIS routines, and/or the development of new spatial tools that will accommodate human and other factors, will become necessary if cognitive and perceptual factors are to be linked with spatial information. In the meantime, existing GIS can be used to illustrate the necessity and potential of these types of analyses. The idea that any spatial configuration structures human visual space by virtue of its distribution and geometry, and that such structure can be described spatially using different parameters, underlies the entire contribution. Visual analytics combines a series of your strongest, clearest elements such as maps, charts, and text.

Spatial analyses investigated several topics to provide maps for visual analytics:

* the number of bachelor and master degree graduates with a chemical specialisation at all higher education institutions in the Czech Republic; visual analytics is based on the number of students by place of study (headquarters of the faculty) with a continuous value scale to allow all values ​​to be displayed and allows for a comparison of the years to be compared;
* the number of bachelor and master degree graduates with a chemical specialisation at all higher education institutions in the Czech Republic; visual analytics is based on the number of students by place (district) residence at the time of graduation; a continuous value scale allows all values ​​to be displayed and allows for a comparison of the years to be compared;
* the number of bachelor and master degree graduates with a specialisation on other technical fields at all higher education institutions in the Czech Republic; visual analytics is based on number of students according to the place of study (headquarters of the faculty); a continuous value scale has been selected to allow all values ​​to be displayed and allows for a comparison of the years to be compared;
* the number of bachelor and baster degree graduates with a specialisation on other technical fields at all higher education institutions in the Czech Republic; visual analytics is based number of students according to place (district) residence at the time of graduation; a continuous value scale has been selected to allow us all values ​​to be displayed and to compare the individual years;
* the number of bachelor and master degree graduates with economics at all universities in the Czech Republic; visual analytics is based on the number of students by place of study (headquarters of the faculty); a continuous value scale has been selected to allow all values ​​to be displayed;
* the number of bachelor and master degree graduates with economics at all universities in the Czech Republic; visual analytics is based on the number of students by place (district) residence at the time of graduation; a continuous value scale has been selected to allow all values ​​to be displayed and allows for a comparison of the years to be compared;
* the number of bachelor and master degree graduates with economic, chemical or other technical specialisation at higher education institutions in municipalities with the headquarters of the relevant faculty in the Czech Republic in 2013;

The influence of the gender representation on the study of the individual specialisation was considered. Individual specialisation groups were evaluated in the structure diagram. Data were analyzed according to the place of residence of the graduate at the time of graduation at college.